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VWR INTERNATIONAL

LABORATORY CATALOGUE

2015

RL Slaughter
For All Your Laboratory Needs

APPARATUS | INSTRUMENTS
EQUIPMENT | CONSUMABLES

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These symbols indicate important product features:

- Explosion proof
- RS232 interface
- Ethernet interface
- Autoclavable
- Sterile
- Accessories required to use the product
- Requires specialist installation
- Item is heavy and difficult to transport
- Product requires chemicals or reagents
- Documentation available on request
- USB connection
- Selected for you

IVD — CE marking conform with IVD MDD 98/79 EC for In-vitro Diagnostics

2 year warranty, 3 year warranty, 4 year warranty, 5 year warranty — Warranty

IP 21, IP 31, IP 55, IP64, IP65, IP66, IP67, IP68 — IP Classification

MEASUREMENT AND ANALYSIS

Measurement and analysis are critical in the laboratory. We've classified the apparatus in this chapter into five categories: time, mechanical, thermal, optical and electrochemical.

Time measurement and counters

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Analogue stopwatch

Copper chromium plated casing

- Crown stopper with frame ring
- 1/100 second timing
- Counts up to 15 minutes

W×D×H: 48×16×68 mm

Description	Colour	Pk	Cat. No.
Analogue stopwatch	Chrome	1	**609-0130**

Analogue stopwatch

Copper chromium plated casing

- Crown stopper with frame ring
- Separate side reset button
- 1/5 seconds timing
- Counts up to 30 minutes

W×D×H: 48×16×68 mm

Description	Colour	Pk	Cat. No.
Analogue stopwatch	Chrome	1	**609-0132**

Analogue stopwatch

- Minute scale and central second hand
- 1/5 second readings up to 60 minutes
- Side reset button

W×D×H: 82×48×93 mm

Description	Colour	Pk	Cat. No.
Analogue stopwatch	Chrome	1	**609-0133**

Analogue stopwatch, Mesotron

This quartz table stopwatch is a handy time measurement tool.

- Ergonomic design
- Highly visible Start/Stop red button
- Two divisions: 1/60 seconds and 1/100 minutes

W×D×H: 130×40/95×175 mm

Delivery information: Delivered with AA R6 battery.

Description	Colour	Pk	Cat. No.
Analogue stopwatch, Mesotron	White	1	**609-1260**

Digital stopwatch

- Water resistant, three line display for time, countdown and pacer
- Up to 99 split/lap, 30 memories and alarm function
- 1/100 seconds reading

Description	Colour	Pk	Cat. No.
Digital stopwatch, dimensions: 63×80 mm	Black	1	609-0131

Digital stopwatch, waterproof/shock-proof, Traceable®

- O-ring-sealed and shock-proof plastic case for lab and plant use
- Unit is waterproof to a pressure of three atmospheres
- LCD display shows time of day in hours, minutes, and seconds, AM/PM, date and day of the week
- Cumulative split timing

Description	Colour	W×D×H (mm)	Pk	Cat. No.
Digital stopwatch, waterproof/shock-proof, Traceable®	Yellow	54×60×12,7	1	609-0054

Digital stopwatch

- Time/calendar display
- 1/100 seconds chronograph with memory

Description	Colour	Pk	Cat. No.
Digital stopwatch, dimensions: 63×80 mm	Black	1	609-0139

Digital alarm timer/stopwatch

- LCD display and alarm
- Count down from 99 minutes 59 seconds
- Count up to 99 minutes 59 seconds with setting memory
- Clip, stand and magnetic attachment

Description	Colour	Pk	Cat. No.
Digital alarm timer/stopwatch	White	1	609-0128

Digital timer/stopwatch

- With LCD display
- Count down from 99 hours 59 minutes 59 seconds in steps of one second
- Count up to 99 hours 59 minutes 59 seconds, in steps of one second
- Individual numbered keys and reset key
- Clip and stand

Description	Colour	Pk	Cat. No.
Digital timer/stopwatch	Black	1	609-0135

Digital timer/stopwatch

- With LCD display and alarm
- Count down from 99 minutes 59 seconds, with setting memory
- Count up to 99 minutes 59 seconds

Delivery information: Supplied with pocket clip, stand, magnetic attachment and upgraded battery.

Description	Colour	Pk	Cat. No.
Digital timer/stopwatch	White	1	609-0129

Digital timer/stopwatch

- LCD-display and alarm
- 19 hours 99 minutes 59 seconds
- Foldaway stand, pocket clip and magnetic back
- Includes a statement of traceability indicating accuracy to NIST and DAkkS
- Individually test and inspected, exclusive triple accredited ISO/IEC 17025:2005, A2LA laboratory equipment, RoHS compliant

Accuracy: Three seconds

Description	Colour	Size (mm)	Pk	Cat. No.
Digital timer/stopwatch	White	64×64	1	609-0190

E-BUSINESS

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Dual-channel digital alarm timer/stopwatch, jumbo, Traceable®

This timer allows simultaneous programming of two different activities from 24 hours to 1 second. Each channel has a distinct electronic alarm and display indicator when zero is reached. The alarm may be turned off or it is silenced automatically after 1 minute. A second display mode shows time of day and a stopwatch (for count-up timing).

- Jumbo display and 25 mm high LCD digits are easy to read
- Can be used flat, in the sit-up position, or wall-mounted with a bracket
- Functions as a stopwatch and a clock

W×D×H: 95×140×13 mm

Delivery information: Supplied with bracket for wall-mounting and AAA battery.

Description	Colour	Pk	Cat. No.
Dual-channel digital alarm timer/ stopwatch, jumbo, Traceable®	Black	1	**609-0090**

Digital timer

- Timer clock with 12/24 hour display
- Count down from 23 hours 59 minutes 59 seconds, with setting memory
- Count up to 24 hours
- Separate hour, minute, second, start/stop and reset keys
- Clip, stand and magnetic attachment

Description	Colour	Pk	Cat. No.
Digital timer	White	1	**609-0136**

Digital alarm timer

- Square design
- Loud alarm
- For noisy environments

Delivery information: Supplied with magnet, stand, and clip.

Description	Colour	Size (mm)	Pk	Cat. No.
Digital alarm timer	White	65×15×67	1	**609-0185**

Digital alarm timer

- Large LCD display of 34×13 mm
- Memory
- Loud 30 second alarm
- Magnetic
- Maximum count down range from 99 minutes 59 seconds

Description	Colour	Size (mm)	Pk	Cat. No.
Digital alarm timer	White	46×12×88	1	**609-0184**

Three-channel digital timer, DURAC®

- Digital count up/down timer
- Three channel display
- Count up and down from 19 hours 59 minutes 59 seconds
- Setting memory
- 1/100 second display, 12/24 hour time format

W×H: 65×89 mm

Delivery information: Supplied with stand, magnetic attachment, pocket clip, multi-language instructions and individual number.

Description	Colour	Pk	Cat. No.
Three-channel digital timer, DURAC®	White	1	**609-0137**

Four-channel digital alarm timer, DURAC®

- Count up or down simultaneously on four channels
- 12/24 hour clock
- Ability to preset any value up to 100 hours into memory
- Loud alarm
- Count up of elapsed time

RoHS compliant

Delivery information: Supplied with a multi-language instruction sheet and fold-away stand.

Description	Colour	Pk	Cat. No.
Four-channel digital alarm timer	Grey	1	**609-0181**

Mechanical interval timer

- Alarm
- Highly visible red arrow
- Counts down from 60 minutes

Description	Colour	Pk	Cat. No.
Mechanical interval timer	White	1	609-0127

Four-channel digital alarm timer, Traceable®

- Count up/down, time in/out, memories, alarm, 12/24 hour clock
- Large clear 19 mm high display allows viewing from across the laboratory
- Unique memory returns display to previously programmed countdown time
- Extra loud, high decibel alarms for one minute or can be silenced manually
- Timing capacity of 99 minutes 59 seconds in steps of one second (±0,01%)

Supplied with clip, stand, magnet, battery and a Traceable® certificate.

Description	Colour	Pk	Cat. No.
Four-channel alarm timer	White	1	609-0194

Multi-Coloured™ digital alarm timer, Traceable®

- Three bright colourful supplied frames permit personalisation of timer
- Unique memory returns channel to previously programmed setting
- Counts up whilst alarm is sounding indicating elapsed time since alarm started, clock function
- Timing capacity of 99 minutes 59 seconds in steps of one second (±0,01 %)

Delivery information: Supplied with a bench stand, magnetic back, battery and a Traceable® certificate.

Description	Pk	Cat. No.
Multi-Coloured™ customisable alarm timer	1	609-0195

Digital alarm timer/stopwatch, Traceable®

- Count up/down, time-out, alarm
- Numbered keys make it simple to set countdown time
- Timing capacity of 99 hours, 59 minutes and 59 seconds in steps of one second (±0,01 %)

Delivery information: Supplied with clip, stand, magnet, opening for lanyard, battery and a Traceable® certificate.

Description	Pk	Cat. No.
Alarm timer/stopwatch, Traceable®	1	**609-0203**

Digital dual-channel alarm timer, Traceable®

- Two simultaneous countdown activities, flashing LED timing indicator/alarm, adjustable volume
- Each channel: Green LED flashes while counting down and red LED flashes once zero has been reached
- Adjustable volume: High decibel, low decibel, or off for silent flashing LED operation

Delivery information: Supplied with batteries, magnetic back, stand/clip, opening for lanyard, and a Traceable® certificate.

Description	Colour	Pk	Cat. No.
Dual-channel alarm timer	White/Blue	1	**609-0199**

Digital alarm timers

- Audible alarm, clip and magnet
- Model 1 time limit: 59 minutes 59 seconds - Count down
- Models 2 and 3 time limit: 99 hours, 59 minutes, 59 seconds - Count up and down

Description	Size (mm)	Colour	Pk	Cat. No.
Labour 1, one channel for program, count down only	76×66×18	White/Grey	1	**609-0154**
Labour 2, two programmable channels, stopwatch, count down, clock	76×66×18	White/Grey	1	**609-0155**
Labour 3, three programmable channels, triple display, stopwatch, count down, clock	83×70×22	White/Grey	1	**609-0156**

Digital alarm timer

Large digits. Two channels on the same display. Countdown and count up to 99 hours 59 minutes. Countdown ends with alarm. Clock function.

W×D×H: 73×66×18 mm

Delivery information: Supplied with AAA batteries (1,5 V), magnetic mount, hanging hook and support.

Description	Colour	Size (mm)	Pk	Cat. No.
Digital alarm timer	White/Grey	73×66×18	1	**609-1434**

Manual cell counter, Tally

This cell counter fits comfortably into either hand or may be used in the stand provided.

- Resettable from 0 to 9999

Description	Pk	Cat. No.
Manual cell counter, Tally	1	720-0586

Manual cell counters

This manual cell counter can be used in combination of up to five counters.

- Four digit display (4,3×3,5 mm) with reset knob
- Use finger pressure
- Can be fixed in position

W×D×H: 37,6×0,4×38,1 mm

Description	Type	Pk	Cat. No.
Manual cell counter	1 unit	1	720-0162
Manual cell counter	2 units	1	720-0163
Manual cell counter	5 units	1	720-0164

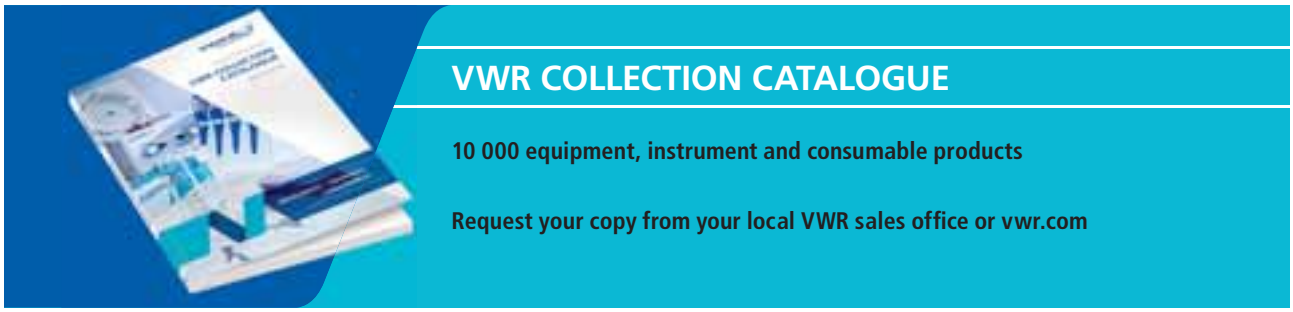
Cell counter, Neubauer Improved

Rhodium coated counting chamber with depth of 0,1 mm.

BS 748

Description	Pk	Cat. No.
Cell counter, double, bright-lined, Neubauer Improved	1	720-0104

Description	Pk	Cat. No.
Counting machine		
Five place counting chamber machine	1	720-2761



Manual cell counter, Tally
Heathrow Scientific

This counter is suitable for counting blood cells, bacterial colonies, drops of liquid.

- Quick-reset knob
- Finger ring

W×Ø: 41×46 mm

Description	Material	Pk	Cat. No.
Manual cell counter, Tally, up to 9999	Chrome-plated	1	**720-1984**

Automated cell counter, Moxi™ Z

Moxi™ Z is a mini automated cell counter that combines the Coulter principle used in high-end instruments with a patented thin-film sensor technology to provide highly accurate and repeatable particle sizing and counting over a broad dynamic range (2-34 microns). It also provides a reagent-free assessment of mammalian cell culture viability using a sophisticated electronic algorithm to report the standardized Moxi Viability Index (MVI).

- Particulate measurement in mammalian cells, RBC, WBC, common yeast
- Measurement time of eight or 15 seconds
- Very small: Fits in the palm of the hand
- Long-life battery and LCD Touch
- Bluetooth connectivity to MAC/PC for further analysis with MoxiChart Software

TÜV certified

Delivery information: The kit includes the Moxi™ Z instrument, 25 cassettes (sufficient for 50 tests), cassette dispenser, calibration check beads, USB cable/power adapter and USB flash drive containing user guide and MoxiChart software.

Please note: Users can choose from Type M (suitable for cell sizes in the range of 4-26 µm) or Type S (suitable for cell sizes in the range 3-20 µm) cassettes depending on the cell specifications.

Connections	Bluetooth and USB
Power	Battery (Lithium Ion 4400 mAc) or AC Power (100 - 240 V, 50/60 Hz, 0,2 Amps)
Resolution	1200 histogram bins
Software	MoxiChart software package for Mac/PC
Storage of data	500 samples
W×D×H (mm)	190,5×108×70

Description	Pk	Cat. No.
Moxi™ Z cell counter kit	1 KIT	**734-2477**

Description	Pk	Cat. No.
Accessories		
Cassettes, Type S, two tests per cassette	25	**734-2482**
Cassettes, Type M, two tests per cassette	25	**734-2478**
Dispenser for 25 cassettes	1	**734-2481**
Electronic calibration cassette	1	**701-0252**
Diluent for cell suspension	100 ml	**734-2479**
USB cable with power adapter	1	**701-0251**

Automated cell counter, EVE™
NanoEnTek

EVE™ is a benchtop automatic cell counter designed to measure cell count and viability accurately and precisely. It uses the standard trypan blue technique.

- Fine distinction of clumped cells: Accurate results with advanced analysis algorithm
- Broad range of cell sizes and types: Primary (tissue and blood) cell lines and stem cells
- User friendly: Touch screen LCD without any maintenance needed
- Data store analysis: 500 test results, transfer to PC via USB drive
- Cell size gating: Select range of cell size using gating function

Description	Pk	Cat. No.
Automatic cell counter incl. power supply and USB drive, 50 slides with 1x 1,5 ml of trypan blue (0,4 %)	1	**734-2675**

Description	Pk	Cat. No.
Cell counting slides for 100 counts with 1x 1,5 ml of trypan blue (0,4 %), EVS-050	50	**734-2676**
Test beads $1{,}0\times10^6$ beads/ml	1 ml	**734-2674**

Micro and ultramicro balances, Cubis®

Sartorius

MSA2.7S-000-DM

MSA6.6S-000-DF

MSE6.6S-000-DF

The modular concept of the Cubis® range has been extended to microbalances for highly accurate weighing of microgram quantities. The range meets the most stringent requirements of analytical laboratories and pharmaceutical research, offering the user the highest level of safety in terms of result reliability and standard conformity.

Short measurement times and convenient access to the weighing chamber saves operator time. The motorised 100% glass draught shield means that working with minimum sample sizes is fast and effortless. The intelligent learning capability allows individual adaptation of the opening angle to suit every workflow.

- isoCal – full and configurable management of the microbalance's calibration routines
- Q-Level – warning when your balance is out of level and easy guidance for re-levelling
- GLP compliant data printout - user configurable for MSA models
- Q-Com full communications package USB and RS232 with Bluetooth® wireless option

Microbalances for filter weighing

The special DF stainless steel filter draught shield minimises electrostatic effects and is optimised for ultra-precise weighing of filters. Different weighing pan diameters are available for different filter sizes (50 mm as standard - 75 mm and 90 mm optional).

MSE control unit

- Black and white basic backlit LC display
- Ideal for straightforward high accuracy weighing

MSA control unit

- High resolution colour, tiltable and configurable TFT graphical touch screen display
- Advanced Pharma Compliance - password protection allowing definable Administrator and users with appropriate access levels. Full audit trail and Alibi weighing data storage memory
- SQ Min – warning prompt when minimum sample weight has not been reached according to the USP
- SD card slot & Ethernet for transfer of not only data but task configurations and settings from balance to balance or to PC
- Q-Guide and Task management options facilitate the easiest possible navigation through the user interface to manage your daily routines

Ordering information: A range (0CE suffix) of verified versions for use in legal metrology in the European Economic area is available - please enquire or see website for details.

Model	Readability (µg)	Weighing cap. (g)	Repeatability (µg)	Pan (mm)	Pk	Cat. No.
Micro- and ultramicrobalances						
MSA2.7S-000-DM	0,1	2,1	0,25±	Ø 20	1	**611-2514**
MSE2.7S-000-DM	0,1	2,1	0,25±	Ø 20	1	**611-2519**
MSA3.6P-000-DM	1 / 2 / 5	1,1 / 2,1 / 3,1	3± / 4± / 5±	Ø 30	1	**611-2515**
MSE3.6P-000-DM	1 / 2 / 5	1,1 / 2,1 / 3,1	3± / 4± / 5±	Ø 30	1	**611-2547**
MSA6.6S-000-DM	1	6,1	1±	Ø 30	1	**611-2517**
MSE6.6S-000-DM	1	6,1	1±	Ø 30	1	**611-2521**
Microbalances for filter weighing						
MSA2.7S-000-DF	0,1	2,1	0,25±	Ø 50	1	**611-2513**
MSE2.7S-000-DF	0,1	2,1	0,25±	Ø 50	1	**611-2518**
MSA6.6S-000-DF	1	6,1	1±	Ø 50	1	**611-2516**
MSE6.6S-000-DF	1	6,1	1±	Ø 50	1	**611-2520**
0CE versions of selected microbalances						
MSA2.7S-0CE-DM	0,1	2,1	0,25±	Ø 20	1	**611-2623**
MSE2.7S-000-DM	0,1	2,1	0,25±	Ø 20	1	**611-2626**
MSA3.6P-0CE-DM	1 / 2 / 5	1,1 / 2,1 / 3,1	3± / 4± / 5±	Ø 30	1	**611-2624**
MSE3.6P-0CE-DM	1 / 2 / 5	1,1 / 2,1 / 3,1	3± / 4± / 5±	Ø 30	1	**611-2627**
MSA6.6S-000-DM	1	6,1	1±	Ø 30	1	**611-2625**
MSE6.6S-0CE-DM	1	6,1	1±	Ø 30	1	**611-2628**

Description	Pk	Cat. No.
Accessories		
Printer YDP10-0CE with cable	1	**611-1869**
Barcode scanner for Cubis® balances	1	**611-1868**

Microbalance, ME36S
Sartorius

This premium microbalance meets the highest requirements when it's a matter of obtaining fast and exceptionally accurate results on a microgram scale. The design includes a clear, backlit LCD display with simple programmed prompts, palm activated keys or optional footswitch for operating the draught shield. Easy to clean surfaces and simply removed draught shield, together with a stabilisation time of only 10 seconds saves time between weighing operations and also between different samples. Fourteen built-in application programs include differential weighing for up to 999 samples, statistical evaluation and air buoyancy correction. The keyboard facilitates input of alphanumeric data for sample identification, and GLP compliant recording is achieved via RS232 and serial printer ports.

- Motorised, all-glass draught shield with interior coating to reduce electrostatic induction effects
- ISO/GLP compliant recording
- IsoCal self-calibration and fully automatic adjustment with storage of calibration and adjustment records
- SQmin function indicates the minimum permissible sample weight in accordance with USP
- SURE function to display the absolute uncertainty of the measurement

Model	Readability (µg)	Weighing cap. (g)	Repeatability (µg)	Pan (mm)	Pk	Cat. No.
ME36S	1	31	2±	Ø 30	1	**611-1641**

Description	Pk	Cat. No.
Accessories		
Printer YDP20-0CE with connector cable	1	**611-1774**
Ink ribbon cartridge for printers YDP03-0CE, YDP10-0CE and YDP20-0CE	1	**611-0737**
Connection cable to a USB port	1	**611-1614**
Footswitch including T connector	1	**611-0918**

Microbalances, BM series

A highly specified range of microbalances from A&D with an upper neutralising chamber that houses a built in ioniser to eliminate static charge on the sample or sample container. The balance is supplied with a data logger that records up to 5000 results with time and date providing data not only about the weighing operation but also the environmental readings from built-in sensors.

- Easy, fanless static elimination using a built-in ioniser
- Double-ring structure around the weighing pan reduces effects of any localised draughts
- Interlockable sliding doors allowing efficient operation with both hands
- Data memory function for 100 weighing results with time and date
- Built-in temperature, humidity, and atmospheric pressure sensors
- Automatic calibration with an internal mass and automatic response adjustment

GLP/GMP/GCP/ISO compliant output

Delivery information: Balance supplied with WinCT (CD-ROM), weighing data logger, weighing pans and supports, tweezers and two larger (50 and 95 mm) weighing support pans for filter weighing, microtube holder and three sizes (8, 12 and 15 mm) of aluminium analytical pans (10 pcs each) AC adapter, USB cable, display cover and instruction manual.

Model	Readability (µg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
BM-20	1	22	Ø 25	1	**611-2857**
BM-22	1 / 10	5 / 22	Ø 25	1	**611-2858**

Description	Pk	Cat. No.
Accessories		
Anti-vibration table for balances	1	**611-3069**
Pipette accuracy testing kit	1	**611-3071**
AD-8121B dot matrix impact printer with calendar and full range of statistical functions including - weight, total weight, counting data, total count, number of operations, max, min, range, and standard deviation	1	**611-3070**

Please note these products are not available in Republic of Ireland or Northern Ireland.

Weighing table for micro and analytical balances

Sartorius

High performance micro and analytical balances should be placed in an environment where interfering vibration is at a minimum, to give fast stabilisation of the reading. The YWT09 weighing table features a sturdy frame with a granite stone slab insert.

- Easy to clean surfaces
- Fast stabilisation times

Model	YWT09
Colour of slab	Dark grey
Dimensions of slab (mm)	400×500
Weight (kg)	85

Description	W×D×H (mm)	Pk	Cat. No.
YWT09 balance table, wooden frame with cast stone slab insert	750×900×750	1	**611-1702**

Anti-vibration weighing surface

Polished granite

Four absorbing feet dampen the transmission of extraneous vibrations to this slab making it suitable for not only high precision weighing but also microscopy and other similar delicate instrumentation.

Weight: 44 kg

Description	W×D×H (mm)	Pk	Cat. No.
Anti-vibration weighing surface, granite	560×450×65	1	**611-2536**

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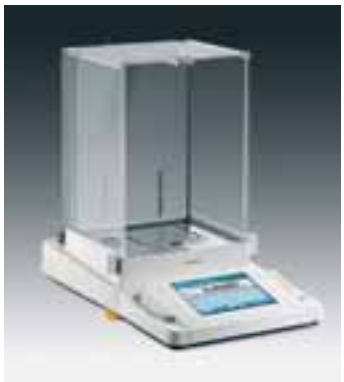
Analytical balances, Cubis®

Sartorius



MSA

MSU

MSE

The Cubis® range represents a modular concept from Sartorius to allow the customer to choose the components that suit the application area that is of interest. For the customer, the modular concept delivers quality weighing together with a high degree of flexibility without having to invest in expensive equipment that has features that may never be required.

Three different display and control units are available to cover all facets of laboratory applications and enable a range of options for balance operation. The customer can then add the appropriate weighing platform to the choice of control unit.

In the analytical range (4/5 figure balances), the choices are not only the control unit and balance capability, but the type of draught shielding that will benefit the application.

- Choice of draught shield: Manual (DU); automatic (DA); automatic with built-in de-ioniser for effective removal of static charges (DI)
- Second-generation monolithic weigh cells are even more rugged than their predecessors, which allows for top loading semi-microbalances (5 figure) with 0 to 200 g weighing capability
- All models have removable control units and displays
- RS232 and USB interfaces are included, and additionally on MSA and MSU models an Ethernet interface with implemented web services, plus SD card reader are also included
- Easy to upgrade separate modules
- IsoCAL; fully automatic calibration and adjustment

MSE control unit

- Black and white basic backlit LCD
- Ideal for straightforward high accuracy weighing

MSU control unit

- High resolution black and white, graphical and tiltable display
- APC (Advanced Pharma Compliance) to meet the stringent requirements of the pharmaceutical industry
- Suitable for wide ranging complex weighing tasks and includes SD card reader for transfer of not only data but task configurations and settings from balance to balance or to PC
- Q-Pan; compensation of off centre loading effects/errors
- Q-Level; intelligent warning function to detect if balance is perfectly level and provide adjustment prompts for the user to correct and re-level the balance

MSA control unit

- High resolution colour configuable TFT, graphical and tiltable, touch screen display
- APC (Advanced Pharma Compliance) to meet the stringent requirements of the pharmaceutical industry
- Suitable for wide ranging complex weighing tasks and includes SD card reader for transfer of not only data but task configurations and settings from balance to balance or to PC
- Q-Pan; compensation of off centre loading effects/errors
- Q-Level; intelligent warning function to detect if balance is perfectly level and provide adjustment prompts for the user to correct and re-level the balance

As an example the model MSA124S-000-DI where the modules are described as follows:
MSA = Colour touch screen applications display module
124S-000 = 120 g four decimal place weighing module, not verified for use in legal metrology
DI = Automatic draught shield with built-in static de-ioniser

Ordering information: VWR offers a range of pre-configured models that address the most common application areas. For the full range of available configurations, including automated motorised self-levelling versions (100 suffix) or a range (0CE suffix) of verified versions for use in legal metrology in the European Economic area, please contact your local VWR sales office.

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
MSA control unit					
MSA124S-000-DA	0,1	120	85×85	1	**611-1710**
MSA124S-000-DU	0,1	120	85×85	1	**611-1711**
MSA125P-000-DA	0,01 / 0,1	60 / 120	85×85	1	**611-1714**
MSA125P-000-DI	0,01 / 0,1	60 / 120	85×85	1	**611-1715**
MSA224S-000-DA	0,1	220	85×85	1	**611-1718**
MSA224S-000-DI	0,1	220	85×85	1	**611-1719**

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Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
MSA control unit					
MSA224S-000-DU	0,1	220	85×85	1	**611-1720**
MSA225P-000-DA	0,01 / 0,02 / 0,05	60 / 120 / 220	85×85	1	**611-1724**
MSA225P-000-DI	0,01 / 0,02 / 0,05	60 / 120 / 220	85×85	1	**611-1725**
MSA225S-000-DA	0,01	220	85×85	1	**611-1728**
MSA225S-000-DI	0,01	220	85×85	1	**611-1729**
MSA324P-000-DA	0,1 / 0,2 / 0,5	80 / 160 / 320	85×85	1	**611-1733**
MSA324S-000-DA	0,1	320	85×85	1	**611-1735**
MSA324S-000-DI	0,1	320	85×85	1	**611-1736**
MSU control unit					
MSU124S-000-DU	0,1	120	85×85	1	**611-1751**
MSU125P-000-DI	0,01 / 0,1	60 / 120	85×85	1	**611-1753**
MSU125P-000-DU	0,01 / 0,1	60 / 120	85×85	1	**611-1754**
MSU224S-000-DU	0,1	220	85×85	1	**611-1757**
MSU225P-000-DU	0,01 / 0,02 / 0,05	60 / 120 / 220	85×85	1	**611-1760**
MSU225S-000-DI	0,01	220	85×85	1	**611-1763**
MSU225S-000-DU	0,01	220	85×85	1	**611-1764**
MSU324P-000-DU	0,1 / 0,2 / 0,5	80 / 160 / 320	85×85	1	**611-1768**
MSU324S-000-DU	0,1	320	85×85	1	**611-1770**
MSE control unit					
MSE125P-000-DU	0,01 / 0,1	60 / 120	85×85	1	**611-1742**
MSE224S-000-DU	0,1	220	85×85	1	**611-1743**
MSE225P-000-DU	0,01 / 0,02 / 0,05	60 / 120 / 220	85×85	1	**611-1744**
MSE225S-000-DU	0,01	220	85×85	1	**611-1745**
MSE324P-000-DU	0,1 / 0,2 / 0,5	80 / 160 / 320	85×85	1	**611-1747**
MSE324S-000-DU	0,1	320	85×85	1	**611-1748**

Description	Pk	Cat. No.
Accessories		
Printer YDP10-0CE with cable	1	**611-1869**
Barcode scanner for Cubis® balances	1	**611-1868**
Density determination kit for solids and liquids for modules with a readability <1 mg	1	**611-2526**
Q-Grip, flexible holder for weigh in containers and filters up to 120 mm diameter	1	**611-2528**
Anti-static weighing pan, Ø 130 mm, for weighing modules with a readability of 0,1 or 0,01 mg	1	**611-2529**

Analytical balances, Secura®

Sartorius

Advanced balances designed for easy, reliable and secure weighing operations for regulated areas. These analytical balances deliver stabilisation times of 2-3 seconds with excellent repeatability (0,1 mg) and linearity (0,2 mg). The Secura® range features a range of APC functions (Advanced Pharma Compliance) to help with documentation and monitoring requirements. The GLP compliant printout documentation is also controlled by the inbuilt security control, as data transfer to a printer or PC is blocked, when common operating errors occur, such as the balance is not level, minimum sample weight has not been achieved or temperature fluctuations require isoCAL calibration adjustment.

- Touch screen with graphical user interface optimised for users in pharmaceutical laboratories
- Cal Audit Trail function to document the quality of each weigh-in procedure you perform
- IsoCAL internal calibration and adjustment function linked to CAL Audit Trail
- SQmin - monitoring of compliance with USP minimum sample weight limits
- Password protection of set-up settings
- LevelControl continuously checks to see if the balance is perfectly level

Delivery information: Supplied with universal power adapter, in-use cover, application guide, dust cover for analytical balances, draught ring for 0,1 mg balances.

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Standard balances					
SECURA124-1S	0,1	120	Ø 90	1	**611-2631**
SECURA224-1S	0,1	220	Ø 90	1	**611-2633**
Approved balances					
SECURA124-1CEU	0,1	120	Ø 90	1	**611-2670**
SECURA224-1CEU	0,1	220	Ø 90	1	**611-2673**

Description	Pk	Cat. No.
Accessories		
Standard printer YDP40-0CE with connector cable	1	**611-2637**
Printer YDP30-0CE with connector cable, for GLP printouts	1	**611-2636**
Adapter cable (USB to RS232)	1	**611-2634**
USB data cable	1	**611-2635**
Density kit for analytical balances	1	**611-2675**

Analytical balances, Quintix®
Sartorius

A series of ergonomic balances designed for easy, intuitive operation, with a large touch screen, self explanatory icons and plain text prompts. In addition to the standard applications including general weighing, density, percentage, check weighing, peak hold, counting, and averaging, the Quintix® range also provides mixing, components, statistics and conversion funtionalities. Results can be transferred via a mini-USB interface to a printer or a computer directly into a Microsoft Excel® spreadsheet without additional software. Menu with choice of 10 languages.

- High contrast colour touch screen
- Stabilisation times of 2-3 seconds with excellent repeatability (0,1 mg) and linearity (0,2 mg)
- IsoCAL internal calibration and adjustment function
- Draught shield with doors that glide smoothly open that also can be completely disassembled for easy cleaning
- Supervisor lock to prevent any unintentional changes to settings
- Optional GLP compliant YDP30 printer that is automatically detected by the Quintix® balance

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Standard balances					
QUINTIX124-1S	0,1	120	Ø 90	1	**611-2648**
QUINTIX124-1S	0,1	220	Ø 90	1	**611-2645**
Approved balances					
QUINTIX124-CEU	0,1	120	Ø 90	1	**611-2665**
QUINTIX124-CEU	0,1	220	Ø 90	1	**611-2667**

Description	Pk	Cat. No.
Accessories		
Standard printer YDP40-0CE with connector cable	1	**611-2637**
Printer YDP30-0CE with connector cable, for GLP printouts	1	**611-2636**
Adapter cable (USB to RS232)	1	**611-2634**
USB data cable	1	**611-2635**
Density kit for analytical balances	1	**611-2675**

Analytical balances, Practum®
Sartorius

A practical basic balance that incorporates Sartorius' renowned weighing technology to deliver reliable professional results. Weighing applications include general weighing, density, percentage, check weighing, peak hold, counting and averaging. Results can be transferred via a mini-USB interface to a printer or a computer directly into a Microsoft Excel® spreadsheet without additional software. Menu with choice of 10 languages.

- High contrast colour touch screen
- Automatic calibration and adjustment with an external weight
- Sturdy draught shield can be completely disassembled for easy cleaning
- Supervisor lock to prevent any unintentional changes to settings
- Built-in overload protection

Delivery information: Supplied with a calibration weight, universal power adapter, in-use cover and application guide.

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
PRACTUM124-1S	0,1	120	Ø 90	1	**611-2657**
PRACTUM224-1S	0,1	220	Ø 90	1	**611-2660**

Description	Pk	Cat. No.
Accessories		
Standard printer YDP40-0CE with connector cable	1	**611-2637**
Adapter cable (USB to RS232)	1	**611-2634**
USB data cable	1	**611-2635**
Density kit for analytical balances	1	**611-2675**

Printer and balance accessories
Sartorius

YDP10-0CE

YDP30

YDP40

The Sartorius printer YDP20-0CE has date, time statistics and transaction counter functions and is suitable for use in legal metrology. These capabilities when attached to balances with built in GLP functions, allow GLP compliant printouts including operator details and spaces for signatures.

Compatible with: Sartorius CP, CPA, LA, LP, LC, MC, ME, AC, PT, BP, TE, LE, SE, ED and MA balances.

SartoCollect: The standard data software for Sartorius instruments that facilitates data transfer to a PC with direct integration in MS Excel®, Word® and Access® or an ASCII file.

Other accessories are suitable for all ME, SE, LA, CP, CPA and TE models.

Description	Pk	Cat. No.
Accessories		
Printer YDP20-0CE with connector cable	1	**611-1774**
Standard printer YDP40-0CE with connector cable	1	**611-2637**
Printer YDP30-0CE with connector cable, for GLP printouts	1	**611-2636**
Ink ribbon cartridge for printers YDP03-0CE, YDP10-0CE and YDP20-0CE	1	**611-0737**
Paper rolls for printers YDP03-0CE, YDP10-0CE and YDP20-0CE	5	**611-0738**

Description	Pk	Cat. No.
Connection cable to a USB port	1	**611-1614**
RS232 interface cable 9/25 pin, 1,5 m	1	**611-1089**
RS232 interface cable 25 pin, 1,5 m	1	**611-1550**
Density determination kit	1	**611-0908**
Density determination kit for M-Pact and Entris® analytical balances	1	**611-0909**
Glass draught shield for 1 mg balances, CP, LE series	1	**611-0916**
Ionising blower 220 V	1	**611-1643**
Footswitch including T connector	1	**611-0918**

Analytical balances, Discovery series
Ohaus

The Discovery series was designed for ease of operation in a laboratory or for industrial applications requiring precise measurements whilst ensuring traceable results to comply with GLP/GMP requirements, including RS232 interface for recording data to an optional printer or PC. The balances feature glass and steel construction, a large stainless steel pan and stability indicator. Multiple application modes include statistics, density, pipette calibration, dynamic weighing, check weighing and parts counting. The advanced AutoCal™ feature automatically adjusts the balance when it senses a temperature change sufficient enough to affect accuracy. As importantly, the advanced AutoCal™ minimises weighing errors, by using two internal calibration weights to perform a linearity calibration.

- Superior repeatability and linearity performance
- Integral hook for below balance weighing
- Square three door glass and steel draught shield
- Two line backlit LCD and SmarText™ software to guide the user through set-up and applications
- Advanced AutoCal™; internal calibration with two weights to perform linearity calibration

Ordering information: OIML EC Type approved models with Autocal™ (designated CM e.g. DV214CM) are also available on request.

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
DV114C	0,1	110	Ø 90	1	**611-4191**
DV214C	0,1	210	Ø 90	1	**611-4192**
DV314C	0,1	310	Ø 90	1	**611-4193**
DV215CD	0,01 / 0,1	81 / 210	Ø 90	1	**611-4194**

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Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
STP103 thermal printer for Ohaus balances, UK-plug	1	**611-2539**
Accessories		
Printer cable SF40A for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series/Ranger™	1	**611-2571**
Printer cable kit (STP103) for MB series, Discovery, Adventurer™ Pro, Pioneer™ and Defender™ models with ABS indicator (D31P and D51P)	1	**611-2541**
PC cable 9 pin for MB series, Discovery, Ranger™, Defender™ DxxP, Defender™ TxxP Indicators, Pioneer™	1	**611-2423**

Analytical balances, Explorer® series

Ohaus

A range of 4-place balances that incorporate touch screen, advanced weighing and proximity sensor technologies. The easy to use control unit can be mounted on the base, above the base on an optional column, on a wall or remotely (up to 3 m distance with an optional cable). The touch screen display with universal icons and informative prompts simplifies set-up functions and basic operation. The operator has the added choice to use the proximity sensors for hands-free operation for handling sensitive samples. The balances have multiple application modes for basic weighing to SQC applications together with short stabilisation times and optimised performance specifications.

The balances feature a frameless glass draught shield with easy access, central light and removable doors for cleaning.

- Colour touch screen display with viewing angle adjustment in a demountable control unit
- Advanced weighing technology with stabilisation times of less than 3 seconds
- SmarText™ software with text prompts for ease of menu navigation including 'Level assist' feature with illuminated level indicator
- AutoCal™ internal calibration
- Dual multifunctional proximity sensors for hands-free operation of basic or user-selectable functions

Ordering information: A selection of OIML EC approved balances are also available from VWR. For models with automatic draught shield door operation via touch-free sensors and also a full range of accessories for the Explorer® balances, please contact your local VWR sales office.

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
EX124	0,1	120	Ø 90	1	**611-2393**
EX224	0,1	220	Ø 90	1	**611-2394**
EX324	0,1	320	Ø 90	1	**611-2396**

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
OIML EC type approved balances					
EX224M	0,1	220	Ø 90	1	**611-2395**
EX324M	0,1	320	Ø 90	1	**611-2397**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
STP103 thermal printer for Ohaus balances, UK-plug	1	**611-2539**
Accessories		
Printer cable SF40A for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series/Ranger™	1	**611-2571**
Printer cable kit (STP103) for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series	1	**611-2540**
Density determination kit for Explorer®/Adventurer® balances (0.1 and 1 mg models only)	1	**611-2413**
Terminal extension cable for Explorer® balances	1	**611-2417**
Tower mount for terminal for Explorer* balances	1	**611-2421**
Anti-theft device (Laptop lock) for Explorer®/Adventurer®/MB series	1	**611-0598**

Analytical balances, Explorer® series with automatic draught shield door
Ohaus

A range of 4-place balances that incorporate touch screen, advanced weighing and touch-free proximity sensor technologies. The easy to use control unit can be mounted on the base, above the base on an optional column, on a wall or remotely (up to a distance of 3 metres with an optional cable). The touch screen display with universal icons and informative prompts simplifies set-up functions and basic operation. The operator has the added choice to assign the use of any of the 4 proximity sensors for hands-free operation of print, zero, tare, calibrate, automatic draught shield door (left or right) or draught shield light. The hands-free operation enables the user to minimise/eliminate any possible contamination of the control keypad - particularly important for weighing of sensitive materials. The balances have multiple application modes for basic weighing to SQC applications together with short stabilisation times and optimised performance specifications.

Explorer's automated draught shield provides ample side entry (160×240 mm) to the weighing chamber allowing the user to freely place and remove large weigh boats or other large vessels. The versatile top door offers two entry options; access the weighing chamber by flipping the top door or manually sliding the glass panel open. The draught shield is constructed of antistatic coated glass to help dissipate static charges in the weighing chamber that could adversely affect weighing results. There is also a draught shield chamber light for use in environments with low lighting.

- Automatic draught shield doors with the option for truly hands-free basic operation using proximity sensors
- Colour touch screen display with viewing angle adjustment in a demountable control unit
- Advanced weighing technology with stabilisation times of less than 3 seconds
- Multiple application modes plus library for storage of personal application settings
- SmarText™ software with text prompts for ease of menu navigation including 'Level assist' feature with illuminated level indicator
- AutoCal™ internal calibration

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
EX124/AD	0,1	120	Ø 90	1	**611-2848**
EX224/AD	0,1	220	Ø 90	1	**611-2849**
EX324/AD	0,1	320	Ø 90	1	**611-2850**

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
OIML EC type approved balances					
EX224M/AD	0,1	220	Ø 90	1	**611-2847**
EX324M/AD	0,1	320	Ø 90	1	**611-5309**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
STP103 thermal printer for Ohaus balances, UK-plug	1	**611-2539**
Accessories		
Printer cable SF40A for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series/Ranger™	1	**611-2571**
Printer cable kit (STP103) for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series	1	**611-2540**
Density determination kit for Explorer®/Adventurer® balances (0.1 and 1 mg models only)	1	**611-2413**
Terminal extension cable for Explorer® balances	1	**611-2417**
Tower mount for terminal for Explorer* balances	1	**611-2421**
Anti-theft device (Laptop lock) for Explorer®/Adventurer®/MB series	1	**611-0598**

Analytical Balances, Adventurer® series
Ohaus

Balances with multiple features but uncomplicated weighing capabilities provide the user with rapid, accurate results for routine weighing and measurement activities. Applications include weighing, formulation, check weighing and percentage weighing. Stabilisation times are typically less than three seconds.

- Stability, accuracy, and fast operation
- Wide viewing angle colour touchscreen (109 mm) for quick access to nine application modes
- Dual USB ports (front and rear) with GLP/GMP tracking
- Two piece, draught shield side doors provide good access and reduce footprint requirement when doors are open
- Choice of balances with external calibration only or with AutoCal™ as additional feature

Ordering information: For the full range of available accessories please contact VWR.

Delivery information: Supplied with AC adapter.

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Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
AX124	0,1	120	Ø90	1	**611-3213**
AX124/E	0,1	120	Ø90	1	**611-3222**
AX224	0,1	220	Ø90	1	**611-3214**
AX224/E	0,1	220	Ø90	1	**611-3215**
AX324	0,1	320	Ø90	1	**611-3216**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
Printer accessories		
Ink ribbon cassette for printer SF40A	1	**611-2579**
Accessories		
Cable, USB interface, (type A to B)	1	**611-2419**

Model with suffix /E are external calibration only.

Analytical balances, Pioneer™ series
Ohaus

The Pioneer™ series was designed for basic, routine weighing in laboratory, industrial and education applications. Simple pre-programmed applications include parts counting and % weighing and selection of 19 weighing units.

- Simple three button operation with LCD display
- Two adjustable feet and front levelling bubble
- Selectable environmental settings
- Integral weigh below hook
- Square draught shield with three sliding doors, easy to dismantle and clean

Ordering information: Models denoted with C, have internal calibration. OIML EC type approved models with internal calibration denoted with CM are available on request.

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
PA64	0,1	65	Ø 90	1	**611-3900**
PA64C	0,1	65	Ø 90	1	**611-3901**
PA114	0,1	110	Ø 90	1	**611-3902**
PA114C	0,1	110	Ø 90	1	**611-3903**
PA214	0,1	210	Ø 90	1	**611-3904**
PA214C	0,1	210	Ø 90	1	**611-3905**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
Accessories		
Printer cable SF40A for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series/Ranger™	1	**611-2571**

Printer and balance accessories
Ohaus

SF40A

STP103

The SF40A impact printer and the STP103 thermal printer are compatible with any Ohaus balance with an RS232 interface. They are particularly useful when coupled to an Ohaus balance with GLP functionality as they can provide a hard copy audit trail. A printer cable is required (but not supplied) for specific Ohaus balances.

There are a wide variety of accessories and replacement parts for Ohaus balances and the most commonly used are listed below: For further items please visit the

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local VWR website.

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
STP103 thermal printer for Ohaus balances, UK-plug	1	**611-2539**
Printer accessories		
Ink ribbon cassette for printer SF40A	1	**611-2579**
Paper roll for printer SF40A, 57,5 mm width	2	**611-2580**
Paper, rotary axis, for printer SF40A	1	**611-2622**
Accessories		
Printer cable SF40A for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series/Ranger™	1	**611-2571**
Printer cable for SF40A for Explorer® Pro and Voyager™ Pro	1	**611-2570**
PC interface cable 9 pin for Voyager® Pro/Explorer® Pro	1	**611-1167**
Printer cable kit (STP103) for MB series, Discovery, Adventurer™ Pro, Pioneer™ and Defender™ models with ABS indicator (D31P and D51P)	1	**611-2541**
Printer cable kit (STP103) for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series	1	**611-2540**
Printer cable (STP103) for Trooper models	1	**611-2542**
Printer cable kit (STP103) for CW11, CKW55 and Defender™ D51XW models	1	**611-2543**
Printer cable and adapter (STP103) for Navigator™ and Scout™ Pro (with RS232 option)	1	**611-2537**
PC cable 9 pin for MB series, Discovery, Ranger™, Defender™ DxxP, Defender™ TxxP Indicators, Pioneer™	1	**611-2423**
Terminal extension cable for Explorer® balances	1	**611-2417**
Cable, USB interface, (type A to B)	1	**611-2419**
Printer cable (SF40A) for the CW11, CKW55 and TxxW indicators	1	**611-2574**
In use display cover for MB35/45 (pack of 2)	1	**611-1867**
Tower mount for terminal for Explorer* balances	1	**611-2421**
Anti-theft device (cable and lock) for Explorer®, Adventurer™ Pro, Pioneer™ and Scout™ Pro	1	**611-5111**
Anti-theft device (Laptop lock) for Explorer®/Adventurer®/MB series	1	**611-0598**

Semi-micro and analytical balances, BM series

A highly specified range of analytical balances from A&D with an upper neutralising chamber that houses a built-in fanless ioniser to eliminate static charge on the sample or sample container. Applications include counting with Automatic Counting Accuracy Improvement, percentage weighing, below balance weighing and density determination*. The balances are supplied with a data logger that records up to 5000 results with time and date providing data not only about the weighing operation but also environmental readings from built-in sensors.

- Easy, fanless static elimination using a built-in ioniser
- Interlockable sliding doors allowing efficient operation with both hands
- Twelve weighing units (including one custom unit), overload protection
- Data memory function for 100 weighing results with time and date
- Built-in temperature, humidity, and atmospheric pressure sensors
- Automatic calibration with an internal mass and automatic response adjustment

GLP/GMP/GCP/ISO compliant output.

*Available on models BM-252/200/300/500 with optional density determination kit.

Ordering information: Please contact your local VWR sales office for details on other accessories including LAN-Ethernet interface with WinCT-Plus software, density determination kits, analytical pans, remote display and calibration weights.

Delivery information: Balance supplied with dust plate, support rings and pan, draught shield ring, WinCT (CD-ROM), weighing data logger (AD-1688), tweezers for calibration mass (AD-1689), AC adapter, USB cable, display cover and instruction manual.

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
BM-252	0,01	250	Ø 90	1	**611-2859**
BM-200	0,1	220	Ø 90	1	**611-2860**
BM-300	0,1	320	Ø 90	1	**611-2861**
BM-500	0,1	520	Ø 90	1	**611-2862**

Description	Pk	Cat. No.
Accessories		
Density determination kit	1 KIT	**611-3068**
AD-8121B dot matrix impact printer with calendar and full range of statistical functions including - weight, total weight, counting data, total count, number of operations, max, min, range, and standard deviation	1	**611-3070**

Please note these products are not available in Republic of Ireland or Northern Ireland.

Analytical balances, GR series

A series of analytical balances from A&D for advanced, accurate and reliable weighing. Applications include counting with Automatic Counting Accuracy Improvement (ACAI), percentage weighing, below balance weighing and density determination.

The data memory function allows 200 sets of weighing data to be stored (or 100 sets of weighing data with time and date, or 50 sets of calibration data). GLP/GMP compliant data output, including calibration weight, time and date.

- One touch digital calibration using internal motor driven masses with automatic self calibration on ambient temperature changes
- 11 weighing units plus counting and percentage
- Two layer housing construction minimises the negative effects of ambient temperature changes
- Sealed keypad protecting against spills and dust
- Built-in underhook capability
- RS232 bi-directional interface

Ordering information: Please contact your local VWR sales office for details on other accessories including LAN-Ethernet interface with WinCT-Plus software, density determination kits, analytical pans, remote display and calibration weights.

Delivery information: Supplied with AC adapter, instruction manual.

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
OIML EC approved balances					
GR-202-EC	0,01 / 0,1	42 / 210	Ø 85	1	**611-3100**
GR-120-EC	0,1	120	Ø 85	1	**611-3098**
GR-200-EC	0,1	210	Ø 85	1	**611-3099**
GR-300-EC	0,1	310	Ø 85	1	**611-3101**

Description	Pk	Cat. No.
Accessories		
Density determination kit	1 KIT	**611-3068**
AD-8121B dot matrix impact printer with calendar and full range of statistical functions including - weight, total weight, counting data, total count, number of operations, max, min, range, and standard deviation	1	**611-3070**

Please note these products are not available in Republic of Ireland or Northern Ireland.

Analytical balances, HR-AZ and HR-A series

Compact, economical, reliable analytical balances from A&D with rapid stabilisation times. Applications include counting, percentage weighing, below balance weighing, density determination, animal weighing. All models feature display auto-off function, standard comparator function (HI/OK/LO annunciator), counting function with Automatic Counting Accuracy Improvement (ACAI).

The HR-AZ models have internal calibration with date and time functionality for GLP/GMP/GCP/ISO compliant output. The output from the HR-A models are also compliant when used in conjunction with the AD-8121B which can print time and date.

- Compact with rotary sliding doors requiring no extra space at the rear
- Large, easily removable, shatterproof draught shield with antistatic coating
- Twelve weighing units including a user-programmable unit
- RS232 bi-directional interface
- Displays and outputs statistical calculation data

Ordering Information: Please contact your local VWR sales office for details on other accessories including USB interface, rechargeable Ni-MH battery, calibration weights, density determination kit and Ethernet cable with WinCT-Plus software.

Delivery information: Supplied with AC adapter and WinCT software (via free download).

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
HR-AZ balances with one-touch automatic internal calibration					
HR-100AZ	0,1	102	Ø 90	1	**611-2878**
HR-150AZ	0,1	152	Ø 90	1	**611-2879**
HR-250AZ	0,1	252	Ø 90	1	**611-2881**
HR-251AZ	0,1 / 1	62 / 252	Ø 90	1	**611-2880**
HR-A balances with external calibration					
HR-100A	0,1	102	Ø 90	1	**611-2882**
HR-150A	0,1	152	Ø 90	1	**611-2883**
HR-250A	0,1	252	Ø 90	1	**611-2885**
HR-251A	0,1 / 1	62 / 252	Ø 90	1	**611-2884**

Description	Pk	Cat. No.
Accessories		
AD-8121B dot matrix impact printer with calendar and full range of statistical functions including - weight, total weight, counting data, total count, number of operations, max, min, range, and standard deviation	1	**611-3070**

Analytical balances, PW series

The PW series of analytical balances from Adam Equipment are designed to meet the needs of laboratories, schools, industry and commercial users. Units feature a robust solid metal housing with security locking point*, stainless steel pan, force restoration mechanism and a splashproof design to protect from accidental spills. They offer a wide range of applications, including: check, percentage and dynamic weighing (with selectable digital filtering), parts counting, below balance weighing and density determination.

- Up to 16 weighing units (including one custom unit), full range tare, zero tracking, capacity tracker
- Multi-lingual backlit LCD with dual display and colour coded sealed keypad
- Internal calibration
- Linearity 0,2 mg
- RS232 bi-directional interface
- GLP printouts, date and time function

Ordering information: *Please note the optional security lock and cable are listed in the accessories below, please order separately. Please contact VWR for details on other accessories, including calibration weights.

Delivery information: Supplied with mains to DC adapter.

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
PW 124	0,1	120	Ø 90	1	**611-2927**
PW 184	0,1	180	Ø 90	1	**611-2928**
PW 214	0,1	214	Ø 90	1	**611-2929**
PW 254	0,1	250	Ø 90	1	**611-2930**

Description	Pk	Cat. No.
Accessories		
ATP thermal printer	1	**611-2909**
Thermal paper for ATP printer	1	**611-2924**
Anti-vibration table	1	**611-2905**
Adam DU data collection program	1	**611-2925**
In-use cover	1	**611-2913**
Security lock and cable*	1	**611-2926**

Analytical balances, Eclipse series

An advanced range of analytical balances from Adam Equipment, the Eclipse series offers scientists a wide range of models that deliver the highest levels of capacity and readability together with a capacitive touch keypad and additional features to the Nimbus series. The Eclipse is therefore well suited for use in research, pharmaceutical, testing, QC, and university teaching laboratories.

Applications include weighing, check weighing, parts counting, percentage weighing, animal weighing and density determination. The balance gives a choice of fourteen standard weighing units and a customer defined unit. A zero-tracking feature ensures the display returns to zero reading following the removal of a sample that has just been weighed. The balance also features a capacity tracker built into the display for easy monitoring of possible overloads and the option to control the backlight in the display according to user preference.

- Housing and draught shield have special anti-static protection to reduce effect of static on the weighing result
- Up to 15 weighing units (including one custom unit), full range tare, zero tracking, capacity tracker
- Multilingual, backlit LCD (24 mm high digits) and colour coded sealed keypad
- Linearity of ±0,2 mg across the range, stabilisation times typically approx. 3 seconds
- GLP compliant with printouts that include time and date
- Security password control prevents unauthorised access

Ordering information: Please contact your local VWR sales office for details of the full range accessories, including cables and calibration weights.

Delivery information: Supplied with AC adapter.

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Balances with external calibration					
EBL 104e	0,1	100	Ø 90	1	**611-3147**
EBL 164e	0,1	160	Ø 90	1	**611-3149**
EBL 214e	0,1	210	Ø 90	1	**611-3151**
EBL 254e	0,1	250	Ø 90	1	**611-3153**
EBL 314e	0,1	310	Ø 90	1	**611-3155**

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Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Balances with internal calibration					
EBL 104i	0,1	100	Ø 90	1	**611-3148**
EBL 164i	0,1	160	Ø 90	1	**611-3150**
EBL 214i	0,1	210	Ø 90	1	**611-3152**
EBL 254i	0,1	250	Ø 90	1	**611-3154**
EBL 314i	0,1	310	Ø 90	1	**611-3156**

Description	Pk	Cat. No.
Accessories		
Dust cover	1	**611-3142**
In-use cover for 90 mm pan	1	**611-3143**
ATP thermal printer	1	**611-2909**
Thermal paper for ATP printer	1	**611-2924**
Anti-vibration table	1	**611-2905**
Density determination kit for models with Ø 90 and 120 mm pans	1	**611-3139**
Adam DU data collection program	1	**611-2925**
RS232 to PC cable	1	**611-2914**

Please note these products are not available in Republic of Ireland and Northern Ireland.

Analytical balances, Nimbus series

Nimbus analytical

For day to day lab work, the compact Nimbus analytical balances from Adam Equipment are intuitively designed for simple operation and consistently high performance. They are ideal for the general laboratory market, such as QC, research, and food laboratories. Applications include weighing, parts counting, percentage weighing, animal weighing and density determination. The balance features seven standard weighing units and a customer defined unit. A zero-tracking feature ensures the display returns to zero reading following the removal of a sample that has just been weighed.

- Easy to operate with backlit LCD (20 mm high digits) and simple menu navigation with colour coded keys of frequently used buttons
- Simple to use 3 sliding door, glass, draught shield
- Linearity of ±0,2 mg across the range, stabilisation times typically approx. 3 seconds
- Robust aluminium housing and sealed keypad protect the balance
- GLP compliant with printouts that include time and date
- Selectable digital filtering helps minimise effects of vibration and disturbances

Ordering information: Please contact your local VWR sales office for details of the full range accessories, including cables and calibration weights.

Delivery information: Supplied with AC adapter.

Model	Readability (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Balances with external calibration					
NBL 84e	0,1	80	Ø 90	1	**611-3163**
NBL 124e	0,1	120	Ø 90	1	**611-3157**
NBL 164e	0,1	160	Ø 90	1	**611-3159**
NBL 214e	0,1	210	Ø 90	1	**611-3161**
OIML EC approved balances with internal calibration, (verification interval: 1 mg)					
NBL 84i-M	0,1	80	Ø 90	1	**611-3164**
NBL 124i-M	0,1	120	Ø 90	1	**611-3158**
NBL 164i-M	0,1	160	Ø 90	1	**611-3160**
NBL 214i-M	0,1	210	Ø 90	1	**611-3162**

Description	Pk	Cat. No.
Accessories		
In-use cover for 90 mm pan	1	**611-3143**
ATP thermal printer	1	**611-2909**
Thermal paper for ATP printer	1	**611-2924**
Anti-vibration table	1	**611-2905**

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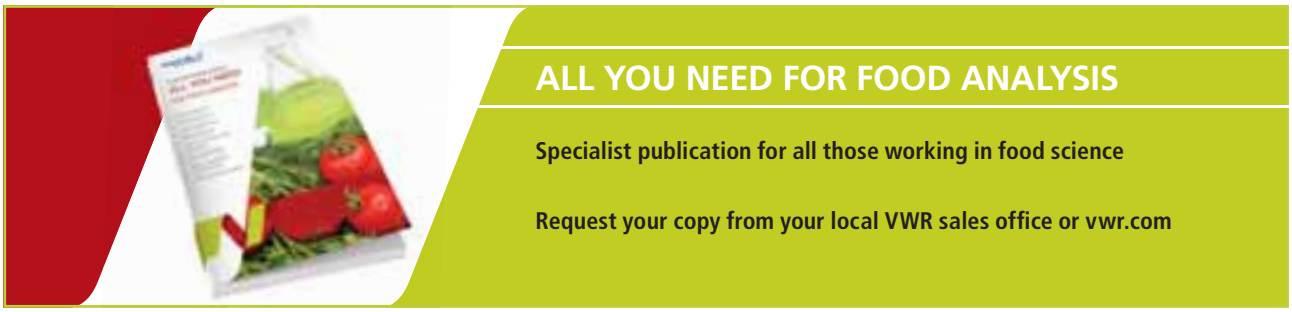
Description	Pk	Cat. No.
Accessories		
Density determination kit for models with Ø 90 and 120 mm pans	1	**611-3139**
Adam DU data collection program	1	**611-2925**
RS232 to PC cable	1	**611-2914**

Please note these products are not available in Republic of Ireland and Northern Ireland.



Precision balances, Cubis®

Sartorius

MSA

MSU (with draught shield)

MSE

The Cubis® range represents a modular concept from Sartorius to allow the customer to choose the components that suit the application area that is of interest. For the customer, the modular concept delivers quality weighing together with a high degree of flexibility without having to invest in expensive equipment that has some features that may never be required.

Three different display and control units are available to cover all facets of laboratory applications and enable a range of options for balance operation. The customer can then add the appropriate weighing platform to the choice of control unit.

- All models have removable control units and displays
- Manual operation draught shields are supplied as standard on precision milligram models (denoted -DE)
- RS232 and USB interfaces are included, and additionally on MSA and MSU models an Ethernet interface with implemented web services, plus SD card reader are also included
- Easy to upgrade separate modules
- IsoCAL; fully automatic calibration and adjustment

MSE control unit

- Black and white basic backlit LCD display
- Ideal for straightforward high accuracy weighing

MSU control unit

- High resolution black and white, graphical and tiltable display
- APC (Advanced Pharma Compliance) to meet the stringent requirements of the pharmaceutical industry
- Suitable for wide ranging complex weighing tasks and includes SD card reader for transfer of not only data but task configurations and settings from balance to balance or to PC
- Q-pan; compensation of off-centre loading effects/errors
- Q-Level; intelligent warning function to detect if balance is perfectly level and provide adjustment prompts for the user to correct and re-level the balance

MSA control unit

- High resolution, tiltable and TFT graphical touch screen display
- APC (Advanced Pharma Compliance) to meet the stringent requirements of the pharmaceutical industry
- Suitable for wide ranging complex weighing tasks and includes SD card reader for transfer of not only data but task configurations and settings from balance to balance or to PC
- Q-pan; compensation of off-centre loading effects/errors
- Q-Level; intelligent warning function to detect if balance is perfectly level and provide adjustment prompts for the user to correct and re-level the balance

As an example the model MSU8201S-000-D0 where the modules are described as follows:
MSU = Monochrome applications display module with cursor navigation keys
8201S-000 = 8200 g, one decimal place weighing module, not verified for use in legal metrology
-D0 = No draught shield

Ordering information: VWR offers a range of pre-configured models that address most common application areas. For the full range of available configurations, including a range (0CE suffix) of verified versions for use in legal metrology in the European Economic area, please contact your local VWR sales office.

Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
MSA control unit						
MSA323S-000-DE	0,001	<±2	320	140×140	1	**611-1732**
MSA623S-000-DE	0,001	<±2	620	140×140	1	**611-1740**
MSA623P-000-DE	0,001 / 0,002 / 0,005	<±5	150 / 300 / 620	140×140	1	**611-1739**
MSA1203S-000-DE	0,001	<±2	1200	140×140	1	**611-1777**
MSA2203S-000-DE	0,001	<±3	2200	140×140	1	**611-1781**
MSA2203P-000-DE	0,001 / 0,01	<±5	1000 / 2200	140×140	1	**611-1780**
MSA1202S-000-D0	0,01	<±20	1200	206×206	1	**611-1776**
MSA2202S-000-D0	0,01	<±20	2200	206×206	1	**611-1779**
MSA4202S-000-D0	0,01	<±20	4200	206×206	1	**611-1783**
MSA6202S-000-D0	0,01	<±20	6200	206×206	1	**611-1786**
MSA6202P-000-D0	0,01 / 0,02 / 0,05	<±50	1500 / 3000 / 6200	206×206	1	**611-1785**
MSA8202S-000-D0	0,01	<±20	8200	206×206	1	**611-1788**

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Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
MSA control unit						
MSA10202S-000-D0	0,01	<±20	10200	206×206	1	**611-1775**
MSA5201S-000-D0	0,1	<±50	5200	206×206	1	**611-1784**
MSA8201S-000-D0	0,1	<±50	8200	206×206	1	**611-1787**
MSA12201S-000-D0	0,1	<±50	12200	206×206	1	**611-1778**
MSU control unit						
MSU323S-000-DE	0,001	<±2	320	140×140	1	**611-1767**
MSU623S-000-DE	0,001	<±2	620	140×140	1	**611-1773**
MSU623P-000-DE	0,001 / 0,002 / 0,005	<±5	150 / 300 / 620	140×140	1	**611-1772**
MSU1203S-000-DE	0,001	<±2	1200	140×140	1	**611-1805**
MSU2203S-000-DE	0,001	<±3	2200	140×140	1	**611-1809**
MSU2203P-000-DE	0,001 / 0,01	<±5	1000 / 2200	140×140	1	**611-1808**
MSU1202S-000-D0	0,01	<±20	1200	206×206	1	**611-1804**
MSU2202S-000-D0	0,01	<±20	2200	206×206	1	**611-1807**
MSU4202S-000-D0	0,01	<±20	4200	206×206	1	**611-1811**
MSU6202S-000-D0	0,01	<±20	6200	206×206	1	**611-1814**
MSU6202P-000-D0	0,01 / 0,02 / 0,05	<±50	1500 / 3000 / 6200	206×206	1	**611-1813**
MSU8202S-000-D0	0,01	<±20	8200	206×206	1	**611-1816**
MSU10202S-000-D0	0,01	<±20	10200	206×206	1	**611-1803**
MSU5201S-000-D0	0,1	<±50	5200	206×206	1	**611-1812**
MSU8201S-000-D0	0,1	<±50	8200	206×206	1	**611-1815**
MSU12201S-000-D0	0,1	<±50	12200	206×206	1	**611-1806**
MSE control unit						
MSE323S-000-DE	0,001	<±2	320	140×140	1	**611-1746**
MSE623S-000-DE	0,001	<±2	620	140×140	1	**611-1750**
MSE623P-000-DE	0,001 / 0,002 / 0,005	<±5	150 / 300 / 620	140×140	1	**611-1749**
MSE1203S-000-DE	0,001	<±2	1200	140×140	1	**611-1791**
MSE2203S-000-DE	0,001	<±3	2200	140×140	1	**611-1795**
MSE2203P-000-DE	0,001 / 0,01	<±5	1000 / 2200	140×140	1	**611-1794**
MSE3203S-000-DE	0,001 / 0,01	<±5	1000 / 3200	140×140	1	**611-2569**
MSE1202S-000-D0	0,01	<±20	1200	206×206	1	**611-1790**
MSE2202S-000-D0	0,01	<±20	2200	206×206	1	**611-1793**
MSE4202S-000-D0	0,01	<±20	4200	206×206	1	**611-1797**
MSE6202S-000-D0	0,01	<±20	6200	206×206	1	**611-1800**
MSE6202P-000-D0	0,01 / 0,02 / 0,05	<±50	1500 / 3000 / 6200	206×206	1	**611-1799**
MSE8202S-000-D0	0,01	<±20	8200	206×206	1	**611-1802**
MSE10202S-000-D0	0,01	<±20	10200	206×206	1	**611-1789**
MSE5201S-000-D0	0,1	<±100	5200	206×206	1	**611-1798**
MSE8201S-000-D0	0,1	<±100	8200	206×206	1	**611-1801**
MSE12201S-000-D0	0,1	<±100	12200	206×206	1	**611-1792**

Description	Pk	Cat. No.
Accessories		
Printer YDP20-0CE with connector cable	1	**611-1774**
Barcode scanner for Cubis® balances	1	**611-1868**
Density determination kit for solids and liquids for modules with a readability of 1 mg	1	**611-2527**
Q-Grid grid weighing pan for Cubis® models with readability of 10 or 100 mg	1	**611-2544**

Precision balances, Secura® series

Sartorius

SECURA213-1S

SECURA2102-1S

Advanced balances designed for easy, reliable and secure weighing operations for regulated areas. The Secura® range features a range of APC functions (Advanced Pharma Compliance) to help with documentation and monitoring requirements. The GLP compliant printout documentation is also controlled by the in-built security control, as data transfer to a printer or PC is blocked when common operating errors occur, such as the balance is not level, minimum sample weight has not been achieved or temperature fluctuations require isoCAL calibration adjustment.

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- Touch screen with graphical user interface optimised for users in pharmaceutical laboratories
- Cal Audit Trail function to document the quality of each weighing procedure you perform
- IsoCAL internal calibration and adjustment function linked to CAL Audit Trail
- SQmin - monitoring of compliance with USP minimum sample weight limits
- Password protection of set-up settings
- LevelControl continuously checks to see if the balance is perfectly level

Delivery information: Supplied with universal power adapter, in-use cover, application guide.

Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Standard balances						
SECURA213-1S	0,001	±2	210	Ø 120	1	**611-2725**
SECURA313-1S	0,001	±2	310	Ø 120	1	**611-2733**
SECURA513-1S	0,001	±2	510	Ø 120	1	**611-2741**
SECURA1102-1S	0,01	±20	1100	Ø 180	1	**611-2713**
SECURA2102-1S	0,01	±20	2100	Ø 180	1	**611-2718**
SECURA3102-1S	0,01	±20	3100	Ø 180	1	**611-2726**
SECURA5102-1S	0,01	±20	5100	Ø 180	1	**611-2734**
Approved balances						
SECURA213-CEU	0,001	±2	210	Ø 120	1	**611-2723**
SECURA313-1CEU	0,001	±2	310	Ø 120	1	**611-2731**
SECURA513-1CEU	0,001	±2	510	Ø 120	1	**611-2739**
SECURA1102-CEU	0,01	±20	1100	Ø 180	1	**611-2715**
SECURA2102-CEU	0,01	±20	2100	Ø 180	1	**611-2720**
SECURA3102-CEU	0,01	±20	3100	Ø 180	1	**611-2728**
SECURA5102-CEU	0,01	±20	5100	Ø 180	1	**611-2736**

Description	Pk	Cat. No.
Accessories		
Standard printer YDP40-0CE with connector cable	1	**611-2637**
Printer YDP30-0CE with connector cable, for GLP printouts	1	**611-2636**
Adapter cable (USB to RS232)	1	**611-2634**
USB data cable	1	**611-2635**
Density kit for precision balances	1	**611-2676**

Precision balances, Quintix® series
Sartorius

QUINTIX2102-1S

QUINTIX213-1S

A series of ergonomic balances designed for easy, intuitive operation, with a large touch screen, self explanatory icons and plain text prompts. In addition to the standard applications including general weighing, density, percentage, check weighing, peak hold, counting, and averaging, the Quintix® range also provides mixing, components, statistics and conversion funtionalities. Results can be transferred via a mini-USB interface to a printer or a computer directly into Microsoft Excel® spreadsheet without additional software. Menu with choice of 10 languages.

- High contrast colour touch screen
- Stabilisation times of just 1,5 - 2 seconds
- IsoCAL internal calibration and adjustment function
- Draught shield on 1 mg balances with doors that glide smoothly open that also can be completely disassembled for easy cleaning
- Supervisor lock to prevent any unintentional changes to settings
- Optional, GLP compliant YDP30 printer is automatically detected by the Quintix® balance

Delivery information: Supplied with universal power adapter, in-use cover and application guide.

Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Standard balances						
QUINTIX213-1S	0,001	±2	210	Ø 120	1	**611-2646**
QUINTIX313-1S	0,001	±2	310	Ø 120	1	**611-2643**
QUINTIX513-1S	0,001	±2	510	Ø 120	1	**611-2639**
QUINTIX612-1S	0,01	±30	610	Ø 180	1	**611-2638**
QUINTIX1102-1S	0,01	±30	1100	Ø 180	1	**611-2649**

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Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Standard balances						
QUINTIX2102-1S	0,01	±30	2100	Ø 180	1	**611-2647**
QUINTIX3102-1S	0,01	±20	3100	Ø 180	1	**611-2644**
QUINTIX5102-1S	0,01	±20	5100	Ø 180	1	**611-2640**
QUINTIX5101-1S	0,1	±300	5100	Ø 180	1	**611-2641**
QUINTIX5100-1S	1,0	±1000	5100	Ø 180	1	**611-2642**
Approved balances						
QUINTIX213-CEU	0,001	±2	210	Ø 120	1	**611-2686**
QUINTIX313-CEU	0,001	±2	310	Ø 120	1	**611-2692**
QUINTIX513-CEU	0,001	±2	510	Ø 120	1	**611-2709**
QUINTIX612-CEU	0,01	±30	610	Ø 180	1	**611-2711**
QUINTIX1102-EU	0,01	±30	1100	Ø 180	1	**611-2679**
QUINTIX2102-EU	0,01	±30	2100	Ø 180	1	**611-2683**
QUINTIX3102-EU	0,01	±20	3100	Ø 180	1	**611-2689**
QUINTIX5102-EU	0,01	±20	5100	Ø 180	1	**611-2706**
QUINTIX5101-EU	0,1	±300	5100	Ø 180	1	**611-2699**
QUINTIX5100-EU	1	±1000	5100	Ø 180	1	**611-2695**

Description	Pk	Cat. No.
Accessories		
Standard printer YDP40-0CE with connector cable	1	**611-2637**
Printer YDP30-0CE with connector cable, for GLP printouts	1	**611-2636**
Adapter cable (USB to RS232)	1	**611-2634**
USB data cable	1	**611-2635**
Density kit for precision balances	1	**611-2676**

Precision balances, Practum® series
Sartorius

PRACTUM213-1S

PRACTUM1102-1S

A practical basic balance that incorporates Sartorius' renowned weighing technology to deliver reliable professional results. Weighing applications include general weighing, density, percentage, check weighing, peak hold, counting, and averaging. Results can be transferred via a mini-USB interface to a printer or a computer directly into Microsoft Excel® spreadsheet without additional software. Menu with choice of 10 languages.

- High contrast colour touch screen
- Automatic calibration and adjustment with an external weight
- Robust housing design and rugged weigh cell
- Supervisor lock to prevent any unintentional changes to settings
- Built-in overload protection

Delivery information: Supplied with a calibration weight, universal power adapter, in-use cover and application guide.

Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
PRACTUM213-1S	0,001	±2	210	Ø 120	1	**611-2659**
PRACTUM313-1S	0,001	±2	310	Ø 120	1	**611-2661**
PRACTUM612-1S	0,01	±30	610	Ø 180	1	**611-2664**
PRACTUM1102-1S	0,01	±30	1100	Ø 180	1	**611-2656**
PRACTUM2102-1S	0,01	±30	2100	Ø 180	1	**611-2658**
PRACTUM5101-1S	0,1	±300	5100	Ø 180	1	**611-2663**
PRACTUM5100-1S	1,0	±1000	5100	Ø 180	1	**611-2662**

Description	Pk	Cat. No.
Accessories		
Standard printer YDP40-0CE with connector cable	1	**611-2637**
Adapter cable (USB to RS232)	1	**611-2634**
USB data cable	1	**611-2635**
Density kit for precision balances	1	**611-2676**

Precision balances, Entris®
Sartorius

ENTRIS3202i-IS

ENTRIS323i-IS

ENTRIS822i-IS

An entry level series of precision balances, specially designed to achieve effective and reliable weighing results in routine daily work. The easy and clearly structured user interface, with its logical key assignment and excellent readability, are ideal features for safe and efficient operation.

- Integrated basic applications: Animal weighing, density determination, counting, conversion or percentage
- Monolithic weighing system ensures long term, high measurement accuracy
- Linearity and reproducibiluiity: ±1 mg, with stabilisation times typically 1 to 1,5 seconds
- Excellent readability due to the backlit and high contrast display with 15 mm height digits
- Round draught shield on models with 1 milligram readability and pan diameter of 115 mm
- Below balance weighing

Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Balances with internal calibration						
ENTRIS153i-IS	0,001	±2	150	Ø 115	1	**611-2987**
ENTRIS323i-IS	0,001	±2	320	Ø 115	1	**611-2989**
ENTRIS423i-IS	0,001	±2	420	Ø 115	1	**611-2991**
ENTRIS623i-IS	0,001	±2	620	Ø 115	1	**611-2993**
ENTRIS822i-IS	0,01	±30	820	Ø 150	1	**611-3003**
ENTRIS2202i-IS	0,01	±30	2200	180×180	1	**611-2995**
ENTRIS3202i-IS	0,01	±30	3200	180×180	1	**611-2997**
ENTRIS4202i-IS	0,01	±30	4200	180×180	1	**611-2999**
ENTRIS6202i-IS	0,01	±30	6200	180×180	1	**611-3001**
ENTRIS2201i-IS	0,1	±300	2200	180×180	1	**611-3005**
ENTRIS5201i-IS	0,1	±300	5200	180×180	1	**611-3007**
ENTRIS8201i-IS	0,1	±300	8200	180×180	1	**611-3009**
Balances with external calibration						
ENTRIS153-IS	0,001	±1	150	Ø 115	1	**611-2986**
ENTRIS323-IS	0,001	±1	320	Ø 115	1	**611-2988**
ENTRIS423-IS	0,001	±1	420	Ø 115	1	**611-2990**
ENTRIS623-IS	0,001	±1	620	Ø 115	1	**611-2992**
ENTRIS822i-IS	0,01	±30	820	Ø 150	1	**611-3002**
ENTRIS2202-IS	0,01	±30	2200	180×180	1	**611-2994**
ENTRIS3202-IS	0,01	±30	3200	180×180	1	**611-2996**
ENTRIS4202-IS	0,01	±30	4200	180×180	1	**611-2998**
ENTRIS6202-IS	0,01	±30	6200	180×180	1	**611-3000**
ENTRIS2201-IS	0,1	±300	2200	180×180	1	**611-3004**
ENTRIS5201-IS	0,1	±300	5200	180×180	1	**611-3006**
ENTRIS8201i-IS	0,1	±300	8200	180×180	1	**611-3008**

Description	Pk	Cat. No.
Accessories		
Printer YDP20-0CE with connector cable	1	**611-1774**
Ink ribbon cartridge for printers YDP03-0CE, YDP10-0CE and YDP20-0CE	1	**611-0737**
Paper rolls for printers YDP03-0CE, YDP10-0CE and YDP20-0CE	5	**611-0738**
Connection cable to a USB port	1	**611-1614**
In-use cover for Entris® balances with rectangular weighing pan	1	**611-1671**
In-use cover for Entris® balances with round weighing pan	1	**611-1672**

Precision balances, Explorer® series

Ohaus

A range of balances that incorporate touch screen, advanced weighing and proximity sensor technologies. The easy to use control unit can be mounted on the base, above the base on an optional column, on a wall or remotely (up to 3 metres distant with an optional cable). The touch screen display with universal icons and informative prompts simplifies set-up functions and basic operation. Then the operator has the added choice to use the proximity sensors for hands-free operation for handling sensitive samples. The balances have multiple application modes for basic weighing to SQC applications together with short stabilisation times and optimised performance specifications.

The 1 mg balances feature a frameless glass draught shield with easy access, central light and removable doors for cleaning.

- Colour touch screen display with viewing angle adjustment in a demountable control unit
- Advanced weighing technology with stabilisation times of less than 2 seconds
- SmarText™ software with text prompts for ease of menu navigation including 'Level assist' feature for illuminated level indicator
- AutoCal™ internal calibration
- Dual multi-functional proximity sensors for hands-free operation of basic or user selectable functions

Ordering information: A selection of OIML EC approved balances are also available from VWR. For the full range of accessories for the Explorer® range please contact your local VWR sales office.

Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Standard balances with internal calibration						
EX223	0,001	±2	220	Ø 130	1	**611-2398**
EX423	0,001	±2	420	Ø 130	1	**611-2399**
EX623	0,001	±2	620	Ø 130	1	**611-2401**
EX1103	0,001	±2	1100	Ø 130	1	**611-2402**
EX2202	0,01	±20	2200	190×200	1	**611-2404**
EX4202	0,01	±20	4200	190×200	1	**611-2405**
EX6202	0,01	±20	6200	190×200	1	**611-2407**
EX6201	0,1	±200	6200	190×200	1	**611-2408**
EX10202	0,01	±20	10200	190×200	1	**611-2409**
EX10201	0,1	±200	10200	190×200	1	**611-2411**
OIML EC type approved balances with internal calibration						
EX423M	0,001	±2	420	Ø 130	1	**611-2400**
EX1103M	0,001	±2	1100	Ø 130	1	**611-2403**
EX4202M	0,01	±20	4200	180×210	1	**611-2406**
EX10202M	0,01	±20	10200	180×210	1	**611-2410**
EX10201M	0,1	±200	10200	180×210	1	**611-2412**
Balances without AutoCal™ requiring external calibration						
EX223/E	0,001	±2	220	Ø 130	1	**611-5302**
EX423/E	0,001	±2	420	Ø 130	1	**611-5303**
EX2202/E	0,01	±20	2200	190×200	1	**611-5304**
EX4202/E	0,01	±20	4200	190×200	1	**611-5305**
EX6202/E	0,01	±20	6200	190×200	1	**611-5306**
EX6201/E	0,1	±200	6200	190×200	1	**611-5307**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
Printer accessories		
Ink ribbon cassette for printer SF40A	1	**611-2579**
Paper roll for printer SF40A, 57,5 mm width	2	**611-2580**
Accessories		
Density determination kit for Explorer®/Adventurer® balances (0.1 and 1 mg models only)	1	**611-2413**
Terminal extension cable for Explorer® balances	1	**611-2417**
Tower mount for terminal for Explorer* balances	1	**611-2421**
Anti-theft device (Laptop lock) for Explorer®/Adventurer®/MB series	1	**611-0598**

Precision Balances, Adventurer®
Ohaus

A range of balances with multiple features but uncomplicated weighing capabilities providing the user with rapid, accurate results for routine weighing and measurement activities. Applications include weighing, formulation, dynamic weighing, parts counting, totalisation, density determination, check weighing and percentage weighing. Stabilisation times are typically less than two seconds.

- Stability, accuracy, and fast operation
- Wide viewing angle colour touchscreen (109 mm) for quick access to nine application modes
- Dual USB ports (front and rear) with GLP/GMP tracking
- 17 weighing units
- Choice of balances with external calibration only or with AutoCal™ as additional feature

Ordering information: For the full range of available accessories please contact VWR.

Delivery information: Supplied with AC adapter.

Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
AX223	0,001	±2	220	Ø 130	1	**611-3223**
AX223/E	0,001	±2	220	Ø 130	1	**611-3224**
AX423	0,001	±2	420	Ø 130	1	**611-3225**
AX423/E	0,001	±2	420	Ø 130	1	**611-3226**
AX523	0,001	±2	520	Ø 130	1	**611-3217**
AX523/E	0,001	±2	520	Ø 130	1	**611-3218**
AX622	0,01	±20	620	175×195	1	**611-3227**
AX622/E	0,01	±20	620	175×195	1	**611-3228**
AX1502	0,01	±20	1520	175×195	1	**611-3229**
AX1502/E	0,01	±20	1520	175×195	1	**611-3230**
AX2202	0,01	±20	2200	175×195	1	**611-3231**
AX2202/E	0,01	±20	2200	175×195	1	**611-3232**
AX4202	0,01	±20	4200	175×195	1	**611-3219**
AX4202/E	0,01	±20	4200	175×195	1	**611-3220**
AX5202	0,01	±20	5200	175×195	1	**611-3221**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
Printer accessories		
Ink ribbon cassette for printer SF40A	1	**611-2579**
Accessories		
Density determination kit for Explorer®/Adventurer® balances (0.1 and 1 mg models only)	1	**611-2413**
Cable, USB interface, (type A to B)	1	**611-2419**
Anti-theft device (Laptop lock) for Explorer®/Adventurer®/MB series	1	**611-0598**

Model with suffix /E are external calibration only.

Precision balances, Pioneer™ series
Ohaus

The Pioneer™ series was designed for basic routine weighing in laboratory, industrial and education applications. Simple pre-programmed applications include parts counting and % weighing and selection of 19 weighing units.

- Simple three button operation with LCD display
- Two adjustable feet and front levelling bubble
- Selectable environmental settings
- Integral hook for below balance weighing
- Square draught shield with three sliding doors on 1 mg models

Ordering information: Models, denoted by C suffix, have internal calibration. OIML EC type approved models with internal calibration are denoted by CM suffix.

Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
PA213	0,001	±2	210	Ø 120	1	**611-3909**
PA213C	0,001	±2	210	Ø 120	1	**611-3910**
PA413	0,001	±2	410	Ø 120	1	**611-3911**
PA413C	0,001	±2	410	Ø 120	1	**611-3912**
PA512	0,01	±20	510	Ø 180	1	**611-3913**
PA512C	0,01	±20	510	Ø 180	1	**611-3914**
PA2102	0,01	±20	2100	Ø 180	1	**611-3915**
PA2102C	0,01	±20	2100	Ø 180	1	**611-3916**
PA4102	0,01	±30	4100	Ø 180	1	**611-3917**

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Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
PA4102C	0,01	±30	4100	Ø 180	1	**611-3918**
PA4101	0,1	±100	4100	Ø 180	1	**611-3919**
PA4101C	0,1	±100	4100	Ø 180	1	**611-3920**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
STP103 thermal printer for Ohaus balances, UK-plug	1	**611-2539**
Accessories		
Printer cable SF40A for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series/Ranger™	1	**611-2571**
Printer cable kit (STP103) for MB series, Discovery, Adventurer™ Pro, Pioneer™ and Defender™ models with ABS indicator (D31P and D51P)	1	**611-2541**

Precision balances, FX-i, FX-iWP, FZ-i and FZ-iWP series

FX-3000i

FZ-300i

FX-300i

These compact and lightweight precision balances from A&D are designed to offer a cost effective solution, whilst still delivering great performance and quality.

Units feature all metal construction, stainless steel pan and quick stabilisation times (approx. 1 second). Applications include counting, percentage weighing, animal weighing and below balance weighing. All models feature auto-off function, overload protection, standard comparator function (HI/OK/LO annunciator) and counting function with Automatic Counting Accuracy Improvement. The balances also feature built-in statistical calculations function allowing statistical data to be output or printed to a standard printer.

FZ-i and FZ-iWP balances feature internal calibration. FZ-iWP and FX-iWP models are IP 65 compliant: Water and dust-proof.

- Multiple weighing units including one custom unit
- Vacuum fluorescence display
- Choice of internal or external calibration
- RS232 bi-directional interface
- GLP conformity with output of ID and calibration data

Ordering information: Please contact your local VWR sales office for details on accessories including USB interface, rechargeable Ni-MH battery, calibration weights, animal weighing pan, Ethernet interface with WinCT-Plus software and waterproof RS232 cable for FX/Z-i-WP balances.

Delivery information: Supplied with AC adapter. All 1 mg models are supplied with a draught shield.

Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
FX-i models with external calibration						
FX-120i	0,001	±2	122	Ø 130	1	**611-2863**
FX-200i	0,001	±2	220	Ø 130	1	**611-2864**
FX-300i	0,001	±2	320	Ø 130	1	**611-2865**
FX-500i	0,001	±2	520	Ø 130	1	**611-2866**
FX-1200i	0,01	±20	1220	Ø 150	1	**611-2867**
FX-2000i	0,01	±20	2200	Ø 150	1	**611-2868**
FX-3000i	0,01	±20	3200	Ø 150	1	**611-2869**
FX-5000i	0,01	±20	5200	Ø 150	1	**611-2870**
FZ-i models with air pump controlled internal calibration						
FZ-120i	0,001	±2	122	Ø 130	1	**611-2871**
FZ-200i	0,001	±2	220	Ø 130	1	**611-2872**
FZ-300i	0,001	±2	320	Ø 130	1	**611-2873**
FZ-500i-WP	0,001	±2	520	Ø 130	1	**611-2874**
FZ-1200i	0,01	±20	1220	Ø 150	1	**611-2875**
FZ-2000i	0,01	±20	2200	Ø 150	1	**611-2876**
FZ-3000i	0,01	±20	3200	Ø 150	1	**611-2877**
FZ-5000i	0,01	±20	5200	Ø 150	1	**611-3044**
FX-i WP scales with external calibration and IP 65 rating						
FX-120i-WP	0,001	±2	122	Ø 130	1	**611-3029**
FX-200i-WP	0,001	±2	220	Ø 130	1	**611-3035**
FX-300i-WP	0,001	±2	320	Ø 130	1	**611-3037**

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Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
FX-i WP scales with external calibration and IP 65 rating						
FX-1200i-WP	0,01	±20	1220	Ø 150	1	**611-3028**
FX-2000i-WP	0,01	±20	2200	Ø 150	1	**611-3033**
FX-3000i-WP	0,01	±20	3200	Ø 150	1	**611-3036**
FZ-i WP scales with internal calibration and IP 65 rating						
FZ-120i-WP	0,001	±2	122	Ø 130	1	**611-3039**
FZ-200i-WP	0,001	±2	220	Ø 130	1	**611-3041**
FZ-300i-WP	0,001	±2	320	Ø 130	1	**611-3043**
FZ-1200i-WP	0,01	±20	1220	Ø 150	1	**611-3038**
FZ-2000i-WP	0,01	±20	2200	Ø 150	1	**611-3040**
FZ-3000i-WP	0,01	±20	3200	Ø 150	1	**611-3042**

Description	Pk	Cat. No.
Accessories		
Large draught shield (not WP models)	1	**611-3073**
Large draught shield for WP models	1	**611-3074**
AD-8121B dot matrix impact printer with calendar and full range of statistical functions including - weight, total weight, counting data, total count, number of operations, max, min, range, and standard deviation	1	**611-3070**

Please note these products are not available in Republic of Ireland or Northern Ireland.

Precision balances, EW-i series

Compact, lightweight, low profile balances from A&D with a triple range for versatile operation. The balances feature a rugged housing and stainless steel pan for reliable, accurate weighing. Full digital calibration with user definable calibration mass. All models feature auto-off function, overload protection, standard comparator function (HI/OK/LO annunciator) and counting function with Automatic Counting Accuracy Improvement. GLP conformity with ID and serial number outputs.

- 9 built-in weighing units plus counting and percentage software
- Large backlit LCD display with wide viewing angle
- RS232C bi-directional interface
- Optional rechargeable battery pack for portable operation
- Levelling feet and level bubble for accurate weighing

Ordering information: Please contact your local VWR sales office for details on other accessories, including rechargeable Ni-MH battery, calibration weights and under balance weighing hook (for EW-12Ki only).

Delivery information: Supplied with AC adapter.

Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Standard balances						
EW-150i	0,01 / 0,02 / 0,05	±10/ ±20 / ±50	30 / 60 / 150	Ø 110	1	**611-3026**
OIML EC approved balances						
EW-150i-EC	0,01 / 0,02 / 0,05	±10/ ±20 / ±50	30 / 60 / 150	Ø 110	1	**611-3027**
EW-1500i-EC	0,1 / 0,2 / 0,5	±100 / ±200 / ±500	300 / 600 / 1500	133×170	1	**611-3025**
EW-12Ki-ECi	1 / 2 / 5	±1000 / ±2000 / ±5000	3000 / 6000 / 12000	133×170	1	**611-3024**

Please note these products are not available in Republic of Ireland or Northern Ireland.

Precision balances, GF and GX series

High precision ranges of top pan balances from A&D featuring optimum weighing and settling time.

- Weighing mechanism Super Hybrid Sensor (SHS) gives fast response speed - typically just one second
- Rugged aluminium alloy enclosure and IP 54 sealed keypad
- 14 weighing units plus counting, percentage and user programmable
- Automatically adjusts the environmental settings to match your site for GX models
- Built-in under hook capability and animal weighing software

Delivery information: Supplied with Windows Communication Tools (WinCT) data collection software. A draught shield is supplied with all 1 mg readability models.

Model	Readability (g)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
GX series with internal calibration - EC models denote trade approved					
GX-200-EC	0,001	210	128×128	1	**611-3059**
GX-400-EC	0,001	410	128×128	1	**611-3061**
GX-600-EC	0,001	610	128×128	1	**611-3063**
GX-800	0,001	810	128×128	1	**611-3065**
GX-1000	0,001	1100	128×128	1	**611-3057**

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Model	Readability (g)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
GX series with internal calibration - EC models denote trade approved					
GX-2000-EC	0,01	2100	165×165	1	**611-3058**
GX-4000-EC	0,01	4100	165×165	1	**611-3060**
GX-6100-EC	0,01	6100	165×165	1	**611-3064**
GX-6000-EC	0,1	6100	165×165	1	**611-3062**
GX-8000-EC	0,1	8100	165×165	1	**611-3067**
GX-8000	0,1	8100	165×165	1	**611-3066**
GF series with external calibration					
GF-200	0,001	210	128×128	1	**611-3047**
GF-300	0,001	310	128×128	1	**611-3050**
GF-600	0,001	610	128×128	1	**611-3053**
GF-800	0,001	810	128×128	1	**611-3056**
GF-1000	0,001	1100	128×128	1	**611-3045**
GF-1200	0,01	1210	165×165	1	**611-3046**
GF-2000	0,01	2100	165×165	1	**611-3048**
GF-3000	0,01	3100	165×165	1	**611-3051**
GF-6100	0,01	6100	165×165	1	**611-3055**
GF-6000	0,1	6100	165×165	1	**611-3054**

Description	Pk	Cat. No.
Accessories		
AD-8121B dot matrix impact printer with calendar and full range of statistical functions including - weight, total weight, counting data, total count, number of operations, max, min, range, and standard deviation	1	**611-3070**
Draught shield, glass for models with pan 128×128 mm	1	**611-2933**
Draught shield, glass for models with pan 165×165 mm	1	**611-2934**
Density determination kit for models with pan 128×128 mm	1	**611-2935**

Please note these products are not available in Republic of Ireland or Northern Ireland.

Precision balances, EK-i series

Compact, lightweight, low profile balances from A&D with a rugged housing and stainless steel pan for reliable, accurate weighing. External calibration with full digital calibration and user definable mass. The sealed key panel protects against dust and spills. All models feature auto-off function, overload protection, standard comparator function (HI/OK/LO annunciator) and counting function with Automatic Counting Accuracy Improvement (ACAI). GLP conformity with ID and serial number outputs.

- Nine built-in weighing units plus counting and percentage software
- Large backlit LCD display with wide viewing angle
- RS232C bi-directional interface
- Optional rechargeable battery pack for portable operation
- Levelling feet and level bubble for accurate weighing

Ordering information: Please contact your local VWR sales office for details on other accessories, including rechargeable Ni-MH battery, calibration weights and under balance weighing hook (for models EK-4100i /6100i /6000i /12Ki only).

Delivery information: Supplied with AC adapter.

Model	Readability (g)	Linearity (mg)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
EK-200i	0,01	±10	200	Ø 110	1	**611-2979**
EK-300i	0,01	±20	300	Ø 110	1	**611-3017**
EK-410i	0,01	±20	400	Ø 110	1	**611-3019**
EK-610i	0,01	±20	600	Ø 110	1	**611-3023**
EK-1200i	0,1	±100	1200	133×170	1	**611-2976**
EK-2000i	0,1	±100	2000	133×170	1	**611-2978**
EK-3000i	0,1	±200	3000	133×170	1	**611-3016**
EK-4100i	0,1	±200	4000	133×170	1	**611-3018**
EK-6100i	0,1	±200	6000	133×170	1	**611-3022**
EK-6000i	1	±1000	6000	133×170	1	**611-3020**
EK-12Ki	1	±1000	12000	133×170	1	**611-2977**

Description	Pk	Cat. No.
Accessories		
AD-8121B dot matrix impact printer with calendar and full range of statistical functions including - weight, total weight, counting data, total count, number of operations, max, min, range, and standard deviation	1	**611-3070**

Please note these products are not available in Republic of Ireland or Northern Ireland.

Precision balances, Eclipse series

An advanced range of precision balances from Adam Equipment, the Eclipse series offers scientists a wide range of models that deliver the highest levels of capacity and readability together with a capacitive touch key pad and additional features to the Nimbus series. The Eclipse is therefore well suited for use in research, pharmaceutical, testing, QC, and university teaching laboratories.

Applications include weighing, check weighing,, parts counting, percentage weighing, animal weighing and density determination. The balance gives a choice of fifteen standard weighing units and a customer defined unit. A zero-tracking feature ensures the display returns to zero reading following the removal of a sample that has just been weighed. The balance also features a capacity tracker built into the display for easy monitoring of possible overloads and an option to control the backlight in the display according to user preference.

- Up to 16 weighing units (including one custom unit), full range tare, zero tracking, capacity tracker
- Removable draught shield on models with 0,001g readability helps to reduce errors caused by air currents
- Multi-lingual, backlit LCD (24 mm high digits) and colour coded sealed keypad
- GLP compliant with printouts that include time and date
- Security password control prevents unauthorised access

Ordering information: Please contact your local VWR sales office for details of the full range accessories, including cables and calibration weights.

Delivery information: Supplied with AC adapter.

Model	Readability (g)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Balances with external calibration					
EBL 223e	0,001	220	Ø 120	1	**611-3174**
EBL 423e	0,001	420	Ø 120	1	**611-3182**
EBL 623e	0,001	620	Ø 160	1	**611-3189**
EBL 823e	0,001	820	Ø 160	1	**611-3192**
EBL 1023e	0,001	1020	Ø 160	1	**611-3165**
EBL 1623e	0,001	1620	Ø 160	1	**611-3171**
EBL 1602e	0,01	1600	Ø 160	1	**611-3169**
EBL 2602e	0,01	2600	Ø 160	1	**611-3176**
EBL 3602e	0,01	3600	Ø 160	1	**611-3179**
EBL 4602e	0,01	4600	Ø 160	1	**611-3184**
EBL 6202e	0,01	6200	Ø 160	1	**611-3187**
EBL 4201e	0,1	4200	Ø 160	1	**611-3181**
EBL 6201e	0,1	6200	Ø 160	1	**611-3186**
EBL 8201e	0,1	8200	Ø 160	1	**611-3191**
EBL 12001e	0,1	12000	400×300	1	**611-3167**
EBL 16001e	0,1	16000	400×300	1	**611-3168**
EBL 22001e	0,1	22000	400×300	1	**611-3173**
EBL 32001e	0,1	32000	400×300	1	**611-3178**
Balances with internal calibration					
EBL 223i	0,001	220	Ø 120	1	**611-3175**
EBL 423i	0,001	420	Ø 120	1	**611-3183**
EBL 623i	0,001	620	Ø 160	1	**611-3190**
EBL 823i	0,001	820	Ø 160	1	**611-3193**
EBL 1023i	0,001	1020	Ø 160	1	**611-3166**
EBL 1623i	0,001	1620	Ø 160	1	**611-3172**
EBL 1602i	0,01	1600	Ø 160	1	**611-3170**
EBL 2602i	0,01	2600	Ø 160	1	**611-3177**
EBL 3602i	0,01	3600	Ø 160	1	**611-3180**
EBL 4602i	0,01	4600	Ø 160	1	**611-3185**
EBL 6202i	0,01	6200	Ø 160	1	**611-3188**

Description	Pk	Cat. No.
Accessories		
Below balance hanger	1	**611-3141**
In-use cover for 120 mm pan	1	**611-3144**
In-use cover for 160 mm pan	1	**611-3145**
In-use cover for 300×400 mm pan	1	**611-3146**
ATP thermal printer	1	**611-2909**
Thermal paper for ATP printer	1	**611-2924**
Density determination kit for models with Ø 90 and 120 mm pans	1	**611-3139**
Density determination kit for models with Ø 160 mm pan	1	**611-3140**
Adam DU data collection program	1	**611-2925**
RS232 to PC cable	1	**611-2914**

Please note these products are not available in Republic of Ireland and Northern Ireland.

Precision balances, Nimbus series

NBL 2602e

NBL 223e

For day to day lab work, the compact Nimbus precision balances from Adam Equipment are intuitively designed for simple operation and consistently high performance. They are ideal for the general laboratory market, such as university, QC, research and food labs. Applications include weighing, parts counting, percentage weighing, animal weighing and density determination. The balance features seven standard weighing units and a customer defined unit. A zero-tracking feature ensures the display returns to zero reading following the removal of a sample that has just been weighed.

- Easy to operate with backlit LCD (20 mm high digits) and colour coded keys of frequently used buttons
- Removable draught shield on models with 0,001g readability helps to reduce errors caused by air currents
- Robust aluminium housing and sealed keypad protect the balance
- GLP compliant with printouts that include time and date
- Selectable digital filtering helps minimise effects of vibration and disturbances

Ordering information: Please contact your local VWR sales office for details of the full range accessories, including cables and calibration weights.

Delivery information: Supplied with AC adapter.

Model	Readability (g)	Weighing cap. (g)	Pan (mm)	Pk	Cat. No.
Balances with external calibration					
NBL 223e	0,001	220	Ø 120	1	**611-3200**
NBL 423e	0,001	420	Ø 120	1	**611-3207**
NBL 2602e	0,01	2600	Ø 160	1	**611-3202**
NBL 3602e	0,01	3600	Ø 160	1	**611-3204**
NBL 4602e	0,01	4600	Ø 160	1	**611-3209**
NBL 4201e	0,1	4200	Ø 160	1	**611-3206**
NBL 6201e	0,1	6200	Ø 160	1	**611-3211**
NBL 8201e	0,1	8200	Ø 160	1	**611-3212**
NBL 12001e	0,1	12000	400×300	1	**611-3195**
NBL 16001e	0,1	16000	400×300	1	**611-3196**
NBL 22001e	0,1	22000	400×300	1	**611-3199**
OIML EC approved balances with internal calibration					
NBL 223i-M	0,001	220	Ø 120	1	**611-3201**
NBL 423i-M	0,001	420	Ø 120	1	**611-3208**
NBL 1023i-M	0,001	1020	Ø 160	1	**611-3194**
NBL 1623i-M	0,001	1620	Ø 160	1	**611-3198**
NBL 1602i-M	0,01	1600	Ø 160	1	**611-3197**
NBL 2602i-M	0,01	2600	Ø 160	1	**611-3203**
NBL 3602i-M	0,01	3600	Ø 160	1	**611-3205**
NBL 4602i-M	0,01	4600	Ø 160	1	**611-3210**

Description	Pk	Cat. No.
Accessories		
Below balance hanger	1	**611-3141**
In-use cover for 120 mm pan	1	**611-3144**
In-use cover for 160 mm pan	1	**611-3145**
In-use cover for 300×400 mm pan	1	**611-3146**
ATP thermal printer	1	**611-2909**
Thermal paper for ATP printer	1	**611-2924**
Anti-vibration table	1	**611-2905**
Density determination kit for models with Ø 90 and 120 mm pans	1	**611-3139**
Density determination kit for models with Ø 160 mm pan	1	**611-3140**
Adam DU data collection program	1	**611-2925**

Please note these products are not available in Republic of Ireland and Northern Ireland.

Portable balance, Traceable® SpatulaBalance™

A unique product that combines the simplicity of a spatula with a balance, to quickly and more accurately measure the sample. Particularly useful in food and veterinary applications. Detachable, translucent scoop, graduated for liquid measurement, made of corrosion resistant ABS plastic which is dishwasher safe for effortless cleaning.

- Digital LCD in the easy grip handle with low battery indicator
- 5 - 30 ml graduations on scoop in 5 ml increments
- 3-position soft touch keys for tare, freezing display and conversion from grams to ounces
- Accuracy ±0,2 g or 0,25% in the level position
- Traceable® certificate (indicates traceability to standards provided by NIST)

Spoon volume: 32 ml

W×D×H: 230×30×15 mm

Weight: 85 g

Delivery information: Supplied with Traceable® certificate and 2× AAA batteries.

Model	Weighing cap. (g)	Readability (g)	Pan (mm)	Pk	Cat. No.
SpatulaBalance™	0 - 300	0,1	-	1	**611-1565**

Description	Pk	Cat. No.
Accessories		
Replacement plastic scoop	1	**611-1876**

Portable balances, Navigator® and Navigator® XL series

Ohaus

NV2101

NV212

NVL LCD

Touch-free operation with IR sensor technology

Two series of lightweight, robust, portable balances that are ideal for use in a wide range of laboratory and industrial applications. The innovative, touch-free sensors allow up to 36 combinations of functions including Tare, Zero, Print, Function and, where appropriate, display backlight. The applications include weighing (with 14 units), percentage weighing, check weighing, parts counting, accumulation/totalisation and display hold. The calibration function is digital and requires an external weight.

The non slip adjustable feet and the integral levelling bubble indicator, which is illuminated at power-up, help the operator ensure precision and reproducibility wherever the balance is used.

- Dual multi-functional touch-free sensors free up your hands, keeping the balance free of contaminants delivering speed, safety and cleanliness
- A polished stainless steel pan, rugged, corrosion-free plastic housing and spill-resistant pan sub-assembly embodies a hygienic design that is easy to clean, IP 43
- Fast; stabilises in less than one second
- A bright, backlit LCD with 20 mm digits provides optimum visibility in any lighting condition
- The mechanical overload protection system enables the scale to safely bear loads up to four times its rated capacity

Ordering information: A full range of accessories and also EC type approved models for Navigator® range are also available – please ask VWR for details. An optional internal rechargeable battery option is available for the Naviagator® XL range.

Delivery information: Supplied with AC adapter (NV models require 4× AA (LR6) batteries, not supplied; NVL models require 4× C type (LR14) batteries, not supplied)

Model	Weighing cap. (g)	Readability (g)	Pan (mm)	Pk	Cat. No.
Navigator® balances, lower profile (H= 58 mm), with 6 digit, 7 segment backlit LCD					
NV212	210	0,01	Ø 210	1	**611-5403**
NV511	510	0,1	190×138	1	**611-5404**
NV1101	1100	0,1	190×138	1	**611-5405**
NV2101	2100	0,1	190×138	1	**611-5406**
NV4101	4100	0,2	190×138	1	**611-5407**
NV5101	5100	0,5	190×138	1	**611-5413**
Navigator® XL balances with 6 digit, 7 segment backlit LCD, H=74 mm					
NVL511	510	0,1	194×203	1	**611-2838**
NVL1101	1100	0,1	194×203	1	**611-2839**
NVL2101	2100	0,1	194×203	1	**611-2840**

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Model	Weighing cap. (g)	Readability (g)	Pan (mm)	Pk	Cat. No.
Navigator® XL balances with 6 digit, 7 segment backlit LCD, H=74 mm					
NVL5101	5100	0,5	194×203	1	**611-2841**
NVL10000	10000	1	194×203	1	**611-2842**
NVL20000	20000	1	194×203	1	**611-2843**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
STP103 thermal printer for Ohaus balances, UK-plug	1	**611-2539**
Accessories		
Printer cable and adapter (STP103) for Navigator™ and Scout™ Pro (with RS232 option)	1	**611-2537**
Rechargeable battery kit for Navigator® XT and XL	1	**611-1983**
RS232 interface kit for Navigator® and Scout™ Pro	1	**611-1984**
USB interface kit for Navigator®, Traveler™ and Scout™ Pro	1	**611-1985**
Ethernet interface kit for Navigator®	1	**611-1986**
In use cover for Navigator® XL	1	**611-1988**
In use cover for Navigator®	1	**611-2426**
Carry case, hardshell, for Navigator® XL	1	**611-1990**
Carry case, hardshell, for Navigator®	1	**611-2427**

Portable balances, Scout™ Pro

Ohaus

SPU123

SPU402

SPU4001

Designed to be used in laboratory, industrial or educational applications - a balance that can be easily locked to be transported between sites of operation. Stainless steel weighing platform, with a wipe clean surface and LCD display. Can be used either in battery-powered mode or via the AC adapter, with power saving auto shut-off function and low battery indicator. Multiple application modes, including parts counting, percent weighing and totalisation with a selection of weighing units.

- Round draught shield on mg model only
- Easy to use two button operation, external calibration
- Shock resistance and overload protection
- Optional USB or RS232 connectivity
- Shipping and calibration locks and integrated security bracket that accommodates most security cables

Delivery information: Balance supplied with AC adapter.

Model	Weighing cap. (g)	Readability (g)	Pan (mm)	Pk	Cat. No.
SPU123	120	0,001	Ø 90	1	**611-2803**
SPU202	200	0,01	Ø 120	1	**611-2804**
SPU402	400	0,01	Ø 120	1	**611-2805**
SPU602	600	0,01	Ø 120	1	**611-4980**
SPU401	400	0,1	Ø 120	1	**611-2806**
SPU601	600	0,1	165×142	1	**611-2807**
SPU2001	2000	0,1	165×142	1	**611-2808**
SPU4001	4000	0,1	165×142	1	**611-2809**
SPU6001	6000	0,1	165×142	1	**611-2813**
SPU6000	6000	1	165×142	1	**611-4979**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
STP103 thermal printer for Ohaus balances, UK-plug	1	**611-2539**
Accessories		
Printer cable and adapter (STP103) for Navigator™ and Scout™ Pro (with RS232 option)	1	**611-2537**
RS232 interface kit for Navigator® and Scout™ Pro	1	**611-1984**
USB interface kit for Navigator®, Traveler™ and Scout™ Pro	1	**611-1985**
Anti-theft device (cable and lock) for Explorer®, Adventurer™ Pro, Pioneer™ and Scout™ Pro	1	**611-5111**

Portable balances, CS series
Ohaus

An economical balance with a rugged plastic housing and LCD display. Use via AC adapter or in battery-powered mode with power saving auto shut-off function and low battery indicator.

- Selection of weighing units
- Removable stainless steel platform
- Easy to use two button operation, external calibration
- Light and portable
- Mechanical and software overload protection

Delivery information: Supplied with 3×AA batteries and AC adapter.

Model	Weighing cap. (g)	Readability (g)	Pan (mm)	Pk	Cat. No.
CS200	200	0,1	133×146	1	**611-4341**
CS2000	2000	1,0	133×146	1	**611-4342**
CS5000	5000	1,0	133×146	1	**611-4343**

Portable balances, CL series
Ohaus

The CL series balance is a lightweight, portable scale perfectly suited for many applications including quality control, formulation, soil sampling, jewellery, postal weighing and dietary weighing. Choice of displayed units; gram, pound, ounces, ounce troy, pennyweight.

- Compact design and storage made easy with a stackable design
- ABS housing and pan
- Integrated load cell lock
- Battery operation with auto shut-off
- External calibration

Delivery information: Supplied with 3×AA batteries. A/C adapter is available but not supplied, please contact your local VWR sales office for details.

Model	Weighing cap. (g)	Readability (g)	Pan (mm)	Pk	Cat. No.
CL201	200	0,1	Ø 120	1	**611-4995**
CL501	500	0,1	Ø 120	1	**611-1875**
CL2000	2000	1	Ø 120	1	**611-4996**
CL5000	5000	1	Ø 120	1	**611-4997**

Portable balances, Emerald Series
Ohaus

Compact, rugged, pocket-size balance for simple, yet quality operation. Four choices of weighing units, gram, ounce, ounce troy, pennyweight.

- Lightweight, hand-held design, net weight 160 g
- Blue luminescent LCD with button activated backlight
- Overload and underload indicators
- Protective snap-on cover
- Energy saving auto shut-off feature and low battery indicator

Delivery information: Supplied with battery.

Model	Weighing cap. (g)	Readability (g)	Pan (mm)	Pk	Cat. No.
JE120	120	0,1	~80	1	**611-1189**
JE250	250	0,1	~80	1	**611-1190**
JE500	500	0,1	~80	1	**611-1191**

Portable balances, Core™ series

The Core™ series balances from Adam Equipment provide simple operation and economy. Features low battery indicator, auto-off and auto-sleep function to save battery life.

Units feature a lightweight, portable design, with overload protection, security locking point* and stainless steel pan. Applications include below balance weighing and weight accumulation.

Models with 120 mm pan are stackable for easy storage and are supplied with a removable draught shield.

- Up to 9 weighing units, full range tare
- Backlit LCD and colour coded sealed keypad
- External calibration

Ordering information: * The optional security lock and cable are listed in the accessories below. Please contact VWR for details on other accessories, including calibration weights.

Delivery information: Supplied with AC adapter and balance hanger. Balances can be battery-operated (6 x AA type); batteries are not supplied.

Model	Weighing cap. (g)	Readability (g)	Pan (mm)	Pk	Cat. No.
CQT 202	200	0,01	Ø 120	1	**611-2900**
CQT 251	250	0,1	Ø 120	1	**611-2901**
CQT 601	600	0,1	Ø 120	1	**611-2904**
CQT 1501	1500	0,1	Ø 120	1	**611-2898**
CQT 2601	2600	0,1	Ø 145	1	**611-2902**
CQT 2000	2000	1	Ø 145	1	**611-2899**
CQT 5000	5000	1	Ø 145	1	**611-2903**

Description	Pk	Cat. No.
Accessories		
In-use cover	1	**611-2921**
In-use cover	5	**611-2922**
In-use cover	10	**611-2923**
Hard carry case with lock	1	**611-2920**
Security lock and cable*	1	**611-2926**

Please note these products are not available in Republic of Ireland and Northern Ireland.

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Delivering high quality and superior performance

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Industrial scales, Defender™ 5000 series

Ohaus

D51P

D51XW

The Defender™ 5000 industrial scales are designed for general weighing as well as specific requirements such as check-weighing, counting, percentage or dynamic weighing. Two versions are available:

D51P for dry applications

ABS indicator, 304 grade stainless steel pan with painted steel frame; IP 67 aluminium load cell; painted steel column, optional rechargeable NiMH battery (please ask for details).

D51XW for washdown applications

IP 66 stainless steel indicator, 304 grade stainless steel pan with stainless steel frame, IP 67 stainless steel load cell; stainless steel column.

- Display: Backlit LCD, Over/Accept/Under indicator
- Operation: Direct mains power (no external adapter) or optional NiMH rechargeable battery with auto-off
- Levelling feet and bubble
- Communication: RS232 interface, optional Relay Control, second RS232, RS422/485
- External calibration

Model	Weighing cap. (kg)	Readability (g)	Pan (mm)	Pk	Cat. No.
D51P models with ABS indicator					
D51P15HR1	15	1	355×305	1	**611-2814**
D51P15QR1	15	1	305×305	1	**611-2820**
D51P30HR1	30	2	355×305	1	**611-2815**
D51P30QR1	30	2	305×305	1	**611-2821**
D51P60HR1	60	5	355×305	1	**611-2816**
D51P60HL2	60	5	500×400	1	**611-2817**
D51P60QL2	60	5	457×457	1	**611-2822**
D51P150HX2	150	10	550×420	1	**611-2818**
D51P150QL2	150	10	457×457	1	**611-2823**
D51P300HX2	300	20	550×420	1	**611-2819**
D51P300QX2	300	20	610×610	1	**611-4982**
D51XW models with stainless steel indicator					
D51XW15WR3-UK	15	1	305×305	1	**611-2824**
D51XW30WR3-UK	30	2	305×305	1	**611-2825**
D51XW60WL4-UK	60	5	455×455	1	**611-2826**
D51XW150WL4-UK	150	10	455×455	1	**611-2827**
D51XW300WX4-UK	300	20	610×610	1	**611-2828**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
STP103 thermal printer for Ohaus balances, UK-plug	1	**611-2539**
Accessories		
Printer cable SF40A for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series/Ranger™	1	**611-2571**
Printer cable kit (STP103) for MB series, Discovery, Adventurer™ Pro, Pioneer™ and Defender™ models with ABS indicator (D31P and D51P)	1	**611-2541**
Printer cable kit (STP103) for CW11, CKW55 and Defender™ D51XW models	1	**611-2543**

Industrial scales, Explorer® series
Ohaus

Large platform bench scales that incorporate touch screen, advanced weighing and proximity sensor technologies. The easy to use control unit can be mounted on the base, above the base on an optional column, on a wall or remotely (up to 3 m distance with an optional cable). The touch screen display with universal icons and informative prompts simplifies set up functions and basic operation. The operator has the added choice to use the proximity sensors for hands-free operation for handling sensitive samples. The balances have multiple application modes for basic weighing to SQC applications together with short stabilisation times and optimised performance specifications.

- Colour touch screen display with viewing angle adjustment in a demountable control unit
- Advanced weighing technology with stabilisation times of approximately 1 second
- Icon driven menu for ease of navigation to required functionality
- AutoCal™ internal calibration
- Dual multi-functional proximity sensors for hands-free operation of basic or user selectable functions

The weighing platform base (not control/display unit) has IP 54 protection rating

Model	Weighing cap. (kg)	Readability (g)	Pan (mm)	Pk	Cat. No.
EX12001	12	0,1	377×311	1	**611-4976**
EX24001	24	0,1	377×311	1	**611-4977**
EX35001	35	0,1	377×311	1	**611-4978**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
Printer accessories		
Ink ribbon cassette for printer SF40A	1	**611-2579**
Paper roll for printer SF40A, 57,5 mm width	2	**611-2580**
Accessories		
Terminal extension cable for Explorer® balances	1	**611-2417**

Industrial scales, Navigator™ XT series
Ohaus

Touch-free sensors for cleaner operation

A range of lightweight, robust, scales that are ideal for use in a wide range of laboratory, food and general industrial weighing applications up to a maximum of 16 kg. The innovative, touch-free sensors allow up to 36 combinations of functions including Tare, Zero, Print, Function and where appropriate, display backlight. The applications include weighing (with 14 units), percentage weighing, check-weighing, parts counting, accumulation/totalisation and display hold. The calibration function is digital and requires an external weight.

The non slip adjustable feet and the integral levelling bubble indicator, which is illuminated at power-up, help the operator ensure precision and reproducibility wherever the balance is used.

- Dual multi-functional, touch-free sensors free up your hands, keeping the scale free of contaminants delivering speed, safety and cleanliness
- Fast; stabilises in less than one second
- Mains or battery operation with auto shut-off or optional internal rechargeable battery
- A polished stainless steel pan, rugged, corrosion-free plastic housing and spill-resistant pan sub-assembly embodies a hygienic design that is easy to clean, IP 43
- The mechanical overload protection system enables the scale to safely bear loads up to four times its rated capacity

Ordering information: A full range of accessories and also a range of EC type approved models are available – please ask VWR for details.

Delivery information: Supplied with AC adapter (requires 4× C type (LR14) batteries, not supplied).

Model	Weighing cap. (kg)	Readability (g)	Pan (mm)	Pk	Cat. No.
Navigator™ XT scales with 6 digit, 7 segment backlit LCD					
NVT1601	1,6	0,1	230×174	1	**611-2834**
NVT3201	3,2	0,2	230×174	1	**611-2835**
NVT6401	6,4	0,5	230×174	1	**611-5000**
NVT10001	10	0,5	230×174	1	**611-2836**
NVT16000	16	1	230×174	1	**611-2837**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
STP103 thermal printer for Ohaus balances, UK-plug	1	**611-2539**

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Description	Pk	Cat. No.
Accessories		
Printer cable and adapter (STP103) for Navigator™ and Scout™ Pro (with RS232 option)	1	**611-2537**
Rechargeable battery kit for Navigator® XT and XL	1	**611-1983**
RS232 interface kit for Navigator® and Scout™ Pro	1	**611-1984**
USB interface kit for Navigator®, Traveler™ and Scout™ Pro	1	**611-1985**
Ethernet interface kit for Navigator®	1	**611-1986**
In use cover for Navigator® XT	1	**611-1987**
Carry case, hardshell, for Navigator® XT	1	**611-1989**

Industrial scales, ES series
Ohaus

A low profile bench or floor scale, that is capable of mains power or battery operation and is ideal for light industrial or shipping applications. The indicator can be attached above platform level (as per picture) or can be wall mounted.

- Stainless steel platform
- LCD display with 25,4 mm digits with two button operation for easy reading and use
- Auto zero tracking and auto-off timer
- Stability indicator
- External calibration

Delivery information: Supplied with mains transformer.

Model	Weighing cap. (kg)	Readability (g)	Pan (mm)	Pk	Cat. No.
ES6R	6	2	310×270	1	**611-2797**
ES30R	30	10	310×270	1	**611-2798**
ES50R	50	20	310×270	1	**611-2799**
ES50	50	20	520×400	1	**611-2800**
ES100L	100	50	520×400	1	**611-2801**
ES200L	200	100	520×400	1	**611-2802**

Industrial balances, Ranger® 3000 compact bench scale
Ohaus

A simple to operate, multipurpose, compact scale for producing precise results rapidly. Application modes include weighing, percent weighing, parts counting, accumulation and dynamic weighing.

- Large LCD backlit display
- Simple keyboard; 5 key operation
- Stabilisation within 1 second
- Weigh below capability

Ordering information: More connectivity options available including optional ethernet, second RS232 or USB and optional 2nd platform. Approved versions are also available. Please see www.vwr.com or enquire for more details.

Model	Weighing cap. (kg)	Readability (g)	Pan (mm)	Pk	Cat. No.
Standard balances					
R31P1502	1,5	0,05	225×300	1	**611-2581**
R31P3	3	0,1	225×300	1	**611-2582**
R31P6	6	0,2	225×300	1	**611-2583**
R31P15	15	0,5	225×300	1	**611-2584**
R31P30	30	1	225×300	1	**611-2585**
Approved balances					
R31P1502-M	1,5	0,05	225×300	1	**611-2596**
R31P3-M	3	0,1	225×300	1	**611-2597**
R31P6-M	6	0,2	225×300	1	**611-2598**
R31P15-M	15	0,5	225×300	1	**611-2599**
R31P30-M	30	1	225×300	1	**611-2611**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
Printer accessories		
Ink ribbon cassette for printer SF40A	1	**611-2579**
Paper roll for printer SF40A, 57,5 mm width	2	**611-2580**
Accessories		
Printer cable SF40A for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series/Ranger™	1	**611-2571**

Industrial balances, Ranger® 3000 Count compact scale
Ohaus

A multipurpose compact counting scale for producing precise results rapidly with weighing, parts counting, check counting and accumulation functions. User friendly design with three dedicated backlit diplays, eight function keys, three check weighing, indicators and full numeric keypad. Stainless steel platform and ABS housing for easy cleaning.

- Three separate backlit displays for count, weight and piece weight
- Mains supply with internal rechargeable battery for portable use
- Internal memory with a 30 item library function for data including average piece weights, check counting or check weighing, parameters, tare weights and accumulated weights or counts
- Stabilisation within 1 second

Ordering information: More connectivity options available including optional ethernet, second RS232 or USB and optional second platform. Approved versions are also available. Please see www.vwr.com or enquire for more details.

Model	Weighing cap. (kg)	Readability (g)	Pan (mm)	Pk	Cat. No.
Standard balances					
RC31P1502	1,5	0,05	225×300	1	**611-2586**
RC31P3	3	0,1	225×300	1	**611-2587**
RC31P6	6	0,2	225×300	1	**611-2588**
RC31P15	15	0,5	225×300	1	**611-2589**
RC31P30	30	1	225×300	1	**611-2590**
Approved balances					
RC31P1502-M	1,5	0,05	225×300	1	**611-2612**
RC31P3-M	3	0,1	225×300	1	**611-2613**
RC31P6-M	6	0,2	225×300	1	**611-2614**
RC31P15-M	15	0,5	225×300	1	**611-2615**
RC31P30-M	30	1	225×300	1	**611-2616**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
Printer accessories		
Ink ribbon cassette for printer SF40A	1	**611-2579**
Paper roll for printer SF40A, 57,5 mm width	2	**611-2580**
Accessories		
Printer cable SF40A for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series/Ranger™	1	**611-2571**

Scales, food portioning, FD series
Ohaus

A stainless steel portioning scale designed for use in food service applications, that is durable, easy to clean and gives a stable weight display within 2 seconds. The scale is capable of mains or battery operation with auto-off function to conserve power and has a typical battery life of 120 hours. Applications include check-weighing (positive and negative) with a three LED 'traffic light' indicator and audible alarm to guide the operator.

- Set-point key to enter target weight
- Levelling feet and front levelling bubble
- Supports HACCP compliance
- Backlit LCD display with 19 mm digits (height)
- External calibration

Delivery information: Supplied with mains transformer.

Model	Weighing cap. (kg)	Readability (g)	Pan (mm)	Pk	Cat. No.
FD3	3	0,5	209×209	1	**611-2810**
FD6	6	1	209×209	1	**611-2811**
FD15	15	2	209×209	1	**611-2812**

High capacity balances, GF-K and GX-K series

High capacity top loading balances from A&D featuring high speed weighing and settling times. Applications include counting, percentage weighing, animal weighing, below balance weighing and density determination. All models feature display auto-off function, overload protection, standard comparator function (HI/OK/LO annunciator) and counting function with Automatic Counting Accuracy Improvement (ACAI). RS232C interface for printer or computer for GLP data output format to suit quality systems.

The **GX-K** balances store 200 sets of weighing data (or 100 sets of weighing data with time and date, or 50 sets of GLP data, or 20 sets of unit weight for counting mode, or upper and lower limit for comparator mode, or tare value). **GF-K** models can store 40 sets of weighing data or 50 sets of unit weight for counting mode, or 20 sets of upper and lower limit values for comparator mode, or 20 sets of tare value.

- Rugged aluminium alloy enclosure and stainless steel pan with IP 65 waterproof and dust protection
- Weighing mechanism Super Hybrid Sensor (SHS) gives fast response speed - typically just 1,5 seconds
- Multiple weighing units plus counting, percentage and user programmable functionality
- Automatically adjusts the environmental settings for GX models
- Built-in under hook capability and animal weighing software

Ordering information: Please contact your local VWR sales office for details of accessories including animal weighing pan, draught shields, density determination kits and calibration weights and waterproof RS232 cable.

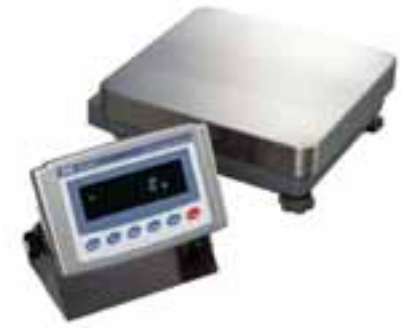
Delivery information: Supplied with AC adapter and Windows Communication Tools (WinCT) data collection software.

Model	Weighing cap. (kg)	Readability (g)	Pan (mm)	Pk	Cat. No.
GX-K series with motor driven internal calibration					
GX-8K2	2,1 / 8,1	0,01 / 0,1	270×210	1	**611-3108**
GX-8K-EC	8,1	0,01	270×210	1	**611-3107**
GX-10K-EC	10,1	0,01	270×210	1	**611-3102**
GX-32K	6,1 / 32	0,1 / 1	270×210	1	**611-3106**
GX-12K-EC	12	0,1	270×210	1	**611-3103**
GX-20K-EC	21	0,1	270×210	1	**611-3104**
GX-30K-EC	31	0,1	270×210	1	**611-3105**
GF-K series with external calibration					
GF-8K	8,1	0,01	270×210	1	**611-3082**
GF-10K	10,1	0,01	270×210	1	**611-3075**
GF-32K	6,1 / 32	0,1 / 1	270×210	1	**611-3079**
GF-12K	12	0,1	270×210	1	**611-3076**
GF-20K	21	0,1	270×210	1	**611-3077**
GF-30K	31	0,1	270×210	1	**611-3078**

Description	Pk	Cat. No.
Accessories		
AD-8121B dot matrix impact printer with calendar and full range of statistical functions including - weight, total weight, counting data, total count, number of operations, max, min, range, and standard deviation	1	**611-3070**

Please note these products are not available in Republic of Ireland or Northern Ireland.

High capacity balances, GP series



'KS' models

'K' models

The GP series of high capacity, high resolution balances from A&D are ideal for industrial applications. Units have a large stainless steel weighing pan and the display is mounted on a swing arm ('K' models) or detached ('KS' models). Applications include counting, density determination, percentage and animal weighing.

All models feature display auto-off function, overload protection, standard comparator function (HI/OK/LO annunciator) and counting function with Automatic Counting Accuracy Improvement (ACAI). The automatic self calibration feature responds to changes in ambient temperature.

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GP series balances are IP 65 compliant: water- and dust-proof.

- Multiple weighing units (including one custom unit)
- Internal calibration using motor driven weights
- GLP compliance with standard time and date function together with balance ID
- Clear and large vacuum fluorescent display elements
- RS232C bi-directional interface

Models denoted '-EC' are OIML EC approved, please contact your local VWR sales office for full details.

Ordering information: Please contact your local VWR sales office for details on other accessories including animal weighing pan, under balance weighing hook, footswitch and calibration weights.

Delivery information: Supplied with AC adapter and WinCT communication software.

Model	Weighing cap. (kg)	Readability (g)	Pan (mm)	Pk	Cat. No.
GP-12K-EC	12	0,1	384×344	1	**611-3086**
GP-20K-EC	21	0,1	384×344	1	**611-3087**
GP-30K-EC	31	0,1	384×344	1	**611-3088**
GP-30KS	31	0,1	384×344	1	**611-3089**
GP-61K	61	0,1	384×344	1	**611-3096**
GP-61KS	61	0,1	384×344	1	**611-3097**
GP-32K-EC	6,1 / 31	0,1 / 1	384×344	1	**611-3091**
GP-32KS	6,1 / 31	0,1 / 1	384×344	1	**611-3092**
GP-40K-EC	41	0,5	384×344	1	**611-3093**
GP-60K-EC	61	1	384×344	1	**611-3094**
GP-60KS	61	1	384×344	1	**611-3095**
GP-100K-EC	101	1	386×346	1	**611-3083**
GP-100KS	101	1	386×346	1	**611-3084**
GP-102K-EC	61 / 101	1 / 10	386×346	1	**611-3085**

Description	Pk	Cat. No.
Accessories		
AD-8121B dot matrix impact printer with calendar and full range of statistical functions including - weight, total weight, counting data, total count, number of operations, max, min, range, and standard deviation	1	**611-3070**

Please note these products are not available in Republic of Ireland or Northern Ireland.

Moisture analysers, MB 160 and MBT 160

MB 160

MBT 160

Rugged compact instruments for moisture determination of raw materials and finished products in the food, cosmetics, dairy, pharmaceutical, chemical and ceramics industries.

- Halogen-infrared heat source
- Double case design to protect the weighing unit from irradiated heat
- PT100 temperature sensor ensures process repeatability
- Time and date information is available with printed output

MBT 160 moisture analyser with remote touch screen indicator

The remote indicator gives the option of improved and immediate monitoring of the drying process, potentially in a cleaner remote location.

- User friendly interface
- Graphic display of the drying process
- Ideal for in-process quality control near the production line

Ordering information: The balances are also available with a calibration certificate. Please contact your local VWR sales office for details of this option.

Model	MB 160	MBT 160
Capacity (g)	160	
Display	LCD, backlit	Remote, large, graphic, colour touch screen
Displayed results	Moisture %, dry residual %, ATRO, temperature	
Endpoint/analysis mode	Manual, timer, autostop %	Manual, timer, autostop %, absolute autostop
Heater calibration	2 points, 80 - 150 (°C) selectable, with optional temperature calibration kit	1 or 2 points, default values 80 and 150 (°C), with optional temperature calibration kit
Heater type	Halogen-infrared lamp	
Moisture precision (%)	0,5 for 2 g sample; 0,05 for 10 g sample	0,05 for 2 g sample 0,02 for 10 g sample
Moisture range (%)	0 - 100	
Pan size (Ø mm)	100	
Program memory	5	300
Readability (%) / (mg)	0,01% / 1 mg	
Repeatability (Std. Dev. %)	0,02%	0,02% (10 g sample)
Temperature programs	5	Standard, rapid, ramp, levels
Temperature range (°C)	35 - 160	
Timer	1 - 99 min (1 min intervals)	
W×D×H (mm)	205×325×200	

Description	Pk	Cat. No.
Moisture analyser MB 160	1	**611-2318**
Moisture analyser MBT 160 with remote touch screen indicator	1	**611-2578**

Description	Pk	Cat. No.
7 inch Tablet System for VWR moisture analysers including USB interface, applications and tilting support	1	**611-3136**
7 inch Tablet System for VWR moisture analysers including Bluetooth® interface, Bluetooth® dongle for the analyser, applications and tilting support	1	**611-3137**
Accessories		
Paper roll for thermal printer	1	**630-1488**
Labels, self-adhesive, 500 on a roll for thermal printer	1	**630-1487**
Thermal printer for VWR LA and LP balances, MB moisture analysers, EU-plug	1	**630-1485**

Moisture analysers, MA series
Sartorius

MA37

MA160

Easy to use, efficient, compact moisture analysers, introduced in 2014, to give fast repeatable results with an improved user interface.

- Convenient process tracking with status light indicator
- Rapid heat up with powerful heating elements reduces overall process time
- BetterClean design enables the user to remove the sample chamber plate and heating module and clean in a dishwasher
- Easy to operate with touch screen and intuitive user interface
- Mini-USB and automatic printer recognition for data communication

MA37

A basic moisture analyser for routine daily tasks, a replacement for the MA35, that is designed to improve the overall operational efficiency from parameter set up through the heating process to final cleaning.

MA160

The MA160 is designed for routine work and method development for the QC laboratory that needs fast, highly repeatable moisture results, management of several methods for different products and transfer of methods between instruments. The MA160 ensures easy method development and management, as well as simple sample handling and instrument performance testing. The Method Assistant function enables the user to easily develop new methods. Three simple steps are all it takes to develop a new method in less than 45 minutes.

Model	MA37	MA160
Capacity (g)	70	200
Display	Touch screen and status light indicator	Touch screen, graphic display with drying curve and status light indicator
Displayed results	Moisture content % M and g; Solid content % S and g; ATRO in % M/S	
Endpoint/analysis mode	Fully automatic; semi-automatic; time setting; manual	
Heater type	Infrared metal heating elements	AURI heating elements
Housing W×D×H (mm)	215×400×210	
Program memory	1 program saved in a non volatile memory	Up to 100 methods
Readability (%) / (mg)	0,01% / 1 mg	
Repeatability (Std. Dev. %)	±0,2% (1 g sample) ±0,05% (5 g sample)	
Sample size (ml)	5 - 15 g typical	
Temperature programs	Standard drying, gentle drying	
Temperature range (°C)	40...160	

Description	Pk	Cat. No.
MA37 moisture analyser	1	**611-2888**
MA160 moisture analyser	1	**611-2887**

ALL YOU NEED FOR CHEMICAL ANALYSIS

A great companion for chemists in any industry

- Sampling and sample preparation
- Spectroscopy, chromatography and physical measurement
- Waste and hazard management

Request your copy from your local VWR sales office or vwr.com

Moisture analysers, MA100
Sartorius

MA100

The MA100 is an accurate, flexible, configurable model with a user friendly keyboard and software prompts to easily access all the modes of operation and data input.

Models offer fully automatic endpoint determination, continuously monitoring the drying curve and stopping the process once the sample reaches constant weight.

- SPRM- enables the operating parameters to be adapted to the results of an available reference method and be saved as a drying routine
- Access to sample chamber by motorised cover incorporating the heating unit that reduces interfering effects
- Password protection of parameters
- Built-in calibration weight

Ordering information: A range (0CE suffix) of verified versions for use in legal metrology in the European Economic area is available.

Model	MA100
Capacity (g)	100
Cover	Motorised
Display	LCD
Displayed results	% moisture; % dry weight; % Ratio; g residue; g/kg residue; mg weight loss; Calculated value
Endpoint/analysis mode	Fully automatic, semi-automatic, timer settings, combinations
Heater type	Ceramic or coiled quartz or halogen
Housing W×D×H (mm)	350×453×156
Program memory	30
Readability (%) / (mg)	0,001 / 0,1
Repeatability (Std. Dev. %)	±0,1 (>1 g)
Temperature range (°C)	30 - 230 (1 °C increments)

Description	Pk	Cat. No.
Moisture analyser MA100C, ceramic elements with glass panels	1	**611-1100**
Moisture analyser MA100H, halogen elements with glass panels	1	**617-1104**
Moisture analyser MA100Q, quartz-glass elements with glass panels	1	**611-1609**

Description	Pk	Cat. No.
Accessories		
Glass fibre filters	80	**611-0739**
Disposable sample pans, aluminium	80	**611-0741**
Printer YDP20-0CE with connector cable	1	**611-1774**

Basic moisture analysers, MB23 and MB25
Ohaus

MB23

MB25

Providing accurate and reproducible results at either 0,1% or 0,05% readability, these basic models are ideal for food, cotton, wastewater, ceramics, animal feed and other applications that only require measurement accuracy to approx 0,1%.

- No menu - simply set drying parameters of time and temperature for easy operation
- MB23 has IR heating with no glass components, making it suitable for glass-free environments
- Extremely compact and easy to disassemble and clean

Model	MB23	MB25
Capacity (g)	110	
Display	Custom backlit LCD	
Displayed results	% moisture or % solids or weight (g), time, temperature	
Heater type	IR	Halogen
Moisture range (%)	0,01 to 100	
Pan size (Ø mm)	90	

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Readability (%) / (mg)	0,1 / 10	0,05 / 5
Repeatability (Std. Dev. %)	0,3 (3 g sample) 0,2 (10 g sample)	0,20 (3 g sample) 0,05 (10 g sample)
Sample size (ml)	3 g to 20 g (typical); minimum 0,5 g	
Temperature range (°C)	50 to 160 (5 °C increments)	
Timer	1 - 99 minutes, 30 second increments to 60 minutes	
W×D×H (mm)	170×130×280	

Description	Pk	Cat. No.
MB23 moisture analyser	1	**611-3869**
MB25 moisture analyser	1	**611-3870**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
STP103 thermal printer for Ohaus balances, UK-plug	1	**611-2539**
Accessories		
Printer cable SF40A for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series/Ranger™	1	**611-2571**
Printer cable kit (STP103) for MB series, Discovery, Adventurer™ Pro, Pioneer™ and Defender™ models with ABS indicator (D31P and D51P)	1	**611-2541**
Temperature calibration kit	1	**611-0606**
Sample pans, disposable	80	**611-0604**
Sample pans, reusable	3	**611-0605**
Pads, glass fibre	200	**611-1884**

Moisture analysers, MB35 and MB45

Ohaus

MB35

MB45

The compact MB series moisture analysers incorporate halogen heating with precision weighing to give fast and accurate results for moisture content. The units are ideal for applications in the pharmaceutical, chemical and research industries, yet rugged enough for in-process quality control operations in wider industrial applications.

The halogen heating performs up to 40% faster than traditional infrared (IR) technology, with the test area reaching full temperature in less than 1 minute.

Features common to MB35 and MB45

- GLP compliant
- RS232 interface

Additional MB45 features

- Four selectable automatic drying programs
- Statistical function
- Four selectable heating profiles - standard, fast, ramp, step
- User can custom design the test endpoint criteria
- Can store 50 drying programs

Model	MB35	MB45
Capacity (g)	35	45
Display	Graphical 128×64 pixel backlit LCD 66×33 mm	
Displayed results	% moisture, time, temperature, weight	% MC, % DC, % regain, grams or custom units, time, temperature and weight
Heater calibration	100 °C and 160 °C with optional heater calibration kit	
Heater type	Halogen	
Moisture range (%)	0,01 to 100	0,01 to 100; 0,01 to 1000 for Regain mode
Pan size (Ø mm)	90 (pan handler optional)	90
Readability (%) / (mg)	0,01 / 1	
Repeatability (Std. Dev. %)	0,05 (3 g sample) 0,015 (10 g sample)	
Temperature range (°C)	50 - 160 (5 °C increments)	50 - 200 (1 °C increments)
W×D×H (mm)	190×360×152	

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Description	Pk	Cat. No.
MB35 moisture analyser	1	**611-4531**
MB45 moisture analyser	1	**617-1190**

Description	Pk	Cat. No.
Printers		
SF40A impact printer for Ohaus balances (supplied with printer cables 611-2571 and 611-2572)	1	**611-2573**
STP103 thermal printer for Ohaus balances, UK-plug	1	**611-2539**
Accessories		
Printer cable SF40A for Discovery/Explorer®/Adventurer™ Pro/Pioneer™/Defender™ 3000/5000/MB series/Ranger™	1	**611-2571**
Printer cable kit (STP103) for MB series, Discovery, Adventurer™ Pro, Pioneer™ and Defender™ models with ABS indicator (D31P and D51P)	1	**611-2541**
Temperature calibration kit	1	**611-0606**
Sample pans, disposable	80	**611-0604**
Sample pans, reusable	3	**611-0605**
Pads, glass fibre	200	**611-1884**
In use display cover for MB35/45 (pack of 2)	1	**611-1867**

Moisture balances, PMB series

The PMB moisture balances from Adam Equipment offer fast response times and easy-to-use functionality making them the ideal choice for a range of different applications. The automatic test setting function allows multiple tests to be run quickly and without additional user input. The built-in memory permits program storage.

Other functions include: three settings for heating sample (fast ramp up, step and standard); zero adjust facility to enable zero reading and automatic test start setting for when the lid is closed. Internal calibration for weighing.

Units feature overload protection, security locking point*, stainless steel pan, spirit level and a splashproof design to protect from accidental spills.

- Full range tare, zero tracking, capacity tracker
- Multi-lingual backlit LCD with dual display and colour coded sealed keypad
- Calibration facilities for temperature** and weight
- RS232 and USB interfaces, plus USB for memory card
- GLP printouts, date and time function

Ordering information: *The optional security lock and cable are listed in the accessories below, please order separately.
**Optional accessory temperature calibration kit is required for temperature calibration.
Please contact your local VWR sales office for details on other accessories, including USB cable and calibration weights.

Delivery information: Supplied with mains power cord, pan lifter and security bracket.

Model	PMB 53	PMB 202
Capacity (g)	50	200
Display	Backlit LCD display 24 mm with dual digits and capacity tracker	
Displayed results	Gram (g), % Moisture / % Solid	
Heater calibration	2 point with optional heater calibration kit	
Heater type	Halogen	
Moisture range (%)	0,01 to 100	0,05 to 100
Pan size (Ø mm)	100	
Program memory	49	
Readability (%) / (mg)	0,01 / 1	0,05 / 10
Temperature range (°C)	50 - 160 (1 °C increments)	
Timer	1 - 99 min (1 min intervals)	
W×D×H (mm)	250×360×185	

Description	Pk	Cat. No.
Moisture analyser PMB 53, 50 g x 0,001 g / 0,01%	1	**611-2932**
Moisture analyser PMB 202, 200 g × 0,01 g / 0,05%	1	**611-2931**

Description	Pk	Cat. No.
Accessories		
Disposable aluminium sample pans	250	**611-2916**
Temperature calibration kit**	1 KIT	**611-2908**
ATP thermal printer	1	**611-2909**
Thermal paper for ATP printer	1	**611-2924**
Adam DU data collection program	1	**611-2925**
In-use cover	1	**611-2913**
Security lock and cable*	1	**611-2926**

Calibration weights, class E2

Weights made from solid, anti-magnetic, polished stainless steel. Suitable for high resolution electronic balances.

- Wire weights up to 500 mg
- Identification number guarantees traceability for weights from 1 g upwards
- Available with or without COFRAC certificate

Conform to OILM R111 recommendations.

Ordering information: All weights from 1 mg to 20 kg are available with or without COFRAC certificate - please visit www.vwr.com or contact your local VWR sales office. A range of weight sets are also available - please search for product "Calibration weight sets, class E2".

Weight	Tolerance (± mg)	Pk	Cat. No.
E2 weights in plastic cases with COFRAC certificate			
1 mg	0,006	1	**611-8131**
2 mg	0,006	1	**611-8132**
5 mg	0,006	1	**611-8133**
10 mg	0,008	1	**611-8134**
20 mg	0,010	1	**611-8135**
50 mg	0,012	1	**611-8136**
100 mg	0,016	1	**611-8137**
200 mg	0,020	1	**611-8138**
500 mg	0,025	1	**611-8139**
1 g	0,03	1	**611-8140**
2 g	0,04	1	**611-8141**
5 g	0,05	1	**611-8142**
10 g	0,06	1	**611-8143**
20 g	0,08	1	**611-8144**
50 g	0,10	1	**611-8145**
100 g	0,16	1	**611-8146**
200 g	0,30	1	**611-8147**
500 g	0,75	1	**611-8148**
1 kg	1,6	1	**611-8149**
2 kg	3,0	1	**611-8150**
5 kg	7,5	1	**611-8151**
10 kg	16,0	1	**611-8152**
20 kg	30,0	1	**611-8428**
E2 weights in wooden boxes with COFRAC certificate			
500 g	0,75	1	**611-8399**
1 kg	1,6	1	**611-8400**
2 kg	3	1	**611-8423**
5 kg	7,5	1	**611-8424**
10 kg	16	1	**611-8425**
20 kg	30	1	**611-8426**
50 kg	50	1	**611-8427**

VWR COLLECTION

SELECTED FOR YOU

Calibration weight sets, class E2

Weights made from solid, anti-magnetic, polished stainless steel. Suitable for high resolution electronic balances.

- Wire weights up to 500 mg
- Identification number guarantees traceability for weights from 1 g upwards
- Available with or without COFRAC certificate

Conform to OILM R111 recommendations.

Ordering information: All weight sets listed in the "set contents" table are available with or without COFRAC certificate - please visit www.vwr.com or contact your local VWR sales office. Weights are also available individually - please search for product "Calibration weights, class E2".

Set	Weights included													
		1 mg	2 mg	5 mg	10 mg	20 mg	50 mg	100 mg	200 mg	500 mg				
1 - 500 mg		1	2	1	1	2	1	1	2	1				
	Includes	1 g	2 g	5 g	10 g	20 g	50 g	100 g	200 g	500 g	1 kg	2 kg	5 kg	10 kg
1 mg - 50 g	1 - 500 mg set	1	2	1	1	2	1							
1 mg - 100 g	1 - 500 mg set	1	2	1	1	2	1	1						
1 mg - 200 g	1 - 500 mg set	1	2	1	1	2	1	1	2					
1 mg - 500 g	1 - 500 mg set	1	2	1	1	2	1	1	2	1				
1 mg - 1 kg	1 - 500 mg set	1	2	1	1	2	1	1	2	1	1			
1 mg - 2 kg	1 - 500 mg set	1	2	1	1	2	1	1	2	1	1	2		
1 mg - 5 kg	1 - 500 mg set	1	2	1	1	2	1	1	2	1	1	2	1	
1 mg - 10 kg	1 - 500 mg set	1	2	1	1	2	1	1	2	1	1	2	1	1
1 g - 50 g		1	2	1	1	2	1							
1 g - 100 g		1	2	1	1	2	1	1						
1 g - 200 g		1	2	1	1	2	1	1	2					
1 g - 500 g		1	2	1	1	2	1	1	2	1				
1 g - 1 kg		1	2	1	1	2	1	1	2	1	1			
1 g - 2 kg		1	2	1	1	2	1	1	2	1	1	2		
1 g - 5 kg		1	2	1	1	2	1	1	2	1	1	2	1	
1 g - 10 kg		1	2	1	1	2	1	1	2	1	1	2	1	1

Weight set	No. of weights	Total weight (g)	Pk	Cat. No.
E2 weight sets in wooden boxes with certificate				
1 mg - 500 mg	12	1,11	1	**611-8742**
1 mg - 50 g	20	111,11	1	**611-8743**
1 mg - 100 g	21	211,11	1	**611-8744**
1 mg - 200 g	23	611,11	1	**611-8745**
1 mg - 500 g	24	1111,11	1	**611-8746**
1 mg - 1 kg	25	2111,11	1	**611-8747**
1 mg - 2 kg	27	6111,11	1	**611-8748**
1 mg - 5 kg	28	11111,11	1	**611-8749**
1 mg - 10 kg	29	21111,11	1	**611-8750**
1 g - 50 g	8	110	1	**611-8751**
1 g - 100 g	9	210	1	**611-8752**
1 g - 200 g	11	610	1	**611-8753**
1 g - 500 g	12	1110	1	**611-8754**
1 g - 1 kg	13	2110	1	**611-8755**
1 g - 2 kg	15	6110	1	**611-8756**
1 g - 5 kg	16	11110	1	**611-8757**
1 g - 10 kg	17	21110	1	**611-8758**
E2 weight sets in plastic cases with certificate				
1 mg - 500 mg	12	1,11	1	**611-8454**
1 mg - 100 g	21	211,11	1	**611-8455**
1 mg - 200 g	23	611,11	1	**611-8456**
1 mg - 500 g	24	1111,11	1	**611-8457**

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Weight set	No. of weights	Total weight (g)	Pk	Cat. No.
E2 weight sets in plastic cases with certificate				
1 g - 100 g	9	210	1	**611-8458**
1 g - 200 g	11	610	1	**611-8459**
1 g - 500 g	12	1110	1	**611-8460**

Calibration weights, class F1, Cal-Box, 3 weight set, certified

An economical range of calibration sets, with only three stainless steel weights, to meet routine calibration requirements of precision and analytical balances.

- Class F1 tolerances
- Each set has a individual serial number and calibration certificate
- Each weight, from 1 g upwards, has a unique identification number for traceability

Delivery information: Weights supplied in modern aluminium case with tweezers and balance brush

Weight set	No. of weights	Type	Pk	Cat. No.
200 mg; 5 g; 50 g	3	With certificate	1	**611-2428**
200 mg; 10 g; 100 g	3	With certificate	1	**611-2429**
200 mg; 20 g; 200 g	3	With certificate	1	**611-2430**
200 mg; 50 g; 500 g	3	With certificate	1	**611-2432**
2 g; 20 g; 200 g	3	With certificate	1	**611-2431**
2 g; 50 g; 500 g	3	With certificate	1	**611-2433**
2 g; 100 g; 1 kg	3	With certificate	1	**611-2434**
20 g; 100 g; 1 kg	3	With certificate	1	**611-2435**
20 g; 200 g; 2 kg	3	With certificate	1	**611-2436**
20 g; 500 g; 5 kg	3	With certificate	1	**611-2437**

Calibration weights, class F1

Weights made from anti-magnetic, polished stainless steel. Suitable for medium resolution precision electronic balances. Weights have adjustment cavities for weights of more than 20 g.

- Wire weights up to 500 mg
- Identification number guarantees traceability for weights from 1 g upwards
- Available with or without COFRAC certificate

Conform to OILM R111 recommendations.

Ordering information: All weights from 1 mg to 20 kg are available with or without COFRAC certificate - please visit www.vwr.com or contact your local VWR sales office. A range of sets of weights are also available - please search for product "Calibration weight sets, class F1".

Weight	Tolerance (± mg)	Pk	Cat. No.
F1 weights in plastic cases with certificate			
1 mg	0,020	1	**611-8231**
2 mg	0,020	1	**611-8232**
5 mg	0,020	1	**611-8233**
10 mg	0,025	1	**611-8234**
20 mg	0,03	1	**611-8235**
50 mg	0,04	1	**611-8236**
100 mg	0,05	1	**611-8237**
200 mg	0,06	1	**611-8238**
500 mg	0,08	1	**611-8239**
1 g	0,10	1	**611-8240**
2 g	0,12	1	**611-8241**
5 g	0,15	1	**611-8242**

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Weight	Tolerance (± mg)	Pk	Cat. No.
F1 weights in plastic cases with certificate			
10 g	0,20	1	**611-8243**
20 g	0,25	1	**611-8244**
50 g	0,30	1	**611-8245**
100 g	0,50	1	**611-8246**
200 g	1,0	1	**611-8247**
500 g	2,5	1	**611-8248**
1 kg	5	1	**611-8249**
2 kg	10	1	**611-8250**
5 kg	25	1	**611-8251**
10 kg	50	1	**611-8252**
F1 weights in wooden boxes with certificate			
500 g	2,5	1	**611-8040**
1 kg	5	1	**611-8041**
2 kg	10	1	**611-8042**
5 kg	25	1	**611-8049**
10 kg	50	1	**611-8058**

Calibration weight sets, class F1

Weights made from anti-magnetic, polished stainless steel. Suitable for medium resolution precision electronic balances. Weights have adjustment cavities for weights of more than 20 g.

- Wire weights up to 500 mg
- Identification number guarantees traceability for weights from 1 g upwards
- Available with or without COFRAC certificate

Conform to OILM R111 recommendations.

Ordering information: All weight sets listed in the "set contents" table are available with or without COFRAC certificate - please visit www.vwr.com or contact your local VWR sales office. Weights are also available individually - please search for product "Calibration weights, class F1".

Set	Weights included													
		1 mg	2 mg	5 mg	10 mg	20 mg	50 mg	100 mg	200 mg	500 mg				
1 - 500 mg		1	2	1	1	2	1	1	2	1				
	Includes	1 g	2 g	5 g	10 g	20 g	50 g	100 g	200 g	500 g	1 kg	2 kg	5 kg	10 kg
1 mg - 100 g	1 - 500 mg set	1	2	1	1	2	1	1						
1 mg - 200 g	1 - 500 mg set	1	2	1	1	2	1	1	2					
1 mg - 500 g	1 - 500 mg set	1	2	1	1	2	1	1	2	1				
1 mg - 1 kg	1 - 500 mg set	1	2	1	1	2	1	1	2	1	1			
1 mg - 2 kg	1 - 500 mg set	1	2	1	1	2	1	1	2	1	1	2		
1 mg - 5 kg	1 - 500 mg set	1	2	1	1	2	1	1	2	1	1	2	1	
1 mg - 10 kg	1 - 500 mg set	1	2	1	1	2	1	1	2	1	1	2	1	1
1 g - 100 g		1	2	1	1	2	1	1						
1 g - 200 g		1	2	1	1	2	1	1	2					
1 g - 500 g		1	2	1	1	2	1	1	2	1				
1 g - 1 kg		1	2	1	1	2	1	1	2	1	1			
1 g - 2 kg		1	2	1	1	2	1	1	2	1	1	2		
1 g - 5 kg		1	2	1	1	2	1	1	2	1	1	2	1	
1 g - 10 kg		1	2	1	1	2	1	1	2	1	1	2	1	1

Weight set	No. of weights	Total weight (g)	Pk	Cat. No.
F1 Weight sets in wooden boxes with certificate				
1 mg - 500 mg	12	1,11	1	**611-8632**
1 mg - 50 g	20	111,11	1	**611-8633**
1 mg - 100 g	21	211,11	1	**611-8634**

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Weight set	No. of weights	Total weight (g)	Pk	Cat. No.
F1 Weight sets in wooden boxes with certificate				
1 mg - 200 g	23	611,11	1	**611-8635**
1 mg - 500 g	24	1111,11	1	**611-8636**
1 mg - 1 kg	25	2111,11	1	**611-8637**
1 mg - 2 kg	27	6111,11	1	**611-8638**
1 mg - 5 kg	28	11111,11	1	**611-8639**
1 mg - 10 kg	29	21111,11	1	**611-8640**
1 g - 100 g	9	210	1	**611-8642**
1 g - 200 g	11	610	1	**611-8643**
1 g - 500 g	12	1110	1	**611-8644**
1 g - 50 g	8	110	1	**611-8641**
1 g - 1 kg	13	2110	1	**611-8645**
1 g - 2 kg	15	6110	1	**611-8646**
1 g - 5 kg	16	11110	1	**611-8647**
1 g - 10 kg	17	21110	1	**611-8648**
F1 Weight sets in plastic cases with certificate				
1 mg - 500 mg	12	1,11	1	**611-8461**
1 mg - 100 g	21	211,11	1	**611-8462**
1 mg - 200 g	23	611,11	1	**611-8463**
1 mg - 500 g	24	1111,11	1	**611-8464**
1 mg - 2 kg	27	6111,11	1	**611-8649**
1 mg - 5 kg	28	11111,11	1	**611-8650**
1 g - 100 g	9	210	1	**611-8465**
1 g - 200 g	11	610	1	**611-8466**
1 g - 500 g	12	1110	1	**611-8467**
1 g - 2 kg	15	6110	1	**611-8651**
1 g - 5 kg	16	11110	1	**611-8652**

VWR COLLECTION

SELECTED FOR YOU

Block weights, class M1

Rectangular weights made from cast iron (density 7,2 g/cm³).

- Indelible unique identification number guarantees traceability

Colour: Grey

Conforms to OILM, COFRAC accredited

Weight (kg)	Tolerance (± mg)	Type	Pk	Cat. No.
5	250	Without certificate	1	**611-8298**
5	250	With certificate	1	**611-8324**
10	500	Without certificate	1	**611-8299**
10	500	With certificate	1	**611-8325**
20	1000	Without certificate	1	**611-8300**
20	1000	With certificate	1	**611-8326**
50	2500	Without certificate	1	**611-8323**
50	2500	With certificate	1	**611-8327**

VWR COLLECTION CATALOGUE

10 000 equipment, instrument and consumable products

Request your copy from your local VWR sales office or vwr.com

Disposable weighing boats

PS, diamond

These flexible boats feature smooth surfaces to provide accurate pour-out with minimal sample loss. They are biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols and bases. Ideal for use with microwaves and moisture analysers.

- Wide, flat bottom avoids tipping
- Temperature resistant up to +70 °C

Capacity (ml)	W×D×H (mm)	Colour	Pk	Cat. No.
Standard				
5	55×35×6	Black	500	**611-1996**
5	55×35×6	White	500	**611-1993**
25	80×50×14	Black	500	**611-9184**
25	80×50×14	White	500	**611-0097**
30	80×60×14	Black	500	**611-9185**
30	80×60×14	White	500	**611-9161**
100	125×100×19	Black	500	**611-9186**
100	125×100×19	White	500	**611-9162**
Anti-static				
5	55×35×6	Black	500	**611-1995**
5	55×35×6	White	500	**611-1994**
25	80×50×14	Black	500	**611-9190**
25	80×50×14	White	500	**611-9187**
30	80×60×14	Black	500	**611-9191**
30	80×60×14	White	500	**611-9188**
100	125×100×19	Black	500	**611-9192**
100	125×100×19	White	500	**611-9189**

Disposable weighing boats

PS, square

These flexible weighing boats with smooth surfaces enable accurate pour-out with minimal sample loss. They are biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols and bleaches. Ideal for use with microwaves, balances or moisture analysers.

- Shallow form with wide, flat bottom avoids tipping
- Rounded corners simplify transfer
- Temperature resistant up to +70 °C

Capacity (ml)	W×D×H (mm)	Colour	Pk	Cat. No.
Standard				
7	46×46×8	Blue	500	**611-9168**
7	46×46×8	Black	500	**611-9175**
7	46×46×8	White	500	**611-0093**
100	85×85×24	Blue	500	**611-9169**
100	85×85×24	Black	500	**611-9176**
100	85×85×24	White	500	**611-0094**
250	140×140×22	Blue	500	**611-9170**
250	140×140×22	Black	500	**611-9177**
250	140×140×22	White	500	**611-0095**
Anti-static				
7	46×46×8	Black	500	**611-9181**
7	46×46×8	White	500	**611-9178**
100	85×85×24	Black	500	**611-9182**
100	85×85×24	White	500	**611-9179**
250	140×140×22	Black	500	**611-9183**
250	140×140×22	White	500	**611-9180**

Disposable, anti-static weighing boats

PS, hexagonal

These boats feature smooth surfaces to enable accurate pour-out with minimal sample loss. Biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols and bases. These flexible boats bend at points to form pouring spouts.

- Flat bottom avoids tipping
- Sloping sides provide accurate transfer
- Temperature resistant up to +70 °C

Size	l-Ø bottom (mm)	l-Ø top (mm)	Pk	Cat. No.
S	25	38	500	**611-9171**
M	51	64	500	**611-9172**
L	76	102	500	**611-9173**
XL	89	127	500	**611-9174**

Pour-boat weighing dishes

PS

Samples are easily dispensed with the pour spout design without flexing the dish. These flat bottomed dishes are made from 0,3 mm thick polystyrene for better strength, stability and handling.

- Flat bottom avoids tipping
- Temperature resistant to +70 °C

W×D×H (mm)	Pk	Cat. No.
43×58×13	500	**611-9163**
83×132×26	500	**611-9164**
108×183×26	500	**611-9165**

Kjeldahl weighing boats
Whatman (GE Healthcare)

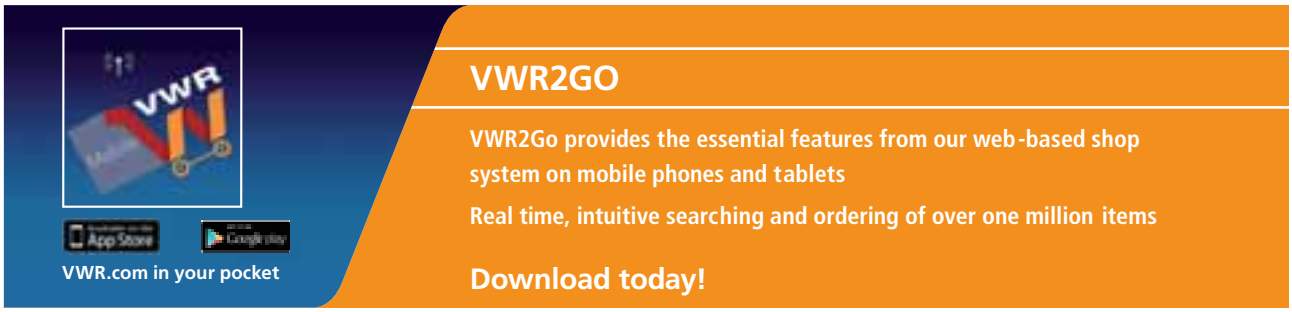
Grade 609

A rapid, safe and comfortable way to transfer Kjeldahl samples that enables a fast analysis.

- Quantitative transfer after weighing
- Nitrogen-free parchment paper does not affect the Kjeldahl assay
- Dissolves residue-free in the digestion solution

Weight 80 g/m²

Size (mm)	Pk	Cat. No.
50×10×10	100	**611-3990**



Weighing paper, Grade 531

For weighing of a range of substances (viscous products, powders, paste and liquids).

Size (mm)	Weight	Thickness (mm)	Pk	Cat. No.
100×100	45 g/m²	0,06	250	**516-0318**

Kjeldahl weighing paper
Whatman (GE Healthcare)

Parchment paper Grade B-2, ≤0,05% N

- Transparent and smooth
- Simplifies sample transfer
- Quantitative transfer from paper

Weight 43 g/m²

Thickness 0,04 mm

Size (mm)	Pk	Cat. No.
305×305	500	**512-0601**
76×76	500	**512-0602**
102×102	500	**512-0603**
152×152	500	**512-0604**

Weighing papers
Whatman (GE Healthcare)

Pergamyne

- Transparent and smooth
- Simple weighing out of a wide range of different samples
- Quantitative transfer from paper

Size (mm)	Weight	Pk	Cat. No.
150×150	40 g/m²	500	**515-8214**
100×100	40 g/m²	500	**515-8212**

Disposable micro-weighing dishes

Aluminium

These micro-weighing boats are compatible with most commercially available analysers and microbalances, and are packaged in easy to use plastic containers for storage and dispensing.

Capacity (ml)	W×D×H (mm)	Pk	Cat. No.
Round form			
0,035	-	250	**611-1355**
0,35	-	100	**611-1356**
Oval form			
0,04	6,5x3,5x2,5	250	**611-1357**
0,11	10x4x4,5	250	**611-1358**
0,12	12x4x2,7	250	**611-1360**
0,12	12x2x4,5	250	**611-1361**
1,12	25x7x7	50	**611-1359**

Disposable weighing dishes

Aluminium, light gauge

Ideal for weighing, sampling, dispensing, storage, food processing, evaporating or general laboratory use.

- Flanged edge with curled lip for increased stability
- Contaminant- and oil-free
- Stackable

Capacity (ml)	l-Ø×H (mm)	Pk	Cat. No.
20	44×13	100	**611-1374**
70	63×19	100	**611-1373**
75	65×30	100	**611-1376**
200	110×29	50	**611-1377**
500	180×25	50	**611-1375**

Disposable weighing and drying dishes

Aluminium

Sturdy, disposable pans. Ideal for general purpose weighing, dispensing, storage, and drying applications.

- Compatible with most balances and dryers
- Oil-free
- Slightly tapered for easy stacking

Capacity (ml)	l-Ø×H (mm)	Pk	Cat. No.
40	70×6	50	**611-1354**
50	120×5	100	**611-1350**
60	100×8	50	**611-1353**
80	70×16	100	**611-1380**
30	110×11	25	**611-1351**
50	110×16	25	**611-1352**

Disposable weighing dishes with tabs

Aluminium

Sturdy, disposable dishes feature crimped sides and tabs. Ideal for general purpose weighing, dispensing and storage applications. Dishes can also serve as evaporating dishes, parts containers, or dust covers.

- Flat bottom and crimped sides for rigidity
- Dishes feature tabs for easy handling
- Oil-free
- Slightly tapered for easy stacking

Capacity (ml)	l-Ø×H (mm)	Pk	Cat. No.
8	28×10	500	**611-1362**
20	43×13	100	**611-1378**
60	57×16	100	**611-1372**
60	57×16	144	**611-1371**
80	70×16	100	**611-1379**

Disposable weighing dishes

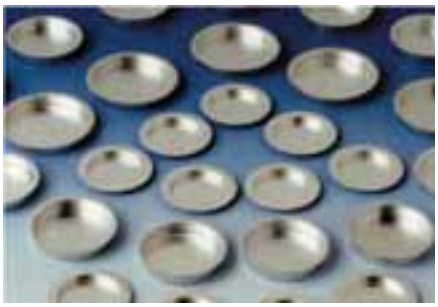
Aluminium

For moisture determination.

- Diameter 100 mm
- Height of rim 7 mm

l-Ø×H (mm)	Pk	Cat. No.
100×7	80	**611-9000**

Disposable weighing dishes



Aluminium

- Disposable

l-Ø×H (mm)	Pk	Cat. No.
44×5	500	**611-0665**
55×10	250	**611-0666**

Weighing scoops
Bochem

Stainless steel 18/10, anti-magnetic

Length (mm)	Width (mm)	Pk	Cat. No.
70	32	1	**611-9710**
90	32	1	**611-9711**
105	32	1	**611-9712**
120	32	1	**611-9713**
120	30 - 65	1	**611-9714**
160	30 - 75	1	**611-9715**

VWR COLLECTION

SELECTED FOR YOU

Weighing boats, borosilicate glass

Borosilicate 3,3 glass

- Ideal for weighing small samples
- Powders can be tapped or rinsed through the tubular stem of the weighing boats into the receiving vessel

Capacity (ml)	Length (mm)	Pk	Cat. No.
3	70	3	**611-9194**
6	85	3	**611-9195**
10	100	3	**611-9196**

Weighing boats, PYREX®

Borosilicate glass

- Ideal for weighing small quantities of powder
- With hollow stem to aid introduction of the powder into narrow neck vessels e.g. volumetric flasks
- The flat base ensures stability on the balance pan

Capacity (ml)	Length (mm)	Pk	Cat. No.
6	85	1	**611-0010**
10	100	1	**611-0011**

Weighing bottles
Lenz

DURAN®, borosilicate glass

- Interchangeable lids with ground joint
- Writing area in white

Capacity (ml)	Ø×H (mm)	NS	Pk	Cat. No.
Low form				
6	25×25	24/12	1	**611-9302**
15	40×25	40/12	1	**611-9303**
15	35×30	34/12	1	**611-9304**
30	50×30	50/12	1	**611-9305**
45	60×30	60/12	1	**611-9306**
80	80×30	80/12	1	**611-9307**
Tall form				
5	20×40	19/12	1	**611-9311**
10	25×40	24/12	1	**611-9312**
20	30×50	29/12	1	**611-9313**
30	35×50	34/12	1	**611-1234**
40	40×50	40/12	1	**611-9317**
45	40×65	40/12	1	**611-1235**
70	35×70	34/12	1	**611-9314**
70	40×80	40/12	1	**611-9315**
110	50×80	50/12	1	**611-9316**

Weighing bottles
Kartell

PP with lid

Capacity (ml)	Ø×H (mm)	Pk	Cat. No.
Low form			
20	40×29	1	**611-9402**
30	49×29	1	**611-9403**
50	59×34	1	**611-9404**
190	59×88	1	**611-9405**
360	70×118	1	**611-0105**
Tall form			
23	30×48	1	**611-0103**
60	40×69	1	**611-0104**

Sample containers, Azlon®
SciLabware

PS containers with PE lids

- Clear PS containers with maximum sample visibility
- PE airtight snap-on lids for quick and easy use
- Ideal for sample storage

nF = low form hF = tall form

Capacity (ml)	Ø ext. (mm)	Height (mm)	Type	Pk	Cat. No.
100	51	60	hF	10	**216-0123**
150	65	53	nF	10	**216-0124**
200	65	68	hF	10	**216-0125**
250	65	87	hF	5	**216-0126**
500	100	100	nF	5	**216-0127**

VWR
We Enable Science

Operational excellence streamlined solutions

For over 160 years, our customers have been challenged with finding the answers that help improve lives. Our mission is to identify product and service solutions, while eliminating process complexities to help labs and production facilities to work better and faster.

Through our global reach and knowledgeable teams, we proudly excel in delivering solutions that improve productivity, accelerate discovery and encourage innovation.

Operational excellence delivered by
a team of people focussed on your success.
Together, We Enable Science

BLAUBRAND®
Volumetric Instruments

Identification and Certificates

Batch certificate
with batch number

Conformity certified

All BLAUBRAND® volumetric instruments are conformity certified. With the sign H, BRAND confirms that the instruments are manufactured according to "Eichordnung", the German Federal Weights and Measures Regulations. This sign of conformity is printed directly on the instruments, according to DIN 12600.

Certificate of performance (Works certificate)

Batch and individual certificates are works certificates. Both are based on the regulations for test and calibration procedures of laboratory instruments according to DIN EN ISO 9001, DIN EN ISO 10012-1 and DIN EN ISO 4787. All certificates document the traceability of measuring results to national standards (PTB) which recognize the SI units (International System of Units).

Certificates

Batch certificate

The batch number, and mean value plus standard deviation for the batch, along with the date of issue are documented on the certificate. The measuring instrument bears the batch number that is burnt in using easy-to-read digital numbers:

14.02
(Batch number:
Year of manufacture/Batch)

Individual certificate

The batch number, the individual serial number, the measured volume, measurement uncertainty, and the date of issue are documented on the certificate. The measuring instrument bears the batch and serial numbers that are burnt in using easy-to-read digital numbers:

14.02 0756
(Individual serial number:
Year of manufacture/Batch/
Consecutive instrument
number)

USP certificate

Selected BLAUBRAND® volumetric instruments can be delivered with volume error limits in compliance with United States Pharmacopeia (USP) with batch certificate and on request with individual certificate.
The measuring instrument shows the requested error limit and the USP sign.

DAkkS calibration certificate

This certificate is issued by the DAkkS calibration laboratory at BRAND. Due to the extensive international cooperation of the DAkkS (formerly DKD) German accreditation body (EA Agreement, ILAC-MRA), the DAkkS calibration certificate is internationally recognized.

Both the instrument and the certificate show an individual serial number and the laboratory's registration number as well as the year and month of issue.

One batch certificate per packing unit!

All reusable BLAUBRAND® volumetric instruments are individually calibrated and supplied with one batch certificate per packing unit. This facilitates the initial performance verification – also with the monitoring of measuring equipment – as the data can directly be transferred from the certificate.
Batch and individual certificates can also be downloaded at www.brand.de.

BRAND®

Introduction volumetric products

Glassware standards A/AS and B
Volumetric products have closely calibrated scales that permit very accurate determination and measurement of the values. They are available in two accuracy classes: class A/AS and class B. The two classes differ in the accuracy of measurement with class A and AS being the highest accuracy, and class B approximately half that of class A. Class AS has the same tolerances as class A, but is designed to permit more rapid outflow; it is only applicable to burettes and pipettes.

Volumetric flasks, class A, blue graduation, BLAUBRAND®

Brand

Borosilicate glass 3.3, with beaded rim

- Calibrated to contain (TC, In)
- Marks and inscriptions in high contrast blue enamel
- Conformity certified

DIN EN ISO 1042

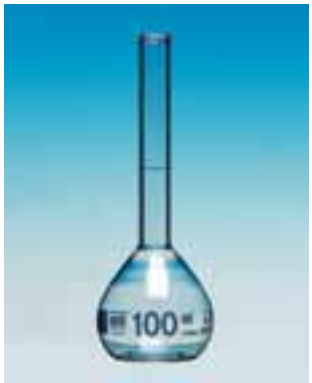
Ordering information: Supplied with a batch certificate. Volumetric flasks also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	Tolerance (± ml)	Pk	Cat. No.
10*	0,04	2	612-2736
20	0,04	2	612-2563
25	0,04	2	612-2564
50	0,06	2	612-2565
100	0,10	2	612-2566
200	0,15	2	612-2567
250	0,15	2	612-2568
500	0,25	2	612-2569
1000	0,40	1	612-3565

* Wide mouth

Volumetric flasks, class A, blue graduation

Hirschmann Laborgeräte



DURAN®, borosilicate glass, with beaded rim

- Blue enamelled indelible markings resistant to acids and alkalis
- Calibrated to contain (TC, In)
- Certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)

DIN EN ISO 1042

Capacity (ml)	Tolerance (± ml)	Pk	Cat. No.
5	0,025	1	612-3277
10	0,025	1	612-3278
20	0,040	1	612-3279
25	0,040	1	612-3280
50	0,060	1	612-3281
100	0,100	1	612-3282
200	0,150	1	612-3283
250	0,150	1	612-3284
500	0,250	1	612-3285
1000	0,400	1	612-3286
2000	0,600	1	612-3287
5000	1,200	1	612-3288
10000*	2,000	1	612-3289

* In addition to DIN

Volumetric flasks, class A, blue graduation

Borosilicate glass 3.3, with PE stopper

- Marks in white and inscriptions in blue enamel
- Certificate of conformity with batch number
- Calibrated to contain (TC, In)

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
5	10/19	0,040	2	**612-3738**
10	10/19	0,040	2	**612-3740**
20	10/19	0,040	2	**612-3741**
25	10/19	0,040	2	**612-3742**
50	12/21	0,060	2	**612-3743**
100	14/23	0,100	2	**612-3744**
200	14/23	0,150	2	**612-3745**
250	14/23	0,150	2	**612-3746**
500	19/26	0,250	2	**612-3818**
1000	24/29	0,400	1	**612-3819**
2000	29/32	0,600	1	**612-3820**

Volumetric flasks, class A, blue graduation
Hirschmann Laborgeräte

DURAN®, borosilicate glass, without stopper

- Blue enamelled indelible markings resistant to acids and alkalis
- Calibrated to contain (TC, In)
- Certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
5	7/16	0,025	1	**612-3374**
5	10/19	0,040	1	**612-3375**
10	7/16	0,025	1	**612-3480**
10	10/19	0,040	1	**612-3481**
20	10/19	0,040	1	**612-3376**
25	10/19	0,040	1	**612-3377**
25	12/21	0,060	1	**612-3378**
50	12/21	0,060	1	**612-3379**
50	14/23	0,080	1	**612-3380**
100	12/21	0,100	1	**612-3381**
100	14/23	0,100	1	**612-3382**
200	14/23	0,150	1	**612-3383**
250	14/23	0,150	1	**612-3384**
500	19/26	0,250	1	**612-3385**
1000	29/32	0,600	1	**612-3386**
1000	24/29	0,400	1	**612-3387**
2000	29/32	0,600	1	**612-3502**
5000	34/35	1,200	1	**612-3503**

Volumetric flasks, class A, blue graduation, BLAUBRAND®
Brand

Borosilicate glass 3.3, with PP stopper

- Calibrated to contain (TC, In)
- Marks and inscriptions in high contrast blue enamel
- Conformity certified

DIN EN ISO 1042

Ordering information: Supplied with a batch certificate. Volumetric flasks also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	NS	Tolerance (± ml)	Wide mouth	Pk	Cat. No.
5	10/19	0,04	√	2	**612-5073**
10	10/19	0,04	√	2	**612-5074**
20	10/19	0,04	-	2	**612-5075**
25	10/19	0,04	-	2	**612-5076**
25	12/21	0,06	√	2	**612-3136**
50	12/21	0,06	-	2	**612-5077**
50	14/23	0,10	√	2	**612-3141**
100	12/21	0,10	-	2	**612-5078**
100	14/23	0,10	-	2	**612-3146**
200	14/23	0,15	-	2	**612-5079**
250	14/23	0,15	-	2	**612-5080**
500	19/26	0,25	-	2	**612-5081**
1000	24/29	0,40	-	1	**612-5082**
2000	29/32	0,60	-	1	**612-5083**
5000	34/35	1,20	-	1	**612-3175**
10 000*	45/40	2,00	-	1	**612-2737**

* In addition to DIN

Volumetric flasks, USP, Class A, blue graduation, BLAUBRAND®
Brand

Borosilicate glass 3.3, with PP stopper

- Calibrated to contain (TC, In)
- Marks and inscriptions in high contrast blue enamel
- Conformity certified
- With USP batch certificate or with USP individual certificate

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
With PP stopper and USP batch certificate				
5	10/19	0,02	2	**612-4813**
10	10/19	0,02	2	**612-4814**
20	10/19	0,02	2	**612-4815**
25	10/19	0,03	2	**612-4816**
50	12/21	0,05	2	**612-4817**
100	14/23	0,08	2	**612-4818**
200	14/23	0,10	1	**612-4819**
250	14/23	0,12	2	**612-4820**
500	19/26	0,20	2	**612-4821**
1000	24/29	0,30	1	**612-4822**
2000	29/32	0,50	1	**612-4823**

Volumetric flasks, class A, white graduation, USP batch certificate, BLAUBRAND®
Brand

Borosilicate glass 3.3, amber, with PP stopper

- Calibrated to contain (TC, In)
- Marks and inscriptions in high contrast white enamel
- With USP batch certificate, on request also available with USP individual certificate

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
With PP stopper				
5	10/19	0,02	2	**612-4824**
10	10/19	0,02	2	**612-4825**
20	10/19	0,02	2	**612-4826**
25	10/19	0,03	2	**612-4827**
50	12/21	0,05	2	**612-4828**
100	14/23	0,08	2	**612-4829**
200	14/23	0,10	2	**612-4830**
250	14/23	0,12	2	**612-4831**
500	19/26	0,20	2	**612-4832**
1000	24/29	0,30	1	**612-4833**

Volumetric flasks, class A, white graduation

Borosilicate glass 3.3, amber, with PE stopper

- Marks and inscriptions in white enamel
- Certificate of conformity with batch number
- Calibrated to contain (TC, In)

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
5	10/19	0,04	2	**612-3821**
10	10/19	0,04	2	**612-3822**
20	10/19	0,04	2	**612-3823**
25	10/19	0,04	2	**612-3824**
50	12/21	0,06	2	**612-3825**
100	14/23	0,10	2	**612-3826**
200	14/23	0,15	2	**612-3827**
250	14/23	0,15	2	**612-3828**
500	19/26	0,25	2	**612-3829**
1000	24/29	0,40	1	**612-3830**
2000	29/32	0,60	1	**612-3831**

Volumetric flasks, class A, amber graduation, BLAUBRAND® ETERNA
Brand

Borosilicate glass 3.3, with PP stopper

- Calibrated to contain (TC, In)
- Mark and inscriptions in ETERNA amber stain
- Conformity certified

DIN EN ISO 1042

Ordering information: Supplied with a batch certificate. Volumetric flasks also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	NS	Tolerance (± ml)	Wide mouth	Pk	Cat. No.
5	10/19	0,04	√	2	**612-5062**
10	10/19	0,04	√	2	**612-5064**
20	10/19	0,04	-	2	**612-5065**
25	12/21	0,06	√	2	**612-5063**
50	12/21	0,06	-	2	**612-5066**
50	14/23	0,10	√	2	**612-5067**
100	14/23	0,10	-	2	**612-5068**
200	14/23	0,15	-	2	**612-5069**
250	14/23	0,15	-	2	**612-5070**
500	19/26	0,25	-	2	**612-5071**
1000	24/29	0,40	-	1	**612-5072**
2000	29/32	0,60	-	1	**612-2735**

Volumetric flasks, class B, white graduation, SILBERBRAND
Brand

Borosilicate glass 3.3, with PP stopper

- Calibrated to contain (TC, In)
- Marks and inscriptions in high contrast white enamel

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Wide mouth	Pk	Cat. No.
10	10/19	0,06	√	2	**612-5052**
20	10/19	0,06	-	2	**612-5053**
25	10/19	0,06	-	2	**612-5054**
50	12/21	0,09	-	2	**612-5055**
100	12/21	0,15	-	2	**612-5056**
200	14/23	0,25	-	2	**612-5057**
250	14/23	0,25	-	2	**612-5058**
500	19/26	0,40	-	2	**612-5059**
1000	24/29	0,60	-	1	**612-5060**
2000	29/32	0,90	-	1	**612-5061**
5000	34/35	1,80	-	1	**612-3739**

Volumetric flasks, class A, blue graduation
Hirschmann Laborgeräte

DURAN®, borosilicate glass, with PE stopper

- Blue enamelled indelible markings resistant to acids and alkalis
- Calibrated to contain (TC, In)
- Certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
5	7/16	0,025	2	**612-1556**
5	10/19	0,040	2	**612-1557**
10	7/16	0,025	2	**612-1558**
10	10/19	0,040	2	**612-1559**
20	10/19	0,040	2	**612-1562**
25	10/19	0,040	2	**612-1563**
25	12/21	0,060	2	**612-1564**
50	12/21	0,060	2	**612-1565**
50	14/23	0,080	2	**612-1566**
100	12/21	0,100	2	**612-1567**
100	14/23	0,100	2	**612-1568**
200	14/23	0,150	2	**612-1569**
250	14/23	0,150	2	**612-1570**
500	19/26	0,250	2	**612-1571**
1000	24/29	0,400	1	**612-1573**
1000	29/32	0,600	1	**612-1572**
2000	29/32	0,600	1	**612-1574**
5000	34/35	1,200	1	**612-3307**
10000*	45/40	2,000	1	**612-3308**

* In addition to DIN

Volumetric flasks, class A, amber graduation

Hirschmann Laborgeräte

DURAN®, borosilicate glass, with PE stopper

- Amber stain graduation
- Calibrated to contain (TC, In)
- Certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
5	10/19	0,04	2	**612-1575**
10	10/19	0,04	2	**612-1576**
20	10/19	0,04	2	**612-1577**
25	10/19	0,04	2	**612-1578**
50	12/21	0,06	2	**612-1579**
50	14/23	0,08	2	**612-1580**
100	12/21	0,10	2	**612-1581**
100	14/23	0,10	2	**612-1582**
200	14/23	0,15	2	**612-1583**
250	14/23	0,15	2	**612-1584**
500	19/26	0,25	2	**612-1585**
1000	24/29	0,40	1	**612-1586**
2000	29/32	0,60	1	**612-1587**

Volumetric flasks, class A, blue graduation

MBL®, borosilicate glass, with PE stopper

- Marks and inscriptions in high contrast blue enamel, conformity 'H' mark
- Each flask is laser etched with a unique individual serial number, batch code and date of manufacture - Batch certificates are downloadable from website: www.scilabware.com
- Calibrated to contain (TC, In)

DIN 12664, BS EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
5	10/19	0,025	5	**612-0442**
10	10/19	0,025	5	**612-0443**
20	10/19	0,04	5	**612-0444**
25	10/19	0,04	5	**612-3988**
50	12/21	0,06	5	**612-0451**
100	14/23	0,10	5	**612-3667**
200	14/23	0,15	5	**612-0446**
250	14/23	0,15	2	**612-0447**
500	19/26	0,25	2	**612-0448**
1000	24/29	0,40	2	**612-0449**
2000	29/32	0,60	1	**612-0450**

Volumetric flasks, class A, white graduation

PYREX®, borosilicate glass, with PE stopper

- Calibrated to the tolerances required by the United States Pharmacopeia (USP), which are tighter than those of ISO/DIN standards
- Each flask is laser etched with a unique individual serial number, batch code and date of manufacture - Batch certificates are downloadable from website: www.scilabware.com
- Calibrated to contain (TC, In)
- White enamel inscriptions

BS EN ISO 1042, DIN 12664

Capacity (ml)	NS	Suppl. to DIN	Tolerance (± ml)	Pk	Cat. No.
1	7/16		0,02	5	**612-2900**
2	7/16		0,02	5	**612-2901**
5	10/19		0,02	5	**612-3233**
10	10/19		0,02	5	**612-3231**
20	10/19	√	0,03	5	**612-2902**
25	10/19		0,03	5	**612-3238**
50	12/21		0,05	5	**612-3236**
100	14/23		0,08	5	**612-3222**
200	14/23		0,10	5	**612-3215**
250	14/23		0,12	2	**612-3213**
500	19/26		0,20	2	**612-3198**
1000	24/29		0,30	2	**612-3228**
2000	29/32		0,50	1	**612-3226**
5000	34/35	√	1,00	1	**612-3224**

Volumetric flasks, class A, white graduation, works certified

PYREX®, borosilicate glass, with PE stopper

- Calibrated to the tolerances required by the United States Pharmacopoeia (USP), which are tighter than those of ISO/DIN standards
- Each flask is laser etched with individual serial number and date of manufacture
- Calibrated to contain (TC, In)
- White enamel inscriptions

Complies with ISO 1042 and DIN 12664.

Ordering information: Supplied with certificate of calibration traceable to National Standards.

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
1	7/16	0,02	5	**612-3200**
2	7/16	0,02	5	**612-3201**
5	10/19	0,02	5	**612-3232**
10	10/19	0,02	5	**612-3239**
20	10/19	0,03	5	**612-3202**
25	10/19	0,03	5	**612-3237**
50	12/21	0,05	5	**612-3234**
100	14/23	0,08	5	**612-3220**
200	14/23	0,1	5	**612-3214**
250	14/23	0,12	2	**612-3199**
500	19/26	0,15	2	**612-3229**
1000	24/29	0,3	2	**612-3227**
2000	29/32	0,5	1	**612-3225**
5000	34/35	1	1	**612-3223**

Volumetric flasks, class A, white graduation, BLAUBRAND®
Brand

BLAUBRAND®, conformity certified, DURAN®, with PP stopper

- Calibrated to contain (TC, In)
- Marks and inscriptions in high contrast white enamel
- Conformity certified

DIN EN ISO 1042

Ordering information: Supplied with a batch certificate. Volumetric flasks also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	NS	Tolerance (± ml)	Wide mouth	Pk	Cat. No.
5	10/19	0,04	√	2	**612-5084**
10	10/19	0,04	√	2	**612-5085**
20	10/19	0,04	-	2	**612-5086**
25	10/19	0,04	-	2	**612-5087**
50	12/21	0,06	-	2	**612-5088**
50	14/23	0,10	√	2	**612-5089**
100	14/23	0,10	-	2	**612-5090**
200	14/23	0,15	-	2	**612-5091**
250	14/23	0,15	-	2	**612-5092**
500	19/26	0,25	-	2	**612-5093**
1000	24/29	0,40	-	1	**612-5094**

Volumetric flasks, class A, white graduation
Hirschmann Laborgeräte

DURAN®, borosilicate glass, amber, with PE stopper

- White enamelled indelible markings resistant to acids and alkalis
- Calibrated to contain (TC, In)
- Certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
5	7/16	0,025	2	**612-1539**
5	10/19	0,040	2	**612-1540**
10	7/16	0,025	2	**612-1541**
10	10/19	0,040	2	**612-1542**
20	10/19	0,040	2	**612-1543**
25	10/19	0,040	2	**612-1544**
50	12/21	0,060	2	**612-1545**
50	14/23	0,080	2	**612-1546**
100	12/21	0,100	2	**612-1547**
100	14/23	0,100	2	**612-1548**
200	14/23	0,150	2	**612-1549**
250	14/23	0,150	2	**612-1551**
500	19/26	0,250	2	**612-1552**
1000	24/29	0,400	1	**612-1553**
2000	29/32	0,600	1	**612-1554**

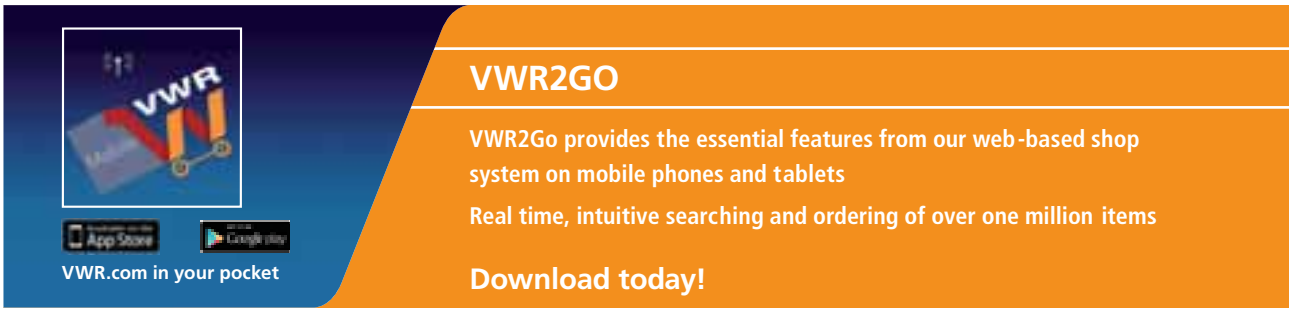
Volumetric flasks, class A, white graduation, works certified

PYREX®, borosilicate glass, amber, with PE stopper

- Calibrated to the tolerances required by the United States Pharmacopeia (USP), which are tighter than those of ISO/DIN standards
- Calibrated to contain (TC, In)
- Each flask is laser etched with a unique individual serial number, batch code and date of manufacture - Batch certificates are downloadable from website: www.scilabware.com
- White enamel inscriptions, ideal for use with light sensitive solutions

BS EN ISO 1042, DIN 12664

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
5	10/19	0,02	5	**612-2903**
10	10/19	0,02	5	**612-2904**
25	10/19	0,03	5	**612-3248**
50	12/21	0,05	5	**612-3251**
100	14/23	0,08	5	**612-3249**
200	14/23	0,10	5	**612-3244**
250	14/23	0,12	2	**612-3243**
500	19/26	0,20	2	**612-3242**
1000	24/29	0,30	2	**612-3247**
2000	29/32	0,50	1	**612-3245**



Volumetric flasks, class A, blue graduation, BLAUBRAND®
Brand

Borosilicate glass 3.3, with glass stopper

- Calibrated to contain (TC, In)
- Marks and inscriptions in high contrast blue enamel
- Conformity certified

DIN EN ISO 1042

Ordering information: Supplied with a batch certificate. Volumetric flasks also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	NS	Tolerance (± ml)	Wide mouth	Pk	Cat. No.
5	10/19	0,04	√	2	**612-2738**
10	10/19	0,04	√	2	**612-2744**
20	10/19	0,04	-	2	**612-2739**
25	10/19	0,04	-	2	**827-6447**
25	12/21	0,06	-	2	**612-2747**
50	12/21	0,04	-	2	**827-6448**
50	14/23	0,08	√	2	**612-2745**
100	12/21	0,10	-	2	**827-6449**
100	14/23	0,10	-	2	**612-2746**
200	14/23	0,15	-	2	**612-2740**
250	14/23	0,15	-	2	**612-2741**
500	19/26	0,25	-	2	**827-6452**
1000	24/29	0,40	-	1	**827-6453**
2000	29/32	0,60	-	1	**612-2742**
5000	34/35	1,20	-	1	**612-2743**

Volumetric flasks, class A, blue graduation
Hirschmann Laborgeräte

DURAN®, borosilicate glass, with glass stopper

- Blue enamelled indelible markings resistant to acids and alkalis
- Calibrated to contain (TC, In)
- Certificate of conformity with dated batch identification (available via website: www.hirschmannlab.de)

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
5	7/16	0,025	1	**612-3309**
5	10/19	0,040	1	**612-3310**
10	7/16	0,025	1	**612-3311**
10	10/19	0,040	1	**612-3312**
20	10/19	0,040	1	**612-3313**
25	10/19	0,040	1	**612-3314**
25	12/21	0,060	1	**612-3315**
50	12/21	0,060	1	**612-3316**
50	14/23	0,080	1	**612-3317**
100	12/21	0,100	1	**612-3318**
100	14/23	0,100	1	**612-3319**
200	14/23	0,150	1	**612-3366**
250	14/23	0,150	1	**612-3367**
500	19/26	0,250	1	**612-3368**
1000	24/29	0,400	1	**612-3370**
1000	29/32	0,600	1	**612-3369**
2000	29/32	0,600	1	**612-3371**
5000	34/35	1,200	1	**612-3372**
10000*	45/40	2,000	1	**612-3373**

* In addition to DIN

Volumetric flasks, class A, white graduation, BLAUBRAND®
Brand

Borosilicate glass 3.3, amber, with glass stopper

- Calibrated to contain (TC, In)
- Marks and inscriptions in high contrast white enamel
- Conformity certified

DIN EN ISO 1042

Ordering information: Supplied with a batch certificate. Volumetric flasks also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	NS	Tolerance (± ml)	Wide mouth	Pk	Cat. No.
5	10/19	0,04	√	2	**612-0854**
10	10/19	0,04	√	2	**612-0855**
20	10/19	0,04	-	2	**612-0857**
25	10/19	0,04	-	2	**612-0858**
50	14/23	0,10	√	2	**612-0856**
50	12/21	0,06	-	2	**612-0859**
100	14/23	0,10	-	2	**612-0860**
200	14/23	0,15	-	2	**612-0861**
250	14/23	0,15	-	2	**612-2748**
500	19/26	0,25	-	2	**612-0862**
1000	24/29	0,40	-	1	**612-0863**

Volumetric flasks, class A, white graduation
Hirschmann Laborgeräte

DURAN®, borosilicate glass, amber, with glass stopper

- White enamelled indelible markings resistant to acids and alkalis
- Calibrated to contain (TC, In)
- Certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
5	7/16	0,025	1	**612-3465**
5	10/19	0,040	1	**612-3466**
10	7/16	0,025	1	**612-3467**
10	10/19	0,040	1	**612-3468**
20	10/19	0,040	1	**612-3469**
25	10/19	0,040	1	**612-3470**
50	12/21	0,060	1	**612-3471**
50	14/23	0,080	1	**612-3472**
100	12/21	0,100	1	**612-3473**
100	14/23	0,100	1	**612-3474**
200	14/23	0,150	1	**612-3475**
250	14/23	0,150	1	**612-3476**
500	19/26	0,250	1	**612-3477**
1000	24/29	0,400	1	**612-3478**
2000	29/32	0,600	1	**612-3479**

Volumetric flasks, trapezoidal shape, class A, blue graduation, BLAUBRAND®
Brand

Borosilicate glass 3.3, with PP stopper

- Calibrated to contain (TC, In)
- Marks and inscriptions in high contrast blue enamel
- Conformity certified

DIN EN ISO 1042

Ordering information: Supplied with a batch certificate. Volumetric flasks also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	NS	Tolerance (± ml)	Wide mouth	Pk	Cat. No.
1	7/16	0,025	-	2	**612-5045**
2	7/16	0,025	-	2	**612-5046**
5	7/16	0,025	-	2	**612-5047**
10	10/19	0,040	√	2	**612-5048**
20	10/19	0,040	-	2	**612-5049**
25	10/19	0,040	-	2	**612-5050**
50	12/21	0,060	-	2	**612-5051**

Volumetric flasks, trapezoidal shape, class A, blue graduation
Hirschmann Laborgeräte

DURAN®, borosilicate glass, with PE stopper

- Blue enamelled indelible markings resistant to acids and alkalis
- Calibrated to contain (TC, In)
- Certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
1	7/16	0,025	2	**612-3441**
2	7/16	0,025	2	**612-3442**
5	7/16	0,025	2	**612-3443**
5	10/19	0,040	2	**612-3444**
10	7/16	0,025	2	**612-3445**
10	10/19	0,040	2	**612-3446**
20	10/19	0,040	2	**612-3447**
25	10/19	0,040	2	**612-3448**
50	12/21	0,060	2	**612-3449**

Volumetric flasks, class A, blue graduation, BLAUBRAND® PURprotect
Brand

Borosilicate glass 3.3, PUR plastic coated, with PP stopper

- Calibrated to contain (TC, In)
- Incl. one batch certificate
- Synthetic coating for better protection
- Conformity certified, on request also available with an individual certificate or DAkkS calibration certificate.Except 612-3643, also available with USP batch or individual certificates

DIN EN ISO 1042

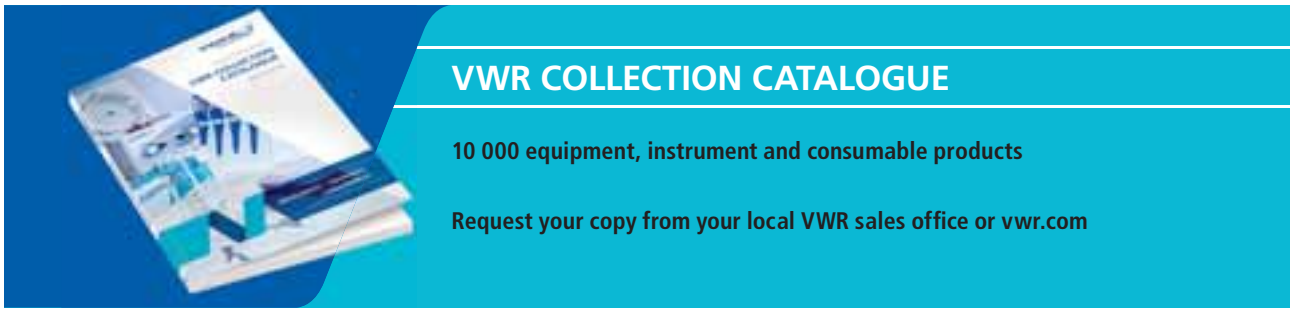
Capacity (ml)	NS	Tolerance (± ml)	Wide mouth	Pk	Cat. No.
50	14/23	0,10	√	2	**612-3643**
100	14/23	0,10	-	2	**612-3644**
200	14/23	0,15	-	2	**612-3645**
250	14/23	0,15	-	2	**612-3647**
500	19/26	0,25	-	2	**612-3648**
1000	24/29	0,40	-	1	**612-3649**

Volumetric flasks for sugar analysis according to Kohlrausch
Hirschmann Laborgeräte

DURAN®, borosilicate glass

- Calibrated to contain (TC, In)
- Blue enamelled indelible markings resistant to acids and alkalis
- Conformity certified with dated batch identification available via website: (www.hirschmannlab.de)

Capacity (ml)	Tolerance (± ml)	Pk	Cat. No.
100	0,10	1	**612-3524**
200	0,15	1	**612-3525**



Volumetric flasks, class B, Nalgene®
Thermo Scientific

PPCO, translucent, with PP screw cap

- Very robust and allowing precise measurement
- Calibrated individually with permanent colour graduation line
- Autoclavable when the stopper has been removed from the threaded neck and a small quantity of water has been added to the flask. Cleaning with mild alkaline detergents recommended up to +60 °C (Accuracy may be affected over +60 °C)

ASTM E288 and ISO Standard 384 Class B

Capacity (ml)	Tolerance (± ml)	Pk	Cat. No.
50	0,10	1	**612-3011**
100	0,16	1	**612-3012**
200	0,20	1	**612-3013**
250	0,24	1	**612-3014**
500	0,40	1	**612-3015**
1000	0,60	1	**612-3016**

Volumetric flasks, class B, Nalgene®
Thermo Scientific

PMP (TPX®), transparent, with PP screw cap

- Very robust and allowing precise measurement
- Calibrated individually with permanent colour graduation line
- Autoclavable when the stopper has been removed from the threaded neck and a small quantity of water has been added to the flask. Cleaning with mild alkaline detergents recommended up to +60 °C (accuracy may be affected over +60 °C)

ASTM E288 and ISO Standard 384 Class B

Capacity (ml)	Tolerance (± ml)	Pk	Cat. No.
50	0,10	1	**612-3021**
100	0,16	1	**612-3022**
250	0,24	1	**612-3024**
500	0,40	1	**612-3025**
1000	0,60	1	**612-3026**

Volumetric flasks, class B
Kartell

PP, translucent, with PE stopper

- Narrow neck with no meniscus for easy reading
- Calibrated gravimetrically at +20 °C
- Autoclavable, chemically non absorbent, non wetting surface

Capacity (ml)	NS	Height (mm)	Pk	Cat. No.
25	12/21	121	1	**612-3000**
50	14/23	143	1	**612-3001**
100	14/23	174	1	**612-3002**
250	19/26	225	1	**612-3003**
500	19/26	265	1	**612-3004**
1000	19/26	325	1	**612-3005**

Volumetric flasks, class B
Kartell

PMP (TPX®), transparent, with stopper

- Autoclavable
- For working temperatures up to +170 °C
- With NS stoppers

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
50	14/23	0,12	1	**612-3006**
100	14/23	0,20	1	**612-3007**
250	19/26	0,30	1	**612-3008**
500	19/26	0,50	1	**612-3009**
1000	19/26	0,80	1	**612-3010**

Volumetric flasks, class B, Azlon®
SciLabware

PMP (TPX®), transparent, with PE stopper

- Clear, easy to read calibration line
- Exposure to temperature up to +121 °C (autoclaving) will not cause permanently exceeded error limits
- Cleaning up to +60 °C is recommended to preserve marks and inscriptions

Error limits according to class B, DIN EN ISO 1042.

Capacity (ml)	NS	Height (mm)	Tolerance (± ml)	Pk	Cat. No.
25	10/19	115	0,08	1	**214-0119**
50	10/19	150	0,12	1	**214-0120**
100	14/23	180	0,20	1	**214-0121**
250	19/26	235	0,30	1	**214-0122**
500	19/26	270	0,50	1	**214-0246**

Volumetric flasks, class A
VITLAB®

PMP (TPX®), amber, with amber PP screw caps

UV-absorbing, good clarity. For storage of light-sensitive substances.

- With ring mark individually calibrated to 'In'
- With printed lot number and batch certificate
- Thermal stress up to +121 °C (autoclaving) does not permanently exceed the tolerance limit
- To preserve markings, cleaning at no higher than +60 °C is recommended

Class A tolerances according to DIN EN ISO 1042

Capacity (ml)	Thread	Height (mm)	Tolerance (± ml)	Pk	Cat. No.
10	GL 18	90	0,04	1	**612-3341**
25	GL 18	115	0,04	1	**612-3342**
50	GL 18	150	0,06	1	**612-3343**
100	GL 18	180	0,10	1	**612-3344**
250	GL 25	235	0,15	1	**612-3345**
500	GL 25	270	0,25	1	**612-3346**
1000	GL 32	310	0,40	1	**612-3347**

Volumetric flasks, class A
VITLAB®

PMP (TPX®), transparent, with PP stopper

- Individually calibrated ring-mark
- Imprinted lot number
- With certificate

DIN EN ISO 1042

Capacity (ml)	NS	Tolerance (± ml)	Pk	Cat. No.
25	10/19	0,04	1	**612-3801**
50	10/19	0,06	1	**612-3802**
100	14/23	0,10	1	**612-3803**
250	19/26	0,15	1	**612-3804**
500	19/26	0,25	1	**612-3806**
1000	24/29	0,40	1	**612-3807**

Volumetric flasks, class A
VITLAB®

PFA, translucent, with PFA screw cap

- Withstand high temperatures and have good chemical resistance, leakproof, autoclavable
- Individually calibrated ring-mark
- PFA is ideal for trace analysis

DIN EN ISO 1042

Capacity (ml)	Thread	Tolerance (± ml)	Pk	Cat. No.
25	GL 18	0,04	1	**612-3931**
50	GL 18	0,06	1	**612-3932**
100	GL 18	0,10	1	**612-3933**
250	GL 25	0,15	1	**612-3934**
500	GL 25	0,25	1	**612-3935**

Mixing measuring cylinders, BLAUBRAND®
Brand

Borosilicate glass 3.3, class A, conformity certified

- Calibrated to contain (TC, In)
- Hexagonal glass base, PP stopper (except for 612-5028 and 612-5029 octagonal PE stopper)
- Ring marks at major graduations, marks and inscriptions in high contrast blue enamel

DIN EN ISO 4788

Ordering information: Supplied with a batch certificate. Measuring cylinders are also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	Division (ml)	Height (mm)	NS	Pk	Cat. No.
10	0,2	160*	10/19	2	**612-5023**
25	0,5	190*	14/23	2	**612-5024**
50	1	220*	19/26	2	**612-5025**
100	1	285*	24/29	2	**612-5026**
250	2	350*	29/32	2	**612-5027**
500	5	395*	34/35	2	**612-5028**
1000	10	500*	45/40	1	**612-5029**

* Height without stopper

Mixing measuring cylinders
Hirschmann Laborgeräte

DURAN®, borosilicate glass, with PE stopper, class A

- Calibrated to contain 'In', certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)
- Hexagonal glass base, NS ground joint
- Blue graduations with ring marks at major graduations

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Height (mm)	NS	Pk	Cat. No.
10	0,2	160	10/19	2	**612-1525**
25	0,5	193	14/23	2	**612-1526**
50	1	226	19/26	2	**612-1527**
100	1	290	24/29	2	**612-1528**
250	2	367	29/32	2	**612-1529**
500	5	425	34/35	2	**612-1530**
1000	10	510	45/40	1	**612-1531**
2000	20	610	45/40	1	**612-3095**

Mixing measuring cylinders, SILBERBRAND ETERNA
Brand

Borosilicate glass 3.3, class B

- Calibrated to contain (TC, In)
- Hexagonal glass base, PP stopper (except for 612-5043 and 612-5044 octagonal PE stopper)
- ETERNA amber coloured line graduations

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Height (mm)	NS	Pk	Cat. No.
10	0,2	160*	10/19	2	**612-5038**
25	0,5	190*	14/23	2	**612-5039**
50	1	220*	19/26	2	**612-5040**
100	1	285*	24/29	2	**612-5041**
250	2	350*	29/32	2	**612-5042**
500	5	395*	34/35	2	**612-5043**
1000	10	500*	45/40	1	**612-5044**

* Height without stopper

Mixing measuring cylinders
Hirschmann Laborgeräte

DURAN®, borosilicate glass, with PE stopper, class B

- Calibrated to contain 'In'
- Hexagonal glass base, NS ground socket
- Main point graduations, blue graduations

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Height (mm)	NS	Pk	Cat. No.
10	0,2	160	10/19	2	**612-3080**
25	0,5	183	14/23	2	**612-3081**
50	1	226	19/26	2	**612-3082**
100	1	290	24/29	2	**612-3083**
250	2	367	29/32	2	**612-3084**
500	5	425	34/35	2	**612-3085**
1000	10	510	45/40	1	**612-3086**
2000	20	610	45/40	1	**612-3087**

Measuring cylinders

Borosilicate glass 3.3, tall form, class A

- Calibrated to contain (TC, In)
- Hexagonal glass base, with spout
- Blue graduations with ring marks at major graduations
- Certificate of conformity with batch number

DIN 12680

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
5	0,1	0,05	2	**612-3832**
10	0,2	0,1	2	**612-3833**
25	0,5	0,25	2	**612-3834**
50	1	0,5	2	**612-3835**
100	1	0,5	2	**612-3836**
250	2	1	2	**612-3837**
500	5	2,5	2	**612-3838**
1000	10	5	1	**612-3839**
2000	20	10	1	**612-3840**

Measuring cylinders, BLAUBRAND® ETERNA
Brand

Borosilicate glass 3.3, tall form, class A, conformity certified

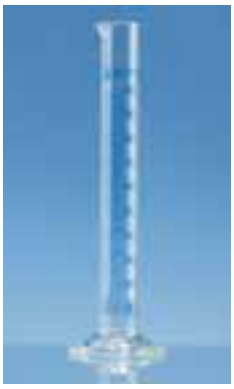
- Calibrated to contain (TC, In)
- Hexagonal glass base, with spout
- Ring marks at major graduations, marks and inscriptions in ETERNA amber stain

DIN EN ISO 4788

Ordering information: Supplied with a batch certificate. Measuring cylinders are also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
5	0,1	0,05	115	2	**612-5030**
10	0,2	0,1	140	2	**612-5031**
25	0,5	0,25	170	2	**612-5032**
50	1	0,5	200	2	**612-5033**
100	1	0,5	260	2	**612-5034**
250	2	1	335	2	**612-5035**
500	5	2,5	365	2	**612-5036**
1000	10	5	465	1	**612-5037**
2000	20	10	505	1	**612-9268**

Measuring cylinders, BLAUBRAND®
Brand



Borosilicate glass 3.3, tall form, class A, conformity certified

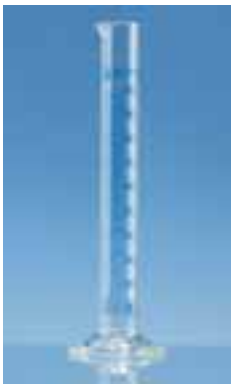
- Calibrated to contain (TC, In)
- Hexagonal glass base, with spout
- Ring marks at major graduations, marks and inscriptions in high contrast blue enamel

DIN EN ISO 4788

Ordering information: Supplied with a batch certificate. Measuring cylinders are also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
5	0,1	0,05	115	2	**612-5015**
10	0,2	0,10	140	2	**612-5016**
25	0,5	0,25	170	2	**612-5017**
50	1	0,5	200	2	**612-5018**
100	1	0,5	260	2	**612-5019**
250	2	1	335	2	**612-5020**
500	5	2,5	365	2	**612-5021**
1000	10	5	465	1	**612-5022**
2000	20	10	505	1	**612-4118**

Measuring cylinders, USP, BLAUBRAND®
Brand



Borosilicate glass 3.3, tall form, class A, conformity certified

- Calibrated to contain (TC, In)
- Hexagonal glass base, with spout
- Ring marks at major graduations, marks and inscriptions in high contrast blue enamel

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
Measuring cylinders, USP batch certificated					
5	0,1	0,05 USP	115	2	**612-4834**
10	0,2	0,10 USP	140	2	**612-4835**
25	0,5	0,17 USP	170	2	**612-4836**
50	1	0,25 USP	200	2	**612-4837**
100	1	0,5 USP	260	2	**612-4838**
250	2	1 USP	335	2	**612-4839**
500	5	2 USP	365	2	**612-4840**
1000	10	3 USP	465	1	**612-4841**
2000	20	6 USP	505	1	**612-4842**
Measuring cylinders with individual USP certificate					
5	0,1	0,05 USP	115	1	**612-4872**
10	0,2	0,10 USP	140	1	**612-4873**

Measuring cylinders
Hirschmann Laborgeräte

DURAN®, borosilicate glass, tall form, class A

- Calibrated to contain 'In', certificate of conformity with dated batch identification via website: internet: (www.hirschmannlab.de)
- Hexagonal glass base, with spout
- Blue graduations with ring marks at major graduations

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
5	0,1	0,05	115	2	**612-1517**
10	0,2	0,1	140	2	**612-1518**
25	0,5	0,25	170	2	**612-1519**
50	1	0,5	200	2	**612-1520**
100	1,0	0,5	260	2	**612-1521**
250	2,0	1	335	2	**612-1522**
500	5,0	2,5	390	2	**612-1523**
1000	10,0	5	470	1	**612-1524**
2000	20,0	10	570	1	**612-3072**

Measuring cylinders
Hirschmann Laborgeräte

DURAN®, borosilicate glass, tall form, class A

- Calibrated to contain 'In', certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)
- Hexagonal glass base, with spout
- Amber graduations with ring marks at major graduations

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
5	0,1	0,05	115	2	**612-1385**
10	0,2	0,1	140	2	**612-1386**
25	0,5	0,25	170	2	**612-1387**
50	1	0,5	200	2	**612-1388**
100	1	0,5	260	2	**612-1389**
250	2	1	335	2	**612-1390**
500	5	2,5	390	2	**612-1391**
1000	10	5	470	1	**612-1392**
2000	20	10	570	1	**612-1395**

Measuring cylinders, Schellbach
Hirschmann Laborgeräte

DURAN®, borosilicate glass, tall form, class A

- Calibrated to contain 'In', certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)
- Hexagonal glass base, with spout
- Blue graduations with ring marks at major graduations

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
5	0,1	0,05	115	1	**612-3046**
10	0,2	0,1	140	1	**612-3047**
25	0,5	0,25	170	1	**612-3048**
50	1	0,5	200	1	**612-3049**
100	1	0,5	260	1	**612-3050**
250	2	1	335	1	**612-3051**
500	5	2,5	390	1	**612-3052**
1000	10	5	470	1	**612-3053**
2000	20	10	570	1	**612-3054**

Measuring cylinders
Hirschmann Laborgeräte

DURAN®, borosilicate glass, tall form, class A

- Calibrated to contain 'In', certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)
- Hexagonal plastic base and protective collar with spout
- Short graduation marks, blue graduations

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
10	0,2	0,1	140	2	**612-3360**
25	0,5	0,25	170	2	**612-3361**
50	1	0,5	200	2	**612-3362**
100	1	0,5	260	2	**612-3363**
250	2	1	335	2	**612-3364**
500	5	2,5	390	2	**612-3365**
1000	10	5	470	1	**613-4717**

Measuring cylinders, SILBERBRAND ETERNA
Brand

Borosilcate glass 3.3, tall form, class B

- Calibrated to contain (TC, In)
- Hexagonal base, spout
- Short graduation marks
- Marks and inscriptions in ETERNA amber stain

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
5	0,1	0,08	115	2	**612-5000**
10	0,2	0,15	140	2	**612-5002**
25	0,5	0,4	170	2	**612-5003**
50	1	0,8	200	2	**612-5004**
100	1	0,8	260	2	**612-5011**
250	2	1,5	335	2	**612-5012**
500	5	4	365	2	**612-5013**
1000	10	8	465	1	**612-5014**
2000	20	15	505	1	**612-4218**

Measuring cylinders, SILBERBRAND
Brand

Borosilicate glass 3.3, tall form, class B

- Calibrated to contain (TC, In)
- Hexagonal base, spout
- Short graduation marks
- Marks and inscriptions in high contrast white enamel

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
10	0,2	0,15	140	2	**612-0846**
25	0,5	0,4	170	2	**612-0847**
50	1	0,8	200	2	**612-0848**
100	1	0,8	260	2	**612-0849**
250	2	1,5	335	2	**612-0850**
500	5	4	365	2	**612-0851**
1000	10	8	465	1	**612-0852**
2000	20	15	505	1	**612-0853**

Measuring cylinders
Hirschmann Laborgeräte

DURAN®, borosilicate glass, tall form, class B

- Calibrated to contain 'In'
- Removable PP base and protective collar, with spout
- Short graduation marks, blue graduations

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
10	0,2	0,15	140	1	**612-3073**
25	0,5	0,375	170	1	**612-3074**
50	1	0,75	200	1	**612-3075**
100	1	0,75	260	1	**612-3076**
250	2	1,5	335	1	**612-3077**
500	5	3,75	390	1	**612-3078**
1000	10	7,5	470	1	**612-3079**

Measuring cylinders
Hirschmann Laborgeräte

DURAN®, borosilicate glass, tall form, class B

- Calibrated to contain 'In'
- Hexagonal glass base, with spout
- Short graduation marks, blue graduations

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
5	0,1	0,075	115	2	**612-1396**
10	0,2	0,15	140	2	**612-1397**
25	0,5	0,375	170	2	**612-1398**
50	1	0,75	200	2	**612-1399**
100	1	0,75	260	2	**612-1400**
250	2	1,5	335	2	**612-1509**
500	5	3,75	390	2	**612-1515**
1000	10	7,5	470	1	**612-1516**
2000	20	15	500	1	**612-3063**

Measuring cylinders
Hirschmann Laborgeräte

DURAN®, borosilicate glass, tall form, class B

- Calibrated to contain 'In'
- Hexagonal glass base, with spout
- Amber stain graduations

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
5	0,1	0,075	115	1	**612-3027**
10	0,2	0,15	140	1	**612-3028**
25	0,5	0,375	170	1	**612-3029**
50	1	0,75	200	1	**612-3030**
100	1	0,75	260	1	**612-3031**
250	2	1,5	335	1	**612-3032**
500	5	3,75	390	1	**612-3033**
1000	10	7	470	1	**612-3034**
2000	20	15	570	1	**612-3035**
5000*	50	37,5	650	1	**612-3036**

* In addition to DIN

Measuring cylinders, PYREX®

Borosilicate glass, tall form, with spout, class B

- Thick wall
- Robust hexagonal foot
- Graduations in high contrast blue enamel

ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
50	1,0	1	2	**612-0179**
100	1,0	1	2	**612-0172**
250	2,0	2	2	**612-0177**
500	5,0	5	2	**612-0204**
1000	10,0	10	2	**612-0174**
2000	20,0	20	1	**612-0178**

Measuring cylinders, PYREX®

Borosilicate glass, tall form, with spout, class B

- With spout
- Graduations in high contrast white enamel graduations
- Hexagonal bases on cylinders above 5 ml for greater stability

BS 604, ISO 4788, DIN 12 680

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
5	0,1	0,1	115	2	**612-0056**
10	0,2	0,2	140	2	**612-0057**
25	0,5	0,5	170	2	**613-0918**
50	1	1	200	2	**612-0059**
100	1	1	260	2	**612-0060**
250	2	2	335	2	**612-0061**
500	5	5	390	2	**612-0062**
1000	10	10	470	2	**612-0063**
2000	20	20	570	1	**612-0064**

Measuring cylinders

Borosilicate glass, low form, class B

- Hexagonal glass base, with spout
- High contrasting amber stain graduations with ring marks at major graduations

DIN 12680

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
10	1	0,3	2	**612-3841**
25	1	0,5	2	**612-3842**
50	2	1,0	2	**612-3843**
100	2	1,0	2	**612-3844**
250	5	2,0	2	**612-3845**
500	10	5,0	2	**612-3846**
1000	10	10,0	1	**612-3847**

Measuring cylinders, SILBERBRAND ETERNA
Brand

Borosilicate glass 3.3, low form, class B

- Calibrated to contain (TC, In)
- Hexagonal base, spout
- Marks and inscriptions in ETERNA amber stain, short graduation marks

DIN EN ISO 4788

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
10	1	0,3	90	2	**612-5096**
25	1	0,5	115	2	**612-5097**
50	2	0,8	145	2	**612-5098**
100	2	1,0	165	2	**612-5099**
250	5	2,0	195	2	**612-5100**
500	10	5,0	250	2	**612-5115**
1000	20	10,0	285	1	**612-5116**
2000	50	20,0	340	1	**612-5117**

Measuring cylinders
Hirschmann Laborgeräte

DURAN®, borosilicate glass, low form, class B

- Calibrated to contain 'In'
- Hexagonal base with spout
- Marks and inscriptions in amber stain, short graduation marks

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
10	1	0,3	100	2	**612-1532**
25	1	0,5	120	2	**612-1533**
50	2	1,0	145	2	**612-1534**
100	2	1,0	160	2	**612-1535**
250	5	2,0	190	2	**612-1536**
500	10	5,0	255	2	**612-1537**
1000	20	10,0	295	1	**612-1538**
2000	50	20,0	325	1	**612-3103**

Measuring cylinders, heavy duty, PYREX®

Borosilicate glass, low form, with spout

- Approximately half the height of equivalent standard cylinder for convenience and ease of use in confined spaces such as fume cupboards
- Reinforced rims, thicker walls and robust hexagonal foot
- Graduations in permanent blue enamel

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
10	1,0	0,3	75	2	**612-0205**
25	1,0	0,5	107	2	**612-0208**
50	1,0	1	140	2	**612-0210**
100	2,0	1	147	2	**612-0206**
250	5,0	2	212	2	**612-0209**
500	10,0	5	236	2	**612-0211**
1000	20,0	10	293	2	**612-0207**

VWR COLLECTION

SELECTED FOR YOU

Measuring cylinders

PP, translucent, tall form, autoclavable, class B

Non wetting properties mean no loss of liquid. The measured liquid quantity is the same as the quantity dispensed.

- Ring moulded graduations, overprinted in blue
- Large hexagonal base for better stability
- Anti-drip lip
- Autoclavable at +121 °C for 20 minutes

DIN 12681, ISO 6706

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Ø (mm)	Pk	Cat. No.
25	0,5	0,5	169	21	12	**612-4401**
50	1,0	1,0	199	28	12	**612-4402**
100	1,0	1,0	260	34	12	**612-4403**
250	2,0	2,0	315	47	6	**612-4404**
500	5,0	5,0	350	61	1	**612-4405**
1000	10,0	10,0	440	76	1	**612-4406**
2000	20,0	20,0	482	97	1	**612-4407**

Measuring cylinders
Brand

PP, highly translucent, tall form, class B

- Calibrated to contain (TC, In)
- With blue printed scale or embossed scale
- Exposure to temperatures up to +80 °C will not cause permanent exceeding of tolerance limits; Cleaning temperatures below +60 °C is recommended to preserve marks and inscriptions

DIN 12 681 / ISO 6706

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
Blue graduations					
10	0,2	0,2	145	1	**612-4358**
25	0,5	0,5	170	1	**612-4359**
50	1	1	200	1	**612-4360**
100	1	1	250	1	**612-4361**
250	2	2	315	1	**612-4362**
500	5	5	360	1	**612-4363**
1000	10	10	440	1	**612-4364**
2000	20	20	535	1	**612-4365**
Embossed graduations					
10	0,2	0,2	145	1	**612-4641**
25	0,5	0,5	170	1	**612-4642**
50	1	1	200	1	**612-4643**
100	1	1	250	1	**612-4644**
250	2	2	315	1	**612-4645**
500	5	5	360	1	**612-4646**
1000	10	10	440	1	**612-4647**
2000	20	20	535	1	**612-4648**

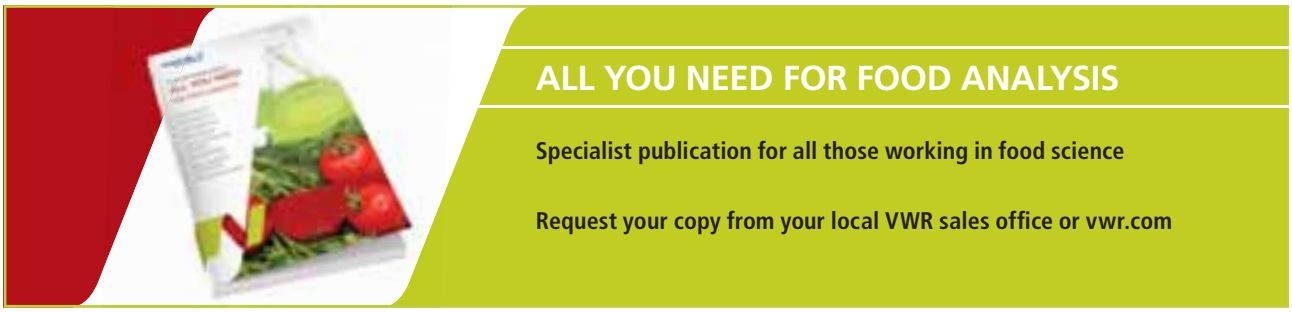
Measuring cylinders, Nalgene®
Thermo Scientific

PPCO, translucent, tall form, class B

- Large blue hexagonal base aids stability
- Large spout, blue moulded graduations
- Can be chemically sterilised without affecting accuracy, autoclaving will affect accuracy

ISO 6706, CFR21

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
10	0,2	0,20	110,2	1	**612-4020**
25	0,5	0,34	147,5	1	**612-4021**
50	1,0	0,50	182,2	1	**612-4022**
100	1,0	1	251,1	1	**612-4023**
250	2,0	2	353,1	1	**612-4024**
500	5,0	4	393,7	1	**612-4025**
1000	10,0	6	449,6	1	**612-4026**
2000	20,0	12	523,2	1	**612-4027**
4000	50	29	607,1	1	**612-4028**



Measuring cylinders
Kartell

PP, highly translucent, tall form, autoclavable

- Pouring spout, pentagonal base assures excellent stability
- Non-wetting walls, absolutely no meniscus formation, very good chemical resistance
- Permanent, embossed graduations

ISO 6706, BS 5404

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Ø (mm)	Pk	Cat. No.
10	0,2	0,2	140	13	1	**612-0936**
25	0,5	0,5	195	19	1	**612-0937**
50	1	1	199	26	1	**612-0938**
100	1	1	249	31	1	**612-0939**
250	2	2	315	41	1	**612-0940**
500	5	5	361	56	1	**612-0941**
1000	10	10	439	66	1	**612-0942**
2000	20	20	531	80	1	**612-0943**

Measuring cylinders
Kartell

PP, translucent, tall form, autoclavable

- Pouring spout, pentagonal base and moulded blue graduations
- Autoclavable at +121 °C, can withstand temperatures up to +100 °C during continuous work

ISO 6706, BS 5404 Part 2

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
10	0,2	0,2	140	1	**612-4060**
25	0,5	0,5	195	1	**612-4061**
50	1,0	1,0	199	1	**612-4062**
100	1,0	1,0	249	1	**612-4063**
250	2,0	2,0	315	1	**612-4064**
500	5,0	5,0	361	1	**612-4065**
1000	10,0	10,0	439	1	**612-4066**
2000	20,0	20,0	531	1	**612-4067**

Measuring cylinders
SciLabware

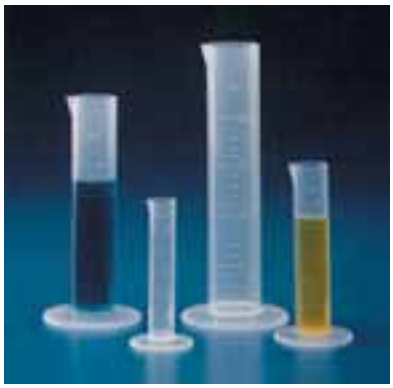
PP, highly translucent, tall form, class B

- Hexagonal base with non-slip, anti-suction feature, spout, extremely durable
- Recycling codes and batch code on each cylinder
- Autoclavable, but accuracy may be affected

ISO 6706

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
Moulded graduations					
10	0,2	0,20	140	10	**612-0377**
25	0,5	0,50	170	10	**612-0378**
50	1	1,00	200	10	**612-0379**
100	1	1,00	250	5	**612-0380**
250	2	2,00	315	1	**612-0387**
500	5	5,00	360	1	**612-0388**
1000	10	10,00	440	1	**612-0389**
2000	20	20,00	535	1	**612-0390**
Printed, blue graduations					
10	0,2	0,20	140	10	**612-0399**
25	0,5	0,50	170	10	**612-0402**
50	1,0	1,00	200	10	**612-0403**
100	1,0	1,00	250	5	**612-0404**
250	2,0	2,00	315	1	**612-0405**
500	5,0	5,00	360	1	**612-0406**
1000	10,0	10,00	440	1	**612-0407**
2000	20,0	20,00	535	1	**612-0408**

Measuring cylinders
Kartell



PP, translucent, short form, autoclavable

- With lip and circular base
- Excellent chemical resistance
- Permanent moulded graduations

Capacity (ml)	Division (ml)	Height (mm)	Ø (mm)	Pk	Cat. No.
10	0,25	88	16	1	**612-4722**
25	1	107	22	1	**612-4724**
50	2,5	143	29	1	**612-4726**
100	5	178	34	1	**612-4728**
250	10	264	45,5	1	**612-4730**
500	10	305	55,5	1	**612-4732**
1000	25	332	70	1	**612-4734**
2000	50	370	92	1	**612-4736**

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Measuring cylinders
VITLAB®

SAN or PP, translucent, short form, class B

- Pouring spout, round base and moulded scale
- SAN models are not autoclavable
- PP models are autoclavable

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Ø (mm)	Pk	Cat. No.
Cylinders, SAN						
25	0,5	0,5	122	22	1	**612-3748**
50	1	1,0	142	27	1	**612-3749**
100	2,0	2,0	163	37	1	**612-2415**
250	5,0	5,0	192	51	1	**612-2417**
500	10,0	10,0	218	67	1	**612-2419**
1000	20,0	20,0	285	78	1	**612-2422**
Cylinders, PP						
25	0,5	0,5	122	22	1	**612-2400**
50	1	1,0	142	27	1	**612-2414**
100	2,0	2,0	163	37	1	**612-2416**
250	5,0	5,0	192	51	1	**612-2418**
500	10,0	10,0	218	67	1	**612-2420**
1000	20,0	20,0	285	78	1	**612-2423**

Measuring cylinders
SciLabware

PP, highly translucent, short form

Space saving squat design for increased stability on the bench and ease of handling particularly in restricted spaces. Clear with blue over-printed graduations, which are always visible. Ideal for all laboratories, whether industrial, pharmaceutical or university.

- Unique self-draining base eliminates water collection during washing in lab washing machines, removing all spillage, re-wetting and contamination issues
- Good chemical and temperature resistance
- Anti suction base ensures no problems when working on wet surfaces

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
100	2,0	2	163	5	**215-0084**
250	5,0	5	192	1	**215-0085**
500	10,0	10	218	1	**215-0086**
1000	20,0	20	285	1	**215-0087**

Measuring cylinders
Brand

PMP, transparent, tall form, class A, conformity certified

- Calibrated to contain (TC, In)
- With blue printed scale
- Exposure to temperatures up to +121 °C will not cause permanent exceeding of tolerance limits
- Cleaning temperatures below +60 °C is recommended to preserve marks and inscriptions

DIN 12 681 / ISO 6706

Ordering information: Supplied with a batch certificate. Measuring cylinders are also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
10	0,2	0,10	145	2	**612-4174**
25	0,5	0,25	170	2	**612-4173**
50	1	0,5	200	2	**612-4172**
100	1	0,5	250	2	**612-4175**
250	2	1,0	315	2	**612-4171**
500	5	2,5	360	2	**612-4170**
1000	10	5	440	1	**612-4323**
2000	20	10	535	1	**612-4324**

Measuring cylinders
VITLAB®

PMP, transparent, tall form, class A

- Pouring spout, hexagonal base and ring-moulded graduations
- Accuracy is individually checked and cylinders marked with 'H'
- Supplied with test certificate indicating lot number and year of production (also on the cylinder)

DIN 12681 / ISO 6706

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
25	0,5	0,25	170	1	**612-4412**
50	1	0,50	200	1	**612-4413**
100	1	0,50	250	1	**612-4414**
250	2	1,00	315	1	**612-4415**
500	5	2,50	360	1	**612-4416**
1000	10	5,00	440	1	**612-4417**
2000	20	10,00	482	1	**612-4418**

Measuring cylinders
Brand

PMP, transparent, tall form, class B

- Calibrated to contain (TC, In)
- With blue printed scale or embossed scale (embossed scale recommended for autoclaving)
- Exposure to temperatures up to +121 °C will not cause permanent exceeding of tolerance limits
- Cleaning temperatures below +60 °C is recommended to preserve marks and inscriptions

DIN 12 681 / ISO 6706

Type	Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
Blue graduations	10	0,2	0,2	145	1	**612-4325**
	25	0,5	0,5	170	1	**612-4326**
	50	1	1	200	1	**612-4327**
	100	1	1	250	1	**612-4328**
	250	2	2	315	1	**612-4329**
	500	5	5	360	1	**612-4330**
	1000	10	10	440	1	**612-4331**
	2000	20	20	535	1	**612-4333**
Embossed graduations	10	0,2	0,2	145	1	**612-4631**
	25	0,5	0,5	170	1	**612-4632**
	50	1	1	200	1	**612-4633**
	100	1	1	250	1	**612-4634**
	250	2	2	315	1	**612-4635**
	500	5	5	360	1	**612-4636**
	1000	10	10	440	1	**612-4637**
	2000	20	20	535	1	**612-4638**

Measuring cylinders, Nalgene®
Thermo Scientific

PMP, transparent, tall form, autoclavable, class B

- Calibrated to contain (TC, In) at 20 °C, non-wetting - no meniscus to confuse readings
- Moulded graduations and hexagonal base in blue PP, stable, large spout, very robust
- Autoclavable, but accuracy will be affected

ASTM Class B E1272 and ISO 6706

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
10	0,2	0,20	1	**612-4010**
25	0,5	0,34	1	**612-4011**
50	1,0	0,50	1	**612-4012**
100	1,0	1,00	1	**612-4013**
250	2,0	2,00	1	**612-4014**
500	5,0	4,0	1	**612-4015**
1000	10,0	6,0	1	**612-4016**
2000	20,0	12,0	1	**612-4017**
4000	50	29,0	1	**612-4018**

Measuring cylinders
SciLabware

PMP (TPX®), transparent, tall form, autoclavable, class B

- Hexagonal base with non-slip, anti-suction feature, spout, excellent chemical resistance, no meniscus to confuse readings
- Recycling codes and batch code on each cylinder
- Autoclavable - Does not affect accuracy

ISO 6706

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
Moulded graduations					
10	0,2	0,2	140	1	**612-0426**
25	0,5	0,5	170	1	**612-0427**
50	1,0	1	200	1	**612-0428**
100	1,0	1	250	1	**612-0429**
250	2,0	2	315	1	**612-0430**
500	5,0	5	360	1	**612-0431**
1000	10,0	10	440	1	**612-0432**
2000	20,0	20	535	1	**612-0433**

Measuring cylinders
Kartell

PMP (TPX®), transparent, tall form, autoclavable

- Pouring spout, pentagonal base and moulded blue graduations
- No meniscus, chemically non absorbent, non wetting surface, excellent chemical resistance
- Can be used with liquids up to +170 °C

ISO 6706, BS 5404 Part 2

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
10	0,2	0,2	139	1	**612-4068**
25	0,5	0,5	195	1	**612-4069**
50	1,0	1,0	199	1	**612-4070**
100	1,0	1,0	249	1	**612-4071**
250	2,0	2,0	315	1	**612-4072**
500	5,0	5,0	361	1	**612-4073**
1000	10,0	10,0	438	1	**612-4074**
2000	20,0	20,0	531	1	**612-4075**

Measuring cylinders
Kartell

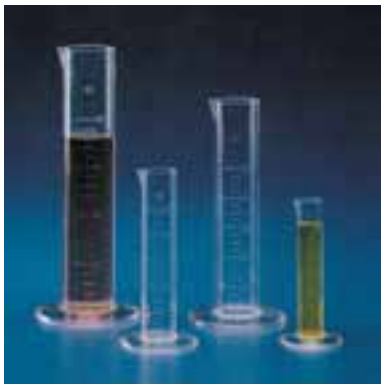
PMP (TPX®), transparent, tall form, autoclavable

- Pouring spout, pentagon base and moulded white graduations
- No meniscus, chemically non-absorbant, non-wetting surface, excellent chemical resistance
- Can be used with liquids up to +170 °C

ISO 6706, BS 5404 Part 2

Capacity (ml)	Division (ml)	Tolerance (± ml)	Height (mm)	Pk	Cat. No.
10	0,2	0,2	139	1	**612-0951**
25	0,5	0,5	195	1	**612-0952**
50	1,0	1,0	199	1	**612-0953**
100	1,0	1,0	249	1	**612-0954**
250	2,0	2,0	315	1	**612-0955**
500	5,0	5,0	361	1	**612-0956**
1000	10,0	10,0	438	1	**612-0957**
2000	20,0	20,0	531	1	**612-0958**

Measuring cylinders
Kartell



PMP (TPX®), transparent, low form, autoclavable

- Pouring spout, circular base and moulded white graduations
- Excellent chemical resistance
- Can withstand temperatures up to +170 °C

Capacity (ml)	Division (ml)	Height (mm)	Ø (mm)	Pk	Cat. No.
10	0,25	87	16	1	**612-4000**
25	1	107	22	1	**612-4001**
50	2,5	143	29	1	**612-4002**
100	5	177	34	1	**612-4003**
250	10	263	45,5	1	**612-4004**
500	10	302	55,5	1	**612-4005**
1000	25	331	70	1	**612-4006**
2000	50	369	92	1	**612-4007**

Graduated pipettes, type 3

AR-Glas®, class AS

- Calibrated to deliver (TD) type 3: Zero at the top
- Marks and inscriptions in amber stain
- With lot certificate

DIN 12696, ISO 835

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
0,5	0,01	0,0075	3	**612-4767**
1	0,01	0,01	3	**612-4768**
2	0,02	0,015	3	**612-4769**
5	0,1	0,045	3	**612-4770**
10	0,1	0,075	3	**612-4771**
20	0,1	0,15	2	**612-4772**
25	0,1	0,15	2	**612-4773**
50	0,2	0,3	2	**612-4774**

Graduated pipettes, type 3, total delivery

AR-Glas®, class B

- Calibrated to deliver (TD)
- Marks and inscriptions in amber stain
- With lot certificate

DIN 12696

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
0,5	0,01	0,008	3	**612-4121**
1	0,01	0,01	3	**612-4122**
2	0,02	0,015	3	**612-4123**
5	0,05	0,045	3	**612-4124**
10	0,1	0,075	3	**612-4125**
20	0,1	0,15	2	**612-4126**
25	0,1	0,15	2	**612-4127**
50	0,2	0,3	2	**612-4128**

Graduated pipettes, type 3, total delivery
Hirschmann Laborgeräte

AR-Glas®, class AS

- Calibrated to deliver 'Ex', certificate of conformity with dated batch identification available on internet (www.hirschmannlab.de)
- Marks and inscriptions in amber stain, graduated to the tip
- From 5 ml with a cotton plug as standard
- Waiting time 5 seconds

DIN EN ISO 835

Length: 360 mm ±5 mm except for 25 and 50 ml pipettes: 450 mm ±5 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
0,5	0,01	0,006	1	**612-1045**
1	0,01	0,007	1	**612-1046**
1	0,1	0,007	1	**613-2111**
2	0,01	0,01	1	**613-2112**
2	0,02	0,01	1	**612-1047**
2	0,1	0,01	1	**613-2113**
5	0,05	0,03	1	**612-1048**
5	0,1	0,03	1	**612-1049**
10	0,1	0,05	1	**612-1050**
20	0,1	0,1	1	**612-1051**
25	0,1	0,1	1	**612-1052**
50	0,2	0,2	1	**612-1053**

Graduated pipettes, type 3, total delivery
Hirschmann Laborgeräte

AR-Glas®, class AS

- Calibrated to deliver 'Ex', certificate of conformity with dated batch identification available on internet (www.hirschmannlab.de)
- Marks and inscriptions in blue, graduated to the tip
- From 5 ml with a cotton plug as standard
- Waiting time 5 seconds

DIN EN ISO 835

Length: 360 mm ±5 mm except for 25 and 50 ml pipettes: 450 mm ±5 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
0,5	0,01	0,006	1	**612-1033**
1	0,01	0,007	1	**612-1034**
1	0,1	0,007	1	**612-1035**
2	0,01	0,01	1	**612-1036**
2	0,02	0,01	1	**612-1037**
2	0,1	0,01	1	**612-1038**
5	0,05	0,03	1	**612-1039**
5	0,1	0,03	1	**612-1040**
10	0,1	0,05	1	**612-1041**
20	0,1	0,1	1	**612-1042**
25	0,1	0,1	1	**612-1043**
50	0,2	0,2	1	**612-1044**

Graduated pipettes, SILBERBRAND ETERNA, type 3, total delivery
Brand

AR-Glas®, class B

- Calibrated to deliver (TD, Ex)
- Marks and inscriptions in ETERNA amber stain
- Marked pipettes (*) suitable for cotton plugs

DIN EN ISO 835

Length: 360 mm ±10 mm except for 25 ml pipettes: 450 mm ±10 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Suppl. to DIN	Pk	Cat. No.
0,5	0,01	0,008	√	1	**612-1144**
1	0,01	0,01	-	1	**612-1145**
1	0,1	0,01	√	1	**612-1147**
1*	0,01	0,01	-	1	**612-1146**
2	0,01	0,015	√	1	**612-1148**
2	0,02	0,015	-	1	**612-1149**
2	0,1	0,015	√	1	**612-1151**
2*	0,02	0,015	-	1	**612-1150**
5*	0,05	0,05	-	1	**612-1152**
5*	0,1	0,05	√	1	**612-1153**
10*	0,1	0,08	-	1	**612-1154**
20*	0,1	0,15	√	1	**612-1155**
25*	0,1	0,15	√	1	**612-1156**

Graduated pipettes, type 3, total delivery
Hirschmann Laborgeräte

AR-Glas®, class B

- Calibrated to deliver 'Ex', short line graduation
- Marks and inscriptions in amber stain, zero at the top, graduated to the tip
- With cotton plug end

DIN EN ISO 835

Length: 360 mm ±5 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Suppl. to DIN	Pk	Cat. No.
1	0,01	0,015	-	1	**612-1022**
2	0,01	0,015	√	1	**612-1023**
2	0,02	0,015	-	1	**612-1024**

Graduated pipettes, type 3, total delivery
Hirschmann Laborgeräte

AR-Glas®, class B

- Calibrated to deliver 'Ex'
- Short line graduation, graduated to the tip, zero at the top, amber graduation
- From 5 ml with a cotton plug at the upper end as standard

DIN EN ISO 835

Length: 360 mm ±5 mm except for 25 and 50 ml pipettes: 450 mm ±5 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Suppl. to DIN	Pk	Cat. No.
0,5	0,01	0,0075	√	1	**612-1067**
1	0,01	0,01	-	1	**612-1068**
1	0,1	0,01	√	1	**612-1069**
2	0,01	0,015	√	1	**612-3400**
2	0,02	0,015	-	1	**612-1070**
2	0,1	0,015	√	1	**612-1095**
5	0,05	0,045	-	1	**612-1096**
5	0,1	0,045	√	1	**612-1097**
10	0,1	0,075	-	1	**612-1098**
20	0,1	0,15	√	1	**612-1075**
25	0,1	0,15	√	1	**612-1076**
50	0,2	0,3	√	1	**612-3401**

Graduated pipettes, BLAUBRAND®, type 2, total delivery
Brand

AR-Glas®, class AS, conformity certified

- Calibrated to deliver (TD, Ex); Type 2: nominal volume on top
- Marks and inscriptions in high contrast blue enamel
- Waiting time 5 seconds
- Incl. one batch certificate
- On request also available with an individual certificate, USP individual certificate or DAkks calibration certificate

DIN EN ISO 835

Length: 360 mm ±10 mm except for 25 and 50 ml pipettes: 450 mm ±10 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Colour code	Suppl. to DIN	Pk	Cat. No.
0,5	0,01	0,006	2 × Yellow	-	1	**612-3151**
1	0,01	0,007	Yellow	-	1	**612-3152**
1*	0,01	0,007	Yellow	-	12	**612-3664**
1	0,1	0,007	Red	-	1	**612-3153**
2* **	0,01	0,010	2 × White	√	12	**612-4758**
2	0,02	0,01	Black	-	1	**612-3154**
2*	0,02	0,010	Black	-	12	**612-3666**
2	0,1	0,01	Green	-	1	**612-3156**
5*	0,05	0,03	Red	-	1	**612-3157**
5*	0,1	0,03	Blue	-	1	**612-3158**
10*	0,1	0,05	Orange	-	1	**612-3159**
20*	0,1	0,1	2 × Yellow	-	1	**612-3161**
25*	0,1	0,1	White	-	1	**612-3162**
50*	0,5	0,2	—	√	6	**612-3663**

* With cotton plug end
** Not conformity certified

Graduated pipettes, BLAUBRAND®, USP, type 2, total delivery
Brand

AR-Glas®, class AS, USP, conformity certified

- Calibrated to deliver (TD, Ex), nominal volume at the top
- Marks and inscriptions in high contrast blue enamel
- Waiting time 5 seconds
- Suitable for cotton plugs
- Incl. USP batch certificate, on request also available with USP individual certificate

DIN EN ISO 835

Length: 360 mm ±10 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Colour code	Pk	Cat. No.
1*	0,01	0,07	Yellow	12	**612-4754**
2	0,02	0,01	Black	12	**612-4755**
5	0,05	0,02	Red	12	**612-4756**
10	0,1	0,03	Orange	12	**612-4757**

* Error limit USP: ± 0,01 ml

Graduated pipettes, BLAUBRAND®, type 3, total delivery
Brand

AR-Glas®, class AS, conformity certified

- Calibrated to deliver (TD, Ex); type 3: Zero on top
- Marks and inscriptions in high contrast blue enamel
- Waiting time 5 seconds
- Incl. one batch certificate
- On request also available with an individual certificate, USP individual certificate or DAkks calibration certificate

DIN EN ISO 835

Length: 360 mm ±10 mm except for 25 and 50 ml pipettes: 450 mm ±10 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Suppl. to DIN	Pk	Cat. No.
0,5	0,01	0,006	-	1	**612-1104**
1	0,01	0,007	-	1	**612-1105**
1	0,1	0,007	-	1	**612-1107**
1*	0,01	0,007	-	1	**612-1106**
2	0,01	0,01	√	1	**612-1108**
2	0,02	0,01	-	1	**612-1109**
2	0,1	0,01	-	1	**612-1111**
2*	0,02	0,01	-	1	**612-1110**
5*	0,05	0,03	-	1	**612-1112**
5*	0,1	0,03	-	1	**612-1113**
10*	0,1	0,05	-	1	**612-1114**
20*	0,1	0,1	-	1	**612-1115**
25*	0,1	0,1	-	1	**612-1116**
50* **	0,5	0,2	√	1	**612-1117**

* With cotton plug end
** Not conformity certified

VWR COLLECTION

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Graduated pipettes, BLAUBRAND® ETERNA, type 3, total delivery
Brand

AR-Glas®, class AS, conformity certified

- Calibrated to deliver (TD, Ex); type 3: Zero at the top
- Marks and inscriptions in ETERNA amber stain
- Waiting time 5 seconds
- Incl. one batch certificate
- On request also available with an individual certificate, USP individual certificate or DAkks calibration certificate

DIN EN ISO 835

Length: 360 mm ±10 mm except for 25 ml pipettes: 450 mm ±10 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
0,5	0,01	0,006	1	**612-1124**
1	0,01	0,007	1	**612-1125**
1*	0,01	0,007	1	**612-1126**
2	0,02	0,01	1	**612-1129**
2*	0,02	0,01	1	**612-1130**
5*	0,05	0,03	1	**612-1132**
5*	0,1	0,03	1	**612-1133**
10*	0,1	0,05	1	**612-1134**
20*	0,1	0,1	1	**612-1135**
25*	0,1	0,1	1	**612-1136**

* With cotton plug end

Pipetting package with macro controller, BLAUBRAND®
Brand

Each pipetting package contains:

- One macro pipette controller, grey (0,1 - 200 ml)
- Six BLAUBRAND® graduated pipettes (Type 2), three pipettes 5 ml and 10 ml each, class AS, conformity certified, with batch certificate
- Useful product information: BLAUBRAND® volumetric instruments, handling of pipettes (either in German, English, French, Italian or Spanish)
- Handy plastic container: Ideal for storage of pipettes up to 360 mm length

Description	Pk	Cat. No.
Pipetting package with English leaflet	1	**612-4107**

Graduated pipettes, SILBERBRAND, with piston, total delivery
Brand

AR-Glas®

- Calibrated to deliver 'Ex'
- Marks and inscriptions in high contrast white enamel
- Integrated piston pipetting aid with retaining spring

Length: 360 mm ±10 mm except for 25 ml pipettes: 450 mm ±10 mm

Capacity (ml)	Division (ml)	Pk	Cat. No.
1	0,01	1	**612-1001**
2	0,02	1	**612-1002**
5	0,05	1	**612-1003**
10	0,1	1	**612-1004**
25	0,2	1	**612-1006**

Graduated pipettes, with piston
Hirschmann Laborgeräte

AR-Glas®

- Calibrated to deliver 'Ex'
- Durable amber stain graduation, main point ring graduation
- Integrated syringe pipetting aid

Capacity (ml)	Division (ml)	Pk	Cat. No.
1	0,01	1	**612-1025**
2	0,02	1	**612-1026**
5	0,05	1	**612-1027**
10	0,1	1	**612-1028**
20	0,1	1	**612-1029**
25	0,1	1	**612-1030**
50	0,2	1	**612-1010**

Graduated pipettes, PP, class B, Azlon®
SciLabware

PP, class B

- Calibrated to class B tolerances
- Easy to read graduation lines
- Specially manufactured jet tip to ensure excellent quality

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
1	0,1	0,02	12	**612-4747**
2	0,1	0,02	12	**612-4748**
5	0,1	0,05	12	**612-4749**
10	0,1	0,10	12	**612-4752**

Serological pipettes

PS, transparent, graduated

Smooth, shiny, transparent pipettes with smooth ends and raised, bright, permanent graduations.

- Coloured top for easy identification
- With cotton plug
- Negative and double graduations: Ascending and descending (for 5, 10, 25 ml) and very precise
- Integral construction, preventing any risk of leakage or retention at the weld seam, and shorter for improved ergonomics and greater comfort during use, particularly when working within a fume hood
- Non pyrogenic, non cytotoxic, non haemolytic

Packaging: Bulk or individually wrapped in paper/plastic peel-pack with "fibre-free" paper - no fibre in suspension while opening the wrap.

Ordering information: Supplied in stackable dispensing boxes.

Capacity (ml)	Division (ml)	Packed	Pk	Cat. No.
Sterile				
1	0,01	Single	500	**612-1240**
	0,01	25 per bag	1.000	**612-1271**
2	0,02	Single	500	**612-1243**
	0,02	25 per bag	1.000	**612-1274**
5	0,10	Single	250	**612-1245**
	0,10	25 per bag	375	**612-1276**
10	0,10	Single	200	**612-1248**
	0,10	25 per bag	250	**612-1279**
25	0,20	Single	100	**612-1270**
	0,20	10 per bag	100	**612-1600**
50	0,50	Single	100	**612-3982**
Non sterile				
1	0,01	Bulk	2.000	**612-1288**
2	0,02	Bulk	1.000	**612-1289**
5	0,10	Bulk	400	**612-1290**
10	0,10	Bulk	250	**612-1291**

Serological pipettes, Standard Line

PS, transparent, graduated, sterile

- Graduations are calibrated for accurate dispensing to within ±3%
- Colour coded stripes for quick volume identification
- Non pyrogenic
- With cotton plug

Packaging: Individually wrapped in paper-plastic bags or bulk packed in bags.

Capacity (ml)	Division (ml)	Colour code	Packed	Pk	Cat. No.
Individually wrapped					
1	0,01	Yellow	Individual	1.000	**612-3707**
2	0,01	Green	Individual	800	**612-3704**
5	0,10	Blue	Individual	300	**612-3702**
10	0,10	Red	Individual	200	**612-3700**
25	0,20	Lilac	Individual	200	**612-3698**
50	1,00	Black	Individual	100	**612-3696**
Bulk packed					
1	0,01	Yellow	25/bag	1.000	**612-3705**
2	0,01	Green	25/bag	700	**612-3703**
5	0,10	Blue	25/bag	500	**612-3701**
10	0,10	Red	25/bag	350	**612-3699**
25	0,20	Lilac	25/bag	350	**612-3697**
50	1,00	Black	25/bag	250	**612-3695**

Serological pipettes
Corning®

PYREX®, borosilicate glass, disposable

- Calibrated to deliver (TD, Ex)
- Negative graduations
- Long, slender, tapered tips for even flow rates

Packaging: Non sterile pipettes available in bulk package; sterile pipettes available in individual paper-plastic wrappers or as Multi-Pack in plastic bags.

Capacity (ml)	Division (ml)	Length (mm)	Colour code	Packed	Pk	Cat. No.
Non sterile, non plugged, bulk						
1	0,01	290	Yellow	Bulk	1.000	**612-5192**
2	0,01	290	Green	Bulk	700	**612-5193**
5	0,1	290	Blue	Bulk	960	**612-5194**
10	0,1	290	Orange	Bulk	720	**612-5189**
Sterile, plugged, individually wrapped						
1	0,01	290	Yellow	Individually wrapped	800	**612-5132**
2	0,01	290	Green	Individually wrapped	720	**612-5133**
5	0,1	290	Blue	Individually wrapped	720	**612-5134**
10	0,1	290	Orange	Individually wrapped	600	**612-5131**
Sterile, plugged, Multi-Pack						
1	0,01	290	Yellow	50/Multi-Pack	1.000	**612-5163**
1	0,1	290	Yellow	50/Multi-Pack	1.000	**612-5164**
2	0,01	290	Green	35/Multi-Pack	700	**612-5165**
5	0,1	290	Blue	30/Multi-Pack	960	**612-5166**
10	0,1	290	Orange	20/Multi-Pack	720	**612-5162**
Shorty, sterile, plugged, individually wrapped						
1	0,01	215	Yellow	Individually wrapped	500	**612-5136**
5	0,1	215	Blue	Individually wrapped	400	**612-5140**
10	0,2	215	Orange	Individually wrapped	400	**612-5138**
25	0,2	300	Red	Individually wrapped	400	**612-5139**
50	0,5	358	Lilac	Individually wrapped	50	**612-5141**

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Capacity (ml)	Division (ml)	Length (mm)	Colour code	Packed	Pk	Cat. No.
Shorty, sterile, plugged, Multi-Pack						
1	0,01	215	Yellow	10/Multi-Pack	500	**612-5177**
5	0,1	215	Blue	10/Multi-Pack	400	**612-5187**
10	0,2	215	Orange	10/Multi-Pack	400	**612-5178**
25	0,2	300	Red	5/Multi-Pack	400	**612-5186**
50	0,5	358	Lilac	5/Multi-Pack	50	**612-5188**
Bacteriological, sterile, plugged, Multi-Pack						
2,2	-	274	—	25/Multi-Pack	500	**612-5130**

Serological pipettes, Stripette®
Corning®

PS, transparent, graduated, sterile

- Calibrated to deliver (TD, Ex)
- High performance anti-drip tips, colour-coded magnifier stripe and negative graduations
- Certified RNase-/DNase-free and non pyrogenic

Packaging: Four packaging options:
Bulk packaged in bags
Individually wrapped in plastic bags
Individually wrapped in paper-plastic bags
Individually wrapped in paper-plastic bags, triple bagged

Capacity (ml)	Division (ml)	Colour code	Packed	Pk	Cat. No.
Bulk packaged in bags					
1	0,01	Yellow	50/bag	1.000	**734-1687**
2	0,01	Green	50/bag	1.000	**734-1689**
5	0,10	Blue	50/bag	500	**734-1691**
10	0,10	Orange	50/bag	500	**734-1693**
25	0,20	Red	25/bag	200	**734-1695**
50	0,50	Lilac	25/bag	100	**734-1743**
Individually wrapped in plastic bags					
1	0,01	Yellow	100/bag	1.000	**734-1688**
1	0,01	Yellow	100/bag	200	**734-0488**
2	0,01	Green	100/bag	1.000	**734-1690**
5	0,10	Blue	50/bag	200	**734-1692**
10	0,10	Orange	50/bag	200	**734-1694**
10*	0,10	Orange	50/bag	200	**734-1742**
25	0,20	Red	50/bag	200	**734-1696**
50	0,50	Lilac	25/bag	100	**734-1744**
100	1,00	Turquoise	10/bag	100	**734-1734**
Individually wrapped in paper-plastic bags					
1	0,01	Yellow	50/bag	1.000	**734-1735**
2	0,01	Green	50/bag	1.000	**734-1736**
2**	-	—	50/bag	500	**612-3720**
5	0,10	Blue	50/bag	200	**734-1737**
10	0,10	Orange	50/bag	200	**734-1738**
25	0,20	Red	25/bag	200	**734-1739**
50	0,50	Lilac	25/bag	100	**734-1740**
100	1,00	Turquoise	10/bag	100	**734-1741**
Individually wrapped in paper-plastic bags, triple bagged					
1	0,01	Yellow	50/bag	1.000	**612-5126**
2	0,01	Green	50/bag	1.000	**612-5127**
5	0,01	Blue	50/bag	200	**612-5128**
10	0,10	Orange	50/bag	200	**612-5123**
25	0,20	Red	25/bag	200	**612-5124**
50	0,50	Lilac	25/bag	100	**612-5125**
100	1,00	Turquoise	10/bag	100	**444-1019**

* With wide orifice for viscous materials
** Non plugged

Serological pipettes, Falcon®
Corning®

PS, transparent, graduated, sterile

- Coloured top with cotton plug and coloured packaging for easy identification
- Negative graduations for extra capacity and reverse graduations (except 1 ml)
- Non pyrogenic

Packaging: Individually wrapped in paper-peelable bags or bulk packaged in bags.

Capacity (ml)	Division (ml)	Packed	Pk	Cat. No.
Individually wrapped				
1	0,01	100 per box	1.000	**734-0340**
2	0,01	100 per box	1.000	**734-0336**
5	0,10	50 per bag	200	**734-0350**
10	0,10	50 per bag	200	**734-0352**
25	0,25	50 per bag	200	**734-0343**
25	0,50	50 per bag	200	**734-0347**
50	1,00	25 per bag	100	**734-0351**
100	1,00	5 per bag	50	**734-0355**
Bulk packaged				
1	0,01	25 per bag	1.000	**734-0335**
2	0,01	25 per bag	1.000	**734-0337**
5	0,10	25 per bag	500	**734-0344**
10	0,10	25 per bag	500	**734-0345**
25	0,25	20 per bag	200	**734-0338**

Serological pipettes, Falcon®, Corning® Advantage™
Corning®

PS, transparent, graduated, sterile

- Coloured top with cotton plug and coloured packaging for easy identification
- Negative graduations for extra capacity and reverse graduations (except 1 ml)
- Non pyrogenic

Packaging: Individually wrapped in plastic-peelable bags, recyclable.

Capacity (ml)	Division (ml)	Packed	Pk	Cat. No.
1	0,01	100 per box	1.000	**734-0305**
2	0,01	100 per box	1.000	**734-0297**
5	0,10	50 per bag	200	**734-0313**
10	0,10	50 per bag	200	**734-0315**
25	0,25	50 per bag	200	**734-0307**
25	0,50	50 per bag	200	**734-0310**
50	1,00	25 per bag	100	**734-0314**

Serological pipettes, MBL

Soda-lime glass, graduated, type 4

- Calibrated to deliver from any graduation line down to zero at the jet, with the last drop expelled by blowing
- Tooled suction ends accept cotton wool plugs
- Graduations in permanent amber stain

ISO 835

Capacity (ml)	Division (ml)	Length (mm)	Pk	Cat. No.
1	0,01	370	5	**612-2950**
2	0,02	370	5	**612-2951**
5	0,05	370	5	**612-2952**
10	0,1	370	5	**612-2953**
25	0,2	370	5	**612-2954**

Serological pipettes, Sterilin®
Thermo Scientific

PS, transparent, disposable, sterile

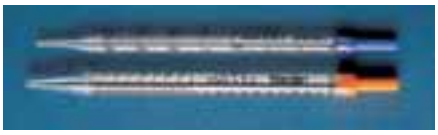
- Clear black printed graduations for maximum clarity, colour coded for easy identification, printed with product code/lot number and expiry date
- Negative graduations for extra capacity
- Gamma irradiated to ensure sterility and certified both non pyrogenic (<0,1 EU/ml) and non haemolytic

Ordering information: Batch specific certificate supplied in each case.

Capacity (ml)	Division (ml)	Colour code	Pk	Cat. No.
Pipettes, individually wrapped, paper peel packaging, plugged				
1	0,01	Yellow	1.000	**612-2958**
2	0,01	Green	1.000	**612-2959**
5	0,1	Blue	200	**710-0092**
10	0,1	Orange	500	**710-0093**
25	0,2	Red	200	**710-0094**
50	1	Lilac	50	**710-0095**
Pipettes, individually wrapped, plastic film packaging, plugged				
1	0,01	Yellow	1.000	**612-2944**
2	0,01	Green	1.000	**612-3266**
5*	0,1	Blue	200	**734-0463**
5	0,1	Blue	200	**734-0476**
10	0,1	Orange	500	**734-0477**
25	0,2	Red	25	**612-3267**
50	1	Lilac	50	**734-0479**
Pipettes, narrow orifice, individually wrapped, plastic film packaging, plugged (for use in cell culture)				
5	0,1	Blue	200	**710-0090**
10	0,1	Orange	500	**734-0478**
Pipettes, open-ended, bulk packed, plugged (for viscous liquids)				
1	0,01	Yellow	1.000	**612-2955**
2	0,01	Green	1.000	**612-2956**
Pipettes, shelf packaging, plugged (for use within the milk industry)				
1,1	0,01	Green	1.000	**612-2960**
Pipettes, bulk packed, plugged				
1	0,01	Yellow	1.000	**612-2957**
2	0,01	Green	1.000	**612-3268**
5	0,1	Blue	200	**710-0091**
10	0,1	Orange	500	**734-0480**
Pipettes, bulk packed, unplugged				
10	0,1	Orange	50	**612-0345**

*Without suction adapter

Serological pipettes, Shortie, Sterilin®
Thermo Scientific



PS, disposable, sterile

- Specifically designed for use in biological safety cabinets - easier to manipulate in confined spaces
- Coloured top for easy identification
- Black graduations and batch number printed for complete traceability

Length: 226 mm for 5 ml and 232 mm for 10 ml

Packaging: Individually wrapped in paper-peelable bags with certificate of sterility (gamma irradiated) and non-pyrogenicity.

Capacity (ml)	Division (ml)	Colour code	Pk	Cat. No.
5	0,1	Blue	200	**734-1352**
10	0,2	Orange	200	**734-1353**

Serological pipettes, Volac®

Glass, disposable, adjusted for blow-out delivery

Glass disposables have clear advantages over their plastic counterparts in areas of chemical and temperature resistance, accuracy, transparency and clarity of markings.

- All pipettes are accurate to ±2%

Short jet, except those marked with an * which have a drawn jet with a 20 mm taper.

Capacity (ml)	Division (ml)	Sterile	Length (mm)	Packed	Pk	Cat. No.
Non-sterile, unplugged in sleeves						
1	0,01	-	230	10/pack	500	**612-0974**
1	0,1	-	230	10/pack	500	**612-0977**
1*	0,01	-	270	10/pack	500	**612-0968**
2	0,02	-	260	10/pack	500	**612-0980**
2*	0,02	-	270	10/pack	500	**612-0971**
5*	0,05	-	300 - 310	10/pack	500	**612-0983**
10*	0,1	-	300 - 310	5/pack	250	**612-0985**
Sterile, plugged in bulk packs						
1	0,01	+	230	10/pack	500	**612-0976**
1	0,1	+	230	10/pack	500	**612-0979**
1*	0,01	+	270	10/pack	500	**612-0970**
2	0,02	+	260	10/pack	500	**612-0982**
2*	0,02	+	270	10/pack	500	**612-0973**
5*	0,05	+	300 - 310	10/pack	500	**612-4852**
10*	0,1	+	300 - 310	5/pack	250	**612-0987**
Sterile, plugged in sterile packs						
1	0,01	+	230	10/pack	250	**612-0975**
1	0,1	+	230	10/pack	250	**612-0978**
1*	0,01	+	270	10/pack	250	**612-0969**
2	0,02	+	260	10/pack	250	**612-0981**
2*	0,02	+	270	10/pack	250	**612-0972**
5*	0,05	+	300 - 310	5/pack	250	**612-0984**
10*	0,1	+	300 - 310	10/pack	125	**612-0986**

* Drawn jet

Serological pipettes, short form

PS, sterile, disposable

- Complete outflow pipettes are made from a single part, so there is no danger that they may leak or crack at the weld seam
- Negative graduations to -3 ml (5 ml) or -8 ml (10 ml)
- Two graduation scales: ascending and descending

Packaging: In individual paper/plastic peelable sachets.

Capacity (ml)	Division (ml)	Sterile	Colour code	Pk	Cat. No.
5	0,1	+	Blue	200	**612-2509**
10	0,2	+	Orange	100	**612-2500**

Demeter pipettes
Hirschmann Laborgeräte

AR-Glas®

- Calibrated to deliver 'Ex'
- Blue graduation
- Dilution pipettes with 2 marks at 1 and 1,1 ml or with 4 marks at 1,0/2,0/2,1/2,2 ml

DIN 12838 and DIN 12839

Length: 250 mm ±5 mm

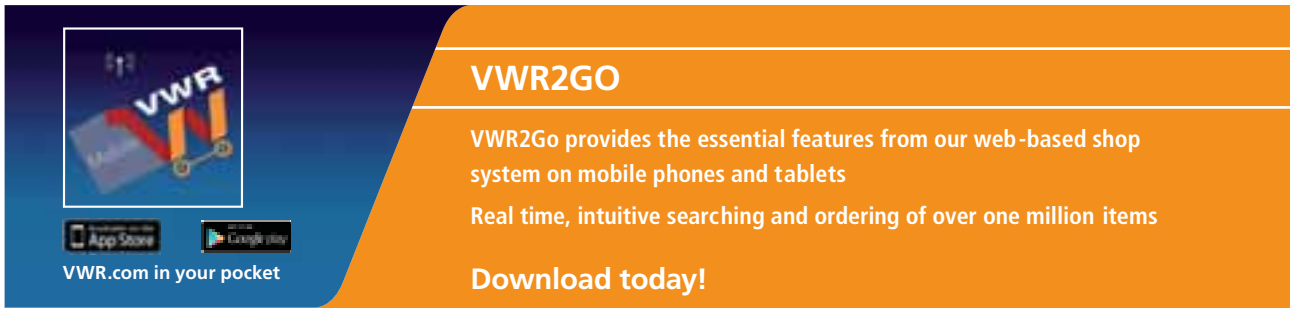
Capacity (ml)	Pk	Cat. No.
1/1,1	1	**612-1032**
1,0/2,0/2,1/2,2	1	**612-4803**

Serological pipettes, Nunc™
Thermo Scientific

PS, sterile

- Coloured top with cotton plug and coloured packaging for easy identification
- Convenient, black, extra graduations to full pipette volume
- Non pyrogenic

Capacity (ml)	Division (ml)	Colour code	Pk	Cat. No.
Individually wrapped in paper-peelable bags				
1	0,01	Black	1.000	**612-4220**
2	0,01	Black	500	**612-4221**
5	0,10	Blue	200	**612-4222**
10	0,10	Orange	200	**612-4223**
25	0,20	Green	200	**612-4224**
50	0,50	Purple	100	**612-4225**



Bulb pipettes

AR-Glas®, 1 mark, class AS

- Calibrated to deliver, total delivery
- Ring mark and inscriptions in high contrast amber stain
- Conformity certified, with dated batch identification
- Batch certificate included
- Not available with individual certificate

DIN EN ISO 648

Capacity (ml)	Tolerance (± ml)	Length (mm)	Pk	Cat. No.
1	0,007	300	3	**612-4129**
2	0,010	330	3	**612-4130**
4	0,015	410	3	**612-4132**
5	0,015	410	3	**612-4133**
10	0,020	450	3	**612-4134**
20	0,030	520	2	**612-4135**
25	0,030	530	2	**612-4136**
50	0,050	550	2	**612-4137**
100	0,080	600	2	**612-4138**

Bulb pipettes

AR-Glas®, 2 marks, class AS

- Calibrated to deliver (TD, Ex)
- Ring mark and inscriptions in high contrast amber stain
- Conformity certified, with dated batch identification
- Batch certificate included

DIN EN ISO 648

Capacity (ml)	Tolerance (± ml)	Length (mm)	Pk	Cat. No.
1	0,007	300	3	**612-4775**
2	0,010	330	3	**612-4776**
3	0,010	350	3	**612-4777**
4	0,015	410	3	**612-4778**
5	0,015	410	3	**612-4779**
10	0,020	450	3	**612-4780**
20	0,030	520	2	**612-4781**
25	0,030	530	2	**612-4782**
50	0,050	550	2	**612-4783**
100	0,080	600	2	**612-4784**

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Bulb pipettes, BLAUBRAND®
Brand

AR-Glas®, 1 mark, class AS, conformity certified

- Calibrated to deliver (TD, Ex)
- Ring mark and inscriptions in blue enamel
- Waiting time 5 secs
- Conformity certified, with batch certificate
- On request also available with an individual certificate or DAkkS calibration certificate
- Also available as separate USP version

DIN EN ISO 648

Capacity (ml)	Tolerance (± ml)	Length (mm)	Pk	Cat. No.
0,5	0,005	300	1	**612-1201**
1	0,008	300	1	**612-1202**
2	0,01	330	1	**612-1203**
2,5	0,01	330	1	**612-1204**
3	0,01	330	1	**612-1205**
4	0,015	400	1	**612-1206**
5	0,015	400	1	**612-1207**
6	0,015	400	1	**612-1208**
7	0,015	400	1	**612-1209**
8	0,02	440	1	**612-1210**
9	0,02	440	1	**612-1211**
10	0,02	440	1	**612-1212**
15	0,03	510	1	**612-1213**
20	0,03	510	1	**612-1214**
25	0,03	520	1	**612-1215**
30	0,03	520	1	**612-1216**
40	0,05	540	1	**612-1217**
50	0,05	540	1	**612-1218**
100	0,08	585	1	**612-1219**

Bulb pipettes, BLAUBRAND®, USP
Brand

AR-Glas®, 1 mark, class AS, conformity certified

- USP batch certificate; on request also available with USP individual certificate
- Calibrated to deliver (TD, Ex)
- Ring mark and inscriptions in blue enamel
- Waiting time 5 secs

DIN EN ISO 648

Capacity (ml)	Tolerance (± ml)	Length (mm)	Pk	Cat. No.
0,5	0,005	300	12	**612-4760**
1	0,006	300	12	**612-4785**
2	0,006	330	12	**612-4786**
3	0,01	330	6	**612-4787**
4	0,01	400	6	**612-4788**
5	0,01	400	6	**612-4789**
6	0,01	400	6	**612-4790**
7	0,01	400	6	**612-4791**
8	0,02	440	6	**612-4792**
9	0,02	440	6	**612-4793**
10	0,02	440	6	**612-4794**
15	0,03	510	6	**612-4795**
20	0,03	510	6	**612-4796**
25	0,03	520	6	**612-4797**
30	0,03	520	6	**612-4798**
40	0,05	540	6	**612-4799**
50	0,05	540	6	**612-4800**
100	0,08	585	6	**612-4801**

Bulb pipettes
Hirschmann Laborgeräte

AR-Glas®, 1 mark, class AS

- Calibrated to deliver (TD, Ex)
- Ring mark and inscriptions in blue
- Certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)

DIN EN ISO 648

Capacity (ml)	Tolerance (± ml)	Length (mm)	Pk	Cat. No.
1	0,007	300	1	**612-1310**
2	0,01	330	1	**612-1311**
2,5	0,01	350	1	**612-1312**
3	0,01	350	1	**612-1313**
5	0,015	400	1	**612-1314**
10	0,02	440	1	**612-1315**
15	0,03	510	1	**612-1316**
20	0,03	510	1	**612-1317**
25	0,03	520	1	**612-1318**
50	0,05	540	1	**612-1384**
100	0,08	585	1	**612-1320**

Bulb pipettes, BLAUBRAND® ETERNA
Brand

AR-Glas®, 1 mark, class AS, conformity certified

- Calibrated to deliver (TD, Ex)
- Ring mark and inscriptions in ETERNA amber stain
- Including one batch certificate
- On request also available with an individual certificate, USP individual certificate or DAkkS calibration certificate

DIN EN ISO 648

Capacity (ml)	Tolerance (± ml)	Length (mm)	Pk	Cat. No.
1	0,008	300	1	**612-1222**
2	0,01	330	1	**612-1223**
5	0,015	400	1	**612-1227**
10	0,02	440	1	**612-1232**
20	0,03	510	1	**612-1234**
25	0,03	520	1	**612-1235**
50	0,05	540	1	**612-1238**

Bulb pipettes
Hirschmann Laborgeräte

AR-Glas®, 1 mark, class AS

- Calibrated to deliver (TD, Ex)
- Ring mark and inscriptions in amber
- Certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)

DIN EN ISO 648

Capacity (ml)	Tolerance (± ml)	Length (mm)	Pk	Cat. No.
0,5	0,005	300	1	**612-1321**
1	0,007	300	1	**612-1322**
1,5	0,01	300	1	**612-1323**
2	0,01	330	1	**612-1324**
2,5	0,01	350	1	**612-1325**
3	0,01	350	1	**612-1326**
4	0,015	400	1	**612-1327**
5	0,015	400	1	**612-1328**
6	0,015	420	1	**612-1329**
7	0,015	430	1	**612-1330**
8	0,02	440	1	**612-1331**
9	0,02	440	1	**612-1332**
10	0,02	440	1	**612-1333**
15	0,03	510	1	**612-1334**
20	0,03	510	1	**612-1335**
25	0,03	520	1	**612-1336**
30	0,03	520	1	**612-1337**
40	0,05	540	1	**613-3217**
50	0,05	540	1	**612-1339**
100	0,08	585	1	**612-1340**

Bulb pipettes, BLAUBRAND®
Brand

AR-Glas®, 2 marks, class AS, conformity certified

- Calibrated to deliver (TD, Ex)
- Marks and inscriptions in high contrast blue enamel
- Including one batch certificate
- On request also available with an individual certificate, USP individual certificate or DAkkS calibration certificate

DIN EN ISO 648

Capacity (ml)	Tolerance (± ml)	Length (mm)	Pk	Cat. No.
0,5	0,005	300	1	**612-2726**
1	0,008	300	1	**612-2727**
2	0,01	330	1	**612-2728**
3	0,01	330	1	**612-2729**
5	0,015	400	1	**612-2730**
10	0,02	440	1	**612-2731**
15	0,03	440	1	**612-4759**
20	0,03	510	1	**612-2732**
25	0,03	520	1	**612-2733**
50	0,05	540	1	**612-2734**

Bulb pipettes
Hirschmann Laborgeräte

AR-Glas®, 2 marks, class AS

- Calibrated to deliver (TD, Ex)
- Ring mark and inscriptions in amber stain
- Certificate of conformity with dated batch identification available via website: (www.hirschmannlab.de)

DIN 12691

Capacity (ml)	Tolerance (± ml)	Length (mm)	Suppl. to DIN	Pk	Cat. No.
1	0,008	325	-	1	**612-2783**
2	0,01	350	-	1	**612-2784**
3	0,01	350	√	1	**612-2785**
5	0,015	410	-	1	**612-2786**
10	0,02	450	-	1	**612-2787**
15	0,03	520	√	1	**612-2788**
20	0,03	520	-	1	**612-2789**
25	0,03	530	-	1	**612-2790**
50	0,05	550	-	1	**612-2791**
100	0,08	600	-	1	**612-2792**

Bulb pipettes, Volac®

Glass, 1 mark, class A

- Calibrated to deliver (TD, Ex)
- Ring mark and inscriptions in amber stain
- Colour coded, individually numbered

BS 1583 - ISO 648

Capacity (ml)	Tolerance (± ml)	Length (mm)	Pk	Cat. No.
With works certificate				
1	0,008	300	1	**612-1372**
2	0,01	330	1	**612-1393**
3	0,015	330	1	**612-1394**
4	0,015	400	1	**612-1402**
5	0,015	400	1	**612-1424**
10	0,02	440	1	**612-1431**
15	0,025	510	1	**612-1435**
20	0,03	510	1	**612-1438**
25	0,03	520	5	**612-1443**
50	0,05	540	1	**612-1446**
100	0,08	585	1	**612-1460**
Without certificate				
1	0,008	300	1	**612-1303**
2	0,01	330	1	**612-1366**
3	0,015	330	5	**612-4853**
4	0,015	400	5	**612-4854**
5	0,015	400	1	**612-1367**
10	0,02	440	1	**612-1368**
15	0,025	510	5	**612-4855**
20	0,03	510	1	**612-1369**
25	0,03	520	1	**612-1370**
50	0,05	540	1	**612-1371**
100	0,08	585	1	**612-4856**

Bulb pipettes, SILBERBRAND ETERNA
Brand

AR-Glas®, 1 mark, class B

- Calibrated to deliver (TD, Ex)
- Ring mark and inscriptions in ETERNA amber stain

DIN EN ISO 648

Capacity (ml)	Tolerance (± ml)	Length (mm)	Suppl. to DIN	Pk	Cat. No.
0,5	0,007	300	-	1	**612-1251**
1	0,01	300	-	1	**612-1252**
2	0,015	330	-	1	**612-1253**
3	0,015	330	√	1	**612-1255**
5	0,025	400	-	1	**612-1257**
10	0,03	440	-	1	**612-1262**
15	0,04	510	√	1	**612-1263**
20	0,04	510	-	1	**612-1264**
25	0,04	520	-	1	**612-1265**
50	0,07	540	-	1	**612-1268**
100	0,12	585	-	1	**612-1269**

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Bulb pipettes
Hirschmann Laborgeräte

AR-Glas®, 1 mark, class B

- Calibrated to deliver (TD, Ex)
- Ring mark and inscriptions in amber stain

DIN 12690

Capacity (ml)	Tolerance (± ml)	Length (mm)	Suppl. to DIN	Pk	Cat. No.
0,5	0,0075	300	-	1	**612-1348**
1	0,0105	300	-	1	**612-1349**
2	0,015	330	-	1	**612-1359**
3	0,015	350	√	1	**612-1350**
4	0,023	400	√	1	**612-3464**
5	0,023	400	-	1	**612-1351**
10	0,03	440	-	1	**612-1352**
15	0,045	510	√	1	**612-1353**
20	0,045	510	-	1	**612-1354**
25	0,045	520	-	1	**612-1355**
50	0,075	540	-	1	**612-1357**
100	0,12	585	-	1	**612-1358**

Bulb pipettes
Brand

PP, highly translucent, 1 mark

- Calibrated to deliver (TD, Ex)
- Blue inscriptions
- Exposure to temperatures up to +60 °C will not cause permanent exceeding of tolerance limits
- Cleaning temperature below +60 °C is recommended to preserve marks and inscriptions
- Resistant to breakage

Capacity (ml)	Tolerance (± ml)	Length (mm)	Pk	Cat. No.
1	0,02	300 ± 10	1	**612-1282**
2	0,02	300 ± 10	1	**612-1283**
5	0,03	300 ± 10	1	**612-1287**
10	0,04	440 ± 10	1	**612-1292**
25	0,05	450 ± 10	1	**612-1295**
50	0,1	460 ± 10	1	**612-1298**

Weighing pipette, Lunge-Rey, Quickfit®

Pyrex® borosilicate glass

Precision-engineered, ground glass joints with a standard taper and smooth surface ensure complete interchangeability of elements with the same joint size and the highest standards of leak-tightness.

- Low coefficient of expansion, excellent chemical and heat resistance
- Specifically designed for weighing fuming or corrosive liquids
- All joints are 10/19
- Compatible with Erlenmeyer flask 201-8085

ISO 3585, DIN 12217

Description	Capacity (ml)	Pk	Cat. No.
Lunge-Rey weighing pipette	4	1	**216-1487**

Straw pipettes

PP, irradiated, disposable, sterile, without graduation

- Traceability including the expiry date on the secondary packaging
- Zip bag can be pressed closed thus ensuring the protection of the products
- Tamper-evident seal guarantees the sterility of the product

Description	Capacity (ml)	Packed	Pk	Cat. No.
Straw pipettes	1	25 per bag	1.000	**612-1675**

Aspirating pipettes, Falcon®
Corning®

PS, non plugged, non graduated, disposable, sterile

- Safer alternative to glass Pasteur pipettes
- Non pyrogenic
- Individually packaged to prevent contamination

Packaging: Individually packaged in a thermoformed paper/plastic wrap.

Capacity (ml)	Length (mm)	Pk	Cat. No.
5	348	200	**612-2458**
2	283	200	**734-0456**

Aspirating pipettes, Costar®
Corning®

PS, non-graduated, unplugged, sterile

- One piece PS construction
- Certified non-pyrogenic

Packaging: Bulk (1 ml) or individually wrapped (2 and 5 ml).

Capacity (ml)	Length (mm)	Pk	Cat. No.
1	277	1.000	**612-5122**
2	277	1.000	**734-1779**
5	348	200	**734-1778**

IVD

Micro pipettes, intraMARK, BLAUBRAND®
Brand

Glass, with ring mark, disposable

- Calibrated to contain 'In', contains the stated volume when filled from one end to a ring mark
- Colour code to ISO for clear identification
- Conformity certified for volumes ≥ 5 µl

Accuracy ≤±0,25%; Reproducibility ≤0,5% (except for 612-1401: Accuracy ≤±0,30%; Reproducibility ≤0,6%)

DIN ISO 7550, IVD 98/79 EC

Capacity (µl)	Length (mm)	Pk	Cat. No.
1/2/3/4/5*	125	250	**612-1401**
10	125	250	**612-1403**
20	125	250	**612-1404**
25	125	250	**612-1405**
40	125	250	**612-1407**
20/40	125	250	**612-1406**
50	125	250	**612-1412**
100	125	250	**612-1414**
50/100	125	250	**612-1413**
200	125	200	**612-3356**

* Conformity certified only for 5 µl

IVD

Micro pipettes, intraEND, BLAUBRAND®
Brand

Glass, without ring mark, disposable

- Calibrated to contain 'In', contains the stated volume when filled from one end to the other
- Conformity certified for volumes ≥ 5 µl

Accuracy ≤±0,5%; Reproducibility ≤1,0% (except for 612-1432: Reproducibility ≤1,5% and for 612-1445: Reproducibility ≤2,0%)

DIN ISO 7550, IVD 98/79 EC

Capacity (µl)	Length (mm)	Pk	Cat. No.
1	29	250	**612-1432**
2	29	250	**612-1433**
3	29	250	**612-1434**
5	29	250	**612-1437**
10	29	250	**612-1439**
20	29	250	**612-1440**
25	29	250	**612-1441**
50	29	250	**612-1444**
100	60	250	**612-1445**

Pipette aid for micro pipettes
Brand

Glass tube, rubber adapter and rubber teat with venting hole.

- Especially for BLAUBRAND® intraEND micropipettes

Description	Pk	Cat. No.
Pipette aid for micro-pipettes	1	**612-1449**

IVD

Micro pipettes, ringcaps®
Hirschmann Laborgeräte

DURAN®, borosilicate glass, with ring mark, disposable

- Colour code to ISO for clear identification
- Conformity certified

ISO 9000, DIN ISO 7550, IVD 98/79 EC

Capacity (µl)	Length (mm)	Pk	Cat. No.
1/2/3/4/5	125	250	**612-2401**
10	125	250	**612-2403**
20	125	250	**612-2404**
25	125	250	**612-2405**
40	125	250	**612-2407**
44,7	125	250	**612-2408**
50	125	250	**612-2409**
100	125	250	**612-2411**
5/10	125	250	**612-2402**
100/200	125	100	**612-2412**
20/40	125	250	**612-2406**
50/100	125	250	**612-2410**

IVD

Micro pipettes, minicaps®
Hirschmann Laborgeräte

DURAN®, borosilicate glass, not heparinised, disposable

- Conformity certified
- End to end: contains the stated volume when filled from one end to the other
- Safe packaging for protection during transportation

DIN ISO 7550, IVD 98/79 EC

Accuracy: 0,5%

Reproducibility: 1%

Packaging: 100 micro pipettes are packed in a glass vial with colour-coded dispenser cap, 10 of these vials are packed into a stable carton box.

Capacity (µl)	Length (mm)	Pk	Cat. No.
0,5	32	1.000	**612-2431**
1	32	1.000	**612-2432**
2	32	1.000	**612-2433**
3	32	1.000	**612-2434**
4	32	1.000	**612-2436**
5	32	1.000	**612-2437**
10	32	1.000	**612-2439**
20	30	1.000	**612-2440**
25	32	1.000	**612-2441**
30	32	1.000	**612-2442**
40	30	1.000	**612-2443**
50	32	1.000	**612-2445**
100	100	1.000	**612-2446**
3,33	36	1.000	**612-2435**
6,66	32	1.000	**612-2438**

IVD

Micro pipettes, minicaps®, according to Delbrück
Hirschmann Laborgeräte

DURAN®, borosilicate glass, sodium-heparinised, disposable

- Conformity certified
- End to end: contains the stated volume when filled from one end to the other
- Safe packaging for protection during transportation

DIN ISO 7550, IVD 98/79 EC

Accuracy: 0,5%

Reproducibility: 1%

Packaging: 100 micro pipettes are packed in a glass vial with colour-coded dispenser cap, 10 of these vials are packed into a stable carton box.

Capacity (µl)	Length (mm)	Pk	Cat. No.
20	30	1.000	**612-2449**
40	30	1.000	**612-2451**
50	30	1.000	**612-2453**

Micro pipettes, disposable, Microcaps®

For fast, safe, clean transfer of liquids in micro quantities. Suitable for both general and hazardous microchemical applications.

Micro pipettes are precision-bore glass capillary tubes cut to predetermined lengths so that fill volumes are constant and precise. Capillary action draws the fluid into the tube and a squeeze of the bulb dispenses it with accuracy of ±1%.

Ordering information: Delivery includes 100 pipettes and one bulb dispenser.

Capacity (µl)	Length (mm)	Pk	Cat. No.
0,25	32	100	**612-4858**
0,5	64	100	**612-4859**
1	32	100	**612-4860**
5	32	100	**612-4861**
10	41	100	**612-4862**
15	54	100	**612-4863**
30	78	100	**612-4864**

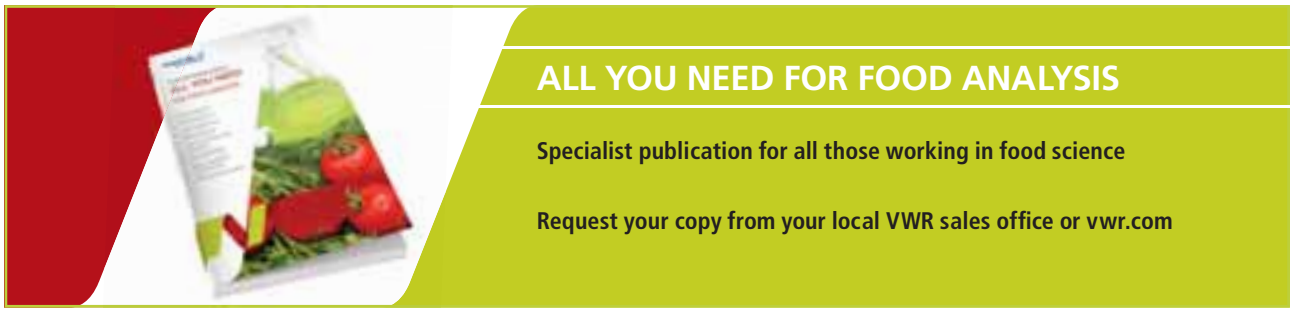
Type	Pk	Cat. No.
Bulb dispenser		
Bulb dispenser	1	**612-4865**

Capillary tubes

Soda glass

For melting point determinations.

Description	Ø ext. (mm)	Length (mm)	Pk	Cat. No.
Both ends open	1,8/2,0	75	1.000	**612-4866**
Both ends open	1,8/2,0	100	1.000	**612-4867**
Sealed one end	1,8/2,0	100	1.000	**612-4868**
Sealed both ends	1,8/2,0	100	1.000	**621-0050**



Pasteur pipettes

Glass, disposable, non sterile

- Automated manufacturing process ensuring total uniformity of production
- Tapered upper opening for cotton ball plugging
- Top body outer diameter: 7,1 mm, wall thickness: 0,53 mm, jet outer Ø: 1,50 mm

Description	Capacity (ml)	Length (mm)	Pk	Cat. No.
Non plugged	2,0	150	250	**612-1701**
Non plugged	2,0	230	250	**612-1702**
Pre-plugged	2,0	150	250	**612-1798**
Pre-plugged	2,0	230	250	**612-1799**
Pre-plugged, breakable tip	2,0	230	250	**612-3849**
Non plugged, breakable tip	2,0	230	250	**612-3850**
Non plugged, breakable tip	2,0	270	250	**612-3860**
Pre-plugged, breakable tip	2,0	270	250	**612-3861**

Pasteur pipettes, Volac®

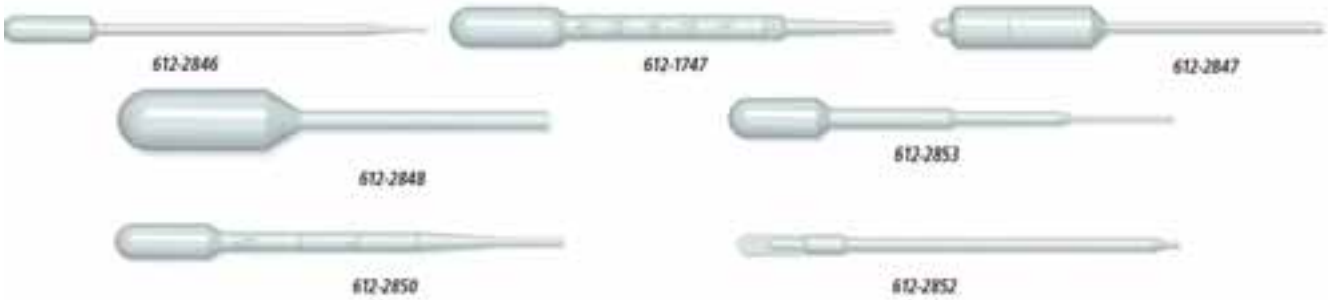
Glass, graduated, standard or heavy wall, plain or pre-plugged, sterile or non sterile

- Precision pipettes with a heavier wall thickness to provide the best quality product allied with greater strength to give lower breakages during transit and reduced risk of breakage in use or when fitting PVC teats
- Standard pipettes with top body, outer diameter 6,8 - 7,1 mm, wall thickness 0,50 - 0,53 mm and jet outer diameter 1,50 ±0,2 mm
- Heavy wall pipettes with top body, outer diameter 7,7 - 8,1 mm and wall thickness 0,80 - 0,90 mm

Ordering information: Standard pipettes supplied with two PVC teats.

Ø ext. (mm)	Length (mm)	Sterile	Packed	Pk	Cat. No.
Standard, pre-plugged and sterile					
6,8 - 7,1	150	+	25/sleeve, 10 sleeves/case	250	**612-0997**
6,8 - 7,1	230	+	25/sleeve, 10 sleeves/case	250	**612-1137**
Heavy wall, plain and non sterile					
7,7 - 8,1	230	-	200/box, 4 boxes/ case	800	**612-1100**
Standard, pre-plugged and non sterile					
6,8 - 7,1	150	-	Bulk	1.000	**612-0994**
6,8 - 7,1	230	-	Bulk	1.000	**612-1103**
6,8 - 7,1	270	-	Bulk	250	**612-4876**

Transfer pipettes, High Performance



LDPE, disposable

These unbreakable all in one pipettes eliminate the hazard of broken glass and exposure to infectious materials. The low-affinity surface reduces the loss of cells and valuable proteins due to binding. They work well whenever there is a need for quick, safe transfer of fluids.

- Non toxic and inert to biological fluids and most acids
- Can be heat-sealed and frozen at very low temperatures such as in liquid nitrogen
- Available sterile or non sterile
- Sterility assurance level is SAL10^{-6}

Packaging: Sterile pipettes are packaged in medical grade paper and non toxic film.

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Capacity (ml)	Drop vol. (µl)	Suction volume (ml)	Stem Ø (mm)	Length (mm)	Graduation (ml)	Sterile	Packed	Pk	Cat. No.
General purpose									
1,5	40	1,0	5	87	-	-	Bulk	1.000	**612-2846**
	35,7	1,0	5	123	-	-	Bulk	1.000	**612-2849**
23,0	45,5	10,0	9	300	-	-	Bulk	600	**612-2859**
Graduated									
3,0	45,4	1,0	5	138	1,0	-	Bulk	500	**612-2851**
5,0	43,4	1,0	5	150	1,0	-	Bulk	500	**612-1684**
	43,4	1,0	5	150	1,0	+	Individual	500	**612-1685**
	43,4	1,0	5	150	1,0	+	5 per bag	500	**612-1686**
	43,4	1,0	5	150	1,0	+	10 per bag	500	**612-1687**
6,0	45,4	1,5	5	230	1,5	-	Bulk	400	**612-2842**
	45,4	1,5	5	230	1,5	+	Individual	500	**612-2843**
	45,4	1,5	5	230	1,5	+	5 per bag	500	**612-2844**
	45,4	1,5	5	230	1,5	+	10 per bag	500	**612-2845**
7,0	47,6	3,0	7,8	150	3,0	-	Bulk	500	**612-1681**
	47,6	3,0	7,8	150	3,0	+	Individual	500	**612-1747**
	47,6	3,0	7,8	150	3,0	+	5 per bag	500	**612-1682**
	47,6	3,0	7,8	150	3,0	+	10 per bag	500	**612-1683**
Extra large									
14,0	55,6	10,0	4	170	-	-	Bulk	200	**612-2847**
Narrow stem									
1,2	40	0,9	2,5	63	-	-	Bulk	500	**612-2848**
4,0	35,7	3,5	2,5	83	-	-	Bulk	1.000	**612-2841**
	35,7	3,5	2,5	150	-	-	Bulk	500	**612-1688**
	35,7	3,5	2,5	150	-	+	Individual	500	**612-1756**
	35,7	3,5	2,5	150	-	+	5 per bag	500	**612-1689**
	35,7	3,5	2,5	150	-	+	10 per bag	500	**612-1690**
Fine tip									
1,5	20	1,0	3	104	-	-	Bulk	400	**612-2853**
5,0	15,4	3,5	5	144	-	-	Bulk	500	**612-2856**
	15,4	3,5	5	144	-	+	Individual	500	**612-2857**
	15,4	3,5	5	144	-	+	10 per bag	500	**612-2858**
7,0	15,1	6,0	6,3	150	-	-	Bulk	400	**612-4464**
	15,1	6,0	6,3	150	-	+	Individual	500	**612-4465**
	15,1	6,0	6,3	150	-	+	5 per bag	500	**612-2854**
	15,1	6,0	6,3	150	-	+	10 per bag	500	**612-2855**
Blood bank									
5,0	45,4	2,0	6,7	155	2,0	-	Bulk	500	**612-2850**
Paddle									
3,0	30,3	0,2	3,8	130	-	-	Bulk	500	**612-2852**

Transfer pipettes, Standard Line

LDPE, disposable

These unbreakable all-in-one pipettes eliminate the potential hazard of broken glass and exposure to infectious materials. The low-affinity surface reduces the loss of cells and valuable proteins due to binding. They work well whenever there is a need for quick, safe transfer of fluids.

- Will not shatter or break
- Non toxic and inert to biological fluids and most acids
- Can be sealed and refrigerated; can be gas sterilised
- No bulb to insert or remove
- Uniform drop size

	Capacity (ml)	Drop vol. (µl)	Suction volume (ml)	Length (mm)	Graduation (ml)	Sterile	Packed	Pk	Cat. No.
Graduated, large bulb									
	5,8	40	3,4	155	0,25	-	Bulk	500	**612-4494**
		40	3,4	155	0,25	-	Peel-off pouch (100×5)	500	**612-4542**
		40	3,4	155	0,25	-	Peel-off pouch (50×10)	500	**612-4533**
		40	3,4	155	0,25	+	Peel-off pouch (50×10)	500	**612-4523**
		40	3,4	155	0,25	+	20 per bag	500	**612-4491**
		40	3,4	155	0,25	+	Individually wrapped	500	**612-4497**
	7,0	50	3,0	153	1,0	-	Bulk	500	**612-4472**
		50	3,0	153	1,0	+	Individually wrapped	500	**612-4473**
	7,5	50	3,2	155	0,5	-	Bulk	500	**612-4545**
		50	3,2	155	0,5	+	Peel-off pouch (100×5)	500	**612-4536**
		50	3,2	155	0,5	+	Peel-off pouch (50×10)	500	**612-4538**
		50	3,2	155	0,5	+	20 per bag	500	**612-4502**
		50	3,2	155	0,5	+	Individually wrapped	500	**612-4543**

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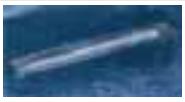
	Capacity (ml)	Drop vol. (µl)	Suction volume (ml)	Length (mm)	Graduation (ml)	Sterile	Packed	Pk	Cat. No.
Graduated, small bulb									
	3,0	40	2,1	140	0,25	-	Bulk	500	**612-4520**
Non graduated, standard									
	7,5	50	3,2	155	-	-	Bulk	500	**612-4504**
		50	3,2	155	-	+	20 per bag	500	**612-4505**
		50	3,2	155	-	+	Individually wrapped	500	**612-4506**
Non graduated, general purpose									
	1,7	40	0,9	87	-	-	Bulk	500	**612-3608**
		40	0,9	87	-	+	20 per bag	500	**612-4470**
Non graduated, general purpose, large bulb									
	1,7	40	0,9	87	-	+	Individually wrapped	500	**612-4471**
	8,0	50	4,6	152	-	+	20 per bag	400	**612-4508**
		50	4,6	152	-	+	Individually wrapped	400	**612-4509**
	9,3	56	4,8	137	-	-	Bulk	250	**612-4511**
Non graduated, narrow stem, standard									
	4,6	45	3,3	155	-	-	Bulk	500	**612-3609**
		45	3,3	155	-	+	Peel-off pouch (100×5)	500	**612-4526**
		45	3,3	155	-	+	Peel-off pouch (50×10)	500	**612-4527**
		45	3,3	155	-	+	20 per bag	500	**612-4479**
		45	3,3	155	-	+	Individually wrapped	500	**612-4481**
Non graduated, narrow stem, large bulb									
	4,0	40	3,0	86	-	-	Bulk	500	**612-4476**
Non graduated, thin stem									
	1,5	48	0,8	116	-	-	Bulk	500	**612-3399**
		48	0,8	116	-	+	20 per bag	500	**612-4468**
		48	0,8	116	-	+	Individually wrapped	500	**612-4469**
	15,0	53	8,0	155	-	-	Bulk	250	**612-4512**
		53	8,0	155	-	+	Individually wrapped	250	**612-4513**
Non graduated, long									
	5,5	40	2,3	230	-	-	Bulk	500	**612-3610**
		40	2,3	230	-	+	20 per bag	400	**612-4499**
		40	2,3	230	-	+	Individually wrapped	400	**612-4500**
Non graduated, extra long									
	23,0	50	7,3	300	-	-	Bulk	100	**612-3627**
		50	7,3	300	-	+	20 per bag	100	**612-4514**
		50	7,3	300	-	+	Individually wrapped	100	**612-4515**
Non graduated, fine tip, standard									
	5,8	20	3,3	147	-	-	Bulk	500	**612-4492**
		20	3,3	147	-	-	Peel-off pouch (50×10)	500	**612-4530**
		20	3,3	147	-	+	20 per bag	500	**612-4495**
		20	3,3	147	-	+	Individually wrapped	500	**612-4496**
Non graduated, extended fine tip, large bulb									
	5,0	20	3,3	153	-	-	Bulk	250	**612-4486**
		20	3,3	153	-	+	20 per bag	500	**612-4490**
Non graduated, extended fine tip, small bulb									
	1,5	20	1,0	104	-	-	Bulk	400	**612-3619**
		20	1,0	104	-	+	20 per bag	500	**612-4466**
		20	1,0	104	-	+	Individually wrapped	400	**612-4518**

Transfer pipettes, Falcon®
Corning®

PE, disposable

- With 1 ml and 2 ml graduations
- Small tip ensures consistent reproduction of drop size

Capacity (ml)	Length (mm)	Sterile	Packed	Pk	Cat. No.
3,0	152	-	500/package, 1000/case	1.000	**734-0342**
3,0	152	+	Individually wrapped, 500/case	500	**734-0354**

Transfer pipettes

612-1732, 612-1746, 612-1776

612-1735, 612-1762

612-1744, 612-1774

PE, disposable

- Unbreakable, reduced risk of injury compared to glass
- 612-1746 with embossed graduation

Capacity (ml)	Drop vol. (µl)	Length (mm)	Sterile	Packed	Pk	Cat. No.
0,2	30	130	-	Bulk	500	**612-1732**
1,0	20	104	-	Bulk	400	**612-1735**
1,0	56	170	-	Bulk	500	**612-1776**
1,5	45	230	-	Bulk	400	**612-1762**
2,0	45	155	-	Bulk	500	**612-1744**
3,0	40	150	-	Bulk	500	**612-1746**
3,0	33	150	-	Bulk	500	**612-1755**
10,0	56	170	-	Bulk	200	**612-1774**

Graduated transfer pipettes, Volac®

LDPE, disposable

Graduated to 1 ml with 0,25 ml increments

Capacity (ml)	Drop vol. (µl)	Length (mm)	Sterile	Packed	Pk	Cat. No.
1,5	40	138	-	Bulk	500	**612-0964**
1,5	40	138	+	Individually wrapped	250	**612-0965**
3,5	40	153	-	Bulk	500	**612-0966**
3,5	40	152	+	10/pack	500	**612-4875**
3,5	40	153	+	Individually wrapped	250	**612-0967**

Transfer pipettes

PE, transparent

- For general purpose applications
- Volumetrical tolerance: ± 10%

Capacity (ml)	Stem Ø (mm)	Length (mm)	Sterile	Pk	Cat. No.
8	6,3	150	-	400	**613-4980**
8	6,3	150	+	400	**613-4978**

Transfer pipettes

PE, disposable

- Extra long or graduated

Capacity (ml)	Stem Ø (mm)	Length (mm)	Sterile	Pk	Cat. No.
5	-	216	-	250	**613-4977**
6	5,0	225	-	400	**613-4992**
7	7,8	154	-	500	**613-4984**
23	9,0	300	-	100	**613-4987**

Transfer pipettes

PE, disposable

Fine tip

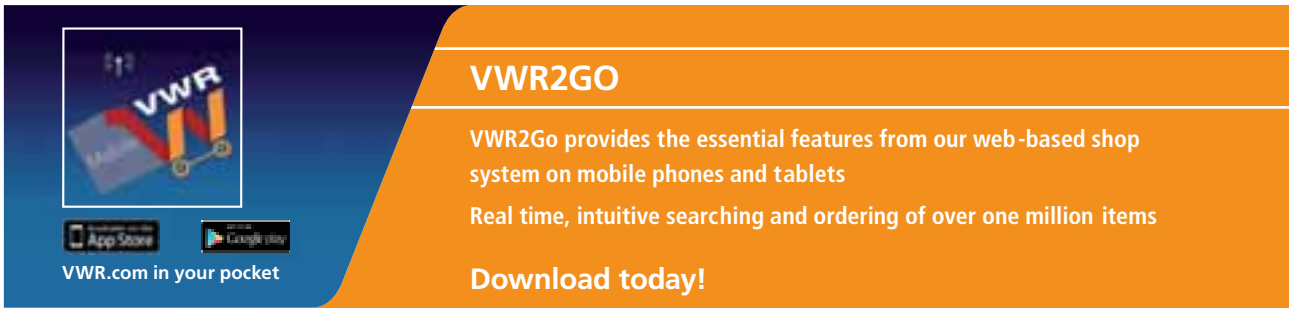
Description	Capacity (ml)	Sterile	Pk	Cat. No.
Extended fine tip	1	-	400	**612-4857**
Extended fine tip	2	+	500	**613-4994**
Fine tip	3	-	250	**612-2598**
Fine tip	3	+	500	**613-4995**
Extended fine tip	3,3	-	500	**613-4989**
Extended fine tip	3,3	+	500	**613-4993**

Dropping pipettes
Kartell

PE, graduated

- Moulded in one piece
- High capacity reservoir for take up and expulsion of liquids
- Ideal replacement for traditional glass Pasteur pipette and rubber teat

Capacity (ml)	Ø ext. (mm)	Length (mm)	Sterile	Pk	Cat. No.
1,5	8	134	-	100	**612-1778**
5,0	10	195	-	100	**612-1780**



Pipette filler, Smoothie™

For glass and plastic pipettes from 1 to 25 ml

The Smoothie™ pipette filler is a simple manual pipetting aid for convenient single handed operation. The unique range control allows selection from a choice of two dispense resolutions. One range setting delivers fast filling with optimal accuracy when used with 10 to 25 ml pipettes, the other setting is for use with pipettes from 1 to 10 ml where accuracy of fill can sometimes be difficult to control.

- Comfortable and simple to use
- Smooth and controllable thumb action
- Silicone adapter for leakproof positioning of each pipette

Description	Pk	Cat. No.
Pipette filler Smoothie™	1	612-4546

Pipette filler, Manupette

For glass and plastic pipettes from 1 to 100 ml

The Manupette pipette filler facilitates the pipetting of a wide range of liquids. The practical arrangement of the controls makes work easier and gives maximum safety during serial pipetting.

- Replaceable hydrophobic membrane filter to protect the instrument from liquid penetration
- Separate buttons for aspirating/dispensing and discharging
- Silicone adapter for leakproof positioning of each pipette

Ordering information: Supplied with three separate nose cones in three different colours.

Description	Pk	Cat. No.
Pipette filler Manupette	1	612-4548

Pipette controller, macro
Brand

For glass and plastic pipettes from 0,1 to 200 ml, autoclavable

- Conical silicone adapter offers a secure fit for different diameters
- Valve system allows for easy compression of the bellows
- Spring loaded lever enables sensitive filling and delivery of liquids
- Meniscus is easily adjustable

Each pipette controller is supplied with a 3 µm spare membrane filter.

Description	Colour code	Pk	Cat. No.
Macro pipette controller	Grey	1	612-1900
Macro pipette controller	Green	1	612-1935
Macro pipette controller	Blue	1	612-1932
Macro pipette controller	Magenta	1	612-1933

Description	Pk	Cat. No.
Accessories		
Membrane filter 3 µm (PP, PTFE), non sterile	1	612-1965
Membrane filter 3 µm (PP, PTFE), non sterile	10	612-1966
Valve system (PP, PTFE, silicone)	1	612-1904
Adapter (silicone) Length: 44 mm	1	612-2202
Adapter support (PP) grey, Length: 49 mm	1	612-2210
Suction bellows (silicone) with screw ring (PP)	1	612-1903

Pipette controller, Safetypette™ Pro
Jencons

For glass and plastic pipettes from 1 to 100 ml

Unique design of pipette controller with an ultra-squeezable bulb to provide smooth, manual pipetting control in both aspirating and dispensing.

- Comfortable and simple to use, robust and lightweight
- Precise pipetting control with simple thumb button operation
- Large capacity bulb
- Uses integral 0,45 µm, replaceable membrane filter to ensure liquid is not accidentally drawn into the unit
- Autoclavable silicone pipette holder

Ordering information: Supplied with integral but replaceable 0,45 µm filter.

Description	Pk	Cat. No.
Pipette controller Safetypette™ Pro	1	**613-0925**

Pipette controller, Pipet Helper®
Eppendorf

For glass and plastic pipettes from 0,1 to 100 ml

The lightweight Pipet Helper® is the perfect instrument for inexperienced users as its robust and intuitive design allows anyone to adjust the meniscus precisely. The valve unit is optimised so that liquids can be drawn up simply, without exerting pressure. The specially designed aspirating cone ensures secure seating for all measuring and volumetric pipettes (glass and plastic).

- Aspiration bulb provides rapid filling of the pipette (up to 100 ml at once)
- Ergonomic lever provides gentle control of aspiration and dispensing
- Drop wise dispensing and blow out without splashing
- Drip stop via hydrophobic membrane filter (3 µm)
- Easy maintenance and cleaning, fully autoclavable

Description	Capacity (ml)	Pk	Cat. No.
Pipet Helper®	0,1 - 100	1	**613-2940**

Description	Pk	Cat. No.
Accessories		
Membrane filter, for Pipet Helper®, 3 µm, non sterile	10	**612-4802**

Pipette controller, Pipette Pump™ II
Bel-Art Products

For glass and plastic pipettes from 2 to 25 ml pipettes

Designed for fast and efficient single-handed operation with glass or plastic pipettes.

- Pipettes are easily inserted into a unique collar with stabilising fingers to hold pipette securely
- Easily disassembled for cleaning
- Colour-coded

Description	Capacity (ml)	Colour code	Pk	Cat. No.
Pipette Pump™ II	2	Blue	1	**612-0015**
Pipette Pump™ II	10	Green	1	**612-0016**
Pipette Pump™ II	25	Red	1	**612-0017**

Pipette controller, Accurpette

For glass and plastic pipettes from 1 to 100 ml

The Accurpette pipette controller delivers efficient performance with a powerful but quiet motor to speed up large volume pipetting. The mode selection switch enables selection of high or low modes both allowing variable aspirate and dispense speeds (with blow out). In any mode setting the speed of suction and dispensing is controlled through the concave finger triggers, designed to provide a comfortable and positive grip and to require the minimum of effort. An additional gravity dispense mode is designed for use with 'To Deliver' (TD) pipettes. The Accurpette is now supplied with additional coloured nose cones to allow laboratory, application or user colour coding to minimise the risk of cross-contamination.

- Lightweight UV resistant body (180 g) and nose cones
- Fills a 25 ml pipette in under three seconds on its fastest setting
- Autoclavable silicone pipette holder
- Replaceable hydrophobic membrane filter protects the unit against liquid influx and protects samples against contamination
- Environmentally friendly rechargeable NiMH battery allow continuous usage for 4 hours; low battery light, rechargeable during use

Ordering information: Supplied with charger, two spare hydrophobic filters (1×0,45 µm, 1×0,2 µm), bench stand/wall bracket and a coloured nose cone set.

Description	Pk	Cat. No.
Pipette controller Accurpette, UK-charger	1	**612-4553**

Pipette controller, PIPETBOY acu 2
Integra Biosciences

For glass and plastic pipettes from 0,1 to 100 ml

The second generation of PIPETBOY acu is equipped with the latest technology providing an increased pipetting speed and a significant weight reduction of the instrument. These new features combined with unchanged main benefits provide an improved ergonomic pipetting experience.

- Lightweight (195 g), enhanced ergonomics for stress and fatigue-free pipetting
- Pipetting speed is conveniently preset via thumb wheel; speed is then easily regulated with the tips of the fingers
- Autoclavable nose piece and easy to replace hydrophobic filter for reliable protection
- LED provides clear information about the battery charging status
- Easy identification of the right controller thanks to colour coding

Ordering information: Supplied with a rechargeable 9 V NiMH battery, wall holder, EU mains adapter and 0,45 µm sterile filter.

Description	Pk	Cat. No.
PIPETBOY acu classic	1	**612-0926**
PIPETBOY acu green	1	**613-4437**
PIPETBOY acu red	1	**612-0927**
PIPETBOY acu blue	1	**612-0928**
PIPETBOY acu transparent	1	**613-4438**
PIPETBOY acu violet	1	**612-2964**

Description	Pk	Cat. No.
Accessories		
Battery 9-V NiMH	1	**612-0923**
Filter non sterile 0,45 µm	1	**613-4432**
Mains adapter UK, 230 VAC	1	**612-2985**
Pipette mount, grey, incl. O-ring	1	**612-0703**

Pipette controller, PIPETBOY pro
Integra Biosciences

PIPETBOY pro

Charging station

For glass and plastic pipettes from 1 to 100 ml

- Extra light, ergonomic pipette controller (190 g)
- Very accurate pipetting by applying variable finger pressure on the pipette triggers
- Maximum pipetting speed: 10 ml/s; adjustable pipetting speed: 2 - 10 ml/s
- Integrated LED provides an optimal illumination of the area around the pipette, ensuring accurate pipetting and prevents eye strain
- High quality NiMH batteries (standard AAA type) give an average of 4000 aspiration and dispensing cycles of 25 ml

Ordering information: Supplied complete with spare sterile filter, two batteries, mains adapter and wall mount.

Description	Colour code	Pk	Cat. No.
PIPETBOY pro	White	1	**612-3711**
PIPETBOY pro	Pink	1	**612-3713**
PIPETBOY pro	Green	1	**612-3714**
PIPETBOY pro	Orange	1	**612-3716**
PIPETBOY pro	Blue	1	**612-3717**

Description	Pk	Cat. No.
Accessories		
Spare filter, sterile, 0,45 µm	1	**612-0925**
Charging station for PIPETBOY pro	1	**612-3718**

Pipette controller, accu-jet® pro
Brand

For glass and plastic pipettes from 0,1 to 200 ml

- Selection of gravity delivery or powered blow-out using one hand, infinitely adjustable motor speed and control of pipetting speed using pipetting buttons
- Intelligent electronic system prevents overloading
- Flashing LED indicates low battery
- Silently aspirates 50 ml in one go in just 10 seconds
- Operates for up to eight hours with 10 ml pipette
- Can be kept in the wall holder or placed on its back to keep the pipette away from work surfaces

Weight: 190 g

Ordering information: Supplied with a rechargeable NiMH battery, two lids for the battery compartment, wall holder, battery charger, two spare 0,2 µm membrane filters.

Description	Pk	Cat. No.
accu-jet® pro, dark blue, with battery charger for UK (230 V/50 Hz)	1	**612-2881**
accu-jet® pro, magenta, with battery charger for UK (230 V/50 Hz)	1	**612-2882**
accu-jet® pro, green, with battery charger for UK (230 V/50 Hz)	1	**612-2883**
accu-jet® pro, royal blue, with battery charger for UK (230 V/50 Hz)	1	**612-2884**

Description	Pk	Cat. No.
Accessories		
Membrane filter, 0,2 µm, non sterile, in bag	10	**612-1964**
Membrane filter, 0,2 µm, sterile, in blister pack	1	**612-1963**
Pipette adapter with non-return valve, silicone	1	**612-1962**
Wall support, grey	1	**612-1967**

VWR COLLECTION

Delivering high quality and superior performance

Please contact your local VWR sales office or go to vwr.com for the latest news and special offers

Pipette controller, pipetus®
Hirschmann Laborgeräte

For glass and plastic pipettes from 0,1 to 200 ml

This pipette has a hydrophobic PTFE membrane filter with a porosity of 0,2 µm, intelligent charging technology, no memory effect, and protection against overcharging the batteries ensured by microprocessor control. The 'Speed' key allows you to choose the ideal pipetting speed from the 5 speeds offered, with colour indicator.

- Unique and ecologically sound with up to 50 hr of independent running, cadmium-free NiMH batteries
- Coloured display allows visual check of the battery charging status, the selected pipetting mode (Ex or blow-out), and the selected speed
- Safe thanks to the safety return valve and highly sensitive valves for precise meniscus adjustment
- Silent due to vibrationless pump motor
- Silicone adapter for entirely leakproof positioning of each pipette

Ordering information: Supplied complete with the charger and plate, two PTFE filters, one safety valve and one wall bracket.

Description	Pk	Cat. No.
pipetus®, EU/UK/US-plugs	1	**612-1874**

Description	Pk	Cat. No.
Accessories		
Pipette holder for pipetus®-junior and pipetus®	1	**612-1875**

Pipette controller, Eppendorf Easypet® 3
Eppendorf

For glass and plastic pipettes from 0,1 to 100 ml

This system allows the user to completely control the pipetting speed simply with the tips of their fingers. This unique and precise speed adjustment enables an optimised gravity drain option that allows for easy dispensing of liquid without splashing.

- Valve technology enables more sensitive control of the meniscus resulting in increased precision
- Vibrant backlit LEDs provide optical feedback of the remaining battery life
- Lightweight and ergonomically improved design allows for stress-free work
- Quick release aspirating cone for easy exchange of membrane filters
- Pressure equalisation system prevents aspirated vapours from entering the device and causing corrosion
- Nose cone and adapter are autoclavable

Ordering information: Supplied with power supply, wall mounting device, shelf stand and two 0,45 µm membrane filters (not sterile).

Description	Pk	Cat. No.
Easypet® 3	1	**613-2795**

Description	Pk	Cat. No.
Accessories		
Membrane filters, 0,45 µm, PTFE, sterile	5	**613-0210**
Membrane filters, 0,2 µm, PTFE, sterile	5	**612-4899**

Pipette controller, S1
Thermo Scientific

For glass and plastic pipettes from 1 to 100 ml

S1 pipette controller combines pipetting comfort and high performance.

- Lightweight ergonomic design; large illuminated LCD display
- 8 speed alternatives for both aspirating and dispensing allowing total control of pipetting
- Customisable ID area, five colour options permit easy recognition of ownership and/or task designation
- Autoclavable silicone adapter
- Heavy duty lithium-ion battery with fast recharging (3 hours) and 15 hours of continuous operation

Ordering information: Supplied with lithium-ion battery, universal power supply, wall-mounted holder and table-mounted stand.

Description	Colour code	Pk	Cat. No.
Pipette controller S1	White	1	**612-3983**
Pipette controller S1	Clear	1	**612-3984**
Pipette controller S1	Blue	1	**612-3985**
Pipette controller S1	Red	1	**612-3986**
Pipette controller S1	Green	1	**612-3987**

Description	Pk	Cat. No.
Accessories		
Non-sterile filters	5	**613-4470**
Hydrophobic filters, 0,45 µm, sterile, 25/box	25	**612-4844**
Nosepiece (holder, silicone gripper, filter)	1	**612-4845**
Pipette gripper, silicone, 4/case	4	**612-4846**
Single pipette filler wall mount stand	1	**612-4847**
Single pipette filler table mount stand	1	**612-4848**
Power supply (universal input)	1	**612-4849**
Single pipette filler wing stand	1	**612-4850**
1 ml pipet filler support	1	**612-4851**

Pipette controller, Bibbyjet Pro
Stuart

For all glass or plastic pipettes from 0,1 to 100 ml

Powerful, lightweight and handy - the automatic Bibbyjet Pro has just two function buttons to give you complete control over filling and delivery. Gently or powerfully, the built-in dual controls allow you to take up liquid slowly or quickly, whatever your needs.

- Just two buttons for every function
- One full working day of pipetting without recharging
- Built-in non return valve combined with a membrane filter for efficient protection against penetration of liquids
- Specially designed silicone adapter allowing a tight fit for all glass or plastic pipettes from 0,1 to 100 ml

Ordering information: Supplied with wall support and two spare 0,2 ml membrane filters.

Description	Pk	Cat. No.
Bibbyjet Pro with charger for UK and Ireland	1	**613-4180**

Description	Pk	Cat. No.
Accessories		
Silicone pipette adapter	1	**613-4181**
0,2 µm filter, sterile	1	**613-4182**
0,2 µm filter, non sterile	10	**613-4183**
3 µm filter, non sterile	10	**613-4185**
230 V charger for UK	1	**613-4186**

Pipette controller, Powerpette® Plus

Jencons

For glass and plastic pipettes from 1 to 100 ml

Offers a unique combination of features to give precision fingertip control in a classic streamlined design, suitable for users with large or small hands. Three aspirate and dispense modes. High and low settings both have variable speed. Gravity dispense mode is designed for use with 'To Deliver' (TD) pipettes.

- Speed of suction and dispensing controlled through the finger triggers
- Fully-charged has approximately 8 hours of continuous use available
- Low battery light illuminates when one hour's power remains

Ordering information: Supplied with 0,45 µm and 0,2 µm hydrophobic filters, as standard, for effective protection against airborne contamination of the unit during aspiration, and of your samples during dispensing; 2×1,2 V nickel metal hydride batteries and UK-charger.

Description	Colour code	Pk	Cat. No.
Powerpette® Plus	Grey	1	**613-4442**
Powerpette® Plus	Yellow	1	**613-4445**
Powerpette® Plus	Pink	1	**613-4446**
Powerpette® Plus	Purple	1	**613-4447**
Powerpette® Plus	Turquoise	1	**612-3686**
Powerpette® Plus	Green	1	**613-4448**

Description	Pk	Cat. No.
Accessories		
Replacement nose cone (grey)*	1	**612-3680**

* Other colours available, please specify when ordering otherwise grey is sent.

Safety pipette fillers, Standard/Universal/Flip

Standard

Universal

Flip

Natural rubber

- For measuring and volumetric pipettes up to 10 ml (Standard) or 100 ml (Universal/Flip)
- Standard/Universal: Three ventilation valves
- Flip: Only two operating points for easier usage (release through an automatic removable valve)

Description	Colour	Pk	Cat. No.
Safety pipette filler Standard	Red	1	**612-1930**
Safety pipette filler Standard	Blue	1	**612-2008**
Safety pipette filler Universal	Red	1	**612-1931**
Safety pipette filler Universal	Blue	1	**612-2004**
Safety pipette filler Flip	Red	1	**612-1920**
Safety pipette filler Flip	Blue	1	**612-1947**

Pipette bulbs

Natural latex

- For Pasteur pipettes, small pipettes, and medical drop counters

Capacity: 1 - 2 ml

Length: 38/57 mm

Description	Pk	Cat. No.
Dropper bulbs, 1 ml, 38 mm	72	**612-2691**
Dropper bulbs, 2 ml, 57 mm	72	**612-2693**

Pipette teats, Volac®

PVC

- For use with 1 ml glass disposable Pasteur pipettes
- Can also be used with 1 ml graduated serological pipettes if adapter 612-1139 listed below is fitted

Suction volume: 1,5 ml

Length×O-Ø: 46×15 mm

Bore: 7 mm

Description	Pk	Cat. No.
Pipette teat, PVC, 1,5 ml	1	**612-1138**

Description	Pk	Cat. No.
Accessories		
Adapter, plastic, for 612-1138	100	**612-1139**

Pipette teats

Red latex

- For Pasteur pipettes and capillaries

Neck Ø: 5 mm

Description	Colour	Pk	Cat. No.
Pipette teats for 1 ml pipettes	Red	10	**612-0959**
Pipette teats for 1,5 ml pipettes	Red	10	**612-0960**
Pipette teats for 2 ml pipettes	Red	10	**612-0961**

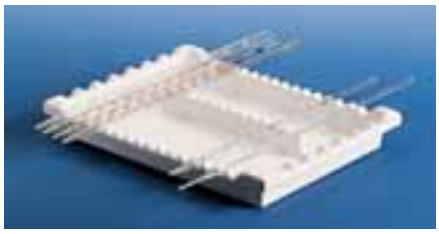
Pipette bulbs
Saint-Gobain

Rubber

- Ease of use
- For repeat sampling
- Longer lifetime compared to teats, good glass adherence protects tubing

Description	Colour	Pk	Cat. No.
Bulbs for pipettes, 1 ml, 10/package	Green	10	**612-2325**
Bulb for pipettes, 1 ml	Green	1	**612-1940**
Bulbs for pipettes, 2 ml, 10/package	Grey	10	**612-2327**
Bulb for pipettes, 2 ml	Grey	1	**612-1941**
Bulbs for pipettes, 5 ml, 10/package	Yellow	10	**612-2837**
Bulb for pipettes, 5 ml	Yellow	1	**612-1942**
Bulbs for pipettes, 10 ml, 10/package	Blue	10	**612-2330**
Bulb for pipettes, 10 ml	Blue	1	**612-1943**
Bulbs for pipettes, 15 ml, 10/package	Red	10	**612-2331**
Bulb for pipettes, 15 ml	Red	1	**612-1944**

Pipette tray
Kartell



PVC

- Very useful work station holder for items other than pipettes
- For 7 pipettes diameter <20 mm or for 16 pipettes diameter <10 mm
- For pipettes of all lengths

W×D×H: 283×216×40 mm

Description	Pk	Cat. No.
Pipette tray	1	**612-1810**

Pipette tray for drawer
Kartell

PVC

- Designed to hold about 30 pipettes
- 4 compartments to accommodate pipettes of 1, 2, 5, 10 ml

W×D×H: 425×300×30 mm

Description	Pk	Cat. No.
Pipette tray for drawer	1	**612-1805**

VWR COLLECTION

3 year warranty

SELECTED FOR YOU

Cargo manual pipette rack

Ideal for serological pipettes.

- Click together horizontally with side connections
- Securely lock in place with top connections
- Magnets on both sides of units connect securely and safely to metal surface such as filling cabinets, fume hoods, refrigerators, and freezers
- Angled shelves store 0,1 to 50 ml pipettes within arm's reach for use
- Protective lid encloses the unit to prevent dust build-up and provides an additional shelf for extra space when connected horizontally

Description	Colour	W×D×H (mm)	Pk	Cat. No.
Cargo manual pipette rack, blue (pack of 3)	Blue	95×127,5×301	3	**612-3848**

Pipette jar
Kartell

PP, with PE lid

- Can be used without the lid to autoclave pipettes (20 min at +120 °C)
- Tight-fitting lid for protecting pipettes from dust and during transport
- Can easily be cut down in height or used as a container for soaking contaminated pipettes

Ø×h ext/int: 82×426/410 mm

Description	Pk	Cat. No.
Pipette jar	1	**612-1820**

Sterilisation boxes for pipettes

Stainless steel, with round base, autoclavable

- Can be autoclaved at +121 °C and sterilised at +180 °C
- Bottom and underside of the lid are coated in silicone to minimise the risk of damaging the pipettes during transport and sterilisation

Ø×L (mm)	Pk	Cat. No.
64×280	1	612-2070
64×407	1	612-2068
64×457	1	612-2069

Sterilisation boxes for pipettes

Stainless steel, with square base, autoclavable

- Can be autoclaved at +121 °C and sterilised at +180 °C
- Bottom and underside of the lid are coated in silicone to minimise the risk of damaging the pipettes during transport and sterilisation

W×D×H (mm)	Pk	Cat. No.
50×50×300	1	612-2061
70×70×210	1	612-2062
70×70×290	1	612-2063
70×70×340	1	612-2064
70×70×430	1	612-2065
70×70×490	1	612-2066
80×80×400	1	612-2067

Sterilisation boxes for pipettes

Anodised aluminium, with square base, autoclavable

- With built-in sterilisable silicone pads to prevent damage to pipettes during sterilisation and transport
- The square section of the boxes allows stacking and will not roll off the bench

W×D×H (mm)	Pk	Cat. No.
70×70×180	1	612-2588
70×70×255	1	612-2589
70×70×305	1	612-2590
70×70×410	1	612-2591
70×70×458	1	612-2592

Pipette stand
Kartell

PP

- For 8 pipettes diameter <10 mm and 8 pipettes diameter <15 mm
- Small holes in base allow drainage

Description	W×D×H (mm)	Pk	Cat. No.
Pipette stand, PP	200×75×150	1	**612-1812**

Pipette stand
Bel-Art Products

White plastic, rectangular, autoclavable

- Sturdy racks hold 50 pipettes in a vertical 5×10 arrangement
- Top and middle levels have 16 mm diameter holes; holes on bottom level are tapered from 16 mm to 6 mm diameter. Pipette tips will not be in contact with table surface
- End plates have handles for easy carrying

Colour	W×D×H (mm)	Pk	Cat. No.
White	213×114×222	1	**612-9998**

Pipette stand, rotary
Kartell

PP

- For up to 94 places
- Rotation facilitating selection of pipettes

Description	Ø×H (mm)	Pk	Cat. No.
Pipette holder, rotary	230×470	1	**612-4008**

Storage and organisation system
Heathrow Scientific

ABS, coloured

For standard and tissue culture pipettes, and pipette boxes. Strong, stable construction.

- Suitable for standard and tissue culture pipettes from 0,1 to 25 ml
- Four compartments with side viewing windows allow a clear view, even when several systems are arranged next to each other
- Lateral clamp holders for pipetting aids or pipetting bulbs

Description	Colour	W×D×H (mm)	Pk	Cat. No.
Manual pipette rack	Blue	88×291×401	1	**612-1861**

Magnetised pipette rack
Heathrow Scientific

Blue ABS plastic

- Suitable for standard and tissue culture pipettes from 0,1 to 25 ml
- With magnets at four corners it can be mounted on a refrigerator or metal cabinet
- Consisting of four compartments to store different pipettes

Ordering information: Supplied with two supports for pipette filler, pipette controller, pipetting aid.

Description	W×D×H (mm)	Pk	Cat. No.
Magnetised pipette rack	85×290×410	1	**612-2994**

Burettes, straight stopcock, Schellbach, BLAUBRAND®
Brand

Borosilicate glass 3.3, class AS

- Calibrated to deliver 'TD, Ex', conformity certified
- Schellbach stripe, ring marks at major graduations
- Marks and inscriptions in high contrast blue enamel represent the optimum combination of resistance and readability

DIN EN ISO 385

Length: 800 mm

Ordering information: Supplied with a batch certificate. Burettes are also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
Stopcock with PTFE spindle				
10	0,02	0,02	1	**612-9958**
25	0,05	0,03	1	**612-9959**
50	0,10	0,05	1	**612-9960**
Stopcock with glass key				
10	0,02	0,02	1	**612-9961**
25	0,05	0,03	1	**612-9962**
50	0,10	0,05	1	**612-9963**

Burettes, straight stopcock, Schellbach
Hirschmann Laborgeräte

PTFE spindle

Glass key

DURAN®, borosilicate glass, class AS

- Calibrated to deliver 'Ex', conformity certified with dated batch identification
- Schellbach stripe, ring marks at major graduations, blue graduations

DIN EN ISO 385

Scale length: 500 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
Straight stopcock with PTFE spindle				
10	0,02	0,02	1	**612-3552**
25	0,05	0,03	1	**612-3553**
50	0,10	0,05	1	**612-3554**
Straight stopcock with glass key				
10	0,02	0,02	1	**612-9811**
25	0,05	0,03	1	**612-9812**
50	0,10	0,05	1	**612-9813**

Burettes, straight stopcock
Hirschmann Laborgeräte

DURAN®, borosilicate glass, class AS

- Calibrated to deliver 'Ex', conformity certified with dated batch identification
- Ring marks at major graduations, black graduations
- With glass key

DIN ISO 385

Scale length: 500 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
10	0,02	0,02	1	**612-3544**
25	0,05	0,03	1	**612-3546**
50	0,1	0,05	1	**612-3547**

Burettes, straight stopcock, Schellbach stripe, PYREX®

Borosilicate glass, Class AS

- Calibrated to deliver 'Ex', conformity certified with dated batch identification
- Funnel top to make filling easier and safer
- Graduations and inscriptions in blue enamel
- Choice of stopcock in glass or PTFE

ISO 385

Capacity (ml)	Division (ml)	Length (mm)	Pk	Cat. No.
Straight stopcock with glass key				
10	0,05	570	1	**612-0218**
25	0,1	570	1	**612-0219**
25	0,05	800	1	**612-0220**
50	0,1	800	1	**612-0221**
Straight stopcock with PTFE key				
10	0,05	570	1	**612-0214**
25	0,1	570	1	**612-0215**
25	0,05	800	1	**612-0216**
50	0,1	800	1	**612-0217**

Burettes, straight stopcock, PYREX®

Borosilicate glass with interchangeable PTFE key, Class AS

- Calibrated to deliver 'Ex', conformity certified with dated batch identification
- PTFE key for grease-free perfomance
- White enamel graduations for good visibility with dark coloured solutions

ISO 385

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
Class AS burettes				
10	0,02	0,02	1	**612-3973**
25	0,10	0,05	1	**612-3974**
50	0,10	0,05	1	**612-3975**
100	0,20	0,10	1	**612-3976**
Class AS burettes, works certified				
10	0,02	0,02	1	**612-3959**
25	0,10	0,05	1	**612-3970**
50	0,10	0,05	1	**612-3971**
100	0,20	0,10	1	**612-3972**

Burettes, straight stopcock
Hirschmann Laborgeräte

612-3526

612-3529

DURAN®, borosilicate glass class B

- Calibrated to deliver 'Ex'
- Short marks at major graduations, black graduations

DIN 12 700 T2

Scale length : 500 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
Straight stopcock with glass key				
10	0,02	0,03	1	**612-3526**
25	0,05	0,045	1	**612-3527**
50	0,1	0,075	1	**612-9810**
Straight valve stopcock with PTFE spindle				
10	0,02	0,03	1	**612-3529**
25	0,05	0,045	1	**612-3531**
50	0,1	0,075	1	**612-3532**

Burettes, straight stopcock, PYREX®

Borosilicate glass with interchangeable PTFE key, Class B

- Calibrated to deliver 'Ex'
- PTFE key for grease free performance
- White enamel graduations for good visibility with dark coloured solutions

ISO 385

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
10	0,02	0,05	1	**612-3955**
25	0,10	0,10	1	**612-3956**
50	0,10	0,10	1	**612-3957**
100	0,20	0,20	1	**612-3958**

Burettes, straight stopcock, PTFE spindle, MBL®

Pyrex® borosilicate glass, class B

- Calibrated to deliver 'Ex'
- With GP Rotaflo®, stopcock which has a PTFE key, requiring no lubrication
- Provides fine drop control, no seizure with caustic solutions
- Graduations in permanent amber stain

ISO 385

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
10	0,1	0,1	1	**612-3254**
25	0,1	0,1	1	**612-3256**
50	0,1	0,1	1	**612-3257**
100	0,2	0,2	1	**612-3258**

Burettes, straight stopcock, Azlon®
SciLabware

Acrylic, with PMP/PE stopcocks, class B

Acrylic construction for strength and transparency. Suitable for use in education, research or industrial laboratories, especially where breakages often occur.

- Graduations are screen printed to ISO 385 class B accuracy
- Unaffected by most dilute aqueous solutions (except ammonia and hydrofluoric acid) but unsuitable for use with ethanol or organic solvents
- Suitable for both left and right handed use

Delivery information: Supplied with a technical data sheet.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
25	0,1	0,1	1	**612-0348**
50	0,1	0,1	1	**612-0349**
100	0,2	0,2	1	**612-0350**

Burettes, lateral stopcock, Schellbach, BLAUBRAND®
Brand

Borosilicate glass 3.3, class AS, conformity certified

- Calibrated to deliver 'TD, Ex'
- Schellbach stripe, ring marks at major graduations
- Marks and inscriptions in high contrast blue enamel represents the optimum combination of resistance and readability

DIN EN ISO 385

Length: 800 mm

Ordering information: Supplied with a batch certificate. Burettes are also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
Stopcock with PTFE spindle				
10	0,02	0,02	1	**612-9941**
25	0,05	0,03	1	**612-9942**
50	0,1	0,05	1	**612-9943**
Stopcock with glass key				
10	0,02	0,02	1	**612-9944**
25	0,05	0,03	1	**661-1112**
50	0,1	0,05	1	**612-9946**

Burettes, lateral stopcock, Schellbach
Hirschmann Laborgeräte

612-9967

612-9970

DURAN®, borosilicate glass, class AS

- Calibrated to deliver 'Ex', conformity certified with dated batch identification
- Schellbach stripe, ring marks at major graduations
- Blue graduations

DIN EN ISO 385

Scale length: 500 mm

Continued on next page

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Capacity (ml)	Division (ml)	Tolerance (± ml)	Scale length (mm)	Pk	Cat. No.
Stopcock with glass key					
10	0,02	0,02	500	1	**612-9967**
25	0,05	0,03	500	1	**612-9968**
50	0,1	0,05	500	1	**612-9969**
Stopcock with PTFE spindle					
10	0,02	0,02	500	1	**612-9970**
25	0,05	0,03	500	1	**612-9971**
50	0,10	0,05	500	1	**612-9972**

Burettes, lateral stopcock, Schellbach, SILBERBRAND
Brand

Borosilicate glass 3.3, class B

- Calibrated to deliver 'TD, Ex'
- Schellbach stripe, short marks at major graduations

DIN EN ISO 385

Length: 800 mm

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
Stopcock with PTFE spindle				
10	0,02	0,03	1	**612-9964**
25	0,05	0,05	1	**612-9965**
50	0,1	0,08	1	**612-9966**

Micro burettes, bang pattern, lateral stopcock, Schellbach, BLAUBRAND®
Brand

Borosilicate glass 3.3, class AS, conformity certified

- Calibrated to deliver 'TD, Ex'
- Schellbach stripe, ring marks at major graduations
- With base

DIN EN ISO 385

Length: 900 mm except for 2 ml: 660 mm.

Ordering information: Supplied with a batch certificate. Burettes are also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
Stopcock with PTFE spindle				
2	0,01	0,01	1	**612-9947**
5	0,01	0,01	1	**612-9948**
10	0,02	0,02	1	**661-1143**
Stopcock with glass key				
2	0,01	0,01	1	**612-9949**
5	0,01	0,01	1	**612-9950**
10	0,02	0,02	1	**612-9980**

Automatic burettes, Dr. Schilling pattern, SILBERBRAND
Brand

AR-GLAS®, class B

- Calibrated to deliver 'TD, Ex'
- Schellbach stripe, reduced distance between subdivision marks
- Automatic zeroing, squeezing bottle allows rapid filling, micrometre screw allows fine titration

Error limits according to class B, DIN EN ISO 385

With bottle: 500 ml for 10 and 15 ml; 1000 ml for 25 and 50 ml

Capacity (ml)	Division (ml)	Tolerance (± ml)	Total height (mm)	Pk	Cat. No.
Clear glass					
10	0,05	0,05	530	1	**612-9920**
15	0,1	0,08	510	1	**612-9921**
25	0,1	0,08	620	1	**612-9922**
50	0,1	0,10	830	1	**612-9923**

Automatic burettes, Dr. Schilling pattern, Schellbach
Hirschmann Laborgeräte

Borosilicate glass 3.3, silicone tubing, PVC rod, PE bottle and PP base

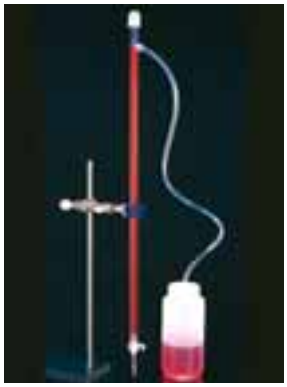
- Schellbach stripe, blue graduations
- Automatic zeroing, squeezing bottle allows rapid filling, micrometre screw allows fine titration

With bottle: 500 ml for 5 and 15 ml; 1000 ml for 15, 25 and 50 ml

Capacity (ml)	Division (ml)	Tolerance (± ml)	Scale length (mm)	Pk	Cat. No.
5	0,05	0,03	330	1	**612-9936**
10	0,05	0,03	330	1	**612-9937**
15	0,1	0,045	330	1	**612-9938**
25	0,1	0,045	330	1	**612-9939**
50	0,1	0,075	550	1	**612-9940**

Description	Pk	Cat. No.
Bases for bottles, Dr. Schilling pattern		
PP base for 500 ml Schilling bottles	1	**612-2802**
PP base for 1000 ml Schilling bottles	1	**612-2803**

Automatic self-zeroing burettes, Nalgene®
Thermo Scientific



Crystal-clear acrylic, PMP tip and TFE stopcock and plug, LDPE bottle with PP screw closure, 1 m PVC tubing

Durable, excellent for general use, schools, industrial labs and field use.

- Unaffected by dilute mineral acids and bases except HF and NH_4OH
- Not designed for alcohol and organic solvents

ASTM E287

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
10	0,1	0,01	1	**612-2583**
25	0,1	0,01	1	**612-2584**
50	0,1	0,01	1	**612-2585**

Burettes, Dr. Schilling pattern, Symbiotic™
VITLAB®

Made from borosilicate glass 3.3, class B

- Calibrated in 'Ex' flow, conformance certified
- Schellbach type with black contrasting graduations
- Automatic zeroing, with PMP/PTFE stopcock, 1 litre bottle made of LDPE, HDPE stand and PP supply tube

Height: ~900 mm

DIN ISO 385

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
Burettes, glass tubes with thermally stable plastic coating and Schellbach stripes (blue/white)				
25	0,5	0,5	1	**612-0996**
50	0,1	0,1	1	**612-3797**

Automatic burettes, Pellet pattern, without intermediate stopcock, Schellbach, BLAUBRAND®
Brand

Borosilicate glass 3.3, class AS, conformity certified

- Calibrated to deliver 'TD, Ex'
- Schellbach stripe, ring marks at major graduations
- Automatic zeroing, needle-valve stopcock with PTFE spindle, without intermediate stopcock

DIN EN ISO 385

Ordering information: Supplied with a batch certificate. Burettes are also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Total height (mm)	Pk	Cat. No.
Automatic burette supplied with 2 litre reservoir bottle (soda-lime glass)					
10	0,02	0,02	1000*	1	**661-2114**
25	0,05	0,03	1000*	1	**612-2864**
50	0,1	0,05	1000*	1	**612-2865**

*Total height includes the reservoir bottle

Burettes, Pellet pattern, without intermediate stopcock, Schellbach
Hirschmann Laborgeräte

DURAN®, borosilicate glass, class AS

- Calibrated to deliver 'Ex', conformity certified with dated batch identification
- Schellbach stripe, ring marks at major graduations, blue graduations
- Automatic zeroing, PTFE spindle and without intermediate stopcock

DIN EN ISO 385

Delivery information: Supplied with 2 litre glass reservoir bottle.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
10	0,02	0,02	1	**612-9927**
25	0,05	0,03	1	**612-9928**
50	0,1	0,05	1	**612-9929**

Automatic burettes, Pellet pattern, with intermediate stopcock, Schellbach, BLAUBRAND®
Brand

Borosilicate glass 3.3, class AS, conformity certified

- Calibrated to deliver 'TD, Ex'
- Schellbach stripe, ring marks at major graduations
- Automatic zeroing, intermediate stopcock to recirculate residual liquid

DIN EN ISO 385

Ordering information: Burettes are also available on request with an individual certificate, a USP individual certificate or a DAkkS calibration certificate.

Delivery information: Supplied with 2 litre (soda-lime glass) reservoir bottle and batch certificate.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Total height (mm)	Pk	Cat. No.
Needle-valve stopcock (PTFE key in intermediate stopcock)					
10	0,02	0,02	~1000	1	**612-9910**
25	0,05	0,03	~1000	1	**612-9911**
50	0,10	0,05	~1000	1	**612-9912**
Glass stopcock (glass key in intermediate stopcock)					
10	0,02	0,02	~1000	1	**612-9913**
25	0,05	0,03	~1000	1	**612-9914**
50	0,10	0,05	~1000	1	**612-9915**

Burettes, Pellet pattern, lateral and intermediate stopcocks, Schellbach
Hirschmann Laborgeräte

Stopcocks with glass key

Stopcocks with PTFE key

DURAN®, borosilicate glass, class AS

- Calibrated to deliver 'Ex', conformity certified with dated batch identification
- Schellbach stripe, ring marks at major graduations, blue graduations
- Automatic zeroing, glass spindle and with intermediate stopcock with glass key or PTFE spindle

DIN EN ISO 385

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
Lateral and intermediate stopcocks with glass key with reservoir 2 litre bottle				
10	0,02	0,02	1	**612-9930**
25	0,05	0,03	1	**612-9931**
50	0,1	0,05	1	**612-9932**
Lateral and intermediate stopcocks with PTFE key with reservoir 2 litre bottle				
10	0,02	0,02	1	**612-9933**
25	0,05	0,03	1	**612-9934**
50	0,1	0,05	1	**612-9935**
Lateral and intermediate stopcocks with glass key without reservoir 2 litre bottle				
10	0,02	0,02	1	**612-4097**
25	0,05	0,03	1	**612-4098**
50	0,1	0,05	1	**612-4099**
Lateral and intermediate stopcocks with PTFE key without reservoir 2 litre bottle				
10	0,02	0,02	1	**612-4100**
25	0,05	0,03	1	**612-4101**
50	0,1	0,05	1	**612-4103**

Burettes, Pellet pattern, lateral and intermediate stopcocks
Hirschmann Laborgeräte

DURAN®, borosilicate glass, amber, class AS

- Calibrated to deliver 'Ex', conformity certified with dated batch identification
- Ring marks at major graduations, white graduations
- Automatic zeroing, PTFE-spindle and intermediate stopcock with PTFE-key

DIN EN ISO 385

Delivery information: Supplied with 2 litre glass reservoir bottle.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
25	0,05	0,03	1	**612-9802**
50	0,1	0,05	1	**612-9803**

Automatic burettes, Pellet pattern, with intermediate Stopcock, SILBERBRAND
Brand

Amber borosilicate glass 5.4, class B

- Calibrated to deliver 'TD, Ex'
- Short marks at major graduations, for 25 ml reduced distance between subdivision marks
- Automatic zeroing and intermediate stopcock to recirculate residual liquid

DIN EN ISO 385

Delivery information: Supplied with 2 litre (soda-lime glass) reservoir bottle.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Total height (mm)	Pk	Cat. No.
Lateral titration and intermediate stopcock with PTFE key					
25	0,1	0,08	~700*	1	**612-9916**
50	0,1	0,1	~1000*	1	**612-9917**
Lateral titration and intermediate stopcock with glass key					
25	0,1	0,08	~700*	1	**612-9918**
50	0,1	0,1	~1000*	1	**612-9919**

*Total height includes the reservoir bottle

Burettes, Pellet pattern, lateral and intermediate stopcocks
Hirschmann Laborgeräte

Stopcock with PTFE spindle

Stopcock with glass key

DURAN®, borosilicate glass, amber, class B

- Calibrated to deliver 'Ex'
- Short marks at major graduations, white graduations
- Automatic zeroing, lateral stopcock with spindle of PTFE and intermediate stopcock

DIN EN ISO 385

Delivery information: Supplied with 2 litre glass reservoir bottle.

Capacity (ml)	Division (ml)	Tolerance (± ml)	Pk	Cat. No.
Stopcock with PTFE spindle and key				
10	0,02	0,03	1	**612-3117**
25	0,05	0,045	1	**612-3603**
50	0,1	0,075	1	**612-3604**
Stopcock with glass keys				
10	0,02	0,03	1	**612-9924**
25	0,05	0,045	1	**612-9925**
50	0,1	0,075	1	**612-9926**

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Bottle-top dispenser, Volupette

Variable volume, autoclavable

The Volupette is a variable bottle-top dispenser that can be used as a manually primed unit or, once fitted with the supplied spring, converted to a fully self-priming dispenser. The dispense volume is easily adjusted by rotating the top knob to move the indicator to the desired setting.

- Wetted parts autoclavable at +121 °C
- Easily removable PTFE piston for smooth action and easy cleaning
- Safety pedestal valve allows the Volupette to be turned off to prevent accidental delivery, whilst ensuring it is drip-free
- Easy to disassemble glass barrel for thorough cleaning
- With standard 30 mm bottle neck fitting

Ordering information: Supplied with three bottle neck adapters (38, 40 and 45 mm), spring, calibration certificate and instruction manual. Please note that the Volupette is not supplied with a reservoir.

Volume (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
0 - 30	±0,3	<0,1	1	**613-5281**

Bottle-top dispensers, Zippette™ Classic

Variable volume, autoclavable

Accurate dispensing from an easy to use dispenser. The specially designed delivery spout ensures exact dispensing into narrow neck containers and the anti-drip safety valve makes sure the Zippette™ does not leak when not in use.

- Fine adjustment for exact and reproducible dispensing
- All wetted parts are chemically resistant and autoclavable at +121 °C
- Easily removable PTFE piston for smooth action and easy cleaning
- Borosilicate glass barrel protected with a transparent PP sleeve can be easily removed and cleaned
- Easy priming and minimum waste with no leakage back into the reservoir

Delivery information: The Zippette™ Classic has a standard 30 mm neck fitting and is supplied with three bottle neck adapters (38, 40 and 45 mm), and an individual calibration certificate. Please note that the Zippette™ Classic is not supplied with a reservoir.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
2,5	0,05	±0,3	0,1	1	**612-4176**
0,5 - 5	0,10	±0,3	0,1	1	**612-4177**
1 - 10	0,20	±0,3	0,1	1	**612-4178**
3 - 30	1,00	±0,3	0,1	1	**612-4179**
5 - 50	1,00	±0,3	0,1	1	**612-4180**

Bottle-top dispensers

Variable volume, autoclavable

The standard PP units with glass cylinder are suitable for aqueous liquids, dilute acids and alkalis - not for use with solvents and hydrofluoric acid which attack PP (for bottles with GL 32 thread). The glass cylinder and PTFE encased glass piston with PP body models are designed for aqueous solutions, weakly concentrated acids, alkaline solutions and crystallising liquids compatible with PP. The amber glass cylinders, clear glass piston with PP body are suitable for light-sensitive liquids, compatible with PP.

- Valve system with steel spring
- PP with precision glass cylinder
- Quick and easy to use volume setting system
- Additional rotating fine volume adjustment for right or left handed use
- Adapter allows rotation of the dispenser on bottles to the desired position

Delivery information: Supplied with two adapters (GL 40 and GL 45) and calibration certificate.

Volume (ml)	Division (ml)	Pk	Cat. No.
Glass cylinders with PP standard units			
2 - 10	0,50	1	**612-4750**
10 - 50	1,00	1	**612-4751**

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Volume (ml)	Division (ml)	Pk	Cat. No.
Glass cylinders, PTFE encased glass piston with PP body			
2 - 10	0,50	1	**612-3669**
10 - 50	1,00	1	**612-3670**
Amber glass cylinders, clear glass piston with PP body			
2 - 10	0,50	1	**612-3671**
10 - 50	1,00	1	**612-3672**

Bottle-top dispensers, seripettor® / seripettor® pro
Brand

seripettor®

seripettor® pro

Variable volume

The seripettor® and seripettor® pro with innovative and economic design are suitable for daily use. Precise, robust and simple to use, they are used in many applications. Easy maintenance and cleaning, the entire dispensing unit can be quickly exchanged by the user, without tools (no expensive repairs).

- Easily replaceable cartridge and seal
- Automatic dispensing: Spring-loaded piston refills the cylinder after use
- Volume setting: Indented track for quick and exact setting of volume
- Can be disassembled without tools, easy cleaning and maintenance
- seripettor® for alkaline, buffer solutions and culture media, e.g. agar nutrient medium, up to +60 °C
- seripettor® pro for dispensing many acidic, alkaline and saline solutions, as well as solvents such as essential oils

Ordering information: Supplied with a discharge tube, a filling tube, one spare dispensing unit and PP adapters (GL 45/32 and GL 45/S40).

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
seripettor®					
0,2 - 2	0,04	±1,2	≤0,2	1	**613-1648**
1 - 10	0,20	±1,2	≤0,2	1	**612-5625**
2,5 - 25	0,50	±1,2	≤0,2	1	**612-5626**
seripettor® pro					
0,2 - 2	0,04	±1,2	≤0,2	1	**613-1649**
1 - 10	0,20	±1,2	≤0,2	1	**612-3217**
2,5 - 25	0,50	±1,2	≤0,2	1	**612-3218**

Description	Pk	Cat. No.
Accessories for seripettor® and seripettor® pro		
Filling tubes, PP, 250 mm	2	**612-5630**
Filling tubes, PP, 250 mm, with O-ring	1	**612-5636**
Filling tubes, PP, 500 mm	2	**612-5631**
Filling tubes, PP, 500 mm, with O-ring	1	**612-5637**
Caps, PP, for closing the valve block, autoclavable, 10 ml	1	**612-5673**
Caps, PP, for closing the valve block, autoclavable, 25 ml	1	**612-5674**
Discharge tube, PP, incl. closure cap and EPDM discharge valve	1	**612-5629**
Dispensing cartridges, piston in PE, cylinder in PP, 2 ml, non sterile	3	**613-1650**
Dispensing cartridges, piston in PE, cylinder in PP, 10 ml, non sterile	3	**612-5627**
Dispensing cartridges, piston in PE, cylinder in PP, 25 ml, non sterile	3	**612-5628**
Dispensing cartridges, piston in PE, cylinder in PP, 2 ml, sterile (single packed)	7	**613-1651**
Dispensing cartridges, piston in PE, cylinder in PP, 10 ml, sterile (single packed)	7	**612-5634**
Dispensing cartridges, piston in PE, cylinder in PP, 25 ml, sterile (single packed)	5	**612-5635**
Valve set (one filling valve, one discharge valve, two seals)	1	**612-5632**
Flexible discharge tubing, PTFE, coiled, 800 mm, with handle (2 + 10 ml)	1	**612-5633**
Flexible discharge tubing, PTFE, coiled, 800 mm, with handle (25 ml)	1	**613-1652**

Imprecision (%) = Coefficient of variation (CV)

Bottle-top dispensers, Dispensette® III
Brand

Fixed volume or analogue-adjustable or Digital Easy Calibration

For dispensing aggressive reagents such as concentrated acids (e.g. H_3PO_4, H_2SO_4), concentrated alkalis (e.g. NaOH, KOH), saline solutions, and many organic solvents. Parts that are in contact with the liquid are made from borosilicate glass, ceramic, platinum-iridium, ETFE, FEP, PFA, PTFE and PP (discharge tube safety screw cap). Colour code: Red.

- SafetyPrime™ valve (optional) for recirculation of reagent during priming
- Digital volume display for precise, reproducible dispensing - Easy Calibration models
- Three different models of volume adjustment available: Digital Easy Calibration for calibration adjustment without tools. A calibration flag indicates changes from factory settings - Analogue-adjustable and Fixed-volume
- Conformity certified, easy calibration and adjustments according to ISO 9001 and GLP

Ordering information: Supplied with a discharge tube, telescopic filling tube, mounting tool, PP adapters, and a certificate of performance. SafetyPrime™ recirculation valve (optional).

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Fixed volume, without SafetyPrime™ recirculation valve					
1	-	±0,5	≤0,1	1	**613-3316**
2	-	±0,5	≤0,1	1	**613-3318**
5	-	±0,5	≤0,1	1	**613-3320**
10	-	±0,5	≤0,1	1	**613-3322**
0,5 - 100**	-	-	-	1	**613-3022**
Fixed volume, with SafetyPrime™ recirculation valve					
1	-	±0,5	≤0,1	1	**613-3317**
2	-	±0,5	≤0,1	1	**613-3319**
5	-	±0,5	≤0,1	1	**613-3321**
10	-	±0,5	≤0,1	1	**613-3323**
0,5-100**	-	-	-	1	**613-3023**
Analogue-adjustable, without SafetyPrime™ recirculation valve					
0,05 - 0,5	0,01	±1,0	≤0,2	1	**613-3302**
0,2 - 2	0,05	±0,5	≤0,1	1	**613-3304**
0,5 - 5	0,10	±0,5	≤0,1	1	**613-3306**
1,0 - 10	0,20	±0,5	≤0,1	1	**613-3308**
2,5 - 25	0,50	±0,5	≤0,1	1	**613-3310**
5,0 - 50	1,00	±0,5	≤0,1	1	**613-3312**
10 - 100	1,00	±0,5	≤0,1	1	**613-3314**
Analogue-adjustable, with SafetyPrime™ recirculation valve					
0,05 - 0,5	0,01	±1,0	≤0,2	1	**613-3303**
0,2 - 2	0,05	±0,5	<0,1	1	**613-3305**
0,5 - 5	0,10	±0,5	≤0,1	1	**613-3307**
1,0 - 10	0,20	±0,5	≤0,1	1	**613-3309**
2,5 - 25	0,50	±0,5	≤0,1	1	**613-3311**
5,0 - 50	1,00	±0,5	≤0,1	1	**613-3313**
10 - 100	1,00	±0,5	≤0,1	1	**613-3315**
Digital Easy Calibration, without SafetyPrime™ recirculation valve					
0,2 - 2	0,01	±0,5	≤0,1	1	**613-3324**
0,5 - 5	0,02	±0,5	≤0,1	1	**613-3326**
1,0 - 10	0,05	±0,5	≤0,1	1	**613-3328**
2,5 - 25	0,10	±0,5	≤0,1	1	**613-3330**
5,0 - 50	0,20	±0,5	≤0,1	1	**613-3332**
Digital Easy Calibration, with SafetyPrime™ recirculation valve					
0,2 - 2	0,01	±0,5	≤0,1	1	**613-3325**
0,5 - 5	0,02	±0,5	≤0,1	1	**613-3327**
1,0 - 10	0,05	±0,5	≤0,1	1	**613-3329**
1,0 - 10*	0,05	±0,5	≤0,1	1	**613-2942**
2,5 - 25	0,10	±0,5	≤0,1	1	**613-3331**
5,0 - 50	0,20	±0,5	≤0,1	1	**613-3333**

Description	Pk	Cat. No.
Accessories		
Filling valve with olive-shaped nozzle made of PEEK and sealing ring	1	**613-3741**

Imprecision (%) = Coefficient of variation (CV)
* Incl. DKD calibration certificate.
** Special fixed volume. Please state chosen volume when ordering.

Bottle-top dispensers, Dispensette® Organic
Brand

Fixed-volume or analogue-adjustable or Digital Easy Calibration

For dispensing organic solvents such as chlorinated and fluorinated hydrocarbons (trichlorotrifluoroethane and dichloromethane), concentrated acids (HCl and HNO_3), trifluoroacetic acid (TFA), tetrahydrofuran (THF) and peroxides. Parts in contact with the liquid are made from borosilicate glass, ceramic, tantalum, ETFE, FEP, PFA, PTFE and PP (discharge tube safety crew cap). Colour code: Yellow.

- SafetyPrime™ valve (optional): For recirculation of reagent during priming
- Digital volume display for precise, reproducible dispensing - Easy Calibration models only
- Three different models of volume adjustment available: Digital Easy Calibration for calibration adjustment without tools. A calibration flag indicates changes from factory settings - Analogue-adjustable and Fixed-volume
- Conformity certified, easily calibrated and adjusted to comply with ISO 9001 standards and GLP (Easy Calibration models)

Ordering information: Supplied with discharge tube, telescopic filling tube, mounting tool, PP adapters, and certificate of performance. SafetyPrime™ recirculation valve available separately.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Fixed volume, without SafetyPrime™ recirculation valve					
5	-	±0,5	≤0,1	1	**613-0191**
10	-	±0,5	≤0,1	1	**613-0193**
Fixed volume, with SafetyPrime™ recirculation valve					
5	-	±0,5	≤0,1	1	**613-0192**
10	-	±0,5	≤0,1	1	**613-0194**
Analogue-adjustable, without SafetyPrime™ recirculation valve					
0,5 - 5	0,10	±0,5	≤0,1	1	**613-3334**
1 - 10	0,20	±0,5	≤0,1	1	**613-3336**
2,5 - 25	0,50	±0,5	≤0,1	1	**613-3338**
5 - 50	1,00	±0,5	≤0,1	1	**613-3340**
10 - 100	1,00	±0,5	≤0,1	1	**612-5648**
Analogue-adjustable, with SafetyPrime™ recirculation valve					
0,5 - 5	0,10	±0,5	≤0,1	1	**613-3335**
1 - 10	0,20	±0,5	<0,1	1	**613-3337**
2,5 - 25	0,50	±0,5	<0,1	1	**613-3339**
5 - 50	1,00	±0,5	<0,1	1	**613-3341**
10 - 100	1,00	±0,5	<0,1	1	**612-5649**
Digital Easy Calibration, without SafetyPrime™ recirculation valve					
0,5 - 5	0,02	±0,5	<0,1	1	**613-3342**
1 - 10	0,05	±0,5	<0,1	1	**613-3344**
2,5 - 25	0,10	±0,5	≤0,1	1	**613-3346**
5 - 50	0,20	±0,5	≤0,1	1	**613-3348**
Digital Easy Calibration, with SafetyPrime™ recirculation valve					
0,5 - 5	0,02	±0,5	≤0,1	1	**613-3343**
1 - 10	0,05	±0,5	≤0,1	1	**613-3345**
2,5 - 25	0,10	±0,5	≤0,1	1	**613-3347**
5 - 50	0,20	±0,5	≤0,1	1	**613-3349**

Description	Pk	Cat. No.
Accessories		
SafetyPrime™ recirculation valve for Dispensette® Organic	1	**613-0470**

Imprecision (%) = Coefficient of variation (CV)
* Special fixed volumes, please state when ordering.

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Bottle-top dispensers, Dispensette® TA
Brand

High purity chemicals for trace analysis (TA), variable volume

The Dispensette® TA provides precise volume dispensing. Parts in contact with media are made of high purity materials, such as PTFE, ETFE, FEP, and PFA. The purest Al_2O_3-sapphire is used for replaceable valves and, depending on the application, platinum-iridium or tantalum as spring materials. The Dispensette® TA is designed for dispensing high-purity media (e.g. concentrated nitric acid), bases (e.g. sodium hydroxide) and hydrogen peroxide. It is also suitable for dispensing hydrofluoric acid (HF) when using platinum-iridium valve spring. Using the device without the SafetyPrime™ recirculation valve is recommended when contamination of the bottle contents must be avoided.

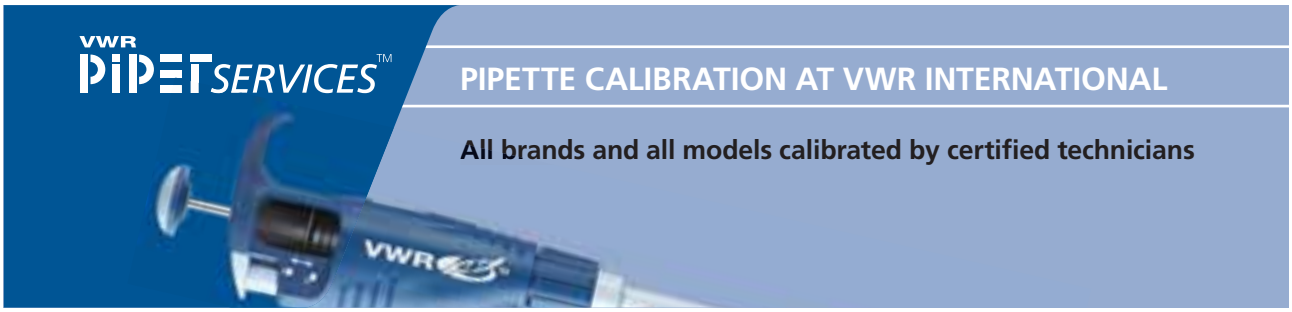
- Standard 45 mm thread plus the included adapters fit common bottles and telescoping filling tube adjusts to different sizes
- Valve block can be rotated 360° so that the bottle label always faces the user for safety
- Quick setting of the desired volume
- Complete dispensing cartridge is easily replaceable when piston seal is worn, and calibration of replacement dispensing cartridge is not required (fully adjusted at factory and performance certified)
- Limitations of use: Vapour pressure up to 600 mbar, kinematic viscosity max. 500 mm^2/s, temperature up to 40 °C, density max. 3,8 g/cm^3

Delivery information: Each Dispensette® TA is conformity certified and supplied with performance certificate, discharge tube, telescoping filling tube, SafetyPrime™ recirculation valve and recirculation tube (optional), mounting tool and bottle adapters GL 28 / S 28 (ETFE), GL 32 (ETFE) and S 40 (PTFE), operating manual.

Type	Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Without SafetyPrime™ recirculation valve						
Platinum-iridium valve spring	1 - 10	0,20	±0,5	≤0,1	1	**613-1563**
Tantalum valve spring	1 - 10	0,20	±0,5	≤0,1	1	**613-1565**
With SafetyPrime™ recirculation valve						
Platinum-iridium valve spring	1 - 10	0,20	±0,5	≤0,1	1	**613-1564**
Tantalum valve spring	1 - 10	0,20	±0,5	≤0,1	1	**613-1566**

Description	Length (mm)	Pk	Cat. No.
Accessories			
Filling valve (sapphire) with sealing		1	**613-1550**
Telescopic filling tube, FEP, 0,5/1/2/5/10 ml, o. Ø 6 mm	250 - 480	1	**613-3437**
Telescopic filling tube, FEP, 0,5/1/2/5/10 ml, o. Ø 6 mm	70 - 140	1	**612-5600**
Telescopic filling tube, FEP, 0,5/1/2/5/10 ml, o. Ø 6 mm	125 - 240	1	**613-3438**
Telescopic filling tube, FEP, 0,5/1/2/5/10 ml, o. Ø 6 mm	195 - 350	1	**612-9991**
SafetyPrime™ recirculation valve, 1 - 100 ml		1	**613-3441**
SafetyPrime™ recirculation valve spring, Platinum-iridium		1	**613-1559**
SafetyPrime™ recirculation valve spring, Tantalum		1	**613-1560**
Dispensing cartridge with safety ring, nominal vol. 10 ml, calibrated, incl. quality certificate		1	**613-1767**
Discharge tube with integrated valve for Dispensette® TA, Platinum-iridium		1	**613-1561**
Discharge tube with integrated valve for Dispensette® TA, Tantalum		1	**613-1562**

Accuracy and precision: Calibrated to deliver (TD, Ex). Error limits relate to the nominal capacity (= maximum volume) indicated on the instrument, obtained when instrument and distilled water are equilibrated at ambient temperature (20 °C/68 °F). Testing takes place with uniform and smooth dispensing. Error limits are within the limits of DIN EN ISO 8655 6.
Imprecision (%) = Coefficient of variation (CV)



Bottle-top dispensers, ceramus®
Hirschmann Laborgeräte

Fixed or variable volume, autoclavable

- Micrometric adjustment knob for fine tuning
- Ceramic piston made of pure aluminium oxide and cylinder in DURAN® glass guarantee a chemical and thermal inertia
- Convenient recirculation system for rapid flushing with no loss of reagents

Ordering information: Supplied with A 45 thread, three adapters (A 32, A 38, S 40), one aspiration tube with screw connection, serial number and quality certificate.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Fixed volume					
1	-	±0,6	<0,2	1	**613-3224**
2	-	±0,6	<0,2	1	**613-3228**
5	-	±0,6	<0,2	1	**613-3232**
10	-	±0,6	<0,2	1	**613-3237**
25	-	±0,6	<0,2	1	**613-3244**
50	-	±0,6	<0,2	1	**613-3254**
Variable volume					
0,2 - 1,0	0,05	±0,6	<0,1	1	**613-3223**
0,4 - 2,0	0,05	±0,5	<0,1	1	**613-3227**
1,0 - 5,0	0,10	±0,5	<0,1	1	**613-3231**
2,0 - 10,0	0,25	±0,5	<0,1	1	**613-3236**
5,0 - 30,0	0,50	±0,5	<0,1	1	**613-3243**
10,0 - 60,0	1,00	±0,5	<0,1	1	**613-3253**

Description	Pk	Cat. No.
Accessories for ceramus®/solarus®		
Individual certificate of performance	1	**613-2938**
USP - individual certificate of performance	1	**613-2939**
DKD calibration certificate for ceramus®-classic, ceramus® variable volumes 0,2 - 60 ml	1	**613-2263**
DKD calibration certificate for ceramus®-classic, ceramus® fixed volumes 0,2 - 60 ml	1	**613-2264**
Adapter A 45 to A 32, PP	1	**612-0918**
Adapter A 45 to A 38, PP	1	**612-0919**
Adapter A 45 to S 40, PP	1	**612-0920**
Flexible discharge tube unit, spiral-shaped, one metre, FEP	1	**612-0917**

Bottle-top dispensers, ceramus®-classic
Hirschmann Laborgeräte

Fixed or variable volume, autoclavable

- Micrometric adjustment knob for fine dispensing
- Ceramic piston made of a high purity for the best chemical and thermal inertia
- Certificate of conformity and quality

Ordering information: Supplied with A 32 thread, three adapters (A 28, A 45, S 40), one aspiration tube with screwed connection, one evacuation tube, a serial number and quality certificate.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Fixed volume					
1	1,00	±0,6	<0,2	1	**613-3221**
2	2,00	±0,6	<0,2	1	**613-3226**
5	5,00	±0,6	<0,2	1	**613-3230**
10	10,0	±0,6	<0,2	1	**613-3235**
25	25,0	±0,6	<0,2	1	**613-3240**
50	50,0	±0,6	<0,2	1	**613-3252**
Variable volume					
0,2 - 1,0	0,05	±0,6	<0,2	1	**613-3219**
0,4 - 2,0	0,05	±0,6	<0,2	1	**613-3225**
1,0 - 5,0	0,10	±0,6	<0,2	1	**613-3229**

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Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Variable volume					
2,0 - 10,0	0,25	±0,6	<0,2	1	**613-3233**
5,0 - 30,0	0,50	±0,6	<0,2	1	**613-3239**
10,0 - 60,0	1,00	±0,6	<0,2	1	**613-3250**

Description	Pk	Cat. No.
Accessories for ceramus®/solarus®		
Individual certificate of performance	1	**613-2938**
USP - individual certificate of performance	1	**613-2939**
DKD calibration certificate for ceramus®-classic, ceramus® variable volumes 0,2 - 60 ml	1	**613-2263**
DKD calibration certificate for ceramus®-classic, ceramus® fixed volumes 0,2 - 60 ml	1	**613-2264**

Bottle-top dispenser, ceramus® HF
Hirschmann Laborgeräte

Variable volume, autoclavable

- Multi purpose dispenser for hydrofluoric acid and very aggressive liquids
- Micrometric adjustment knob for fine tuning
- Piston, cylinder, seat, and valve ball made from pure ceramic, valve spring made from platinum/iridium
- Convenient recirculation system for rapid flushing with no loss of reagents
- Certification of quality and conformity

Ordering information: Supplied with A 45 thread, three adapters (A 32, A 38, S 40), one aspiration tube with screw connection, serial number, and quality certificate.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
2 - 10	0,25	±0,6	<0,2	1	**613-3238**

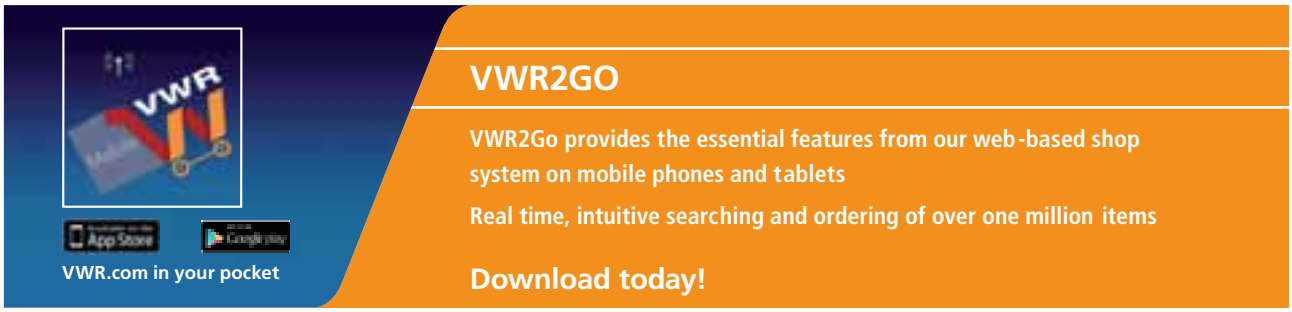
Bottle-top dispensers, EM-dispenser
Hirschmann Laborgeräte

PP with glass piston, variable volume, autoclavable

- For mild, aqueous media or organic liquids that do not attack PP
- Micrometric adjustment knob for fine tuning
- Certificate of quality and conformity

Ordering information: Supplied with A 32 thread, three adapters (A 28, A 45, S 40), an aspiration tube with screw connection, an evacuation tube, a serial number and a quality certificate.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
2 - 10	0,25	±0,6	<0,2	1	**613-3234**
10 - 60	1,00	±0,6	<0,2	1	**613-3251**



Bottle-top dispensers and titrators, opus®
Hirschmann Laborgeräte

opus® Dispenser

Silicone platform

Safe and reliable, these bottle-top dispensers and titrators provide extremely sensitive, motor-powered dispensing precision. These devices operate with remote touch screen controllers that give complete control over all functions.

- Controllers feature menu guided user instructions with tab cards on an external coloured TFT touch screen
- Stepper function offering the ability to dispense several volume increments from a single cylinder fill
- Pumps equipped with ceramic compound piston seals for excellent durability and electronic protection. A return valve at base of pump helps reduce costs by enabling users to prime the pump and return liquids to the bottle
- Optional silicone system platform neatly organises all components by securely combining bottle and pump and providing a convenient space for controller placement
- Other options: Battery pack to operate independently from any power outlet, language selection (English, German, French, and Spanish), specification of suction and dispensing speed and the capacity for up to 10 different memory settings further enhance the versatility of the controllers

PC interface: RS232 or USB

Accuracy: 0,6% - Dispenser 10/20/50 ml; 0,5% - Titrator 20/50 ml

Precision (CV): 0,2% - Dispenser 10/20/50 ml; 0,07/0,07/0,05% - Titrator 10/20/50 ml

Ordering information: Supplied as complete kits with a bottle-top mounted pump, a remote controller and an individual calibration certificate.

Description	Volume (ml)	Pk	Cat. No.
opus® Dispenser 10 ml, 230 V, UK plug	10	1	**613-1595**
opus® Dispenser 20 ml, 230 V, UK plug	20	1	**613-0757**
opus® Dispenser 50 ml, 230 V, UK plug	50	1	**613-0758**
opus® Titrator 10 ml, 230 V, UK plug	10	1	**613-1597**
opus® Titrator 20 ml, 230 V, UK plug	20	1	**613-0763**
opus® Titrator 50 ml, 230 V, UK plug	50	1	**613-0764**

Description	Pk	Cat. No.
Accessories for opus®		
Remote dispenser controller, UK-plug	1	**613-0772**
Remote titration controller, UK-plug	1	**613-0775**
Silicone platform, grey	1	**613-0777**
Connecting cable (Data Power Cable) between basic unit and module, 0,75 m	1	**613-0780**
Connecting cable (Data Power Cable) between basic unit and module, 2 m	1	**613-0781**
Connecting cable (Data Power Cable) between basic unit and module, 5 m	1	**613-0782**
Battery pack for wireless applications	1	**613-0783**
DKD calibration certificate for opus® 10, 20, 50 ml	1	**613-2262**

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Bottle-top dispensers, Varispenser® / Varispenser® plus
Eppendorf

Variable volume, autoclavable

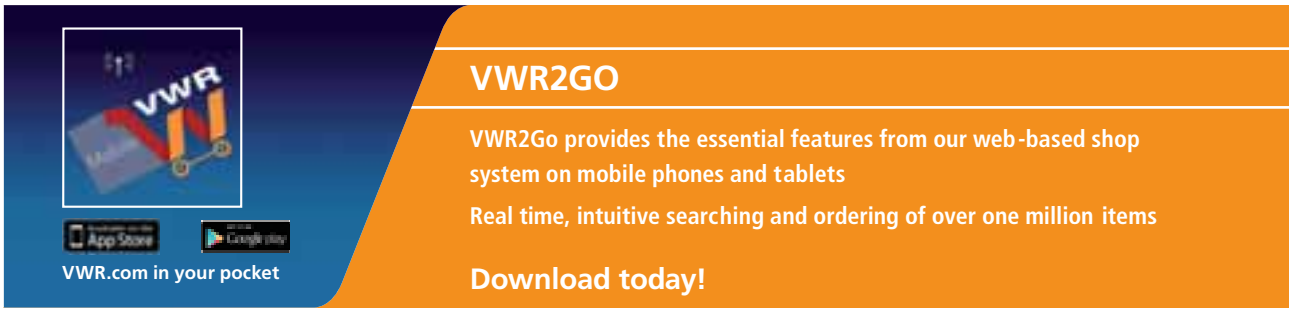
Dispensers used for accurate collection and dispensing of small volumes of liquid with no reagent loss. They provide a protection against contact with solvents and hazardous or corrosive liquids for both personnel and the immediate laboratory environment.

- Fit directly on to bottle
- 32 mm thread for the three smallest Varispenser® / Varispenser® plus models or 45 mm thread for the three largest Varispenser® / Varispenser® plus models
- Telescopic filling tube can be adapted for bottle depths from 21 to 37 cm
- Simple, fast, and extremely accurate display of volume
- Varispenser® plus equipped with a safety valve for recirculating liquids back into the bottle during priming

EN ISO 8655

Ordering information: Supplied with a 220 mm telescopic filling tube, wrench and three adapters: 28, 40 and 45 mm (for the three smaller Varispenser® / Varispenser® plus models) or with a 250 mm filling tube, wrench and three adapters: 32, 38 and 40 mm (for the 3 larger Varispenser® / Varispenser® plus models).

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Varispenser®					
0,5 - 2,5	0,05	±0,6	<0,1	1	**613-3654**
1,0 - 5,0	0,10	±0,5	<0,1	1	**613-3655**
2 - 10	0,20	±0,5	<0,1	1	**613-3656**
5 - 25	0,50	±0,5	<0,1	1	**613-3657**
10 - 50	1,00	±0,5	<0,1	1	**613-3658**
20 - 100	2,00	±0,5	<0,1	1	**613-3659**
Varispenser® plus					
0,5 - 2,5	0,05	±0,6	<0,1	1	**613-3661**
1,0 - 5,0	0,10	±0,5	<0,1	1	**613-3662**
2,0 - 10	0,20	±0,5	<0,1	1	**613-3663**
5,0 - 25	0,50	±0,5	<0,1	1	**613-3664**
10 - 50	1,00	±0,5	<0,1	1	**613-3665**
20 - 100	2,00	±0,5	<0,1	1	**613-3666**



Bottle-top dispensers, Zippette™ Classic

Jencons

Variable volume, autoclavable

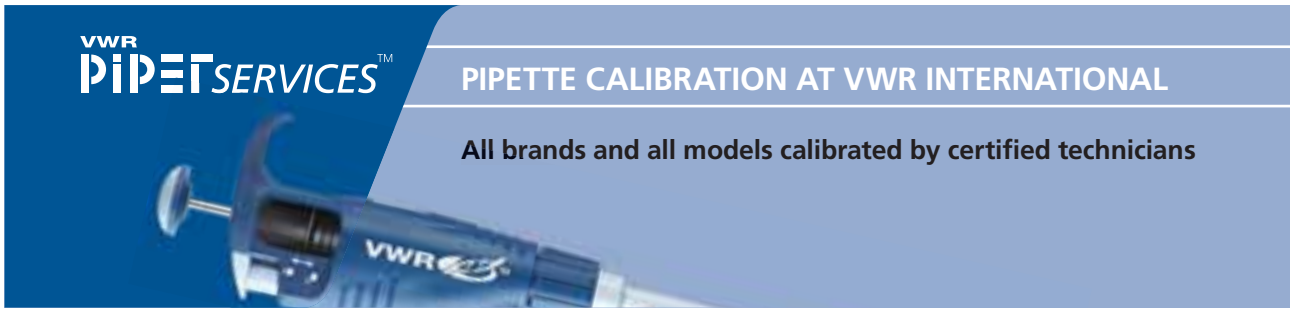
Accurate dispensing from an easy to use dispenser. The specially designed delivery spout ensures exact dispensing into narrow neck containers and the anti-drip safety valve makes sure the Zippette™ does not leak when not in use.

- Fine adjustment for exact and reproducible dispensing
- All wetted parts are chemically resistant and autoclavable at 121 °C
- Easily removable PTFE piston for smooth action and easy cleaning
- Borosilicate glass barrel protected with a transparent PP sleeve can be easily removed and cleaned
- Easy priming and minimum waste with no leakage back into the reservoir - the Zippette™ stays fully primed all day

Delivery information: The Zippette™ Classic dispensers have a standard 30 mm neck fitting and are supplied with three bottle neck adapters (38, 40 and 45 mm), and an individual calibration certificate. Please note that the Zippette™ Classic are not supplied with a reservoir.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
2,5	0,05	±0,3	0,1	1	**613-0926**
0,5 - 5,0	0,10	±0,3	0,1	1	**613-0927**
1,0 - 10	0,20	±0,3	0,1	1	**613-0928**
3,0 - 30	1,00	±0,3	0,1	1	**613-4005**
5,0 - 50	1,00	±0,3	0,1	1	**613-0929**

Description	Volume (l)	Colour	Pk	Cat. No.
Anti-tip reservoirs				
Squat glass reservoir with side filler neck	1,4	Amber	1	**613-0971**
Squat glass reservoir with side filler neck	2,5	Amber	1	**613-0975**
Accessories				
33 mm threaded bottle adapter			1	**612-3980**
38 mm threaded bottle adapter			1	**612-3978**
40 mm threaded bottle adapter			1	**612-3977**
45 mm threaded bottle adapter			1	**612-3979**
Funnel with offset stem for filling the reservoir side neck			1	**613-0969**
PTFE extendable delivery jet			1	**613-0970**



Bottle-top dispensers, Pressmatic R
Stuart

Variable volume, autoclavable

The Pressmatic R have an innovative design that maximises safety and ease of use. A recirculation valve means that reagent used for priming is delivered straight back into the bottle making it safer and less wasteful. Once the dispenser is fitted to the bottle, it is fully rotational for optimum positioning. The precise volume setting is by a self-locking rotating ring that is robust, easy to use and will not move during operation. The piston is manufactured from high-grade ceramic eliminating abrasion and sticking. The liquid pathway is made up of glass, PTFE and ceramic to give outstanding chemical resistance. The whole unit can be autoclaved without dismantling.

- Ergonomic design with recirculation valve
- Chemically resistant and non-sticking ceramic piston
- Simple and accurate volume setting
- Fully rotational on bottle for optimum positioning
- Can be autoclaved at 121 °C

Ordering information: Supplied with three bottle adapters to fit most types of vessel and a works calibrated certificate.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
2 - 10	0,25	<0,1	<0,7	1	**613-4189**
0,2 - 1	0,05	<0,2	<0,7	1	**613-4191**
0,4 - 2	0,05	<0,1	<0,7	1	**613-4192**
5 - 30	0,50	<0,1	<0,7	1	**613-4193**
1 - 5	0,10	<0,1	<0,7	1	**613-4195**
10 - 60	1,00	<0,1	<0,7	1	**613-4197**

Description	Pk	Cat. No.
Accessories for Pressmatic R		
Pyrex® bottle, amber glass, 1000 ml, GL 45	1	**613-4187**
Recirculation valve	1	**613-4200**
Suction valve, complete	1	**613-4203**

Bottle-top dispenser, Zippette Pro™
Jencons

Variable volume, autoclavable

Accurate dispensing from an easy to use variable volume bottle-top dispenser. The Zippette Pro™ has a capacity of 0 to 30 ml and can be used in two configurations: As a simple manually primed unit or, once fitted with a spring (supplied), it is converted to a fully self-priming dispenser.

The delivery spout ensures exact dispensing into narrow neck containers and the anti-drip safety valve makes sure the Zippette Pro™ does not leak when not in use.

- All wetted parts chemically resistant and autoclavable at 121 °C
- Spring-loaded Zippette Pro™ requires no priming
- Easily removable PTFE piston for smooth action and easy cleaning
- Safety pedestal valve allows the Zippette Pro™ to be turned off to prevent accidental delivery, whilst ensuring it is drip-free
- Borosilicate glass barrel, protected with a transparent PP sleeve, can be easily removed and cleaned

Ordering information: The Zippette Pro™ has a standard 30 mm neck fitting. It is supplied with three bottle neck adapters (38, 40 and 45 mm), spring, individual calibration certificate and instruction manual.

Description	Volume (ml)	Division (ml)	Pk	Cat. No.
Bottle-top dispenser, Zippette Pro™	0 - 30	1,00	1	**612-3873**

Description	Volume (l)	Colour	Pk	Cat. No.
Anti-tip reservoirs				
Squat glass reservoir with side filler neck	1,4	Amber	1	**613-0971**
Squat glass reservoir with side filler neck	2,5	Amber	1	**613-0975**
Accessories				
33 mm threaded bottle adapter			1	**612-3980**
38 mm threaded bottle adapter			1	**612-3978**
40 mm threaded bottle adapter			1	**612-3977**
45 mm threaded bottle adapter			1	**612-3979**
Funnel with offset stem for filling the reservoir side neck			1	**613-0969**
PTFE extendable delivery jet			1	**613-0970**

Digital burettes, solarus®
Hirschmann Laborgeräte

Variable volume

These innovative digital burettes with integrated photovoltaic cells and manual control are designed for exact titration.

- Integral solar panel provides energy for electronic components such as the digital display, so batteries no longer need to be replaced or charged
- Easy to use recirculation system for rapid priming with no loss of reagents
- Bi-directional RS232 interface, and USB
- Parts that come into contact with liquids are autoclavable
- Certificate of quality and conformity

Ordering information: Supplied with three adapters (A32, A38, S40), a discharge tube, a filling tube with a locking screw, individual serial number and a test certificate.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
20	0,01	±0,2	<0,1	1	**613-3255**
50	0,01	±0,2	<0,1	1	**613-3256**

Description	Pk	Cat. No.
Accessories for ceramus®/solarus®		
Individual certificate of performance	1	**613-2938**
USP - individual certificate of performance	1	**613-2939**
DKD calibration certificate for solarus® 20, 50 ml	1	**613-2265**
Connecting cable RS232	1	**612-2274**
Discharge tube unit, FEP	1	**612-0916**
Fine ejection unit – standard feature	1	**613-1658**
Ejection unit/discharge tube, titration, variable	1	**613-0894**
Ejection unit/discharge tube, flexible, spiral shaped, inner Ø 1,5 mm	1	**613-1654**
Adapter A 45 to A 32, PP	1	**612-0918**
Adapter A 45 to A 38, PP	1	**612-0919**
Adapter A 45 to S 40, PP	1	**612-0920**
Ground adapter, silicone, A 45 compliant with NS 29/32	1	**613-1656**
Adapter with filling tube NS 12/21	1	**613-1655**

Digital burettes, Top Buret
Eppendorf

Variable volume

For safe, simple, accurate and continuous titration.

- Continuous dispensing from 0,01 to 999,9 ml by rotating the wheels: In increments of 2,5 ml per complete rotation for the Top Buret M model and 5 ml per rotation for the Top Buret H model
- Safety valve for priming without loss of reagent
- Discharge tube can be rotated through 360° and adjusted vertically (10 - 200 mm) and horizontally (142 - 220 mm)
- Connection for dry tube - available as option
- Power supplied by long-life batteries with charging display

Ordering information: Supplied with safety valve, telescopic filling tube (210 - 370 mm), adjustable discharge tube, three adapters for 32/38/40 mm diameter bottle threads, two micro batteries and a certificate of quality.

Description	Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Top Buret M, 25 ml	0,01 - 999,9	0,01	±0,2	<0,1	1	**613-3667**
Top Buret H, 50 ml	0,01 - 999,9	0,01	±0,2	<0,1	1	**613-3668**

Description	Pk	Cat. No.
Accessories		
Dry tube	1	**613-3660**

Digital burette, Digitrate Pro™
Jencons

Digitrate Pro™ combines modern design, with precise, accurate and convenient dispensing. Its head can be conveniently rotated 360° for operator safety and comfort, whilst the see-through barrel ensures bubble-free titration. The robust outer casing does not move during the priming or dispensing sequences and the PTFE plunger and borosilicate glass barrel allow dispensing of aqueous solutions and some aggressive liquids.

Digitrate Pro™ is powered by a 3,6 V lithium battery giving a minimum life of 60 000 three-minute titrations. An automatic low battery indication is shown on the large easy to read LCD window. Simple user calibration and factory reset for ISO 9000 and GLP requirements.

- Continuous display of volume dispensed with zero reset feature for multiple titrations
- Automatic switch-off when left unattended without losing the previous titration volume
- All wetted parts are chemically resistant and autoclavable at +121 °C
- Safety pedestal valve allows the burette to be turned off to prevent accidental delivery
- Visible borosilicate glass barrel, protected with a transparent PP sleeve, can be easily removed and cleaned

Ordering information: The Digitrate Pro™ has a standard 30 mm neck fitting. It is supplied with three bottle neck adapters (33, 38 and 45 mm), individual calibration certificate and instruction manual. They are not supplied with a reservoir, to be ordered separately.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
0 - 30	0,01	0,2	0,1	1	**612-3875**
0 - 50	0,01	0,2	0,1	1	**612-3876**

Description	Volume (l)	Colour	Pk	Cat. No.
Anti-tip reservoirs				
Squat glass reservoir with side filler neck	1,4	Amber	1	**613-0971**
Squat glass reservoir with side filler neck	2,5	Amber	1	**613-0975**
Accessories				
33 mm threaded bottle adapter			1	**612-3980**
38 mm threaded bottle adapter			1	**612-3978**
40 mm threaded bottle adapter			1	**612-3977**
45 mm threaded bottle adapter			1	**612-3979**
Funnel with offset stem for filling the reservoir side neck			1	**613-0969**
PTFE extendable delivery jet			1	**613-0970**

Digital burette, Digitrate™
Jencons

Digitrate™'s head can be conveniently rotated 360° for operator safety and comfort, whilst the see-through barrel ensures bubble-free titration. The robust outer casing does not move during the priming or dispensing sequences and the PTFE plunger and borosilicate glass barrel allow dispensing of aqueous solutions and some aggressive liquids.

Digitrate™ is powered by a 3,6 V lithium battery giving a minimum life of 60 000 three-minute titrations. An automatic low battery indication is shown on the large easy to read LCD window. Simple user calibration and factory reset for ISO 9000 and GLP requirements.

- Continuous display of volume dispensed with zero reset feature for multiple titrations
- Automatic switch-off when left unattended without losing the previous titration volume
- All wetted parts are chemically resistant and autoclavable at +121 °C
- Safety pedestal valve allows the burette to be turned off to prevent accidental delivery
- Visible borosilicate glass barrel, protected with a transparent PP sleeve, can be easily removed and cleaned

Ordering information: The Digitrate™ has a standard 30 mm neck fitting. It is supplied with three bottle neck adapters (33, 38 and 45 mm), individual calibration certificate and instruction manual. They are not supplied with a reservoir, to be ordered separately.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
0 - 30	0,01	0,2	0,1	1	**612-3874**
0 - 50	0,01	0,2	0,1	1	**613-4441**

Description	Volume (l)	Colour	Pk	Cat. No.
Anti-tip reservoirs				
Squat glass reservoir with side filler neck	1,4	Amber	1	**613-0971**
Squat glass reservoir with side filler neck	2,5	Amber	1	**613-0975**

Description	Volume (l)	Colour	Pk	Cat. No.
Accessories				
33 mm threaded bottle adapter			1	**612-3980**
38 mm threaded bottle adapter			1	**612-3978**
40 mm threaded bottle adapter			1	**612-3977**
45 mm threaded bottle adapter			1	**612-3979**
Funnel with offset stem for filling the reservoir side neck			1	**613-0969**
PTFE extendable delivery jet			1	**613-0970**

Digital burette, Titras Pro

The Titras Pro digital burette combines modern design, convenient use and accuracy in one instrument. The robust outer casing does not move during the priming or dispensing sequences whilst its PTFE plunger and borosilicate glass barrel allow dispensing of aqueous solutions and some aggressive liquids. Powered by a 3,6 V lithium battery.

- Continuous display of volume dispensed with zero reset feature for multiple titrations
- Automatic switch-off when left unattended without losing the previous titration volume
- Automatic low battery indicator shows on the large, easy to read LCD window
- Simple user calibration and factory reset for ISO 9000 and GLP requirements
- Chemically resistant and autoclavable liquid-path components

Delivery information: Supplied with three adapters (38, 40 and 45 mm), calibration certificate and instruction manual. They are not supplied with a reservoir, to be ordered separately.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
0 - 50	0,01	±0,2	<0,1	1	**613-5287**

Digital burettes, Titrette®
Brand

Variable volume

Titrate quickly and reliably with high precision, even in close quarters, with no power connection needed.

The Titrette® has an innovative measuring system – the tight error limits* of class A glass burettes as per DIN EN ISO 385 are met.

- Light and flexible burette with compact design and high accuracy
- Smooth-running operation with large, easy-grip hand wheels for sensitive, dropwise titration
- Easier use: Adjustment with easy calibration, calibration schedule to save a date for the next calibration, save power with Automatic Off function, change decimal place settings
- Easy to dismantle: Cleaning, maintenance and part replacement
- PC interface - optional - for data transmission directly to the PC, which eliminates transmission errors during transcription of the primary data to fulfill an important GLP requirement

Delivery information: Titrette® bottle-top burette, conformity certified, supplied with performance certificate, telescopic filling tube (170 - 330 mm), recirculation tube, two micro batteries (AAA/UM4/LR03), three bottle adapters PP (GL 45/32, GL 45/S 40 and GL 32/NS 29/32), two coloured light shield inspection windows, operating manual. Additional items supplied when ordering the Titrette® with PC interface: Connector cable - Sub-D plug connector, 9-pin - and a CD with driver software, communication protocol, example application and a special operating manual.

Volume (ml)	Division (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Standard					
10	0,001	±0,10	<0,05	1	**613-2314**
25	0,001	±0,07	<0,025	1	**613-0795**
50	0,002	±0,06	<0,02	1	**613-0796**
With RS232 interface					
25	0,001	±0,07	<0,025	1	**613-0905**
50	0,002	±0,06	<0,02	1	**613-0906**

Description	Pk	Cat. No.
Accessories for Titrette®		
Two sets of inspection windows, clear and amber coloured for protection of light-sensitive media	1	**613-3742**
Telescopic filling tubes, FEP, 25/50/100 ml, o. Ø 7,6 mm, 170 - 330 mm	1	**613-0467**
Telescopic filling tubes, FEP, 25/50/100 ml, o. Ø 7,6 mm, 250 - 480 mm	1	**612-5603**
Piston head, 25 ml	1	**613-3744**
Piston head, 50 ml	1	**613-3745**
Titrating tube with screw cap and integrated discharge and recirculation valve	1	**613-3743**
Dispensing cylinder with valve head, 25 ml, until serial no. 12 J	1	**613-3746**
Dispensing cylinder with valve head, 50 ml, until serial no. 12 J	1	**613-3747**

* Error limits relate to the nominal volume.

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Automatic straw pipette, SP100

Fixed volume, autoclavable

Air displacement pipette with two pre-calibrated steps allows subsequent pipetting of 1 and 0,1 ml of the same liquid. Ideal alternative to graduated glass pipettes when performing serial 1:10 dilutions in bacteriology.

- Smooth activation, excellent ergonomics, easy maintenance, cleaning and disinfection
- Two pre-calibrated fixed volumes – no setting required
- Both volumes calibrated independently
- Interchangeable PE nozzle protection filter
- Justip™ system for height adjustment of tip ejector

Description	Capacity (ml)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Automatic straw pipette SP100 for 1:10 dilutions, autoclavable	0,1 / 1	±2,0 / ±0,5	<2,5 / <0,4	1	**710-1021**

Description	Capacity (ml)	Packed	Pk	Cat. No.
Accessories				
Straw pipettes	1	25 per bag	1.000	**612-1675**
Nozzle protection filter, PE			100	**613-5041**

Single channel pipettes, mechanical, Standard Line

Variable volume, fully autoclavable

The lightweight Standard Line pipettes provide accuracy and precision. Their ergonomic features, such as the contoured shape of the handle and the soft spring system, deliver smooth and effortless pipetting even during extensive periods of use.

- Easily adjustable ejector height system to accommodate virtually all brands of tips
- UV resistant and fully autoclavable
- Easy and quick recalibration system
- Colour-coded shaft for easy volume identification
- 5000 and 10000 µl version with shaft protected by filter

Capacity (µl)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
0,2 - 2	±12,0 - ±1,5	≤6,0 - ≤0,7	1	**613-2891**
0,5 - 10	±4,0 - ±0,5	≤2,8 - ≤0,4	1	**613-2892**
2 - 20	±3,0 - ±0,8	≤1,5 - ≤0,3	1	**613-2893**
10 - 100	±1,6 - ±0,8	≤0,8 - ≤0,2	1	**613-2894**
20 - 200	±1,2 - ±0,6	≤0,6 - ≤0,2	1	**613-2895**
100 - 1000	±1,6 - ±0,6	≤0,4 - ≤0,15	1	**613-2896**
500 - 5000	±0,6 - ±0,5	≤1,2 - ≤0,15	1	**613-2897**
1000 - 10000	±2,5 - ±0,5	≤0,6 - ≤0,2	1	**613-2898**

Single channel pipettes, mechanical

Linear stand

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Fixed volume, fully autoclavable

- Ergonomically designed to fit large or small hands for extra comfort while working, for left or right handed operation
- Slim tip mounting cone compatible with all tips
- With stainless steel, movable and height adjustable tip ejector
- Maintenance-free seals, polished plungers for superior precision

Ordering information: Supplied with a key for calibrating in the laboratory.

Capacity (µl)	Accuracy (%)	Imprecision (%)	For pipette tips (µl)	Pk	Cat. No.
5	±1,6	<1,0	10	1	**613-0166**
10	±1,0	<0,6	10	1	**613-0167**
20	±0,8	<0,4	200	1	**613-0168**
25	±0,8	<0,4	200	1	**613-0169**
50	±0,8	<0,4	200	1	**613-0170**
100	±0,8	<0,3	200	1	**613-0171**
200	±0,6	<0,3	200	1	**613-0172**
250	±0,6	<0,3	1000	1	**613-0173**
500	±0,5	<0,3	1000	1	**613-0174**
1000	±0,4	<0,3	1000	1	**613-0175**

Description	Pk	Cat. No.
Accessories		
Carousel stand for 6 pipettes	1	**613-0085**
Linear stand for 6 pipettes	1	**613-0086**
Shelf clip for 3 pipettes	1	**613-0090**

Single channel pipettes, mechanical, Ergonomic High Performance (EHP)

Linear stand

Variable volume, fully autoclavable

The Ergonomic High Performance pipettes provide accuracy and precision you can rely on. The upgraded ergonomic features deliver comfortable pipetting even during extensive periods of use.

- Significantly reduced plunger forces
- Effortless volume adjustment with volume lock
- Superior accuracy and precision for critical applications
- Tapered shaft and adjustable 'Easy Grip' ejector for universal tip fit
- Extended finger rest for convenient pipetting

Capacity (µl)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
With ejector				
0,2 - 2	±12,0 - ±1,5	<6,0 - <0,7	1	**613-5258**
0,5 - 10	±1,2 - ±0,6	<2,8 - <0,4	1	**613-5259**
2 - 20	±1,0 - ±0,6	<1,5 - <0,3	1	**613-5260**
5 - 50	±0,9 - ±0,6	<2,0 - <0,4	1	**613-5261**
10 - 100	±0,6 - ±0,5	<0,8 - <0,2	1	**613-5262**
20 - 200	±2,5 - ±0,5	<0,6 - <0,2	1	**613-5263**
50 - 250	±1,0 - ±0,6	<0,4 - <0,3	1	**613-5264**
100 - 1000	±0,9 - ±0,6	<0,4 - <0,15	1	**613-5265**
1000 - 5000	±0,6 - ±0,5	<0,25 - <0,15	1	**613-5266**
1000 - 10000	±2,5 - ±0,5	<0,6 - <0,2	1	**613-5267**
Without ejector				
0,2 - 2	±12,0 - ±1,5	<6,0 - <0,7	1	**613-5268**
0,5 - 10	±1,2 - ±0,6	<2,8 - <0,4	1	**613-5269**
2 - 20	±1,0 - ±0,6	<1,5 - <0,3	1	**613-5270**
5 - 50	±0,9 - ±0,6	<2,0 - <0,4	1	**613-5271**
10 - 100	±0,6 - ±0,5	<0,8 - <0,2	1	**613-5272**
20 - 200	±2,5 - ±0,5	<0,6 -<0,2	1	**613-5273**
50 - 250	±1,0 - ±0,6	<0,4 - <0,3	1	**613-5274**

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Capacity (µl)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
Without ejector				
100 - 1000	±0,9 - ±0,6	<0,4 - <0,15	1	**613-5275**
1000 - 5000	±0,6 - ±0,5	<0,25 - <0,15	1	**613-5276**
1000 - 10000	±2,5 - ±0,5	<0,6 - <0,2	1	**613-5277**

Description	Pk	Cat. No.
Starter kits		
Starter Kit 1 incl. 3 single channel pipettes with ejector (2 - 20 µl / 20 - 200 µl / 100 - 1000 µl)	1	**613-5278**
Starter Kit 2 incl. 3 single channel pipettes with ejector (0,1 - 2 µl / 0,5 - 10 µl / 10 - 100 µl)	1	**613-5279**
Starter Kit 3 incl. 3 single channel pipettes with ejector (0,5 - 10 µl / 10 - 100 µl / 100 - 1000 µl)	1	**613-5280**
Accessories		
Carousel stand for 6 pipettes	1	**613-0085**
Linear stand for 6 pipettes	1	**613-0086**
Shelf clip for 3 pipettes	1	**613-0090**

Single channel pipettes, mechanical, Ultra-High Performance (UHP)

Variable volume, fully autoclavable

The VWR Ultra-High Performance pipettes offer superior accuracy and precision, with proven ergonomic design which is both lightweight and durable.

- Very low plunger forces
- Universal tip capability
- Automatic locking volume adjustment wheel
- Levered tip ejection and colour coded for volume identification
- Easy in-house calibration and maintenance

Ordering information: Starter Kit also available, including 4 single channel pipettes (0,5 - 10, 2 - 20, 20 - 200, 100 - 1000 µl).

Capacity (µl)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
0,1 - 2	±12,0 - ±1,5	<6,0 - <0,7	1	**613-1488**
0,5 - 10	±4,0 - ±0,5	<2,8 - <0,4	1	**613-1489**
2 - 20	±3,0 - ±0,8	<1,5 - <0,3	1	**613-1490**
5 - 50	±3,0 - ±0,8	<2,0 - <0,4	1	**613-1628**
10 - 100	±1,6 - ±0,8	<1,5 - <0,3	1	**613-1491**
20 - 200	±1,2 - ±0,6	<0,8 - <0,2	1	**613-1492**
100 - 1000	±0,9 - ±0,6	<0,6 - <0,2	1	**613-1493**

Description	Pk	Cat. No.
Starter Kit		
Starter Kit (incl. 4 UHP pipettes (0,5 - 10, 2 - 20, 20 - 200, 100 - 1000), 4-position stand (613-1589) and 3 racks of tips)	1 KIT	**613-1609**

Description	Pk	Cat. No.
Accessories		
Linear stand for 6 UHP micropipettes	1	**613-1587**
Shelf clip for 1 UHP pipette	1	**613-1588**
Stand for 4 UHP pipettes	1	**613-1589**
Stand for 1 UHP pipette	1	**613-1590**

Single channel pipettes, mechanical, Proline®
Sartorius

Fixed or variable volume

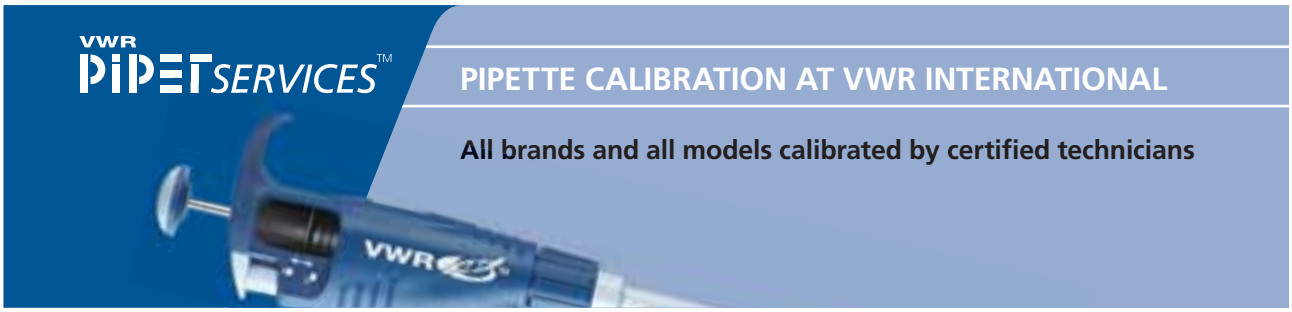
Ergonomic pipettes with fast, easy operation. Selected models offer changeable tip cone filters to prevent liquids and aerosols entering the pipette. Two types of filters are offered: Safe-Cone standard filter and Safe-Cone Plus filter. It is recommended to use the Standard filter for general applications and the Plus filter for more demanding applications, such as cell culture, bacterial, viral work and molecular biology.

- Easy calibration and maintenance, small number of parts
- Smooth plunger action and simple in-lab recalibration and service
- Volume setting by a simple click-stop

Ordering information: Supplied with five extra filters, forceps, a calibration tool and a convenient lab bench pipette holder.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips (µl)	With Safe-Cone filter(s)	Pk	Cat. No.
Variable volume							
0,1 - 2,5	0,05	±12,00 - ±2,50	<6,00 - <2,00	10 / F10	-	1	**613-4046**
0,5 - 10	0,10	±2,50 - ±1,00	<1,50 - <0,80	10, 300 / F10, F20	-	1	**613-4045**
2 - 20	0,50	±3,00 - ±0,90	<2,00 - <0,40	300 / F20, F100	613-4071, 613-0694	1	**613-4053**
5 - 50	0,50	±2,00 - ±0,60	<2,00 - <0,30	300, 350 / F100	613-4071, 613-0694	1	**613-4047**
10 - 100	1,00	±3,00 - ±0,80	<1,00 - <0,20	300, 350 / F100, F120, F200, F300	613-4070, 613-0693	1	**613-4050**
20 - 200	1,00	±2,50 - ±0,60	<0,80 - <0,20	300, 350 / F200, F300	613-4070, 613-0693	1	**613-4052**
100 - 1000	5,00	±2,00 - ±0,60	<0,70 - <0,20	1000 / F1000	613-4069, 613-4074	1	**613-4051**
1000 - 5000	50,0	±0,70 - ±0,50	<0,30 - <0,20	5000	613-4068, 613-0692	1	**613-4054**

Description	Pk	Cat. No.
Accessories		
Universal linear stand for storing one pipette in an upright position, 290×250×60 mm	1	**613-8706**
Safe-Cone filters, Standard, Ø 6,73 mm	50	**613-4068**
Safe-Cone filters, Standard, Ø 5,33 mm	50	**613-4069**
Safe-Cone filters, Standard, Ø 3,15 mm	50	**613-4070**
Safe-Cone filters, Standard, Ø 2,51 mm	50	**613-4071**
Safe-Cone filters, Plus, Ø 6,73 mm	50	**613-0692**
Safe-Cone filters, Plus, Ø 5,33 mm	50	**613-4074**
Safe-Cone filters, Plus, Ø 3,15 mm	50	**613-0693**
Safe-Cone filters, Plus, Ø 2,51 mm	50	**613-0694**



Single channel pipettes, mechanical, Proline® Plus

Sartorius

Fixed or variable volume, fully autoclavable

High quality pipettes with new, innovative design and technology, combining safety, ergonomics, efficiency in pipetting, with easy calibration and maintenance. They include built-in replaceable tip cone filters, which prevent pipette contamination and damage. Two types of filters are offered: Safe-Cone Standard filter and Safe-Cone Plus filter. It is recommended to use the Standard filter for general applications and the Plus filter for more demanding applications, such as cell culture, bacterial, viral work and molecular biology.

- Good ergonomics - Handle design suitable for both left and right-handed users, clear and easy to read display with big numbers and small increments, light and easy tip loading and ejection
- Fit the most commonly used lab tips thanks to slim tip ejector collar
- Plunger technology results in the low pipetting force
- Colour-coded volume range for easy pipette selection
- Good chemical and UV resistance; thermal insulation of the internal components improves both accuracy and reproducibility

Ordering information: Proline® Plus single pipettes are supplied with calibration tool, autoclavable grease, tip, Safe-Cone filters (>10 µl), forceps, user manual and QC-certificate.
Starter Kits are also available:

Starter Kit 1 includes two Proline® Plus pipettes (0,1 - 3 µl / 0,5 - 10 µl), two pipette holders and one calibration tool for each pipette, two single-tray tip boxes, literature.

Starter Kit 2 includes three Proline® Plus pipettes (0,5 - 10 µl / 10 - 100 µl / 100 - 1000 µl), two pipette holders and one calibration tool for each pipette, three single-tray tip boxes, literature.

Starter Kit 3 includes three Proline® Plus pipettes (2 - 20 µl / 20 - 200 µl / 100 - 1000 µl), two pipette holders and one calibration tool for each pipette, three single-tray tip boxes, literature.

Starter Kit 4 includes two Proline® Plus pipettes (500 - 5000 µl / 1 - 10 ml), two pipette holders and one calibration tool for each pipette, two single-tray tip boxes, literature.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips (µl)	With Safe-Cone filter(s)	Pk	Cat. No.
Fixed volume							
5	-	±1,30	<1,20	10	-	1	**613-5168**
10	-	±0,80	<0,80	10	-	1	**613-5169**
20	-	±0,60	<0,50	300, 350	613-4072	1	**613-5170**
25	-	±0,50	<0,30	300, 350	613-4071, 613-0694*	1	**613-5171**
50	-	±0,50	<0,30	300, 350	613-4071, 613-0694*	1	**613-5172**
100	-	±0,50	<0,30	300, 350	613-4071, 613-0694*	1	**613-5173**
200	-	±0,40	<0,20	300, 350	613-4070, 613-0693*	1	**613-5174**
250	-	±0,40	<0,20	1000	613-4069, 613-4074	1	**613-5175**
500	-	±0,30	<0,20	1000	613-4069, 613-4074	1	**613-5176**
1000	-	±0,30	<0,20	1000	613-4069, 613-4074	1	**613-5177**
5000	-	±0,30	<0,15	5000	613-4068, 613-0692*	1	**613-5178**
10000	-	±0,60	<0,20	10000	613-4068, 613-0692*	1	**613-5179**
Variable volume							
0,1 - 3	0,002	±1,30 - ±10,00	<0,80 - <6,00	10	-	1	**613-5160**
0,5 - 10	0,01	±1,00 - ±5,00	<0,60 - <4,00	10	-	1	**613-5161**
2 - 20	0,02	±0,90 - ±3,00	<0,40 - <2,00	300	613-4072	1	**613-5162**
5 - 50	0,10	±0,90 - ±3,00	<0,30 - <1,60	300, 350	613-4071, 613-0694*	1	**613-1753**
10 - 100	0,10	±0,80 - ±2,00	<0,15 - <1,00	300, 350	613-4071, 613-0694*	1	**613-5163**
20 - 200	0,20	±0,60 - ±2,00	<0,15 - <0,80	300, 350	613-4070, 613-0693*	1	**613-5164**
100 - 1000	1,00	±0,60 - ±1,00	<0,20 - <0,40	1000	613-4069, 613-4074*	1	**613-5165**
500 - 5000	10,00	±0,50 - ±2,00	<0,20 - <0,60	5000	613-4068, 613-0692*	1	**613-5166**
1000 - 10000	20,00	±0,60 - ±3,00	<0,20 - <0,60	10000	613-4068, 613-0692*	1	**613-5167**

Description	Pk	Cat. No.
Starter kits		
Starter Kit 1 Proline®Plus (0,1 - 3 µl / 0,5 - 10 µl)	1 KIT	**613-5156**
Starter Kit 2 Proline®Plus (0,5 - 10 µl / 10 - 100 µl / 100 - 1000 µl)	1 KIT	**613-5157**
Starter Kit 3 Proline®Plus (2 - 20 µl / 20 - 200 µl / 100 - 1000 µl)	1 KIT	**613-5158**
Starter Kit 4 Proline®Plus (500 - 5000 µl / 1 - 10 ml)	1 KIT	**613-5159**
Accessories		
Universal linear stand for storing one pipette in an upright position, 290×250×60 mm	1	**613-8706**
Safe-Cone filters, Standard, Ø 6,73 mm	50	**613-4068**
Safe-Cone filters, Standard, Ø 5,33 mm	50	**613-4069**
Safe-Cone filters, Standard, Ø 3,15 mm	50	**613-4070**
Safe-Cone filters, Standard, Ø 2,51 mm	50	**613-4071**
Safe-Cone filters, Plus, Ø 6,73 mm	50	**613-0692**
Safe-Cone filters, Plus, Ø 5,33 mm	50	**613-4074**
Safe-Cone filters, Plus, Ø 3,15 mm	50	**613-0693**
Safe-Cone filters, Plus, Ø 2,51 mm	50	**613-0694**

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* Safe-Cone Plus

Single channel pipettes, mechanical, mLINE®
Sartorius

Variable volume, fully autoclavable

mLINE® pipettes offer a unique combination of new features for higher accuracy and precision. They include built-in replaceable tip cone filters, which prevent pipette contamination and damage. Two types of filters are offered: Safe-Cone standard filter and Safe-Cone Plus filter. It is recommended to use the Standard filter for general applications and the Plus filter for more demanding applications, such as cell culture, bacterial, viral work and molecular biology.

- Clear and easy to read display with big numbers and small increments
- Equipped with special spring loaded tip cones (i.e. the Optiload mechanism) allowing tip loading and ejection using minimum force
- Plunger technology results in the lowest pipetting forces
- Volume range colour coding for easy pipette selection, five colour coding caps
- Thermal insulation of the internal components improves both accuracy and reproducibility

Ordering information: mLINE® pipettes are supplied as single pipettes, in Starter Kits or Multipacks packed into a box.

Starter Kit 1 includes three mLINE® pipettes (0,5 - 10 µl, 10 - 100 µl, 100 - 1000 µl), colour coded tip racks for each pipette, one pipette holder, colour-coding caps and one calibration tool.

Starter Kit 2 includes three mLINE® pipettes (2 - 20 µl, 20 - 200 µl, 100 - 1000 µl), colour coded tip racks for every pipette, one pipette holder, colour coded caps and one calibration tool.

Multipack 1 includes three mLINE® pipettes (0,5 - 10 µl, 10 - 100 µl, 100 - 1000 µl), Sartorius Optifit Tip tray boxes (0,2 - 10 µl, 0,5 - 200 µl, 10 - 1000 µl) and a linear stand.
Multipack 2 includes three mLINE® pipettes (2 - 20 µl, 20 - 200 µl, 100 - 1000 µl), Sartorius Optifit Tip tray boxes (0,5 - 200 µl, 10 - 1000 µl) and a linear stand.
Multipack 3 includes four mLINE® pipettes (0,5 - 10 µl, 10 - 100 µl, 20 - 200 µl, 100 - 1000 µl), Sartorius Optifit Tip tray boxes (0,2 - 10 µl, 0,5 - 200 µl, 10 - 1000 µl) and a linear stand.
Multipack 4 includes three mLINE® pipettes (0,5 - 10 µl, 20 - 200 µl 100 - 1000 µl), one 8-channel pipette (30 - 300 µl), Sartorius Optifit Tip tray boxes (0,2 - 10 µl, 0,5 - 200 µl, 5 - 350 µl, 10 - 1000 µl) and a linear stand.
Multipack 5 includes five mLINE® pipettes (2 - 20 µl, 10 - 100 µl, 20 - 200 µl, 100 - 1000 µl, 500 - 5000 µl), Sartorius Optifit Tip tray boxes (0,5 - 200 µl, 10 - 1000 µl, 5000 µl) and a linear stand.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips (µl)	With Safe-Cone filter(s)	Pk	Cat. No.
0,1 - 3	0,002	±1,30	<0,80	10 / F10	-	1	**613-5125**
0,5 - 10	0,01	±1,00	<0,60	10 / F10	-	1	**613-4089**
2 - 20	0,02	±0,90	<0,40	300 / F20	613-4072	1	**613-5078**
10 - 100	0,10	±0,80	<0,15	300, 350 / F100, F120	613-4071, 613-0694	1	**613-4090**
20 - 200	0,20	±0,60	<0,15	300, 350 / F200, F300	613-4070, 613-0693	1	**613-4091**
100 - 1000	1,00	±0,60	<0,20	1000 / F1000	613-4069, 613-4074	1	**613-4092**
500 - 5000	10,0	±0,50	<0,20	5000	613-4068, 613-0692	1	**613-4093**
1000 - 10000	20,0	±0,60	<0,20	10000	613-4068, 613-0692	1	**613-5147**

Description	Pk	Cat. No.
Starter Kits		
Starter Kit mLINE® 1 (0,5 - 10 / 10 - 100 / 100 - 1000 µl)	1 KIT	**613-0464**
Starter Kit mLINE® 2 (2 - 20 / 20 - 200 / 100 - 1000 µl)	1 KIT	**613-0199**
Multipacks with rack		
Multipack mLINE® 1 (0,5 - 10 / 10 - 100 / 100 - 1000 µl), incl. tips and stand	3	**613-2808**
Multipack mLINE® 2 (2 - 20 / 20 - 200 / 100 - 1000 µl), incl. tips and stand	3	**613-2809**
Multipack mLINE® 3 (0,5 - 10 / 10 - 100 / 20 - 200 / 100 - 1000 µl), incl. tips and stand	4	**613-2810**
Multipack mLINE® 5 (2 - 20 / 10 - 100 / 20 - 200 / 100 - 1000 / 500 - 5000 µl), incl. tips and stand	5	**613-2811**
Multipack mLINE® 4 (2 - 20 / 10 - 100 / 20 - 200 / 100 - 1000 / 500 - 5000 µl; 8-channel 30 - 300 µl), incl. tips and stand	4	**613-2812**

Description	Pk	Cat. No.
Accessories		
Universal linear stand for storing one pipette in an upright position, 290×250×60 mm	1	**613-8706**
Safe-Cone filters, Standard, Ø 6,73 mm	50	**613-4068**
Safe-Cone filters, Standard, Ø 5,33 mm	50	**613-4069**
Safe-Cone filters, Standard, Ø 3,15 mm	50	**613-4070**
Safe-Cone filters, Standard, Ø 2,51 mm	50	**613-4071**
Safe-Cone filters, Plus, Ø 6,73 mm	50	**613-0692**
Safe-Cone filters, Plus, Ø 5,33 mm	50	**613-4074**
Safe-Cone filters, Plus, Ø 3,15 mm	50	**613-0693**
Safe-Cone filters, Plus, Ø 2,51 mm	50	**613-0694**

IVD

Single channel pipettes, mechanical, Transferpette® S
Brand

Fixed or variable volume, fully autoclavable

Ideal for laboratory applications requiring the highest standards of precision. The 0,1 - 1 µl Transferpette® S ensures the highest degree of accuracy for molecular biology applications, especially when pipetting enzymes.

The volume adjustment knob on the variable volume Transferpette® S is simple to use and can be moved easily even when wearing gloves. The Easy Calibration feature was developed as part of the programme for monitoring control instrumentation for compliance with ISO 9000 and GLP and enables the device to be adjusted in a few seconds, without tools, to meet the user's specific needs.

- The pipetting button is located centrally so that the piston moves evenly and smoothly, pipettes have a separate ejection button and piston and ejector are both corrosion resistant
- Colour coding on the pipette shaft clearly indicates the matching tip
- Single handed operation for both right and left-handers with easy to read 4-digit volume display for unsurpassed accuracy
- Slim pipette shaft allows pipetting into containers with narrow openings
- Ergonomically designed finger rest for a firm grip, reducing fatigue even during prolonged pipetting sessions

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips	Pk	Cat. No.
Fixed volume						
10	-	±1	≤0,5	0,1 - 20 / 0,5 - 20 / 0,5 - 10* / 1 - 20* / 1 - 50	1	**613-3456**
20	-	±0,8	≤0,4	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100*	1	**613-3457**
25	-	±0,8	≤0,4	2 - 200 / 5 - 300 / 5 - 100*	1	**613-3458**
50	-	±0,8	≤0,4	2 - 200 / 5 - 300 / 5 - 100*	1	**613-3459**
100	-	±0,6	≤0,2	2 - 200 / 5 - 300 / 5 - 100*	1	**613-3460**
200	-	±0,6	≤0,2	2 - 200 / 5 - 300 / 5 - 200*	1	**613-3461**
500	-	±0,6	≤0,2	50 - 1000 / 50 - 1000*	1	**613-3462**
1000	-	±0,6	≤0,2	50 - 1000 / 50 - 1000*	1	**613-3463**
Variable volume						
0,1 - 1	0,001	±2	≤1,2	0,1 - 20 / 0,1 - 1*	1	**613-3464**
0,1 - 2,5	0,002	±1,4	≤0,7	0,1 - 20 / 0,5 - 20 / 1 - 50 / 0,5 - 10* / 1 - 20*	1	**613-1762**
0,5 - 10	0,01	±1	≤0,5	0,1 - 20 / 0,5 - 20 / 0,1 - 1* / 0,5 - 10* / 1 - 50 / 1 - 20*	1	**613-3465**
2 - 20	0,02	±0,8	≤0,4	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100*	1	**613-3466**
10 - 100	0,10	±0,6	≤0,2	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100*	1	**613-3467**
20 - 200	0,20	±0,6	≤0,2	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100* / 5 - 200*	1	**613-3468**
100 - 1000	1,00	±0,6	≤0,2	50 - 1000 / 50 - 1000*	1	**613-3469**
500 - 5000	5,00	±0,6	≤0,2	500 - 5000	1	**613-3470**
1000 - 10000	10,0	±0,6	≤0,2	1000 - 10000	1	**613-3471**

Description	Pk	Cat. No.
Starter kits (3 Transferpette® S Variable, 3 filled tip boxes, 3 rack mounts)		
Micro starter kit (Transferpette® S Variable 0,1 - 1/0,5 - 10/10 - 100)	1	**613-3472**
Midi starter kit (Transferpette® S Variable 2 - 20/20 - 200/100 - 1000)	1	**613-3473**
Macro starter kit (Transferpette® S Variable 100 - 1000/500 - 5000/1000 - 10000)	1	**613-3474**
Standard starter kit (Transferpette® S Variable 0,5 - 10/10 - 100/100 - 1000)	1	**613-3478**
Accessories		
Filter for Transferpette® / Transferpette® S / Transferpette® electronic 0,5-5 ml	25	**613-1684**
Filter for Transferpette® S 1-10 ml	25	**613-1685**
Shelf/rack mount for Transferpette® S single instrument	1	**613-3476**

* Filter tips

Single channel pipettes, mechanical, Transferpettor™
Brand

Fixed or variable volume

Ideal for pipetting highly viscous media up to 140 000 mm^2/s, or with density up to 13,6 g/cm^3 (protein solutions, oils, fat, mercury, sulphuric acid), high vapour pressure media up to 500 mbar (alcohols, ethers, hydrocarbons), or media with a tendency to foam (tensioactive solutions).

- For pipetting media that present problems for air displacement pipettes
- Positive displacement ensures that results are reproducible regardless of pipetting speed and ambient conditions
- The movable piston is in direct contact with the liquid and removes the last drop from the walls of the capillaries or tips
- Residual moisture in the capillaries or tips is minimal and may be disregarded except in the case of infectious or radioactive media
- Certified compliant with a certificate of quality

Ordering information: Must be used with capillaries, tips, and pistons for Transferpettor™.

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Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For pipette tips (µl)	Pk	Cat. No.
Fixed volume							
1	-	±4,0	≤4,0	White	5	1	**613-3358**
2	-	±2,5	≤2,0	White	5	1	**613-3359**
5	-	±1,0	≤0,8	White	5	1	**613-3362**
10	-	±1,0	≤0,8	Orange	10	1	**613-3363**
20	-	±0,8	≤0,5	Black	20	1	**613-3364**
25	-	±0,8	≤0,4	2 × White	25	1	**613-3365**
50	-	±0,6	≤0,4	Green	50	1	**613-3366**
100	-	±0,6	≤0,4	Blue	200	1	**613-3367**
200	-	±0,5	≤0,2	Red	200	1	**613-3368**
Variable volume							
2,5 - 10	0,01	±1,0	≤0,8	Orange	10	1	**613-3354**
5 - 25	0,1	±0,8	≤0,5	2 × White	25	1	**613-3355**
10 - 50	0,1	±0,6	≤0,4	Green	50	1	**613-3356**
20 - 100	0,1	±0,6	≤0,4	Blue	200	1	**613-3357**
100 - 500	1	±0,5	≤0,2	Green	500	1	**613-3379**
200 - 1000	1	±0,5	≤0,2	Yellow	1000	1	**613-3380**
1000 - 5000	10	±0,5	≤0,2	Red	5000	1	**613-3381**
2000 - 10000	10	±0,5	≤0,2	Orange	10000	1	**613-3382**

Description	Capacity (µl)	Pk	Cat. No.
Caps, glass			
Glass capillaries	1/2/5	100	**613-3369**
Glass capillaries	10	100	**613-3370**
Glass capillaries	20	100	**613-3371**
Glass capillaries	25	100	**613-3372**
Glass capillaries	50	100	**613-3373**
Glass capillaries	100/200	50	**613-3374**
Caps, PP			
PP caps	100 - 500	10	**613-3383**
PP caps	200 - 1000	10	**613-3384**
PP caps	1000 - 5000	10	**613-3385**
PP caps	2000 - 10000	10	**613-3386**
Seals, PTFE			
Transferpettor™ seals, with mounting block	20/25	3	**613-3375**
Transferpettor™ seals, with mounting block	50	3	**613-3376**
Transferpettor™ seals, with mounting block	100/200	3	**613-3377**
Seals, PE			
Transferpettor™ seals	100 - 500	10	**613-3387**
Transferpettor™ seals	200 - 1000	10	**613-3388**
Transferpettor™ seals	1000 - 5000	10	**613-3389**
Transferpettor™ seals	2000 - 10000	10	**613-3390**
Transferpettor™ station			
Station for 2× Transferpettor™, 0,5 to 10 ml, with accessories		1	**613-3391**
Station for 4× Transferpettor™, up to 200 µl, with accessories		1	**613-3378**

Caps for Transferpettor™
Brand

Conformity certified.

Description	Capacity (µl)	Colour code	Pk	Cat. No.
Caps, glass				
Glass capillaries	1/2/5	White	100	**613-3369**
Glass capillaries	10	Orange	100	**613-3370**
Glass capillaries	20	Black	100	**613-3371**
Glass capillaries	25	2 × White	100	**613-3372**
Glass capillaries	50	Green	100	**613-3373**
Glass capillaries	100/200	Blue	50	**613-3374**
Caps, PP				
PP caps	100 - 500	Green	10	**613-3383**
PP caps	200 - 1000	Yellow	10	**613-3384**
PP caps	1000 - 5000	Red	10	**613-3385**
PP caps	2000 - 10000	Orange	10	**613-3386**

Seals for Transferpettor™
Brand

PTFE

PE

Conformity certified.

Description	Capacity (µl)	Pk	Cat. No.
Seals, PTFE			
Transferpettor™ seals, with mounting block	20/25	3	**613-3375**
Transferpettor™ seals, with mounting block	50	3	**613-3376**
Transferpettor™ seals, with mounting block	100/200	3	**613-3377**
Seals, PE			
Transferpettor™ seals	100 - 500	10	**613-3387**
Transferpettor™ seals	200 - 1000	10	**613-3388**
Transferpettor™ seals	1000 - 5000	10	**613-3389**
Transferpettor™ seals	2000 - 10000	10	**613-3390**

Transferpettor™ station
Brand

Description	Pk	Cat. No.
Station for 2× Transferpettor™, 0,5 to 10 ml, with accessories	1	**613-3391**
Station for 4× Transferpettor™, up to 200 µl, with accessories	1	**613-3378**

Single channel pipettes, mechanical, Finnpipette® F1
Thermo Scientific

Fixed or variable volume

Finnpipette® F1 combines all Finnpipette® advantages with a unique antimicrobial treatment to give better protection against contamination.

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- Antimicrobial surface - silver ions (Ag) create a surface which inhibits growth of bacteria, microbes and fungus
- Advanced Volume Gearing mechanism (ACG) - self supportive modular mechanism increasing accuracy, precision and durability, with light force and smaller increments for volume adjustment
- Set-and-forget pipetting button - easy set and forget lock mechanism to adjust the volume, pipetting button rotates freely when not in locking position
- Superior handle ergonomics, including adjustable finger rest (120°) for optimal pipetting position, very low force pipetting movement
- Super blow-out piston for volumes of 50 µl and below, which ensures the delivery of micro-size drops

Ordering information: Supplied with one opening and calibration key, one maintenance set (incl. grease and O-rings), one calibration report, three-year warranty certificate (extended to five years with web registration) and user's guide (English, French, German, Spanish).

GLP-Kits supplied with three Finnpipette® F1 (GLP-Kit 1 and 3) or four Finnpipette® F1 (GLP-Kit 2), one stand for 6 pipettes, three racks of Finntip Flex tips and 15 disposable reagent reservoirs.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For Finntip® tip(s)	Pk	Cat. No.
Fixed volume							
1*	-	±4,00	<4,00	—	Flex 10, 10, 20/50 Micro	1	**613-2742**
5*	-	±1,40	<1,40	—	Flex 10, 10, 20/50 Micro	1	**613-2743**
10	-	±0,90	<0,80	—	Flex 200, 250 Univ., 200 Ext	1	**613-2744**
20	-	±0,70	<0,50	—	Flex 200, 250 Univ., 200 Ext.	1	**613-1478**
25	-	±0,60	<0,50	—	Flex 200, 250 Univ., 200 Ext.	1	**613-2745**
50	-	±0,60	<0,40	—	Flex 200, 250 Univ., 200 Ext.	1	**613-2746**
100	-	±0,40	<0,30	—	Flex 200, 250 Univ., 200 Ext.	1	**613-2747**
200	-	±0,40	<0,30	—	Flex 200, 250 Univ., 200 Ext.	1	**613-1479**
250	-	±0,40	<0,30	—	Flex 1000, 1000, 1000 Ext.	1	**613-2748**
500	-	±0,30	<0,30	—	Flex 1000, 1000, 1000 Ext.	1	**613-2749**
1000	-	±0,30	<0,30	—	Flex 1000, 1000, 1000 Ext.	1	**613-2750**
2000	-	±0,30	<0,20	—	5 ml	1	**613-2751**
3000	-	±0,30	<0,20	—	5 ml	1	**613-2752**
5000	-	±0,30	<0,20	—	5 ml	1	**613-2753**
10000	-	±0,30	<0,20	—	10 ml, Flex 10 ml Ext.	1	**613-2754**
Variable volume							
0,2 - 2*	0,002	±2,50 - ±12,00	<2,00 - <0,00	Pink	Flex 10, 10, 20/50 Micro	1	**613-2730**
0,5 - 5*	0,01	±1,50 - ±6,00	<1,00 - <5,00	Pink	Flex 10, 10, 20/50 Micro	1	**613-2731**
1 - 10*	0,02	±1,00 - ±2,50	<0,50 - <2,00	Pink	Flex 10, 10, 20/50 Micro	1	**613-2732**
1 - 10	0,02	±1,00 - ±3,50	<0,80 - <3,00	Yellow	Flex 200, 250 Univ.	1	**613-2733**
2 - 20*	0,02	±1,00 - ±3,00	<0,40 - <2,50	Turquoise	20/50 Micro	1	**613-2734**
2 - 20	0,02	±1,00 - ±3,00	<0,40 - <2,50	Yellow	Flex 200, 250 Univ.	1	**613-2735**
5 - 50*	0,1	±0,60 - ±3,00	<0,30 - <2,50	Turquoise	50 Micro	1	**613-1484**
5 - 50	0,1	±0,60 - ±3,00	<0,30 - <2,50	Yellow	Flex 200, 250 Univ.	1	**613-1485**
10 - 100	0,2	±0,80 - ±3,00	<0,20 - <1,00	Yellow	Flex 200/300, 250 Univ., 200 Ext.	1	**613-2736**
20 - 200	0,2	±0,60 - ±1,80	<0,20 - <0,70	Yellow	Flex 200/300, 250 Univ., 200 Ext.	1	**613-2737**
30 - 300	1	±0,60 - ±1,60	<0,20 - <0,60	Orange	Flex 300, 300	1	**613-2738**
100 - 1000	1	±0,60 - ±1,00	<0,20 - <0,60	Blue	Flex 1000, 1000, 1000 Ext.	1	**613-2739**
500 - 5000	10	±0,50 - ±2,00	<0,20 - <0,80	Green	5 ml	1	**613-2740**
1000 - 10000	20	±0,50 - ±2,00	<0,20 - <0,80	Red	10 ml, Flex 10 ml Ext.	1	**613-2741**

Description	For	Pk	Cat. No.
Pipette stands for Finnpipette®			
F-Stand for 6 F1/F2/F3 Finnpipette®	F1/F2/F3 Finnpipette®	1	**613-2765**

* Micro

Single channel pipettes, mechanical, F1-ClipTip®
Thermo Scientific

Fixed or variable volume

F1-ClipTip® pipettes transform daily pipetting with the innovative ClipTip® interlocking technology, which ensures a complete seal on every channel with minimal tip attachment and ejection force. Once attached, the tips are locked firmly in place, and will not loosen or fall off regardless of application pressure.

- Ergonomic design and remarkably lightweight
- Innovative three interlocking clip design ensures the tip is held securely on the F1-ClipTip® pipette until it is released
- Complete seal to secure the sample volume in each tip enhances accuracy and precision
- Tips are attached and ejected with a light touch
- Antimicrobial surface - silver ions (Ag) create a surface which inhibits growth of bacteria, microbes and fungus
- The secure volume setting prevents undesirable volume drift during operation
- 120° adjustable finger rest, for both right- and left-handed operator comfort, allows the hand to relax during pipetting cycles

Ordering information: Supplied with maintenance set (incl. grease and O-rings), tip fitting tool, ClipTip® tip sample, shelf hanger, warning labels, calibration certificate, warranty certificate and user's guide (English, French, German, Spanish).

GLP-Kits supplied with three single-channel F1-ClipTip® pipettes (Kit 1) or three single-channel and one 8-channel pipettes (Kit 2), F-Series Stand, three or four racks of ClipTip® tips and three divided reservoirs.

Capacity (µl)	Division	Accuracy (%)	Imprecision (%)	Colour code	For pipette tips (µl)	Pk	Cat. No.
Fixed volume							
1	-	±4,00	4,0	—	ClipTip® 20	1	**613-2184**
5	-	±1,40	1,4	—	ClipTip® 20	1	**613-2185**
10	-	±0,90	0,8	—	ClipTip® 20	1	**613-2186**
20	-	±0,70	0,5	—	ClipTip® 20	1	**613-2187**
25	-	±0,60	0,5	—	ClipTip® 50	1	**613-2188**
50	-	±0,60	0,4	—	ClipTip® 50	1	**613-2189**
100	-	±0,40	0,3	—	ClipTip® 200	1	**613-2190**
200	-	±0,40	0,3	—	ClipTip® 200	1	**613-2191**
250	-	±0,40	0,3	—	ClipTip® 300	1	**613-2192**
500	-	±0,30	0,3	—	ClipTip® 1000	1	**613-2193**
1000	-	±0,30	0,3	—	ClipTip® 1000	1	**613-2194**
Variable volume							
1 - 10	0,02	±1,00 - 2,50	0,5 - 2,0	Pink	ClipTip® 20	1	**613-2175**
2 - 20	0,02	±1,00 - 3,00	0,4 - 2,5	Pink	ClipTip® 20	1	**613-2178**
5 - 50	0,1	±0,60 - 3,00	0,3 - 2,5	Purple	ClipTip® 50	1	**613-2179**
10 - 100	0,2	±0,80 - 3,00	0,2 - 1,0	Yellow	ClipTip® 200	1	**613-2180**
20 - 200	0,2	±0,60 - 1,80	0,2 - 0,7	Yellow	ClipTip® 200	1	**613-2181**
30 - 300	1,0	±0,60 - 1,50	0,2 - 0,6	Orange	ClipTip® 300	1	**613-2182**
100 - 1000	1,0	±0,60 - 1,00	0,2 - 0,6	Blue	ClipTip® 1000	1	**613-2183**

VWR COLLECTION

Delivering high quality and superior performance

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Single channel pipettes, mechanical, Finnpipette® F2

Thermo Scientific

Fixed or variable volume, fully autoclavable

Finnpipette® F2 offers superior comfort, performance, reliability and easy maintenance in one of the lightest pipettes available in the market.

- Advanced Volume Gearing mechanism (AVG) - self-supportive modular mechanism increasing accuracy, precision and durability, with light force and smaller increments for volume adjustment
- Large, contrasted Ergovisio display with white numbers on black background for increased volume visibility and security
- Soft-touch tip ejection to eject the tips with very light force
- Superior handle ergonomics and very low force pipetting movement
- Super blow-out piston for volumes of 50 µl and below, which ensures the delivery of micro-size drops

Ordering information: Supplied with one opening and calibration key, calibration report, three-year warranty certificate (extended to five years with web registration) and user guide (English, French, German, Spanish).

GLP-Kits supplied with three Finnpipette® F2 (GLP-Kit 1 and 3) or four Finnpipette® F2 (GLP-Kit 2), one stand for six pipettes, three racks of 96 Finntip Flex tips and 15 disposable reagent reservoirs.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For Finntip® tip(s)	Pk	Cat. No.
Fixed volume							
1*	-	±4,00	<4,00	—	Flex 10, 10, 20/50 Micro	1	**613-2707**
5*	-	±1,40	<1,40	—	Flex 10, 10, 20/50 Micro	1	**613-2708**
10	-	±0,80	<0,80	—	Flex 200, 250 Univ., 200 Ext.	1	**613-2709**
20	-	±0,70	<0,50	—	Flex 200, 250 Univ., 200 Ext.	1	**613-1480**
25	-	±0,50	<0,50	—	Flex 200, 250 Univ., 200 Ext.	1	**613-2710**
50	-	±0,40	<0,40	—	Flex 200, 250 Univ., 200 Ext.	1	**613-2711**
100	-	±0,30	<0,30	—	Flex 200, 250 Univ., 200 Ext.	1	**613-2712**
200	-	±0,40	<0,30	—	Flex 200, 250 Univ., 200 Ext.	1	**613-1481**
250	-	±0,30	<0,30	—	Flex 1000, 1000, 1000 Ext.	1	**613-2713**
500	-	±0,30	<0,30	—	Flex 1000, 1000, 1000 Ext.	1	**613-2714**
1000	-	±0,30	<0,30	—	Flex 1000, 1000, 1000 Ext.	1	**613-2715**
2000	-	±0,20	<0,20	—	5 ml	1	**613-2716**
3000	-	±0,20	<0,20	—	5 ml	1	**613-2717**
5000	-	±0,20	<0,20	—	5 ml	1	**613-2718**
10000	-	±0,20	<0,20	—	10 ml, Flex 10 ml Ext.	1	**613-2719**
Variable volume							
0,2 - 2*	0,002	±2,50 - ±12,00	<2,00 - <10,00	Pink	Flex 10, 10, 50 Micro	1	**613-2696**
0,5 - 5*	0,01	±1,50 - ±6,00	<1,00 - <5,00	Pink	Flex 10, 10, 50 Micro	1	**613-2697**
1 - 10	0,02	±1,00 - ±3,50	<0,80 - <3,00	Yellow	Flex 200, 250 Univ.	1	**613-2699**
1 - 10*	0,02	±1,00 - ±2,50	<0,50 - <2,00	Pink	Flex 10, 10, 50 Micro	1	**613-2698**
2 - 20	0,02	±1,00 - ±3,00	<0,40 - <2,50	Yellow	Flex 200, 250 Univ.	1	**613-2701**
2 - 20*	0,02	±1,00 - ±3,00	<0,40 - <2,50	Turquoise	50 Micro	1	**613-2700**
5 - 50	0,1	±0,60 - ±3,00	<0,30 - <2,50	Yellow	Flex 200/300, 250 Univ., 200 Ext.	1	**613-1487**
5 - 50*	0,1	±0,60 - ±3,00	<0,30 - <2,50	Turquoise	50 Micro	1	**613-1486**
10 - 100	0,2	±0,80 - ±3,00	<0,20 - <1,00	Yellow	Flex 200/300, 250 Univ., 200 Ext.	1	**613-2702**
20 - 200	0,2	±0,60 - ±1,80	<0,20 - <0,70	Yellow	Flex 200/300, 250 Univ., 200 Ext.	1	**613-2703**
100 - 1000	1	±0,60 - ±1,00	<0,20 - <0,60	Blue	Flex 1000, 1000, 1000 Ext.	1	**613-2704**
500 - 5000	10	±0,50 - ±2,00	<0,20 - <0,80	Green	Flex 5 ml	1	**613-2705**
1000 - 10000	20	±0,50 - ±2,00	<0,20 - <0,80	Red	10 ml, Flex 10 ml Ext.	1	**613-2706**

Description	For	Pk	Cat. No.
GLP kits			
Finnpipette® F2 GLP-Kit 1 (1 - 10 µl / 10 - 100 µl / 100 - 1000 µl)		1	**613-2769**
Finnpipette® F2 GLP-Kit 2 (0,2 - 2 µl / 2 - 20 µl / 20 - 200 µl / 100 - 1000 µl)		1	**613-2770**
Finnpipette® F2 GLP-Kit 3 (10 - 100 µl / 100 - 1000 µl / 1 - 10 ml)		1	**613-2771**
Pipette stands for Finnpipette®			
F-Stand for 6 F1/F2/F3 Finnpipette®	F1/F2/F3 Finnpipette®	1	**613-2765**

* Micro

Single channel pipettes, mechanical, Eppendorf Reference® 2

Eppendorf

Fixed or variable volume, autoclavable

The robust Reference® 2 is the successor to the Reference® pipette and features a new design, reduced weight and unique one-button operation. Due to its reliable and accurate operation, the pipette is ideal for use with precious liquids or in any application requiring extremely high levels of accuracy.

- Single button operation and spring loaded tip cone for fast and ergonomic handling with reduced operating effort
- Quick tip ejection with active aerosol reduction; haptic feedback prevents accidential tip ejection
- Serial number is printed on multiple components of the pipette for heightened traceability
- Embedded RFID chip containing all relevant data ensures complete traceability
- Optional TrackIT software allows simple identification and documentation and provides ability to add own data (e.g. calibration time and results, location)

Ordering information: All adjustable volume pipettes come with an epT.I.P.S.® Box (except the 2,5 ml, 5 ml and 10 ml versions).
Each 3-pack contains three pipettes, one set of matching Eppendorf tips and one ballpoint pen.

Capacity (µl)	Accuracy (%)	Imprecision (%)	Colour code	Pk	Cat. No.
Fixed volume					
1	±2,5	±1,8	Dark Grey	1	**613-2873**
2	±2,0	±1,2	Dark Grey	1	**613-2874**
5	±1,2	±0,6	Grey	1	**613-2875**
10	±1,0	±0,5	Grey	1	**613-2876**
10	±1,2	±0,6	Yellow	1	**613-2877**
20	±0,8	±0,3	Light Grey	1	**613-2878**
20	±1,0	±0,3	Yellow	1	**613-2879**
25	±1,0	±0,3	Yellow	1	**613-2880**
50	±0,7	±0,3	Yellow	1	**613-2881**
100	±0,6	±0,2	Yellow	1	**613-2882**
200	±0,6	±0,2	Yellow	1	**613-2883**
200	±0,6	±0,2	Blue	1	**613-2884**
250	±0,6	±0,2	Blue	1	**613-2885**
500	±0,6	±0,2	Blue	1	**613-2886**
1000	±0,6	±0,2	Blue	1	**613-2887**
2000	±0,6	±0,2	Red	1	**613-2888**
2500	±0,6	±0,2	Red	1	**613-2889**
Variable volume					
0,1 - 2,5	±48 - ±1,4	±12,0 - ±0,7	Dark Grey	1	**613-2862**
0,5 - 10	±8,0- ±1,0	±5,0 - ±0,4	Grey	1	**613-2863**
2 - 20	±5,0 - ±1,0	±1,5 - ±0,3	Light Grey	1	**613-2864**
2 - 20	±5,0 - ±1,0	±1,5 - ±0,3	Yellow	1	**613-2865**
10 - 100	±3,0 - ±0,8	±0,7 - ±0,2	Yellow	1	**613-2866**
20 - 200	±2,5 - ±0,6	±0,7 - ±0,2	Yellow	1	**613-2867**
30 - 300	±2,5 - ±0,6	±0,7 - ±0,2	Orange	1	**613-2868**
100 - 1000	±3,0 - ±0,6	±0,6 - ±0,2	Blue	1	**613-2869**
250 - 2500	±4,8 - ±0,6	±1,2 - ±0,2	Red	1	**613-2870**
500 - 5000	±2,4 - ±0,6	±0,6 - ±0,15	Violet	1	**613-2871**
1000 - 10000	±3,0 - ±0,6	±0,6 - ±0,15	Turquoise	1	**613-2872**

Description	Pk	Cat. No.
3-packs		
3-pack, option 1, incl. three pipettes (0,5-10 µl, 10-100 µl, 100-1000 µl) and epT.I.P.S.®	1	**613-9223**
3-pack, option 2, incl. three pipettes (2-20 µl, 20-200 µl, 100-1000 µl) and epT.I.P.S.®	1	**613-9224**
3-pack, option 3, incl. three pipettes (100-1000 µl, 0,5-5 ml, 1-10 ml) and epT.I.P.S.®	1	**613-9225**
Accessories		
TrackIT package, incl. RFID reader and software for data export, identification and documentation*	1	**613-9233**
Pipette carousel	1	**613-2924**
Pipette holder	1	**613-2925**

* Works with Windows 7/8/Vista.

Single channel pipettes, mechanical, Eppendorf Research® plus
Eppendorf

Fixed or variable volume, fully autoclavable

Versatile, ergonomic pipette with innovative design, meeting the highest needs in precision and accuracy.

- Extremely lightweight
- Innovative re-designed principle of piston-stroke pipetting, piston made of Fortron® with great chemical, thermal and mechanical resistance
- Lowest aspirating, dispensing, blow-out and tip ejection forces
- Spring loaded retractable nose cone to ensure tight seal and prolong nose cone life
- 4-digit volume display for ease of use

Capacity (µl)	Accuracy (%)	Imprecision (%)	Colour code	Pk	Cat. No.
Fixed volume					
10	±1,2	±0,6	Grey	1	**613-0871**
10	±1,2	±0,6	Yellow	1	**613-0872**
20	±0,8	±0,3	Light Grey	1	**613-0873**
20	±1,0	±0,3	Yellow	1	**613-0874**
25	±1,0	±0,3	Yellow	1	**613-0875**
50	±0,7	±0,3	Yellow	1	**613-0876**
100	±0,6	±0,2	Yellow	1	**613-0877**
200	±0,6	±0,2	Yellow	1	**613-0878**
200	±0,6	±0,2	Blue	1	**613-0879**
250	±0,6	±0,2	Blue	1	**613-0880**
500	±0,6	±0,2	Blue	1	**613-0881**
1000	±0,6	±0,2	Blue	1	**613-0882**
Variable volume					
0,1 - 2,5	±48,0 - ±1,4	±12,0 - ±0,7	Dark Grey	1	**613-0861**
0,5 - 10	±8,0 - ±1,0	±5,0 - ±0,4	Grey	1	**613-0862**
2 - 20	±5,0 - ±1,0	±1,5 - ±0,3	Yellow	1	**613-0863**
2 - 20	±5,0 - ±1,0	±1,5 - ±0,3	Light Grey	1	**613-0869**
10 - 100	±3,0 - ±0,8	±1,0 - ±0,2	Yellow	1	**613-0864**
20 - 200	±2,5 - ±0,6	±0,7 - ±0,2	Yellow	1	**613-0865**
30 - 300	±2,5 - ±0,6	±0,7 - ±0,2	Orange	1	**613-0870**
100 - 1000	±3,0 - ±0,6	±0,6 - ±0,2	Blue	1	**613-0866**
500 - 5000	±2,4 - ±0,6	±0,6 - ±0,15	Violet	1	**613-0867**
1000 - 10000	±3,0 - ±0,6	±0,6 - ±0,15	Turquoise	1	**613-0868**

Description	Pk	Cat. No.
Accessories		
Pipette rotating stand for 6 pipettes	1	**612-1806**
Pipette holder for wall mounting, for one pipette	1	**612-1807**

Eppendorf Research® plus packs
Eppendorf

Three economic start-up packs are available - Option 3 includes a special "ml" large-volume pack (up to 10 ml) which is ideal for pipetting cell culture media.

- Option 1: 3x Eppendorf Research® plus pipettes (0,5 - 10 µl, 10 - 100 µl, 100 - 1000 µl); 3×96 epT.I.P.S.® tips in refillable boxes
- Option 2: 3x Eppendorf Research® plus pipettes (2 - 20 µl, 20 - 200 µl, 100 - 1000 µl); 3×96 epT.I.P.S.® tips in refillable boxes
- Option 3: 3x Eppendorf Research® plus pipettes (0,1 - 1 ml, 0,5 - 5 ml, 1 - 10 ml); with samples of matching pipette tips

Description	Pk	Cat. No.
Research® plus pack, option 1	1 KIT	**613-1143**
Research® plus pack, option 2	1 KIT	**613-1144**
Research® plus pack, option 3	1 KIT	**613-1145**

Single channel pipette, mechanical, Biomaster® 4830 and Mastertip®
Eppendorf

Variable volume, autoclavable

Positive displacement pipette, ideal for pipetting liquids with high vapour pressure or viscosity. This pipette prevents the transfer of any extraneous DNA during nucleic acid amplification manipulations. Cross-contamination of infectious, toxic, or radioactive samples is also precluded.

- The piston of the Mastertip® ensures the sample only enters the tip up to the sealing lip, eliminating aerosols that can cause contamination
- Tips can be loaded and ejected with one hand
- Lateral volume lock
- Resistant to UV radiation
- Mastertip® tips with integral piston, ready-to-use

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips (µl)	Pk	Cat. No.
1 - 20	0,02	±6,0 - ±2,5	<4,0 - <0,8	20 (Mastertip®)	1	**612-7251**

Description	Pk	Cat. No.
Accessories		
Mastertips®, 5 racks of 96 tips	480	**612-7261**

Pipette leak testing unit
Brand

The PLT unit, pipette leak tester, for air displacement pipettes allows daily pipette checks, providing a safeguard during the periods between routine calibrations and thereby significantly improves the pipette process reliability. Even the smallest leaks are detected and quantified.

- Test limit values for all commercially available single and multi channel pipettes in the volume range 1 µl to 10 ml are pre-programmed
- Test pipettes with and without tips to assist in diagnosis of the leak source
- Test results in seconds

Ordering information: Supplied with one of each type of adapter (4-channel pipette adapter optional) for testing air displacement pipettes with tip (attached) or testing without tip, 2 plugs (for instrument validation), 3 replacement PE filters for the pipette adapters, universal AC adapter, quality certificate and operating manual.

Description	Pk	Cat. No.
PLT unit	1	**613-1557**

Description	Pk	Cat. No.
Accessories		
Pipette adapter for PLT unit, 1-channel, with tip	1	**613-1690**
Pipette adapter for PLT unit, 1-channel, without tip	1	**613-1691**
Pipette adapter for PLT unit, 4-channel	1	**613-1692**
Filter for PLT unit pipette adapter	10	**613-1693**
Universal AC adapter, 100 - 240 V; 50/60 Hz	1	**613-1694**

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Multi channel pipettes, mechanical, Standard Line

Variable volume, fully autoclavable

The lightweight Standard Line pipettes feature a revolutionary suspension system which allows the shaft to retract slightly when pressed against a row of pipette tips. Each shaft moves independently, resulting in an even sealing force being applied to all 8 or 12 tips. The suspension system not only ensures secure tip sealing but also eliminates tips being jammed.

- Easily adjustable ejector height system to accommodate virtually all brands of tips
- Contoured shape of the handle, 360° manifold and soft spring system deliver smooth and effortless pipetting even during extensive periods of use
- UV resistant and fully autoclavable
- Easy and quick recalibration system
- Colour-coded shaft for easy volume identification

Capacity (µl)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
8-Channel				
0,5 - 10	±10 - ±2,0	≤8,0 - ≤1,2	1	**613-2899**
5 - 50	±4,0 - ±1,6	≤2,5 - ≤0,6	1	**613-2900**
20 - 200	±3,0 - ±1,0	≤1,5 - ≤0,6	1	**613-2901**
50 - 300	±1,6 - ±1,0	≤1,5 - ≤0,6	1	**613-2902**
12-Channel				
0,5 - 10	±10 - ±2,0	≤8,0 - ≤1,2	1	**613-2903**
5 - 50	±4,0 - ±1,6	≤2,5 - ≤0,6	1	**613-2904**
20 - 200	±3,0 - ±1,0	≤1,5 - ≤0,6	1	**613-2905**
50 - 300	±1,6 - ±1,0	≤1,5 - ≤0,6	1	**613-2910**

Multi channel pipettes, mechanical, Ergonomic High Performance (EHP)

Stand for one pipette

Variable volume, fully autoclavable

The Ergonomic High Performance pipettes from VWR provide accuracy and precision you can rely on. The upgraded ergonomic features deliver comfortable pipetting even during extensive periods of use.

- Significantly reduced plunger forces
- Effortless volume adjustment with volume lock
- Superior accuracy and precision for critical applications
- Tapered shaft and adjustable 'Easy Grip' ejector for universal tip fit
- Extended finger rest for convenient pipetting

Capacity (µl)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
8-Channel				
1 - 10	±8,0 - ±2,0	<8,0 - <2,0	1	**613-5250**
5 - 50	±4,0 - ±1,6	<4,0 - <1,6	1	**613-5251**
20 - 200	±2,0 - ±1,0	<1,5 - <0,8	1	**613-5252**
50 - 300	±1,6 - ±1,0	<1,5 - <0,8	1	**613-5253**
12-Channel				
1 - 10	±8,0 - ±2,0	<8,0 - <2,0	1	**613-5254**
5 - 50	±4,0 - ±1,6	<4,0 - <1,6	1	**613-5255**
20 - 200	±2,0 - ±1,0	<1,5 - <0,8	1	**613-5256**
50 - 300	±1,6 - ±1,0	<1,5 - <0,8	1	**613-5257**

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Description	Pk	Cat. No.
Accessories		
Stand for one 8-channel pipette	1	**613-0087**

Multi channel pipettes, mechanical, Ultra-High Performance (UHP)

Variable volume, fully autoclavable

The VWR Ultra-High Performance pipettes offer superior accuracy and precision, with proven ergonomic design both lightweight and durable.

- Low plunger forces
- Universal tip capability
- Automatic locking volume adjustment wheel
- Levered tip ejection and colour coded for volume identification
- Easy in-house calibration and maintenance

Capacity (µl)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
8-Channel				
1 - 10	±8,0 - ±2,0	<6,0 - <1,2	1	**613-1494**
5 - 50	±4,0 - ±1,6	<2,5 - <0,6	1	**613-1495**
20 - 200	±3,0 - ±1,0	<1,5 - <0,6	1	**613-1496**
50 - 300	±1,6 - ±1,0	<1,5 - <0,6	1	**613-1497**
12-Channel				
1 - 10	±8,0 - ±2,0	<6,0 - <1,2	1	**613-1498**
5 - 50	±4,0 - ±1,6	<2,5 - <0,6	1	**613-1499**
20 - 200	±3,0 - ±1,0	<1,5 - <0,6	1	**613-1500**
50 - 300	±1,6 - ±1,0	<1,5 - <0,6	1	**613-1506**

Description	Pk	Cat. No.
Accessories		
Linear stand for 6 UHP micropipettes	1	**613-1587**
Shelf clip for 1 UHP pipette	1	**613-1588**
Stand for 4 UHP pipettes	1	**613-1589**
Stand for 1 UHP pipette	1	**613-1590**

Multi channel pipettes, mechanical, Proline®
Sartorius

Variable volume

Ergonomic pipettes with fast and easy operation. Selected models offer changeable Safe-Cone Standard filters to prevent liquids and aerosols entering the pipette. Safe-Cone Standard filters are recommended for general applications.

- Lightweight for ease of use
- Sequential tip ejection allows easy one-hand tip ejection
- Tip cone elastomers to ensure light sealing and ejection of tips; black tip cones for easy visual check of tight sealing of tips
- Smooth plunger action ensures comfortable handling with or without gloves
- Free rotation of the dispensing head to ensure optimal position in pipetting and ejecting tips

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Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips	With Safe-Cone filter(s)	Pk	Cat. No.
8-Channel							
0,5 - 10	0,10	±1,50	1,50	10 / F10	-	1	**613-4057**
5 - 50	0,50	±1,00	0,50	300, 350 / F100, F120, F200, F300	613-4072	1	**613-4058**
50 - 300	5,00	±0,70	0,25	350 / F300	613-4072	1	**613-4059**
12-Channel							
0,5 - 10	0,10	±1,50	0,50	10 / F10	-	1	**613-4062**
5 - 50	0,50	±1,00	0,50	300, 350 / F100, F120, F200, F300	613-4072	1	**613-4063**
50 - 300	5,00	±0,70	0,25	350 / F300	613-4072	1	**613-4064**

Description	Pk	Cat. No.
Accessories		
Universal linear stand for storing one pipette in an upright position, 290×250×60 mm	1	**613-8706**

Multi channel pipettes, mechanical, Proline®Plus
Sartorius

Variable volume, fully autoclavable

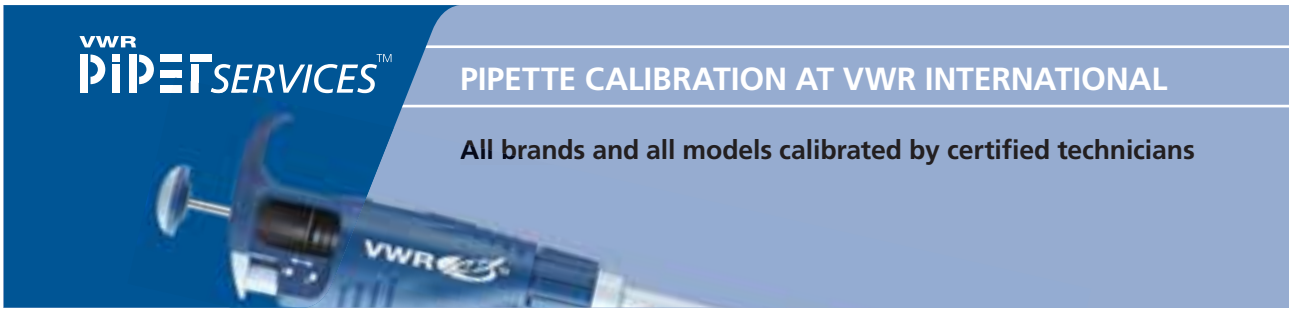
High quality pipettes with new, innovative design and technology, combining safety, ergonomics efficiency in pipetting, with easy calibration and maintenance. They include built-in replaceable tip cone filters, which prevent pipette contamination and damage. Two types of filters are offered: Safe-Cone standard filter and Safe-Cone Plus filter. It is recommended to use the Standard filter for general applications and the Plus filter for more demanding applications, such as cell culture, bacterial, viral work and molecular biology.

- Good ergonomics - handle design suitable for both left and right-handed users, clear and easy to read display with big numbers and small increments, light and easy tip loading and ejection
- Equipped with special spring loaded tip cones (Optiload mechanism) allowing tip loading with equal constant force to every channel using minimum force, making tips ejection light and easy
- Plunger technology results in the lowest pipetting force
- Volume range colour coding for easy pipette tips selection
- Good chemical and UV resistance; thermal insulation of the internal components improves both accuracy and reproducibility

Ordering information: Proline® Plus pipettes are supplied with calibration tool, autoclavable grease, tip, Safe-Cone filters (>10 µl) and forceps, user manual and QC-certificate.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips	With Safe-Cone filter(s)	Pk	Cat. No.
8-Channel							
0,5 - 10	0,01	±1,50	<1,00	10, F10	-	1	**613-5180**
10 - 100	0,01	±0,70	<0,25	300, 350, F100	613-4071, 613-0694	1	**613-5181**
30 - 300	0,20	±0,60	<0,25	350, 300F	613-4070, 613-0693	1	**613-5182**
12-Channel							
0,5 - 10	0,01	±1,50	<1,00	10, F10	-	1	**613-5183**
10 - 100	0,10	±0,70	<0,25	300, 350, F100	613-4071, 613-0694	1	**613-5184**
30 - 300	0,20	±0,60	<0,25	350, F300	613-4070, 613-0693	1	**613-5185**

Description	Pk	Cat. No.
Accessories		
Safe-Cone filters, Standard, Ø 3,15 mm	50	**613-4070**
Safe-Cone filters, Standard, Ø 2,51 mm	50	**613-4071**
Safe-Cone filters, Plus, Ø 3,15 mm	50	**613-0693**
Safe-Cone filters, Plus, Ø 2,51 mm	50	**613-0694**
Universal linear stand for storing one pipette in an upright position, 290×250×60 mm	1	**613-8706**



Multi channel pipettes, mechanical, mLINE®
Sartorius

Variable volume, autoclavable

mLINE® pipettes offer a unique combination of new features for higher accuracy and precision. They include built-in replaceable tip cone filters, which prevent pipette contamination and damage. Two types of filters are offered: Safe-Cone Standard filter and Safe-Cone Plus filter. It is recommended to use the Standard filter for general applications and the Plus filter for more demanding applications, such as cell culture, bacterial, viral work and molecular biology.

- Clear and easy to read display with big numbers and small increments
- Equipped with special spring loaded tip cones (Optiload mechanism) allowing tip loading with equal constant force to every channel using minimum force
- Plunger technology results in the lowest pipetting force
- Volume range colour coding for easy pipette selection, and five colour coding caps
- Thermal insulation of the internal components improves both accuracy and reproducibility

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips	With Safe-Cone filter(s)	Pk	Cat. No.
8-Channel							
0,5 - 10	0,01	±1,50	<1,00	10 / F10	-	1	**613-5079**
5 - 100	0,10	±0,70	<0,25	300, 350 / F100	613-4071, 613-0694*	1	**613-5080**
30 - 300	0,20	±0,60	<0,25	350 / F300	613-4070, 613-0693*	1	**613-5081**
12-Channel							
0,5 - 10	0,01	±1,50	<1,00	10 / F10	-	1	**613-5082**
5 - 100	0,10	±0,70	<0,25	300, 350 / F100	613-4071, 613-0694*	1	**613-5083**
30 - 300	0,20	±0,60	<0,25	350 / F300	613-4070, 613-0693*	1	**613-5084**

Description	Pk	Cat. No.
Accessories		
Safe-Cone filters, Standard, Ø 3,15 mm	50	**613-4070**
Safe-Cone filters, Standard, Ø 2,51 mm	50	**613-4071**
Safe-Cone filters, Plus, Ø 3,15 mm	50	**613-0693**
Safe-Cone filters, Plus, Ø 2,51 mm	50	**613-0694**
Universal linear stand for storing one pipette in an upright position, 290×250×60 mm	1	**613-8706**

* Safe-Cone Plus

Multi channel pipettes, mechanical, Transferpette® S -8/-12
Brand

8-Channel

12-Channel

Bench top rack

Variable volume, fully autoclavable

The Transferpette® S -8/-12 multi channel pipettes are the perfect manual pipettes for the most demanding applications in the lab and include all features requested by Life Science users working in the 96-well and 384-well microplate format. They are compatible with the most common tips. The use of new innovative materials make the Transferpette® S -8/-12 a lightweight yet rugged multi channel pipette with a high degree of accuracy and precision at the same time.

- Ergonomic finger rest for a relaxed grip accommodates right- and left-handed users; central pipetting button and separate tip ejector; one-handed operation without changing the hand position
- 4-digit volume display for highest precision
- Easy calibration technique providing calibration adjustments without tools, and a clear indication when the pipettes have been adjusted from factory settings
- Individually replaceable nose cones and seals to simplify service for long instrument life; corrosion resistant pistons

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- Colour-coded for easy tip selection

CE-marked according to IVD-Directive 98/79 EC

Ordering information: Transferpette® S -8 or Transferpette® S -12 supplied with performance certificate, 2 x TipBox (filled with pipette tips from BRAND), 1 shelf/rack mount, 1 reagent reservoir, 1 mounting tool, silicone oil and 1 set of sealing rings made of FKM.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips	Pk	Cat. No.
8-Channel						
0,5 - 10	0,01	±1,6	≤1,0	0,1-20 / 0,5-20 / 1-50 / 0,1-1* / 0,5-10* / 1-20*	1	**613-3700**
5 - 50	0,1	±0,8	≤0,4	2-200 / 5-300 / 2-20* / 5-100* / 5-200*	1	**613-3701**
10 - 100	0,2	±0,8	≤0,3	2-200 / 5-300 / 2-20* / 5-100* / 5-200*	1	**613-3702**
20 - 200	0,2	±0,8	≤0,3	2-200 / 5-300 / 2-20* / 5-100* / 5-200*	1	**613-3703**
30 - 300	0,5	±0,6	≤0,3	2-200 / 5-300 / 5-100* / 5-200*	1	**613-3704**
12-Channel						
0,5 - 10	0,01	±1,6	≤1,0	0,1-20 / 0,5-20 / 1-50 / 0,1-1* / 0,5-10* / 1-20*	1	**613-3705**
5 - 50	0,1	±0,8	≤0,4	2-200 / 5-300 / 2-20* / 5-100* / 5-200*	1	**613-3706**
10 - 100	0,2	±0,8	≤0,3	2-200 / 5-300 / 2-20* / 5-100* / 5-200*	1	**613-3707**
20 - 200	0,2	±0,8	≤0,3	2-200 / 5-300 / 2-20* / 5-100* / 5-200*	1	**613-3708**
30 - 300	0,5	±0,6	≤0,3	2-200 / 5-300 / 5-100* / 5-200*	1	**613-3709**

Description	Pk	Cat. No.
Accessories		
Shelf/rack mount for Transferpette® S single instrument	1	**613-3476**

* Filter

Multi channel pipettes, mechanical, Finnpipette® F1
Thermo Scientific

Variable volume

Finnpipette® F1 combines all Finnpipette® advantages with a unique antimicrobial treatment to give better protection against contamination.

- Antimicrobial surface – silver (Ag) ions create a surface which inhibits growth of bacteria, microbes and fungus
- Advanced Volume Gearing mechanism (AVG) – self supportive modular mechanism increasing accuracy, precision and durability, with light force and smaller increments for volume adjustment
- Set and forget pipetting button – easy set and forget lock mechanism to adjust the volume, pipetting button rotates freely when not in locking position
- Superior handle ergonomics, including adjustable finger rest (120°) for optimal pipetting position, very low force pipetting movement
- Super blow-out piston for volumes of 50 µl and below, which ensures the delivery of micro-size drops

Ordering information: Supplied with one opening and calibration key, maintenance set (incl. grease and O-rings), calibration report, three-year warranty certificate (extended to five years with web registration) and user's guide (English, French, German, Spanish).

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For Finntip® tip(s)	Pk	Cat. No.
8-Channel							
1 - 10	0,02	±0,24 - ±0,12	1,60 - 8,00	Pink	Flex 10, 10, 20/50 Micro	1	**613-2755**
5 - 50	0,1	±0,75 - ±0,25	0,70 - 2,00	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-2756**
10 - 100	0,2	±1,30 - ±0,50	0,50 - 2,00	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-2757**
30 - 300	1	±3,0 - ±1,5	0,30 - 2,00	Orange	Flex 300, 300 µl	1	**613-2758**
12-Channel							
1 - 10	0,02	±0,24 - ±0,12	1,60 - 8,00	Pink	Flex 10, 10, 20/50 Micro	1	**613-2759**
5 - 50	0,1	±0,75 - ±0,25	0,70 - 2,00	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-2760**
10 - 100	0,2	±1,30 - ±0,50	0,50 - 2,00	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-2761**
30 - 300	1	±3,0 - ±1,5	0,30 - 2,00	Orange	Flex 300, 300 µl	1	**613-2762**
16-Channel							
1 - 10	0,02	±0,24 - ±0,12	1,60 - 8,00	Lilac	Flex 20 Micro, 50 Micro	1	**613-2763**
5 - 50	0,1	±0,75 - ±0,25	0,70 - 2,00	Turquoise	50 Micro	1	**613-2764**

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Description	For	Pk	Cat. No.
Pipette stands for Finnpipette®			
Pipette stand for 1 multi channel Finnpipette®	Multi channel Finnpipette®	1	**613-0805**
F-Stand for 6 F1/F2/F3 Finnpipette®	F1/F2/F3 Finnpipette®	1	**613-2765**

Multi channel pipettes, mechanical, Finnpipette® F2

Thermo Scientific

8-Channel

12-Channel

16-Channel

Variable volume, fully autoclavable

Finnpipette® F2 offers superior comfort, performance, reliability and easy maintenance in one of the lightest pipettes available in the market.

- Advanced Volume Gearing mechanism (AVG) – self supportive modular mechanism increasing accuracy, precision and durability, with light force and smaller increments for volume adjustment
- Large, contrasted Ergovisio display with white numbers on black background for increased volume visibility and security
- Soft-touch tip ejection to eject the tips with very light force
- Superior handle ergonomics and very low force pipetting movement
- Super blow-out piston for volumes of 50 µl and below, which ensures the delivery of micro-size drops

Ordering information: Supplied with opening and calibration key, maintenance set (incl. grease and O-rings), calibration report, three-year warranty certificate (extended to five years with web registration) and user's guide (English, French, German, Spanish).

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For Finntip® tip(s)	Pk	Cat. No.
8-Channel							
1 - 10	0,02	±0,24 - ±0,12	1,60 - 8,00	Pink	Flex 10, 10, 20/50 Micro	1	**613-2720**
5 - 50	0,1	±0,75 - ±0,25	0,70 - 2,00	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-2721**
10 - 100	0,2	±1,30 - ±0,50	0,50 - 2,00	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-2722**
30 - 300	1	±3,0 - ±1,5	0,30 - 2,00	Orange	Flex 300, 300 µl	1	**613-2723**
12-Channel							
1 - 10	0,02	±0,24 - ±0,12	1,60 - 8,00	Pink	Flex 10, 10, 20/50 Micro	1	**613-2724**
5 - 50	0,1	±0,75 - ±0,25	0,70 - 2,00	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-2725**
10 - 100	0,2	±1,30 - ±0,50	0,50 - 2,00	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-2726**
30 - 300	1	±3,0 - ±1,5	0,30 - 2,00	Orange	Flex 300, 300 µl	1	**613-2727**
16-Channel							
1 - 10	0,02	±0,24 - ±0,12	1,60 - 8,00	Lilac	Flex 20 Micro, 50 Micro	1	**613-2728**
5 - 50	0,1	±0,75 - ±0,25	0,70 - 2,00	Turquoise	50 Micro	1	**613-2729**

Description	For	Pk	Cat. No.
Pipette stands for Finnpipette®			
Pipette stand for 1 multi channel Finnpipette®	Multi channel Finnpipette®	1	**613-0805**
F-Stand for 6 F1/F2/F3 Finnpipette®	F1/F2/F3 Finnpipette®	1	**613-2765**

Multi channel pipettes, mechanical, F1-ClipTip®
Thermo Scientific

Variable volume

F1-ClipTip® pipettes transform daily pipetting with the innovative ClipTip® interlocking technology, which ensures a complete seal on every channel with minimal tip attachment and ejection force. Once attached, the tips are locked firmly in place, and will not loosen or fall off regardless of application pressure.

- Ergonomic design and remarkably lightweight
- Innovative three interlocking clip design ensures the tip is held securely on the F1-ClipTip® pipette until it is released
- Complete seal to secure the sample volume in each tip enhances accuracy and precision
- Tips are attached and ejected with a light touch
- Antimicrobial surface - silver ions (Ag) create a surface which inhibits growth of bacteria, microbes and fungus
- The secure volume setting prevents undesirable volume drift during operation
- 120° adjustable finger rest, for both right- and left-handed operator comfort, allows the hand to relax during pipetting cycles

Ordering information: Supplied with maintenance set (incl. grease and O-rings), tip fitting tool, ClipTip® tip sample, shelf hanger, warning labels, calibration certificate, warranty certificate and user's guide (English, French, German, Spanish).

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For pipette tips	Pk	Cat. No.
8-Channel							
1 - 10	0,02	±2,40 - ±12,0	1,60 - 8,00	Pink	ClipTip® 20	1	**613-2195**
5 - 50	0,1	±1,50 - ±5,00	0,70 - 2,00	Purple	ClipTip® 50	1	**613-2196**
10 - 100	0,2	±1,30 - ±5,00	0,50 - 2,00	Yellow	ClipTip® 200	1	**613-2197**
30 - 300	1,0	±1,00 - ±5,00	0,30 - 2,00	Orange	ClipTip® 300	1	**613-2198**
12-Channel							
1 - 10	0,02	±2,40 - ±12,00	1,60 - 8,00	Pink	ClipTip® 20	1	**613-2199**
5 - 50	0,1	±1,50 - ±5,00	0,70 - 2,00	Purple	ClipTip® 50	1	**613-2200**
10 - 100	0,2	±1,30 - ±5,00	0,50 - 2,00	Yellow	ClipTip® 200	1	**613-2201**
30 - 300	1,0	±1,00 - ±5,00	0,30 - 2,00	Orange	ClipTip® 300	1	**613-2202**

Description	For	Pk	Cat. No.
Pipette stands for Finnpipette®			
Pipette stand for 1 multi channel Finnpipette®	Multi channel Finnpipette®	1	**613-0805**
F-Stand for 6 F1/F2/F3 Finnpipette®	F1/F2/F3 Finnpipette®	1	**613-2765**

Multi channel pipettes, mechanical, Eppendorf Research® plus
Eppendorf

Variable volume, fully autoclavable

Versatile, ergonomic pipette with innovative design, meeting the highest needs in precision and accuracy.

- Extremely lightweight
- Innovative re-designed principle of piston-stroke pipetting, piston made of organic polymer Fortron® with great chemical, thermal and mechanical resistance
- Lowest aspirating, dispensing, blow-out and tip ejection forces
- Spring loaded retractable nose cone to ensure tight seal and prolong nose cone life, as well as exact tip alignment
- Individual channel removal for quick and easy servicing

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For pipette tips (µl)	Pk	Cat. No.
8-Channel							
0,5 - 10	0,01	±12,0 - ±2,0	±8,0 - ±1,0	Grey	20	1	**613-0883**
10 - 100	0,1	±3,0 - ±0,8	±2,0 - ±0,3	Yellow	200	1	**613-0885**
30 - 300	0,2	±3,0 - ±0,6	±1,0 - ±0,3	Orange	300	1	**613-0887**
12-Channel							
0,5 - 10	0,01	±12,0 - ±2,0	±8,0 - ±1,0	Grey	20	1	**613-0884**
10 - 100	0,1	±3,0 - ±0,8	±2,0 - ±0,3	Yellow	200	1	**613-0886**
30 - 300	0,2	±3,0 - ±0,6	±1,0 - ±0,3	Orange	300	1	**613-0888**

Multi channel pipettes, mechanical, Eppendorf Reference® 2

Eppendorf

Variable volume, fully autoclavable

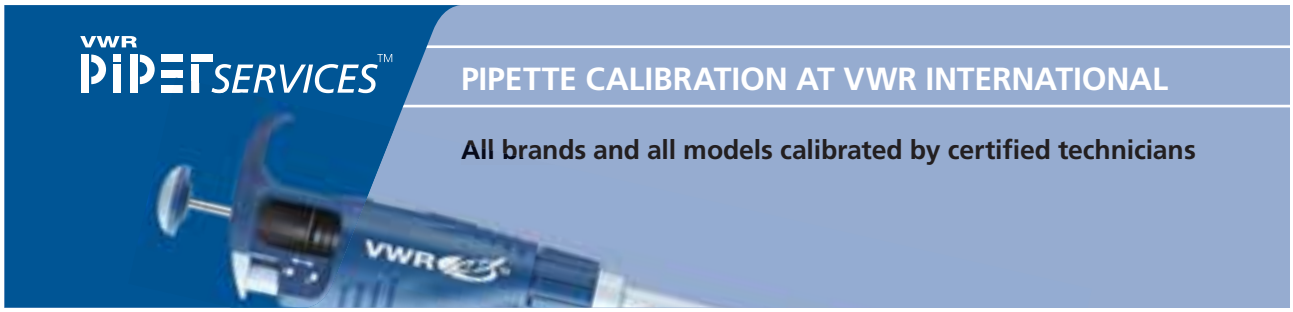
The robust Reference® 2 is the successor to the Reference® pipette and features a new design, reduced weight and unique one-button operation. Thanks to its reliable and accurate operation, the pipette is ideal for use with precious liquids or in any application requiring extremely high levels of accuracy.

- One-button operation and spring loaded tip cone for fast and ergonomic handling with reduced operating effort
- Quick tip ejection with active aerosol reduction; haptic feedback prevents accidential tip ejection
- Spring-loaded tip cone can be switched on/off optionally and improves reproducibility and flexibility
- Channel indicator guarantees a continuously identical pipette alignment during the work process
- Serial number is printed on multiple components of the pipette for heightened traceability
- Embedded RFID chip containing all relevant data ensures complete traceability
- Optional TrackIT software allows simple identification and documentation and provides ability to add own data (e.g. calibration time and results, location)

Capacity (µl)	Accuracy (%)	Imprecision (%)	Colour code	For pipette tips	Pk	Cat. No.
8-channel						
0,5 - 10	±12,0 - ±4,0	<8,0 - <2,0	Grey	20	1	**613-2918**
10 - 100	±3,0 - ±0,8	<2,0 - <0,3	Yellow	200	1	**613-2920**
30 - 300	±3,0 - ±0,6	<1,0 - <0,3	Orange	300	1	**613-2922**
12-channel						
0,5 - 10	±12,0 - ±4,0	<8,0 - <2,0	Grey	20	1	**613-2919**
10 - 100	±3,0 - ±0,8	<2,0 - <0,3	Yellow	200	1	**613-2921**
30 - 300	±3,0 - ±0,6	<1,0 - <0,3	Orange	300	1	**613-2923**

Description	Pk	Cat. No.
Accessories		
TrackIT package, incl. RFID reader and software for data export, identification and documentation*	1	**613-9233**
Pipette carousel	1	**613-2924**
Pipette holder	1	**613-2925**

* Works with Windows 7/8 and Vista.



Single channel pipettes, electronic

Light, ergonomically designed micropipettes prevent hands from becoming tired during repetitive operations. They are equipped with a microprocessor controlled stepper motor for dispensing precise volumes with the help of a piston and an optical coupler that monitors the position of the piston to guarantee that the movement is repeated with precision every time.

- Wide LCD screen and convenient interface
- Memory is capable of storing up to nine configurations of functional parameters
- Permanent self-test programme ensures the precision of the pipetted volumes and battery dependence
- Auto-calibration function

Ordering information: Supplied with one lithium-ion battery, one clip for fixing to a shelf, and an adapter for recharging the battery in the micropipette.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Pk	Cat. No.
With UK-plug					
0,5 - 10	0,1	±4,0 - ±1,0	<2,5 - <0,4	1	**613-0401**
2 - 20	0,1	±5,0 - ±1,0	<2,0 - <0,3	1	**613-0403**
10 - 200	1	±2,0 - ±0,6	<1,0 - <0,15	1	**613-0405**
100 - 1200	1	±1,5 - ±0,5	<0,6 - <0,15	1	**613-0407**

Description	Pk	Cat. No.
Accessories		
Lithium-ion battery	1	**613-0424**
Shelf clip for 1 electronic single channel or multi channel pipette	1	**613-0427**
Acrylic stand for 3 electronic single channel or multi channel pipettes	1	**613-0428**
Carousel for 6 electronic single channel or multi channel pipettes	1	**613-0429**

Single channel pipettes, electronic, Picus®
Sartorius

Variable volume, autoclavable (lower parts only)

Small, lightweight electronic pipettes that eases the user's work load, protects the user from injury by ensuring optimal working posture and allows accurate and precise pipetting results. Two types of filters are offered: Safe-Cone Standard filter and Safe-Cone Plus filter. It is recommended to use the Standard filter for general applications and the Plus filter for more demanding applications, such as cell culture, bacterial and viral work, and molecular biology.

- Helps to avoid pipetting related symptoms like RSI (repetitive strain injury)
- High ergonomic standards with electronic tip ejection, adjustment wheel for scrolling menus, adjusting volume and controlling manual pipetting and feather light operating button
- Error control system guarantees result reliability
- Unique tracker in conjunction with pipetting, reverse pipetting and multi dispensing modes to help microplate work
- Easy maintenance of lower parts with GLP information integrated in software for service and calibration follow-up

Ordering information: Supplied with universal AC adapter. Charging stand available separately.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips (µl)	With Safe-Cone filter(s)	Pk	Cat. No.
0,2 - 10	0,02	±0,90	<0,40	10 / F10	-	1	**613-1948**
5 - 120	0,1	±0,40	<0,40	300, 350 / F300	613-4071, 613-0694	1	**613-1949**
10 - 300	0,2	±0,40	<0,15	350 / F300	613-4070, 613-0693	1	**613-1967**
50 - 1000	1	±0,40	<0,15	1000 / F1000	613-4069, 613-4074	1	**613-1968**
100 - 5000	5	±0,50	<0,15	5000	613-4068, 613-0692	1	**613-1969**
500 - 10000	10	±0,60	<0,20	10000	613-4068, 613-0692	1	**613-1970**

Description	Pk	Cat. No.
Accessories		
Safe-Cone filters, Standard, Ø 6,73 mm	50	**613-4068**
Safe-Cone filters, Standard, Ø 5,33 mm	50	**613-4069**
Safe-Cone filters, Standard, Ø 3,15 mm	50	**613-4070**
Safe-Cone filters, Standard, Ø 2,51 mm	50	**613-4071**
Safe-Cone filters, Plus, Ø 6,73 mm	50	**613-0692**
Safe-Cone filters, Plus, Ø 5,33 mm	50	**613-4074**
Safe-Cone filters, Plus, Ø 3,15 mm	50	**613-0693**
Safe-Cone filters, Plus, Ø 2,51 mm	50	**613-0694**

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Description	Pk	Cat. No.
Accessories		
Universal linear stand for storing one pipette in an upright position, 290×250×60 mm	1	**613-8706**
Charging stand for 1 pipette, universal power adapter	1	**613-4123**
Carousel charging stand for 4 pipettes, universal power adapter	1	**613-4124**

IVD

2 year warranty

Single channel pipettes, electronic, eLINE®
Sartorius

Variable volume, autoclavable (lower parts only)

eLINE® pipettes offer new levels of analytical performance and ergonomic innovation in a genuinely user friendly package. Two types of filters are offered: Safe-Cone Standard filter and Safe-Cone Plus filter. It is recommended to use the Standard filter for general applications and the Plus filter for more demanding applications, such as cell culture, bacterial and viral work, and molecular biology.

- Easy to read display and simple to operate keyboard; autoclavable lower parts
- Fully electronic operation (including unique electronic tip ejection); nine speeds for aspiration and dispensing
- Comprehensive range of pipetting protocols with easy programming (pipetting, reverse pipetting, pipetting with mixing, pipetting with cycle counter, manual pipetting, multiple dispensing, diluting, diluting with mixing, sequential dispensing, multi aspirating, multiple dispensing, automatic multiple dispensing)
- Memory settings to store up to six user defined pipetting protocols for easy recalls

Ordering information: Supplied with universal AC adapter. Charging stand available separately.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips (µl)	With Safe-Cone filter(s)	Pk	Cat. No.
0,1 - 5	0,05	±1,20	<0,70	10 / F10	-	1	**613-1659**
0,2 - 10	0,05	±0,90	<0,40	10 / F10	-	1	**613-4096**
5 - 120	0,50	±0,40	<0,15	300, 350 / F120	613-4071, 613-0694	1	**613-4098**
10 - 300	1,00	±0,40	<0,15	350 / F300	613-4070, 613-0693	1	**613-4100**
50 - 1000	5,00	±0,40	<0,15	1000 / F1000	613-4069, 613-4074	1	**613-4103**
100 - 5000	10,00	±0,50	<0,15	5000	613-4069, 613-4074	1	**613-4105**

Description	Pk	Cat. No.
Accessories		
Safe-Cone filters, Standard, Ø 5,33 mm	50	**613-4069**
Safe-Cone filters, Standard, Ø 3,15 mm	50	**613-4070**
Safe-Cone filters, Standard, Ø 2,51 mm	50	**613-4071**
Safe-Cone filters, Plus, Ø 5,33 mm	50	**613-4074**
Safe-Cone filters, Plus, Ø 3,15 mm	50	**613-0693**
Safe-Cone filters, Plus, Ø 2,51 mm	50	**613-0694**
Charging stand for 1 pipette, universal power adapter	1	**613-4123**
Carousel charging stand for 4 pipettes, universal power adapter	1	**613-4124**

IVD

Single channel pipettes, electronic, Transferpette® electronic
Brand

Stand

Transferpette® electronic

Autoclavable (pipette shaft only)

- These pipettes have received an award from the TÜV Rhineland for their ergonomic and convenient design
- Easy to use: Intuitive menu control, coloured eject button and straightforward technical documentation
- Due to the optimised standard design of the tip cone BRAND® and other manufacturers' tips can be used
- Wide selection of programmes; pipetting, sample mixing, reverse pipetting, pipetting for electrophoresis, dispensing, 'Easy Calibration' programme for making

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quick adjustments to the Transferpette® electronic without tools, and 'Refresh' battery functions

Ordering information: Supplied together with certificate of quality, battery, and silicone oil.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips (µl)	With	Pk	Cat. No.
With battery charger							
0,5 - 10	0,01	±1,0	<0,4	0,1 - 20 / 0,5 - 20 / 1 - 50 / 0,1 - 1* / 0,5 - 10* / 1 - 20*	UK-adapter	1	**613-0596**
2 - 20	0,02	±1,0	<0,4	0,1 - 20 / 0,5 - 20 / 1 - 50 / 0,5 - 10* / 1 - 20*	UK-adapter	1	**613-4220**
20 - 200	0,2	±0,8	<0,2	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100* / 5 - 200*	UK-adapter	1	**613-4221**
100 - 1000	1	±0,6	<0,2	50 - 1000 / 50 - 1000*	UK-adapter	1	**613-4222**
500 - 5000	5	±0,6	<0,2	500 - 5000	UK-adapter	1	**613-0597**
Without battery charger							
0,5 - 10	0,01	±1,0	<0,4	0,1 - 20 / 0,5 - 20 / 1 - 50 / 0,1 - 1* / 0,5 - 10* / 1 - 20*	-	1	**613-0195**
2 - 20	0,02	±1,0	<0,4	0,1 - 20 / 0,5 - 20 / 1 - 50 / 0,5 - 10* / 1 - 20*	-	1	**613-4223**
20 - 200	0,2	±0,8	<0,2	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100* / 5 - 200*	-	1	**613-4224**
100 - 1000	1	±0,6	<0,2	50 - 1000 / 50 - 1000*	-	1	**613-4225**
500 - 5000	5	±0,6	<0,2	500 - 5000	-	1	**613-0196**

Description	Pk	Cat. No.
Accessories		
Filter for Transferpette® / Transferpette® S / Transferpette® electronic 0,5-5 ml	25	**613-1684**
Individual stand for Transferpette® electronic, up to 1000 µl	1	**613-3720**
Individual stand for Transferpette® electronic 0,5-5 ml	1	**613-3721**
Stand for 3 Transferpette® electronic up to 1000 µl, with UK-battery charger	1	**613-4227**

* Filter

Single channel pipettes, electronic, E1-ClipTip®

Thermo Scientific

Variable volume

These pipettors are ideal for repetitive pipetting tasks with microcentrifuge or test tubes. With a light touch the innovative ClipTip technology 'clips' tips securely on the pipettor for a complete seal that will not loosen regardless of application pressure. Designed for optimum comfort and ease of use, the electronic tip ejection and index finger pipetting action allow the thumb to relax during pipetting. These devices also offer unified operation for multiple users and environments, with personalised user interface and password protection.

- Tip is locked and sealed in place until ejected — no dropped tips that waste valuable samples
- Two operating options for every application: Step based Matrix or Presets with settings for most common applications
- Ability to store up to 20 common protocols with a specific name and calibration in the Programs function
- Customisable protection from unintentional editing in the the My Pipette® function
- Personalised user interface and password protection ensure consistent operation among multiple users
- Service and calibration trackers remind users when the pipettor requires service or repair
- Lithium-ion battery ensures long-lasting performance; unit may be recharged by a charging stand or a plug

Please note: ClipTip® 384 and ClipTip® 12,5 µl tips and compatible E1-ClipTip® models do not have interlocking technology.

Ordering information: Supplied with universal power supply. Two-year extended warranty only available via web registration.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For pipette tips (µl)	Pk	Cat. No.
0,5 - 12,5	0,01	±1,0 - 4,0	≤0,4 - 4,0	Pink	ClipTip® 12,5	1	**613-6000**
2 - 125	0,1	±0,6 - 2,4	≤0,2 - 0,8	Yellow	ClipTip® 200	1	**613-6001**
10 - 300	0,1	±0,6 - 1,7	≤0,2 - 0,5	Orange	ClipTip® 300	1	**613-6002**
50 - 1250	1	±0,5 - 2,4	≤0,1 - 0,5	Turquoise	ClipTip® 1250	1	**613-6003**

Description	Pk	Cat. No.
Accessories		
Pipette stand, white, for storing and re-charging of one E1-ClipTip® pipettor	1	**613-2962**

Single channel pipettes, electronic, Finnpipette® Novus

Thermo Scientific

Autoclavable (end fitting only)

- Light, ergonomic design for ease of use
- Finger rest can be pivoted through 120° so that pipetting can be controlled with the index finger
- Soft-touch eject button suitable for right handed and left handed use
- Large screen, two-level menu can be accessed with a single button
- Ten pipetting functions and nine speed levels can be accessed via a single button

Ordering information: Supplied with a universal AC adapter, a complete operating and maintenance manual, the certificate of calibration (according to ISO 8655) and a shelf hanger.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For Finntip® tip(s)	Pk	Cat. No.
1 - 10	0,01	±3,5 - ±1,0	3,0 - 0,5	Pink	Flex 10, 10, 20, 50 Micro	1	**613-0123**
1 - 10	0,01	±7,0 - ±1,0	6,0 - 0,5	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-0125**
5 - 50	0,1	±3,0 - ±0,8	2,5 - 0,3	Turquoise	50 µl	1	**613-0127**
5 - 50	0,1	±3,0 - ±0,8	2,5 - 0,3	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-0129**
10 - 100	0,1	±3,0 - ±0,8	1,0 - 0,2	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-0131**
30 - 300	1	±3,0 - ±0,6	0,7 - 0,2	Orange	Flex 300, 300 µl	1	**613-0133**
100 - 1000	1	±3,0 - ±0,6	0,6 - 0,2	Blue	Flex 1000, 1000, 1000 Ext.	1	**613-0135**
500 - 5000	10	±3,0 - ±0,6	0,8 - 0,2	Green	5000 µl	1	**613-0137**
1000 - 10000	10	±3,0 - ±0,6	0,8 - 0,2	Red	10000, Flex 10000 Ext.	1	**613-0139**

Single channel pipettes, electronic, Eppendorf Xplorer®

Eppendorf

Variable volume

The Eppendorf Xplorer® is a simple, precise electronic pipette specially designed for highly professional requirements.

- PhysioCare Concept® offering ergonomic design, flexible hand position, reduced weight, clear colour display
- Intuitive operation with multifunction selection dial, multi language menu, help function, light and easy tip loading and ejection
- High reproducibility of measurement results
- Easy maintenance

Ordering information: Supplied with charger.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For pipette tips (µl)	Pk	Cat. No.
0,5 - 10	0,01	±1,0 - ±2,5	<0,4 - <1,8	Anthracite	10 / 20	1	**613-1398**
5 - 100	0,1	±0,8 - ±2,0	<0,2 - <1,0	Yellow	200 / 300	1	**613-1399**
15 - 300	0,1	±0,6 - ±2,5	<0,2 - <0,7	Orange	200 / 300	1	**613-1400**
50 - 1000	1,0	±0,6 - ±3,0	<0,2 - <0,6	Blue	1000 / 1250	1	**613-1407**
250 - 5000	5,0	±0,6 - ±3,0	<0,15 - <0,6	Pink	5000	1	**613-1408**
500 - 10000	10,0	±0,6 - ±3,0	<0,15 - <0,6	Turquoise	10000	1	**613-1409**

Description	Pk	Cat. No.
Accessories		
Charging stand for 1 pipette	1	**613-1449**
Charging stand for 4 pipettes	1	**613-1458**

Single channel pipettes, electronic, Eppendorf Xplorer plus®

Eppendorf

Variable volume

Easy to use, precise micropipette with reduced weight, specially designed for high professional standards to provide optimal support for the daily work, with a intuitive operating concept and design based on the proven Eppendorf PhysioCare® Concept.

- Intuitive operation with multifunction selection dial, multi language menu, help function, light and easy tip loading and ejection
- High reproducibility of measurement results
- Programming of multiple modes in a sequence
- Password protection
- Easy maintenance, service interval warning

Pipetting modes: Auto-dispense; dispense; pipetting; pipetting and mixing; manual pipetting; multi aspirate; dilution; sequential pipetting; sequential dispensing; reverse pipetting

Ordering information: Supplied with charger.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For pipette tips (µl)	Pk	Cat. No.
0,5 - 10	0,01	±1,0 - ±2,5	<0,4 - <1,8	Anthracite	10 / 20	1	**613-2229**
5 - 100	0,1	±0,8 - ±2,0	<0,2 - <1,0	Yellow	200 / 300	1	**613-2230**
15 - 300	0,1	±0,6 - ±2,5	<0,2 - <0,7	Orange	200 / 300	1	**613-2231**
50 - 1000	1,0	±0,6 - ±3,0	<0,2 - <0,6	Blue	1000 / 1250	1	**613-2232**
250 - 5000	5,0	±0,6 - ±3,0	<0,15 - <0,6	Pink	5000	1	**613-2233**
500 - 10000	10,0	±0,6 - ±3,0	<0,15 - <0,6	Turquoise	10000	1	**613-2234**

Description	Pk	Cat. No.
Accessories		
Charging stand for 1 pipette	1	**613-1449**
Charging stand for 4 pipettes	1	**613-1458**

Multi channel pipettes, electronic

Light, ergonomically designed micropipettes prevent hands from becoming tired during repetitive operations. They are equipped with a microprocessor controlled stepper motor for dispensing precise volumes with the help of a piston and an optical coupler that monitors the position of the piston to guarantee that the movement is repeated with precision every time.

- Wide LCD screen and convenient interface
- Memory is capable of storing up to nine configurations of functional parameters
- Permanent self-test programme ensures the precision of the pipetted volumes and battery dependence
- Auto-calibration function

Ordering information: Supplied with one lithium-ion battery, one clip for fixing to a shelf, and one adapter for recharging the battery in the micropipette.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	With	Pk	Cat. No.
8-Channel						
0,5 - 10	0,1	±4,0 - ±1,0	<2,5 - <0,4	UK-plug	1	**613-0409**
2 - 20	0,1	±5,0 - ±1,0	<2,0 - <0,3	UK-plug	1	**613-0411**
10 - 200	1,0	±2,0 - ±0,6	<1,0 - <0,15	UK-plug	1	**613-0413**
100 - 1200	1,0	±1,5 - ±0,5	<0,6 - <0,15	UK-plug	1	**613-0415**
12-Channel						
0,5 - 10	0,1	±4,0 - ±1,0	<2,5 - <0,4	UK-plug	1	**613-0417**
2 - 20	0,1	±5,0 - ±1,0	<2,0 - <0,3	UK-plug	1	**613-0419**
10 - 200	1,0	±2,0 - ±0,6	<1,0 - <0,15	UK-plug	1	**613-0421**
100 - 1200	1,0	±1,5 - ±0,5	<0,6 - <0,15	UK-plug	1	**613-0423**

Description	Pk	Cat. No.
Accessories		
Lithium-ion battery	1	**613-0424**
Shelf clip for 1 electronic single channel or multi channel pipette	1	**613-0427**
Acrylic stand for 3 electronic single channel or multi channel pipettes	1	**613-0428**
Carousel for 6 electronic single channel or multi channel pipettes	1	**613-0429**

Multi channel pipettes, electronic, Picus®

Sartorius

Variable volume, autoclavable (lower parts only except 1200 µl micropipettes)

Small, lightweight electronic pipette that eases the user's work load, protects user from injury by ensuring optimal working posture and allows accurate and precise pipetting results. Two types of filters are offered: Safe-Cone Standard filter and Safe-Cone Plus filter. It is recommended to use the Standard filter for general applications and the Plus filter for more demanding applications, such as cell culture, bacterial and viral work, and molecular biology.

- Helps to avoid pipetting related symptoms like RSI (repetitive strain injury)
- High ergonomic standards with electronic tip ejection, adjustment wheel for scrolling menus, adjusting volume and controlling manual pipetting and feather light operating button
- Error control system guarantees result reliability
- Unique tracker in conjunction with pipetting, reverse pipetting and multi dispensing modes to help microplate work
- Easy maintenance of lower parts with GLP information integrated in software for service and calibration follow-up

Ordering information: Supplied with universal AC adapter. Charging stand available separately.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips	With Safe-Cone filter(s)	Pk	Cat. No.
8-Channel							
0,2 - 10	0,02	±0,90	<0,50	10 / F10	-	1	**613-1971**
5 - 120	0,1	±0,50	<0,20	300, 350 / F120	613-4071, 613-0694*	1	**613-1972**
10 - 300	0,2	±0,50	<0,20	350 / F300	613-4070, 613-0693*	1	**613-1973**
50 - 1200	1	±0,50	<0,20	1200 / F1200	613-4069, 613-4074*	1	**613-1974**
12-Channel							
0,2 - 10	0,02	±0,90	<0,50	10 / F10	-	1	**613-1975**
5 - 120	0,1	±0,50	<0,20	300, 350 / F120	613-4071, 613-0694*	1	**613-1976**
10 - 300	0,2	±0,50	<0,20	350 / F300	613-4070, 613-0693*	1	**613-1977**
50 - 1200	1	±0,50	<0,20	1200 / F1200	613-4069, 613-4074*	1	**613-1978**

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Description	Pk	Cat. No.
Accessories		
Safe-Cone filters, Standard, Ø 5,33 mm	50	**613-4069**
Safe-Cone filters, Standard, Ø 3,15 mm	50	**613-4070**
Safe-Cone filters, Standard, Ø 2,51 mm	50	**613-4071**
Safe-Cone filters, Plus, Ø 5,33 mm	50	**613-4074**
Safe-Cone filters, Plus, Ø 3,15 mm	50	**613-0693**
Safe-Cone filters, Plus, Ø 2,51 mm	50	**613-0694**
Universal linear stand for storing one pipette in an upright position, 290×250×60 mm	1	**613-8706**
Charging stand for 1 pipette, universal power adapter	1	**613-4123**
Carousel charging stand for 4 pipettes, universal power adapter	1	**613-4124**

* Safe-Cone Plus

IVD

2 year warranty

Multi channel pipettes, electronic, eLINE®
Sartorius

Variable volume

eLINE® pipettes offer new levels of analytical performance and ergonomic innovation in a genuinely user friendly package. Two types of filters are offered: Safe-Cone Standard filter and Safe-Cone Plus filter. It is recommended to use the Standard filter for general applications and the Plus filter for more demanding applications, such as cell culture, bacterial and viral work, and molecular biology.

- Easy to read display and simple to operate keyboard; autoclavable lower parts (except multi channel pipettes 50 - 1200 µl)
- Fully electronic operation (including electronic tip ejection); nine speeds for aspiration and dispensing
- Comprehensive range of pipetting protocols with easy programming (pipetting, reverse pipetting, pipetting with mixing, pipetting with cycle counter, multiple dispensing, diluting, diluting with mixing, sequential dispensing, multi aspirating, multiple dispensing, automatic multiple dispensing)
- Memory settings to store up to six user-defined pipetting protocols for easy recalls
- Equipped with special spring loaded tip cones (Optiload mechanism) allowing tip loading with equal constant force to every channel using minimum force

Ordering information: Supplied with universal AC adapter.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips	With Safe-Cone filter(s)	Pk	Cat. No.
8-Channel							
0,2 - 10	0,05	±0,90	<0,50	10 / F10	-	1	**613-4107**
5 - 120	0,50	±0,50	<0,20	300, 350 / F120	613-4071, 613-0694*	1	**613-4109**
10 - 300	1,00	±0,50	<0,20	350 / F300	613-4070, 613-0693*	1	**613-4111**
50 - 1200	5,00	±0,50	<0,20	1200 / F1200	613-4069, 613-4074*	1	**613-4113**
12-Channel							
0,2 - 10	0,05	±0,90	<0,50	10 / F10	-	1	**613-4115**
5 - 120	0,50	±0,50	<0,20	300, 350 / F120	613-4071, 613-0694*	1	**613-4117**
10 - 300	1,00	±0,50	<0,20	350 / F300	613-4070, 613-0693*	1	**613-4119**
50 - 1200	5,00	±0,50	<0,20	1200 / F1200	613-4069, 613-4074*	1	**613-4122**

Description	Pk	Cat. No.
Accessories		
Safe-Cone filters, Standard, Ø 5,33 mm	50	**613-4069**
Safe-Cone filters, Standard, Ø 3,15 mm	50	**613-4070**
Safe-Cone filters, Standard, Ø 2,51 mm	50	**613-4071**
Safe-Cone filters, Plus, Ø 5,33 mm	50	**613-4074**
Safe-Cone filters, Plus, Ø 3,15 mm	50	**613-0693**
Safe-Cone filters, Plus, Ø 2,51 mm	50	**613-0694**
Charging stand for 1 pipette, universal power adapter	1	**613-4123**
Carousel charging stand for 4 pipettes, universal power adapter	1	**613-4124**

* Safe-Cone Plus

IVD

Multi channel pipettes, electronic, Transferpette® electronic
Brand

8-Channel

12-Channel

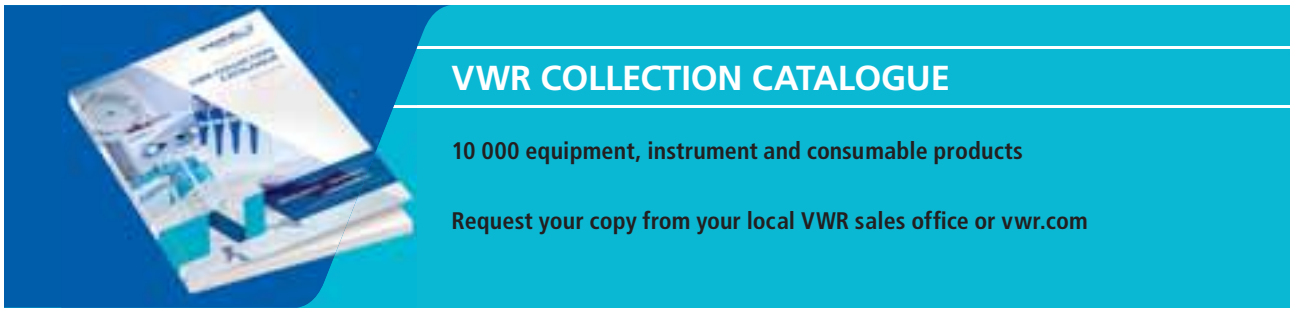
Autoclavable (manifold only)

- These pipettes have received an award from the TÜV Rheinland for their ergonomic and convenient design
- Intuitive control, ergonomic, coloured eject button, pipetting unit can be pivoted through 360°
- O-rings made of FKM and stepped tip ejector allow effortless mounting and easy ejection of the tips
- Individual shafts and seals can be easily removed and replaced for cleaning or repair without tools or calibration adjustments
- Wide selection of programmes: Pipetting, sample mixing, reverse pipetting, pipetting for electrophoresis, dispensing, 'Easy Calibration' and 'Refresh' battery functions

Ordering information: Supplied together with certificate of quality, battery, charger, support, TipBox, refill unit, reagent reservoir, mounting tool, one set of FKM sealing rings, and silicone oil.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips	With	Pk	Cat. No.
8-Channel							
0,5 - 10	0,01	±1,2	≤0,8	0,1 - 20 / 0,5 - 20 / 1 - 50 / 0,1 - 1* / 0,5 - 10* / 1 - 20*	UK-adapter	1	**613-0605**
1 - 20	0,02	±1,0	≤0,5	0,1 - 20 / 0,5 - 20 / 1 - 50 / 0,5 - 10* / 1 - 20*	UK-adapter	1	**613-0216**
5 - 100	0,1	±0,8	≤0,25	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100* / 5 - 200*	UK-adapter	1	**613-0217**
10 - 200	0,2	±0,8	≤0,25	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100* / 5 - 200*	UK-adapter	1	**613-0607**
15 - 300	0,5	±0,6	≤0,25	2 - 200 / 5 - 300 / 5 - 100* / 5 - 200*	UK-adapter	1	**613-0218**
12-Channel							
0,5 - 10	0,01	±1,2	≤0,8	0,1 - 20 / 0,5 - 20 / 1 - 50 / 0,1 - 1* / 0,5 - 10* / 1 - 20*	UK-adapter	1	**613-0609**
1 - 20	0,02	±1,0	≤0,5	0,1 - 20 / 0,5 - 20 / 1 - 50 / 0,5 - 10* / 1 - 20*	UK-adapter	1	**613-0221**
5 - 100	0,1	±0,8	≤0,25	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100* / 5 - 200*	UK-adapter	1	**613-0222**
10 - 200	0,2	±0,8	≤0,25	2 - 200 / 5 - 300 / 2 - 20* / 5 - 100* / 5 - 200*	UK-adapter	1	**613-0611**
15 - 300	0,5	±0,6	≤0,25	2 - 200 / 5 - 300 / 5 - 100* / 5 - 200*	UK-adapter	1	**613-0223**

* Filter



Multi channel equaliser pipettes, electronic, E1-ClipTip®

Thermo Scientific

Variable volume, with adjustable tip spacing

These equaliser pipettes are ideal for quickly and efficiently performing sample transfers between virtually any tube, rack, microplate or horizontal gel box. Adjustable tip spacing allows the user to set the distance between tips by simply sliding the scale to expand or contract to the desired labware format.
With a light touch the innovative ClipTip technology 'clips' tips securely on the pipettor for a complete seal that will not loosen regardless of application pressure. Designed for optimum comfort and ease of use, the electronic tip ejection and index finger pipetting action allow the thumb to relax during pipetting. These devices also offer unified operation for multiple users and environments, with personalised user interface and password protection.

- Tip is locked and sealed in place until ejected — no dropped tips that waste valuable samples
- Two operating options for every application: Step based Matrix or Presets with settings for most common applications
- Ability to store up to 20 common protocols with a specific name and calibration in the Programs function
- Customisable protection from unintentional editing in the the My Pipette® function
- Personalised user interface and password protection ensure consistent operation among multiple users
- Service and calibration trackers remind users when the pipettor requires service or repair
- Lithium-ion battery ensures long-lasting performance; unit may be recharged by a charging stand or a plug

Please note: ClipTip® 384 and ClipTip® 12,5 tips and compatible E1-ClipTip® models do not have interlocking technology.

Ordering information: Supplied with universal power supply. Two-year extended warranty only available via web registration.

Pipettor	Tip spacing range	Liquid transfer capabilities	For use with
E1-ClipTip® Equaliser 6-Channel	9,0 - 19,8 mm	96-Microplates/Deepwell Blocks TO/FROM Test Tube Racks/ 24-Microplates	Standard ClipTip® tips
E1-ClipTip® Equaliser 8-Channel	9,0 - 14,2 mm	96-Microplates/Deepwell Blocks TO/FROM MCT Racks/ 48-Microplates	Standard ClipTip® tips
E1-ClipTip® Equaliser 384 8-Channel	4,5 - 14,2 mm	384-Microplate/PCR Plates/Agarose Gels TO/FROM 96/384-Microplates/Deepwell Blocks/MCT Racks	384 ClipTip® tips
E1-ClipTip® Equaliser 384 12-Channel	4,5 - 9,0 mm	384-Microplate/PCR Plates/Agarose Gels TO/FROM 96-Microplates/Deepwell Blocks	384 ClipTip® tips

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For pipette tips	Pk	Cat. No.
6-channel							
50 - 1250	1	±1,4 - ±4,0	≤0,6 - 1,5	Turquoise	ClipTip® 1250	1	**613-6015**
8-channel							
2 - 125	0,1	±2,0 - ±8,0	≤0,6 - 4,0	Yellow	ClipTip® 200	1	**613-6016**
10 - 300	0,1	±2,0 - ±5,0	≤0,6 - 2,0	Orange	ClipTip® 300	1	**613-6017**
50 - 1250	1	±1,4 - ±4,0	≤0,6 - 1,5	Turquoise	ClipTip® 1250	1	**613-6018**
8-channel 384							
0,5 - 12,5	0,01	±2,5 - ±12,0	≤1,6 - 12,0	Pink	ClipTip® 384 12,5	1	**613-6019**
1 - 30	0,01	±2,0 - ±10,0	≤0,9 - 7,0	Purple	ClipTip® 384 30	1	**613-6020**
2 - 125	0,1	±2,0 - ±8,0	≤0,6 - 4,0	Yellow	ClipTip® 384 125	1	**613-6021**
12-channel 384							
0,5 - 12,5	0,01	±2,5 - ±12,0	≤1,6 - 12,0	Pink	ClipTip® 384 12,5	1	**613-6022**
1 - 30	0,01	±2,0 - ±10,0	≤0,9 - 7,0	Purple	ClipTip® 384 30	1	**613-6023**
2 - 125	0,1	±2,0 - ±8,0	≤0,6 - 4,0	Yellow	ClipTip® 384 125	1	**613-6024**

Description	Pk	Cat. No.
Accessories		
Pipette stand, white, for storing and re-charging of one E1-ClipTip® pipettor	1	**613-2962**

Multi channel pipettes, electronic, E1-ClipTip®
Thermo Scientific

Variable volume

With enhanced versatility and customisation, these pipettors automate daily 96- and 384-well microplate pipetting tasks. With a light touch the innovative ClipTip technology 'clips' tips securely on the pipettor for a complete seal that will not loosen regardless of application pressure. Designed for optimum comfort and ease of use, the electronic tip ejection and index finger pipetting action allow the thumb to relax during pipetting. These devices also offer unified operation for multiple users and environments, with personalised user interface and password protection.

- Tip is locked and sealed in place until ejected — no dropped tips that waste valuable samples
- Two operating options for every application: Step based Matrix or Presets with settings for most common applications
- Ability to store up to 20 common protocols with a specific name and calibration in the Programs function
- Customisable protection from unintentional editing in the the My Pipette® function
- Personalised user interface and password protection ensure consistent operation among multiple users
- Service and calibration trackers remind users when the pipettor requires service or repair
- Lithium-ion battery ensures long-lasting performance; unit may be recharged by a charging stand or a plug

Please note: ClipTip® 384 and ClipTip® 12,5 µl tips and compatible E1-ClipTip® models do not have interlocking technology.

Ordering information: Supplied with universal power supply. Two-year extended warranty only available via web registration.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For pipette tips	Pk	Cat. No.
8-channel							
0,5 - 12,5	0,01	±2,5 - ±12,0	≤1,6 - 12,0	Pink	ClipTip® 12,5	1	**613-6004**
2 - 125	0,1	±2,0 - ±8,0	≤0,6 - 4,0	Yellow	ClipTip® 200	1	**613-6005**
10 - 300	0,1	±2,0 - ±5,0	≤0,6 - 2,0	Orange	ClipTip® 300	1	**613-6006**
50 - 1250	1	±1,4 - ±4,0	≤0,6 - 1,5	Turquoise	ClipTip® 1250	1	**613-6007**
12-channel							
0,5 - 12,5	0,01	±2,5 - ±12,0	≤1,6 - 12,0	Pink	ClipTip® 12,5	1	**613-6008**
2 - 125	0,1	±2,0 - ±8,0	≤0,6 - 4,0	Yellow	ClipTip® 200	1	**613-6009**
10 - 300	0,1	±2,0 - ±5,0	≤0,6 - 2,0	Orange	ClipTip® 300	1	**613-6010**
30 - 850	1	±1,5 - ±4,7	≤0,6 - 2,0	Blue	ClipTip® 1000	1	**613-6011**
16-channel							
0,5 - 12,5	0,01	±2,5 - ±12,0	≤1,6 - 12,0	Pink	ClipTip® 384 12,5	1	**613-6012**
1 - 30	0,01	±2,0 - ±10,0	≤0,9 - 7,0	Purple	ClipTip® 384 30	1	**613-6013**
2 - 125	0,1	±2,0 - ±8,0	≤0,6 - 4,0	Yellow	ClipTip® 384 125	1	**613-6014**

Description	Pk	Cat. No.
Accessories		
Pipette stand, white, for storing and re-charging of one E1-ClipTip® pipettor	1	**613-2962**

Multi channel pipettes, electronic, Finnpipette® Novus
Thermo Scientific

Autoclavable (end fitting only)

- Ergonomic design for exceptionally easy use in routine laboratory work
- Handle can be pivoted through 120° so that pipetting can be controlled with the index finger
- Soft-touch eject button suitable for right handed or left handed use
- Large screen, two level menu can be accessed with a single button
- Ten pipetting functions and nine speed levels accessible via a single button, enables fast programming

Ordering information: Supplied with a universal AC adapter, a complete operating and maintenance manual, the certificate of calibration (according to ISO 8655) and an adhesive mini-support.

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Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For Finntip® tip(s)	Pk	Cat. No.
8-Channel							
1 - 10	0,1	±12,0 - ±2,4	8,0 - 1,6	Pink	10, 20, 50 µl	1	**613-0176**
5 - 50	0,1	±5,0 - ±1,5	2,0 - 0,7	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-0178**
30 - 300	1	±5,0 - ±1,5	2,0 - 0,3	Orange	Flex 300, 300 µl	1	**613-0180**
100 - 1200	1	±3,0 - ±1,0	0,9 - 0,2	Turquoise	Flex 1200 µl	1	**613-0612**
12-Channel							
1 - 10	0,1	±12,0 - ±2,4	8,0 - 1,6	Pink	Flex 10, 10, 20, 50 Micro	1	**613-0177**
5 - 50	0,1	±5,0 - ±1,5	2,0 - 0,7	Yellow	Flex 200, 250 Univ., 200 Ext.	1	**613-0179**
30 - 300	1	±5,0 - ±1,5	2,0 - 0,3	Orange	Flex 300, 300 µl	1	**613-0181**
16-Channel							
5 - 50	0,5	±5,0 - ±1,5	2,0 - 0,7	Turquoise	50 µl	1	**613-0182**

Multi channel pipettes, electronic, Eppendorf Xplorer®

Eppendorf

Variable volume

The Xplorer® is a simple, precise electronic pipette specially designed for highly professional requirements.

- PhysioCare Concept® offering ergonomic design, flexible hand position, reduced weight, clear colour display
- Intuitive operation with multifunction selection dial, multi language menu, help function, light and easy tip loading and ejection
- High reproducibility of measurement results
- Easy maintenance

Ordering information: Supplied with charger.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For pipette tips	Pk	Cat. No.
8-Channel							
0,5 - 10	0,01	±2,0 - ±5,0	<0,6 - <3,0	Anthracite	10 / 20	1	**613-1410**
5 - 100	0,10	±0,8 - ±2,0	<0,25 - <2,0	Yellow	200 / 300	1	**613-1418**
15 - 300	0,10	±0,6 - ±2,5	<0,25 - <1,0	Orange	200 / 300	1	**613-1420**
50 - 1200	1,00	±1,2 - ±6,0	<0,3 - <0,9	Green	1250	1	**613-1427**
12-Channel							
0,5 - 10	0,01	±2,0 - ±5,0	<0,6 - <3,0	Anthracite	10 / 20	1	**613-1417**
5 - 100	0,10	±0,8 - ±2,0	<0,25 - <2,0	Yellow	200 / 300	1	**613-1419**
15 - 300	0,10	±0,6 - ±2,5	<0,25 - <1,0	Orange	200 / 300	1	**613-1426**
50 - 1200	1,00	±1,2 - ±6,0	<0,3 - <0,9	Green	1250	1	**613-2228**

Description	Pk	Cat. No.
Accessories		
Charging stand for 1 pipette	1	**613-1449**
Charging stand for 4 pipettes	1	**613-1458**

Multi channel pipettes, electronic, Eppendorf Xplorer plus®

Eppendorf

Variable volume

Easy to use, precise micropipette with reduced weight, specially designed for high professional standards to provide optimal support for the daily work, with a intuitive operating concept and design based on the proven Eppendorf PhysioCare® Concept.

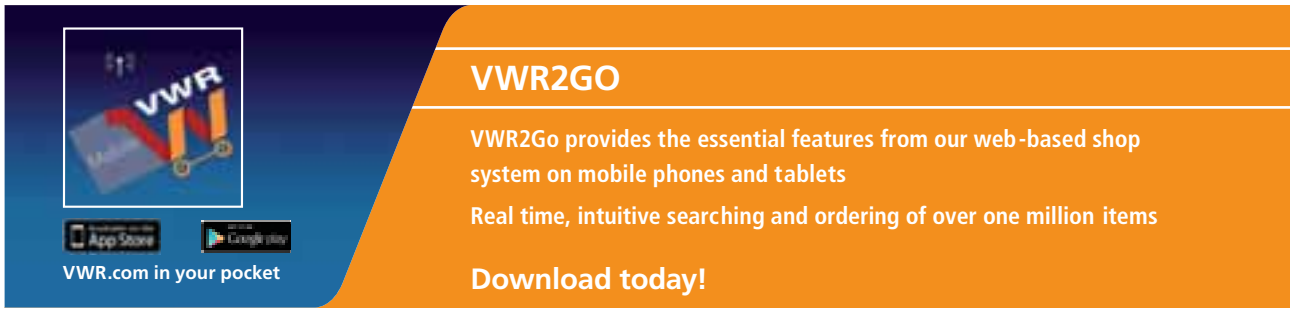
- Intuitive operation with multifunction selection dial, multi language menu, help function, light and easy tip loading and ejection
- High reproducibility of measurement results
- Programming of multiple modes in a sequence
- Password protection
- Easy maintenance, service interval warning

Pipetting modes: Auto-dispense; dispense; pipetting; pipetting and mixing; manual pipetting; multi aspirate; dilution; sequential pipetting; sequential dispensing; reverse pipetting

Ordering information: Supplied with charger.

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	Colour code	For pipette tips	Pk	Cat. No.
8-Channel							
0,5 - 10	0,01	±2,0 - ±5,0	<0,6 - <3,0	Anthracite	10 / 20	1	**613-2235**
5 - 100	0,10	±0,8 - ±2,0	<0,25 - <2,0	Yellow	200 / 300	1	**613-2237**
15 - 300	0,10	±0,6 - ±2,5	<0,25 - <1,0	Orange	200 / 300	1	**613-2239**
50 - 1200	1,00	±1,2 - ±6,0	<0,3 - <0,9	Green	1250	1	**613-2241**
12-Channel							
0,5 - 10	0,01	±2,0 - ±5,0	<0,6 - <3,0	Anthracite	10 / 20	1	**613-2236**
5 - 100	0,10	±0,8 - ±2,0	<0,25 - <2,0	Yellow	200 / 300	1	**613-2238**
15 - 300	0,10	±0,6 - ±2,5	<0,25 - <1,0	Orange	200 / 300	1	**613-2240**
50 - 1200	1,00	±1,2 - ±6,0	<0,3 - <0,9	Green	1250	1	**613-2242**

Description	Pk	Cat. No.
Accessories		
Charging stand for 1 pipette	1	**613-1449**
Charging stand for 4 pipettes	1	**613-1458**



Repetitive pipette, Stepper

The Stepper in combination with the VWR dispenser tips is a proven system solution for the complete range of dispensing volumes from 1 to 5000 µl.

- Lightweight (105 g) - suitable for long dispensing series
- Reliable device with low maintenance requirements achieved by robust design and construction with a minimum of wearing parts
- Ergonomic design with dosage button positioned in the upper part of the device for single-handed volume selection, loading and dispensing
- Possibility to choose between the highest precision or a maximum of repetitions of the desired dosage volume, according to the requirements of the application
- Tested for function and precision after manufacture - serial number is only attributed if the requirements of DIN EN ISO 86551 are met

Ordering information: Supplied with an adapter for 25 ml and 50 ml dispenser tips.

Chart of dosage volumes per tip-size (when used in a system with VWR dispenser tips): **Dispenser tips classic in VWR Stepper**					
Adjustment dial	1	2	3	4	5
No. of steps	48	23	15	11	8
0,05 ml	1 µl	2 µl	3 µl	4 µl	5 µl
0,50 ml	10 µl	20 µl	30 µl	40 µl	50 µl
1,25 ml	25 µl	50 µl	75 µl	100 µl	125 µl
2,50 ml	50 µl	100 µl	150 µl	200 µl	250 µl
5,00 ml	100 µl	200 µl	300 µl	400 µl	500 µl
12,50 ml	250 µl	500 µl	750 µl	1000 µl	1250 µl
25 ml	500 µl	1000 µl	1500 µl	2000 µl	2500 µl
50 ml	1000 µl	2000 µl	3000 µl	4000 µl	5000 µl
Chart of dosage volumes per tip-size (when used in a system with VWR dispenser tips): **Dispenser tips universal in VWR Stepper**					
Adjustment dial	1	2	3	4	5
No. of steps	48	23	15	11	8
0,10 ml	2 µl	4 µl	6 µl	8 µl	10 µl
0,20 ml	4 µl	8 µl	12 µl	16 µl	20 µl
0,50 ml	10 µl	20 µl	30 µl	40 µl	50 µl
100 ml	20 µl	40 µl	60 µl	80 µl	1,00 µl
2,50 ml	50 µl	100 µl	150 µl	200 µl	250 µl
5,00 ml	100 µl	200 µl	300 µl	400 µl	500 µl
10,00 ml	200 µl	400 µl	600 µl	800 µl	1000 µl
25,00 ml	500 µl	1000 µl	1500 µl	2000 µl	2500 µl
50,00 ml	1000 µl	2000 µl	3000 µl	4000 µl	5000 µl

Description	Pk	Cat. No.
VWR Stepper including adapter for 25 ml and 50 ml dispenser tips	1	**613-0964**

Repetitive pipette, mechanical

This pipette is designed for the dispensing of contaminated fluids and volatile liquids. The acceptance of dispenser tips with plunger helps to avoid contamination by ascending aerosols in the tip and guarantees long-term secure use.

- Flexible: Pipette allows 12 tip sizes, 10 volume adjustments and 120 program steps
- Volume adjustable from 1 to 5500 µl
- Most suitable for long dispensing series due to its low weight (85 g)
- Ergonomic design allows one handed operation of volume selection, loading and dispensing of liquids
- Volume adjustments and dosing volumes for different tips are clearly visible on the dispenser

Ordering information: Available as an individual pipette or as a starter kit. The kit contains one pipette and five tips of each size: 0,05/0,1/0,2/0,5/1,0/1,25/2,5/5,0/10/12,5/25/50 ml.

Description	Pk	Cat. No.
Individual pipette, mechanical	1	**613-2169**
Starter kit, including tips	1	**613-2174**

IVD

Repetitive pipette, HandyStep® S
Brand

Ergonomic and durable repetitive pipette allowing quick and easy serial pipetting and, in conjunction with Brand PD-Tips (ten different sizes from 0,1 µl to 50 ml), providing up to 49 repetitive dispensings from a single aspiration. Also compatible with Combitips®, Combitips® plus and other standard repetitive tips. The HandyStep® S works on the positive displacement principle, making it ideal for routine and research applications, as well as for difficult liquids (viscous, high density or high vapour pressure liquids).

- Easy tip mounting - tips are now simply inserted from below
- Eject key for contact-free, safe tip-ejection
- Superior ergonomic handling
- Conformity certified, with serial number
- 49 different volumes with ten PD-Tip sizes

Delivery information: Supplied with performance certificate, operating manual, shelf/rack mount, three PD-Tips (0,1, 1 and 10 ml).

Pipette tip	Volume (µl)	Accuracy (≤ ± %)		Imprecision (%)	
		1 = 2%	5 = 10% *	2%	10%
PD-Tip 0,1 ml	2-10	±4,0	±1,6	≤6,0	≤2,0
PD-Tip 0,5 ml	10-50	±2,5	±1,0	≤2,5	≤1,0
PD-Tip 1,0 ml	20-100	±2,5	±1,0	≤2,0	≤0,8
PD-Tip 1,25 ml	25-125	±2,5	±0,9	≤2,0	≤0,7
PD-Tip 2,5 ml	50-250	±1,5	±0,6	≤1,5	≤0,6
PD-Tip 5,0 ml	100-500	±1,8	±0,7	≤1,5	≤0,7
PD-Tip 10,0 ml	200-1000	±1,8	±0,7	≤2,0	≤0,8
PD-Tip 12,5 ml	250-1250	±1,8	±0,8	≤3,2	≤1,4
PD-Tip 25,0 ml	500-2500	±1,5	±0,6	≤3,0	≤1,0
PD-Tip 50,0 ml	1000-5000	±1,5	±0,5	≤5,0	≤1,2

Description	Pk	Cat. No.
HandyStep® S	1	**612-3858**

Description	Pk	Cat. No.
Accessories		
Rack mount for HandyStep® S	1	**613-1558**

* Stroke setting = % of nominal volume

IVD

Repetitive pipette, HandyStep® electronic
Brand

HandyStep® electronic

The HandyStep® electronic dispenser is controlled by a microprocessor to enable dispensing of volumes in series without tiring the operator and with constant precision regardless of experimental conditions. It offers the following three functions: Dispensing, AUTO dispensing, and pipetting. In automatic mode the device performs three dispensing steps, calculates the time required to dispense the volume and dispenses the remaining liquid according to the same time. It is ergonomically designed to provide exceptional operating comfort. The HandyStep® electronic dispenser is powered by a rechargeable battery that can be replaced easily and recharged quickly. It is compatible with the most commonly used dispensing tips.

- Coding system for automatic recognition of the size of the Brand PD-Tip used
- Variable volume adjustment from 1 µl to 50 ml
- LCD displays volume, operating mode, number of dispensing cycles, aspiration/dispensing speed and the charge level of the NiMH rechargeable battery
- Three functions: Dispensing, AUTO dispensing and pipetting
- Simple, intuitive control of all functions via the MENU button

Delivery information: Each HandyStep® electronic is conformity certified and supplied with performance certificate, NiMH battery pack, charging dock and AC adapter. Also included: One PD-Tip of each size (0,5 ml / 1,25 ml / 2,5 ml / 5 ml / 12,5 ml).

Tip	Volume (µl)	Nominal volume (A ≤ ± %) A = Accuracy (%)		Nominal volume (CV ≤ %) CV = Imprecision (%)	
		1%	100%	1%	100%
PD-Tip 0,1 ml	1-100	±8,0	±1,0	≤12	≤0,5
PD-Tip 0,5 ml	5-500	±5,0	±0,9	≤5,0	≤0,3
PD-Tip 1,0 ml	10-1000	±5,0	0,6	≤4,0	≤0,3
PD-Tip 1,25 ml	12,5-1250	±5,0	±0,6	≤4,0	≤0,2
PD-Tip 2,5 ml	25-2500	±3,5	±0,5	≤3,0	≤0,15
PD-Tip 5,0 ml	50-5000	±3,5	±0,5	≤3,0	≤0,15
PD-Tip 10,0 ml	100-10 000	±3,5	±0,4	≤4,0	≤0,15
PD-Tip 12,5 ml	125-12 500	±3,5	±0,5	≤6,5	≤0,15
PD-Tip 25,0 ml	250-25 000	±3,0	±0,5	≤6,0	≤0,15
PD-Tip 50,0 ml	500-50 000	±3,0	±0,5	≤9,0	≤0,15

Description	Pk	Cat. No.
HandyStep® electronic, incl. accessories and PD-Tips, UK-plug	1	**613-0003**
HandyStep® electronic, incl. accessories and PD-Tips, without charging station	1	**613-2915**

Description	Pk	Cat. No.
Accessories		
Charging dock without AC adapter	1	**612-5671**
NiMH battery pack	1	**612-5672**
AC adapter for charging dock, UK-plug	1	**613-2917**

3 year warranty

Repetitive pipette, Finnpipette® Stepper
Thermo Scientific

Light, ergonomic, easy to use repeating pipette, comprising a main body equipped with a filling lever, a dispensing lever and a volume selection knob. It can be used to dispense the same volume of reagent up to 45 times from a single filling. The Finnpipette® Stepper works on the positive displacement principle, so it is ideal for dispensing aggressive, viscous or contaminating liquids. Uses only Finntip® precision tips. Each tip size can be used for dispensing five different volumes.

- Seven Finntip® tip sizes for a volume range from 10 to 5000 µl
- Five position volume selector
- Grip-Index handle enables long use without tiring
- Full table of volumes displayed on the handle
- An eight channel Multistepper module can be adapted to the pipette directly

Pipette tip	Volume (ml)	Accuracy (%)	Imprecision (%)
Finntip® 0,5 ml	0,01 - 0,05	±1,0 - ±1,0	≤1,0 - ≤0,6
Finntip® 1,25 ml	0,025 - 0,125	±0,8 - ±0,8	≤0,8 - ≤0,5
Finntip® 2,5 ml	0,05 - 0,25	±0,8 - ±0,8	≤0,7 - ≤0,3
Finntip® 5,0 ml	0,1 - 0,5	±0,8 - ±0,8	≤0,5 - ≤0,2
Finntip® 12,5 ml	0,25 - 1,25	±0,6 - ±0,6	≤0,4 - ≤0,2
Finntip® 25 ml	0,5 - 2,5	±0,5 - ±0,5	≤0,5 - ≤0,3
Finntip® 50 ml	1 - 5	±0,5 - ±0,5	≤0,5 - ≤0,3

Description	Pk	Cat. No.
Finnpipette® Stepper	1	**612-6265**

Repetitive pipette, multi channel, Finnpipette® Multistepper
Thermo Scientific

Five preset volumes

Light, easy to use, 8-channel micropipette, designed for dispensing liquids onto microplates and quick completion of routine laboratory tasks. It uses the same handpiece as the Finnpipette® Stepper, and the 8-channels module is fitted to this. The 8 channels are calibrated to dispense exactly the same volume of liquid at exactly the same time.

- Handpiece can be used with Finntip® syringes (Finnpipette® Stepper) or with an 8-channel module (Finnpipette® Multistepper)
- 5 preset volumes: 50, 100, 150, 200 and 250 µl
- Dispensing with a single filling: 50 µl into 24×8=192 wells; 100 µl into 12×8=96 wells; 150 µl into 8×8=64 wells; 200 µl into 6×8=48 wells; 250 µl into 5×8=40 wells
- Module rotates through 360° around the handpiece for increased comfort when pipetting
- Complete volumes chart is provided on the handpiece

Capacity (µl)	Division (µl)	Accuracy (%)	Imprecision (%)	For pipette tips	Pk	Cat. No.
Multistepper (module and handle)						
1250	50	±2,0	<2,0	Finntip® Multistepper (50 - 1500 µl)	1	**612-6300**
Multistepper (module only)						
1250	50	±2,0	<2,0	Finntip® Multistepper (50 - 1500 µl)	1	**612-6301**

Description	Pk	Cat. No.
Accessories		
Finntip® Multistepper tips, bulk	400	**613-2616**
Finntip® Multistepper tips, 10 racks, 96 each	960	**613-2617**
Finntip® Multistepper tips, 10 racks, 96 each, sterile	960	**613-2618**

Repetitive pipette, Varipette® 4720
Eppendorf

Pipette with continuously adjustable volume in increments of 10 µl, intended for accurate volumetric analysis up to 10 ml. It can be used for pipetting liquids with high vapour pressure or high viscosity. The Varipette® can be used with Varitip P or Varitip S tips for pipetting into different types of receptacles.

- Volume adjustable from 1 to 10 ml
- Selector button for displaying the set point volume on a digital dial
- Varitip P tips work on the principle of positive displacement, designed for pipetting volumes from 1 to 10 ml
- Varitip S consists of a volumetric syringe and a Maxitip tip, works on the air displacement principle, and is designed for pipetting volumes from 2,5 to 10 ml into tall and narrow-necked flasks

Pipette tip	Volume (ml)	Accuracy (%)	Imprecision (%)
Varitip S	2,5	±1,0	<0,2
	5	±0,4	<0,2
	10	±0,3	<0,2
Varitip P	1,0	±0,6	<0,2
	5	±0,5	<0,1
	10	±0,3	<0,1

Description	Capacity (ml)	Pk	Cat. No.
Varipette® 4720	1 - 10	1	**612-7310**

Description	Pk	Cat. No.
Accessories		
Pipette rotating stand for 6 pipettes	1	**612-1806**
Starter kit (100 Maxitips, 2 Maxitips G, 10 barrels with pistons, 10 valves)	1 KIT	**612-7331**
Varitip P, for aspirating 1 - 10 ml from smaller vessels	100	**612-7321**
Barrels with pistons for Varitip S, for aspirating 2,5 - 10 ml from tall, narrow-neck vessels and volumetric flasks	30	**612-7332**
Maxitip G, for Varitip S, to be combined with barrel	200	**612-7333**
Valve for Varitip S, set of 100	100	**612-7334**

Repetitive pipette, Multipette® M4
Eppendorf

Manual dispenser, designed for maximum ease of use, precision and flexibility in terms of volume selection and replacement of the associated Combitip® Advanced tips. Combitip® Advanced tips work on the direct displacement principle, ensuring that the correct volume is dispensed every time, regardless of the density of the liquid or its flow properties. This principle also ensures safer conditions when working with radioactive, aggressive, toxic substances or liquids with higher vapour pressures.

- Simple volume adjustment from 1 µl to 10 ml
- Volume display with automatic recognition of the Combitip® Advanced tip
- Up to 100 dispensing cycles with one filling, integrated step counter
- Capable of dispensing 112 different volumes
- The Combitip® can be detached by applying slight pressure, avoiding any contact with and contamination of the tip

Tip	Volume (µl)	Accuracy (%)	Imprecision (%)
Combitip® Advanced 0,1 ml	1 - 20	±1,6 - ±1,0	≤3,0 - ≤2,0
Combitip® Advanced 0,2 ml	2 - 40	±1,3 - ±0,8	≤2,0 - ≤1,5
Combitip® Advanced 0,5 ml	5 - 100	±0,9 - ±0,8	≤1,5 - ≤0,6
Combitip® Advanced 1 ml	10 - 200	±0,9 - ±0,6	≤0,9 - ≤0,4
Combitip® Advanced 2,5 ml	25 - 500	±0,8 - ±0,5	≤0,8 - ≤0,3
Combitip® Advanced 5 ml	50 - 1000	±0,6 - ±0,5	≤0,6 - ≤0,25
Combitip® Advanced 10 ml	100 - 2000	±0,5 - ±0,5	≤0,6 - ≤0,25
Combitip® Advanced 25 ml	250 - 5000	±0,4 - ±0,3	≤0,6 - ≤0,25
Combitip® Advanced 50 ml	500 - 10 000	±0,3 - ±0,3	≤0,5 - ≤0,3

Description	Pk	Cat. No.
Multipette® M4, incl. holder (for wall attachment or carousel stand)	1	**613-2890**
Multipette® M4 starter kit, incl. Combitip® rack, Combitip advanced® mixed pack	1	**613-2927**

Description	Pk	Cat. No.
Accessories		
Pipette holder, for wall attachment or carousel stand	1	**613-2928**

Electronic dispensers, Multipette® stream / Multipette® Xstream
Eppendorf

Electronic, ergonomic dispensers, combining ease of use with a wide range of functions. The Multipette® stream is suitable for all standard applications, while the Multipette® Xstream is the ideal choice for tip applications such as titrations or aspirating supernatant liquors. They can be used with Combitip® Advanced tips to provide high-quality laboratory tools for any type of application. They work on the positive displacement principal, are ideal for solutions with high viscosity or elevated vapour pressure, and provide the capability of being recharged during operation.

- Dispensing volume adjustable from 1 µl to 50 ml
- Automatic detection of the Combitip® Advanced tip being used
- Automatic, fast dispensing with a motorised piston
- Tip ejection with the simple press of a button
- Additional features of the Multipette® Xstream: Aspiration of supernatant liquors, titration, and sequential dispensing

Ordering information: Multipette® stream and Multipette® Xstream are supplied with a charging adapter.

Tip	Volume (µl)	Accuracy (%)	Imprecision (%)
Combitip® Advanced 0,1 ml	1 - 100	±1,6 - ±1,0	<2,5 - <0,5
Combitip® Advanced 0,2 ml	2 - 200	±1,3 - ±1,0	<1,5 - <0,5
Combitip® Advanced 0,5 ml	5 - 500	±0,9 - ±0,9	<0,8 - <0,3
Combitip® Advanced 1 ml	10 - 1000	±0,9 - ±0,6	<0,5 - <0,2
Combitip® Advanced 2,5 ml	25 - 2500	±0,8 - ±0,5	<0,4 - <0,15
Combitip® Advanced 5 ml	50 - 5000	±0,8 - ±0,5	<0,3 - <0,15
Combitip® Advanced 10 ml	100 - 10000	±0,5 - ±0,4	<0,25 - <0,15
Combitip® Advanced 25 ml	250 - 25000	±0,3 - ±0,3	<0,25 - <0,15
Combitip® Advanced 50 ml	500 - 50000	±0,3 - ±0,3	<0,25 - <0,15

Description	Pk	Cat. No.
Multipette® stream incl. charging adapter	1	**613-0617**
Multipette® Xstream incl. charging adapter	1	**613-0618**

Aspirating aid, Combilong
Eppendorf

The Combilong is a reservoir with an aspiration tube attached which is placed in a flask and filled with the aid of a Multipette®. It is then a simple task to collect the volume into a Combitip® and dispense.

- Designed for use with graduated flasks and tall bottles
- Compatible with 5, 25 and 50 ml capacity Combitips® Advanced

Description	Pk	Cat. No.
Combilong	2	**613-4272**

Pipetting system, Microlab 300
Hamilton

Variable volume

This guided pipetting system minimises pipetting errors and ensures consistency across all sample types. It features a high torque, precision stepper motor that provides unsurpassed liquid handling through a single pipette probe that covers a pipetting volume range of 0,5 µl to 1 ml.
The semi-automated system guides the user through traceable pipetting applications from start to finish. It also allows lab managers to securely convert manual paper protocols into pre-defined electronic protocols called Linked Methods, increasing reproducibility and minimising user variation. Ideal for pharmaceutical, academical and R&D laboratories.

- Only two tips (50 µl and 1 ml) and one single hand probe cover whole pipetting range of virtually 0,5 µl to 1 ml; no need for multiple pipettes
- Liquid filled system enables use of high precision syringe technology for pipetting
- Large touchscreen with SD card memory for easy handling
- Easy to use interface allows users to quickly create, save and recall stored methods
- Self-explanatory wizards, favourite methods and custom operation parameters, provide maximum flexibility
- Reduce fatigue and minimal strain risks thanks to the extremely lightweight hand probe with unique ClickSure tip loading/ejection technology
- Access buttons including a scroll wheel ensure maximum working convenience

Ordering information: The system comes complete with all the accessories necessary to get up and running immediately. This includes the disposable tip hand probe, controller, syringe drive unit, cable management system, valve, fill tubing, power cord, power supply, and 25 µl and 1,25 ml Hamilton Microlab 300 syringes. ClickSure tips must be ordered separately.

Volume (µl)	Accuracy (±%)	Precision (+%)
0,5	7,00	8,00
1	4,00	4,00
5	1,50	1,00
10	1,00	0,90
20	0,90	0,65
25	0,85	0,60
50	0,80	0,50
100	0,80	0,40
200	0,75	0,35
250	0,75	0,35
500	0,75	0,35
750	0,50	0,20
1000	0,40	0,15

Description	Capacity (µl)	Pk	Cat. No.
Pipetting system, Microlab 300	0,5 - 1000	1	**613-2937**

Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
Pipette tips, ClickSure™ Tips					
Standard	50	-	Bulk, 960/bag	1	**613-2933**
Standard	50	-	10 racks, 96 each	10	**613-2930**
Standard	50	+	10 racks, 96 each	10	**613-2929**
With filter	50	+	10 racks, 96 each	10	**613-2934**
Standard	1000	-	Bulk, 960/bag	1	**613-2935**
Standard	1000	-	10 racks, 96 each	10	**613-2932**
Standard	1000	+	10 racks, 96 each	10	**613-2931**
With filter	1000	+	10 racks, 96 each	10	**613-2936**

Syringe diluters, Microlab® 600 series

Hamilton

The Microlab® 600 dual syringe diluter is a semi-automated liquid handling instrument capable of dilutions up to 1: 50 000 in a single step. The precision stepper motors provide exceptional positional accuracy across the range of Hamilton bubble-free prime (BFP) syringes from 10 µl to 50 ml volumes. The inert fluid path and the diluent washing of the the tubing between each sample, minimises carry-over for even the most sensitive techniques. The basic controller features a quick start and run screen for priming and programming the diluent and sample volumes and the controller also displays the graphical pump status with animations of the fluid path and pump status.

- Save time and avoid wasted buffer during sample preparation
- Positive displacement system provides better than 99% accuracy
- Improve reproducibility whilst simplifying compliance to GLP/GMP, FDA, EPA and ISO
- N.I.S.T. traceable calibration
- Large touch screen display with tilt for optimum viewing and the capability to wall mount
- Bubble-free prime syringe plunger tip eliminates dead volume in the syringe termination, decreasing the number of required priming cycles

Advanced controller option

- Wizards and favorites menu - used to quickly recall frequently used wizard setups
- Custom method programming - for custom applications that are not covered by the standard Wizards
- 2 GB capacity for method storage - store, archive, and share methods written to the memory card
- Software upgrades - downloadable software updates available online

Delivery information: The diluters are supplied complete with the Concorde hand probe, universal valves, fill/dispense tubing, accessory holder, country specific power cord, and the choice of two syringes. If no syringes are specified at the time of the order a 2,5 ml and 250 µl syringe will be supplied.

For details of the Microlab® 600 Dispenser please contact your local VWR sales office.

Model	ML615-DIL with Basic Controller	ML625-DIL with Advanced Controller
Repeatability	±0.2%	±0,2%
Accuracy	±1%	
Resolution	0,002% of the nominal syringe volume	
Speed	0,003 - 6000 µl/second (depending on the syringe that is selected)	
Syringe drive mechanism	Stepper motor	
Power rating	24 VDC; 2,5 A	
Program memory	Pump Memory: One method stored in non volatile memory	2 GB (with Advanced Upgrade)
Communication interface	Ethernet, 10/100 BASE-T	
Fluid path	Borosilicate glass, PTFE, CTFE	
W×D×H (mm)	178×140×267 (pump); 57×165×178 (controller in down position)	
Weight (kg)	5,9 (pump); 0,86 (controller)	

Description	Pk	Cat. No.
Dual syringe diluter with basic controller	1	**613-1627**
Dual syringe diluter with advanced controller	1	**613-1568**

Description	Capacity (µl)	Pk	Cat. No.
BFP syringes			
Model 1701 BFP syringe	1 - 10	1	**613-1570**
Model 1702 BFP syringe	2,5 - 25	1	**613-1571**
Model 1705 BFP syringe	5 - 50	1	**613-1572**
Model 1710 BFP syringe	10 - 100	1	**613-1573**
Model 1725 BFP syringe	25 - 250	1	**613-1574**
Model 1750 BFP syringe	50 - 500	1	**613-1575**
Model 1001 BFP syringe	100 - 1000	1	**613-1576**
Model 1002 BFP syringe	250 - 2500	1	**613-1577**
Model 1005 BFP syringe	500 - 5000	1	**613-1578**
Model 1010 BFP syringe	1000 - 10000	1	**613-1579**
Model 1025 BFP syringe	2500 - 25000	1	**613-1580**
Model 1050 BFP syringe	5000 - 50000	1	**613-1581**

Syringe dispenser, Microlab® 600 series
Hamilton

The Microlab® 600 is a reliable and robust dispensing system. It can be used in sample spiking, titration, dosing, reagent addition to chemical reactors, flow chemistry, manufacturing, mercury dispensing for light bulbs, ink cartridge filling, glue and epoxy dispensing, nasal therapeutics and contact lenses.

- Dispenses volumes from 100 nl to 50 ml
- Positive displacement syringes for volatile, viscous and dense liquids
- Inert fluid path compatible with harsh chemicals

Description	Pk	Cat. No.
Single syringe dispenser with Advanced control	1	**613-1567**
Dual syringe PC controlled, Microlab® 635	1	**613-1569**

Pipette stands

Transparent acrylic

- Three, four or six-place racks, accommodate most micropipettes
- Width of upper notches: 25 mm
- Width of lower notches: 20 mm

Description	For	Material	Colour	Pk	Cat. No.
Pipette stand	3 pipettes	Acrylic	Transparent	1	**631-0723**
Pipette stand	4 pipettes	Acrylic	Transparent	1	**631-0724**
Pipette stand	6 pipettes	Acrylic	Transparent	1	**631-0725**

Pipette stand
Heathrow Scientific

Blue acrylic

- For 6 micropipettes from the most popular manufacturers
- Robust, stable construction
- Micropipettes can be organised clearly and removed quickly from storage

Description	For	Material	Colour	Pk	Cat. No.
Pipette stand	6 pipettes	Acrylic	Blue	1	**612-2998**

Clamp holders for micropipettes
Heathrow Scientific

Set pipettor clamps (1 pipette)

Pipettor clamp (3 pipettes)

PP, coloured, with ABS screws

Stable, sturdy construction.

- For one to three pipettes of the most widely used brands
- Can be attached easily and securely in many convenient laboratory locations

Ordering information: The colour coded set consists of three clamp holders (red, blue and purple).

Description	Colour	For	Pk	Cat. No.
Pipettor clamp	Blue	3 Pipettes	1	**613-3900**
Pipettor clamp	Purple	3 Pipettes	1	**612-2993**
Pipettor clamp	Blue	1 Pipette	1	**612-0891**
Set pipettor clamps	Assorted	1 Pipette	1 SET	**612-2000**

Pipette stands for Finnpipette®
Thermo Scientific

F-Stand for 6 F1/F2 Finnpipette®

Stand for 1 Finnpipette® Novus

• Stands with three or seven spaces, aluminium cross bar and two sturdy feet. Enable single or multi channel Finnpipette® to be stored vertically

Description	For	Colour	Pk	Cat. No.
Stand for 6 or 8 (when equipped with shelf hangers) Finnpipette® Novus/ Focus/Digital (*)	6/8 Finnpipette®	White	1	**613-2668**
Stand for 3 Finnpipette® (*)	3 Finnpipette®	White	1	**613-2669**
Focus carousel for 6 Finnpipette® Focus/Digital	6 Finnpipette® Focus/Digital	White	1	**613-2670**
Stand for 1 Finnpipette® Novus	1 Finnpipette® Novus	White	1	**613-5036**
Pipette stand for 1 multi channel Finnpipette®	Multi channel Finnpipette®	White	1	**613-0805**
F-Stand for 6 F1/F2/F3 Finnpipette®	F1/F2/F3 Finnpipette®	White	1	**613-2765**

* Fits all Finnpipette® with ergonomic curved finger rest

VWR COLLECTION

3 year warranty

SELECTED FOR YOU

Reagent reservoirs

PS

PVC

Designed for use in multi channel pipetting applications, these disposable reservoirs accommodate all types of pipettes up to 12-channel width.

• Trough design, graduation marks on interior walls, and pour-off spouts on each corner
• Lot-certified, non pyrogenic, DNase- and RNase-free
• Non sterile or electron beam sterilised

Ordering information: 25 ml reservoirs also available in a unique divided format that features three distinct mini reservoir chambers, each with a 5 ml capacity; 50 ml reservoirs available in clear FDA grade PVC or virgin modified PS; all other sizes manufactured from virgin modified PS.

Type	Capacity (ml)	Sterile	Packed	Pk	Cat. No.
25 ml					
PS	25	+	5/bag, 40 bags/case	200	**613-1174**
PS	25	+	1/bag, 100/case	100	**613-1175**
PS	25	-	50/case	50	**613-1176**
PS, 3 divisions	25	-	100/case	100	**613-1177**
PS, 3 divisions	25	+	5/bag, 40 bags/case	200	**613-1178**
PS, 3 divisions	25	+	1/bag, 100/case	100	**613-1179**
50 ml					
White PS	50	+	1/bag, 100/case	100	**613-1184**
White PS	50	+	5/bag, 40 bags/case	200	**613-1183**
White PS	50	-	50/case	50	**613-1180**
Natural PS	50	+	5/bag, 40 bags/case	200	**613-1181**
Natural PS	50	+	1/bag, 100/case	100	**613-1182**
PVC	50	-	100/case	100	**613-1185**
PVC	50	+	1/bag, 100/case	100	**613-1186**
PVC	50	+	5/bag, 40 bags/case	200	**613-1187**

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Type	Capacity (ml)	Sterile	Packed	Pk	Cat. No.
100 ml					
PS	100	+	5/bag, 40 bags/case	200	**613-1171**
PS	100	+	1/bag, 100/case	100	**613-1172**
PS	100	-	50/case	50	**613-1173**
12×5 ml					
PS, 12 separate reagent channels	12×5	+	Bulk	50	**613-0100**

Reagent reservoirs, disposable
Biotix

PS or PVC, sterile or non sterile

These disposable reagent reservoirs are designed for use with multi-channel pipetting applications and can accommodate up to 12-channel pipettes. Users can choose from opaque white polyvinyl chloride (PVC) or high clarity polystyrene (PS) in several packaging configurations.

- Angled sides and a V-shaped bottom allow maximum recovery of reagents
- All reservoirs feature internal graduated volume lines and pour-spouts on the corners
- Certified free of DNA, DNase, RNase and endotoxins (pyrogens)

Manufactured under stringent controls in an ISO 9001 certified facility. Every lot is tested assuring maximum quality and compatibility. All raw materials are traceable.

Packaging: Reagent reservoirs are available pre-sterile, non sterile, bulk and individually wrapped.

Description	Capacity (ml)	Sterile	Packed	Pk	Cat. No.
Reagent reservoir, PS, 127×85 mm	50	+	1/bag, 100/case	100	**613-1189**
Reagent reservoir, PS, 127×85 mm	50	+	5/bag, 200/case	200	**613-1190**
Reagent reservoir, PS, 127×85 mm	100	+	1/bag, 100/case	100	**613-1192**
Reagent reservoir, PS, 127×85 mm	100	+	5/bag, 200/case	200	**613-1193**
Reagent reservoir, PS, 127×85 mm	50	-	Bulk, 100/case	100	**613-1188**
Reagent reservoir, PS, 127×85 mm	100	-	5/bag, 200/case	100	**613-1191**

Reagent reservoirs, Tip-Tub
Eppendorf

White PP, V-shaped bottom, autoclavable

For reagent take-up with multi channel pipettes.

Type	Capacity (ml)	Sterile	Pk	Cat. No.
V-shaped bottom	50 - 60	-	10	**613-4271**

Reagent reservoirs
Corning®

50 ml

100 ml

White PS, sterile, disposable

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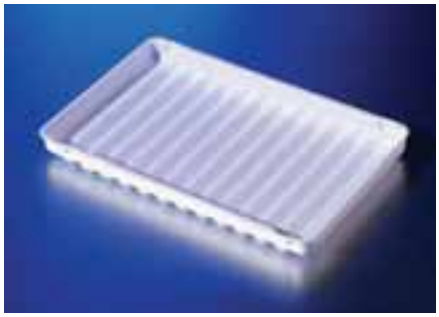
Type	Capacity (ml)	Sterile	Packed	Pk	Cat. No.
White PS	50	+	5/bag	200	**732-5561**
White PS	50	+	Individual	100	**732-5562**
White PS	100	+	5/bag	200	**732-5563**
White PS	100	+	Individual	100	**734-1982**

Reagent reservoirs, for Transtar-96® liquid handling system
Corning®



12-Channel

8-Channel

White PS, sterile, disposable

Type	Capacity (ml)	Sterile	Packed	Pk	Cat. No.
White PS, 12-channel	5	+	Bulk	100	**734-1984**
PS, open, replacement reservoir liner	-	+	Bulk	100	**734-1983**
White PS, 8-channel	7	+	Bulk	100	**734-1985**

Reagent reservoirs
Thermo Scientific

White PP, autoclavable

- V-shaped bottom
- For 4, 8 or 12-channel pipettes

Type	Capacity (ml)	Sterile	Pk	Cat. No.
White PP, 1-well	60	-	5	**613-2671**
White PP, 1-well	100	-	10	**612-6572**
White PP, 8-well	8×10	-	10	**613-2672**

Reagent reservoirs
Heathrow Scientific

Clear PVC or white PS, disposable

- Angled sides and V-shaped bottom

Type	Capacity (ml)	Sterile	Pk	Cat. No.
Clear PVC	55	-	100	**613-3898**
White PS	55	-	100	**613-3899**
White PS	55	+	50	**613-3011**
White PS	100	-	100	**613-3012**
White PS	100	+	50	**613-3013**

Pipette tips - Compatibility chart

SC: Single channel pipette / MC: Multi channel pipette
For more compatibility information, please contact VWR Customer Services.

Description	Channels	Volume (µl)	A	B	C	D	E	F	G	H	I	K	L	O	Q	R	S	Y
Sartorius eLine	SC	0,2-10	√															
		5-120			√		√			√								
		50-1000									√		√					
	MC	0,2-10	√															
		5-120			√		√		√	√								
		50-1200										√						
Sartorius ePet	SC	0,2-10	√															
		5-100			√					√								
	MC	0,2-10	√															
		5-100			√													
		25-250					√		√									
		50-1200										√						
Sartorius mLine	SC	0,1-3	√															
		0,5-10	√															
		2-20			√													
		10-100			√	√				√								
		20-200			√	√	√		√	√								
		100-1000											√					
		1000-10000																√
	MC	0,5-10	√															
		5-100			√					√								
		20-200			√													
		30-300							√									
Sartorius Proline Electronic	SC	0,2-10	√															
		5-100			√		√			√								
		25-250							√									
		50-1000									√		√					
		50-1200										√						
	MC	0,2-10	√															
		5-100			√		√											
		10-250							√									
Sartorius Proline	SC	0,1-2,5	√															
		0,5-10	√															
		2-20			√													
		5-50			√					√								
		10-100			√	√												
		20-200				√	√	√										
		50-200							√	√								
		50-250							√									
		100-1000									√							
	MC	0,5-10	√															
		5-50			√													
		50-250							√									
		50-300							√									
Sartorius Proline Plus	SC	0,1-3	√															
		0,5-10	√															
		2-20			√					√								
		10-100			√					√								
		20-200			√	√	√		√									
		20-300							√									
		100-1000									√		√					
		1000-10000																√
	MC	0,5-10	√															
		10-100			√					√								
		20-200			√													
		5-250						√	√									
		30-300							√									
Thermo Finnpipette Digital/F1	SC	0,2-2	√															
		0,5-10	√		√													
		2-20			√		√			√								
		5-50			√		√			√								
		10-100			√		√			√								
		20-200			√		√			√								
		100-1000									√							
		200-1000									√							
Thermo Finnpipette Digital	MC	0,5-10	√															
		5-50			√		√			√								
		50-300							√									

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Description	Channels	Volume (µl)	A	B	C	D	E	F	G	H	I	K	L	O	Q	R	S	Y
Thermo Finnpipette F1	MC	1-10			√													
		5-50			√		√			√								
		50-300							√									
Thermo Focus	SC	0,3-3	√															
		0,5-5	√															
		1-10	√		√					√								
		3-30			√					√								
		5-50			√					√								
		10-100			√					√								
		30-300							√									
		100-1000									√		√					
	MC	1-10	√															
		5-50			√													
		30-300							√									
Thermo Novus	SC	1-10	√		√													
		5-50			√													
		10-100			√					√								
		30-300							√									
		100-1000									√		√					
	MC	1-10	√															
		5-50			√					√								
		30-300							√									
Eppendorf Electronic	SC	0,5-10	√															
		0,5-20		√														
		5-100			√	√	√			√								
		20-200			√	√	√	√	√	√								
		50-1000									√							
Eppendorf Reference	SC	0,1-2,5	√															
		0,5-10	√															
		2-20		√	√	√	√			√								
		10-100			√	√	√			√								
		50-200			√	√	√		√	√								
		100-1000									√		√					
Eppendorf Research Pro	SC	0,5-10	√	√														
		5-100			√	√	√			√								
		20-300							√									
		50-1000									√		√					
		50-1200									√							
	MC	0,5-10	√	√														
		5-100			√	√	√			√								
		20-300							√									
Eppendorf Research & Research Plus	SC	0,1-2,5	√															
		0,5-10	√															
		2-20			√	√	√			√								
		10-100			√	√	√	√		√								
		20-200			√	√	√	√		√								
		100-1000									√		√					
	MC	0,5-10	√															
		10-100			√	√	√			√								
		30-300							√									
Gilson Pipetman, P	SC	0,2-2	√															
		1-10	√															
		2-20			√													
		20-200			√					√								
		50-200			√		√		√	√								
		20-1000									√		√					
		1000-5000												√				
		1000-10000																√
Gilson Pipetman Ultra	SC	0,2-2	√															
		1-10	√															
		2-20			√													
		20-100			√					√								
		20-200			√				√	√								
		50-200					√											
		20-1000									√		√					
		1000-10000																√
	MC	1-20			√													
		20-300							√									
Gilson Neo	SC	0,2-2	√															
		1-10	√															
		2-20			√													
		20-100			√													
		20-200			√					√								
		100-1000									√		√					

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Description	Channels	Volume (µl)	A	B	C	D	E	F	G	H	I	K	L	O	Q	R	S	Y
Gilson Concept	SC	0,5-10	√															
		5-100			√					√								
		20-300							√									
	MC	1-10	√															
		10-100			√					√								
		30-300							√									
Rainin Pipet Classic	SC	0,1-2	√															
		0,5-10	√															
		2-20			√													
		10-100			√					√								
		20-200			√		√			√								
		100-1000									√		√					
		1000-5000												√				
		5000-10000																√
Rainin Pipet Lite & Plus with LTS / E-Man Hybrid	SC/MC	0,1-2													√			
		0,5-10													√			
		2-20													√			
		10-100														√		
		20-200														√		
		100-1000															√	
VWR Collection EHP/UHP	SC/MC	0,2-2	√															
		0,5-10	√															
		2-20			√													
		5-50			√													
		10-100			√		√											
		20-200			√		√											
		50-250							√									
		100-1000									√		√					
		1000-5000												√				
		1000-10000																√
VWR Collection Electronic	SC	0,5-10	√															
		2-20			√													
		10-200			√		√			√								
		100-1200									√							

Pipette tips

All the tips are made of high quality 100% pure virgin medical grade PP. Made in the highest quality moulds, these tips can be used whenever the work demands a higher standard. Sterile products are tested for endotoxin (pyrogen) contamination and are certified to USP standards. Resins are pre-tested for metal contamination. Certificates are on file by lot number for all test results.

- A wider seal ensures that tips will seal easily and consistently without leaking
- Guaranteed free of detectable DNA, DNase/RNase, endotoxins and heavy metals
- Autoclavable

	Type	Capacity (µl)	Compatibility	Sterile	Packed	Pk	Cat. No.
Bulk							
	UltraFine™, extended	0,1 - 10	A	-	Bulk	1.000	**613-0259**
	UltraFine™, graduated, siliconised	0,1 - 10	A	-	Bulk	1.000	**613-0276**
	UltraFine™, graduated	0,1 - 10	A	-	Bulk	1.000	**613-0364**
	Low binding, Slik, graduated	0,1 - 10	A	-	Bulk	1.000	**613-2294**
	Bevel Point™, graduated	0,5 - 10	B	-	Bulk	1.000	**613-0254**
	UltraFine™, Rainin® LTS™ style	0,5 - 20	Q	-	Bulk	1.000	**613-0578**
	Graduated	0,1 - 30	A	-	Bulk	1.000	**613-0636**
	Bevel Point™	1 - 100	D	-	Bulk	1.000	**613-0252**
	Bevel Point™, graduated	1 - 200	C	-	Bulk	10.000	**525-0144**
	Standard	1 - 200	C	-	Bulk	1.000	**613-0287**
	Standard (yellow)	1 - 200	C	-	Bulk	1.000	**613-0246**
	Bevel Point™	1 - 200	C	-	Bulk	1.000	**613-0239**
	Bevel Point™	1 - 200	C	-	Bulk	10.000	**613-0240**
	Bevel Point™, graduated	1 - 200	C	-	Bulk	1.000	**613-0298**
	Bevel Point™, siliconised	1 - 200	C	-	Bulk	1.000	**613-0277**
	Bevel Point™	1 - 200	C	-	Bulk	1.000	**613-0890**
	Bevel Point™, Low binding, Slik	1 - 200	C	-	Bulk	1.000	**613-0891**
	UltraFine™, graduated, Rainin® LTS™ style	1 - 200	R	-	Bulk	1.000	**613-0581**
	UltraFine™, FlexTop™, extended	1 - 200	C	-	Bulk	1.000	**732-0500**
	UltraFine™, FlexTop™, graduated	1 - 200	C	-	Bulk	1.000	**732-0504**
	Bevel Point™, wide orifice	1 - 250	E	-	Bulk	1.000	**736-0204**
	Low Binding, wide orifice, Slik	1 - 250	E	-	Bulk	1.000	**613-0370**
	UltraFine™	1 - 250	F	-	Bulk	1.000	**613-0892**
	UltraFine™, Low binding, Slik	1 - 250	F	-	Bulk	1.000	**613-0373**
	Bevel Point™	1 - 300	G	-	Bulk	1.000	**613-0265**
	Bevel Point™, Low binding, Slik	1 - 300	G	-	Bulk	1.000	**613-0380**
	UltraFine™, FlexTop™, graduated	1 - 300	G	-	Bulk	1.000	**613-0331**
	Bevel Point™	100 - 1000	L	-	Bulk	1.000	**613-0340**
	Bevel Point™, graduated	100 - 1000	L	-	Bulk	1.000	**613-0343**
	UltraFine™, Rainin® LTS™ style	100 - 1000	S	-	Bulk	1.000	**613-0584**
	UltraFine™, FlexTop™, extended	100 - 1250	I	-	Bulk	1.000	**613-0272**
	UltraFine™, Low binding, Slik	100 - 1250	I	-	Bulk	1.000	**613-0377**
	Wide orifice	100 - 1250	I	-	Bulk	1.000	**613-0749**
	Macro	1000 - 5000	O	-	Bulk	250	**613-0830**
	Macro, graduated (Gilson Pipetman)	1000 - 5000	O	-	Bulk	250	**613-0338**
	Macro, graduated (Sartorius/ Eppendorf)	1000 - 5000	O	-	Bulk	250	**613-0339**
	Standard	5000 - 10000	Y	-	Bulk	250	**613-0831**

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	Type	Capacity (µl)	Compatibility	Sterile	Packed	Pk	Cat. No.
Racked							
	Slik, graduated	0,1 - 10	A	-	12 racks, 96 each	1.152	**613-2295**
	UltraFine™, graduated, siliconised	0,1 - 10	A	-	12 racks, 96 each	1.152	**613-0336**
	UltraFine™, graduated	0,1 - 10	A	-	12 racks, 96 each	1.152	**613-0334**
	UltraFine™, extended	0,1 - 10	A	-	10 racks, 96 each	960	**613-0260**
	Graduated	0,1 - 30	A	-	10 racks, 96 each	960	**613-0637**
	Bevel Point™, graduated	0,5 - 10	B	-	10 racks, 96 each	960	**613-0255**
	UltraFine™, Rainin® LTS™ style	0,5 - 20	Q	-	10 racks, 96 each	960	**613-0576**
	UltraFine™	1 - 50	A	-	10 racks, 384 each	3.840	**732-0499**
	Bevel Point™	1 - 100	D	-	10 racks, 96 each	960	**613-0253**
	Bevel Point™	1 - 100	D	-	5 racks, 192 each	960	**613-0251**
	Standard	1 - 200	C	-	10 racks, 96 each	960	**613-0288**
	Standard (yellow)	1 - 200	C	-	10 racks, 96 each	960	**613-0247**
	Bevel Point™	1 - 200	C	-	10 racks, 96 each	960	**613-0241**
	Bevel Point™	1 - 200	C	-	10 racks, 96 each	960	**613-0889**
	Bevel Point™	1 - 200	C	-	5 racks, 192 each	960	**613-0369**
	Bevel Point™ (yellow)	1 - 200	C	-	5 racks, 192 each	960	**613-0237**
	Bevel Point™, Low binding, Slik	1 - 200	C	-	10 racks, 96 each	960	**613-0285**
	Bevel Point™, siliconised	1 - 200	C	-	10 racks, 96 each	960	**613-0278**
	Bevel Point™, graduated	1 - 200	C	-	10 racks, 96 each	960	**613-0299**
	Bevel Point™, graduated	1 - 200	C	-	5 racks, 192 each	960	**613-0296**
	UltraFine™, graduated, Rainin® LTS™ style	1 - 200	R	-	10 racks, 96 each	960	**613-0579**
	UltraFine™, FlexTop™, extended	1 - 200	C	-	6 racks, 96 each	576	**732-0501**
	UltraFine™, FlexTop™, graduated	1 - 200	C	-	10 racks, 96 each	960	**732-0505**
	UltraFine™, FlexTop™, graduated	1 - 200	C	-	10 racks, 96 each	960	**613-1634**
	Bevel Point™, wide orifice	1 - 250	E	-	10 racks, 96 each	960	**736-0205**
	Low binding, Slik, wide orifice	1 - 250	E	-	10 racks, 96 each	960	**613-0371**
	UltraFine™	1 - 250	F	-	10 racks, 96 each	960	**613-0304**
	UltraFine™, Low binding, Slik	1 - 250	F	-	10 racks, 96 each	960	**613-0374**
	Bevel Point™	1 - 300	G	-	10 racks, 96 each	960	**613-0266**
	Bevel Point™	1 - 300	G	-	5 racks, 192 each	960	**613-0357**
	Bevel Point™, Low binding, Slik	1 - 300	G	-	10 racks, 96 each	960	**613-0381**
	UltraFine™, FlexTop™, graduated	1 - 300	G	-	6 racks, 96 each	576	**613-0332**
	Bevel Point™	100 - 1000	L	-	6 racks, 96 each	576	**613-0341**
	Bevel Point™, graduated	100 - 1000	L	-	5 racks, 96 each	480	**613-0366**
	Bevel Point™, graduated	100 - 1000	L	-	6 racks, 96 each	576	**613-0344**
	UltraFine™, Rainin® LTS™ style	100 - 1000	S	-	6 racks, 96 each	576	**613-0582**
	UltraFine™, FlexTop™, extended	100 - 1250	I	-	6 racks, 96 each	576	**613-0273**
	UltraFine™, Low binding, Slik	100 - 1250	I	-	6 racks, 96 each	576	**613-0378**
	Wide orifice	100 - 1250	I	-	6 racks, 96 each	576	**613-0750**

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	Type	Capacity (µl)	Compatibility	Sterile	Packed	Pk	Cat. No.
Racked, sterile							
	Slik, graduated	0,1 - 10	A	+	12 racks, 96 each	1.152	**613-2296**
	UltraFine™, extended	0,1 - 10	A	+	10 racks, 96 each	960	**613-0261**
	UltraFine™, graduated	0,1 - 10	A	+	12 racks, 96 each	1.152	**613-0335**
	UltraFine™, graduated, siliconised	0,1 - 10	A	+	12 racks, 96 each	1.152	**613-0337**
	Bevel Point™, graduated	0,5 - 10	B	+	10 racks, 96 each	960	**613-0256**
	UltraFine™, Rainin® LTS™ style	0,5 - 20	Q	+	10 racks, 96 each	960	**613-0577**
	Graduated	0,1 - 30	A	+	10 racks, 96 each	960	**613-0638**
	UltraFine™	1 - 50	A	+	10 racks, 384 each	3.840	**732-0557**
	Bevel Point™	1 - 100	D	+	10 racks, 96 each	960	**613-0352**
	Bevel Point™	1 - 100	D	+	5 racks, 192 each	960	**613-0353**
	Standard	1 - 200	C	+	10 racks, 96 each	960	**613-0360**
	Standard (yellow)	1 - 200	C	+	10 racks, 96 each	960	**613-0248**
	Bevel Point™	1 - 200	C	+	10 racks, 96 each	960	**613-0242**
	Bevel Point™	1 - 200	C	+	5 racks, 192 each	960	**613-0238**
	Bevel Point™, graduated	1 - 200	C	+	10 racks, 96 each	960	**613-0300**
	Bevel Point™, graduated	1 - 200	C	+	5 racks, 192 each	960	**613-0297**
	Bevel Point™, Low binding, Slik	1 - 200	C	+	10 racks, 96 each	960	**613-0286**
	Bevel Point™, siliconised	1 - 200	C	+	10 racks, 96 each	960	**613-0279**
	UltraFine™, graduated, Rainin® LTS™ style	1 - 200	R	+	10 racks, 96 each	960	**613-0580**
	UltraFine™, FlexTop™, extended	1 - 200	C	+	6 racks, 96 each	576	**732-0502**
	UltraFine™, FlexTop™, graduated	1 - 200	C	+	10 racks, 96 each	960	**732-0506**
	Bevel Point™, wide orifice	1 - 250	E	+	10 racks, 96 each	960	**736-0206**
	Low binding, Slik, wide orifice	1 - 250	E	+	10 racks, 96 each	960	**613-0372**
	UltraFine™	1 - 250	F	+	10 racks, 96 each	960	**613-0362**
	UltraFine™, Low binding, Slik	1 - 250	F	+	10 racks, 96 each	960	**613-0375**
	Bevel Point™	1 - 300	G	+	10 racks, 96 each	960	**613-0267**
	Bevel Point™	1 - 300	G	+	5 racks, 192 each	960	**613-0358**
	Bevel Point™, Low binding, Slik	1 - 300	G	+	10 racks, 96 each	960	**613-0382**
	UltraFine™, FlexTop™, graduated	1 - 300	G	+	6 racks, 96 each	576	**613-0333**
	Bevel Point™	100 - 1000	L	+	6 racks, 96 each	576	**613-0342**
	Bevel Point™, graduated	100 - 1000	L	+	6 racks, 96 each	576	**613-0345**
	UltraFine™, Rainin® LTS™ style	100 - 1000	S	+	6 racks, 96 each	576	**613-0583**
	UltraFine™, FlexTop™, extended	100 - 1250	I	+	6 racks, 96 each	576	**613-0274**
	UltraFine™, Low binding, Slik	100 - 1250	I	+	6 racks, 96 each	576	**613-0379**
	Wide orifice	100 - 1250	I	+	6 racks, 96 each	576	**613-0751**
Refill system							
	UltraFine™, graduated	0,1 - 10	A	-	Reload system	1.152	**613-0262**
	UltraFine™, graduated, sterile	0,1 - 10	A	-	Reload system	1.152	**613-0263**
	Bevel Point™	1 - 100	D	-	Reload system	960	**613-0249**
	Bevel Point™, sterile	1 - 100	D	-	Reload system	960	**613-0354**
	Bevel Point™	1 - 200	C	-	Reload system	960	**613-0231**
	Bevel Point™, sterile	1 - 200	C	-	Reload system	960	**613-0233**
	Bevel Point™, graduated	1 - 200	C	-	Reload system	960	**613-0290**
	Bevel Point™, graduated, sterile	1 - 200	C	-	Reload system	960	**613-0292**
	Bevel Point™, wide orifice	1 - 250	E	-	Reload system	960	**613-0229**
	UltraFine™	1 - 250	F	-	Reload system	960	**613-0363**
Stack rack							
	Bevel Point™	1 - 100	D	-	5 Stack racks, 192 each	960	**613-0250**
	Bevel Point™	1 - 200	C	-	10 Stack racks, 96 each	960	**613-0368**
	Bevel Point™ (yellow)	1 - 200	C	-	10 Stack racks, 96 each	960	**613-0243**
	Bevel Point™	1 - 200	C	-	5 Stack racks, 192 each	960	**613-0235**
	Bevel Point™, graduated	1 - 200	C	-	10 Stack racks, 96 each	960	**613-0301**
	Bevel Point™, graduated	1 - 200	C	-	5 Stack racks, 192 each	960	**613-0294**
Stack rack refill							
	Bevel Point™	1 - 200	C	-	10 Stack rack refills, 96 each	960	**613-0244**
	Bevel Point™	1 - 200	C	-	5 Stack rack refills, 192 each	960	**613-0236**
	Bevel Point™, graduated	1 - 200	C	-	10 Stack rack refills, 96 each	960	**613-0302**
	Bevel Point™, graduated	1 - 200	C	-	5 Stack rack refills, 192 each	960	**613-0295**
	Bevel Point™, graduated, sterile	1 - 200	C	-	160 Stack rack refills, 96 each	15.360	**613-0350**
Pak Rak™ refill							
	Standard	1 - 200	C	-	Pak Rak™ Refill	960	**613-0361**
	Standard (yellow)	1 - 200	C	-	Pak Rak™ Refill	960	**613-0245**
	Bevel Point™, graduated (Starter-Kit, 10×96)	1 - 200	C	-	Starter-Kit, Pak Rak™- refill	1	**613-0320**
	UltraFine™, Low Binding, Slik	100 - 1250	I	-	Pak Rak™ Refill	576	**613-0376**
	Wide orifice	100 - 1250	I	-	Pak Rak™ Refill	576	**613-0748**

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Type	Capacity (µl)	Compatibility	Sterile	Packed	Pk	Cat. No.
Pak Rak™ Express refill						
UltraFine™, extended	0,1 - 10	A	-	Pak Rak™ Express Refill	1.344	**613-0258**
UltraFine™, Rainin® LTS™ style	0,5 - 20	Q	-	Pak Rak™ Express Refill	1.056	**613-0632**
Graduated	0,1 - 30	A	-	Pak Rak™ Express Refill	1.344	**613-0635**
Bevel Point™	1 - 100	D	-	Pak Rak™ Express Refill	960	**613-0355**
Bevel Point™, sterile	1 - 100	D	-	Pak Rak™ Express Refill	960	**613-0356**
Bevel Point™	1 - 200	C	-	Pak Rak™ Express Refill	960	**613-0232**
Bevel Point™, sterile	1 - 200	C	-	Pak Rak™ Express Refill	960	**613-0234**
Bevel Point™, graduated	1 - 200	C	-	Pak Rak™ Express Refill	960	**613-0291**
Bevel Point™, graduated, sterile	1 - 200	C	-	Pak Rak™ Express Refill	960	**613-0293**
Bevel Point™, Low Binding, Slik	1 - 200	C	-	Pak Rak™ Express Refill	960	**613-0284**
UltraFine™, graduated, Rainin® LTS™ style	1 - 200	R	-	Pak Rak™ Express Refill	960	**613-0633**
UltraFine™, FlexTop™, graduated	1 - 200	C	-	Pak Rak™ Express Refill	960	**732-0503**
UltraFine™, FlexTop™, graduated	1 - 300	G	-	Pak Rak™ Express Refill	768	**613-0631**
UltraFine™, Rainin® LTS™ style	100 - 1000	S	-	Pak Rak™ Express Refill	576	**613-0634**
UltraFine™, FlexTop™, extended	100 - 1250	I	-	Pak Rak™ Express Refill	576	**613-0271**
Individually wrapped, sterile						
Bevel Point™	1 - 200	C	+	Individually wrapped	200	**613-0230**
Bevel Point™, graduated	1 - 200	C	+	Individually wrapped	200	**613-0289**
Bevel Point™	1 - 300	G	+	Individually wrapped	200	**613-0264**
Bevel Point™, graduated	100 - 1000	L	+	Individually wrapped	200	**613-0359**
UltraFine™, FlexTop™, extended	100 - 1250	I	+	Individually wrapped	200	**613-0367**

Pipette tips, refill, Next Generation

Tips made from pure resins, packaging made from renewable materials

The Next Generation pipette tip refill system is a revolution in pipette tip refills. It goes far beyond other reload systems to bring a complete refilling solution to the laboratory. With a simple lift, place and snap, the user can refill VWR and other brands of pipette tip racks with 17 different styles of tips.

Far beyond simple recycle coding, the Next Generation is a complete system designed with a low carbon footprint that includes the first ever use of bioplastic (non petroleum) compostable resin in pipette tip refills. Next Generation's small footprint extends to the packaging, with a reclosable box that helps maximise storage space in crowded laboratories.

- Easy to use refill system - new pipette tip racks, inserts and transfer cover prevent tip wobbling during refill and keeps tips clean
- 95% renewable materials - compostable tip base from organic non petroleum resin, carton made from 100% recycled fibres, printing is soy-based vegetable ink
- Certified DNA-/RNase-/DNase-free

Packaging: Compact, reclosable packaging with reduced overall weight.

Type	Capacity (µl)	Compatibility	Sterile	Packed	Pk	Cat. No.
Standard	0,1 - 10	A	+	13 racks, 96 each	1.248	**613-1647**
Graduated	0,1 - 10	A	-	6 racks, 96 each	576	**613-2104**
UltraFine™	0,1 - 10	A	-	13 racks, 96 each	1.248	**613-1646**
Low binding, Slik	0,1 - 10	A	-	13 racks, 96 each	1.248	**613-1644**
Low binding, Slik	0,1 - 10	A	+	13 racks, 96 each	1.248	**613-1645**
Low binding, Slik	0,1 - 10	A	-	6 racks, 96 each	576	**613-2133**
Extended, micro	0,1 - 10	A	-	14 racks, 96 each	1.344	**613-0735**
Extended, micro	0,1 - 10	A	+	14 racks, 96 each	1.344	**613-0736**
Extended, micro, Ultrafine™	0,1 - 10	A	-	5 racks, 96 each	480	**613-2105**
Rainin® LTS™ style	0,2 - 20	Q	-	5 racks, 96 each	480	**613-2109**
Rainin® LTS™ style	0,2 - 20	Q	-	11 racks, 96 each	1.056	**613-0721**
Rainin® LTS™ style	0,2 - 20	Q	+	11 racks, 96 each	1.056	**613-0722**
Low binding, Slik, mini	0,5 - 250	F	-	5 racks, 96 each	480	**613-2134**
Rainin® LTS™ style	0,5 - 250	R	-	10 racks, 96 each	960	**613-0727**
Rainin® LTS™ style	0,5 - 250	R	+	10 racks, 96 each	960	**613-0728**
Eppendorf® style, yellow	1 - 100	E	-	10 racks, 96 each	960	**613-0734**
Yellow	1 - 200	B	-	10 racks, 96 each	960	**613-0732**

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Type	Capacity (µl)	Compatibility	Sterile	Packed	Pk	Cat. No.
Yellow	1 - 200	B	+	10 racks, 96 each	960	**613-0733**
Yellow	1 - 200	B	-	5 racks, 96 each	480	**613-2106**
Standard	1 - 200	C	-	10 racks, 96 each	960	**613-0740**
Graduated	1 - 200	C	-	10 racks, 96 each	960	**613-0742**
Graduated	1 - 200	C	+	10 racks, 96 each	960	**613-0743**
Graduated	1 - 200	C	-	5 racks, 96 each	480	**613-2107**
Rainin® LTS™ style	1 - 200	R	-	5 racks, 96 each	480	**613-2110**
Low binding, Slik, mini	1 - 200	L	-	5 racks, 96 each	480	**613-2132**
Low binding, Slik	1 - 200	L	-	10 racks, 96 each	960	**613-0741**
Wide orifice	1 - 200	G	-	10 racks, 96 each	960	**613-0731**
Ultrafine™	1 - 200	I	-	10 racks, 96 each	960	**613-0725**
Ultrafine™	1 - 200	I	+	10 racks, 96 each	960	**613-0726**
Ultrafine™, FlexTop™	1 - 200	I	-	5 racks, 96 each	480	**613-2108**
Low binding, Slik	1 - 250	F	-	10 racks, 96 each	960	**613-0745**
Ultrafine™	1 - 250	F	-	10 racks, 96 each	960	**613-0744**
Ultrafine™	1 - 300	G	-	6 racks, 96 each	576	**613-0723**
Ultrafine™	1 - 300	G	+	6 racks, 96 each	576	**613-0724**
Rainin® LTS™ style	100 - 1000	S	-	5 racks, 96 each	480	**613-0729**
Rainin® LTS™ style	100 - 1000	S	+	5 racks, 96 each	480	**613-0730**
Wide orifice	100 - 1250	H	-	5 racks, 96 each	480	**613-0737**
Low binding, Slik	100 - 1250	I	-	5 racks, 96 each	480	**613-0746**
Low binding, Slik	100 - 1250	I	+	5 racks, 96 each	480	**613-0747**
Ultrafine™	100 - 1250	I	-	5 racks, 96 each	480	**613-0738**
Ultrafine™	100 - 1250	I	+	5 racks, 96 each	480	**613-0739**

Description	Pk	Cat. No.
Accessories		
Boxes for 10 µl tips, empty	12	**613-0383**
Boxes for 1 - 250 µl tips, empty	10	**613-0307**
Boxes for 100 - 1250 µl tips, empty	6	**613-0306**

Pipette tips, reload system

Clear PP, sterile or non sterile, autoclavable

- Non sterile tips are free from DNA, DNase and RNase; E-beam sterilised tips are free from DNA, DNase and RNase, pyrogens, PCR inhibitors and endotoxins
- Robust, traceable racks are easy to grab with their ergonomic clips
- Reload boxes including racks or empty reload boxes are also available and feature flip lock latch for one handed opening and closing, reversible lid with lip, flush fitting and click clip to stabilise the racks

Description	Channels	Volume (µl)	613-1068 613-1075 613-1082 613-1093 613-1100	613-1069 613-1076 613-1083	613-1067 613-1074 613-1081	613-1064 613-1065 613-1072 613-1079 613-1089 613-1090 613-1096 613-1097	613-1066 613-1073 613-1080 613-1091 613-1092 613-1098 613-1099	613-1063 613-1071 613-1078 613-1088 613-1095	613-1062 613-1070 613-1077 613-1087 613-1094
VWR Collection EHP/UHP	SC	0,2-2	√	√	√				
VWR Collection EHP/UHP	SC	0,5-10	√	√					
VWR Collection EHP/UHP	SC	2-20				√	√	√	
VWR Collection EHP/UHP	SC	10-100				√	√		
VWR Collection EHP/UHP	SC	20-200				√	√	√	
VWR Collection EHP/UHP	SC	100-1000							√
VWR Collection EHP/UHP	MC8	1-10	√	√	√				
VWR Collection EHP/UHP	MC8-12	20-200				√	√		
Eppendorf Reference 2000 (yellow)	SC	2-20				√	√		
Eppendorf Reference & Reference 2000	SC	0,5-10	√	√	√				
Eppendorf Reference & Reference 2000 (grey)	SC	2-20	√	√	√				
Eppendorf Reference & Reference 2000	SC	50-200				√	√		
Eppendorf Reference & Reference 2000	SC	200-1000							√
Eppendorf Research 2100	MC	0,5-10	√	√	√				
Eppendorf Research & Research 2100	SC	2-20				√	√		
Eppendorf Research & Research 2100	SC	20-200				√	√		
Eppendorf Research & Research 2100	SC	100-1000							√
Finnpipette	SC	40-200				√	√	√	
Finnpipette	MC	5-50				√	√	√	
Finnpipette & Finnpipette II	SC	5-50				√	√	√	
Finnpipette & Finnpipette II	SC	20-200				√	√	√	
Finnpipette & Finnpipette II	SC	200-1000							√
Finnpipette & Finnpipette II	MC	0,5-10	√	√	√				
Finnpipette & Finnpipette II	MC	50-300						√	
Finnpipette Focus	SC	1-10				√	√		
Finnpipette Focus	SC	10-100				√	√	√	

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Finnpipette Focus	SC	30-300				√			
Finnpipette Focus	SC	100-1000							√
Finnpipette Focus	MC	1-10	√	√	√				
Finnpipette Focus	MC	5-50				√	√	√	
Finnpipette II	SC	100-1000							√
Finnpipette Micro & Finnpipette II	SC	0,5-10	√	√	√				
Gilson Pipetman P-10	SC	0,5-10	√	√					
Gilson Pipetman P-20	SC	2-20				√	√		
Gilson Pipetman P-100	SC	10-100				√	√	√	
Gilson Pipetman P-200	SC	50-200				√	√	√	
Gilson Pipetman P-1000	SC	100-1000							√
Sartorius eLine®	SC	0,2-10	√	√					
Sartorius eLine®	MC8	0,2-10	√	√					
Sartorius eLine®	MC8	5-120						√	
Sartorius mLine®	SC	0,5-10	√	√					
Sartorius mLine®	SC	10-100						√	
Sartorius mLine®	SC	20-200						√	
Sartorius mLine®	SC	100-1000							√
Sartorius mLine®	MC	0,5-10	√	√					
Sartorius mLine®	MC	5-100						√	
Brand Transferpette®	SC	0,5-10	√	√	√				
Brand Transferpette®	SC	5-50				√	√		
Brand Transferpette®	SC	10-100				√	√		
Brand Transferpette®	SC	20-200				√	√	√	
Brand Transferpette®	MC12	2,5-25				√	√		
Brand Transferpette®	MC12	5-50				√	√		
Brand Transferpette®	MC12	10-100				√	√		

	Type	Capacity (µl)	Packed	Pk	Cat. No.
Bulk (1000 tips per pack)					
	Micro, graduated	0,1 - 10	Bulk	1.000	**613-1068**
	Micro, extra long, graduated	0,1 - 10	Bulk	1.000	**613-1069**
	Micro, Eppendorf type	0,5 - 20	Bulk	1.000	**613-1067**
	Graduated, bevelled	1 - 200	Bulk	1.000	**613-1065**
	Graduated, bevelled (yellow)	1 - 200	Bulk	1.000	**613-1064**
	Micro	1 - 200	Bulk	1.000	**613-1066**
	Graduated, bevelled	5 - 300	Bulk	1.000	**613-1063**
	Graduated	100 - 1250	Bulk	1.000	**613-1062**
Racked (10 racks of 96 tips per pack)					
	Micro, graduated	0,1 - 10	10 racks, 96 each	960	**613-1075**
	Micro, extra long, graduated	0,1 - 10	10 racks, 96 each	960	**613-1076**
	Micro, Eppendorf type	0,5 - 20	10 racks, 96 each	960	**613-1074**
	Graduated, bevelled	1 - 200	10 racks, 96 each	960	**613-1072**
	Micro	1 - 200	10 racks, 96 each	960	**613-1073**
	Graduated, bevelled	5 - 300	10 racks, 96 each	960	**613-1071**
	Graduated	100 - 1250	10 racks, 96 each	960	**613-1070**
Racked, sterile (10 racks of 96 tips per pack)					
	Micro, graduated	0,1 - 10	10 racks, 96 each	960	**613-1082**
	Micro, extra long, graduated	0,1 - 10	10 racks, 96 each	960	**613-1083**
	Micro, Eppendorf type	0,5 - 20	10 racks, 96 each	960	**613-1081**
	Graduated, bevelled	1 - 200	10 racks, 96 each	960	**613-1079**
	Micro	1 - 200	10 racks, 96 each	960	**613-1080**
	Graduated, bevelled	5 - 300	10 racks, 96 each	960	**613-1078**
	Graduated	100 - 1250	10 racks, 96 each	960	**613-1077**
Reload (5 inserts of 96 tips per stack / 2 stacks per pack)					
	Micro, graduated	0,1 - 10	Stack rack includes 5 racks, 96 each	960	**613-1093**
	Graduated	1 - 200	Stack rack includes 5 racks, 96 each	960	**613-1090**
	Graduated (yellow)	1 - 200	Stack rack includes 5 racks, 96 each	960	**613-1089**
	Micro	1 - 200	Stack rack includes 5 racks, 96 each	960	**613-1091**
	Micro (yellow)	1 - 200	Stack rack includes 5 racks, 96 each	960	**613-1092**
	Graduated, bevelled	5 - 300	Stack rack includes 5 racks, 96 each	960	**613-1088**
	Graduated	100 - 1250	Stack rack includes 5 racks, 96 each	960	**613-1087**
Reload, sterile (5 inserts of 96 tips per stack / 2 stacks per pack)					
	Micro, graduated	0,1 - 10	Stack rack includes 5 racks, 96 each	960	**613-1100**
	Graduated	1 - 200	Stack rack includes 5 racks, 96 each	960	**613-1097**
	Graduated (yellow)	1 - 200	Stack rack includes 5 racks, 96 each	960	**613-1096**
	Micro	1 - 200	Stack rack includes 5 racks, 96 each	960	**613-1098**
	Micro (yellow)	1 - 200	Stack rack includes 5 racks, 96 each	960	**613-1099**
	Graduated, bevelled	5 - 300	Stack rack includes 5 racks, 96 each	960	**613-1095**
	Graduated	100 - 1250	Stack rack includes 5 racks, 96 each	960	**613-1094**
Empty rack for reload (10 empty racks per pack)					
	Empty rack	10 - 20	10 boxes/pack	10	**613-1086**
	Empty rack	200 - 300	10 boxes/pack	10	**613-1085**
	Empty rack	1000 - 1250	10 boxes/pack	10	**613-1084**

SC: Single channel pipette / MC: Multi channel pipette

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For more compatibility information, please contact VWR Customer Services.

Capillary tips for gel loading

Non bevelled capillary section, non graduated, compatibility type H

- The thin capillary fits between gel plates to allow the user to accurately fill the wells between the teeth of the gel comb
- With wide sealing areas to also fit older pipette barrels

Capillary length: 30 mm

Capacity (µl)	Sterile	Packed	Pk	Cat. No.
1 - 200	-	Bulk	1.000	**613-0257**
1 - 200	-	6 racks, 96 each	576	**732-0508**
1 - 200	+	6 racks, 96 each	576	**732-0509**

Pipette tips, standard

Non sterile, autoclavable

- Universal tips are compatible with most micropipettes
- Smooth inside surface finish for minimum retention of dispensed liquid

Colour: Transparent (0,5 - 10 µl), yellow (2 - 200 µl and 5 - 200 µl), blue (200 - 1000 µl)

Ordering information: Supplied loose or in racks holding 96 tips.

Capacity (µl)	Colour code	Sterile	Packed	Pk	Cat. No.
0,5 - 10	Transparent	-	Bulk	500	**613-1052**
0,5 - 10	Transparent	-	10 racks, 96 each	960	**613-1055**
2 - 200	Yellow	-	Bulk	500	**613-1051**
2 - 200	Yellow	-	10 racks, 96 each	960	**613-1053**
5 - 200	Yellow	-	Bulk	500	**613-1056**
5 - 200	Yellow	-	10 racks, 96 each	960	**613-1057**
200 - 1000	Blue	-	Bulk	500	**613-1050**
200 - 1000	Blue	-	10 racks, 96 each	960	**613-1054**

Pipette tips, universal

PP, autoclavable

- Manufactured without lubricants
- Cadmium-free pigments
- Environmentally friendly packaging systems

Colour: Yellow (2 - 200 µl), blue (50 - 1000 µl)

Length: 50 mm (2 - 200 µl), 70 mm (50 - 1000 µl)

	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
	2 - 200	-	Bulk	1.000	**612-5755**
	50 - 1000	-	Bulk	1.000	**612-5756**

Pipette tips, Macro

Transparent, sterile or non sterile

These pipette tips fit most popular macro pipettes. They are available graduated or non graduated.

- Every lot tested: RNase/DNase-, Endotoxin-, Protease-, ATP- and BPA-free
- Reclosable and recyclable low carbon packaging

Type	Capacity (ml)	Sterile	Packed	Pk	Cat. No.
For VWR®, Gilson® (Classic, G and L), Rainin® Classic, Oxford® Benchmate, Labnet discovery					
Graduated	1 - 5	-	49/rack	49	**613-2143**
Graduated	1 - 5	+	49/rack	49	**613-2144**
For Eppendorf® (Research®, Research® Plus/Pro), Sartorius (Proline®)					
Graduated	1 - 5	-	49/rack	49	**613-2145**
Graduated	1 - 5	+	49/rack	49	**613-2146**
For Sartorius (mLine®, Proline® Plus), Gilson® (Classic, G and L), Rainin® Classic, Nichiryo® and Acura 835®					
Clear	1 - 5	-	49/rack	49	**613-2147**
Clear	1 - 5	+	49/rack	49	**613-2148**
For VWR®, Gilson® (Classic and Ultra), Rainin® Classic, Sartorius (mLine®, Proline® Plus)					
Clear	10	-	36/rack	36	**613-2149**
Clear	10	+	36/rack	36	**613-2150**

Pipette tips, epT.I.P.S.® Standard

Eppendorf

These tips feature an ergonomically optimised cone geometry which provides an improved tip seal.

- High quality tips in resealable bags
- Ergonomic design
- Cone with supple, flexible tip gives a better pipette tip seal

Colour: Transparent (except for yellow 2 - 200/20 - 300 µl tips and blue 50 - 1000 µl tips)

Packaging: Bulk in resealable bags.

	Capacity (µl)	Length (mm)	Colour code	Sterile	Packed	Pk	Cat. No.
	0,1 - 10	34	Dark Grey	-	Bulk, 2 bags × 500 tips	1.000	**613-3500**
	0,1 - 20	40	Grey	-	Bulk, 2 bags × 500 tips	1.000	**613-3501**
	0,5 - 20	46	Light Grey	-	Bulk, 2 bags × 500 tips	1.000	**613-3502**
	2 - 200	53	Yellow	-	Bulk, 2 bags × 500 tips	1.000	**613-3503**
	20 - 300	55	Orange	-	Bulk, 2 bags × 500 tips	1.000	**613-3504**
	50 - 1000	71	Blue	-	Bulk, 2 bags × 500 tips	1.000	**613-3505**
	50 - 1250	76	Green	-	Bulk, 2 bags × 500 tips	1.000	**613-3506**
	500 - 2500	115	Red	-	Bulk, 2 bags × 500 tips	500	**613-3507**
	100 - 5000	120	Purple	-	Bulk, 2 bags × 500 tips	500	**613-3508**
	1000 - 10000	165	Turquoise	-	Bulk, 2 bags × 500 tips	200	**613-4269**
	1000 - 10000	243	Turquoise	-	Bulk, 2 bags × 500 tips	200	**613-4270**

Pipette tips, epT.I.P.S.® reloads

Eppendorf

A compact system for refilling epT.I.P.S.® Available as one filled box of tips; a set comprising one box and five trays of tips; and reloads of ten tip trays. Components are 100% recyclable.

- Optimised system for multi channel pipettes
- Reloads available in a PCR clean version: Free of human DNA, DNase, RNase and PCR inhibitors

	Capacity (µl)	Colour code	Sterile	Packed	Pk	Cat. No.
epT.I.P.S. reloads						
	0,1 - 10	Dark Grey	-	10 trays, 96 each	960	**613-3552**
	0,1 - 20	Grey	-	10 trays, 96 each	960	**613-3553**
	0,5 - 20	Light Grey	-	10 trays, 96 each	960	**613-3554**
	2 - 200	Yellow	-	10 trays, 96 each	960	**613-3555**

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	Capacity (µl)	Colour code	Sterile	Packed	Pk	Cat. No.
epT.I.P.S. reloads						
	20 - 300	Orange	-	10 trays, 96 each	960	**613-3556**
	50 - 1000	Blue	-	10 trays, 96 each	960	**613-3557**
	50 - 1250	Green	-	10 trays, 96 each	960	**613-3558**
	500 - 2500	Red	-	10 trays, 48 each	480	**613-3559**
epT.I.P.S. reloads PCR clean						
	0,1 - 10	Dark Grey	-	10 trays, 96 each	960	**613-3560**
	0,1 - 20	Grey	-	10 trays, 96 each	960	**613-3561**
	0,5 - 20	Light Grey	-	10 trays, 96 each	960	**613-3562**
	2 - 200	Yellow	-	10 trays, 96 each	960	**613-3563**
	20 - 300	Orange	-	10 trays, 96 each	960	**613-3564**
	50 - 1000	Blue	-	10 trays, 96 each	960	**613-3565**
	50 - 1250	Green	-	10 trays, 96 each	960	**613-3566**
	500 - 2500	Red	-	10 trays, 48 each	480	**613-3567**
epT.I.P.S. box						
	0,1 - 10		-	1 box incl. 96	96	**613-3535**
	0,1 - 20		-	1 box incl. 96	96	**613-3536**
	0,5 - 20		-	1 box incl. 96	96	**613-3537**
	2 - 200		-	1 box incl. 96	96	**613-3538**
	20 - 300		-	1 box incl. 96	96	**613-3539**
	50 - 1000		-	1 box incl. 96	96	**613-3540**
	50 - 1250		-	1 box incl. 96	96	**613-3541**
	500 - 2500		-	1 box incl. 48	48	**613-3542**
	100 - 5000		-	1 box incl. 24	24	**613-3543**
epT.I.P.S. set						
	0,1 - 10		-	1 box incl. 5 racks, 96 each	480	**613-3544**
	0,1 - 20		-	1 box incl. 5 racks, 96 each	480	**613-3545**
	0,5 - 20		-	1 box incl. 5 racks, 96 each	480	**613-3546**
	2 - 200		-	1 box incl. 5 racks, 96 each	480	**613-3547**
	20 - 300		-	1 box incl. 5 racks, 96 each	480	**613-3548**
	50 - 1000		-	1 box incl. 5 racks, 96 each	480	**613-3549**
	50 - 1250		-	1 box incl. 5 racks, 96 each	480	**613-3550**
	500 - 2500		-	1 box incl. 5 racks, 48 each	240	**613-3551**

STERILE IVD

Pipette tips, epT.I.P.S. Biopur®
Eppendorf

Sterile

Tips free of DNA, DNase, RNase and pyrogens. Conform to the highest standards for use in medical and pharmaceutical environments, the food industry, and in molecular and cellular biology applications.

- Available as epT.I.P.S.® Singles (packaged individually) or as epT.I.P.S.® Racks (boxes containing racks of 96, 48 or 24 tips depending on tip volume)

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	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
epT.I.P.S. Biopur® Singles					
	0,1 - 20	+	Individually wrapped	100	**613-3509**
	2 - 200	+	Individually wrapped	100	**613-3510**
	50 - 1000	+	Individually wrapped	100	**613-3511**
epT.I.P.S. Biopur® Racks					
	0,1 - 20	+	5 racks, 96 each	480	**613-3568**
	2 - 200	+	5 racks, 96 each	480	**613-3569**
	20 - 300	+	5 racks, 96 each	480	**613-3570**
	50 - 1000	+	5 racks, 96 each	480	**613-3571**
	50 - 1250	+	5 racks, 96 each	480	**613-3572**
	500 - 2500	+	5 racks, 48 each	240	**613-3573**
	1000 - 10000	+	5 racks, 24 each	120	**732-0095**

IVD

Pipette tips, GELoader®
Eppendorf

- For applications such as gel electrophoresis

Length: 62 mm

Capacity (µl)	Sterile	Packed	Pk	Cat. No.
0,5 - 20	-	2 racks, 96 each	192	**612-7965**

IVD

Pipette tips
Biotix

PP, transparent, low-binding

This new generation of tips form an excellent seal on both single and multi channel pipettes and guarantee total recovery of the sample whilst protecting the technician against the risks of repetitive strain injury. The tips are manufactured with proprietary technologies for increased pipetting accuracy and precision.

- FlexFit™ provides a flexible nature at the proximal end of the tip to reduce the insertion and ejection forces when using a pipette
- Blade™ technology eliminates hanging drops at the distal end of the tip
- X-Resin™ and Chem-Resin™ tips are available to meet specific applications
- Certified free of DNA, DNase, RNase, and endotoxins (pyrogens)

Tips made from our proprietary **X-Resin™** feature industry-leading low retention surface for maximum sample recovery. Robust sample recovery supports performance and data accuracy in today's most sensitive assays.

Chem-Resin™ provides a more neutral surface tension for working with polar solvents or highly electronegative reagents; the reduced hydrophobicity on the surface facilitates low volume draw and drip-free dispense of these classes of chemicals.

Ultra-Micro tips are specifically designed to meet the needs of laboratories working with ultra-low sample volumes. These ultra-micro tips routinely and accurately deliver at volumes of just 1,0 µl; their low capacity improves accuracy by reducing dead air space. The longer tip length enables easy reach into PCR tube and plate bottoms.

IVD labelled. Manufactured under stringent controls in an ISO 9001 certified facility. Every lot is tested for precision assuring maximum quality and compatibility. All raw materials are traceable.

Packaging: Box of 96 tips with Phantom hinge lid for easy rack opening. Item code, colour code and individual barcode on each rack. Each tray includes a label with a unique barcoded serial number, part number, and description for high traceability.

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	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
	X-Resin™	10	+	10 racks, 96 each	960	**613-1376**
	Chem-Resin™	10	-	10 racks, 96 each	960	**613-2839**
	Chem-Resin™	10	+	10 racks, 96 each	960	**613-2831**
	X-Resin™, extended length	10	+	10 racks, 96 each	960	**613-1377**
	Chem-Resin™, extended length	10	-	10 racks, 96 each	960	**613-2840**
	Chem-Resin™, extended length	10	+	10 racks, 96 each	960	**613-1782**
	X-Resin™	200	+	10 racks, 96 each	960	**613-1378**
	Chem-Resin™	200	-	10 racks, 96 each	960	**613-2841**
	Chem-Resin™	200	+	10 racks, 96 each	960	**613-2832**
	X-Resin™	300	+	10 racks, 96 each	960	**613-1379**
	Chem-Resin™	300	-	10 racks, 96 each	960	**613-2842**
	Chem-Resin™	300	+	10 racks, 96 each	960	**613-2833**
	X-Resin™	1250	+	10 racks, 96 each	960	**613-2436**
	Chem-Resin™	1250	-	10 racks, 96 each	960	**613-2843**
	Chem-Resin™	1250	+	10 racks, 96 each	960	**613-2834**

Pipette tips, Tip Eject™ reload system

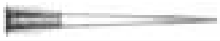
Biotix

Transparent PP, sterile

Tip Eject™ reload system allows convenient reloading to hinged racks without the use of transfer devices. Transparent packaging allows for easy tip identification, while fully protecting tips from contamination due to contact and environmental particulates.

- Easy to use, single-handed operation
- Full protection of tips from exposure to environment and handling
- Audible 'click' ensures secure reload onto rack
- Reduces waste by 80% for a low carbon footprint solution
- Racks withstand numerous autoclave cycles

X-Resin™ tips: High clarity tips for low sample retention and exceptional pipetting accuracy
Chem-Resin™ tips: Ideal when working with polar solvents and other challenging electronegative chemicals

	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
	Chem-Resin™	10	+	20 reload cards, 96 each	1.920	**613-2835**
	Chem-Resin™, extended	10	+	20 reload cards, 96 each	1.920	**613-1777**
	X-Resin™	10	+	20 reload cards, 96 each	1.920	**613-1775**
	X-Resin™, extended	10	+	20 reload cards, 96 each	1.920	**613-1776**
	Chem-Resin™	200	+	12 reload cards, 96 each	1.152	**613-2836**
	X-Resin™	200	+	12 reload cards, 96 each	1.152	**613-1778**

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	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
	Chem-Resin™	300	+	10 reload cards, 96 each	960	**613-2837**
	X-Resin™	300	+	10 reload cards, 96 each	960	**613-1779**
	Chem-Resin™	1250	+	10 reload cards, 96 each	960	**613-2838**
	X-Resin™	1250	+	10 reload cards, 96 each	960	**613-2438**

Description	Pk	Cat. No.
Accessories		
Empty rack for Tip Eject™ reload system, 10 µl	10	**613-3021**
Empty rack for Tip Eject™ reload system, 200 / 300 µl	10	**613-3020**
Empty rack for Tip Eject™ reload system, 1250 µl	10	**613-2437**

Pipette tips, Finntip®

Thermo Scientific

High quality PP, autoclavable

Tips designed to achieve the highest level of performance in terms of accuracy and repeatability in conjunction with Finnpipettes®.

- Unique shape of the collar ensures a leak-free connection to the pipette
- Smooth, hydrophobic surface minimises liquid retention and allows total dispensing of the sample
- Certified RNase, DNase, DNA and endotoxin-free; colour coded racks for rapid identification of the tips to be used

Packaging: Available in different volumes and packaged loose, in racks, in a starter kit (racks and refills) or as a refill kit.

	Capacity (µl)	Length (mm)	Colour code	Sterile	Packed	Pk	Cat. No.
Finntip® 10 µl, colour code: Pink							
	0,2 - 10	32	Pink	-	Bulk	1.000	**613-2601**
	0,2 - 10	32	Pink	-	10 racks, 96 each	960	**613-2599**
	0,2 - 10	32	Pink	+	10 racks, 96 each	960	**613-2600**
Finntip® 20 µl, colour code: Violet							
	0,2 - 20	33	Violet	-	Bulk	1.000	**613-2606**
	0,2 - 20	33	Violet	-	10 racks, 384 each	3.840	**613-2604**
	0,2 - 20	33	Violet	+	10 racks, 384 each	3.840	**613-2605**
Finntip® 50 µl, colour code: Turquoise							
	0,5 - 50	48	Turquoise	-	Bulk	1.000	**613-2603**
	0,2 - 50	48	Turquoise	-	10 racks, 384 each	3.840	**612-6346**
	0,5 - 50	48	Turquoise	+	10 racks, 384 each	3.840	**612-6353**
Finntip® 250 µl, colour code: Yellow							
	0,5 - 250	52	Yellow	-	Bulk	20.000	**613-2594**
	0,5 - 250	52	Yellow	-	Bulk	1.000	**613-2595**
	0,5 - 250	52	Yellow	-	Bulk	500	**613-2596**
	0,5 - 250	52	Yellow	-	10 racks, 96 each	960	**613-2597**
	0,5 - 250	52	Yellow	+	10 racks, 96 each	960	**613-2598**
	0,5 - 250	52	Yellow	-	2×10 refills, 96 each	1.920	**612-6343**
	0,5 - 250	52	Yellow	-	4 racks, 96 each+10 refills, 96 each	1.344	**613-4483**
Finntip® 300 µl, colour code: Orange							
	5 - 300	52	Orange	-	Bulk	20.000	**613-2611**
	5 - 300	52	Orange	-	Bulk	1.000	**613-2615**
	5 - 300	52	Orange	-	10 racks, 96 each	960	**613-2612**
	5 - 300	52	Orange	+	10 racks, 96 each	960	**613-2613**
	5 - 300	52	Orange	-	20 refills, 96 each	1.920	**613-2614**

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	Capacity (µl)	Length (mm)	Colour code	Sterile	Packed	Pk	Cat. No.
Finntip® 1000 µl, colour code: Blue							
	100 - 1000	71	Blue	-	Bulk	10.000	**613-2607**
	100 - 1000	71	Blue	-	Bulk	1.000	**613-2608**
	100 - 1000	71	Blue	-	Bulk	200	**613-2609**
	100 - 1000	71	Blue	-	10 racks, 96 each	960	**612-6378**
	100 - 1000	71	Blue	+	10 racks, 96 each	960	**613-4484**
	100 - 1000	71	Blue	-	10 refills, 96 each	960	**613-4485**
Finntip® 5 ml, colour code: Green							
	1000 - 5000	147	Green	-	Bulk	3.000	**613-2621**
	1000 - 5000	147	Green	-	Bulk	500	**613-2622**
	1000 - 5000	147	Green	-	Bulk	75	**613-2623**
	1000 - 5000	147	Green	-	5 racks, 54 each	270	**613-5009**
	1000 - 5000	147	Green	+	5 racks, 54 each	270	**613-5010**
Finntip® 10 ml, colour code: Red							
	2000 - 10000	150	Red	-	Bulk	40	**613-2626**
	2000 - 10000	150	Red	-	Bulk	100	**613-2627**
	2000 - 10000	150	Red	-	5 racks, 24 each	120	**613-2628**
	2000 - 10000	150	Red	+	5 racks, 24 each	120	**613-2629**

IVD

Pipette tips, Finntip® Flex

Thermo Scientific

High quality PP, autoclavable

New generation of tips offering the user greater flexibility.

- Ergonomic thin wall tip; low attachment and ejection forces
- Non slip rack with hinged cover
- Easy to use refill system

Packaging: Available loose, in racks, in a starter kit (1 rack of 96 and 20 refills of 96) or a refill kit (20 refills of 96).
10 ml tips: Only available in bags.

	Capacity (µl)	Colour code	Sterile	Packed	Pk	Cat. No.
Finntip® Flex 10 µl, length: 33 mm						
	0,2 - 10	Pink	-	10 racks, 96 each	960	**613-0806**
	0,2 - 10	Pink	+	10 racks, 96 each	960	**613-0807**
	0,2 - 10	Pink	-	1 rack of 96 + 20 refills, 96 each	2.016	**613-0808**
	0,2 - 10	Pink	-	20 refills, 96 each	1.920	**613-0809**
	0,2 - 10	Pink	-	Bulk	1.000	**613-0810**
Finntip® Flex 200 µl, length: 60 mm						
	1 - 200	Yellow	-	10 racks, 96 each	960	**613-0797**
	1 - 200	Yellow	+	10 racks, 96 each	960	**613-0798**
	1 - 200	Yellow	-	1 rack of 96 + 20 refills, 96 each	2.016	**613-0799**
	1 - 200	Yellow	-	20 refills, 96 each	1.920	**613-0800**
	1 - 200	Yellow	-	Bulk	1.000	**613-0801**
Finntip® Flex 300 µl, length: 61 mm						
	5 - 300	Orange	-	10 racks, 96 each	960	**613-0190**
	5 - 300	Orange	+	10 racks, 96 each	960	**613-5019**
	5 - 300	Orange	-	1 rack of 96 + 20 refills, 96 each	2.016	**613-5020**
	5 - 300	Orange	-	20 refills, 96 each	1.920	**613-5021**
	5 - 300	Orange	-	Bulk	1.000	**613-5022**
Finntip® Flex 1000 µl, length: 87 mm						
	100 - 1000	Blue	-	10 racks, 96 each	960	**613-0811**
	100 - 1000	Blue	+	10 racks, 96 each	960	**613-0812**
	100 - 1000	Blue	-	1 rack of 96 + 16 refills, 96 each	1.632	**613-0813**
	100 - 1000	Blue	-	16 refills, 96 each	1.536	**613-0814**
	100 - 1000	Blue	-	Bulk	1.000	**613-0815**
Finntip® Flex 1200 µl, length: 87 mm						
	50 - 1200	Turquoise	-	16 refills, 96 each	1.536	**613-0817**
	50 - 1200	Turquoise	-	Bulk	1.000	**613-0818**
Finntip® Flex 10 ml Extended, length: 267 mm						
	1000 - 10000	—	-	Bulk	100	**613-0819**
	1000 - 10000	—	+	Bulk	50	**613-1598**

IVD

Special pipette tips, Finntip®
Thermo Scientific

High quality PP, autoclavable

- Finntip® Extended (200 and 1000 µl): Long, tapered tip especially adapted for deep tubes and narrow-necked bottles
- Finntip® Wide: Tip with a wide, ground orifice for pipetting viscous liquids and fragile suspensions of cells or macromolecules, such as genomic DNA, without fragmentation

Capacity (µl)	Colour code	Sterile	Packed	Pk	Cat. No.
Finntip® 200 Extended, 78 mm, colour code: orange					
5 - 200	Orange	-	Bulk	400	**613-2591**
5 - 200	Orange	-	10 racks, 96 each	960	**613-2592**
5 - 200	Orange	+	10 racks, 96 each	960	**613-2593**
Finntip® 1000 Extended, 105 mm, colour code: blue					
100 - 1000	Blue	-	Bulk	1.000	**613-2620**
100 - 1000	Blue	-	5 racks, 96 each	480	**613-4486**
100 - 1000	Blue	+	5 racks, 96 each	480	**613-4487**
Finntip® Wide					
10 - 250	White	-	Bulk	1.000	**613-2648**
100 - 1000	White	-	Bulk	400	**613-2650**
100 - 1000	White	-	Bulk	6.500	**613-2651**
10 - 250	White	-	10 racks, 96 each	960	**613-2652**
10 - 250	White	+	10 racks, 96 each	960	**613-2653**

IVD STERILE

Pipette tips, Finntip® BioCon
Thermo Scientific

Sterile

Adapted for PCR applications and molecular and cellular biology in the pharmaceutical, medical and food processing industries.

- Sterilised by gamma radiation
- Certified to be free of DNA, DNase, RNase and endotoxins

Ordering information: Supplied with a certificate of quality.

Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
Finntip BioCon 10	0,2 - 10	+	Individually wrapped	100	**613-2664**
Finntip BioCon 250	0,5 - 250	+	Individually wrapped	100	**613-2665**
Finntip BioCon 1000	100 - 1000	+	Individually wrapped	50	**613-2666**

IVD

Pipette tips, ClipTip®
Thermo Scientific

Racks

Reload stacks

Sterile or non sterile

ClipTip® pipette tips provide security with a unique and innovative interlocking technology that ensures a complete seal on every channel with minimal tip attachment and ejection force.

- Pipette tips feature 'clips' that lock tips in place and forms a complete seal
- Every ClipTip® pipette tip utilises low retention technology to enable maximium sample recovery

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- Certified free of RNase, DNase, DNA, ATP and endotoxin contamination
- Each tip insert has ink-jetted lot and volume information; the convenient colour key makes it easy to match the colour of the F1-ClipTip® pipette plunger cap with the corresponding ClipTip® pipette tip rack insert
- Environmentally friendly reload system uses recycled components and 30% less plastic

Capacity (µl)	Length (mm)	Colour code	Sterile	Packed	Pk	Cat. No.
ClipTip® 12,5						
0,5 - 12,5	30	Pink	-	10 racks, 96 each	960	**613-6031**
0,5 - 12,5	30	Pink	+	10 racks, 96 each	960	**613-6032**
0,5 - 12,5	30	Pink	-	10 racks, 384 each	3.840	**613-6025**
0,5 - 12,5	30	Pink	+	10 racks, 384 each	3.840	**613-6026**
ClipTip® 20						
1 - 20	46	Pink	-	10 racks, 96 each	960	**613-2205**
1 - 20	46	Pink	-	10 reload inserts, 96 each	960	**613-2207**
1 - 20	46	Pink	+	10 racks, 96 each	960	**613-2206**
1 - 20	46	Pink	+	10 reload inserts, 96 each	960	**613-2208**
ClipTip® 30						
1 - 30	44	Purple	-	10 racks, 384 each	3.840	**613-6027**
1 - 30	44	Purple	+	10 racks, 384 each	3.840	**613-6028**
ClipTip® 50						
1 - 125	64	Yellow	-	10 racks, 384 each	3.840	**613-6029**
1 - 125	64	Yellow	+	10 racks, 384 each	3.840	**613-6030**
ClipTip® 125						
5 - 50	51	Purple	-	10 racks, 96 each	960	**613-2209**
5 - 50	51	Purple	-	10 reload inserts, 96 each	960	**613-2211**
5 - 50	51	Purple	+	10 racks, 96 each	960	**613-2210**
5 - 50	51	Purple	+	10 reload inserts, 96 each	960	**613-2212**
ClipTip® 200						
10 - 200	56	Yellow	-	10 racks, 96 each	960	**613-2213**
10 - 200	56	Yellow	-	10 reload inserts, 96 each	960	**613-2215**
10 - 200	56	Yellow	+	10 racks, 96 each	960	**613-2214**
10 - 200	56	Yellow	+	10 reload inserts, 96 each	960	**613-2216**
ClipTip® 300						
30 - 300	63	Orange	-	10 racks, 96 each	960	**613-2217**
30 - 300	63	Orange	-	10 reload inserts, 96 each	960	**613-2219**
30 - 300	63	Orange	+	10 racks, 96 each	960	**613-2218**
30 - 300	63	Orange	+	10 reload inserts, 96 each	960	**613-2220**
ClipTip® 1250						
100 - 1000	95	Blue	-	8 racks, 96 each	768	**613-2222**
100 - 1000	95	Blue	-	8 reload inserts, 96 each	768	**613-2224**
100 - 1000	95	Blue	+	8 racks, 96 each	768	**613-2223**
100 - 1000	95	Blue	+	8 reload inserts, 96 each	768	**613-2225**
ClipTip® 1000						
50 - 1250	103	Turquoise	-	8 racks, 96 each	768	**613-6033**
50 - 1250	103	Turquoise	-	8 reload inserts, 96 each	768	**613-6035**
50 - 1250	103	Turquoise	+	8 racks, 96 each	768	**613-6034**
50 - 1250	103	Turquoise	+	8 reload inserts, 96 each	768	**613-6036**

Description	Pk	Cat. No.
Accessories		
Empty rack, medium, colour code yellow + orange	10	**613-2221**
Empty rack, large, colour code blue	8	**613-2226**

Pipette tips, Matrix®
Thermo Scientific

Transparent PP, sterile or non sterile

- Sealing rings on tips ensure confident, leak-free seal on most pipettes
- Tip manufacturing under tight QC specifications ensures low liquid retention without special treatments or additives
- Extended tips allow access to the bottom of test tubes, reagent bottles, flasks and other vessels without touching the pipette barrel against the side of the tube

Packaging: Available bulk, in Flo-Thru racks or in Ecotips refills. Flo-Thru racks individually support tips to prevent them from wobbling when trying to seat them on the pipette. Ecotips refill system is 100% recyclable and offers fast rack reloading in a unique, space saving design.

Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
Standard	10	-	Bulk	1.000	**613-1834**
Standard	10	-	10 racks, 96 each	960	**613-1835**
Standard	12,5	-	10 racks, 384 each	3.840	**613-1852**
Standard	12,5	+	10 racks, 384 each	3.840	**613-1851**
Standard	20	-	Bulk	1.000	**613-1860**
Standard	20	-	10 racks, 96 each	960	**613-1858**
Extended	30	-	Bulk	1.000	**732-1543**
Extended	30	-	10 racks, 96 each	960	**613-1855**
Extended	30	+	10 racks, 96 each	960	**613-1857**

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Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
Standard	30	-	10 racks, 384 each	3.840	**613-1845**
Standard	30	+	10 racks, 384 each	3.840	**613-1856**
Standard	125	-	10 racks, 384 each	3.840	**613-1839**
Standard	125	+	10 racks, 384 each	3.840	**613-1842**
Standard	250	-	Bulk	1.000	**613-1833**
Standard	250	-	10 racks, 96 each	960	**613-1813**
Standard	250	+	10 racks, 96 each	960	**613-1838**
Standard	250	-	10 racks, 96 each (Ecotips refill)	960	**613-1854**
Extended	250	-	Bulk	500	**613-1848**
Extended	250	-	10 racks, 96 each	960	**613-1843**
Extended	250	+	10 racks, 96 each	960	**613-1847**
Standard	300	-	Bulk	1.000	**613-1840**
Standard	300	-	10 racks, 96 each	960	**613-1815**
Standard	300	+	10 racks, 96 each	960	**613-1816**
Extended	300	-	Bulk	500	**732-1541**
Extended	300	-	10 racks, 96 each	960	**613-1844**
Extended	300	+	10 racks, 96 each	960	**613-1849**
Standard	1250	-	Bulk	500	**613-1800**
Standard	1250	-	10 racks, 96 each	960	**613-1853**
Standard	1250	-	10 racks, 96 each (Ecotips refill)	960	**613-1837**
Extended	1250	-	Bulk	500	**613-1859**
Extended	1250	-	10 racks, 96 each	960	**613-2243**
Extended	1250	+	10 racks, 96 each	960	**613-1846**
Extended	1250	-	10 racks, 96 each (Ecotips refill)	960	**613-1836**

Pipette tips, universal, DeckWorks™

Corning®

PP, sterile or non-sterile, graduated

The DeckWorks™ system is designed to maximise storage space and help reduce the production and waste of plastic materials. Both the hinged racks and reload decks within this system are manufactured with recycled plastic.

- Free from DNase, RNase and human DNA
- Non pyrogenic

Type	Capacity (µl)	Colour code	Sterile	Packed	Pk	Cat. No.
Standard tips						
Standard, graduated	0,1 - 10	Natural	-	10 racks, 96 each	3.840	**613-2972**
Standard, graduated	0,1 - 10	Natural	+	10 racks, 96 each	3.840	**613-2977**
Standard, graduated	1 - 200	Natural	-	10 racks, 96 each	3.840	**613-2973**
Standard, graduated	1 - 200	Natural	+	10 racks, 96 each	3.840	**613-2978**
Standard, graduated	1 - 200	Yellow	-	10 racks, 96 each	3.840	**613-2974**
Standard, graduated	1 - 200	Yellow	+	10 racks, 96 each	3.840	**612-4195**
Standard, graduated	1 - 300	Natural	-	10 racks, 96 each	3.840	**613-2975**
Standard, graduated	1 - 300	Natural	+	8 racks, 96 each	3.840	**613-2979**
Standard, graduated	100 - 1000	Natural	-	8 racks, 96 each	3.072	**613-2976**
Standard, graduated	100 - 1000	Natural	+	8 racks, 96 each	3.072	**612-4197**
Low binding tips						
Low binding, graduated	0,1 - 10	Natural	-	10 racks, 96 each	3.840	**613-2980**
Low binding, graduated	0,1 - 10	Natural	+	10 racks, 96 each	3.840	**613-2983**
Low binding, graduated	1 - 200	Natural	-	10 racks, 96 each	3.840	**613-2981**
Low binding, graduated	1 - 200	Natural	+	10 racks, 96 each	3.840	**613-2984**
Low binding, graduated	1 - 300	Natural	-	10 racks, 96 each	3.840	**613-2982**
Low binding, graduated	1 - 300	Natural	+	10 racks, 96 each	3.840	**613-2985**

Reload systems and starter kits, DeckWorks™
Corning®

These reload systems consist of reload decks packaged in transparent trays and filled with tips. They can be used for convenient and economical reloading of the durable DeckWorks™ hinged racks. The pipette tips are made from virgin medical grade resins, the reload decks and rack bases are manufactured from 100% recycled polypropylene.
The low binding tips feature a reduced surface tension on the interior wall of the tip. Leaching and/or subsequent sample degradation associated with silicone-based tips are eliminated. The low binding tips are ideal for quantitative assays in which sample binding can significantly alter results. Specific applications include accurate and precise pipetting of expensive reagents, DNA, proteins and/or peptides.

- Reload decks are packaged in transparent trays for easy tip identification
- Require no transfer devices, save space and minimise packaging waste
- Non sterile decks and racks are autoclavable

Ordering information: The starter kits contain one DeckWorks™ reload system with standard tips and empty hinged racks.

Type	Capacity (µl)	Colour code	Sterile	Packed	Pk	Cat. No.
Standard tips						
Standard	0,1 - 10	Natural	-	960 tips/pack	3.840	**613-1507**
Standard	1 - 200	Natural	-	960 tips/pack	3.840	**613-1508**
Standard	1 - 200	Yellow	-	960 tips/pack	3.840	**613-1509**
Standard	1 - 300	Natural	-	960 tips/pack	3.840	**613-1510**
Standard	100 - 1000	Natural	-	960 tips/pack	3.072	**613-1516**
Low binding tips						
Low binding	0,1 - 10	Natural	-	960 tips/pack	3.840	**613-1517**
Low binding	1 - 200	Natural	-	960 tips/pack	3.840	**613-1518**
Low binding	1 - 300	Natural	-	960 tips/pack	3.840	**613-1519**
Starter kit						
Starter kit	0,1 - 10	Natural	-	960 tips + 10 empty racks per pack	960	**613-1521**
Starter kit	1 - 200	Natural	-	960 tips + 10 empty racks per pack	960	**613-1522**
Starter kit	1 - 200	Yellow	-	960 tips + 10 empty racks per pack	960	**613-1523**
Starter kit	1 - 300	Natural	-	960 tips + 10 empty racks per pack	960	**613-1524**
Starter kit	100 - 1000	Natural	-	768 tips + 8 empty racks per pack	768	**613-1525**

Pipette tips, universal, Axygen®
Corning®

613-0640

613-0646

613-0649

613-0652

613-0656

PP, transparent, autoclavable

- Compatible with most micropipettes
- Smooth finish for minimum retention of collected sample
- Certified free of RNase, DNase and endotoxins

Ordering information: Available loose or in racks, sterile or non sterile versions.

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Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
Microvolume 10 µl					
Standard	0,5 - 10	+	10 racks, 96 each	960	**613-0628**
Standard	0,5 - 10	-	10 racks, 96 each	960	**613-0641**
Standard	0,5 - 10	-	Stack rack incl. 5 racks, 96 each	480	**613-0642**
Standard	0,5 - 10	-	Bulk	1.000	**613-0640**
Microvolume 10 µl, extended					
Extended	0,5 - 10	+	10 racks, 96 each	960	**613-0645**
Extended	0,5 - 10	-	Stack Rack incl. 10 racks, 96 each	960	**613-0644**
Extended	0,5 - 10	-	Bulk	1.000	**613-0643**
Ultra-Micro 20 µl					
Standard	0,5 - 20	+	10 racks, 96 each	960	**613-0648**
Standard	0,5 - 20	-	10 racks, 96 each	960	**613-0647**
Standard	0,5 - 20	-	Bulk	1.000	**613-0646**
200 µl, bevelled					
Bevelled	1 - 200	+	10 racks, 96 each	960	**613-0629**
Bevelled	1 - 200	-	10 racks, 96 each	960	**613-0650**
Bevelled	1 - 200	-	Stack rack incl. 5 racks, 96 each	480	**613-0651**
Bevelled	1 - 200	-	Bulk	1.000	**613-0649**
Bevelled, yellow	1 - 200	-	Bulk	1.000	**613-0901**
200 µl, extended					
Extended	1 - 200	+	10 racks, 96 each	960	**613-0654**
Extended	1 - 200	-	10 racks, 96 each	960	**613-0653**
Extended	1 - 200	-	Stack rack incl. 5 racks, 96 each	480	**613-0655**
Extended	1 - 200	-	Bulk	1.000	**613-0652**
200 µl, bevelled, graduated (10, 50, 100 µl)					
Bevelled, graduated	1 - 200	+	10 racks, 96 each	960	**613-0658**
Bevelled, graduated	1 - 200	-	10 racks, 96 each	960	**613-0657**
Bevelled, graduated	1 - 200	-	Stack rack incl. 5 racks, 96 each	480	**613-0659**
Bevelled, graduated	1 - 200	-	Bulk	1.000	**613-0656**
250 µl, bevelled, graduated (10, 50, 100 µl)					
Bevelled, graduated	1 - 250	+	10 racks, 96 each	960	**613-0662**
Bevelled, graduated	1 - 250	-	10 racks, 96 each	960	**613-0661**
Bevelled, graduated	1 - 250	-	Bulk	1.000	**613-0660**
300 µl, extended					
Extended	1 - 300	+	10 racks, 96 each	960	**613-0668**
Extended	1 - 300	-	10 racks, 96 each	960	**613-0667**
Extended	1 - 300	-	Bulk	1.000	**613-0666**
1000 µl, bevelled					
Bevelled, blue	100 - 1000	-	Bulk	1.000	**613-0965**
Bevelled	100 - 1000	+	10 racks, 100 each	1.000	**613-0630**
Bevelled	100 - 1000	-	10 racks, 100 each	1.000	**613-0670**
Bevelled	100 - 1000	-	Bulk	1.000	**613-0669**
1200 µl, bevelled					
Bevelled	100 - 1200	+	12 racks, 96 each	1.152	**613-0673**
Bevelled	100 - 1200	-	12 racks, 96 each	1.152	**613-0672**
Bevelled	100 - 1200	-	Bulk	1.000	**613-0671**
1250 µl, bevelled					
Bevelled	100 - 1250	-	Bulk	500	**613-1263**
Macrovolume 5000 µl					
Standard	1000 - 5000	-	Bulk	250	**613-0663**
Macrovolume 10 000 µl					
Standard	1000 - 10000	-	Bulk	200	**613-0664**

VWR COLLECTION

Delivering high quality and superior performance

Please contact your local VWR sales office or go to vwr.com for the latest news and special offers

IVD

Pipette tips, Maxymum Recovery™, Axygen®
Corning®

PP, transparent

- Ultra-smooth surface avoids sample retention, saving costly reagents and precious samples
- Tips can be fitted and ejected effortlessly thanks to their supple walls and internal sealing rings
- Certified free of RNase, DNase and endotoxins

Ordering information: Available loose, in racks or rack towers, sterile or non sterile.

Capacity (µl)	Sterile	Packed	Pk	Cat. No.
10 µl				
0,5 - 10	+	10 racks, 96 each	960	**613-0438**
0,5 - 10	-	10 racks, 96 each	960	**613-0437**
0,5 - 10	-	Stack rack incl. 5 racks, 96 each	480	**613-0439**
0,5 - 10	-	Bulk	1.000	**613-0436**
20 µl				
0,5 - 20	+	10 racks, 96 each	960	**613-0442**
0,5 - 20	-	10 racks, 96 each	960	**613-0441**
0,5 - 20	-	Bulk	1.000	**613-0440**
200 µl, bevelled				
1 - 200	+	10 racks, 96 each	960	**613-0665**
1 - 200	-	10 racks, 96 each	960	**613-0444**
1 - 200	-	Stack rack incl. 5 racks, 96 each	480	**613-0446**
1 - 200	-	Bulk	1.000	**613-0443**
200 µl, bevelled, graduated (10, 50, 100 µl)				
1 - 200	+	10 racks, 96 each	960	**613-0449**
1 - 200	-	10 racks, 96 each	960	**613-0448**
1 - 200	-	Stack rack incl. 5 racks, 96 each	480	**613-0450**
1 - 200	-	Bulk	1.000	**613-0447**
250 µl, bevelled, graduated (10, 50, 100 µl)				
1 - 250	-	10 racks, 96 each	960	**613-0452**
1 - 250	-	Bulk	1.000	**613-0451**
300 µl, extended				
1 - 300	+	10 racks, 96 each	960	**613-0456**
1 - 300	-	10 racks, 96 each	960	**613-0455**
1 - 300	-	Bulk	1.000	**613-0454**
1000 µl, bevelled				
100 - 1000	+	10 racks, 100 each	1.000	**613-0459**
100 - 1000	-	10 racks, 100 each	1.000	**613-0458**
100 - 1000	-	Bulk	1.000	**613-0457**

Tip refill systems, Axygen®
Corning®

Clear PP, autoclavable

- Easy to load refill racks
- Certified RNase-, DNase- and endotoxin-free
- Universal fit tips have a bevelled reference and graduated marks

Capacity (µl)	Colour code	Sterile	Packed	Pk	Cat. No.
Gilson style pipette tips					
0,1 - 10	Transparent	-	10 racks, 96 each (stack rack)	960	**732-0957**
Universal fit pipette tips					
1 - 200	Transparent	-	10 racks, 96 each (stack rack)	960	**732-0956**

IVD

Pipette tips, ART™
Thermo Scientific ART™

612-9711

Transparent PP, sterile or non sterile

- Available as non sterile bulk or racked; and as sterile racked
- Certified sterile tips, free of DNase, RNase, DNA and pyrogens (sterilised by gamma radiation)
- SoftFit® design assures a consistent, reliable fit for all channels of the pipette, which in turn ensures reliable distribution of the liquid

Ordering information: Supplied loose bagged and non sterile, sterile in racks, in BreakThru packaging (recyclable, economical packaging in a box).

Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
10 µl					
ART™ 10	10	-	10 racks, 96 each	960	**612-9731**
ART™ 10 Pure	10	+	10 racks, 96 each	960	**612-9711**
ART™ 10 Reach (Extended)	10	-	10 racks, 96 each	960	**612-9730**
ART™ 10 Reach Pure (Extended)	10	+	10 racks, 96 each	960	**612-9710**
200 µl					
ART™ 200	200	-	10 racks, 96 each	960	**612-9728**
ART™ 200	200	+	10 racks, 96 each	960	**612-9708**
ART™ 200G (Genomic)	200	-	Bulk	1.000	**732-2248**
ART™ 200G (Genomic)	200	-	10 racks, 96 each	960	**732-2332**
ART™ 200G Pure (Genomic)	200	+	10 racks, 96 each	960	**732-2331**
ART™ 200 XLP (Extended)	200	-	8 racks, 96 each	768	**732-2334**
ART™ 200 XLG (Extended, Genomic)	200	-	Bulk	1.000	**732-2258**
ART™ 200 XLG (Extended, Genomic)	200	-	8 racks, 96 each	768	**732-2341**
ART™ 200 XLG Pure (Extended, Genomic)	200	+	8 racks, 96 each	768	**732-2340**
300 µl					
ART™ 300	300	-	10 racks, 96 each	960	**612-9727**
ART™ 300 Pure	300	+	10 racks, 96 each	960	**612-9707**
ART™ 300E (MicroPoint)	300	-	10 racks, 96 each	960	**612-9726**
ART™ 300E Pure (MicroPoint)	300	+	10 racks, 96 each	960	**612-9706**
ART™ 300U SoftFit®	300	-	10 racks, 96 each	960	**732-2342**
ART™ 300U SoftFit® Low Retention	300	-	10 racks, 96 each	960	**732-2343**
ART™ 300U SoftFit® Pure Low Retention	300	+	10 racks, 96 each	960	**736-0003**
1000 µl					
ART™ 1000G (Genomic)	1000	-	Bulk	1.000	**732-2254**
ART™ 1000G (Genomic)	1000	-	8 racks, 100 each	800	**732-2336**
ART™ 1000G Pure (Genomic)	1000	+	8 racks, 100 each	800	**732-2335**
ART™ 1000 SoftFit®	1000	-	Bulk	1.000	**612-9745**
ART™ 1000 SoftFit®	1000	-	8 racks, 100 each	800	**612-9725**
ART™ 1000 SoftFit® Pure	1000	+	8 racks, 100 each	800	**612-9702**

Pipette tips, ART™
Thermo Scientific ART™

Transparent, sterile or non sterile

These non filtered tips are designed to fit virtually any micropipette. They are suitable for use when working with the most difficult samples, such as radioactive compounds, viscous materials, fragile cell lines, viruses, difficult proteins and PCR reagents.

- Non sterile tips are certified to be free of RNase, DNase, DNA, ATP, endotoxins, pyrogens and PCR inhibitors
- Sterile tips are certified to be free of RNase, DNase, DNA, ATP, bioburden, endotoxins, pyrogens and PCR inhibitors
- Rack cover can easily be realigned from a traditional lift-off to a hinged rack for one-handed access to tips
- Front latch closes and locks ensure safe and secure storage
- Space saving reload system is environmentally friendly, traceable and easy to use

Packaging: Tips are available in bulk packaging, in racks or in trays for rack reloading. Reload tips require an empty rack.

Type	Capacity (µl)	Length (mm)	Sterile	Packed	Pk	Cat. No.
10 µl						
ART™ 10	10	31,3	-	Bulk, 1000/bag	1.000	**612-9751**
ART™ 10	10	31,3	-	10 racks, 96 each	960	**613-2464**
ART™ 10	10	31,3	-	Reload, 10 trays, 96 each	960	**613-2465**
ART™ 10	10	31,3	+	10 racks, 96 each	960	**613-2460**
ART™ 10	10	31,3	+	Reload, 10 trays, 96 each	960	**613-2461**
ART™ 10, extended	10	43,4	-	Bulk, 1000/bag	1.000	**612-9750**
ART™ 10, extended	10	43,4	+	10 racks, 96 each	960	**613-2467**
ART™ 10, extended	10	43,4	-	10 racks, 96 each	960	**613-2469**

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Type	Capacity (µl)	Length (mm)	Sterile	Packed	Pk	Cat. No.
20 µl						
ART™ 20, Ultra Micro	20	45,7	-	Bulk, 1000/bag	1.000	**612-9749**
ART™ 20, Ultra Micro	20	45,7	-	10 racks, 96 each	960	**613-2476**
ART™ 20, Ultra Micro	20	45,7	-	Reload, 10 trays, 96 each	960	**613-2477**
ART™ 20, Ultra Micro	20	45,7	+	10 racks, 96 each	960	**613-2472**
ART™ 20, Ultra Micro	20	45,7	+	Reload, 10 trays, 96 each	960	**613-2473**
200 µl						
ART™ 200	200	50,7	-	Bulk, 1000/bag	1.000	**612-9748**
ART™ 200	200	50,7	-	10 racks, 96 each	960	**613-2495**
ART™ 200	200	50,7	-	Reload, 10 trays, 96 each	960	**613-2496**
ART™ 200	200	50,7	+	10 racks, 96 each	960	**613-2491**
ART™ 200	200	50,7	+	Reload, 10 trays, 96 each	960	**613-2492**
ART™ 200, extended	200	90,9	-	Bulk, 1000/bag	1.000	**732-2249**
ART™ 200, extended	200	90,9	-	8 racks, 96 each	768	**613-2488**
ART™ 200, extended	200	90,9	+	8 racks, 96 each	768	**613-2479**
300 µl						
ART™ 300	300	58,4	-	Bulk, 1000/bag	1.000	**613-2778**
ART™ 300	300	58,4	-	10 racks, 96 each	960	**613-2779**
ART™ 300	300	58,4	-	Reload, 10 trays, 96 each	960	**613-2780**
ART™ 300	300	58,4	+	10 racks, 96 each	960	**613-2499**
ART™ 300	300	58,4	+	Reload, 10 trays, 96 each	960	**613-2774**
1000 µl						
ART™ 1000	1000	88,9	-	Bulk, 1000/bag	1.000	**613-2785**
ART™ 1000	1000	88,9	-	8 racks, 96 each	768	**613-2452**
ART™ 1000	1000	88,9	-	Reload, 10 trays, 56 each	560	**613-2453**
ART™ 1000	1000	88,9	+	8 racks, 96 each	768	**613-2448**
ART™ 1000	1000	88,9	+	Reload, 10 trays, 56 each	560	**613-2449**
ART™ 1000, extended	1000	118,5	-	8 racks, 96 each	768	**613-2784**
ART™ 1000, extended	1000	118,5	+	8 racks, 96 each	768	**613-2782**
1250 µl						
ART™ 1250, extended	1250	102,2	-	8 racks, 96 each	768	**613-2457**
ART™ 1250, extended	1250	102,2	+	8 racks, 96 each	768	**613-2455**

Description	Pk	Cat. No.
Accessories		
Empty reload rack, sterile, small, for 10 µl and 20 µl tips (insert not included)	10	**732-1171**
Empty reload rack, sterile, medium, for 20 µl, 200 and 300 µl tips (insert not included)	10	**732-1170**
Empty reload rack, sterile, large, for 1000 µl tips (insert not included)	8	**732-1169**

Pipette tips, low retention, ART™

Thermo Scientific ART™

Transparent, sterile or non sterile

Using advanced low-retention technology, the hydrophobic inner surface of these tips significantly reduces sample loss to adhesion and maximises sample recovery. The tips are suitable for use when working with the most difficult samples, such as radioactive compounds, viscous materials, fragile cell lines, viruses, difficult proteins and PCR reagents.

- Non sterile tips are certified to be free of RNase, DNase, DNA, ATP, endotoxins, pyrogens and PCR inhibitors
- Sterile tips are certified to be free of RNase, DNase, DNA, ATP, bioburden, endotoxins, pyrogens and PCR inhibitors
- Rack cover can easily be realigned from a traditional lift-off to a hinged rack for one-handed access to tips
- Front latch closes and locks ensure safe and secure storage
- Space saving reload system is environmentally friendly, traceable and easy to use

Packaging: Tips are available in bulk packaging, in racks or in trays for rack reloading. Reload tips require an empty rack.

Type	Capacity (µl)	Length (mm)	Sterile	Packed	Pk	Cat. No.
10 µl						
ART™ 10 LR, extended	10	43,4	-	Bulk, 1000/bag	1.000	**732-0321**
ART™ 10 LR	10	31,3	-	10 racks, 96 each	960	**613-2462**
ART™ 10 LR	10	31,3	-	Reload, 10 trays, 96 each	960	**613-2463**
ART™ 10 LR	10	31,3	+	10 racks, 96 each	960	**613-2458**
ART™ 10 LR	10	31,3	+	Reload, 10 trays, 96 each	960	**613-2459**
ART™ 10 LR, extended	10	43,4	-	10 racks, 96 each	960	**613-2468**
ART™ 10 LR, extended	10	43,4	+	10 racks, 96 each	960	**613-2466**
20 µl						
ART™ 20 LR, Ultra Micro	20	45,7	-	Bulk, 1000/bag	1.000	**732-0324**
ART™ 20 LR, Ultra Micro	20	45,7	+	10 racks, 96 each	960	**613-2470**
ART™ 20 LR, Ultra Micro	20	45,7	+	Reload, 10 trays, 96 each	960	**613-2471**
ART™ 20 LR, Ultra Micro	20	45,7	-	10 racks, 96 each	960	**613-2474**
ART™ 20 LR, Ultra Micro	20	45,7	-	Reload, 10 trays, 96 each	960	**613-2475**

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Type	Capacity (µl)	Length (mm)	Sterile	Packed	Pk	Cat. No.
200 µl						
ART™ 200 LR	200	50,7	-	Bulk, 1000/bag	1.000	**732-0466**
ART™ 200 LR	200	50,7	-	10 racks, 96 each	960	**613-2493**
ART™ 200 LR	200	50,7	-	Reload, 10 trays, 96 each	960	**613-2494**
ART™ 200 LR	200	50,7	+	10 racks, 96 each	960	**613-2489**
ART™ 200 LR	200	50,7	+	Reload, 10 trays, 96 each	960	**613-2490**
ART™ 200 LR, extended	200	90,9	-	8 racks, 96 each	768	**613-2487**
ART™ 200 LR, extended	200	90,9	+	8 racks, 96 each	768	**613-2478**
300 µl						
ART™ 300 LR	300	58,4	-	Bulk, 1000/bag	1.000	**613-2775**
ART™ 300 LR	300	58,4	-	10 racks, 96 each	960	**613-2776**
ART™ 300 LR	300	58,4	-	Reload, 10 trays, 96 each	960	**613-2777**
ART™ 300 LR	300	58,4	+	10 racks, 96 each	960	**613-2497**
ART™ 300 LR	300	58,4	+	Reload, 10 trays, 96 each	960	**613-2498**
1000 µl						
ART™ 1000 LR	1000	88,9	-	8 racks, 96 each	768	**613-2450**
ART™ 1000 LR	1000	88,9	-	Reload, 10 trays, 56 each	560	**613-2451**
ART™ 1000 LR	1000	88,9	+	8 racks, 96 each	768	**613-2446**
ART™ 1000 LR	1000	88,9	+	Reload, 10 trays, 56 each	560	**613-2447**
ART™ 1000 LR, extended	1000	118,5	-	8 racks, 96 each	768	**613-2783**
ART™ 1000 LR, extended	1000	118,5	+	8 racks, 96 each	768	**613-2781**
1250 µl						
ART™ 1250 LR, extended	1250	102,2	-	8 racks, 96 each	768	**613-2456**
ART™ 1250 LR, extended	1250	102,2	+	8 racks, 96 each	768	**613-2454**

Description	Pk	Cat. No.
Accessories		
Empty reload rack, sterile, small, for 10 µl and 20 µl tips (insert not included)	10	**732-1171**
Empty reload rack, sterile, medium, for 20 µl, 200 and 300 µl tips (insert not included)	10	**732-1170**
Empty reload rack, sterile, large, for 1000 µl tips (insert not included)	8	**732-1169**

IVD

Pipette tips, Standard
Brand

TipBox

TipRack

TipStack

High-purity PP, transparent, sterile or non sterile, autoclavable

These tips are manufactured under cleanroom conditions and are automatically packaged to ensure that the tips are consistently free from contamination. The tips are tested for compatibility with BRAND pipettes and are suitable for use with most of the common pipettor brands including Gilson®, Thermo Scientific Finnpipette®, Eppendorf® and Sartorius. The 5 ml tip is exclusively tested for BRAND pipettes and Thermo Fisher Finnpipette®. The 10 ml tip is suitable for BRAND, Eppendorf® and Gilson®.

- High-purity polypropylene, free from DiHEMDA and oleamide, manufactured without lubricants; cadmium-free pigments
- Rack-packed pipette tips up to 1000 µl are DNA, RNases, endotoxins and ATP-free, independent of the packaging
- Graduation for a quick volume check
- Sterile tips and packaging are manufactured exclusively under BIO-CERT® quality certification
- Autoclavable at 121 °C (2 bar), acc. DIN EN 285

Bulk packaging in reclosable bags, non sterile
Tips are produced under supervised cleanroom conditions and automatically shrink wrapped in reclosable bags and packaged in cardboard boxes. The batch number is printed on every bag.

TipBox, non sterile and sterile, BIO-CERT®
Tip box for all sizes up to 1000 µl. With transparent window, hinged and push-on lid (dual function closure) and coloured tip trays, with side panel labelling. Usable with a partially loaded multi channel pipette. The 5 ml and 10 ml tips come in a corresponding round tip box for large tips.

TipRack, non sterile and sterile, BIO-CERT®
Space saving refill unit for TipBox, with environmentally compatible packaging made of recyclable PET. Compared to the filled TipBoxes, the amount of waste is

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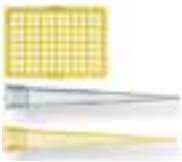
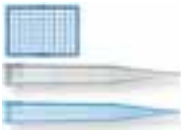
reduced by 20%. Sterile racks are supplied with a transfer aid that enables simple, contamination-free transfer into a previously sterilised TipBox. All tip-trays are printed on one side with information on the contents.

TipStack™, non sterile and sterile, BIO-CERT®
Space saving refill system for 20 µl, 200 µl and 1000 µl tips consisting of a tip tower containing five filled tip trays and a TipBox. The sterile TipStacks™ (BIO-CERT®) are supplied with a transfer aid for contamination-free use in a previously sterilised TipBox. Each packaging unit contains two TipStacks™.

BIO-CERT®: These tips are made from high-quality, pure PP without any mold release agents and other additives. All lots are tested for sterility (acc. ISO 11 137 and AAMI guidelines, a SAL of 10^{-6} is obtained) and are certified free from endotoxins, DNA-, RNase- and ATP. Tips are supplied with a Certificate of Analysis.

	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
0,1 - 20 µl, length: 37 mm						
	Bulk	0,1 - 20	-	2 bags, 1000 each	2.000	**613-2318**
	Bulk XXL	0,1 - 20	-	10 bags, 1000 each	10.000	**613-2326**
	TipRack	0,1 - 20	-	10 racks, 96 each	960	**613-2333**
	TipRack, BIO-CERT®	0,1 - 20	+	10 racks, 96 each	960	**613-2428**
	TipBox	0,1 - 20	-	5 boxes, 96 each	480	**613-2339**
	TipBox, BIO-CERT®	0,1 - 20	+	10 boxes, 96 each	960	**613-2401**
0,5 - 20 µl, length: 46 mm						
	Bulk	0,5 - 20	-	2 bags, 1000 each	2.000	**613-2319**
	Bulk XXL	0,5 - 20	-	10 bags, 1000 each	10.000	**613-2327**
	TipRack	0,5 - 20	-	10 racks, 96 each	960	**613-2334**
	TipRack, BIO-CERT®	0,5 - 20	+	10 racks, 96 each	960	**613-2429**
	TipBox	0,5 - 20	-	5 boxes, 96 each	480	**613-2340**
	TipBox, BIO-CERT®	0,5 - 20	+	10 boxes, 96 each	960	**613-2402**
	TipStack™	0,5 - 20	-	2 x 5 racks, 96 each	960	**613-2410**
	TipStack™, BIO-CERT®	0,5 - 20	+	2 x 5 racks, 96 each	960	**613-2414**
1 - 50 µl, length: 50 mm						
	Bulk	1 - 50	-	2 bags, 1000 each	2.000	**613-2322**
	Bulk XXL	1 - 50	-	10 bags, 1000 each	10.000	**613-2328**
	TipRack	1 - 50	-	10 racks, 96 each	960	**613-2335**
	TipRack, BIO-CERT®	1 - 50	+	10 racks, 96 each	960	**613-2430**
	TipBox	1 - 50	-	5 boxes, 96 each	480	**613-2341**
	TipBox, BIO-CERT®	1 - 50	+	10 boxes, 96 each	960	**613-2403**
2 - 200 µl, length: 50 mm						
	Bulk, yellow	2 - 200	-	1 bag, 1000	1.000	**613-2323**
	Bulk XXL, yellow	2 - 200	-	10 bags, 1000 each	10.000	**613-2329**
	TipRack	2 - 200	-	10 racks, 96 each	960	**613-2336**
	TipRack, BIO-CERT®	2 - 200	+	10 racks, 96 each	960	**613-2431**
	TipBox	2 - 200	-	5 boxes, 96 each	480	**613-2342**
	TipBox, BIO-CERT®	2 - 200	+	10 boxes, 96 each	960	**613-2407**
	TipStack™	2 - 200	-	2 x 5 racks, 96 each	960	**613-2411**
	TipStack™, BIO-CERT®	2 - 200	+	2 x 5 racks, 96 each	960	**613-2415**
5 - 300 µl, length: 53 mm						
	Bulk	5 - 300	-	1 bag, 1000	1.000	**613-2324**
	Bulk XXL	5 - 300	-	10 bags, 1000 each	10.000	**613-2331**
	TipRack	5 - 300	-	10 racks, 96 each	960	**613-2337**
	TipRack, BIO-CERT®	5 - 300	+	10 racks, 96 each	960	**613-2432**
	TipBox	5 - 300	-	5 boxes, 96 each	480	**613-2343**
	TipBox, BIO-CERT®	5 - 300	+	10 boxes, 96 each	960	**613-2408**
50 - 1000 µl, length: 70 mm						
	Bulk, blue	50 - 1000	-	2 bags, 500 each	1.000	**613-2325**
	Bulk XXL, blue	50 - 1000	-	10 bags, 500 each	5.000	**613-2332**
	TipRack	50 - 1000	-	10 racks, 96 each	960	**613-2338**
	TipRack, BIO-CERT®	50 - 1000	+	10 racks, 96 each	960	**613-2433**
	TipBox	50 - 1000	-	5 boxes, 96 each	480	**613-2344**
	TipBox, BIO-CERT®	50 - 1000	+	10 boxes, 96 each	960	**613-2409**
	TipStack™	50 - 1000	-	2 x 5 racks, 96 each	960	**613-2412**
	TipStack™, BIO-CERT®	50 - 1000	+	2 x 5 racks, 96 each	960	**613-2416**
0,5 - 5 ml, length: 160 mm						
	Bulk	500 - 5000	-	1 bag, 200	200	**612-5754**
	Bulk XXL	500 - 5000	-	5 bags, 200 each	1.000	**612-5701**
	Round TipBox	500 - 5000	-	1 box, 28 each	1	**612-5712**
1 - 10 ml, length: 156,5 mm						
	Bulk	1000 - 10000	-	2 bags, 100 each	200	**613-3445**
	Bulk XXL	1000 - 10000	-	10 bags, 100 each	1.000	**613-3446**
	Round TipBox	1000 - 10000	-	1 box, 18 each	1	**613-3447**

Description	Pk	Cat. No.
Accessories		
Empty TipBox, PP, with tip-tray, stackable, for tips up to 50 µl	1	**613-2424**
Empty TipBox, PP, with tip-tray, stackable, for tips up to 200 µl	1	**613-2425**
Empty TipBox, PP, with tip-tray, stackable, for tips up to 300 µl	1	**613-2426**
Empty TipBox, PP, with tip-tray, stackable, for tips up to 1000 µl	1	**613-2427**

IVD

Pipette tips, ultra low retention
Brand

TipStack

High-purity PP, transparent, sterile or non sterile, autoclavable

The homogeneous, defect-free surface of these tips has an extremely low surface tension – over 50% less than PTFE. This significantly reduces sample loss and provides substantially higher reproducibility when working with critical media. The tips have a high chemical resistance. Ideal for working with solvents and biological samples that contain detergents such as Triton® X-100, SDS and Tween.

- No leaching out of additives, no siliconisation of the surface
- High chemical resistance: Ideal when working with solvents
- All tips up to 1000 µl are free of DNA (< 40 fg), RNase (< 8.6 fg), endotoxins (< 1 pg) and ATP (< 1 fg)
- Tips can be autoclaved at 121 °C (2 bar) without damaging the material properties

Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
0,1 - 20 µl, length: 37 mm					
TipBox	0,1 - 20	-	5 boxes, 96 each	480	**613-2345**
TipBox, BIO-CERT®	0,1 - 20	+	10 boxes, 96 each	960	**613-2417**
0,5 - 20 µl, length: 46 mm					
TipBox	0,5 - 20	-	5 boxes, 96 each	480	**613-2346**
TipBox, BIO-CERT®	0,5 - 20	+	10 boxes, 96 each	960	**613-2418**
TipStack™	0,5 - 20	-	2 x 5 racks, 96 each	960	**613-2423**
TipStack™, BIO-CERT®	0,5 - 20	+	2 x 5 racks, 96 each	960	**613-2405**
1 - 50 µl, length: 50 mm					
TipBox	1 - 50	-	5 boxes, 96 each	480	**613-2347**
TipBox, BIO-CERT®	1 - 50	+	10 boxes, 96 each	960	**613-2419**
2 - 200 µl, length: 50 mm					
TipBox	2 - 200	-	5 boxes, 96 each	480	**613-2348**
TipBox, BIO-CERT®	2 - 200	+	10 boxes, 96 each	960	**613-2420**
TipStack™	2 - 200	-	2 x 5 racks, 96 each	960	**613-2406**
TipStack™, Bio-Cert®	2 - 200	+	2 x 5 racks, 96 each	960	**613-2434**
5 - 300 µl, length: 53 mm					
TipBox	5 - 300	-	5 boxes, 96 each	480	**613-2349**
TipBox, BIO-CERT®	5 - 300	+	10 boxes, 96 each	960	**613-2421**
50 - 1000 µl, length: 70 mm					
TipBox	50 - 1000	-	5 boxes, 96 each	480	**613-2350**
TipBox, BIO-CERT®	50 - 1000	+	10 boxes, 96 each	960	**613-2422**
TipStack™	50 - 1000	-	2 x 5 racks, 96 each	960	**613-2404**
TipStack™, BIO-CERT®	50 - 1000	+	2 x 5 racks, 96 each	960	**613-2435**

Pipette tips
Sartorius

Natural colour premium grade PP, autoclavable

- Excellent seal design for accurate, leak-tight sealing
- Suitable for many pipettes on the market
- Produced and packed in a dust-free environment under strictly maintained conditions

Ordering information: Available in bulk packaging, in autoclavable racks and in refills.

Type	Capacity (µl)	Length (mm)	Colour code	Sterile	Packed	Pk	Cat. No.
Standard	0,1 - 10	31,5	Grey	-	Bulk	1.000	**613-0678**
Standard	0,1 - 10	31,5	Grey	-	10 racks, 96 each	960	**613-4161**
Standard	0,1 - 10	31,5	Grey	+	10 racks, 96 each	960	**613-5099**
Standard	0,1 - 10	31,5	Grey	+	Refill pack, 20 trays, 96 each	1.920	**613-3024**
Standard	0,1 - 10	31,5	Grey	-	Refill tower, 10 trays, 96 each	960	**613-0679**
Extended	0,1 - 10	46	Grey	-	10 racks, 96 each	960	**613-0915**
Extended	0,1 - 10	46	Grey	+	10 racks, 96 each	960	**613-0916**
Standard	0,5 - 200	51	Yellow	-	Bulk	1.000	**613-4129**
Standard	0,5 - 200	51	Yellow	-	10 racks, 96 each	960	**732-1556**
Standard	0,5 - 200	51	Yellow	+	10 racks, 96 each	960	**732-1557**
Standard	0,5 - 200	51	Yellow	-	Refill tower, 10 trays, 96 each	960	**732-1558**
Standard	0,5 - 200	51	Yellow	+	Refill pack, 15 trays, 96 each	1.440	**732-1559**
Standard	0,5 - 350	54	Orange	-	Bulk	1.000	**613-4140**
Standard	0,5 - 350	54	Orange	-	10 racks, 96 each	960	**613-5100**
Standard	0,5 - 350	54	Orange	+	10 racks, 96 each	960	**613-5101**
Standard	0,5 - 350	54	Orange	-	Refill tower, 10 trays, 96 each	960	**613-5102**
Standard	0,5 - 350	54	Orange	+	Refill pack, 15 trays, 96 each	1.440	**613-1665**
Wide orifice	10 - 1000	68,5	Light Blue	-	Bulk	1.000	**613-5088**
Standard	10 - 1000	71,5	Blue	-	Bulk	400	**613-4136**
Standard	10 - 1000	71,5	Blue	-	Bulk	1.000	**613-4133**
Standard	10 - 1000	71,5	Blue	-	10 racks, 96 each	960	**613-4172**
Standard	10 - 1000	71,5	Blue	+	10 racks, 96 each	960	**613-5105**
Standard	10 - 1000	71,5	Blue	+	Refill pack, 10 trays, 96 each	960	**613-1791**
Standard	10 - 1000	71,5	Blue	-	Refill pack, 10 trays, 96 each	960	**613-0687**
Standard	50 - 1200	71,5	Purple	-	Bulk	1.000	**613-4144**
Standard	50 - 1200	71,5	Purple	-	10 racks, 96 each	960	**613-4175**
Standard	50 - 1200	71,5	Purple	-	Refill pack, 10 trays, 96 each	960	**613-0680**
Standard	50 - 1200	71,5	Purple	+	10 racks, 96 each	960	**613-4176**
Standard	50 - 1200	71,5	Purple	+	Refill pack, 10 trays, 96 each	960	**613-1792**
Extended	50 - 1200	90	Purple	-	10 racks, 96 each	960	**613-5109**
Extended	50 - 1200	90	Purple	+	10 racks, 96 each	960	**613-5111**
Extended	50 - 1200	90	Purple	-	Refill pack, 10 trays, 96 each	960	**613-1793**
Extended	50 - 1200	90	Purple	+	Refill pack, 10 trays, 96 each	960	**613-1794**
Standard	100 - 5000	150	Green	-	Bulk	100	**613-4149**
Standard	100 - 5000	150	Green	-	Bulk	1.000	**613-5090**
Standard	100 - 5000	150	Green	-	Single tray (1×50)	50	**613-0677**
Standard	100 - 5000	150	Green	+	Single tray (1×50)	50	**613-5089**
Extended*	500 - 10000	242	—	-	Bulk	100	**613-4153**
Standard	1000 - 10000	155	Red	-	Bulk	250	**613-2911**

Description	Pk	Cat. No.
Accessories		
Empty tip box for Refill system (10, 300 and 350 µl tips)	10	**613-5103**
Empty tip box for Refill system (1000 and 1200 µl tips)	10	**613-5104**

* For use with Proline XL only

Dispenser tips, classic

- Compatible with: Ritter® ripette® and ripette® pro, Eppendorf® Multipette® 4780, Brand® HandyStep® and HandyStep®electronic, Minilab 100/101, EasyStep, Distriman®
- Eight different tip sizes from 0,05 to 50 ml
- Sterile tips guaranteed free of DNA, DNase, RNase, ATP and pyrogens

Capacity (ml)	Sterile	Packed	Pk	Cat. No.
0,05	-	Bulk	100	**613-1000**
0,05	+	Individual blister	100	**613-1008**
0,5	-	Bulk	100	**613-1001**
0,5	+	Individual blister	100	**613-1009**
1,25	-	Bulk	100	**613-1002**
1,25	+	Individual blister	100	**613-1010**
2,5	-	Bulk	100	**613-1003**
2,5	+	Individual blister	100	**613-1011**
5,0	-	Bulk	100	**613-1004**
5,0	+	Individual blister	100	**613-1012**
12,5	-	Bulk	100	**613-1005**
12,5	+	Individual blister	100	**613-1013**
25,0	-	Bulk	25	**613-1006**
25,0	+	Individual blister	25	**613-1014**
50,0	-	Bulk	25	**613-1007**
50,0	+	Individual blister	25	**613-1015**

Description	Pk	Cat. No.
Accessories		
Adapters for 25 and 50 ml tips	3	**613-1034**

Dispenser tips, universal

- Compatible with: Ritter® ripette®, Eppendorf® Multipette® plus and Multipette® 4780, Brand® HandyStep® and HandyStep®electronic
- Nine different tip sizes from 0,1 to 50 ml
- Sterile tips guaranteed free from DNA, DNase, RNase, ATP and pyrogens

Capacity (ml)	Sterile	Packed	Pk	Cat. No.
0,1	-	Bulk	100	**613-1016**
0,1	+	Individual blister	100	**613-1025**
0,2	-	Bulk	100	**613-1017**
0,2	+	Individual blister	100	**613-1026**
0,5	-	Bulk	100	**613-1018**
0,5	+	Individual blister	100	**613-1027**
1,0	-	Bulk	100	**613-1019**
1,0	+	Individual blister	100	**613-1028**
2,5	-	Bulk	100	**613-1020**
2,5	+	Individual blister	100	**613-1029**
5,0	-	Bulk	100	**613-1021**
5,0	+	Individual blister	100	**613-1030**
10,0	-	Bulk	100	**613-1022**
10,0	+	Individual blister	100	**613-1031**
25,0	-	Bulk	25	**613-1023**
25,0	+	Individual blister	25	**613-1032**
50,0	-	Bulk	25	**613-1024**
50,0	+	Individual blister	25	**613-1033**

Description	Pk	Cat. No.
Accessories		
Adapters for 25 and 50 ml tips	3	**613-1034**

Dispenser tips, Combitips® Advanced
Eppendorf

Combitips® Advanced

Rack for Combitips®

For use with Multipette®.

- Ergonomic design with unique funnel shape prevents damage to gloves and ensures comfortable handling
- Individually colour coded for quick identification
- Elongated tips (for 2,5, 5 and 10 ml) allow complete emptying of all common tubes preventing sample loss

Combitips® advanced and Combitips® advanced PCR Clean are supplied in a dispenser box (100 Combitips® in 4 bags, PCR Clean with zip-lock bag); 25/50 ml Combitips® come in 25 pcs. per box (each containing an adapter).

Combitips® Biopur® are individually packed in single blister and additional plastic bag for cleanroom use.

Capacity (ml)	Sterile	Packed	Pk	Cat. No.
Combitips® Advanced				
0,1	-	4 bags, 25 each	100	**613-2058**
0,2	-	4 bags, 25 each	100	**613-2059**
0,5	-	4 bags, 25 each	100	**613-2060**
1,0	-	4 bags, 25 each	100	**613-2061**
2,5	-	4 bags, 25 each	100	**613-2062**
5,0	-	4 bags, 25 each	100	**613-2063**
10	-	4 bags, 25 each	100	**613-2064**
25	-	4 bags, 25 each	100	**613-2065**
50	-	4 bags, 25 each	100	**613-2066**
Combitips® Advanced PCR Clean				
0,1	-	4 bags, 25 each	100	**613-2076**
0,2	-	4 bags, 25 each	100	**613-2077**
0,5	-	4 bags, 25 each	100	**613-2078**
1,0	-	4 bags, 25 each	100	**613-2079**
2,5	-	4 bags, 25 each	100	**613-2080**
5,0	-	4 bags, 25 each	100	**613-2081**
10	-	4 bags, 25 each	100	**613-2082**
25	-	4 bags, 25 each	100	**613-2083**
50	-	4 bags, 25 each	100	**613-2084**
Combitips® Advanced Biopur®				
0,1	+	Individual blister	100	**613-2067**
0,2	+	Individual blister	100	**613-2068**
0,5	+	Individual blister	100	**613-2069**
1,0	+	Individual blister	100	**613-2070**
2,5	+	Individual blister	100	**613-2071**
5,0	+	Individual blister	100	**613-2072**
10	+	Individual blister	100	**613-2073**
25	+	Individual blister	100	**613-2074**
50	+	Individual blister	100	**613-2075**

Description	Pk	Cat. No.
Accessories		
Adapter 25 ml for Combitips® Advanced	1	**613-2085**
Adapter 50 ml for Combitips® Advanced	1	**613-2086**
Adapter 25 ml for Combitips® Advanced Biopur®	7	**613-2087**
Adapter 50 ml for Combitips® Advanced Biopur®	7	**613-2088**
Rack for 8 Combitips® Advanced	1	**613-2089**

Pipette tips, Finntip® PDP
Thermo Scientific

Autoclavable

- Capillary unit and positive displacement piston
- Recommended for PCR, DNA sequencing and all delicate pipetting tasks (viscous or foaming liquids, etc.)
- For use with Finnpipettes® PDP

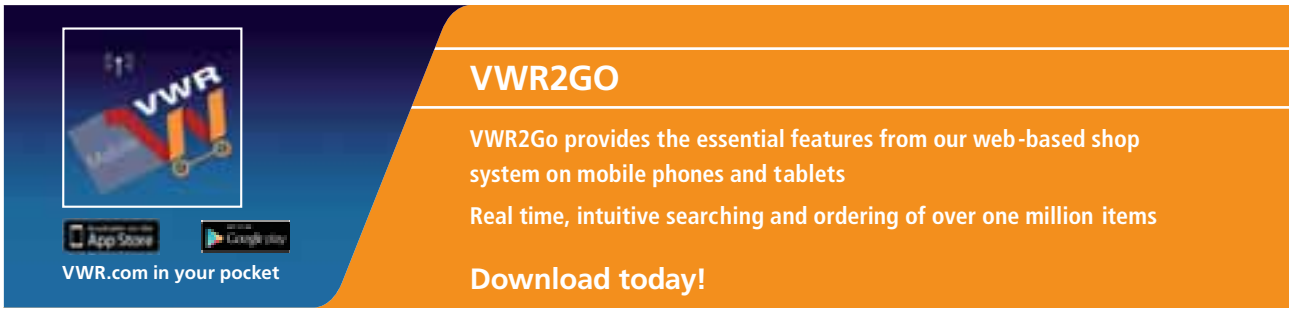
Capacity (µl)	Sterile	Packed	Pk	Cat. No.
0,5 - 25	-	10 racks, 96 each	960	**613-2630**
20 - 200	-	10 racks, 96 each	960	**613-2631**
0,5 - 25	-	Bulk	960	**613-2632**
20 - 200	-	Bulk	960	**613-2633**

Pipette tips, Finntip® Stepper
Thermo Scientific

Full range of positive displacement syringe tips designed for the Finnpipette® Stepper.

- Ergonomic design
- Seven syringe sizes covering a range of dispensing volumes from 10 µl to 50 ml
- Adapted for applications using aggressive and viscous liquids

Capacity (ml)	Sterile	Packed	Pk	Cat. No.
0,5	-	Bag	100	**613-2634**
0,5	+	Individually	50	**613-2635**
1,25	-	Bag	100	**613-2636**
1,25	+	Individually	50	**613-2637**
2,5	-	Bag	100	**613-2638**
2,5	+	Individually	50	**613-2639**
5,0	-	Bag	50	**613-2640**
5,0	+	Individually	25	**613-2641**
12,5	-	Bag	50	**613-2642**
12,5	+	Individually	25	**613-2643**
25	-	Bag	20	**613-2644**
25	+	Individually	10	**613-2645**
50	-	Bag	10	**613-2646**
50	+	Individually	10	**613-2647**



IVD

Dispenser tips, PD-Tips
Brand

PP cylinder, HDPE piston

- Positive displacement syringe tips
- Compatible with: Brand® HandyStep®/HandyStep® S/HandyStep® electronic, Rainin AutoRep™ S/ AutoRep™ M, Eppendorf® Multipette® 4780, EDOS® 5221
- Sterile BIO-CERT® PD-Tips are free from DNA, RNase, ATP and endotoxins

ISO 8655

Ordering information: 25 and 50 ml tips supplied with adapter. Available in non sterile or sterile/ BIO-CERT® versions/free of endotoxins (packaged individually).

Capacity (ml)	Sterile	Packed	Pk	Cat. No.
Non sterile				
0,1	-	Bulk	100	**612-5821**
0,5	-	Bulk	100	**612-5801**
1	-	Bulk	100	**613-1551**
1,25	-	Bulk	100	**612-5802**
2,5	-	Bulk	100	**612-5803**
5,0	-	Bulk	100	**612-5804**
10	-	Bulk	100	**613-1552**
12,5	-	Bulk	100	**612-5805**
25,0	-	Bulk	50	**612-5806**
50	-	Bulk	25	**612-5807**
0,5 - 12,5*	-	Bulk	140	**613-1593**
Sterile				
0,1	+	Individually	100	**612-5822**
0,5	+	Individually	100	**612-5811**
1,25	+	Individually	100	**612-5812**
2,5	+	Individually	100	**612-5813**
5,0	+	Individually	100	**612-5814**
12,5	+	Individually	100	**612-5815**
25,0	+	Individually	25	**612-5816**
50	+	Individually	25	**612-5817**
BIO-CERT®				
0,1	+	Individually	100	**613-3448**
0,5	+	Individually	100	**613-3449**
1,0	+	Individually	100	**613-1555**
1,25	+	Individually	100	**613-3450**
2,5	+	Individually	100	**613-3451**
5,0	+	Individually	100	**613-3452**
10,0	+	Individually	100	**613-1556**
12,5	+	Individually	100	**613-3453**
25,0	+	Individually	25	**613-3454**
50	+	Individually	25	**613-3455**

Description	Pk	Cat. No.
Accessories		
Adapters for PD-Tips, non sterile	10	**612-5809**
Adapters for PD-Tips, sterile	5	**612-5810**

* Set (20×0,5 ml / 20×1 ml / 20×1,25 ml / 20×2,5 ml / 20×5 ml / 20×10 ml / 20×12,5 ml)

Pipette tips, ClickSure™ Tips
Hamilton

These tips are validated to optimise the performance of the Microlab 300 system, offering superior accuracy and precision. When the tips are placed onto the probe, the O-ring on the probe compresses into the tip groove. This design only requires a low insertion force to successfully load a tip, resulting in a more ergonomic experience for the user and enabling long-term use with minimal energy exerted.

- Tip packaging and tips are recyclable for eco-conscious labs
- Less force is required to load and eject a tip

Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
Standard	50	-	Bulk, 960/bag	1	**613-2933**
Standard	50	-	10 racks, 96 each	10	**613-2930**
Standard	50	+	10 racks, 96 each	10	**613-2929**
With filter	50	+	10 racks, 96 each	10	**613-2934**
Standard	1000	-	Bulk, 960/bag	1	**613-2935**
Standard	1000	-	10 racks, 96 each	10	**613-2932**
Standard	1000	+	10 racks, 96 each	10	**613-2931**
With filter	1000	+	10 racks, 96 each	10	**613-2936**

Filter tips - Compatibility chart

SC: Single channel pipette / MC: Multi channel pipette
For more compatibility information, please contact VWR Customer Services.

Description	Channels	Volume (µl)	AF1	AF2	AF3	AF4	AF5	AF6	AF7	AF8	AF9	AF11	AF12	AF13	AF16	AF19
Sartorius eLine	SC	0,2-10	√													
		5-120						√								
	MC	0,2-10	√													
Sartorius ePet	SC	0,2-10	√	√												
		50-1200									√					
	MC	0,2-10	√													
		25-250								√						
		50-1200									√					
Sartorius mLine	SC	0,1-3	√													
		0,5-10	√													
		2-20			√	√										
		10-100					√									
		20-200							√	√						
		100-1000									√					
	MC	5-100														√
Sartorius Proline Electronic	SC	0,2-10	√													
		5-100							√							√
		50-1000									√					
	MC	0,2-10	√													
		5-100														√
Sartorius Proline	SC	0,5-10	√													
		5-50				√										
		10-100														√
		50-200							√							
		10-250								√						
		200-1000									√					
	MC	0,5-10	√													
		5-50				√										
Sartorius Proline Plus	SC	0,1-3	√													
		0,5-10	√													
		2-20		√	√											
		10-100														√
		20-200							√							
		100-1000									√					
Eppendorf Electronic	SC	0,2-10	√													
		5-100			√				√							
Eppendorf Reference	SC	0,1-2,5	√													
		0,5-10		√												
		2-20		√	√											
		10-100					√									√
		50-200							√	√						
		100-1000									√					
Eppendorf Research Pro	SC	0,5-10	√	√												
		5-100					√									√
		50-1000									√					
	MC	0,5-10	√	√												
		5-100														√
Eppendorf Research & Research Plus	SC	0,5-10	√													
		2-20			√											
		10-100					√									√
		20-200							√	√						
		100-1000									√					
	MC	0,5-10	√													
		10-100					√									√
Gilson Pipetman P	SC	0,2-2	√													
		1-10	√													
		2-20			√											
		20-100					√									√
		50-200							√	√						
		200-1000									√					
Gilson Pipetman Ultra	SC	0,2-2	√													
		1-10	√													
		2-20			√											
		20-100														√
		20-200							√	√						
		200-1000									√					
	MC	1-20			√											

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Description	Channels	Volume (µl)	AF1	AF2	AF3	AF4	AF5	AF6	AF7	AF8	AF9	AF11	AF12	AF13	AF16	AF19
Gilson Neo	SC	0,2-2	√													
		1-10	√													
		2-20			√											
		20-100														√
		20-200							√							
		100-1000									√					
Gilson Concept	SC	0,5-10	√													
		5-100							√							√
	MC	1-10	√													
		10-100														√
Thermo Finnpipette Digital	SC	0,2-10	√													
		0,5-10	√												√	
		2-20			√											
		5-50				√										
		100-1000									√					
		200-1000									√					
	MC	0,5-10	√													
		5-50				√										
Thermo Finnpipette F1	SC	0,2-2	√													
		0,5-5	√													
		1-10	√												√	
		2-20			√											
		10-100					√									
		100-1000									√					
		200-1000									√					
	MC	1-10	√													
		5-50				√										
		10-100					√									
Thermo Finnpipette Focus	SC	0,3-3	√													
		0,5-5	√													
		1-10	√													√
		3-30			√											
		10-100					√									
		100-1000									√					
	MC	1-10	√													
		5-50				√										
Thermo Finnpipette Novus	SC	1-10	√													
		5-50				√										
		100-1000									√					
Rainin Classic	SC	0,1-2	√													
		0,5-10	√													
		2-20			√											
		10-100														√
		20-200							√							
Rainin Pipet Lite & Plus with LTS / E-Man Hybrid	SC/MC	0,1-2												√		
		0,5-10												√		
		2-20												√		
		10-100										√				
		20-200										√				
		100-1000											√			
VWR Collection EHP/UHP	SC/MC	0,2-2	√													
		0,5-10	√													
		2-20			√											
		5-50				√										
		10-100					√									
		20-200							√							
		100-1000									√					
VWR Collection Electronic	SC	0,5-10	√													
		5-50				√										
		20-200							√							
		100-1000								√						

Filter tips

All tips are made of high quality 100% pure virgin medical grade PP. Made in the highest quality moulds, these tips can be used whenever the work demands a higher standard. Sterile products are tested for endotoxin (pyrogen) contamination and certified to USP results. Resins are pre-tested for metal contamination. Certificates are on file by lot number for all test results.

- A wider seal ensures that tips will seal easily and consistently without leaking, on old as well as new pipettes
- Guaranteed free of detectable DNA, DNase/RNase, endotoxins and heavy metals

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	Type	Capacity (µl)	Compatibility	Sterile	Packed	Pk	Cat. No.
Bulk							
	UltraFine™, extended	0,1 - 10	AF1	-	Bulk	1.000	**732-0565**
	UltraFine™, graduated	0,1 - 10	AF1	-	Bulk	1.000	**732-0561**
	Bevel Point™, graduated	0,5 - 10	AF2	-	Bulk	1.000	**732-0517**
	Bevel Point™	1 - 40	AF3	-	Bulk	1.000	**732-0526**
	Bevel Point™	1 - 50	AF4	-	Bulk	1.000	**732-0567**
	Bevel Point™	1 - 100	AF5	-	Bulk	1.000	**732-0521**
	Bevel Point™	1 - 160	AF6	-	Bulk	1.000	**732-0571**
	Bevel Point™, wide orifice	1 - 200	AF7	-	Bulk	1.000	**732-0558**
	UltraFine™	1 - 200	AF7	-	Bulk	1.000	**732-0539**
	Bevel Point™	1 - 300	AF8	-	Bulk	1.000	**732-0535**
	UltraFine™	100 - 1000	AF9	-	Bulk	1.000	**732-0532**
Racked							
	UltraFine™, extended	0,1 - 10	AF1	-	10 racks, 96 each	960	**732-0542**
	UltraFine™, graduated	0,1 - 10	AF1	-	12 racks, 96 each	1.152	**732-0515**
	Bevel Point™, graduated	0,5 - 10	AF2	-	10 racks, 96 each	960	**732-0518**
	Bevel Point™	1 - 40	AF3	-	10 racks, 96 each	960	**732-0527**
	Bevel Point™	1 - 50	AF4	-	10 racks, 96 each	960	**732-0568**
	Bevel Point™	1 - 100	AF5	-	10 racks, 96 each	960	**732-0522**
	Bevel Point™	1 - 160	AF6	-	10 racks, 96 each	960	**732-0529**
	Bevel Point™, wide orifice	1 - 200	AF7	-	10 racks, 96 each	960	**732-0559**
	UltraFine™	1 - 200	AF7	-	10 racks, 96 each	960	**732-0540**
	Bevel Point™	1 - 300	AF8	-	10 racks, 96 each	960	**732-0536**
	UltraFine™	100 - 1000	AF9	-	6 racks , 96 each	576	**732-0533**
Racked, sterile							
	UltraFine™, extended	0,1 - 10	AF1	+	10 racks, 96 each	960	**732-0543**
	UltraFine™, graduated	0,1 - 10	AF1	+	12 racks, 96 each	1.152	**732-0516**
	Rainin® LTS™ style	0,1 - 20	AF13	+	10 racks, 96 each	960	**732-0799**
	Micro	0,1 - 30	AF1	+	10 racks, 96 each	960	**732-1100**
	Bevel Point™, graduated	0,5 - 10	AF2	+	10 racks, 96 each	960	**732-0519**
	UltraFine™, graduated	0,5 - 10	AF16	+	10 racks, 96 each	960	**732-1101**
	Bevel Point™	1 - 40	AF3	+	10 racks, 96 each	960	**732-0528**
	Bevel Point™	1 - 40	AF3	+	5 racks, 192 each	960	**732-0525**
	Bevel Point™	1 - 50	AF4	+	10 racks, 96 each	960	**732-0520**
	UltraFine™, FlexTop™, graduated	1 - 50	AF4	+	10 racks, 96 each	960	**732-1105**
	Standard	1 - 100	AF5	+	10 racks, 96 each	960	**732-1103**
	Bevel Point™, graduated	1 - 100	AF5	+	10 racks, 96 each	960	**732-1102**
	UltraFine™, extended	1 - 100	AF5	+	6 racks, 96 each	576	**732-1107**
	Bevel Point™	1 - 100	AF5	+	10 racks, 96 each	960	**732-0523**
	Bevel Point™	1 - 160	AF6	+	5 racks, 192 each	960	**732-0573**
	Bevel Point™	1 - 160	AF6	+	10 racks, 96 each	960	**732-0530**
	Rainin® LTS™ style	1 - 200	AF11	+	10 racks, 96 each	960	**732-0800**
	UltraFine™	1 - 200	AF7	+	10 racks, 96 each	960	**732-0541**
	UltraFine™, extended	1 - 200	AF7	+	6 racks , 96 each	576	**732-0610**
	Bevel Point™, wide orifice	1 - 200	AF7	+	10 racks, 96 each	960	**732-0544**
	Bevel Point™	1 - 300	AF8	+	10 racks, 96 each	960	**732-0537**
	UltraFine™, extended	1 - 300	AF8	+	6 racks , 96 each	576	**732-0611**
	Rainin® LTS™ style	100 - 1000	AF12	+	6 racks, 96 each	576	**732-0801**
	UltraFine™, FlexTop™	100 - 1000	AF9	+	6 racks, 96 each	576	**732-1106**
	UltraFine™	100 - 1000	AF9	+	6 racks , 96 each	576	**732-0534**
Pak Rak™ refill							
	UltraFine™, graduated	0,1 - 10	AF1	-	Reload system	864	**732-0563**
Pak Rak™ refill, sterile							
	UltraFine™, graduated	0,1 - 10	AF1	+	Pak Rak™ Express Refill	864	**613-0275**
Pak Rak™ Express refill							
	UltraFine™, graduated	0,1 - 10	AF1	-	Pak Rak™ Express Refill	864	**732-0564**

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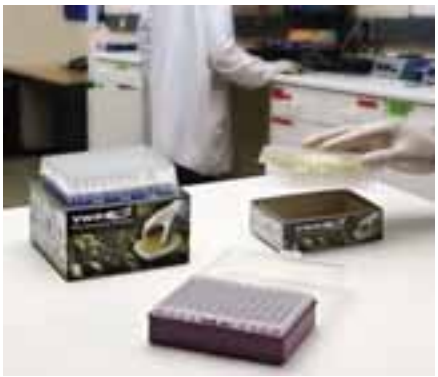
	Type	Capacity (µl)	Compatibility	Sterile	Packed	Pk	Cat. No.
Individually wrapped, sterile							
	UltraFine™, extended	0,1 - 10	AF1	+	Individually wrapped	200	**732-0566**
UltraFine™, graduated	0,1 - 10	AF1	+	Individually wrapped	200	**732-0562**	
Bevel Point™	1 - 40	AF3	+	Individually wrapped	200	**732-0524**	
Bevel Point™	1 - 50	AF4	+	Individually wrapped	200	**732-0569**	
Bevel Point™	1 - 100	AF5	+	Individually wrapped	200	**732-0570**	
Bevel Point™	1 - 160	AF6	+	Individually wrapped	200	**732-0572**	
Bevel Point™, wide orifice	1 - 200	AF7	+	Individually wrapped	200	**732-0560**	
UltraFine™	1 - 200	AF7	+	Individually wrapped	200	**732-0538**	
Bevel Point™	1 - 300	AF8	+	Individually wrapped	200	**732-0574**	
UltraFine™	100 - 1000	AF9	+	Individually wrapped	200	**732-0531**	**732-0566**
	UltraFine™, graduated	0,1 - 10	AF1	+	Individually wrapped	200	**732-0562**
	Bevel Point™	1 - 40	AF3	+	Individually wrapped	200	**732-0524**
	Bevel Point™	1 - 50	AF4	+	Individually wrapped	200	**732-0569**
	Bevel Point™	1 - 100	AF5	+	Individually wrapped	200	**732-0570**
	Bevel Point™	1 - 160	AF6	+	Individually wrapped	200	**732-0572**
	Bevel Point™, wide orifice	1 - 200	AF7	+	Individually wrapped	200	**732-0560**
	UltraFine™	1 - 200	AF7	+	Individually wrapped	200	**732-0538**
	Bevel Point™	1 - 300	AF8	+	Individually wrapped	200	**732-0574**

Filter tips, Next Generation refill



Tips made from pure resins with PE filter, packaging made from renewable materials

ZAP™ Premier™ aerosol filter tips, with their patented filters made from high molecular weight polyethylene, offer complete protection from sample carry over. The filter pores have an average size of 10 µm, so even radionucleotides are captured before reaching the pipette barrel. The tips are ideal for PCR and DNA manipulation.

The Next Generation is a complete system designed with a low carbon footprint that includes the first ever use of bio-plastic (non petroleum) compostable resin in pipette tip refills. Next Generation's small footprint extends to the package, with a reclosable box that helps maximise storage space in crowded labs.

- Easy to use refill system - new pipette tip racks, inserts and transfer cover preventing tip wobbling during refill and keeping tips clean
- 95% renewable materials - compostable tip base from organic non petroleum resin, carton made from 100% recycled fibres, printing is soy-based vegetable ink
- Certified DNA-/RNase-/DNase-free

Ordering information: Compact, reclosable packaging with reduced overall weight.

Type	Capacity (µl)	Compatibility	Sterile	Packed	Pk	Cat. No.
Extended, Tubegard™ ring	0,1 - 10	AF1	+	10 racks, 96 each	960	**732-1481**
UltraFine™, graduated	0,1 - 10	AF1	+	10 racks, 96 each	960	**732-1476**
Rainin® LTS™ style	1 - 20	AF13	+	10 racks, 96 each	960	**732-1483**
Bevel Point™	1 - 40	AF3	+	10 racks, 96 each	960	**732-1477**
Bevel Point™, graduated	1 - 100	AF19	+	10 racks, 96 each	960	**732-1482**
UltraFine™	1 - 200	AF7	+	10 racks, 96 each	960	**732-1479**
Rainin® LTS™ style	1 - 200	AF11	+	10 racks, 96 each	960	**732-1484**
Bevel Point™	1 - 300	AF8	+	10 racks, 96 each	960	**732-1478**
UltraFine™	100 - 1000	AF9	+	8 racks, 96 each	768	**732-1480**
Rainin® LTS™ style	100 - 1000	AF12	+	8 racks, 96 each	768	**732-1485**

Filter tips, reload system

Clear PP, sterile

- E-beam sterilised tips are free from DNA, DNase and RNase, pyrogens, PCR inhibitors and endotoxins
- Robust, traceable racks are easy to grab with their ergonomic clips
- Reload boxes including racks feature flip lock latch for one handed opening and closing, reversible lid with lip, flush fitting and click clip to stabilise the racks

Description	Channels	Volume (µl)	613-0984	613-0985	613-0986	613-0987	613-0988	613-0989	613-0991	613-0992
Eppendorf Research/Research Plus	SC	0,1 - 2,5	√	√	√	√				
Eppendorf Research/Research Plus	SC	2 - 20			√	√	√	√		
Eppendorf Research/Research Plus	SC	10 - 100					√	√		
Eppendorf Research/Research Plus	SC	20 - 200					√	√	√	
Eppendorf Research/Research Plus	SC	100 - 1000								√
Gilson Pipetman P-2	SC	0,1 - 2	√	√						
Gilson Pipetman P-10	SC	0,5 - 10	√	√						
Gilson Pipetman P-20	SC	2 - 20			√	√	√			
Gilson Pipetman P-100	SC	10 - 100					√			
Gilson Pipetman P-200	SC	50 - 200						√	√	
Gilson Pipetman P-1000	SC	100 - 1000								√
Thermo Finnpipette F1 & F2	SC	0,2 - 2	√	√						
Thermo Finnpipette F1 & F2	SC	0,5 - 5	√	√						
Thermo Finnpipette F1 & F2 (Micro)	SC	1 - 10	√	√						
Thermo Finnpipette F1 & F2	SC	2 - 20					√			
Thermo Finnpipette F1 & F2	SC	10 - 100						√		
Thermo Finnpipette F1 & F2	SC	20 - 200							√	
Thermo Finnpipette F1 & F2	SC	100 - 1000								√
Thermo Finnpipette F1 & F2	MC	1 - 10	√	√						
Thermo Finnpipette F1 & F2	MC	5 - 50							√	
Thermo Finnpipette F1 & F2	MC	10 - 100						√		

	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
	Ultra-Micro, graduated (2 µl)	0,1 - 10	+	10 racks, 96 each	960	**613-0984**
	Ultra-Micro, graduated (2,5 µl)	0,5 - 10	+	10 racks, 96 each	960	**613-0985**
	Ultra-Micro	0,1 - 10	+	10 racks, 96 each	960	**613-0986**
	Ultra-Micro	2 - 20	+	10 racks, 96 each	960	**613-0987**
	Bevelled	2 - 20	+	10 racks, 96 each	960	**613-0988**
	Bevelled	1 - 100	+	10 racks, 96 each	960	**613-0989**
	Bevelled	2 - 200	+	10 racks, 96 each	960	**613-0991**
	Graduated (250 / 500 / 1000 µl)	100 - 1000	+	10 racks, 96 each	960	**613-0992**

SC: Single channel pipette / MC: Multi channel pipette
For more compatibility information, please contact VWR Customer Services.

Speciality filter tips

PP

- Sterilised by gamma irradiation
- Certified RNase, DNase, DNA and pyrogen-free

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	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
	Large orifice	1 - 200	+	10 racks, 96 each	960	**613-0996**
	Large orifice, graduated (250 / 500 / 1000 µl)	100 - 1000	+	10 racks, 96 each	960	**613-1037**

Filter tips, ZAP™ Slik Low Retention

Transparent PP resins, with PE filter, sterile

Low retention tips offering unsurpassed fluid retention performance and proven aerosol blocking with the endotoxin-free, 10 micron porous hydrophobic filter. Ideal for PCR and DNA manipulation.

- Up to 10 times less fluid retention than standard tips
- Sample can be completely recovered without cutting into tip
- Lot certified purity (free from RNase/DNase, human DNA and endotoxin, non pyrogenic)

Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
ZAP™ Slik, extended	10	+	10 racks, 96 each	960	**732-1487**
ZAP™ Slik	10	+	12 racks, 96 each	1.152	**732-1486**
ZAP™ Slik	20	+	10 racks, 96 each	960	**732-1488**
ZAP™ Slik	100	+	10 racks, 96 each	960	**732-2385**
ZAP™ Slik	200	+	10 racks, 96 each	960	**732-1489**
ZAP™ Slik	300	+	10 racks, 96 each	960	**732-1490**
ZAP™ Slik	1000	+	6 racks, 96 each	576	**732-1491**

Filter tips, ep Dualfilter T.I.P.S®
Eppendorf
Sterile

- Two-phase filter for ultimate aerosol protection: The white layer which faces the sample retains drops, splashes and aerosols; the blue layer above it forms a highly effective double barrier, that reliably binds even biomolecules
- Characterised by defined flow dynamics, low wettability and high thermal stability
- Certified pyrogen-free and PCR clean (free from human DNA, DNase, RNase and PCR-inhibiting substances)

	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
	Small (S)	0,1 - 10	+	10 racks, 96 each	960	**613-3680**
	Medium (M)	0,1 - 10	+	10 racks, 96 each	960	**613-3681**
	Extended (L)	0,5 - 20	+	10 racks, 96 each	960	**613-3682**
	Standard	2 - 20	+	10 racks, 96 each	960	**613-3683**
	Standard	2 - 100	+	10 racks, 96 each	960	**613-3684**
	Standard	2 - 200	+	10 racks, 96 each	960	**613-3685**
	Standard	20 - 300	+	10 racks, 96 each	960	**613-3686**
	Standard	50 - 1000	+	10 racks, 96 each	960	**613-3687**
	Standard	50 - 1250	+	5 racks, 96 each	480	**613-1243**
	Standard	100 - 5000	+	5 racks, 24 each	120	**613-3688**
	Standard	1000 - 10000	+	Individually wrapped	100	**613-3689**

Filter tips, ep Dualfilter T.I.P.S® SealMax
Eppendorf
PE, sterile

These self-sealing tips with two-phase filter combine the same level of aerosol and biomolecule protection as ep Dualfilter T.I.P.S® with the reliable capability of sealing against liquid penetration upon contact. The tips are ideal for methods where high sensitivity and reproducibility are essential. Perfect for applications such as PCR and microbiology where preserving sample integrity and preventing cross-contamination are critical.

- Two-phase filter: Violet layer blocks liquids and binds aerosols; white layer repels drops and splashes and binds aerosols
- Maximum protection against aerosols and biomolecules for pipette and sample
- Made from pure, non recycled materials under cleanroom conditions without the use of biocides or plasticisers
- PCR clean, sterile, pyrogen-free

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	Capacity (µl)	Colour code	Sterile	Length (mm)	Packed	Pk	Cat. No.
	0,1 - 10	Dark Grey	+	34	10 racks, 96 each	960	**613-2956**
	0,5 - 20	Light Grey	+	46	10 racks, 96 each	960	**613-2957**
	2 - 100	Yellow	+	53	10 racks, 96 each	960	**613-2958**
	2 - 200	Yellow	+	55	10 racks, 96 each	960	**613-2959**
	20 - 300	Orange	+	55	10 racks, 96 each	960	**613-2960**
	50 - 1000	Blue	+	76	10 racks, 96 each	960	**613-2961**

Filter tips, Finntip® filter
Thermo Scientific

High quality PP with PE filter, sterile

- Integral filter made from water-repellent PE which does not swell on accidental penetration by liquid, allowing recovery of the sample
- Ideal for PCR and all other amplification techniques or any other work that involves a risk of contaminating the pipette by the aerosol effect
- Sterilised by gamma irradiation, certified RNase, DNase, DNA and endotoxin-free

Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
Micro	0,2 - 10	+	10 racks, 96 each	960	**613-2656**
Micro	0,2 - 20	+	10 racks, 384 each	3.840	**613-4490**
Micro	0,2 - 50	+	10 racks, 384 each	3.840	**613-4491**
Standard	0,5 - 10	+	10 racks, 96 each	960	**613-2658**
Standard	0,5 - 20	+	10 racks, 96 each	960	**613-4492**
Standard	0,3 - 30	+	10 racks, 96 each	960	**613-5023**
Standard	0,5 - 100	+	10 racks, 96 each	960	**613-2659**
Standard	0,5 - 200	+	10 racks, 96 each	960	**613-2660**
Extended	5 - 100	+	10 racks, 96 each	960	**613-4493**
Extended	5 - 200	+	10 racks, 96 each	960	**613-4494**
Standard	5 - 300	+	10 racks, 96 each	960	**613-2661**
Standard	100 - 1000	+	10 racks, 96 each	960	**613-4495**
Extended	100 - 1000	+	5 racks, 96 each	480	**613-4496**
Standard	1000 - 5000	+	5 racks, 54 each	270	**613-5011**
Standard	1000 - 10000	+	5 racks, 24 each	120	**613-2663**

Filter tips, Matrix®
Thermo Scientific

Transparent PP with PE filter, sterile

- Sealing rings on tips ensure confident, leak-free seal on most pipettes
- Hydrophobic filter material ensures no particulates contaminate samples
- Extended tips allow access to the bottom of test tubes, reagent bottles, flasks and other vessels without touching the pipette barrel against the side of the tube

Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
Standard	10	+	10 racks, 96 each	960	**732-1547**
Standard	12,5	+	10 racks, 384 each	3.840	**732-1549**
Extended	12,5	+	10 racks, 96 each	960	**732-1537**
Standard	30	+	10 racks, 96 each	960	**732-1544**
Standard	30	+	10 racks, 384 each	3.840	**732-1545**
Standard	125	+	10 racks, 384 each	3.840	**732-1538**
Standard	200	+	10 racks, 96 each	960	**732-1542**
Extended	200	+	10 racks, 96 each	960	**732-1540**
Extended	250	+	10 racks, 96 each	960	**732-1546**
Standard	250	+	10 racks, 96 each	960	**732-1536**
Standard	1250	+	10 racks, 96 each	960	**732-1548**
Extended	1250	+	10 racks, 96 each	960	**732-1539**

Filter tips, ClipTip®
Thermo Scientific

ClipTip® filtered pipette tips provide security with a unique and innovative interlocking technology that ensures a complete seal on every channel with minimal tip attachment and ejection force.

- Pipette tips feature 'clips' that lock tips in place and forms a complete seal
- Every ClipTip® pipette tip utilizes low retention technology to enable maximium sample recovery
- Certified free of RNase, DNase, DNA, ATP and endotoxin contamination
- Environmentally responsible: ClipTip® reload system uses recycled components and 30% less plastic
- Each tip insert has ink-jetted lot and volume information; the convenient colour key makes it easy to match the colour of the F1-ClipTip® pipette plunger cap with the corresponding ClipTip® pipette tip rack insert

Capacity (µl)	Colour code	Length (mm)	Packed	Pk	Cat. No.
ClipTip® 20					
1 - 20	Pink	46	10 racks, 96 each	960	**732-1618**
1 - 20	Pink	46	10 reload inserts, 96 each	960	**732-1619**
ClipTip® 50					
5 - 50	Purple	51	10 racks, 96 each	960	**732-1620**
5 - 50	Purple	51	10 reload inserts, 96 each	960	**732-1621**
ClipTip® 200					
10 - 200	Yellow	56	10 racks, 96 each	960	**732-1622**
10 - 200	Yellow	56	10 reload inserts, 96 each	960	**732-1623**
ClipTip® 300					
30 - 300	Orange	63	10 racks, 96 each	960	**732-1624**
30 - 300	Orange	63	10 reload inserts, 96 each	960	**732-1625**
ClipTip® 1000					
100 - 1000	Blue	95	8 racks, 96 each	768	**732-1626**
100 - 1000	Blue	95	8 reload inserts, 96 each	768	**732-1627**

Filter tips
Brand

TipBox

TipRack

High-quality, transparent PP, with PE filter, non sterile or sterile, autoclavable

These filter tips have a PE filter that is free from chemical additives and therefore prevents contamination of the samples. Permeability is controlled by the combination of pore size and filter length, so that no aerosols can reach the pipette shaft. The filters function with consistent reliability. However, if liquids accidently contact the filter, they pass very slowly. Since the filter does not swell, the sample can be recovered from the filter by simply actuating the pipette's blow-out function, or by centrifugation if necessary.
The tips are tested for compatibility with BRAND pipettes and are suitable for use with most of the common pipettor brands including Gilson®, Thermo Scientific Finnpipette®, Eppendorf® and Sartorius.

- High-purity polypropylene, free from DiHEMDA and oleamide, manufactured without lubricants; cadmium-free pigments
- Rack-packed pipette tips are free from DNA, RNases, endotoxins and ATP, independent of the packaging
- Graduations for quick volume checking
- Sterile tips and packaging are manufactured exclusively under BIO-CERT® quality certification
- Autoclavable at +121 °C (2 bar), acc. DIN EN 285

Bulk packaging in reclosable bags, non sterile
Tips are produced under supervised cleanroom conditions and automatically shrink wrapped in reclosable bags and packaged in cardboard boxes. The batch

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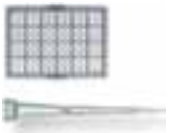
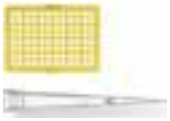
number is printed on every bag.

TipBox, non sterile and sterile, BIO-CERT®
Tip box with transparent window, hinged and push-on lid (dual function closure) and coloured tip trays, with side panel labelling. Usable with a partially loaded multi channel pipette.

TipRack, non sterile and sterile, BIO-CERT®
Space saving refill unit for TipBox, with an environmentally compatible packaging made of recyclable PET. Compared to the filled TipBoxes, the amount of waste is reduced by 20%. Sterile racks are supplied with a transfer aid that enables simple, contamination-free transfer into a previously sterilised TipBox. All tip-trays are printed on one side with information on the contents.

BIO-CERT®: These tips are made from high-quality, pure PP without any mold release agents and other additives. All lots are tested for sterility (acc. ISO 11 137 and AAMI guidelines, a SAL of 10^{-6} is obtained) and are certified free from endotoxins, DNA, RNase and ATP. Tips are supplied with a certificate of analysis.

	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
0,1 - 1 µl, length: 37 mm						
	Bulk	0,1 - 1	-	1 bag, 960 each	960	**613-2351**
	TipRack	0,1 - 1	-	10 racks, 96 each	960	**613-2358**
	TipRack, BIO-CERT®	0,1 - 1	+	10 racks, 96 each	960	**613-2366**
	TipBox	0,1 - 1	-	5 boxes, 96 each	480	**613-2373**
	TipBox, BIO-CERT®	0,1 - 1	+	10 boxes, 96 each	960	**613-2380**
0,5 - 10 µl, length: 46 mm						
	Bulk	0,5 - 10	-	1 bag, 960 each	960	**613-2352**
	TipRack	0,5 - 10	-	10 racks, 96 each	960	**613-2359**
	TipRack, BIO-CERT®	0,5 - 10	+	10 racks, 96 each	960	**613-2367**
	TipBox	0,5 - 10	-	5 boxes, 96 each	480	**613-2374**
	TipBox, BIO-CERT®	0,5 - 10	+	10 boxes, 96 each	960	**613-2381**
1 - 20 µl, length: 50 mm						
	Bulk	1 - 20	-	1 bag, 960 each	960	**613-2353**
	TipRack	1 - 20	-	10 racks, 96 each	960	**613-2361**
	TipRack, BIO-CERT®	1 - 20	+	10 racks, 96 each	960	**613-2368**
	TipBox	1 - 20	-	5 boxes, 96 each	480	**613-2375**
	TipBox, BIO-CERT®	1 - 20	+	10 boxes, 96 each	960	**613-2382**
2 - 20 µl, length: 50 mm						
	Bulk	2 - 20	-	1 bag, 960 each	960	**613-2354**
	TipRack	2 - 20	-	10 racks, 96 each	960	**613-2362**
	TipRack, BIO-CERT®	2 - 20	+	10 racks, 96 each	960	**613-2369**
	TipBox	2 - 20	-	5 boxes, 96 each	480	**613-2376**
	TipBox, BIO-CERT®	2 - 20	+	10 boxes, 96 each	960	**613-2383**
5 - 100 µl, length: 53 mm						
	Bulk	5 - 100	-	1 bag, 960 each	960	**613-2355**
	TipRack	5 - 100	-	10 racks, 96 each	960	**613-2363**
	TipRack, BIO-CERT®	5 - 100	+	10 racks, 96 each	960	**613-2370**
	TipBox	5 - 100	-	5 boxes, 96 each	480	**613-2377**
	TipBox, BIO-CERT®	5 - 100	+	10 boxes, 96 each	960	**613-2384**
5 - 200 µl, length: 53 mm						
	Bulk	5 - 200	-	1 bag, 960 each	960	**613-2356**
	TipRack	5 - 200	-	10 racks, 96 each	960	**613-2364**
	TipRack, BIO-CERT®	5 - 200	+	10 racks, 96 each	960	**613-2371**
	TipBox	5 - 200	-	5 boxes, 96 each	480	**613-2378**
	TipBox, BIO-CERT®	5 - 200	+	10 boxes, 96 each	960	**613-2385**
50 - 1000 µl, length: 70 mm						
	Bulk	50 - 1000	-	1 bag, 960 each	960	**613-2357**
	TipRack	50 - 1000	-	10 racks, 96 each	960	**613-2365**
	TipRack, BIO-CERT®	50 - 1000	+	10 racks, 96 each	960	**613-2372**
	TipBox	50 - 1000	-	5 boxes, 96 each	480	**613-2379**
	TipBox, BIO-CERT®	50 - 1000	+	10 boxes, 96 each	960	**613-2386**

Description	Pk	Cat. No.
Accessories		
Empty TipBox, PP, with tip-tray, stackable, for tips up to 50 µl	1	**613-2424**
Empty TipBox, PP, with tip-tray, stackable, for tips up to 200 µl	1	**613-2425**
Empty TipBox, PP, with tip-tray, stackable, for tips up to 300 µl	1	**613-2426**
Empty TipBox, PP, with tip-tray, stackable, for tips up to 1000 µl	1	**613-2427**

IVD

Filter tips, Ultra Low Retention
Brand

TipBox

High-quality, transparent PP, with PE filter, non sterile or sterile, autoclavable

The homogeneous, defect free surface of these tips has an extremely low surface tension, over 50% less than PTFE. This significantly reduces sample loss and provides substantially higher reproducibility when working with critical media. The tips have a high chemical resistance. Ideal for working with solvents and biological samples that contain detergents such as Triton® X-100, SDS and Tween.

- PE filter is free from chemical additives
- No leaching out of additives, no siliconisation of the surface
- High chemical resistance: ideal when working with solvents
- All tips are free of DNA (< 40 fg), RNase (< 8,6 fg), endotoxins (< 1 pg) and ATP (< 1 fg)
- Tips can be autoclaved at +121 °C (2 bar) without damaging the material properties

Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
0,1 - 1 µl, length: 37 mm					
TipBox	0,1 - 1	-	5 boxes, 96 each	480	**613-2387**
TipBox, BIO-CERT®	0,1 - 1	+	10 boxes, 96 each	960	**613-2394**
0,5 - 10 µl, length: 46 mm					
TipBox	0,5 - 10	-	5 boxes, 96 each	480	**613-2388**
TipBox, BIO-CERT®	0,5 - 10	+	10 boxes, 96 each	960	**613-2395**
1 - 20 µl, length: 50 mm					
TipBox	1 - 20	-	5 boxes, 96 each	480	**613-2389**
TipBox, BIO-CERT®	1 - 20	+	10 boxes, 96 each	960	**613-2396**
2 - 20 µl, length: 50 mm					
TipBox	2 - 20	-	5 boxes, 96 each	480	**613-2390**
TipBox, BIO-CERT®	2 - 20	+	10 boxes, 96 each	960	**613-2397**
5 - 100 µl, length: 53 mm					
TipBox	5 - 100	-	5 boxes, 96 each	480	**613-2391**
TipBox, BIO-CERT®	5 - 100	+	10 boxes, 96 each	960	**613-2398**
5 - 200 µl, length: 53 mm					
TipBox	5 - 200	-	5 boxes, 96 each	480	**613-2392**
TipBox, BIO-CERT®	5 - 200	+	10 boxes, 96 each	960	**613-2399**
50 - 1000 µl, length: 70 mm					
TipBox, BIO-CERT®	50 - 1000	+	10 boxes, 96 each	960	**613-2400**

Filter tips, Classic / Maxymum Recovery™, Axygen®

Corning®

PP, sterile

- Free of DNA, RNase, DNase, pyrogens and metals
- Maxymum Recovery™ tips have an ultra-smooth surface designed to reduce sample retention and sample loss, and to avoid denaturation of the sample
- Sterilised by gamma radiation

Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
Classic					
Microvolume	0,5 - 10	+	10 racks, 96 each	960	**732-0637**
Microvolume, extended	0,5 - 10	+	10 racks, 96 each	960	**732-0638**
Ultra-Micro	0,5 - 10	+	10 racks, 96 each	960	**732-0639**
Standard	0,5 - 20	+	10 racks, 96 each	960	**732-0640**
Standard	0,5 - 50	+	10 racks, 96 each	960	**732-0641**
Standard	1 - 100	+	10 racks, 96 each	960	**732-0642**
Standard	1 - 150	+	10 racks, 96 each	960	**732-0643**
Standard	1 - 200	+	10 racks, 96 each	960	**732-0644**
Standard	1 - 300	+	10 racks, 96 each	960	**732-0646**
Wide bore	5 - 200	+	10 racks, 96 each	960	**732-0645**
Standard	100 - 1000	+	10 racks, 100 each	1.000	**732-0647**
Wide bore	100 - 1000	+	10 racks, 100 each	1.000	**732-0648**
Standard	100 - 1200	+	12 racks, 96 each	1.152	**732-1404**
Maxymum Recovery™					
Microvolume	0,5 - 10	+	10 racks, 96 each	960	**732-0649**
Microvolume, extended	0,5 - 10	+	10 racks, 96 each	960	**732-7511**
Ultra-Micro	0,5 - 10	+	10 racks, 96 each	960	**732-0651**
Standard	0,5 - 20	+	10 racks, 96 each	960	**732-0652**
Standard	0,5 - 50	+	10 racks, 96 each	960	**732-0653**
Standard	1 - 100	+	10 racks, 96 each	960	**732-0862**
Standard	1 - 150	+	10 racks, 96 each	960	**732-0654**
Standard	1 - 200	+	10 racks, 96 each	960	**732-0655**
Wide bore	5 - 200	+	10 racks, 96 each	960	**732-0656**
Standard	100 - 1000	+	10 racks, 100 each	1.000	**732-0863**
Standard	100 - 1200	+	12 racks, 96 each	1.152	**732-0935**

Filter tips, low binding, DeckWorks™

Corning®

Transparent PP, with PE filter, sterile

These low binding barrier tips feature an inert, high-density PE barrier to eliminate aerosol carryover contamination during critical pipetting procedures. The tips will not trap liquids or inhibit PCR in the event of over pipetting. This system is designed to help reduce the production and waste of plastic materials. The hinged racks are manufactured with recycled plastic.

- Tips are made in a controlled molding environment to ensure accuracy and precision across all tip volumes
- Non pyrogenic
- Human DNA-free, RNase-/DNase-free
- Sterility Assurance Level 10^{-3}

	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
	Low binding, graduated	0,1 - 10	+	40 racks, 96 each	3.840	**613-1696**
	Low binding, graduated	1 - 20	+	40 racks, 96 each	3.840	**613-1697**
	Low binding, graduated	1 - 100	+	40 racks, 96 each	3.840	**613-1698**

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	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
	Low binding, graduated	1 - 200	+	40 racks, 96 each	3.840	**613-1699**
	Low binding, graduated	1 - 200	+	32 racks, 96 each	3.072	**613-1739**
	Low binding, graduated	100 - 1000	+	32 racks, 96 each	3.072	**613-1750**

IVD STERILE

Filter tips
Biotix

PP, sterile, transparent

This new generation of filter tips form an excellent seal on both single and multi channel pipettes. The tips are manufactured with proprietary technologies for increased pipetting accuracy and precision. The unique Biotix Delta Filter™ alerts the user to potential contamination by changing colour upon contact with liquids or aerosols.

- FlexFit™ provides a flexible nature at the proximal end of the tip, so reducing the loading and ejection forces when using a pipette
- Blade™ technology eliminates hanging drops at the distal end of the pipette tip
- Certified free of DNA, DNase, RNase, and endotoxins (pyrogens)
- X-Resin™ and Chem-Resin™ tips are available to meet specific applications

Tips made from **X-Resin™** feature an industry-leading, low retention surface for maximum sample recovery. Robust sample recovery supports performance and data accuracy in today's most sensitive assays.

Chem-Resin™ provides a more neutral surface tension for working with polar solvents or highly electronegative reagents; the reduced hydrophobicity on the surface facilitates low volume draw and drip-free dispense of these classes of chemicals.

IVD labelled. Manufactured under stringent controls in an ISO 9001 certified facility. Every lot is tested for precision assuring maximum quality and compatibility. All raw materials are traceable.

Packaging information: Box of 96 tips with Phantom hinge lid for easy rack opening. Each tray includes a label with a unique barcoded serial number, part number, and description for high traceability.

	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
	Ultra micro	2	+	10 racks, 96 each	960	**732-2384**
	Chem-Resin™	10	+	10 racks, 96 each	960	**613-2826**
	X-Resin™	10	+	10 racks, 96 each	960	**732-1429**
	X-Resin™, extended length	10	+	10 racks, 96 each	960	**732-1430**
	Chem-Resin™, extended length	10	+	10 racks, 96 each	960	**732-1512**
	X-Resin™	20	+	10 racks, 96 each	960	**732-1432**
	Chem-Resin™	20	+	10 racks, 96 each	960	**613-2827**
	X-Resin™	100	+	10 racks, 96 each	960	**732-1433**
	Chem-Resin™	100	+	10 racks, 96 each	960	**613-2828**
	X-Resin™	300	+	10 racks, 96 each	960	**732-1434**
	Chem-Resin™	300	+	10 racks, 96 each	960	**613-2829**
	Chem-Resin™	1250	+	10 racks, 96 each	960	**613-2830**
	X-Resin™	1250	+	10 racks, 96 each	960	**732-2383**

STERILE IVD

Filter tips, SafetySpace™
Sartorius

PP with PE filter, sterile, non autoclavable

Ideal for molecular biology, microbiology and cell culture applications, as well as radioactive work. Specially designed for multiple dispensing with electronic pipettes, reverse pipetting and pipetting foaming liquids like buffers and proteins.

- Higher filter position prevents liquid contacting the filter and reduces the risk of contamination of the pipette or samples
- Electron beam sterilisation
- Certified as DNase, RNase and endotoxin-free (certificates can be downloaded on supplier website)

Packaging: In single tray, sealed in air-tight plastic.

Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
Standard	0,1 - 10	+	10 racks, 96 each	960	**613-0857**
Standard	0,5 - 20	+	10 racks, 96 each	960	**613-0858**
Standard	2 - 120	+	10 racks, 96 each	960	**613-0859**
Standard	5 - 200	+	10 racks, 96 each	960	**613-0860**

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Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
Standard	5 - 300	+	10 racks, 96 each	960	**613-0898**
Standard	50 - 1000	+	10 racks, 96 each	960	**613-0899**
Standard	50 - 1200	+	10 racks, 96 each	960	**613-0900**

Barrier tips, ART™
Thermo Scientific ART™

Transparent, sterile

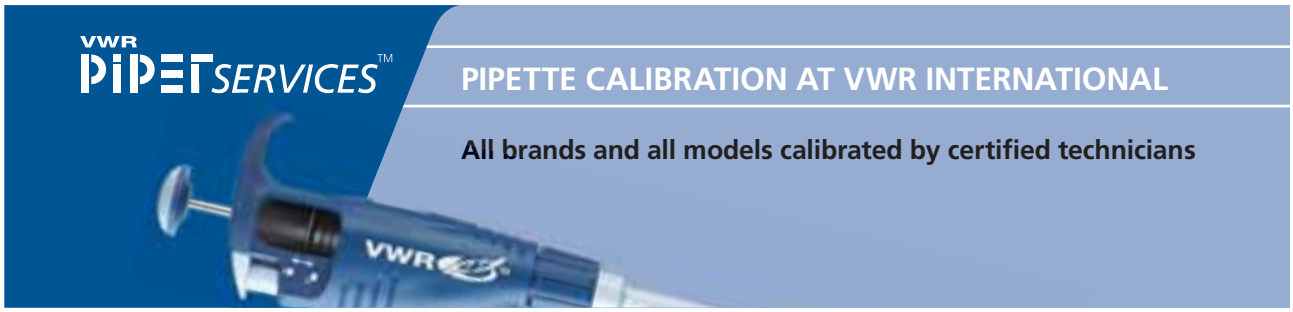
These barrier tips are designed to fit virtually any pipette and application. The self-sealing barrier provides 100% protection against aerosols and liquid contamination.

- Free of RNase, DNase, DNA, ATP, Bioburden, Endotoxin, Pyrogen and PCR Inhibitors
- Rack cover can easily be realigned from a traditional lift-off to a hinged rack for one-handed access to tips
- Front latch closes and locks, ensuring safe and secure storage
- Space-saving, stackable reload system is environmentally friendly, traceable and easy to use

Packaging: Tips are available in racks or in trays for rack reloading. Reload tips require an empty rack.

Type	Capacity (µl)	Sterile	Length (mm)	Packed	Pk	Cat. No.
10 µl						
ART™ 10	10	+	31,3	10 racks, 96 each	960	**732-1139**
ART™ 10	10	+	31,3	Reload, 10 trays, 96 each	960	**732-2402**
ART™ 10, Ultra-micro	10	+	45,7	10 racks, 96 each	960	**732-1141**
ART™ 10, extended	10	+	43,3	10 racks, 96 each	960	**732-1140**
20 µl						
ART™ 20	20	+	50,7	10 racks, 96 each	960	**732-1142**
ART™ 20	20	+	50,7	Reload, 10 trays, 96 each	960	**732-2404**
200 µl						
ART™ 200	200	+	58,8	10 racks, 96 each	960	**732-1145**
ART™ 200	200	+	58,8	Reload, 10 trays, 96 each	960	**732-2392**
ART™ 200, extended	200	+	90,9	8 racks, 96 each	768	**732-2406**
300 µl						
ART™ 300	300	+	58,4	10 racks, 96 each	960	**732-2395**
ART™ 300	300	+	58,4	Reload, 10 trays, 96 each	960	**732-2396**
1000 µl						
ART™ 1000	1000	+	88,9	8 racks, 56 each	768	**732-1146**
ART™ 1000	1000	+	88,9	Reload, 10 trays, 56 each	560	**732-2408**
ART™ 1000, extended	1000	+	118,5	8 racks, 96 each	768	**732-2398**
1250 µl						
ART™ 1250, extended	1250	+	102,2	8 racks, 96 each	768	**732-2400**

Description	Pk	Cat. No.
Accessories		
Empty reload rack, sterile, small, for 10 µl and 20 µl tips (insert not included)	10	**732-1171**
Empty reload rack, sterile, medium, for 20 µl, 200 and 300 µl tips (insert not included)	10	**732-1170**
Empty reload rack, sterile, large, for 1000 µl tips (insert not included)	8	**732-1169**



Barrier tips, low retention, ART™
Thermo Scientific ART™

Transparent, sterile

These barrier tips are designed to fit virtually any pipette and application. The self-sealing barrier provides 100% protection against aerosols and liquid contamination. Using advanced low-retention technology, the hydrophobic inner surface of these tips significantly reduces sample loss to adhesion and maximizes sample recovery.

- Free of RNase, DNase, DNA, ATP, Bioburden, Endotoxin, Pyrogen and PCR Inhibitors
- Rack cover can easily be realigned from a traditional lift-off to a hinged rack for one-handed access to tips
- Front latch closes and locks, ensuring safe and secure storage
- Space-saving, stackable reload system is environmentally friendly, traceable and easy to use

Packaging: Tips are available in racks or in trays for rack reloading. Reload tips require an empty rack.

Type	Capacity (µl)	Sterile	Length (mm)	Packed	Pk	Cat. No.
ART™ 10, low retention	10	+	31,3	10 racks, 96 each	960	**732-1181**
ART™ 10, low retention	10	+	31,3	Reload, 10 trays, 96 each	960	**732-2401**
ART™ 10, low retention, Ultra-micro	10	+	45,7	10 racks, 96 each	960	**732-1177**
ART™ 10, low retention, extended	10	+	43,3	10 racks, 96 each	960	**732-1179**
ART™ 20, low retention	20	+	50,7	10 racks, 96 each	960	**732-1175**
ART™ 20, low retention	20	+	50,7	Reload, 10 trays, 96 each	960	**732-2403**
ART™ 200, low retention	200	+	58,8	10 racks, 96 each	960	**732-1166**
ART™ 200, low retention	200	+	58,8	Reload, 10 trays, 96 each	960	**732-2391**
ART™ 200, low retention, extended	200	+	90,9	8 racks, 96 each	768	**732-2405**
ART™ 300, low retention	300	+	58,4	10 racks, 96 each	960	**732-2393**
ART™ 300, low retention	300	+	58,4	Reload, 10 trays, 96 each	960	**732-2394**
ART™ 1000, low retention	1000	+	88,9	8 racks, 96 each	768	**732-1173**
ART™ 1000, low retention	1000	+	88,9	Reload, 8 trays, 96 each	560	**732-2407**
ART™ 1000, low retention, extended	1000	+	118,5	8 racks, 96 each	768	**732-2397**
ART™ 1250, low retention, extended	1250	+	102,2	8 racks, 96 each	768	**732-2399**

Filter tips, Solvent Safe™
Thermo Scientific ART™

PP, with carbon filter

- The Solvent Safe™ carbon filter protects pipettes from damage by blocking corrosive vapours from volatile organic solvents and is a less costly alternative to expensive positive displacement pipettes

	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
	Standard	1 - 200	+	4 racks, 96 each	384	**612-9644**
	Standard	100 - 1000	-	Bulk	500	**612-9621**
	Standard	100 - 1000	+	4 racks, 100 each	400	**612-9643**

IVD

Filter tips, ART®
Thermo Scientific ART™

ART® GEL

ART® XLP

ART®

Manufactured using a special process, tips are furnished with a unique ART® filter to eliminate any risk of cross-contamination between samples, which is particularly important in molecular biology. They are suitable for applications involving the use of DNA or RNA, as well as radioactive and infectious samples.

- Certified free of RNase, DNase, DNA and pyrogens
- Sterile tips: Sterilised by gamma radiation
- 'Low Retention' tips: Extremely hydrophobic surface for lower retention, superior precision and reproducibility of measurements

Ordering information: Supplied loose bagged and non sterile, sterile in racks, in BreakThru packaging (recyclable, economical packaging in a box), or individually wrapped.

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Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
ART® 10 µl					
Standard	0,1 - 10	-	Bulk	1.000	**732-2284**
Standard	0,1 - 10	+	10 racks, 96 each	960	**732-2219**
Reach (extended)	0,1 - 10	-	Bulk	1.000	**732-2290**
Reach (extended)	0,1 - 10	+	Individually wrapped	500	**732-2291**
Reach (extended)	0,1 - 10	+	10 racks, 96 each	960	**732-2221**
Reach (extended), Low Retention	0,1 - 10	+	10 racks, 96 each	960	**732-2222**
Low Retention	0,1 - 10	+	10 racks, 96 each	960	**732-2220**
Standard	0,5 - 10	-	Bulk	1.000	**732-2295**
Standard	0,5 - 10	+	10 racks, 96 each	960	**732-2293**
Extended	0,5 - 10	+	10 racks, 96 each	960	**732-2285**
Low Retention	0,5 - 10	+	10 racks, 96 each	960	**732-2294**
Low Retention, extended	0,5 - 10	+	10 racks, 96 each	960	**732-2286**
ART® 20 µl					
Standard	0,5 - 20	+	10 racks, 96 each (BreakThru)	960	**732-2298**
Standard	0,5 - 20	-	Bulk	1.000	**732-2300**
Standard	0,5 - 20	+	Individually wrapped	500	**732-2301**
Standard	0,5 - 20	+	10 racks, 96 each	960	**732-2223**
Extended	0,5 - 20	+	10 racks, 96 each	960	**732-2225**
Low Retention	0,5 - 20	+	10 racks, 96 each	960	**732-2224**
GEL	0,5 - 20	+	10 racks, 96 each	960	**732-2229**
ART® 50 µl					
SoftFit	0,5 - 50	+	10 racks, 96 each	960	**732-2238**
ART® 100 µl					
GEL	0,5 - 100	+	10 racks, 96 each	960	**732-2226**
Graduated	1 - 100	-	Bulk	1.000	**732-2203**
Standard	1 - 100	-	Bulk	1.000	**732-2279**
Standard	1 - 100	+	10 racks, 96 each	960	**732-2202**
Standard	1 - 100	+	10 racks, 96 each	960	**732-2204**
Low Retention	1 - 100	+	10 racks, 96 each	960	**732-2205**
XLP (extended)	5 - 100	-	Bulk	1.000	**732-2303**
XLP (extended)	5 - 100	+	8 racks, 96 each	768	**732-2231**
ART® 200 µl					
Standard	1 - 200	-	Bulk	1.000	**732-2209**
Standard	1 - 200	+	Individually wrapped	500	**732-2282**
Standard	1 - 200	+	10 racks, 96 each	960	**732-2207**
XLG (wide orifice)	1 - 200	+	Individually wrapped	500	**732-2306**
XLG (wide orifice)	1 - 200	+	8 racks, 96 each	768	**732-2232**
Low Retention	1 - 200	+	10 racks, 96 each	960	**732-2208**
Wide orifice	5 - 200	+	10 racks, 96 each	960	**732-2210**
XLP (extended)	5 - 200	+	8 racks, 96 each	768	**732-2233**
ART® 300 µl					
Standard	1 - 300	-	Bulk	1.000	**732-2213**
Standard	1 - 300	+	10 racks, 96 each	960	**732-2212**
ART® 500 µl					
SoftFit	50 - 500	+	Individually wrapped	500	**732-2310**
SoftFit	50 - 500	+	8 racks, 100 each	800	**732-2235**
ART® 1000 µl					
Standard	100 - 1000	-	Bulk	1.000	**732-2216**
Standard	100 - 1000	+	Individually wrapped	500	**732-2217**
Standard	100 - 1000	+	8 racks, 100 each	800	**732-2355**
Wide orifice	100 - 1000	-	Bulk	1.000	**732-2283**
Wide orifice	100 - 1000	+	8 racks, 100 each	800	**732-2218**
Reach (extended)	100 - 1000	+	8 racks, 100 each	800	**732-2215**
SoftFit	100 - 1000	-	Bulk	1.000	**732-2311**
SoftFit	100 - 1000	+	Individually wrapped	500	**732-2312**
SoftFit	100 - 1000	+	8 racks, 100 each	800	**732-2236**
ART® 5000 µl					
Standard	1000 - 5000	-	Bulk	250	**732-2234**

Filter tips, ART® reload system

Thermo Scientific ART™

This sterile barrier tip reload system combines individually packaged blister tubs made of recycled plastic and new hinged racks. The push down blister tub easily inserts the ART® barrier tips into the hinged racks providing stackable space-saving racks that offer easy, one-handed use. Empty hinged racks allow for easy conversion to the ART® Reload system.

- Environmentally friendly packaging
- ART® self-sealing barrier preventing cross-contamination
- Tips are certified DNase, RNase and pyrogen-free

	Type	Capacity (µl)	Sterile	Packed	Pk	Cat. No.
ART® 10						
	MicroPoint™, Low Retention	10	+	10 racks, 96 each (Reload insert)	960	**732-1180**
	MicroPoint™	10	+	10 racks, 96 each (Reload insert)	960	**732-1147**
ART® 10 REACH						
	Extended, Low Retention	10	+	10 racks, 96 each (Reload insert)	960	**732-1178**
	Extended	10	+	10 racks, 96 each (Reload insert)	960	**732-1148**
ART® 20E						
	Ultra-Micro, Low Retention	10	+	10 racks, 96 each (Reload insert)	960	**732-1176**
	Ultra-Micro	10	+	10 racks, 96 each (Reload insert)	960	**732-1149**
ART® 20P						
	Low Retention	20	+	10 racks, 96 each (Reload insert)	960	**732-1174**
	Standard	20	+	10 racks, 96 each (Reload insert)	960	**732-1150**
ART® 100						
	Standard	100	+	10 racks, 96 each (Hinged rack)	960	**732-1143**
	Standard	100	+	10 racks, 96 each (Reload insert)	960	**732-1151**
ART® 100E						
	MicroPoint™, Low Retention	100	+	10 racks, 96 each (Hinged rack)	960	**732-1168**
	MicroPoint™, Low Retention	100	+	10 racks, 96 each (Reload insert)	960	**732-1167**
	MicroPoint™	100	+	10 racks, 96 each (Hinged rack)	960	**732-1144**
	MicroPoint™	100	+	10 racks, 96 each (Reload insert)	960	**732-1152**
ART® 200						
	Low Retention	200	+	10 racks, 96 each (Reload insert)	960	**732-1165**
	Standard	200	+	10 racks, 96 each (Reload insert)	960	**732-1153**
ART® 1000XL						
	Low Retention	1000	+	8 racks, 96 each (Reload insert)	768	**732-1172**
	Standard	1000	+	8 racks, 96 each (Reload insert)	768	**732-1154**

Description	Pk	Cat. No.
Accessories		
Empty reload rack, sterile, small, for 10 µl and 20 µl tips (insert not included)	10	**732-1171**
Empty reload rack, sterile, medium, for 20 µl, 200 and 300 µl tips (insert not included)	10	**732-1170**
Empty reload rack, sterile, large, for 1000 µl tips (insert not included)	8	**732-1169**

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Robotic tips for Eppendorf epMotion® automated pipetting system
Thermo Scientific

Clear, sterile or non sterile

These automation tips for the epMotion automated pipetting system are available in non-sterile, sterile, and sterile filtered versions.

- Each tip is lot-tested during production using a 15-point QC program on an epMotion workstation
- Tips have a low percentage Coefficient of Variation (% CV)
- Sterile tips are certified free of RNase, DNase, DNA, endotoxin, bioburden and pyrogen

Capacity (µl)	Filter	Sterile	Packed	Pk	Cat. No.
50	-	+	10 racks, 96 each	960	**736-0755**
50	+	+	10 racks, 96 each	960	**736-0756**
50	-	-	10 racks, 96 each	960	**736-0757**
300	+	+	10 racks, 96 each	960	**736-0758**
300	-	+	10 racks, 96 each	960	**736-0759**
300	-	-	10 racks, 96 each	960	**736-0760**
1000	+	+	10 racks, 96 each	960	**736-0761**
1000	-	+	10 racks, 96 each	960	**736-0762**
1000	-	-	10 racks, 96 each	960	**736-0763**

Robotic tips for Beckman® Biomek FX/ NX automated platforms
Biotix

Biotix robotic tips for Beckman platforms are manufactured to the highest engineering standards for robotic systems. The ultra-straight tips target the centre of microplate wells precisely, delivering exceptional accuracy and precision without risk of jamming. With specifications to ensure complete compatibility, no changes in programming scripts should be necessary to use Biotix tips; use of the standard definitions bundled in the robotic software program is appropriate.

- Tips are BioReady™ certified to be free of RNase, DNase, and Endotoxins (pyrogens)
- Available in non-sterile or sterile

The clear FX-style tips are compatible with Biomek FX/NX, Multimek AP96 and Biomek 3000. The black, SPAN-8 style tips are compatible with Biomek FX/NX with a SPAN-8 liquid-level sensing head.

Description	Capacity (µl)	Filter	Colour	Sterile	Packed	Pk	Cat. No.
Robotic tips for Beckman Multimek® AP96, Biomek 3000®, 96-head	20	-	Transparent	-	96 tips/rack, 10 racks/ pack, 5 packs/case	4.800	**732-2449**
Robotic tips for Beckman Span-8, 96-head	20	-	Black	-	96 tips/rack, 10 racks/ pack	4.800	**732-2455**
Robotic tips for Beckman Span-8, 96-head	20	-	Black	+	96 tips/rack, 10 racks/ pack	4.800	**732-2456**
Robotic tips for Beckman Multimek® AP96, Biomek 3000®, 96-head	250	-	Transparent	-	96 tips/rack, 10 racks/ pack, 5 packs/case	4.800	**732-2452**

Robotic tips for Beckman® Biomek FX/NX 384
Biotix

Transparent resin, sterile

- Tip specially designed with a fine end for high precision dispensing
- Antimicrobial, anti-static rack cover protecting tips from airborne contamination and preventing static build-up
- Serial number on racks

Type	Capacity (µl)	Filter	Colour	Sterile	Packed	Pk	Cat. No.
BA-0030-3FC	30	+	Transparent	+	10 racks, 384 each	3.840	**736-0415**
BA-0030-3SC	30	-	Transparent	+	10 racks, 384 each	3.840	**736-0410**
BA-0051-3FC (Extended)	30	+	Transparent	+	10 racks, 384 each	3.840	**736-0412**
BA-0051-3SC (Extended)	30	-	Transparent	+	10 racks, 384 each	3.840	**736-0411**

Robotic tips for Molecular Devices® automated platforms

Biotix

Transparent or black PP, sterile

Biotix robotic tips for Molecular Devices® automated platforms are manufactured to the highest engineering standards for robotic systems. The ultra-straight tips target the centre of microplate wells precisely, delivering exceptional accuracy and precision without risk of jamming. With specifications to ensure complete compatibility, no changes in programming scripts should be necessary to use Biotix tips; use of the standard definitions bundled in the robotic software program is appropriate.

- High clarity X-Resin™ has superior low retention performance
- Blade™ technology eliminates hanging drops at the distal end of the pipette tip
- Each lot is tested in Biotix's in-house automation laboratory
- Tips are BioReady™ certified to be free of RNase, DNase, and Endotoxins (pyrogens)

These tips are compatible with Molecular Devices® FLIPR® Liberty 384 Head.

Description	Type	Capacity (µl)	Filter	Colour	Sterile	Packed	Pk	Cat. No.
Robotic tips for Molecular Devices® FLIPR® Liberty 384 Head	F-0030-3SC	30	-	Black	+	384 tips/rack, 10 racks/pack, 5 packs/case	3.840	**732-2414**
Robotic tips for Molecular Devices® FLIPR® Liberty 384 Head	F-0030-3SC	30	-	Transparent	+	384 tips/rack, 10 racks/pack, 5 packs/case	3.840	**736-0414**

Robotic tips for Agilent automated platforms

Biotix

Transparent PP, sterile or non sterile

Biotix robotic tips for Agilent™ VPrep® and Bravo® platforms are engineered to ensure complete compatibility, requiring no changes in programming scripts in the platform's liquid handling software suite. Manufactured to the highest engineering standards for robotic systems, the ultra-straight tips target the centre of microplate wells precisely, delivering exceptional accuracy and precision without risk of jamming.

- Made of medical-grade virgin polypropylene
- Tips are BioReady™ certified to be free of RNase, DNase, and Endotoxins (pyrogens)
- Available as standard or filtered tips

Description	Capacity (µl)	Filter	Colour	Sterile	Packed	Pk	Cat. No.
Robotic tips for Agilent™ VPrep® and Bravo®, 384-head	30	-	Transparent	+	10 racks of 384 tips	3.840	**736-0409**
Robotic tips for Agilent™ VPrep® and Bravo®, 384-head, with filter	30	+	Transparent	+	10 racks of 384 tips	3.840	**736-0614**
Robotic tips for Agilent™ VPrep® and Bravo®, 384-head	70	-	Transparent	+	10 racks of 384 tips	3.840	**736-0413**
Robotic tips for Agilent™ VPrep® and Bravo®, 384-head, with filter	70	+	Transparent	+	10 racks of 384 tips	3.840	**736-0615**
Robotic rips for Agilent™ VPrep® and Bravo®, 96-head	250	-	Transparent	-	10 racks of 96 tips/pack, 5 packs/case	4.800	**732-2459**
Robotic rips for Agilent™ VPrep® and Bravo®, 96-head	250	-	Transparent	+	10 racks of 96 tips/pack, 5 packs/case	4.800	**732-2460**
Robotic rips for Agilent™ VPrep® and Bravo®, 96-head, with filter	250	+	Transparent	+	10 racks of 96 tips/pack, 5 packs/case	4.800	**732-2461**

Robotic tips for Tecan automated platforms

Biotix

Manufactured to the highest engineering standards for robotic systems, Biotix robotic tips for Tecan platforms deliver exceptional accuracy and precision. With specifications to ensure complete compatibility, no changes in programming scripts should be necessary to use Biotix tips; use of the standard definitions bundled in the robotic software program is appropriate.

EVO-style tips are compatible with Tecan Freedom EVO®, Caliper Zephyr® SPE, and BioTek® Precision™ robotic pipetting systems. Genesis-style tips are compatible with Tecan Genesis Freedom, Freedom EVO, and MiniPrep robotic workstations, as well as Cavro®, PerkinElmer/Packard Multiprobe II HT, and Multiprobe II HT EX workstations.

Tips are BioReady™ certified to be free of RNase, DNase, and Endotoxin (pyrogens).

	Description	Capacity (µl)	Colour	Sterile	Packed	Pk	Cat. No.
Tecan Freedom EVO®, Caliper Zephyr® SPE, BioTek® Precision™ systems							
	Robotic tips for Tecan Temo/ EVO, 96-head	50	Clear	-	96 tips/rack, 10 racks/pack, 5 packs/case	960	**732-2425**
	Robotic tips for Tecan Temo/ EVO, 96-head	50	Clear	+	96 tips/rack, 10 racks/pack, 5 packs/case	960	**732-2426**
	Robotic tips for Tecan Temo/ EVO, 96-head	200	Clear	-	96 tips/rack, 10 racks/pack, 5 packs/case	960	**732-2427**
	Robotic tips for Tecan Temo/ EVO, 96-head	200	Clear	+	96 tips/rack, 10 racks/pack, 5 packs/case	960	**732-2428**
Tecan Genesis Freedom, Freedom EVO, MiniPrep, Cavro®, PerkinElmer/Packard Multiprobe II HT, and Multiprobe II HT EX workstations							
	Robotic tips for Tecan Genesis, Hanging (LiHa), liquid sensing, 96-head	20	Black	-	96 tips/rack, 24 racks/case	2.304	**732-2429**
	Robotic tips for Tecan Genesis, Hanging (LiHa), liquid sensing, 96-head	20	Clear	+	96 tips/rack, 24 racks/case	2.304	**732-2430**
	Robotic tips for Tecan Genesis, Hanging (LiHa), liquid sensing, 96-head	200	Black	-	96 tips/rack, 24 racks/case	2.304	**732-2431**
	Robotic tips for Tecan Genesis, Hanging (LiHa), liquid sensing, 96-head	200	Black	+	96 tips/rack, 24 racks/case	2.304	**732-2432**
	Robotic tips for Tecan Genesis, Hanging (LiHa), liquid sensing, 96-head	1000	Black	+	96 tips/rack, 16 racks/case	1.536	**732-2434**
	Robotic tips for Tecan Genesis, Hanging (LiHa), liquid sensing, 96-head	20	Clear	-	96 tips/rack, 24 racks/case	2.304	**732-2435**
	Robotic tips for Tecan Genesis, Hanging (LiHa), liquid sensing, 96-head	20	Clear	+	96 tips/rack, 24 racks/case	2.304	**732-2436**
	Robotic tips for Tecan Genesis, Hanging (LiHa), liquid sensing, 96-head	200	Clear	-	96 tips/rack, 24 racks/case	2.304	**732-2437**
	Robotic tips for Tecan Genesis, Hanging (LiHa), liquid sensing, 96-head	200	Clear	+	96 tips/rack, 24 racks/case	2.304	**732-2438**
	Robotic tips for Tecan Genesis, Hanging (LiHa), liquid sensing, 96-head	1000	Clear	-	96 tips/rack, 16 racks/case	1.536	**732-2439**
	Robotic tips for Tecan Genesis, Hanging (LiHa), liquid sensing, 96-head	1000	Clear	+	96 tips/rack, 16 racks/case	1.536	**732-2440**
Multichannel Arm™ 96 (MCA96) option on Freedom EVO®							
	Robotic tips for MCA96, 96-head	50	Clear	-	96 tips/rack, 10 racks/pack, 10 packs/case	9.600	**732-2445**
	Robotic tips for MCA96, 96-head, refill	50	Clear	-	96 tips/tray, 8 nested trays/ pack, 10 packs/case	7.680	**732-2441**
	Robotic tips for MCA96, 96-head	50	Clear	+	96 tips/rack, 10 racks/pack, 10 packs/case	9.600	**732-2446**
	Robotic tips for MCA96, 96-head, refill	50	Clear	+	96 tips/tray, 8 nested trays/ pack, 10 packs/case	7.680	**732-2442**
	Robotic tips for MCA96, 96-head	200	Clear	-	96 tips/rack, 10 racks/pack, 10 packs/case	9.600	**732-2447**
	Robotic tips for MCA96, 96-head, refill	200	Clear	-	96 tips/tray, 8 nested trays/ pack, 10 packs/case	7.680	**732-2443**
	Robotic tips for MCA96, 96-head	200	Clear	+	96 tips/rack, 10 racks/pack, 10 packs/case	9.600	**732-2448**
	Robotic tips for MCA96, 96-head, refill	200	Clear	+	96 tips/tray, 8 nested trays/ pack, 10 packs/case	7.680	**732-2444**

Robotic tips, Axygen®, for Beckman® Corning®

Transparent PP

Free of RNase, DNase, DNA and pyrogens.

- Sterile tips: Sterilised by gamma radiation
- Filter tips: PE filter prevents any contamination of the pipette
- Maxymum Recovery™ tips: Ultra-smooth surface prevents retention, loss of components, and denaturation of the sample

Type	Capacity (µl)	Filter	Colour	Sterile	Compatible head	Packed	Pk	Cat. No.
Biomek 1000/2000								
BT-20-L-R-S*	20	-	Transparent	+	P20 / MP20 / P200 / MP200	10 racks, 96 each	960	**736-0426**
BT-20-L-R*	20	-	Transparent	-	P20 / MP20 / P200 / MP200	10 racks, 96 each	960	**736-0425**
BT-20-R-S	20	-	Transparent	+	P20 / MP20 / P200 / MP200	10 racks, 96 each	960	**736-0428**
BT-20-R	20	-	Transparent	-	P20 / MP20 / P200 / MP200	10 racks, 96 each	960	**736-0427**
BTF-20-L-R-S*	20	+	Transparent	+	P20 / MP20 / P200 / MP200	10 racks, 96 each	960	**736-0443**
BTF-20-R-S	20	+	Transparent	+	P20 / MP20 / P200 / MP200	10 racks, 96 each	960	**736-0444**
BT-50-R	50	-	Transparent	-	P20 / MP20 / P200 / MP200	10 racks, 96 each	960	**736-0437**
BT-50-R-S	50	-	Transparent	+	P20 / MP20 / P200 / MP200	10 racks, 96 each	960	**736-0438**
BT-50-L-R-S*	50	-	Transparent	+	P20 / MP20 / P200 / MP200	10 racks, 96 each	960	**736-0436**
BTF-180-R-S	165	+	Transparent	+	P200 / MP200	10 racks, 96 each	960	**736-0442**
BTF-180-L-R-S*	165	+	Transparent	+	P200 / MP200	10 racks, 96 each	960	**736-0441**
BT-250-R-S	250	-	Transparent	+	P200 / MP200	10 racks, 96 each	960	**736-0432**
BT-250-L-R*	250	-	Transparent	-	P200 / MP200	10 racks, 96 each	960	**736-0429**
BT-250-L-R-S*	250	-	Transparent	+	P200 / MP200	10 racks, 96 each	960	**736-0430**
BT-255-WB-R (Wide bore)	250	-	Transparent	-	P200 / MP200	10 racks, 96 each	960	**736-0433**
BT-1000-R	1000	-	Transparent	-	P1000	5 racks, 72 each	360	**736-0423**
BTF-1000-R-S	1000	+	Transparent	+	P1000	5 racks, 72 each	360	**613-2316**
Biomek FX/NX / Multimek AP96								
FX-10-R-S	10	-	Transparent	+	AP-96 / SPAN-8 / MP20	10 racks, 96 each	960	**736-0247**
FX-10-R	10	-	Transparent	-	AP-96 / SPAN-8 / MP20	10 racks, 96 each	960	**736-0246**
FXF-10-R-S	10	+	Transparent	+	AP-96 / SPAN-8 / MP20	10 racks, 96 each	960	**736-0248**
FX-20-L-R-S*	20	-	Transparent	+	AP-96 / SPAN-8 / MP20	10 racks, 96 each	960	**736-0259**
FX-20-L-R*	20	-	Transparent	-	AP-96 / SPAN-8 / MP20	10 racks, 96 each	960	**736-0258**
FX-20-R-S	20	-	Transparent	+	AP-96 / SPAN-8 / MP20	10 racks, 96 each	960	**736-0250**
FX-20-R	20	-	Transparent	-	AP-96 / SPAN-8 / MP20	10 racks, 96 each	960	**736-0249**
FXF-20-R-S	20	+	Transparent	+	AP-96 / SPAN-8 / MP20	10 racks, 96 each	960	**736-0251**
FXF-20-L-R-S*	20	+	Transparent	+	AP-96 / SPAN-8 / MP20	10 racks, 96 each	960	**736-0260**
FXF-50-R-S	30	+	Transparent	+	AP-96 / SPAN-8 / MP20	10 racks, 96 each	960	**736-0254**
FXF-50-L-R-S*	30	+	Transparent	+	AP-96 / SPAN-8 / MP20	10 racks, 96 each	960	**736-0263**
FX-50-R	50	-	Transparent	-	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0252**
FX-50-R-S	50	-	Transparent	+	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0253**
FX-50-L-R*	50	-	Transparent	-	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0261**
FX-50-L-R-S*	50	-	Transparent	+	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0262**
FXF-180-R-S	165	+	Transparent	+	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0257**
FXF-180-L-R-S*	165	+	Transparent	+	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0266**
FXF-165-WB-R-S (Wide bore)	165	+	Transparent	+	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0269**
FXF-200-R-S	200	+	Transparent	+	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0460**
FX-250-R	250	-	Transparent	-	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0255**
FX-250-R-S	250	-	Transparent	+	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0256**
FX-250-L-R*	250	-	Transparent	-	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0264**
FX-250-L-R-S*	250	-	Transparent	+	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0265**
FX-255-WB-R (Wide bore)	250	-	Transparent	-	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0267**
FX-255-WB-R-S (Wide bore)	250	-	Transparent	+	AP-96 / SPAN-8 / MP200	10 racks, 96 each	960	**736-0268**

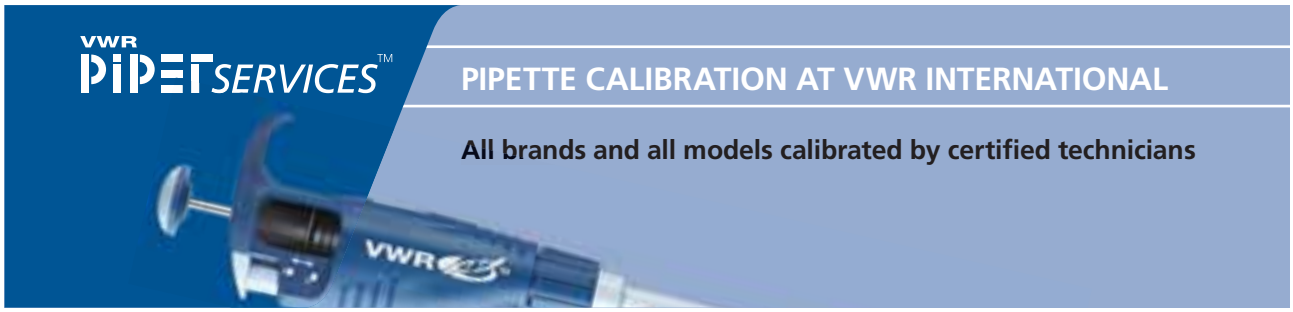
* Maxymum Recovery™

Robotic tips, Axygen®, for Tecan®
Corning®

PP, with or without filter, sterile or non sterile

- Black tips are conductive for liquid level sensing protocols
- Optimised fine-point for accurate dispensing
- Certified RNase, DNase and endotoxin free

Type	Capacity (µl)	Filter	Colour	Sterile	Compatible head	Packed	Pk	Cat. No.
Genesis Freedom®, Freedom Evo®, Miniprep with LiHa (Transparent)								
TT-20-C-HTR	20	-	Transparent	-	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0964**
TT-20-C-HTR-S	20	-	Transparent	+	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0965**
TTF-20-C-HTR-S	20	+	Transparent	+	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0977**
TT-50-C-HTR	50	-	Transparent	-	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0972**
TT-50-C-HTR-S	50	-	Transparent	+	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0973**
TTF-50-C-HTR-S	50	+	Transparent	+	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0981**
TT-200-C-HTR	200	-	Transparent	-	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0968**
TT-200-C-HTR-S	200	-	Transparent	+	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0969**
TTF-200-C-HTR-S	200	+	Transparent	+	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0979**
TT-1000-C-HTR	1000	-	Transparent	-	LiHA-1, -4, -8	16 racks, 96 each	1.536	**732-0960**
TT-1000-C-HTR-S	1000	-	Transparent	+	LiHA-1, -4, -8	16 racks, 96 each	1.536	**732-0962**
TTF-1000-C-HTR-S	1000	+	Transparent	+	LiHA-1, -4, -8	16 racks, 96 each	1.536	**732-0976**
Genesis Freedom®, Freedom Evo®, Miniprep with LiHa (Black)								
TT-20-CBK-HTR	20	-	Black	-	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0966**
TT-20-CBK-HTR-S	20	-	Black	+	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0967**
TT-20-CBK-HTR36	20		Black	-	LiHA-1, -4, -8	72 racks, 96 each	6.912	**736-0487**
TTF-20-CBK-HTR-S	20	+	Black	+	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0978**
TT-50-CBK-HTR	50	-	Black	-	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0974**
TT-50-CBK-HTR-S	50	-	Black	+	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0975**
TTF-50-CBK-HTR-S	50	+	Black	+	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0982**
TT-200-CBK-HTR	200	-	Black	-	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0970**
TT-200-CBK-HTR-S	200	-	Black	+	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0971**
TTF-200-CBK-HTR-S	200	+	Black	+	LiHA-1, -4, -8	24 racks, 96 each	2.304	**732-0980**
TT-1000-CBK-HTR	1000	-	Black	-	LiHA-1, -4, -8	16 racks, 96 each	1.536	**732-0961**
TT-1000-CBK-HTR-S	1000	-	Black	+	LiHA-1, -4, -8	16 racks, 96 each	1.536	**732-0963**
TTF-1000-CBK-HTR-S	1000	+	Black	+	LiHA-1, -4, -8	16 racks, 96 each	1.536	**732-0983**



Robotic tips and consumables

Hamilton

736-0773

736-0776

736-0801

CO-RE tips were designed for MICROLAB pipetting workstations in order solve the problem of sealing and alignment plagued by press-fit tip attachment techniques. Each CO-RE disposable tip has a circular groove inside the attachment orifice. An o-ring on the pipetting channel is expanded to fit this groove precisely providing an air-tight seal and straight alignment between tip and pipetting channel. The superior biological purity of the tips is guaranteed by a controlled production process. They are therefore suitable for both diagnostic and pharmaceutical laboratories in Genomics, Proteomics, Cellomics, Forensic and drug discovery fields.

- Pressure-based Liquid Level Detection (pLLD) and capacitive LLD (cLLD) with conductive (black) version
- DNase-/RNase-free, pyrogen-free (endotoxin-free), PCR inhibitor-free
- Available in trays (blister pack) or in NTR tip reload system
- Trays and racks have a colour-coded barcode label which provides relevant information for greater method security
- Stackable tip racks increase tip capacity on the workstation deck for longer walk away times: 1920 tips can be loaded in one step
- Racks allow tips to be picked up by the independent channels or the 96-channel multiprobe head directly from the stack

CO-RE PerfectTouch system: The PerfectTouch system attaches disposable tips or steel washable needles to the pipetting channels with a stable lock-and-key fit. The system requires no vertical force for tip attachment or tip ejection, thus eliminating mechanical stress and improving the overall system reliability along with pipetting speed, positional accuracy and dexterity.

Filter tips
Some CO-RE tips include a filter in order to prevent cross-contamination and to meet the critical tolerance levels of today's robotic pipetting tips. The filter inserts do not contain leachables and therefore exclude any possible influence or adverse result on PCR or other analytical applications.

- Maximum consistency in air flow and chosen porosity of filter element ensure optimal pipetting and dispensing performance across a wide range of liquid volumes
- Free from DNA, RNase and DNase
- Non-cytotoxic, non-hemolytic
- No heavy metal or inorganic element interference
- Clinical laboratory methodology compatibility (chemistry, coagulation and drug methodologies)
- Bacterial aerosol filtration efficiency of >99,9%

SLIM tips
- Minimise risk of liquid overflow in cluster tubes, deep-well blocks and two-phased liquid applications
- Especially for aspirating liquid in "fixed height mode" down to the base of thin tubes
- 40% reduction of displaced liquid volume, compared to the CO-RE 1000 µl tip
- Slim tips require labware files, liquid classes for single channels and CO-RE 96 probe head

Rocket tips
- Unique Rocket tip design with 4-to-1 adapter: Usable on the CO-RE 384 probe head
- Adapter enables flexible pipetting and saves times: No need for a second head or a complex head exchange
- For pipetting in 96 deep-well blocks and microtiter plates with well diameters ≥ 3,7 mm

Wide bore tips
- CO-RE tips with various distal end orifices which provide the flexibility when handling difficult samples
- Typical application areas: genomic DNA, fragile cell lines, blood fractionation to minimise shearing forces, pipetting beads or other viscosity liquids

Piercing tips
- Optimised to aspirate and dispense into various sealed labware which is pierceable with ≤ 10 N
- Special tip design offers users compatibility with most commercially available seals
- Optimum material composition – carbon fibre reinforcement allows piercing of various sealing materials
- Excellent pipetting performance – plurality of ribs enables pressure compensation while aspirating and dispensing
- Blockage prevention when the sealed tube gets pierced due to modified pipette tip bore

Packaging: Tips are either supplied in stackable Nested Tip Rack (NTR) packs – containing a disposable frame and five stacks with four tip racks – or in a blister pack containing five preloaded trays in a clear, recyclable PET thermoformed tray with a sealed paper lid.

Reagent containers for Microlab STAR line
- Made of PP, autoclavable, with 60 or 120 ml capacity
- Can be placed in a reagent carrier on STAR line instruments
- Special bottom geometry minimises residual volumes
- With volume markings, without lid
- With one (60 ml) or three (120 ml) wave breakers to avoid splashes during movements of the filled container

Deep-well blocks for automation
- Ideal for automated processing or handling large quantities of backup samples
- 100% leakproof tested, biological purity tested
- Solvent resistant to DMSO (only valid for PP)
- PP material is ideal for backup storage of pharmaceutical substances, DNA isolation, long-term sample storage, enzyme and tissue culture applications
- PS blocks are ideal for long-term storage of blood samples
- Easy optical control due to transparent wells in PS blocks

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Waste bags, liquid-tight, welded
- Disposable PE bags are ideal for the containment and disposal of used consumables
- Made of 100 µm thick polyethylene: ensures a high resistance to tearing and puncturing
- Bags fit on the waste hoop of the STAR line
- Available with and without "Biohazard" print

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- - Bags fit on the waste hoop of the STAR line
- - Available with and without "Biohazard" print

Waste container and chutes for hazardous waste
- - Container for hazardous waste is made of white cardboard
- - Container includes yellow PE bag
- - PE waste chutes are open and perforated on both sides, must be used with waste container
- - Waste chutes are available with and without "Biohazard" print

Type	Capacity (µl)	Filter	Colour	Sterile	Packed	Pk	Cat. No.
0,5 - 50 µl CO-Re tips for 1000 µl pipetting channels and CO-RE 96 probe head							
Low volume, conductive	0,5 - 10	-	Black	-	Blister (5 × 96 tips)	5.760	**736-0694**
Low volume, conductive	0,5 - 10	+	Black	-	Blister (5 × 96 tips)	5.760	**736-0695**
Low volume, conductive	0,5 - 10	-	Black	+	Blister (5 × 96 tips)	5.760	**736-0764**
Low volume, conductive	0,5 - 10	+	Black	+	Blister (5 × 96 tips)	5.760	**736-0765**
Low volume, conductive	0,5 - 10	-	Black	-	NTR pack (5 × 4 stacks with 96 tips each)	11.520	**736-0768**
Low volume, conductive	0,5 - 10	-	Black	+	NTR pack (5 × 4 stacks with 96 tips each)	11.520	**736-0774**
Low volume	0,5 - 10	-	Transparent	-	NTR pack (5 × 4 stacks with 96 tips each)	11.520	**736-0771**
Low volume, conductive	0,5 - 50	-	Black	-	Blister (5 x 96 tips)	5.760	**736-0770**
Low volume, conductive	0,5 - 50	+	Black	-	Blister (5 x 96 tips)	5.760	**736-0767**
Low volume, conductive	0,5 - 50	-	Black	+	Blister (5 x 96 tips)	5.760	**736-0772**
Low volume, conductive	0,5 - 50	+	Black	+	Blister (5 x 96 tips)	5.760	**736-0773**
Low volume, conductive	0,5 - 50	-	Black	-	NTR pack (5 × 4 stacks with 96 tips each)	11.520	**736-0766**
Low volume, conductive	0,5 - 50	-	Black	+	NTR pack (5 × 4 stacks with 96 tips each)	11.520	**736-0775**
Low volume	0,5 - 50	-	Transparent	-	NTR pack (5 × 4 stacks with 96 tips each)	11.520	**736-0769**
0,5 - 50 µl CO-Re tips for CO-RE 384 probe head							
Low volume, conductive	0,5 - 50	-	Black	-	NTR pack (5 × 4 stacks with 96 tips)	1.920	**736-0781**
Low volume, conductive	0,5 - 50	-	Black	-	NTR pack (5 × 4 stacks with 384 tips)	7.680	**736-0780**
Low volume, conductive	0,5 - 50	-	Black	+	NTR pack (5 × 4 stacks with 96 tips)	1.920	**736-0779**
Low volume, conductive	0,5 - 50	-	Black	+	NTR pack (5 × 4 stacks with 384 tips)	7.680	**736-0778**
Low volume	0,5 - 50	-	Transparent	-	NTR pack (5 × 4 stacks with 96 tips)	1.920	**736-0777**
Low volume	0,5 - 50	-	Transparent	-	NTR pack (5 × 4 stacks with 384 tips)	7.680	**736-0776**
10 - 300 µl CO-Re tips for 1000 µl pipetting channels and CO-RE 96 probe head							
Medium volume, conductive	10 - 300	-	Black	-	Blister (5 × 96 tips)	5.760	**736-0786**
Medium volume, conductive	10 - 300	+	Black	-	Blister (5 × 96 tips)	5.760	**736-0787**
Medium volume, conductive	10 - 300	-	Black	+	Blister (5 × 96 tips)	5.760	**736-0788**
Medium volume, conductive	10 - 300	+	Black	+	Blister (5 × 96 tips)	5.760	**736-0789**
Medium volume, conductive	10 - 300	-	Black	-	NTR pack (5 × 4 stacks with 96 tips each)	11.520	**736-0790**
Medium volume	10 - 300	-	Transparent	-	NTR pack (5 × 4 stacks with 96 tips each)	11.520	**736-0791**
Medium volume	10 - 300	-	Transparent	+	NTR pack (5 × 4 stacks with 96 tips each)	11.520	**736-0792**
SLIM tip, medium volume, conductive	10 - 300	-	Black	-	Blister (5 × 96 tips)	3.840	**736-0785**
SLIM tip, medium volume, conductive	10 - 300	+	Black	-	Blister (5 × 96 tips)	3.840	**736-0783**
SLIM tip, medium volume, conductive	10 - 300	-	Black	+	Blister (5 × 96 tips)	3.840	**736-0784**
SLIM tip, medium volume, conductive	10 - 300	+	Black	+	Blister (5 × 96 tips)	3.840	**736-0782**

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Type	Capacity (µl)	Filter	Colour	Sterile	Packed	Pk	Cat. No.
10 - 1000 µl CO-Re tips for 1000 µl pipetting channels and CO-RE 96 probe head							
High volume, conductive	10 - 1000	-	Black	-	Blister (5 × 96 tips)	3.840	**736-0793**
High volume, conductive	10 - 1000	+	Black	-	Blister (5 × 96 tips)	3.840	**736-0794**
High volume, conductive	10 - 1000	-	Black	+	Blister (5 × 96 tips)	3.840	**736-0795**
High volume, conductive	10 - 1000	+	Black	+	Blister (5 × 96 tips)	3.840	**736-0796**
15 - 5000 µl CO-Re tips for 5000 µl pipetting channels							
High volume, conductive	50 - 5000	-	Black	-	Blister (5 × 24 tips)	720	**736-0797**
High volume, conductive	50 - 4000	+	Black	-	Blister (5 × 24 tips)	720	**736-0798**
High volume, conductive	50 - 5000	-	Black	+	Blister (5 × 24 tips)	720	**736-0799**
High volume, conductive	50 - 4000	+	Black	+	Blister (5 × 24 tips)	720	**736-0800**
High volume, conductive	50 - 5000	-	Black	-	24 × 1T tray (each 4 tips individually wrapped)	96	**736-0801**
High volume, conductive	50 - 4000	+	Black	-	24 × 1T tray (each 4 tips individually wrapped)	96	**736-0802**
Special CO-RE tips for CO-RE 384 Probe head: Rocket tips 2 - 300 µl							
Rocket tip, conductive	2 - 300	-	Black	-	Blister (5 × 96 tips)	4.800	**736-0803**
Special CO-RE tips for 1000 µl pipetting channels and CO-RE 96 probe head: Wide bore							
Wide bore tip (orifice 0,71 mm), conductive	10 - 300	-	Black	-	Blister (5 × 96 tips)	5.760	**736-0853**
Wide bore tip (orifice 0,71 mm), conductive	10 - 300	+	Black	-	Blister (5 × 96 tips)	5.760	**736-0807**
Wide bore tip (orifice 1,55 mm), conductive	10 - 300	+	Black	-	Blister (5 × 96 tips)	5.760	**736-0805**
Wide bore tip (orifice 1,55 mm), conductive	10 - 300	-	Black	-	Blister (5 × 96 tips)	5.760	**736-0806**
Wide bore tip (orifice 3,2 mm), conductive	10 - 1000	-	Black	-	Blister (5 × 96 tips)	3.840	**736-0804**

Type	Capacity (µl)	Filter	Colour	Sterile	Packed	Pk	Cat. No.
Special CO-RE tips for 1000 µl pipetting channels and CO-RE 96 probe head: Wide bore							
Wide bore tip (orifice 3,2 mm), conductive	10 - 1000	+	Black	-	Blister (5 × 96 tips)	3.840	**736-0808**
Wide bore tip (orifice 1,2 mm), conductive	10 - 1000	-	Black	-	Blister (5 × 96 tips)	3.840	**736-0811**
Wide bore tip (orifice 1,2 mm), conductive	10 - 1000	+	Black	-	Blister (5 × 96 tips)	3.840	**736-0810**
Wide bore tip (orifice 1,2 mm), conductive	10 - 1000	+	Black	+	Blister (5 × 96 tips)	3.840	**736-0809**
Special CO-RE tips for 1000 µl pipetting channels and CO-RE 96 probe head: Piercing tips							
Piercing tip (orifice 0,4 mm), conductive	2 - 250	-	Black	-	Blister (5 × 96 tips)	5.760	**736-0829**
Piercing tip (orifice 0,4 mm), conductive	2 - 250	-	Black	+	Blister (5 × 96 tips)	5.760	**736-0828**
Piercing tip (orifice 0,4 mm), conductive	2 - 150	+	Black	-	Blister (5 × 96 tips)	5.760	**736-0827**
Piercing tip (orifice 0,4 mm), conductive	2 - 150	+	Black	+	Blister (5 × 96 tips)	5.760	**736-0812**

Description	Capacity (ml)	Colour	Total Volume	L×W (mm)	W×D×H (mm)	Pk	Cat. No.
Reagent containers for Microlab® STAR line							
Reagent container without lid, self-standing, 1T	60	Transparent			89,7×20,0×64,8	28	**736-0830**
Reagent container without lid, non-self-standing, 1T	120	Transparent			155,9×21,1×91,5	12	**736-0833**
Reagent container without lid, self-standing, 1T	120	Transparent			142,8×19,1×80,0	12	**736-0834**
96-well deep well blocks							
Deep well block, 96 round wells, PS		Clear	1,2 ml		126,3×85,5×41,0	32	**736-0840**
Deep well block, 96 round wells, PS, with barcode attached		Clear	1,2 ml		126,3×85,5×41,0	32	**736-0837**
Deep well block, 96 round wells, PP, autoclavable		Natural	1,2 ml		126,3×84,7×40,6	32	**736-0839**
Deep well block, 96 square wells, PP, round bottom, autoclavable		Natural	2,2 ml		127,5×85,5×44,0	32	**736-0838**
Deep well block, 96 square wells, PP, round bottom, with barcode attached, autoclavable		Natural	2,2 ml		127,5×85,5×44,0	32	**736-0841**
Waste disposal bags, liquid-tight welded							
Waste bags				500×460		25	**736-0843**
Waste bags with yellow Biohazard marking				500×460		25	**736-0844**
Waste chutes							
Waste chute for container 736-0845, open and perforated on both sides, without "Biohazard" marking					460×700×0,10	10	**736-0846**
Waste chute for container 736-0845, open and perforated on both sides, with "Biohazard" marking					460×500×0,10	10	**736-0847**

Syringes, 3-piece
Terumo

Sterile, disposable, three-piece, latex-free

- Available with Luer slip tip or Luer lock threaded tip
- Sterilised by ethylene oxide except for 613-5402, 613-0917, 613-0973, 613-0974 and 613-1600 (electron beam sterilisation)
- Compliant with Directive 93/42/EEC Class IIa, organisation accredited by TÜV Rheinland (Germany), factory certified to ISO 9001 EN 46001, sterilisation process validated according to Standard NF EN 550

Packaging: Individual sterile blister packs.

Description	Capacity (ml)	Pk	Cat. No.
Without needle, Luer slip tip	1	100	**612-0106**
Without needle, Luer slip tip	2,5	100	**613-2271**
Without needle, Luer slip tip	5	100	**613-1599**
Without needle, Luer lock tip	5	100	**613-0917**
Without needle, Luer eccentric tip	10	100	**613-2317**
Without needle, Luer lock tip	10	100	**613-0973**
Without needle, Luer eccentric tip	20	50	**613-5402**
Without needle, Luer eccentric tip	30	50	**613-0974**
Without needle, Luer eccentric tip	50	25	**613-4902**
Without needle, Luer lock tip	50	25	**612-0120**
Without needle, Luer catheter tip	50	25	**613-4901**
Without needle, Luer lock tip, opaque barrel	50	25	**613-4903**
With needle G25×16 mm	1	100	**613-2269**
With needle G26×12 mm	1	100	**613-2270**
With needle G21×40 mm	2	100	**613-4917**
With needle G22×40 mm	2	100	**613-5409**
With needle G23×25 mm	2	100	**613-5410**
With needle G23×30 mm	2	100	**613-5411**
With needle G25×16 mm	2	100	**613-5412**
With needle G21×40 mm	5	100	**613-4918**
With needle G21×40 mm	10	100	**613-2272**
With needle G22×40 mm	10	100	**613-2273**

Syringes, Discardit II

Sterile, disposable, two-piece, PP barrel, PE piston, latex-free

- No needle
- Graduation precision adapted to the volume of the syringe for best possible legibility
- Sterilised by ethylene oxide

Packaging: Individually packed.

Description	Capacity (ml)	Pk	Cat. No.
Discardit II syringe, sterile, Luer central, graduated in 0,1 ml	2	100	**613-3932**
Discardit II syringe, sterile, Luer off-centre, graduated in 0,2 ml	5	100	**613-3951**
Discardit II syringe, sterile, Luer off-centre, graduated in 0,5 ml	10	100	**613-3952**

High capacity syringes, BD Plastipak™

Sterile, disposable, three-piece, PP barrel and piston, latex-free stopper, without needles

Available with Luer slip, Luer lock or catheter tip. Catheter tip allows attachment of a probe or other tubing. For 100 ml syringes, catheter tip can be changed into Luer tip via an adapter. 50 ml syringes are particularly suitable for automatic infusion equipment (syringe-drivers, pumps, etc.) and are approved for use with the leading brands of syringe-drivers.

- Transparent body for accuracy and safety of use
- Leak-tight, even under high pressure (locking facility on BD Luer lock syringes), gradual and controlled movement of piston
- Sterilised by ethylene oxide

Division: 1 ml

Packaging: Individually packed in blister film and medical grade paper.

Description	Capacity (ml)	Pk	Cat. No.
Luer slip, eccentric	20	120	**613-3921**
Luer lock, concentric	20	120	**613-3922**
Luer lock, concentric, perfusion	50	50	**613-3910**
Luer lock, concentric	50	60	**613-3925**
Luer slip, eccentric	50	60	**613-3926**
Catheter tip	50	60	**613-1124**
Catheter tip with Luer adapter	100	25	**613-3920**

Syringes, 3-piece, BD Plastipak™

Sterile, disposable, three-piece, PP barrel and piston, latex-free stopper

Luer slip or Luer lock syringes available with or without needle. Pre-assembled syringes plus needles in a single pack simplifies injections by reducing the number of procedures and thereby reduces costs.

- Clear barrel for perfect visibility of syringe contents
- Special silicone lubrication ensures that plunger moves smoothly and evenly
- Sterilised by ethylene oxide

Packaging: Individually packed in blister film and medical grade paper.

Description	Capacity (ml)	Pk	Cat. No.
Luer slip syringes without needles			
Concentric, division 0,1 ml	2	100	**613-3911**
Concentric, division 0,2 ml	5	100	**613-3940**
Eccentric, division 0,5 ml	10	100	**613-3941**
Luer lock syringes without needles			
Concentric, division 0,2 ml	10	100	**613-3931**
Luer slip syringes with mounted needles			
With BD Microlance™ 3 needle 23G, Ø 0,6 mm, length 25 mm	2	100	**613-3914**
With BD Microlance™ 3 needle 21G, Ø 0,8 mm, length 40 mm	10	100	**613-3948**
With BD Microlance™ 3 needle 22G, Ø 0,7 mm, length 30 mm	5	100	**613-1253**
With BD Microlance™ 3 needle 21G, Ø 0,8 mm, length 40 mm	5	100	**613-3950**

Syringes, 3-piece, SOFT-JECT®

Sterile, disposable, three-piece, PP barrel and piston, polyisoprene stopper, latex-free

- Lubricated synthetic rubber piston allows a smooth draw
- Available in non sterile version (bulk) upon request

Packaging: Individual sterile blisters.

Without needles

Luer lock types are compatible for use with most common syringe pumps. Please ask for further information.

With fixed needles

- Needle tube permanently attached in syringe
- No dead space
- Safety stop
- Suitable for dosage of very small volumes
- Needles available in two different lengths

Description	Capacity (ml)	Pk	Cat. No.
Without needles			
Single-use insulin syringe with insulin graduation, 40IU, Luer tip	1	100	**613-2039**
Single-use tuberculin syringe with ml graduation, Luer tip	1	100	**613-2040**
Single-use insulin syringe with insulin graduation, 100IU, Luer tip	1	100	**613-2041**
Single-use syringe, Luer tip	3	100	**613-2050**
Single-use syringe, Luer lock tip	3	100	**613-2051**
Single-use syringe, Luer tip	5	100	**613-2042**
Single-use syringe, Luer lock tip	5	100	**613-2043**
Single-use syringe, Luer tip	10	100	**613-2044**
Single-use syringe, Luer lock tip	10	100	**613-2045**
Single-use syringe, Luer tip	20	100	**613-2046**
Single-use syringe, Luer lock tip	20	100	**613-2047**
Single-use syringe, Luer tip	30	60	**613-2048**
Single-use syringe, Luer lock tip	30	60	**613-2049**
Single-use syringe, Luer tip	50	50	**613-1586**
Single-use syringe, catheter tip	50	50	**613-2052**
Single-use syringe, Luer lock tip	50	50	**613-2053**

Single-use syringes, 2-piece, NORM-JECT®

Disposable, two-piece, without needle, PP barrel and PE piston, latex- and silicone oil-free

- Defined position of the plunger at volume "0" to feel when plunger is completely inserted
- No dead space for 1 ml insulin and tuberculin syringe
- Extended graduation for wider range of applications
- Positive safety stop to prevent accidental spills

Syringes are also available with especially designed oral tip, which prevents accidental Luer or hypodermic connection, in volumes of 5 or 10 ml. Incompatible with injection needles. Please enquire for details.

Packaging: Sterile versions are packed in individual blister strips. Non sterile versions are bulk packed.

Description	Capacity (ml)	Pk	Cat. No.
Sterile			
Single-use insulin syringe with insulin graduation, 100IU, Luer tip	1	100	**613-2002**
Single-use insulin syringe with insulin graduation, 40IU, Luer tip	1	100	**613-2000**
Single-use tuberculin syringe with ml graduation, Luer tip	1	100	**613-2001**
Single-use syringe, Luer lock tip	2	100	**613-2004**
Single-use syringe, Luer tip	2	100	**613-2003**
Single-use syringe, Luer lock tip	5	100	**613-2006**
Single-use syringe, Luer tip	5	100	**613-2005**
Single-use syringe, Luer lock tip	10	100	**613-2008**
Single-use syringe, Luer tip	10	100	**613-2007**
Single-use syringe, Luer lock tip	20	100	**613-2010**
Single-use syringe, Luer tip	20	100	**613-2009**
Single-use syringe, catheter tip	30	50	**613-2034**
Single-use syringe, Luer lock tip	30	50	**613-2035**
Single-use syringe, Luer tip	30	50	**613-2033**

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Description	Capacity (ml)	Pk	Cat. No.
Sterile			
Single-use syringe, catheter tip	50	30	**613-2037**
Single-use syringe, Luer lock tip	50	30	**613-2038**
Single-use syringe, Luer tip	50	30	**613-2036**
Non sterile, mini bulk packaging			
Single-use tuberculin syringe with ml graduation, Luer tip	1	100	**613-2151**
Single-use syringe, Luer lock tip	2	100	**613-2153**
Single-use syringe, Luer tip	2	100	**613-2152**
Single-use syringe, Luer lock tip	5	100	**613-2157**
Single-use syringe, Luer lock tip	10	100	**613-2160**
Single-use syringe, Luer lock tip	20	100	**613-2162**
Single-use syringe, Luer lock tip	30	50	**613-2266**
Single-use syringe, Luer tip	30	50	**613-2163**
Single-use syringe, Luer lock tip	50	30	**613-2268**
Single-use syringe, Luer tip	50	30	**613-2267**

Single use syringes, 2-piece, Injekt® Solo
B. Braun

Single use syringes for manual use, with green plunger. Easy aspiration up to the maximum volume. Barrel made from PP and plunger from PE.

- Highly transparent barrel
- Black, permanent graduation for ideal readability
- Graduation extends beyond nominal volume
- Minimal residual volume
- Safe plunger backstop

Packaging: Dispenser box of 100 units.

Capacity (ml)	Graduation (ml)	Type	Pk	Cat. No.
Injekt, Luer fitting				
2	0,1	Centric cone	100	**720-2518**
5	0,2	Eccentric cone	100	**720-2519**
10	0,5	Eccentric cone	100	**720-2520**
20	1,0	Eccentric cone	100	**720-2521**
Injekt, Luer lock fitting, suitable for cytostatics				
2	0,1	Centric cone	100	**720-2522**
5	0,2	Centric cone	100	**720-2523**
10	0,5	Centric cone	100	**720-2524**
20	1,0	Centric cone	100	**720-2525**

Fine dosage syringes, Injekt®-F SOLO
B. Braun

PP/PE fine dosage syringes, 1 ml, green plunger, two-piece, e.g. for tuberculin, heparin and allergy testing. Smear-resistant, black graduation for ideal readability. Latex and PVC free.

- Highly transparent barrel
- With displacement spike - no dead space, no medication wasted
- Minimal residual volume
- Secure plunger stopper for trouble-free filling to maximum volume
- Centric luer fitting

Packaging: Dispenser box of 100 units.

Description	Capacity (ml)	Graduation (ml)	Pk	Cat. No.
Without cannulae	1	0,01	100	**720-2561**

Disposable syringes, Omnifix®
B. Braun

Sterile, disposable, three-piece, made from PP, latex- and PVC-free

- No needle, with clearly readable graduations
- Piston is equipped with a double gasket for slower injection and collection, particularly suitable for dispensing smaller quantities
- Minimal sample loss

DIN EN ISO 10993

Description	Capacity (ml)	Pk	Cat. No.
Luer slip fitting			
Eccentric cone, 0,2 ml division	5	100	**612-2892**
Eccentric cone, 0,5 ml division	10	100	**612-2893**
Eccentric cone, 1,0 ml division	20	100	**612-2894**
Eccentric cone, 1,0 ml division	30	100	**612-0115**
Eccentric cone, 1,0 ml division	50 - 60	100	**612-4871**
Luer lock fitting			
Centric cone, 0,1 ml division	3	100	**613-1660**
Centric cone, 0,2 ml division	5	100	**612-2896**
Centric cone, 0,5 ml division	10	100	**612-2897**
Centric cone, 1,0 ml division	20	100	**612-2898**
Centric cone, 1,0 ml division	30	100	**612-0125**
Centric cone, 1,0 ml division	50 - 60	100	**612-3355**

Insulin syringes
Terumo

Sterile, disposable, three-piece

- With or without needle

Packaging: Individually packed.

Description	Capacity (ml)	Length (mm)	Ø ext. (mm)	Pk	Cat. No.
Insulin syringes, with needle, 25G	1	16	0,5	100	**613-4893**
Insulin syringes, with needle, 29G	0,5	12	0,3	100	**613-4897**
Insulin syringes, with needle, 29G	0,3	12	0,3	100	**613-4900**
Insulin syringes, with needle, 29G	1	12	0,3	100	**613-4904**
Insulin syringes, without needle	1	-	-	100	**613-4892**

Precision syringes, tuberculin/allergy, BD Plastipak™

Sterile, disposable, three-piece, PP barrel and piston, latex-free stopper, without needles

- Clear barrel for perfect visibility of syringe contents
- Special silicone lubrication ensures that plunger moves smoothly and evenly
- Sterilised by ethylene oxide

Division: 0,01 ml

Length: 75,31 mm

Inner/outer diameter: 4,70/6,60 mm

Packaging: Individually packed in blister film and medical grade paper.

Description	Capacity (ml)	Pk	Cat. No.
Precision syringes, tuberculin/allergy, Plastipak™, concentric	1	100	**613-3908**

Precision syringes, single use, BD Plastipak™

Sterile, disposable, PP barrel and piston, latex-free stopper

Syringes with mounted needle

- Pre-assembled syringe plus needle in a single pack simplifies injections by reducing the number of procedures

Syringes with inserted needle

- Minimise the formation of air bubbles
- Prevent any risk of detachment of the needle
- Ensure administration of full dose

Description	Capacity (ml)	Graduation (ml)	Length (mm)	Ø ext. (mm)	Pk	Cat. No.
Syringes without needle						
BD Luer-Lok™ syringe, with concentric tip	1	0,01	-	-	800	**613-2997**
Insulin syringe, with concentric tip	1	U-40	-	-	100	**613-2988**
Syringes with mounted needle						
Syringe, with BD Microlance™ needle with intradermal bevel, 26G	1	0,01	10	0,45	100	**613-2987**
Syringe, with BD Microlance™ needle with regular bevel, 25G	1	0,01	16	0,5	100	**613-2986**
Syringes with inserted needle						
Syringe, with BD Microlance™ needle with intradermal bevel, 27G	1	0,01	10	0,4	500	**613-2996**
Syringe, with BD Microlance™ needle with regular bevel, 26G	1	0,01	13	0,45	100	**613-2989**

Syringes

Glass, without needles

- Centre nozzle with Luer slip fitting

Description	Capacity (ml)	Pk	Cat. No.
Syringe, glass, center nozzle, luer slip, grad. 0,1 ml	1	1	**613-3000**
Syringe, glass, center nozzle, luer slip, grad. 0,2 ml	2	1	**613-3001**
Syringe, glass, center nozzle, luer slip, grad. 0,5 ml	5	1	**613-3002**
Syringe, glass, center nozzle, luer slip, grad. 2,0 ml	20	1	**613-3003**

Syringes

Glass with metal centre nozzle, without needles

- Centre nozzle with Luer slip fitting

Description	Volume (ml)	Pk	Cat. No.
Syringe, glass, metal centre nozzle, Luer slip, grad. 0,2 ml	2	1	**613-4514**
Syringe, glass, metal centre nozzle, Luer slip, grad. 0,5 ml	5	1	**613-4516**
Syringe, glass, metal centre nozzle, Luer slip, grad. 1,0 ml	10	10	**613-3004**
Syringe, glass, metal centre nozzle, Luer slip, grad. 2,0 ml	20	1	**613-4513**
Syringe, glass, metal centre nozzle, Luer slip, grad. 4,0 ml	50	1	**613-4515**
Syringe, glass, metal centre nozzle, Luer slip, grad. 5,0 ml	100	1	**613-4511**

Syringes, with Luer lock

Glass with metal Luer lock centre nozzle, without needles.

- Centre nozzle with Luer lock fitting

Capacity (ml)	Pk	Cat. No.
1	1	**613-3005**
2	1	**613-3006**
5	1	**613-3007**
10	1	**613-3008**
20	1	**613-3009**
50	1	**613-3010**

Hypodermic needles, Neolus®
Terumo

Sterile, disposable

Needles have been inspected meticulously and are of unsurpassed quality.

- Normal, fine or ultra-fine wall, with 12° bevel points (except 613-4907 and 612-0130: 18,5°)
- Sterilised with ethylene oxide, comply with US Pharmacopeia requirements
- Standard Luer fittings, to AFNOR S 90 011 (6%)

Packaging: In individual sterile blister packs with colour coding.

Description	Length (mm)	Ø (mm)	Colour code	Pk	Cat. No.
G18, fine wall	40	1,2	Pink	100	**613-4906**
G18, fine wall (18,5 °)	40	1,2	Pink	100	**613-4907**
G18, normal wall	50	1,2	Pink	100	**613-0553**
G19, fine wall	25	1,1	Cream	100	**613-4908**
G19, fine wall	40	1,1	Cream	100	**613-5404**
G19, normal wall	50	1,1	Cream	100	**613-4909**
G19B, fine wall	30	1,0	Cream	100	**613-4905**
G20, normal wall	50	0,9	Yellow	100	**613-0554**
G20, normal wall (18,5 °)	70	0,9	Yellow	100	**612-0130**
G20, ultra-fine wall	25	0,9	Yellow	100	**613-4910**
G20, ultra-fine wall	40	0,9	Yellow	100	**612-0132**
G21, normal wall	16	0,8	Green	100	**613-5405**
G21, normal wall	50	0,8	Green	100	**613-4912**
G21, ultra-fine wall	25	0,8	Green	100	**613-4911**
G21, ultra-fine wall	40	0,8	Green	100	**612-0133**
G22, normal wall	50	0,7	Black	100	**613-0555**
G22, ultra-fine wall	30	0,7	Black	100	**612-0134**
G22, ultra-fine wall	40	0,7	Black	100	**613-4913**
G23, ultra-fine wall	25	0,6	Blue	100	**612-0136**
G23, ultra-fine wall	30	0,6	Blue	100	**612-0135**
G24, ultra-fine wall	25	0,55	Violet	100	**613-0556**
G25, ultra-fine wall	16	0,5	Orange	100	**613-4915**
G25, ultra-fine wall	25	0,5	Orange	100	**613-0557**
G26, normal wall	12	0,45	Brown	100	**613-4916**
G26, normal wall	23	0,45	Brown	100	**612-0137**
G27, normal wall	20	0,4	Grey	100	**612-0138**

Hypodermic needles, Microlance™ 3

Sterile, disposable, hub and needle shield in PP, pointed cannula in stainless steel

For intradermal, subcutaneous, intramuscular and intravenous uses. Can be connected to a Luer adapter or BD Luer lock connector. Adapter and colour coding in compliance with ISO standards.

- Bevel design based on the latest technology with superior quality of penetration index
- Thin walls allowing the use of thinner needles with larger lumen thus increasing flow rates during injection and collection
- Sterilised by ethylene oxide

Packaging: Individually packed in blister film and medical grade paper.

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Description	Length (mm)	Ø (mm)	Colour code	Pk	Cat. No.
18G, regular wall, regular bevel	40	1,25	Pink	100	**613-3945**
19G, thin wall, regular bevel	40	1,1	Cream	100	**613-3938**
19G, thin wall, regular bevel	25	1,1	Cream	100	**613-3939**
19G, thin wall, regular bevel	50	1,1	Cream	100	**613-4967**
20G, thin wall, regular bevel	25	0,9	Yellow	100	**613-3947**
20G, thin wall, regular bevel	40	0,9	Yellow	100	**613-3937**
21G, regular wall, regular bevel	50	0,8	Green	100	**613-3934**
21G, thin wall, regular bevel	25	0,8	Green	100	**613-3935**
21G, thin wall, regular bevel	40	0,8	Green	100	**613-4970**
22G, regular wall, regular bevel	50	0,7	Black	100	**613-3909**
22G, thin wall, regular bevel	30	0,7	Black	100	**613-3928**
22G, thin wall, regular bevel	40	0,7	Black	5.000	**613-1688**
22G, thin wall, regular bevel	25	0,7	Black	100	**613-3946**
23G, thin wall, regular bevel	30	0,6	Blue	100	**613-3923**
23G, thin wall, regular bevel	25	0,6	Blue	100	**613-3924**
25G, regular wall, regular bevel	25	0,5	Orange	100	**613-4952**
25G, regular wall, regular bevel	16	0,5	Orange	100	**613-0902**
26G, regular wall, intradermal bevel	10	0,45	Brown	100	**613-5155**
26G, regular wall, regular bevel	16	0,45	Brown	100	**613-3896**

STERILE

Hypodermic safety needles, Needle-Pro®

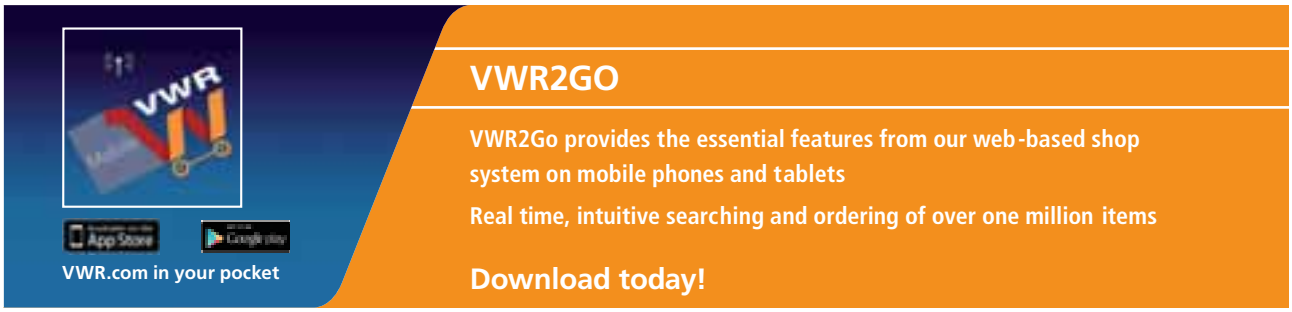
B. Braun

Stainless steel cannula, PP sheath and hub

The hypodermic Needle-Pro® devices are specifically designed to minimise the risk of needlestick injuries. Visual and audible confirmation as the needle locks into place with a simple one-handed technique that keeps the user's hand behind the needle at all times.

- Designed to allow standard puncture technique without requiring extra steps
- Luer slip 26 - 30G devices compatible with Luer slip syringes
- Luer lock and Luer slip 18 - 25G devices compatible with both Luer slip and Luer lock syringes
- In accordance with ISO 7864
- Colour-coded hub conforms to ISO 6009

Gauge	Length (mm)	Ø ext. (mm)	Colour code	Pk	Cat. No.
18G	38	1,20	Pink	100	**720-2275**
19G	38	1,10	Beige	100	**720-1914**
20G	25	0,90	Yellow	100	**720-2274**
20G	38	0,90	Yellow	100	**720-1913**
21G	25	0,80	Green	100	**720-2273**
21G	38	0,80	Green	100	**720-1912**
22G	38	0,70	Black	100	**720-1911**
23G	25	0,60	Blue	100	**720-2272**
25G	16	0,50	Orange	100	**720-2270**
25G	25	0,50	Orange	100	**720-1910**
25G	38	0,50	Orange	100	**720-2271**
26G	13	0,45	Brown	100	**720-1909**
27G	13	0,40	Black	100	**720-2269**
30G	13	0,30	Yellow	100	**720-2276**



Hypodermic needles, FINE-JECT® for single use

Sterile, disposable, hub and needle shield in PP, cannula in stainless steel

These needles are regularly mechanically analysed and experiences of clinical practice are fed back in order to continuously improve product quality and safety for enhanced patient comfort.

- Precision lancet point according to ISO 7864 with exact, smooth bevel cut
- Thin wall tubing, dry siliconisation
- Five year sterility after date of sterilisation

Packaging: Individually packed in blister packs with colour coding.

Gauge	Length (mm)	Ø (mm)	Colour code	Pk	Cat. No.
16	40	1,60	White	100	**613-2032**
17	50	1,50	Red	100	**613-2031**
18	40	1,20	Pink	100	**613-2029**
18	50	1,20	Pink	100	**613-2030**
19	25	1,10	Cream	100	**613-2026**
19	30	1,10	Cream	100	**613-2027**
19	40	1,10	Cream	100	**613-2028**
20	25	0,90	Yellow	100	**613-2024**
20	40	0,90	Yellow	100	**613-2025**
21	25	0,80	Green	100	**613-2021**
21	40	0,80	Green	100	**613-2022**
21	50	0,80	Green	100	**613-2023**
22	30	0,70	Black	100	**613-2019**
22	40	0,70	Black	100	**613-2020**
23	25	0,60	Blue	100	**613-2017**
23	30	0,60	Blue	100	**613-2018**
25	16	0,50	Orange	100	**613-2016**
26	12	0,45	Brown	100	**613-2014**
26	25	0,45	Brown	100	**613-2015**
27	12	0,40	Light Grey	100	**613-2012**
27	20	0,40	Light Grey	100	**613-2013**
30	12	0,30	Yellow	100	**613-2011**

Single use needles for blood sampling, Sterican®
B. Braun

Thin walled needles made of stainless, chromium-nickel steel with extremely smooth surface and light silicone coating.

- Special long/short bevel facets for minimal puncture pain
- Transparent, Luer Lock plastic fitting made from polypropylene, colour coded to conform to ISO 6009
- Latex and PVC free

Conforms to ISO 7864 and DIN 13097

Packaging: Dispenser box of 100 units.

Description	Gauge	Ø×L (mm)	Colour	Pk	Cat. No.
Sterican®	G 22	0,70×50	Transparent	100	**720-2529**
Sterican®	G 20	0,90×25	Yellow	100	**720-2530**
Sterican®	G 21	0,80×25	Green	100	**720-2531**
Sterican®	G 22	0,70×40	Black	100	**720-2532**
Sterican®, intramuscular	G 21	0,80×80	Green	100	**720-2533**
Sterican®	G 14	2,10×80	Pale Green	100	**720-2534**
Sterican®, short bevel	G 20	0,90×50	Yellow	100	**720-2535**
Sterican®, short bevel	G 18	1,20×50	Pink	100	**720-2536**

Single-use cannula for special applications, Sterican®

B. Braun

Stainless, chromium-nickel steel with transparent PP Luer lock plastic hub

These sterile hypodermic needles Sterican® have the following features: Suitable for single-use hypodermic needles for intra-muscular, subcutaneous, intravenous, intra-arterial and special injections. Thin walled needles.

- Extremely smooth surface with light silicone coating
- 3-facet tips, long or short bevel
- For minimal pain upon puncture

ISO 6009

Description	Length (mm)	Ø (mm)	Colour code	Pk	Cat. No.
Sterican® deep intra-muscular, 20×24/5''	70	0,90	Yellow	100	**612-0159**
Sterican® for blood sampling, 19×11/2''	40	1,10	Cream	100	**612-0155**
Sterican® for blood sampling, 19×11/4''	30	1,10	Cream	100	**612-0154**
Sterican® for neural therapy, 21×44/5''	120	0,80	Green	100	**612-0161**
Sterican® for neural therapy, 23×22/5''	60	0,60	Blue	100	**612-0158**
Sterican® for neural therapy, 23×31/5''	80	0,60	Blue	100	**612-0162**
Sterican® for varicosclerosation / blood sampling, with short bevel, 18×11/2''	40	1,20	Pink	100	**612-0160**
Sterican® heparin / tuberculine, 25×5/8''	16	0,50	Orange	100	**612-0153**
Sterican® insulin, 27×1/2''	12	0,40	Anthracite	100	**612-0151**
Sterican® insulin, 26×1/2''	12	0,45	Brown	100	**612-0152**
Sterican® intra-muscular, with long bevel, 19×2''	50	1,10	Cream	100	**612-0157**

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General purpose thermometers

Organic liquid

These thermometers meet all requirements for physical dimensions and accuracy.

- Meniscus visible in the appropriate low temperature application
- Possible magnification for more readability
- White background, fused markings

Traceable to NIST/DKD. Compliant with ANSI/SAMA Z236.1-1983.

Packaging: Individually protected in Safety-Pak® packaging.

Range (°C)	Accuracy (°C)	Division (°C)	Length (mm)	Immersion depth (mm)	Pk	Cat. No.
–100…+50	±2,0	1,0	305	76	1	**620-0860**
–100…+50	±2,0	1,0	305	Plný	1	**620-0858**
–200…+30	±2,0	1,0	350	Plný	1	**620-0857**

General purpose thermometers, BS 593
Amarell

Mercury

These thermometers are suitable for government verification, deliverable with works or verification certificates.

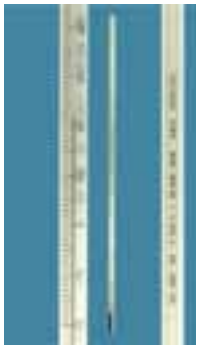
- White backed
- Total immersion
- Solid stem according to the specifications

Length: 400 mm

Delivery information: Delivered in a transparent square plastic case.

Range (°C)	Division (°C)	Immersion depth (mm)	Pk	Cat. No.
0…+40	0,1	100	1	**620-2265**
–20…+60	0,2	100	1	**620-2266**
0…+40	0,1	Total	1	**620-0048**
–20…+60	0,2	Total	1	**620-0049**

General purpose thermometers
Amarell



Mercury

These thermometers are suitable for government verification.

- White backed with durable pigment

Conforms to BS 593

Delivery information: Supplied in a transparent square plastic case. Verification certificate can be ordered at an extra charge.

Range (°C)	Accuracy (%)	Length (mm)	Immersion depth (mm)	Pk	Cat. No.
Division: ±1,0 °C					
–20…+150	±1,0	322	76	1	**620-0068**
–5…+300	±1,0	390	76	1	**620-0069**
–5…+105**	±1,0	250	100	1	**620-6742**
–5…+105**	±1,0	200	50	1	**620-6741**
Division: ±0,2 °C					
–20…+60	±0,2	400	100	1	**620-0056**
–2…+52	±0,2	395	100	1	**620-0063**
+72…+126	±0,2	395	100	1	**620-0066**
+98…+152	±0,2	395	100	1	**620-0067**
Division: ±0,1 °C					
0…+40	±0,1	400	100	1	**620-0053**
+40…+70*	±0,1	400	100	1	**620-0054**
+70…+100*	±0,1	400	100	1	**620-0055**
+70…+100	±0,1	400	100	1	**620-2283**

* Ice point scale ** Old standard

General-purpose thermometers
Amarell

Mercury

This range of thermometers is suitable for temperature measurement and monitoring in industrial applications.

- Milk glass scale
- Prismatic capillary
- Yellow backing and cork/glass top finish

Range (°C)	Division (°C)	Length (mm)	Ø (mm)	Pk	Cat. No.
–30…+50	1,0	105	8,0	1	**620-1611**
0…+100	1,0	105	8,0	1	**620-1612**
0…+160	1,0	105	8,0	1	**620-1613**
–30…+50	1,0	165	8,0	1	**620-1621**
0…+100	1,0	165	8,0	1	**620-1622**
0…+160	1,0	165	8,0	1	**620-1623**
0…+300	2,0	165	8,0	1	**620-1625**
–30…+50	1,0	213	8,0	1	**620-1631**
0…+100	1,0	213	8,0	1	**620-1632**
0…+160	1,0	213	8,0	1	**620-1633**
0…+200	1,0	213	8,0	1	**620-1634**
0…+300	2,0	213	8,0	1	**620-1635**
–30…+50	1,0	303	8,0	1	**620-1641**
0…+100	1,0	303	8,0	1	**620-1642**
0…+160	1,0	303	8,0	1	**620-1643**
0…+300	2,0	303	8,0	1	**620-1645**
0…+100	1,0	405	8,0	1	**620-1652**
0…+160	2,0	405	8,0	1	**620-1653**
0…+300	2,0	405	8,0	1	**620-1655**
0…+100	1,0	1005	10	1	**620-1158**

VWR COLLECTION

SELECTED FOR YOU

Precision thermometers

Red spirit

These glass thermometers are individually calibrated.

- Partial or total immersion
- White back glass
- Permanent scale embedded in the glass

Division: 1,0 °C

Length: 305 mm

Traceable to NIST/DKD. Compliant with ANSI/SAMA Z236.1-1983.

Packaging: Individually protected in Safety-Pak®.

Range (°C)	Accuracy (°C)	Immersion depth (mm)	Pk	Cat. No.
–35…+50	±1,5	76	1	**620-0803**
–35…+50	±1,0	Plný	1	**620-0804**
–20…+110	±1,5	76	1	**620-0864**
–20…+110	±1,0	Plný	1	**620-0862**
–20…+150	±1,5	76	1	**620-0865**
–20…+150	±1,0	Plný	1	**620-0863**
–10…+200	±1,0	Plný	1	**620-0884**

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Precision thermometers

Red spirit

These thermometers are graduated with fractional degrees.

- Fused markings
- White back glass
- Individual serial numbers

Traceable to NIST/DKD.

Delivery information: Supplied with laminated report with individual temperature point corrections and storage box.

Description	Range (°C)	Accuracy (°C)	Division (°C)	Length (mm)	Immersion depth (mm)	Pk	Cat. No.
Certified at –78; –20; 0; +4; +37 °C	–100…+50	±3,0	1,0	305	76	1	**620-0885**
Certified at 0; +50; +100 °C	–1…+101	±0,3	0,1	610	Plný	1	**620-0937**

Precision thermometers

Red spirit

These glass thermometers feature guaranteed accuracy.

- Fractional degrees
- White background
- Individual serial numbers

Traceable to NIST/DKD. Compliant with ANSI/SAMA Z236.1-1983.

Range (°C)	Accuracy (°C)	Division (°C)	Length (mm)	Immersion depth (mm)	Pk	Cat. No.
–1…+51	±1,0	0,1	460	76	1	**620-0896**
–1…+51	±0,3	0,1	460	Plný	1	**620-0806**
–1…+101	±1,0	0,1	610	76	1	**620-0897**
–1…+101	±0,3	0,1	610	Plný	1	**620-0807**
–1…+201	±1,0 (1,5 >100)	0,1	610	76	1	**620-0805**
–1…+201	±0,4 (0,5 >100)	0,2	610	Plný	1	**620-0808**

FRIO-Temp® precision thermometers

Black spirit

These thermometers are suitable for applications with freezers, refrigerators, incubators, ovens and blood banks. The thermometer is placed in a bottle filled with a liquid, bottle and solution insulate the sensor from transient temperature changes.

- Very accurate
- No hazard of mercury
- Individual serial number

Traceable to NIST/DKD.

Delivery information: Supplied with a statement of accuracy plus Velcro® and magnetic attachments in recyclable packaging.

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Description	Range (°C)	Accuracy (°C)	Division (°C)	Length (mm)	Pk	Cat. No.
For freezers	–25…–5	±0,2	0,1	210	1	**620-0837**
For refrigerators	–2…+10	±0,5	0,1	180	1	**620-0838**
For incubators	+15…+30	±0,2	0,1	180	1	**620-0839**
For incubators	+25…+45	±0,2	0,1	190	1	**620-0840**
For ovens	+95…+115	±0,2	0,1	200	1	**620-0841**

FRIO-Temp® precision thermometers

Enviro-Safe® liquid or red spirit

These glass thermometers can be used to take readings in freezers, refrigerators, incubators, ovens and blood banks.

- Enviro-Safe® non toxic and biodegradable liquid
- Individual serial number
- Wide choice

Traceable to NIST/DKD

Delivery information: Supplied with a statement of accuracy plus Velcro® and magnetic attachments in recyclable packaging.

Description	Range (°C)	Accuracy (°C)	Division (°C)	Length (mm)	Pk	Cat. No.
Enviro-Safe®						
For freezers	–30…0	±0,5	0,5	135	1	**620-0854**
For refrigerators	–5…+15	±0,5	0,5	125	1	**620-0902**
For blood banks	–5…+20	±0,5	0,5	135	1	**620-0848**
For incubators	+15...+50	±0,5	0,5	135	1	**620-0877**
For incubators	+15...+50	±0,5	0,5	135	1	**620-0878**
For incubators	+15...+50	±0,5	0,5	135	1	**620-0800**
For ovens	+20...+130	±1,0	1,0	145	1	**620-0850**
For ovens	+50...+200	±2,0	2,0*	145	1	**620-0852**
Red spirit						
For ultra-low freezers	–90…+20	±1,0	1,0**	145	1	**620-0855**
For freezers	–30…+1	±0,5	0,5	135	1	**620-0843**
For refrigerators	–5…+15	±0,5	0,5	125	1	**620-0845**
For blood banks	–5…+20	±0,5	0,5	135	1	**620-0842**
For incubators	+15...+50	±0,5	0,5	135	1	**620-0856**
For ovens	+20...+130	±1,0	1,0	145	1	**620-0844**
For ovens	+50...+220	±2,0	2,0*	145	1	**620-0886**

* 3,0 °C (>130 °C) ** 2,0 °C (<–50 °C)

FRIO-Temp® precision thermometers, VWR

Black spirit

These thermometers are designed for applications in freezers, refrigerators, incubators, ovens and blood banks. To use, simply screw thermometer with cap into bottle and attach to test sample.

- Very accurate
- No hazard of mercury
- Individual serial number

Traceable to standard NIST/DKD.

Delivery information: Supplied with a statement of accuracy plus Velcro® and magnetic attachments in recyclable packaging.

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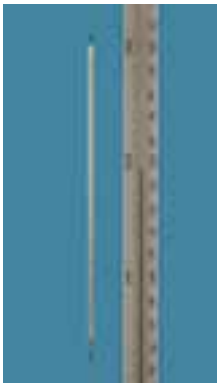
Description	Range (°C)	Accuracy (°C)	Division (°C)	Length (mm)	Pk	Cat. No.
For freezers, calibrated at 0, –10 °C	–5…+5	±0,2	0,1	210	1	**620-0938**
For refrigerators, calibrated at 0, 5 °C	–2…+10	±0,2	0,1	180	1	**620-0939**
For incubators, calibrated at 20, 25 °C	+15...+30	±0,2	0,1	180	1	**620-0940**
For incubators, calibrated at 30, 40 °C	+25...+45	±0,2	0,1	190	1	**620-0941**
For ovens, calibrated at 100, 110 °C	+95...+115	±0,2	0,1	200	1	**620-0942**

Precision thermometers
Amarell



Mercury

These total immersion thermometers are suitable for government verification and calibration.

- Enclosed scale with milk glass incorporated in the glass tube
- Quick, reproducible and exact measurements
- Colourless prismatic capillary

Delivery information: Supplied in transparent square plastic cases.

Description	Range (°C)	Division (°C)	Length (mm)	Ø (mm)	Pk	Cat. No.
DIN 12775	–10/0…+100	0,5	270	8,0 - 8,5	1	**620-1107**
DIN 12775	–10/0…+50	0,5	220	8,0 - 8,5	1	**620-1106**
DIN 12775	–10/0…+150	0,5	350	8,5 - 9,0	1	**620-1108**
DIN 12775	–5/0…+50	0,2	350	8,5 - 9,0	1	**620-1110**
DIN 12775	–10/0…+250	0,5	420	9,0 - 9,5	1	**620-1109**
DIN 12775	–5/0…+100	0,2	420	8,5 - 9,0	1	**823-5948**
Not DIN	–25…+100	0,2	450	9,0 - 9,5	1	**620-1120**
Not DIN	–5…+150	0,2	480	9,0 - 9,5	1	**620-1121**
Not DIN	0...+100	0,1	550	9,0 - 9,5	1	**620-1123**

Precision thermometers
Amarell

Mercury

Coated in transparent PTFE, these thermometers are protected against mercury leakage and reduce risks associated with glass splinters.

- Total immersion
- Blue reflecting capillary
- Enclosed scale

Range (°C)	Accuracy (%)	Length (mm)	Ø (mm)	Pk	Cat. No.
–30...+50	±1,0	260	7,0 - 8,0	1	**620-1149**
–10...+100	±1,0	260	7,0 - 8,0	1	**620-1150**
–10...+150	±1,0	260	7,0 - 8,0	1	**620-1156**
–10...+200	±1,0	300	7,0 - 8,0	1	**620-1230**
0...+100	±1,0	305	8,0 - 9,0	1	**620-1211**
0...+150	±1,0	305	8,0 - 9,0	1	**620-1212**
0...+200	±1,0	305	8,0 - 9,0	1	**620-1213**
–10...+100	±0,5	270	8,0 - 9,0	1	**620-1214**
–5...+100	±0,2	420	8,0 - 9,0	1	**620-1215**
–10...+50	±0,1	420	8,0 - 9,0	1	**620-1216**

Precision thermometers
Amarell

These total immersion thermometers are suitable for government verification or calibration.

- Enclosed scale
- Colourless capillary - Except 620-1056 (blue)
- Calibration possible

Range (°C)	Division (°C)	Length (mm)	Ø (mm)	Filling	Pk	Cat. No.
0…+52	0,1	400	9,0	Mercury	1	**620-1059**
+48…+102	0,1	400	9,0	Mercury	1	**620-1060**
+97…+152	0,1	400	9,0	Mercury	1	**620-1061**
+147…+202	0,1	400	9,0	Mercury	1	**620-1062**
+197…+252	0,1	400	9,0	Mercury	1	**620-1063**
+247…+302	0,1	400	9,0	Mercury	1	**620-1064**
+297…+360	0,1	400	9,0	Mercury	1	**620-1065**
+350…+402	0,1	400	9,0	Mercury	1	**620-1066**
+395…+605	0,5	400	9,0	Mercury	1	**620-1067**
+300…+700	2,0	400	9,0	Mercury	1	**620-1068**
–100…+30	0,5	400	9,0	Toluene	1	**620-1057**
+500…+1000	5,0	400	9,0	Gallium	1	**620-1069**
–58…+5	1,0	400	9,0	Mercury-thallium alloy	1	**620-1058**
–200…+30	0,5	400	9,0	Pentane	1	**620-1056**

Precision thermometers
Amarell

Mercury, toluene or pentane

This extensive range of low temperature thermometers is suitable for government verification as well as government calibration (620-1713).

- Total immersion
- Colourless capillary - Except 620-1047 (blue-reflecting capillary)
- Three different fillings

Ø: 8 - 10 mm

Delivery information: Models 620-1047 and 620-0180 are government verified and supplied with a verification certificate.

Range (°C)	Accuracy (°C)	Length (mm)	Filling	Pk	Cat. No.
Division: 1,0 °C (DIN 12778)					
–50…+50	±2,0	300	Toluene	1	**620-1711**
–100…+100	±2,0	300	Toluene	1	**620-1143**
–100…+30	±2,0	300	Toluene	1	**620-1713**
–100…+30	±2,0	300	Toluene	1	**620-0180**
–50…+50	±2,0	300	Toluene	1	**620-1047**
–200…+30	±3,0	350	Pentane	1	**620-1714**
Division: 0.5 °C					
–100…+30	±1,0	400	Toluene	1	**620-1145**
–50…+50	±1,0	300	Toluene	1	**620-1144**
–30…+50	±1,0	220	Mercury	1	**620-0194**
Division: 0.2 °C					
–50…+50	±2,0	420	Toluene	1	**620-1147**
–38…+50	±2,0	400	Mercury	1	**620-1146**
Division: 0.1 °C					
–38…+50	±2,0	550	Mercury	1	**620-1148**

Environmentally friendly certified thermometers, Enviro-Safe®

Enviro-Safe® liquid

These thermometers are made with 100% non toxic, non hazardous, biodegradable liquid. Easy to read thanks to a high contrast green against white back.

- Lead free glass
- Individual serial numbers
- Accuracy without any of the hazards of mercury

Division: 1,0 °C

Traceable NIST/DKD. Compliant with Envirokleen™.

Delivery information: Supplied with a statement of accuracy in SafetyPak® recyclable packaging.

Range (°C)	Accuracy (°C)	Length (mm)	Immersion depth (mm)	Pk	Cat. No.
Partial immersion					
–10...+110	±1,0	200	50	1	**620-0880**
–10...+150	±1,0 (1,5>105)	200	50	1	**620-0882**
–20…+110	±1,0	305	76	1	**620-0831**
–20…+150	±1,0 (1,5>105)	305	76	1	**620-0832**
–10...+260	±1,0 (1,5>105)	355	76	1	**620-0834**
Total immersion					
–10...+110	±1,0	200	Plný	1	**620-0881**
–10…+150	±1,0 (1,5>105)	200	Plný	1	**620-0883**
–20...+110	±1,0	305	Plný	1	**620-0836**
–20...+150	±1,0 (1,5>105)	305	Plný	1	**620-0835**
–10…+225	±1,0 (1,5>105; 2,0>200)	355	Plný	1	**620-0833**

Environmentally friendly high contrast thermometers, Easy-Read®

Enviro-Safe® liquid

These thermometers are easy to read quickly and accurately due to the high contrast black numbering against a yellow background.

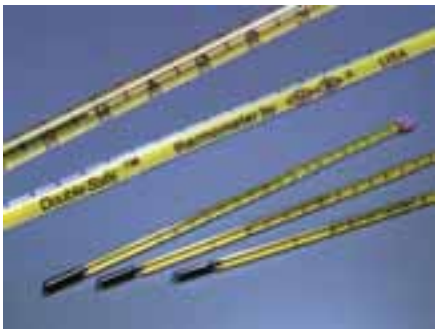
- Individual serial numbers - except pocket thermometers
- Eliminates reading errors
- Non toxic, non hazardous, biodegradable liquid

Traceable to NIST/DKD. Compliant with Envirokleen™.

Delivery information: Supplied in individually protected Safety-Pak® packaging with a statement of accuracy.

Range (°C)	Accuracy (°C)	Division (°C)	Length (mm)	Immersion depth (mm)	Pk	Cat. No.
Partial immersion						
–10…+150	±1,0	1,0	200	50	1	**620-0781**
–10…+110	±1,0	1,0	200	50	1	**620-0783**
–10…+260	±1,0 (1,5>105; 2,0>200)	1,0	355	76	1	**620-0784**
–20…+150	±1,0	1,0	305	76	1	**620-0786**
–20…+110	±1,0 (1,5>105)	1,0	305	76	1	**620-0788**
Total immersion models						
–10…+110	±1,0	1,0	200	Plný	1	**620-0782**
–10…+225	±1,0	1,0	355	Plný	1	**620-0785**
–20…+150	±1,0 (1,5>105)	1,0	305	Plný	1	**620-0787**
–20...+110	±1,0	1,0	305	Plný	1	**620-0789**
Pocket models						
–5…+50	±0,5	0,5	160	Total	1	**620-0779**
–10…+110	±1,0	1,0	160	Total	1	**620-0780**
–30…+50	±1,0	1,0	160	Total	1	**620-0903**

Environmentally friendly high contrast thermometers, Double-Safe™



Enviro-Safe® liquid

These thermometers are easy to read quickly and accurately due to the high contrast black numbering against a yellow background. The numbers are printed larger than on a standard thermometer.

- Individual serial numbers
- Non toxic, non hazardous, biodegradable liquid
- PTFE coating to prevent any contamination of liquid or glass

Traceable to NIST/DKD.

Delivery information: Supplied with a statement of accuracy indicating accuracy traceability and individually protected in Safety-Pak® packaging.

Range (°C)	Accuracy (°C)	Division (°C)	Length (mm)	Immersion depth (mm)	Pk	Cat. No.
Partial immersion						
–20…+110	±1,0	1,0	305	76	1	**620-0793**
–20…+150	±1,0 (1,5 >105)	1,0	305	76	1	**620-0795**
–10…+110	±1,0	1,0	200	50	1	**620-0796**
–10…+150	±1,0 (1,5 >105)	1,0	200	50	1	**620-0798**
Total immersion						
–20…+110	±1,0	1,0	305	Plný	1	**620-0792**
–20…+150	±1,0 (1,5 >105)	1,0	305	Plný	1	**620-0794**
–10…+110	±1,0	1,0	200	Plný	1	**620-0797**
–10…+150	±1,0 (1,5 >105)	1,0	200	Plný	1	**620-0799**

Environmentally friendly thermometers, Easy-Read®

Enviro-Safe® liquid

These thermometers are easy to read quickly and accurately due to the high contrast black numbering against a yellow background. Numbers are printed larger than on a standard thermometer.

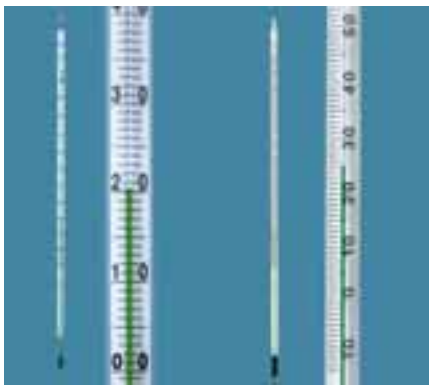
- Eliminate reading errors
- Individual serial numbers
- Non toxic, non hazardous, biodegradable liquid

Traceable to NIST/DKD.

Delivery information: Supplied with Traceable® report of calibration and deluxe storage box. Individually protected in Safety-Pak® packaging.

Description	Range (°C)	Division (°C)	Length (mm)	Immersion depth (mm)	Pk	Cat. No.
Calibrated at 0, +37, +56 °C	–10…+70	0,5	297	76	1	**620-0830**
Calibrated at 0, +50, +100 °C	–20…+110	1,0	297	76	1	**620-0828**
Calibrated at 0, +50, +100 °C		1,0	305	Plný	1	**620-0829**
Calibrated at 0, +60, +120 °C	–20…+150	1,0	305	76	1	**620-0935**
Calibrated at 0, +60, +120 °C		1,0	305	Plný	1	**620-0934**
Calibrated at +1, +100, +200 °C	–10…+225	1,0	355	Plný	1	**620-0936**

Environmentally friendly thermometers
Amarell



Organic Liquid

These thermometers are designed for everyday use thanks to a biodegradable non toxic green fluid. Choose either solid stem to reduce risk of accidental breakage or enclosed scale with milk glass for additional accuracy.

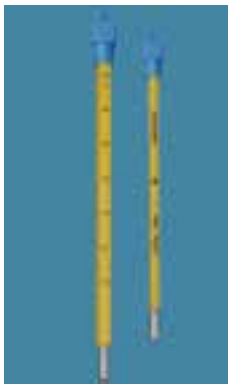
- Safe
- Mercury-free
- Solid stem or enclosed scale

Length: 300 mm

Immersion depth: 76 mm

Description	Range (°C)	Accuracy (°C)	Division (°C)	Ø (mm)	Pk	Cat. No.
Solid stem	–10…+110	±2,0	1,0	7,0 - 8,0	1	**620-1095**
Solid stem	–10…+110	±2,0	1,0	6,0 - 7,0	1	**620-1091**
Solid stem	–10…+110	±1,0	0,5	6,0 - 7,0	1	**620-1092**
Enclosed scale with milk glass	–10…+110	±1,0	0,5	7,0 - 8,0	1	**620-1096**
Solid stem	–10…+150	±2,0	1,0	6,0 - 7,0	1	**620-1093**
Solid stem	–10…+250	±3,0	2,0	6,0 - 7,0	1	**620-1094**

Total immersion thermometers
Amarell



Mercury

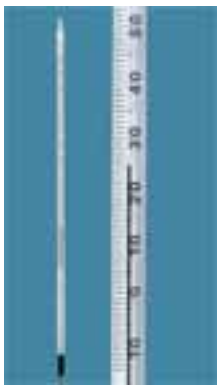
These thermometers possess reinforced bulbs with a solid glass tip, permanently marked.

- Yellow back
- Robust construction
- Three ranges available

Length: 152 mm

Range (°C)	Accuracy (%)	Pk	Cat. No.
–10…+110	±1,0	1	**620-0083**
–10…+250	±5,0	1	**620-0084**
–10…+360	±5,0	1	**620-0085**

Total immersion thermometers
Amarell



Mercury

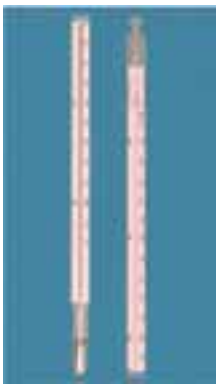
These glass thermometers are suitable for standard everyday use.

- Solid stem
- White backing
- Reliable measurements and solid glass

Ø: 5,5 - 6,5 mm

Range (°C)	Accuracy (°C)	Length (mm)	Pk	Cat. No.
–10…+100	±1,0	260	1	**620-1152**
–10…+150	±1,0	260	1	**620-1153**
–10…+200	±1,0	300	1	**620-1009**
–10…+250	±1,0	300	1	**620-1154**
–10…+360	±1,0	340	1	**620-6773**
–10…+420	±1,0	340	1	**620-1010**

Total immersion thermometers
Amarell



Mercury

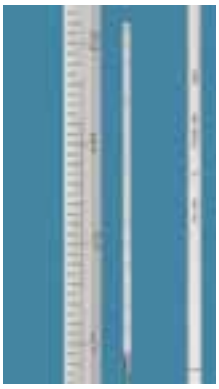
These accurate thermometers are specifically designed for government verification.

- With or without DIN certification
- Enclosed milk glass scale
- Blue reflecting capillary

Ø: 8,0 - 9,5 mm

Description	Range (°C)	Accuracy (°C)	Length (mm)	Pk	Cat. No.
Not DIN	–10…+50	±1,0	250	1	**620-0061**
Not DIN	–10…+30	±0,1	300	1	**620-1127**
Not DIN	–10…+50	±0,1	420	1	**620-1316**
Not DIN	–10…+100	±0,1	600	1	**620-1317**
DIN 12775	–5…+50	±0,2	350	1	**620-1314**
DIN 12775	0...+50	±0,5	220	1	**620-1311**
DIN 12775	–5…+100	±0,2	420	1	**620-1315**
DIN 12775	–10…+100	±0,5	270	1	**620-1312**
DIN 12775	–10…+150	±0,5	350	1	**620-1125**
DIN 12775	–10…+250	±0,5	420	1	**620-1313**
DIN 12775	–10…+360	±0,5	480	1	**620-1126**
DIN 12778	0...+100	±1,0	305	1	**620-1050**
DIN 12778	0...+150	±1,0	305	1	**620-1051**
DIN 12778	0...+250	±1,0	350	1	**620-1124**
DIN 12778	0...+360	±1,0	380	1	**620-1052**

Total immersion thermometers
Amarell



Mercury

These thermometers feature solid stem according to the ISO specifications.

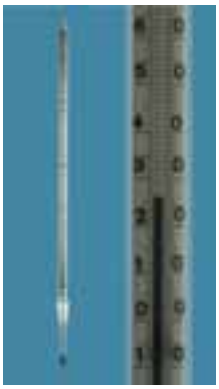
- White backed

Revised BS 1704 complies with ISO 1770: 1981

Delivery information: Supplied in a transparent square plastic case.

Range (°C)	Accuracy (°C)	Length (mm)	Pk	Cat. No.
–100…+30	±1,0	300	1	**620-0028**
–35…+30	±0,5	300	1	**620-0029**
0...+60	±0,5	300	1	**620-0030**
0...+100	±1,0	300	1	**620-0035**
0...+160	±1,0	300	1	**620-0036**
0...+250	±1,0	300	1	**620-0037**
0...+360	±2,0	300	1	**620-0038**
0...+500	±5,0	345	1	**620-0039**

Ground joint thermometers
Amarell



Mercury

These enclosed scale thermometers are suitable for government verification.

- Easy reading
- Upper part: 350 mm
- Blue reflecting capillary

For ground joint: 14,5/23

Range (°C)	Accuracy (°C)	Length (mm)	Installation length (mm)	Immersion depth (mm)	Pk	Cat. No.
–10…+150	±0,5	75	75	52	1	**620-1411**
–10…+250	±1,0	75	75	52	1	**620-1412**
–10…+360	±1,0	75	75	52	1	**620-1413**
–10…+150	±0,5	100	100	77	1	**620-1414**
–10…+250	±1,0	100	100	77	1	**620-1415**

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Range (°C)	Accuracy (°C)	Length (mm)	Installation length (mm)	Immersion depth (mm)	Pk	Cat. No.
–10…+360	±1,0	100	100	77	1	**620-1416**
–10…+250	±1,0	150	150	127	1	**620-1417**
–10…+250	±1,0	195	195	172	1	**620-1418**

Installation length: Lower part+ground joint

Ground joint thermometers
Amarell

Mercury

These enclosed scale thermometers are suitable for government verification, with universal lock.

- Certificate of stem correction
- Blue reflecting capillary
- Lower part: 200 mm

For NS 14,5/23

Immersion depth: 30 - 130 mm

Range (°C)	Accuracy (%)	Length (mm)	Installation length (mm)	Filling	Pk	Cat. No.
–10…+150	±1,0	250	200	Mercury	1	**620-1431**
–10…+250	±1,0	300	200	Mercury	1	**620-1432**
–10…+360	±1,0	350	200	Mercury	1	**620-1433**

Certified glass thermometer, Enviro-Safe®

Enviro-Safe® liquid

Environmentally safe, this thermometer is made with 100% non toxic, non hazardous, and biodegradable liquid. It is suitable for use in the chemical industry, universities, scientific institutions, food and beverage processing, petrochemical, pharmaceutical and medical industry, manufacturers, dairies, breweries and distilleries.

- Lead free glass
- Accuracy equal to similar mercury types
- Individual serial numbers

Traceable to NIST/DKD.

Packaging: Supplied with a report of calibration and individually protected in Safety-Pak® packaging.

Range (°C)	Accuracy (°C)	Division (°C)	Length (mm)	Immersion depth (mm)	Pk	Cat. No.
–1…+61	±1,0	0,1	420	76	1	**620-0801**

Certified thermometers
Amarell

Mercury, toluene or mercury-thallium alloy

These models are suitable for government verification or calibration.

- Most are mercury filled
- White backed
- Compliant with ASTM

If you require a certificate of conformity, you need to order the article number A300570KB.

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Description	Range (°C)	Division	Length (mm)	Immersion depth (mm)	Filling	Pk	Cat. No.
Division: 2 °C							
10C	+90...+370		290	57	Mercury	1	**620-1022**
11C	–6…+400		310	25	Mercury	1	**620-1023**
15C	–2…+80		395	Total	Mercury	1	**620-1027**
Division: 1 °C							
2C	–5…+300		390	76	Mercury	1	**620-1015**
3C	–5…+400		415	76	Mercury	1	**620-1016**
5C	–38…+50		230	108	Mercury	1	**620-1017**
6C	–80…+20		230	76	Toluene	1	**620-1012**
7C	–2…+300		385	Total	Mercury	1	**620-1018**
88C	+10...+200		287	57	Mercury	1	**620-0987**
Division: 0.5 °C							
8C	–2…+400		385	Total	Mercury	1	**620-1019**
9C	–5…+110		290	57	Mercury	1	**620-1021**
13C	+155...+170		155	Total	Mercury	1	**620-1025**
16C	+30...+200		395	Total	Mercury	1	**620-1028**
57C	–20…+50		287	57	Mercury	1	**620-0981**
114C	–80…+20		300	Total	Toluene	1	**620-1079**
Division: 0.2 °C							
12C	–20…+102		420	Total	Mercury	1	**620-1024**
34C	+25...+105		420	50	Mercury	1	**620-0177**
35C	+90...+170		420	50	Mercury	1	**620-0178**
37C	–2…+52		395	100	Mercury	1	**620-0977**
39C	+48...+102		395	100	Mercury	1	**620-0978**
41C	+98...+152		395	100	Mercury	1	**620-0979**
54C	+20...+100		310	Total	Mercury	1	**620-0980**
103C	+148...+202		395	100	Mercury	1	**620-1076**
105C	+198...+252		395	100	Mercury	1	**620-0990**
107C	+248...+302		395	100	Mercury	1	**620-1077**
12C*	–20…+102		420	Total	Mercury	1	**620-2282**
Division: 0.1 °C							
14C	+38...+82		375	79	Mercury	1	**620-0323**
17C	+19...+27		275	Total	Mercury	1	**620-1029**
18C	+34...+42		275	Total	Mercury	1	**620-1031**
19C	+49...+57		275	Total	Mercury	1	**620-1032**
20C	+57...+65		275	Total	Mercury	1	**620-0318**
21C	+79...+87		275	Total	Mercury	1	**620-1034**
22C	+95...+103		275	Total	Mercury	1	**620-1035**
63C	–8…+32		379	Total	Mercury	1	**620-0982**
65C	+50...+80		379	Total	Mercury	1	**620-0983**
66C	+75...+105		379	Total	Mercury	1	**620-0984**
90C	0...+30		370	76	Mercury	1	**620-1072**
91C	+20...+50		370	76	Mercury	1	**620-1073**
94C	+80...+110		370	76	Mercury	1	**620-0988**
95C	+100...+130		370	76	Mercury	1	**620-0989**
Division < 0.05 °C							
73C	–38,6…+41,4		305	Total	Mercury-thallium alloy	1	**620-0985**
74C	–55,4…–52,6		305	Total	Mercury-thallium alloy	1	**620-0986**
117C	+23,9…+30,1	0,01	609	Total	Mercury	1	**620-0991**
127C	–21,4…–18,6	0,05	305	Total	Mercury	1	**620-0992**

Description	Pk	Cat. No.
Thermometer case		
Wood tank thermometer cup case	1	**620-0997**

* With verification certificate.

Certified verification thermometers
Amarell

Mercury

This range of government certified thermometers is supplied with verification certificate. Quick, reproducible and exact measurements.

- Total immersion
- Enclosed milk glass scale
- Colourless prismatic capillary

Ø: 8,0 - 9,5 mm

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Description	Range (°C)	Accuracy (°C)	Length (mm)	Pk	Cat. No.
Not DIN	–10…+50	±1,0	250	1	**620-1131**
DIN 12778	–10…+100	±1,0	305	1	**620-1048**
DIN 12778	–10…+150	±1,0	305	1	**620-1049**
Not DIN	–10…+200	±1,0	300	1	**620-1347**
DIN 12778	–10…+250	±1,0	350	1	**620-1341**
DIN 12778	–10…+360	±1,0	380	1	**620-1342**
DIN 12775	–10…+50	±0,5	220	1	**620-1343**
DIN 12775	0...+100	±0,5	270	1	**620-1344**
DIN 12775	–10…+150	±0,5	350	1	**620-1132**
Not DIN	–10…+200	±0,5	400	1	**620-1349**
DIN 12775	–5…+50	±0,2	350	1	**620-1137**
DIN 12775	0...+100	±0,2	420	1	**620-1348**
Not DIN	–5…+150	±0,2	480	1	**620-1138**
Not DIN	–5…+200	±0,2	550	1	**620-1139**
DIN 12775	0...+50	±0,1	420	1	**620-1345**
Not DIN	–10…+50	±0,1	420	1	**620-1141**
Not DIN	0...+100	±0,1	550	1	**620-1142**

VWR COLLECTION

SELECTED FOR YOU

Pocket thermometers

Red spirit

These glass thermometers have an optional PTFE coating that helps to prevent contamination and contains liquid and glass in the event of breakage.

- Bulbous glass body
- Increased stability
- Individual serial number

Accuracy: ±1,0 °C

Delivery information: Supplied with a plastic window case.

Range (°C)	Division (°C)	Length (mm)	Pk	Cat. No.
–15…+105	1,0	152	1	**620-0820**
–35…+50	1,0	160	1	**620-0853**
–10…+110	1,0	160	1	**620-0810**
–5…+45	0,5	160	1	**620-0809**

Pocket thermometers
Amarell

Mercury or red spirit

Extra comfort and security. The mercury filled thermometers have blue reflecting capillary whereas the thermometers with red liquid filling have a colourless capillary.

- Pen size
- Total immersion
- Enclosed scale

Length: 145 mm
Immersion depth: 145 mm

Delivery information: All pocket thermometers supplied in nickel plated double receptacle.

Range (°C)	Accuracy (°C)	Division (°C)	Filling	Pk	Cat. No.
–35…+50	±2,0	1,0	Red spirit	1	**620-1746**
–10…+100	±2,0	1,0	Red spirit	1	**620-1747**
–35…+50	±2,0	1,0	Mercury	1	**620-1741**
–10…+100	±2,0	1,0	Mercury	1	**620-1742**

General purpose thermometers

Red spirit

These thermometers feature a round glass bulge in the body to hold them in place. PTFE coating helps prevent liquid and glass contamination if the thermometer is broken.

Range (°C)	Division (°C)	Length (mm)	Immersion depth (mm)	Pk	Cat. No.
Standard coating					
0...+200	1,0	280	76	1	**620-0823**
+20...+130	2,0	135	Plný	1	**620-0894**
PTFE coating					
0...+200	1,0	280	76	1	**620-0893**
0...+200	1,0	405	125	1	**620-0825**
+20...+130	2,0	135	Plný	1	**620-0826**

General purpose thermometers

Designed for use in all standard heating blocks and water baths, these thermometers include a glass bead filled microtube.

- Partial immersion
- Individual serial numbers
- PTFE coating helps prevent liquid and glass contamination

Range (°C)	Accuracy (°C)	Division (°C)	Length (mm)	Immersion depth (mm)	Filling	Pk	Cat. No.
Standard coating							
+24...+57	±1,0	0,5	175	35	Enviro-Safe®	1	**620-0790**
0...+100	±2,0	1,0	225	35	Red spirit	1	**620-0821**
0...+100	±2,0	1,0	225	35	Red spirit	1	**620-0891**
PTFE coating							
+24...+57	±1,0	0,5	175	35	Enviro-Safe®	1	**620-0791**
+18...+60	±1,0	0,5	125	35	Blue spirit	1	**620-0814**
+50...+110	±1,0	0,5	150	35	Blue spirit	1	**620-0815**
0...+100	±2,0	1,0	225	35	Red spirit	1	**620-0822**

General purpose thermometers

These thermometers with PTFE coating help preventing liquid and glass contamination.

- High stability
- Individual serial numbers
- Glass bulge in body holds thermometer in place

Range (°C)	Division (°C)	Length (mm)	Immersion depth (mm)	Pk	Cat. No.
Standard coating					
+20...+100	1,0	305	76	1	**620-0816**
0...+80	0,5	250	100	1	**620-0817**
+25; +30; +37; +56	0,5	240	76	1	**620-0818**
0...+70	1,0	305	150	1	**620-0889**
PTFE coating					
+20...+100	1,0	305	76	1	**620-0887**
0...+80	1,0	250	100	1	**620-0888**
0...+70	1,0	305	150	1	**620-0890**

Digital wall thermometer

This compact thermometer provides a good alternative to mercury models. A reset button allows for a new monitoring period.

- Maximum/minimum values displayed
- Keyhole for mounting
- Easy to read

W×D: 100×215 mm

Compliant with RoHS.

Delivery information: Supplied with two AAA batteries.

Range (°C)	Accuracy (%)	Pk	Cat. No.
–10…+50	±1,0	1	**620-1722**

Temperature indicating strips

These temperature indicating strips are designed for rapid measurements where conventional thermometers are impractical. They are suitable for use with equipment like heating chambers and products which are sensitive at high temperatures.

- Fast response within one second
- Self-adhesive and irreversible - eight points
- Storage at maximum 25 °C for up to two years

Range (°C)	Accuracy (°C)	Pk	Cat. No.
+37...+65	±1,0	10	**620-9102**
+71...+110	±1,0	10	**620-9103**
+116...+154	±1,0	10	**620-9104**
+160...+199	±1,0	10	**620-9105**
+204...+260	±1,0	10	**620-9106**

Temperature indicating strips
Testo

These thermometer strips are made of self-adhesive foils with temperature sensitive elements for temperature control and regulation. They are used for measurements on moving and/or small parts and for long-term monitoring.

- Irreversible change in colour within one second
- Practical booklet with 50 thermometer strips
- Storage at maximum 25 °C for up to two years; storage in a refrigerator is recommended

W×D: 15×14 mm

Max. temp. (°C)	Accuracy (°C)	Pk	Cat. No.
+65	±1,5	50	**620-9151**
+71	±1,5	50	**620-9152**
+77	±1,5	50	**620-9153**
+82	±1,5	50	**620-9154**
+110	±1,5	50	**620-9159**
+121	±1,5	50	**620-9161**

Temperature indicating strips

Testo

These clock indicators are self-adhesive, temperature proof foils with temperature sensitive elements for temperature control and regulation. They are particularly suitable for monitoring temperature in small objects.

- Change in colour within two seconds
- Practical booklet with ten clock indicators
- Clock indicators available on sheets from 5000
- Storage of clock indicators: Up to 65 °C, maximum nine months; other measuring ranges: Up to two years
- Maximum storage temperature: 25 °C; storage in a refrigerator is recommended

Packaging: 5000 off (100 sheets of 50 off).

Range (°C)	Accuracy (°C)	Ø (mm)	Pk	Cat. No.
+60...+82	±1,5	15	10	**620-9122**
+88...+110	±1,5	15	10	**620-9123**
+116...+138	±1,5	15	10	**620-9124**
+143...+166	±1,5	15	10	**620-9125**
+171...+193	±1,0 °C ±1% mv	15	10	**620-9126**
+199...+224	±1,0 °C ±1% mv	15	10	**620-9127**

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Infrared and core thermometer, Traceable®

This easy to use infrared and type K thermometer allows the unit to take readings in less than one second. It allows for non invasive measurements in food preparation, life sciences, pharmaceuticals, petroleum products, cleanrooms, electronics and for field use on solids, semi-solids and liquids.

- Field of view of 11:1
- Emissivity adjustable from 0,1 to 1,0 in 0,01 increments
- Minimum/maximum feature allows viewing of highest and lowest readings at any time
- Memory recalls captured temperatures, displays the average of all readings and the difference between the two
- Audible, user-settable, high and low alarms signal out-of-range conditions, "HOLD" function to freeze the display

W×D×H: 178×70×38 mm

Delivery information: Supplied with a three-point calibration certificate (at 35, 50 and 150 °C for the IR meter), a type K thermocouple and batteries with a low level indicator.

Range (°C)	Accuracy (%)	Resolution (°C)	Pk	Cat. No.
(IR) –60…+500 °C; **(TC)** –64…+1400	±1,0 °C +2,0	0,1	1	**620-2203**

Infrared dual laser thermometer with type K probe, Traceable®

This dual laser digital thermometer is suitable for non invasive measurements in food, life sciences, pharmaceuticals, petroleum products, cleanrooms, electronics and on-site applications.

- Field of view of 12:1 (the spot size is 50 mm at 0,60 m)
- Readings on any type of surface: Solids, semi-solids and liquids
- Minimum/maximum features for viewing at any time, display of the average of all readings and of the difference between two readings
- Audible, user-settable, high and low alarms signal out of range conditions
- User adjustable emissivity from 0,1 to 1,00 in increments of 0,01

W×D×H: 178×95×50 mm

Weight: 255 g

Delivery information: Supplied with a certificate of conformity provided by NIST from an ISO 17025 laboratory accredited by A2LA, a type K probe, and two AAA batteries.

Range (°C)	Accuracy	Resolution (°C)	Pk	Cat. No.
IR: –60…+550; **Type-K:** –64…+1400	±2,0% or 2,0 °C whichever is greater	0,1	1	**620-1924**

Infrared and thermocouple thermometer, Traceable®

Foldable stainless steel probe (152×12 mm)

This HACCP - Hazard Analysis and Critical Control Point - thermometer is designed for food laboratories, food processing, food preparation and brewing. The waterproof construction allows it to be used in labs, plants and wash-down areas.

- Low battery indicator
- Field of view ratio: 2,5:1
- Current, minimum and maximum temperatures
- Emissivity adjustable from 0,1 to 1,0 - by default: 0,95
- LEDs indicate the HACCP zones: green under 4 °C and over 60 °C and red light between 4 to 60 °C

W×D×H: 165×38×2,5 mm

Weight: 100 g

Delivery information: Supplied with a battery and a serial-numbered Traceable® certificate that indicates traceability to standards provided by NIST.

Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
–55…+330	±0,6*; ±0,5** (5…65)	0,2 (–10…+200); 1,0	1	**620-1806**

* Infrared ** Probe

Dual infrared and core thermometer, TLC 730
Ebro

Infrared surface temperature / Thermocouple core temperature

The TLC 730 is suitable for process monitoring, measurements and control tasks in food products industry. It provides fast, exact temperature monitoring for transport, storage and cooling chambers and for incoming goods inspections.

- Infrared dual laser to point out measuring spot size
- Optics D:S=8:1 and adjustable emissivity of 0.1 to 1
- Visible and audible alarm by exceeding/shortfall of limit value

EN 60825-1

Delivery information: Supplied with a two-point factory calibration certificate (–18 °C and +60 °C), punching pin for frozen food, two AAA replaceable batteries and manual.

Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–50…+350	±4,0 (–50…–30); ±1,0 (0…+65)* ±0,8 (–18…+120); ±1,0 (rem. range)**	0,1	48×24×172	140	1	**620-1556**

Description	Pk	Cat. No.
Case for TLC 730		
Nylon belt case for TLC 730	1	**620-1356**

* Infrared ** Core temperature

Infrared thermometer, TFI 250
Ebro

The TFI 250 infrared thermometer is a non contact infrared thermometer.

- Distance to spot of 12:1
- Emissivity can be changed from 0,1 to 1,0
- Lock mode for continuous monitoring of temperatures for up to 60 minutes

Delivery information: Supplied with a replaceable battery and a two-point calibration certificate.

Range (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–60…+550	0,1	153×114×48	177	1	**620-1901**

Infrared thermometers, TFI 550 and 650
Ebro

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NiCrNi connection for core temperature with external probe

The TFI 550 allows for core temperature measurement in fast refrigerated goods checks, incoming goods inspection, storage, climate control systems, process monitoring.
The TFI 650 suits for applications in industry, trade and crafts, climate control systems, fast refrigerated goods checks, incoming goods inspection, storage and laboratories.

- Ratio of distance to measuring spot 50:1 (620-1478) and 30:1 (620-1553)
- Double laser pointer (620-1553)
- Emission ratio of 0.1 to 1.0

Delivery information: The 620-1553 is supplied with a six-point factory calibration certificate, a battery with 180 hours lifetime. The 620-1478 is supplied with a three-point factory calibration certificate, a battery of 140 hours lifetime.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
Infrared thermometer with NiCr-Ni connection, TFI 650	–60…+1500	±2,0	0,1	47×197×203	385	1	**620-1478**
Dual infrared thermometer with NiCr-Ni connection, TFI 550	–60…+550	±2,0 °C (–18…+23) °C ±1% of measurement ±1 °C (+23...+510)	0,1 °C (–9,9…+199,9 °C); 1,0	46×121×195	180	1	**620-1553**

Description	Range (°C)	Ø×L (mm)	Pk	Cat. No.
Probes for core thermometers				
Penetration probe with handle and 100 mm cable, TKS 100	–200…+400	3×130	1	**620-1648**
Surface probe with paddle, handle and 100 mm cable, TKS 200		7×40	1	**620-1649**
Immersion probe with handle and 100 mm cable, TKS 300		3×130	1	**620-1650**
Penetration probe with handle and 100 mm cable, TKS 400		4,7×130	1	**620-1651**

Air / Infrared surface thermometer, 810
Testo

Integrated NTC air thermometer

The 810 allows the measurement of air temperature and simultaneous non-contact surface temperature measurement in one instrument. An illuminated display completes the instrument.

- One point laser spot marking with 6:1 optics
- Display of difference between air and surface temperature
- "HOLD" function
- Maximum/minimum values
- Adjustable emissivity

Delivery information: Supplied with a factory calibration protocol, a protective cap, a wrist strap, a belt holder and two AAA batteries for about 50 hours of use without display illumination.

Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–30…+300 (IR); –10…+50 (NTC)	±2,0 (–30…+100); ±2,0% (IR); ±0,5 (NTC)	0,1	119×46×25	90	1	**620-3306**

NTC probe for air measurement: Range: –10…50 °C; Accuracy: ±0.5 °C

Waterproof thermometer

Waterproof NTC immersion/penetration probe, 115 mm and 1.2 m cable

This thermometer is suitable for measurements in food and beverage processing, storage applications, agricultural, educational or pharmaceutical use.

- Easy to read
- Quick and accurate
- Automatic power off after 10 minutes of non-use

W×D×H: 260,3×12,7×44,5 mm

Weight: 25 g

Delivery information: Supplied with a probe, a protective probe cover, a pocket clip and a LR44 battery.

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Range (°C)	Accuracy (°C)	Resolution (°C)	Probe	Pk	Cat. No.
–50…+150	±0,5 (–20…+70); ±1,0 (–50…–20); ±2,0 (+120…+150)	0,1	Waterproof NTC immersion/penetration probe, 115 mm, peak 50 mm and 1.2 m cable	1	**620-0909**

Waterproof food thermometers

Stainless steel probe, 125 mm (620-0910) or 200 mm (620-0914)

These thermometers are suitable for measurements in food, beverage processing and storage applications, agriculture, education or pharmaceutical use.

- Maximum/minimum memory
- Quick, accurate, easy to read
- Automatic power off after 10 minutes of non-use

Delivery information: Supplied with a probe, a plastic probe cover, pocket clip and a LR44 battery.

Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–50…+200	±0,5 (–20…+70); ±1,0 (–50…–20; +70…+150); ±2,0 > +150	0,1	19×19×209,6	68	1	**620-0910**
–50…+280	±0,5 (–20…+70); ±1,0 (+70…+120); ±2,0 (–50…–20; +120…+150)	0,1	19×10×285,8	68	1	**620-0914**

Core thermometers

Stainless steel probe (120 mm)

These thermometers are designed for different applications. The penetration probe is suitable for veterinaries. The surface thermometer can be used for cooking.

- Automatic power off (620-2200 and 620-2202)

L×W: 190×19 mm
Conform to RoHS

Delivery information: Supplied with batteries, a cover probe and a pocket clip.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
Penetration thermometer, blunt tip	–50…+200	±0,5 (–20…+70); ±1,0 (+70…+120); ±2,0 (–50…+20; +120…+150); ±4,0 (+150…+200)	0,1	1	**620-2134**
Thermometer, pen style	–50…+200	±0,5 (–20…+70); ±1,0 (+70…+120); ±2,0 (–50…+20; +120…+150); ±4,0 (+150…+200)	0,1	1	**620-2200**
Surface thermometer	–50…+200	±0,5 (–20…+70); ±1,0 (+70…+120); ±2,0 (–50…+20; +120…+150); ±4,0 (+150…+200)	0,1	1	**620-2202**

Waterproof thermometer, Cal-Temp

Stainless steel probe (127 mm)

Submersible and waterproof, the Cal-Temp provides Quick Tip™ rapid response and Self-Set™ calibration.

- "Hold" function
- Maximum/minimum memory
- Auto-off function after ten minutes of non-use

Compliant to NSF/RoHS. Traceable to standards from NIST/DKD.

Delivery information: Supplied with batteries, probe cover and pocket clip.

Range (°C)	Accuracy (°C)	W×D×H (mm)	Pk	Cat. No.
–40…+232	0,5 (–40…+82)	152×360	1	**620-2133**

High accuracy digital thermometers, TD 10, TD 11 and TD 12

Stainless steel probe

These handheld thermometers deliver good performance and a high level of accuracy.

- Fast measurement
- Robust and impact resistant
- Single point factory calibration certificate (TD 10/TD 11: 0 °C; TD 12: 100 °C)

W×D×H: 20×90×42 mm

Conform to IEC 584 - IP 55 (620-1638 and 620-1639), IP 40 (620-1640)

Delivery information: Supplied with a clip holder to carry the thermometer safely on the belt and a replaceable lithium 3 V CR 2032 battery for approx. 100 hours when used continuously. 620-1640 should be ordered with an appropriate type K probe.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Probe	Pk	Cat. No.
TD 10, type T probe (110×3 mm)	–50…+350	±0,8	0,1 (–60…+199,9); 1,0 (>200)	Type T (L×Ø: 110×3 mm)	1	**620-1639**
TD 11, 600 mm cable and type T probe (110×3 mm)	–50…+350	±0,8	0,1 (–60…+199,9); 1,0 (>200)	Type T (L×Ø: 110×3 mm) and cable	1	**620-1638**
TD 12, SMP connection	–60…+1200	±1,0	0,1 (–60…+199,9); 1,0 (>200)	Type K	1	**620-1640**

Description	Range (°C)	Ø×L (mm)	Pk	Cat. No.
Probes for core thermometers				
Penetration probe with handle and 100 mm cable, TKS 100	–200…+400	3×130	1	**620-1648**
Surface probe with paddle, handle and 100 mm cable, TKS 200		7×40	1	**620-1649**
Immersion probe with handle and 100 mm cable, TKS 300		3×130	1	**620-1650**
Penetration probe with handle and 100 mm cable, TKS 400		4,7×130	1	**620-1651**

Food thermometer, low cost, TDC 110

Ebro

Stainless steel fixed and pointed NTC probe, L×Ø: 120×4 mm

The low cost TDC 110 is a robust and impact resistant thermometer suitable for fast temperature checks in the food industry, in butcheries and bakeries. It provides measurements into air, liquids and soft materials.

- LCD of 7 mm
- Switchable scale between °C and °F
- Automatic switch-off after ten minutes of non-use

Delivery information: Supplied with a replaceable battery and a needle guard in order to minimise the risk of injury.

Range (°C)	Accuracy (°C)	Resolution (°C)	Probe	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–50…+150	±1,0 (–10…+120); ±2,0 (–50…–10; +120…+150)	0,1	NTC (L×Ø: 120×4 mm)	50×120×40	13	1	**620-1688**

Food thermometer, 106
Testo

Alarm and probe, L×Ø: 55×3 mm

This thermometer provides a thin and robust measuring tip that is excellently suited for fast temperature monitoring and food inspection in hotels, large kitchens and supermarkets. The special food probe makes an almost invisible penetration hole.

- Threshold manually set by user
- Audible and optical alarm when limits are exceeded
- Automatic recognition of final value: "Auto-Hold" function

Delivery information: Supplied with a probe protecting cover and a 3 V button cell battery.

Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Probe	Pk	Cat. No.
–50…+275	±1,0% of mv (+100…+275); ±0,5 °C (–30…+99,9); ±1,0 °C (–50…–30,1)	0,1	215×34×19	80	L×Ø: 55×3 mm	1	**620-3055**

Food thermometer, 105
Testo

Interchangeable NTC probe (100 mm)

This robust thermometer with interchangeable measurement tips is suitable for control measurements in industry, such as in abattoirs, refrigerated store rooms and during transport.

- User-defined limit values
- Visual or audible alarm
- Built-in display illumination

W×D×H: 145×38×195 mm

Weight: 139 g

Delivery information: Supplied with a standard measurement tip and battery. Separate probes are available on request.

Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
–50…+275	±0,5 (–20…+100); ±1,0 (–50…–20,1); ±1,0% of mv (+100,1…+275)	0,1	1	**620-0172**

Food HACCP thermometers, Checktemp®
Hanna

Checktemp® C

Checktemp® 1

Checktemp® 4C

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Cal-Check™ function

Stainless steel probes

These digital thermometers display results within a few seconds. They are designed for routine monitoring applications in the agricultural and food industries.

- LCD screen
- Resolution of 0.1 °C
- Accuracy of ±0.3 °C - HACCP

Delivery information: Supplied with probe cover, 1,5 V battery, factory quality control certificate and operating manual.

Description	Range (°C)	Probe	W×D×H (mm)	Weight (g)	Pk	Cat. No.
Checktemp® C	–50…+150	Fixed (105×3 mm)	66×50×25	50	1	**620-0050**
Checktemp® 1	–50…+150	160×3 mm with cable (1 m)	106×58×19	80	1	**620-3714**
Checktemp® 4C with auto on/off	–50…+220	Folding (117×3,5 mm)	165×50×20	100	1	**620-0507**

Food thermometers, 103 and 104
Testo

NTC foldable probe

Both models are designed for spot checks in the food industry. They offer handy and practical support when carrying out monitoring measurements. The 620-1883 is a waterproof folding thermometer and features additional functions like auto hold minimum/maximum values display.

- Handy and small - fits continently in a pocket: 115 mm (620-1882)
- Hygienic and easy to clean: 620-1883 can be cleaned under running water according to IP 65
- Robust probes and user friendly design
- Single line LCD with auto-off function
- One-point factory calibration protocol at 35 °C

Compliant with HACCP and EN 13485

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Pk	Cat. No.
Fold-away thermometer, 103	–30…+220	±0,5	0,1	189×35×19	1	**620-1882**
Waterproof fold-away thermometer, 104	–30…+250	±0,5	0,1	265×48×19	1	**620-1883**

Dual infrared and core thermometer, 104-IR
Testo

This waterproof folding thermometer is a handy aid when carrying out precise food monitoring measurements at any time. It is suitable for applications in production and storage. After use, the probe can be folded away, and the instrument stored safely until the next measurement.

- Automatic final value recognition thanks to auto hold
- Storage of minimum/maximum values
- Rubber coated surface guarantees non-slip handling

W×D×H: 265×48×19 mm

Weight: 165 g

Compliant with Hazard Analysis and Critical Control Points (HACCP) and EN 13485.

Delivery information: Supplied with two AAA batteries for 100 hours of use.

Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
–50…+250	±1,0 (–50…–30,1); ±0,5 (–30…+99,9); ±1,0% of mv (+100…+250)	0,1	1	**620-1904**

Maximum/minimum thermometer

Plastic

This unit features colour coded dual scales on a white background and reset knob for fast and multiple readings. It can be used for any indoor/outdoor function.

- Three distinct arrows
- Freestanding or wall mountable
- Maximum/minimum feature for various applications

Range (°C)	Accuracy (°C)	Division (°C)	W×H (mm)	Pk	Cat. No.
–30…+60	±1,0	2,0	230×200	1	**620-0920**

Alarm thermometer

Stainless steel probe (L×Ø: 125×3,5 mm) and one metre cable

This digital thermometer permits applications that include measurements for heating, ventilation, air conditioning, food and beverage processing, storage and pharmaceutical use.

- Maximum/minimum alarm
- Key tone for operation confirmation
- "HOLD" and maximum/minimum memory functions

W×D×H: 89×25×178 mm

Weight: 90,7 g

Delivery information: Supplied with a statement indicating accuracy traceable to NIST/DKD, a probe, a stand and AAA battery.

Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
–50…+200	±0,5 (–20…+70); ±1,0 (+70…+120); ±2,0 (–50…–20; +120…+150)	0,1	1	**620-0917**

Alarm thermometer / timer

Removable probe

Bottle

Probe and 1.5-metre cable or glass bead bottle

These thermometers are suitable for measurements for heating, ventilation, air conditioning, education, food and beverage processing, storage and pharmaceutical use.

- High and low temperature alarm setting
- "HOLD" and maximum/minimum memory functions
- Dual display: Time (99 h 59 min) and temperature

Traceable to NIST/DKD. Compliant to RoHS

Delivery information: Supplied with a statement of accuracy, a probe, a fold away stand, a magnetic backing and AAA battery.

Range (°C)	Accuracy (°C)	Resolution (°C)	Probe	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–50…+300	±0,5 (–20…+70); ±1,0 (–50…–20; +70…+150); ±2,0	0,1	Stainless steel	63,5×20×95,3	136	1	**620-0918**
–50…+300	±0,5 (–20…+70); ±1,0 (–50…–20; +70…+150); ±2,0	0,1	Glass bead recyclable bottle	63,5×20×95,3	136	1	**620-1724**

Description	Pk	Cat. No.
Thermometer probes		
Replacement probe for 620-0918	1	**620-1754**

Digital refrigerator and freezer thermometers

620-0919

620-2148

Stainless steel waterproof probe and one-metre cable or bottle

These thermometers allow for measurements in food and beverage processing and storage.

- Timer function
- Dual scale for fridge and room values
- Maximum/minimum temperature memory and alarm setting (buzzer)

Traceable to NIST/DKD/PTB. Compliant with RoHS.

Delivery information: Supplied with a statement of accuracy, a Velcro® attachment, a waterproof sensor, magnetic backing and AA battery.

Range (°C)	Accuracy (%)	Resolution (°C)	Probe	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–50…+70	±1,0	0,1	Waterproof	89×20×44	68	1	**620-0919**
–10…+50*; –50…+70**	±1,0	0,1	Bottle filled with glass beads	63×64×19	180	1	**620-2148**

* Ambient ** Fridge

Alarm thermometers

Glass bead recyclable bottle

Removable probe

Stainless steel probe with 1,5 m cable / glass bead bottle

These thermometers allow for measurements for heating, ventilation, air conditioning, education, food and beverage processing and storage and pharmaceutical use.

- Dual scale LCD
- "HOLD" function
- Maximum/minimum memory

Traceable to NIST/DKD. Compliant with RoHS.

Delivery information: Supplied with a multi-language user manual, a probe, a flip out desk stand, a magnetic attachment and AAA battery. 620-0904 has a unique serial number.

Range (°C)	Accuracy (°C)	Resolution (°C)	Probe	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–50…+200	±0,5*	0,1	Glass bead recyclable bottle	63,5×20×95,3	136	1	**620-0904**
–50…+200	±0,5*	0,1	Stainless steel	63,5×20×95,3	136	1	**620-0916**

Description	Range (°C)	Accuracy (°C)	Length (mm)	Pk	Cat. No.
Probe					
Replacement probe	–50…+200	±0,5	125	1	**620-1666**

* (–20…+70); ±1,0 (+70…+120); ±2,0 (–50…–20; +120…+150); ±4,0 (+150…+200) °C

Digital thermometers with alarm

Waterproof dual probes with one-metre cable or glass bead bottles

These thermometers permit applications in freezers, refrigerators, incubators, ovens and blood banks. They are used in colleges and universities, food industry and hospitals.

- Dual display and two probes for fridge and freezer readings
- Programmable alarm: Light and buzzer alarm with alarm duration counter
- "HOLD" function and maximum/minimum temperature memory

Traceable to NIST/DKD. Compliant with RoHS

Delivery information: Supplied with probes, a foldaway stand, Velcro® attachment and built-in magnetic attachment, a statement of accuracy and a low battery indicator.

Range (°C)	Accuracy (%)	Probe	W×D×H (mm)	Pk	Cat. No.
–40…+70	±1,0	Two waterproof sensors	133×44×23	1	**620-2140**
–40…+70	±1,0	Two glass bead recyclable bottles	135×45×23	1	**620-2149**

Digital refrigerator thermometers, Traceable®, Digital-Bottle™

Waterproof, non toxic glycol bottle probe

Thes thermometers accurately monitor temperatures in freezers, refrigerators, incubators, and environmental chambers. Bottle and solution insulate the sensor from transient temperature changes.

- Easy to read digital display
- High, low and current temperatures
- Minimum/maximum monitoring of high/low readings for any time period

W×D×H: 56×25×110 mm

Solution recognised as safe by the FDA.

Delivery information: Supplied with an individually serial numbered Traceable® certificate indicating traceability to NIST, a plastic holder, Velcro® and double backed tape for wall-mounting, and a replaceable silver oxide battery.

Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
–30…+50	±1,0	0,1	1	**620-1826**

Water resistant thermometer, Traceable®

Type K probe and cable (L×Ø: 1200×1,5 mm)

The case of this thermometer can stop dirt, dust, fumes and water. A fast response microprocessor updates the display twice a second.

- Extra large digits (16 mm) readable from two metres away
- Minimum and maximum readings captured at any time
- Alarm in 1 °C increments above or below set points
- Timer from 23 hours 59 minutes to 1 minute
- "Hold" button

Traceable to NIST.

Delivery information: Supplied with protective casing with a flip out stand, a certificate, three AAA batteries and a fast response probe (–40…+250 °C).

Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–200…+1370*	±1,0; ±2,0 (>+740)	0,1; 1,0	83×38×178	227	1	**620-2006**

Description	Range (°C)	Pk	Cat. No.
Traceable® probes			
Stainless steel probe with one meter cable	–50…+700	1	**620-2005**
Type K fast response probe with 120 mm coated cable	–40…+250	1	**620-2012**

* The thermometer can measure temperatures from –200 to +1370 °C with suitable probes that need to be ordered separately.

Digital thermometer, Traceable®

Bottle sensor in glycol solution

This digital thermometer is suitable for the monitoring of temperatures in freezers, water baths, heating blocks, incubators, and refrigerators. The bottle enclosed temperature-buffered sensor is insulated from transient temperature changes.

- High, low and current temperatures displayed simultaneously
- Programmable alarm for low and high temperature values with an accuracy of 1 °C
- Signals continue even if temperature returns to non alarm range

Conforms to ISO 17025 and is traceable to NIST.

Patented unit fulfils all CDC thermometer and vaccine thermometer requirements.

Delivery information: Supplied with a Traceable® certificate, a flip open stand, a wall bracket, Velcro® mounting strips and batteries.

Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–50…+70	±1,0	1,0	70×120×20	113	1	**620-1661**

Big digit thermometer, Traceable®

External probe, L×Ø: 20×5 mm with flexible three-metre cable and internal sensor

This thermometer with dual display permits reading ambient and probes temperature simultaneously. Stable and accurate, the unit can be recalibrated on demand. Both cable and sensor perform accurately when under water.

- Jumbo digits
- Maximum/minimum memory
- Reset at the touch of a button
- "Always-on" for constant readings

W×D×H: 70×95×19 mm

Weight: 114 g

Delivery information: Supplied with a Traceable® certificate and AAA battery for one year "always-on" monitoring, a flip open stand, a slot for wall-mounting and Velcro® to attach to any surface.

Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
–50…+70*; –5…+50**	±1,0	0,1	1	**620-2042**

* external via probe ** ambient via internal sensor

Radio signal digital thermometer, Traceable®

Ambient sensor, external sensor and three-metre cable

This digital thermometer provides four channels. The unit controls up to three remote wireless modules.

- Minimum/Maximum memory display for each channel
- Jumbo digits: Temperature readable from up to 30 metres
- Audible and programmable alarms on each module, when the temperatrure rises above or falls below the 2 sets points

Traceable to NIST

Delivery information: Supplied with an internal sensor, a remote module and its external probe, a Traceable® certificate, a flip open stand, a wall bracket, Velcro® strips, two AA and two AAA batteries.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Pk	Cat. No.
Radio signal thermometer, Traceable®	–5…+70	±1,0	0,1	103×117×25	1	**620-1669**

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Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
Remote sensors, Traceable®					
Remote sensor module	–50…+70	±1,0	0,1	1	**620-1670**
Stainless steel probe with 150 mm cable				1	**620-1671**
External sensor sealed in a mini-bottle filled with a patented non toxic glycol solution				1	**620-1672**

Large digit triple display thermometers, Traceable® Jumbo

Probe/sensor sealed in a miniature bottle in a non toxic glycol solution

These Jumbo size display thermometers are suitable for monitoring freezers, water baths, heating blocks, incubators and refrigerators. A bottle insulates the sensor from transient temperature changes when the refrigerator door is opened.

- Triple display: Maximum/minimum and current probes plus room temperature
- Out of range alarm programmable in 1 °C increments

Traceable to NIST. Fulfils CDC and vaccine thermometer requirements.

Delivery information: Supplied with a Traceable® certificate, a slot for wall-mounting, Velcro® and magnetic strips to attach to any surface, one AAA battery, with probe (620-1585) or sensor sealed in a minature bottle, and three metre cable.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
Traceable® Jumbo with sensor for refrigerators or freezers	–50…+70	±1,0	0,1	99×111×22	113	1	**620-1584**
Traceable® Jumbo, with mini bottle probe (20 mm), vaccine-like of 5 ml	–50…+70	±1,0	0,1	99×111×22	113	1	**620-1585**

Large digit triple display thermometers, Traceable® Plus™

Probe/bottle sensor in glycol solution

The digital thermometers Traceable® Plus™ monitor temperatures in freezers, water baths, heating blocks, incubators and refrigerators. A bottle insulates the sensor from transient temperature changes when the refrigerator door is opened.

- Maximum/minimum memory
- Calibrated points at 0 and 50 °C
- Triple display: High, low and current temperatures
- Out of range alarm programmable in 1,0 °C increments

Traceable to NIST. Fulfils all CDC thermometer and vaccine thermometer requirements.

Delivery information: Supplied with a Traceable® certificate from ISO 17025, a AAA battery, a resistant plastic case, a probe in bottle or not with three metre cable, a flip open stand, a slot for wall mounting, Velcro® and magnetic strips to attach to any surface.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
With bottle	–50…+70	±0,5	0,1	75×62×15	113	1	**620-1582**
With 20 mm long sensor		±0,5	0,1	75×62×15	113	1	**620-1583**

Waterproof digital thermometer, 108
Testo

For fast and accurate temperature measurement in the food industry, this thermometer carries out spot-check measurements in seconds. According to its protection class IP 67, it is insensitive to water and moisture, safe from dirt, it can be washed under water. Suitable for any place where temperature needs to be measured.

- Easy to use
- Protective soft case and probe
- One-point calibration certificate

HACCP-compliant and certified to EN 13485

Delivery information: Supplied with a waterproof type T probe.

Range (°C)	Accuracy (%)	Resolution (°C)	Probe	Pk	Cat. No.
–50…+300	±0,5	0,1	type T	1	**620-1899**

Digital waterproof thermometer

Sensor and three metre cable

This dual scale thermometer indicates indoor and outdoor temperature values. The IN* symbol indicates that the reading is for room temperature and the OUT** symbol indicates that the reading is for outer sensor temperature.

- Large display with backlight
- High and low temperature alarm setting
- Max./Min. temperature memory
- Ideal for agriculture, soil testing, food processing and storage, brewing, asphalt testing etc.

Delivery information: Supplied with one 1,5 V AAA battery, multi-language instructions and foldaway stand.

Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–10…+50*; –50…+70**	±1,0	0,1	72×52	60	1	**620-2199**

* Indoor ** Outdoor

Waterproof thermometers, HI 935002 and HI 935005
Hanna

The HI 935005 (single channel) waterproof thermometer is equipped with an advanced microprocessor. An auto-off function can switch the device off after 8 or 60 minutes of non-use, or it can be deactivated.

The HI 935002 (dual channel) thermometer is suitable for extended use in the field. The difference between the two channels can be displayed: Temperature in real time at each probe or maximum / minimum deviation values. A relative value can be configured on each channel, and the variations from this value can then be observed. Data is continuously updated on one channel or the other.

- Dual level LCD screen shows the temperature in real time
- Max./min. temperatures displayed during the cycle
- Hold button enables measurements to be recorded

W×D×H: 150×80×36 mm

Weight: 235 g

Delivery information: Supplied with one 1,5 V AA battery, a manual of instructions and a foldable stand.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Probe	Pk	Cat. No.
HI 935005, single channel	–50…+1350	±0,2	0,1 (–50…+199,9); 1,0 (+200…+1350)	Single channel type K, replaceable	1	**620-3716**
HI 935002, dual channel	–50…+1350	±0,2	0,1 (–50…+199,9); 1,0 (+200…+1350)	2-channel type K thermocouple	1	**620-3715**

Description	Range (°C)	Ø×L (mm)	Pk	Cat. No.
Type K probes				
Type K probe with detachable handle	–50…+900	5×200	1	**620-3806**
Type K probe with one-metre cable		5×220	1	**620-3710**
Type K probe	0…+900	3×120	1	**620-3709**
Type K thermocouple probe		3×155	1	**620-0513**

Digital thermometer, Checkfridge®
Hanna

Cal-Check™ function

Stainless steel probe, L×Ø: 40×5 mm and one-metre cable

The Checkfridge® is a handy and precise thermometer adapted to accurate and reliable temperature monitoring. It permits applications of continuous measurements in cold rooms, freezers and refrigeration units. It is possible to monitor inside temperature without having to open the door.

- Magnetic backing for adhesion to metallic surfaces
- Test switch conveniently located on the face of the thermometer
- Unique Cal-Check™ mode feature performs an internal calibration check in only a few seconds

HACCP compliant

Delivery information: Supplied with AAA 1,5 V battery for about three years of use and two-point calibration certificate.

Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–50…+150	±0,3 (–20…+90); ±0,5	0,1	92×39×31	60	1	**620-0505**

Precision digital thermometer, Traceable®

Stainless steel probe (Ø×L: 3×160 mm) with cable (150 mm)

This thermometer is designed for critical experimental requirements, quality control and routine measurements. It can record up to 50 temperature values per hour during 24 hours in cuvettes, gas systems, reagents, chemical solutions, soil, water baths, ovens, incubators, pharmaceuticals, petroleum products, food and wastewater. The membrane keys provide a splash-proof design for rough handling.

- Fast-response probe updated three times a second
- Large, easy to read, high contrast LCD
- Memory key to recall minimum/maximum readings
- "HOLD" function and computer USB output

W×D×H: 89×32×140 mm

Weight: 227 g

Traceability to NIST and from ISO 17025 calibration laboratory accredited by A2LA. Conformity to International Temperature Standard, ITS-90.

Delivery information: Supplied with a PVC protective casing, a certificate, a 9 V battery and a probe.

Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
–50…+150	±0,05 (0…100)	0,001	1	**620-2000**

Description	Range (°C)	Ø×L (mm)	Pk	Cat. No.
Thermometer probe, Traceable®				
Stainless steel micro probe	–50…+150	1×70	1	**620-2008**

Precision digital thermometers, TFX 410
Ebro

Lemo PT1000 probes

This handy and light instrument is equipped with a large screen for easy reading. A selection of probes can be used with the thermometer for a wide range of applications. Waterproof and dishwasher-proof, cable and handle can withstand temperatures up to +200 °C.

- Easy to calibrate
- High degree of accuracy
- Automatic switch-off after two hours

W×D×H: 54×22×109 mm

Weight: 90 g

Delivery information: Supplied with one replaceable 3 V lithium battery for service life of about five years and a three-point calibration certificate, probe according to reference.

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Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
TFX 410-1 without probe	–50…+300	±0,3	0,1	1	620-1463
TFX 410-1 with blunt probe TPX 100	±0,3	0,1	1	620-1459	
TFX 410-1 with pointed probe TPX 400 (3×120 mm), 60 cm silicone red cable and holder	±0,3	0,1	1	620-1458	
TFX 410-1 with pointed probe TPX 440 (3×120 mm), 150 cm white PTFE cable and holder		0,1	1	620-1457	620-1463
TFX 410-1 with blunt probe TPX 100	±0,3	±0,3	0,1	1	620-1459
TFX 410-1 with pointed probe TPX 400 (3×120 mm), 60 cm silicone red cable and holder		±0,3	0,1	1	620-1458

Description	Ø×L (mm)	Pk	Cat. No.
PT1000 precision probes			
Blunt PT1000 probe, TPX 100	3×120	1	620-1400
Pointed PT1000 probe, TPX 200	3×120	1	620-1401
Extension cable			
One-metre cable for TFX 410		1	620-1486

Precision digital thermometer, 110
Testo

Multi-purpose monitoring thermometer with radio signal probes

The highly accurate, versatile 110 thermometer is designed for applications in rough conditions due to its protective case. Suitable for measurements in refrigerated store rooms, cabinets and outdoors.

- Audible alarm
- Automatic "hold" function that recognises full-scale value
- Displays maximum/minimum readings in two lines, backlit large LCD

W×D×H: 182×64×40 mm

Weight: 171 g

Delivery information: Supplied with a 9 V 6F22 battery and a calibration protocol without probe. Probes can be ordered separately.

Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
–50…+150	±0,2 (–20…+80); ±0,3	0,1	1	620-1198

Description	For	Range (°C)	Ø×L (mm)	Pk	Cat. No.
Accurate probes					
Waterproof NTC probe	Penetration	–50…+150	5×115	1	620-0209
Robust NTC probe	Air	–50…+125	5×115	1	620-1229
NTC waterproof flat surface probe	Contact	–50…+150	5×115	1	620-1231
NTC stainless steel probe with PTFE cable	Food	–50…+150	4×125	1	628-3305
Accessories for precision thermometers					
TopSafe for protection from impact and dirt				1	620-1197
Radio module, 869.85 MHz				1	620-0204
Radio handle for plug-in probe heads, 869.85 MHz, incl. TC adapter				1	620-0205
TC probe head for air-immersion/penetration measurement, attachable to radio handle				1	620-0206
TC probe head for surface measurement				1	620-0207

Precision digital thermometers, 922 and 925
Testo

Type K connections

Model 925 - One channel. This thermometer for fast-action thermocouple probes has an audible alarm when limits are exceeded.

Model 922 - Two channels. The differential thermometer records temperature values from two connected thermocouple probes.

- "HOLD" button to freeze reading
- Continuous display of maximum/minimum values
- Data can be printed directly to a printer

W×D×H: 180×64×40 mm

Weight: 171 g

Delivery information: Supplied with a 9 V battery and a calibration protocol. Probe is not included - Further probes, including radio probes, on request. The suitable printer also needs to be ordered separately. Please contact your local VWR office for details.

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Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
922	–50…+1000	±0,5 +0,3% (–40…+900); ±0,7 +0,5%	0,1 (–50…+200); 1,0	1	**620-1203**
925		±0,5 +0,3% (–40…+900); ±0,7 +0,5%	0,1 (–50…+200); 1,0	1	**620-1204**

Description	Range (°C)	Accuracy (°C)	Ø×L (mm)	Pk	Cat. No.
Precision probes for 922 & 925					
TC type K fast-action surface probe with sprung thermocouple strip for uneven surfaces	–60…+300	±2.5	5×115	1	**620-1207**
Type K fibreglass flexible thermocouple with TC adapter for surface	–50…+400	±2.5	1,5×800	1	**620-3425**
Fibreglass flexible thermocouple with TC adapter		±2.5	1,5×1500	1	**628-3212**
Waterproof immersion/penetration probe, TC type K with 120 mm cable	–60…+400	±2.5	5×114	1	**620-1208**
TC type K flexible for immersion probe	–200…+1000	±1.5	1,5×500	1	**620-3426**

According to standard EN 60584-2, the accuracy of Class 1 refers to –40…+1000 °C (Type K), Class 2 to –40…+1200 °C (Type K), Class 3 to –200…+40 °C (Type K).

IP67

2 year warranty

Ultra-accurate digital thermometers, TFX 430

Ebro

PT100 probes

The waterproof thermometers TFX 430 are suitable for use in a whole range of applications. A microprocessor controls the electronics, guaranteeing maximum measurement precision and consistency over the entire measurement range.

- "Hold" functions
- Automatic switch-off
- Minimum/maximum values display

W×D×H: 109×54×22 mm

Weight: 90 g

Delivery information: Supplied with a three-point calibration certificate, a CR2477 3 V lithium battery for five years of use, which deactivates after two hours. With 620-1385, the probe must be ordered separately.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
TFX 430 without probe	–100…+500	±0,05 (–100…+200); ±0,2	0,02 (–50…+99,98); 0,1	1	**620-1385**
TFX 430 and probe TPX 130 (Ø×L: 3×130 mm) with blunt tip	–100…+500	±0,05 (–100…+200); ±0,1	0,02 (–50…+99,98); 0,1	1	**620-0221**
TFX 430 with probe TPX 330 (Ø×L: 8×190 mm) glass embedded	–100…+500	±0,05 (–100…+200); ±0,1	0,02 (–50…+99,98); 0,1	1	**620-0223**

Description	Range (°C)	Ø×L (mm)	Pk	Cat. No.
Ultra-accurate probes				
Blunt probe, TPX 130	0…+500	3×130	1	**620-1403**
PT100 pointed probe, TPX 230	0…+500	3×130	1	**620-1404**
PT100 glass coated probe, TPX 330	0…+500	8×190	1	**620-1405**
Extension cable				
Extension cable, silicone, for TFX 430			1	**620-1454**
Accessories				
Red safety case, AG 140			1	**620-1382**
Small carrying case, AG 130			1	**620-1397**

High precision thermometers, TFN 520 and 530 series
Ebro

TFN 520-SMP

TFN 520

TFN 530 / TFN 530-SMP

External thermocouple types K, J, T, E probes

These thermometers can be used for measuring temperatures in air conditioning and ventilation applications, air and gases, liquids and for measuring surface temperatures, temperatures of tools for injection moulding processes and plastic materials.

- Maximum/minimum values display
- SMP, Lemo or Ex proof connections
- "HOLD" function
- Automatic switch-off
- Response times (t99) of three seconds (620-1461)

W×D×H: 115×54×22 mm

Weight: 90 g

Standard version IP 52, SMP versions IP 40.

Delivery information: Supplied with three-point factory certificate of calibration, a battery with charge indicator, without probe.

Model	Range (°C)	Accuracy (°C)	Resolution (°C)	Probe	Pk	Cat. No.
TFN 520 without probe	**(K)** –200…+1200;	±0.3	0,1	LEMO connection	1	**620-1460**
TFN 520-SMP	**(J)** –100…+800;	±0.3	0,1	SMP connection	1	**620-1390**
TFN 530	**(T)** –50…+300; **(E)**	±0.3	0,1	Two channels, LEMO connection	1	**620-1391**
TFN 530-SMP	–100…+600	±0.3	0,1	Two channels, SMP connection	1	**620-1392**

Description	Range (°C)	Ø×L (mm)	Pk	Cat. No.
Ultra-accurate probes				
Lemo probe, one-metre silicone cable, TPN 360	–50…+500	15×30	1	**620-0264**
SMP probe, one metre silicone cable, TPN 361	–50…+500	15×30	1	**620-0282**
Pointed probe, Lemo, TPN 200	–40…+1000	4×185	1	**620-1461**
SMP rod probe, TPN 121	–40…+1100	1,5×185	1	**620-0280**
Rod probe, Lemo connector, TPN 120	0…+1000	1,5×185	1	**620-0260**
Extension cable				
Extension silicone cable, 1 metre			1	**620-0266**

Electronic contact thermometers, GFX 460
Ebro

These electronic contact thermometers are suitable for applications in technology, magnetic mixing and heating baths.

- High accuracy through fuzzy logic
- Can be used with all magnetic stirrers
- Minimises exceeding of temperature limit
- Status shown on LED illuminated display

DIN 45322 (diode connection). Safety circuit according to DIN 12878 class 1 and 2.

Delivery information: Supplied with external 9 to 12 V DC, 20 mA power supply.

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Description	Range (°C)	Accuracy (°C)	Resolution (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
Electronic contact thermometer with V2A probe and cable (700 mm), GFX 460	–50…+300	±1,0	1,0	54×22×110	150	1	**620-1386**
Electronic contact thermometer without probe, GFX 460 B	–50…+300	±1,0	1,0	54×22×110	150	1	**471-1060**

Ultra-accurate digital thermometer, 720
Testo

One channel for PT100 or NTC probes

This single channel measuring instrument is adapted to demanding measurements in industry. In combination with the TopSafe case, the 720 is resistant to corrosive media.

- Continuous display of maximum/minimum values
- Audible alarm with adjustable limit value
- "HOLD" button to freeze readings

Probe accuracies are given according to standard 60751

W×D×H: 182×64×40 mm

Weight: 171 g

Delivery information: Supplied with a 9 V 6F22 battery and a calibration protocol, without probe.

Range	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
–100…+800 (PT100); –50…+150 (NTC) °C	**NTC:** ±0,2 (–25…+40); ±0,3 (+40,1…+80); ±0,4 (+80,1…+125); ±0,5 °C **PT100:** ±0,2% (+200...+800); ±0,2	0,1	1	**620-1202**

Description	For	Range (°C)	Accuracy (°C)	Ø×L (mm)	Pk	Cat. No.
Ultra-accurate probes						
PT100 robust and waterproof probe	Immersion	–50…+400	Class A (–50…+300 °C), otherwise Class B	5×114	1	**620-1221**
PT100 efficient rugged probe with handle	Air		Class A (–50…+300 °C), otherwise Class B	5×114	1	**620-1228**
PT100 stainless steel rugged accurate probe with IP 54 plug-in connection	Food		Class A (–50…+300 °C), otherwise Class B	4×125	1	**620-3324**

NTC = Negative Temperature Coefficient

Ultra-accurate digital thermometers, 735-2
Testo

Wireless data memory up to 10 000 values

These instruments provide a probe socket for highly accurate PT100 probes and two sockets for fast action thermocouple probes. Readings from up to three additional temperature probes can be displayed. The data is recorded in the instrument and can be analysed through graphics and tables.

- PC software for filing, analyzing and documenting data - included
- Displays, saves and prints Delta T, minimum/maximum and mean values
- Probe: PT100 + 2 TC connections + optional radio probes

W×D×H: 220×74×46 mm

Weight: 428 g

Delivery information: Supplied with audible alarm, a software and a USB data transmission cable, a battery and a calibration protocol. Probes need to be ordered separately.

Range (°C)	Accuracy (°C)	Resolution	Pk	Cat. No.
(PT100) –200…+800; **(T)** –200…+400; **(K)** –200…+1370; **(J)** –200…+1000; **(S)** 0…1760	**(PT100):** ±0,2 (–100…+199,9); ±0,2%; **(T/K/J):** ±0,3 (–60…+60); ±0,2 °C +0,3%; **(S):** ±1,0 (0…1760)	**(PT100):** 0,05; **(T/K/J):** 0,1; **(S):** 1,0	1	**620-1206**

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Description	Range (°C)	Accuracy (°C)	Ø×L (mm)	Pk	Cat. No.
Precision probes					
TC type T flexible air probe with PTFE cable	–50…+250	±2,5 or ±0,0075×mv	1,5×2000	1	**628-3299**
PT100 glass-coated laboratory probe with replaceable glass pipe	–50…+400	±0,15 +0,002×mv	6×200	1	**620-3325**
Highly accurate immersion PT100 probe with certificate	–40…+300	±0,05 (0…+100); ±0,05 °C +0,05% of mv	4×295	1	**620-0216**
Accessories for precision thermometers					
Radio module, 869.85 MHz				1	**620-0204**
Radio handle for plug-in probe heads, 869.85 MHz, incl. TC adapter				1	**620-0205**
TC probe head for air-immersion/penetration measurement, attachable to radio handle				1	**620-0206**
TC probe head for surface measurement				1	**620-0207**
Radio probe compliant with pending legislation, –50...+275 °C				1	**620-0208**

Precision digital thermometer, 926

Testo

The fast-action, efficient temperature measuring instrument is dedicated to the food sector.

- Large backlit display
- Maximum/minimum value memory
- Audible alarm with adjustable limits
- Automatic "HOLD" recognizes full-scale value
- Response time in a few seconds

W×D×H: 220×74×46 mm

Weight: 171 g

Conforms to EN 13485.

Delivery information: Supplied with battery and calibration protocol. The probes (below) must be ordered separately.

Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
–50…+400	±0,3 (–20…+70); ±0,7 ±0,5%	0,1 (–50…+199,9); 1,0	1	**620-1205**

Description	Range (°C)	Accuracy (°C)	Ø×L (mm)	Pk	Cat. No.
Precision immersion/penetration probe, type T					
TC type T waterproof standard immersion penetration probe with handle and cable	–50…+350	±0,2 (–20…+70); ±1,0	5×112	1	**620-1219**
Accessories for precision thermometers					
TopSafe for protection from impact and dirt				1	**620-1197**
Precision immersion/penetration probe, type T					
TC type T robust food penetration probe with reinforced handle	–50…+350	±0,2 (–20…+70); ±1,0	5×115	1	**620-3658**
TC type T frozen food probe with screwcock tip	–50…+350	±0,2 (–20…+70); ±1,0	8×110	1	**628-3298**
Accessories for precision thermometers					
Radio module, 869.85 MHz				1	**620-0204**
Precision immersion/penetration probe, type T					
Stainless steel probe (IP 67) with PTFE cable	–50…+350	±0,2 (–2…+70); ±1,0	4×125	1	**628-3295**

Digital patient thermometer

- For temperature (fever) monitoring

EN 12470-3

Packaging: Protective plastic case included.

Delivery information: Supplied with a 1,5 V button battery (LR/SR-41) for about 100 hours of continuous operation.

Range (°C)	Accuracy (°C)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
+32…+42	±0,1 °C (+35…+40 °C); ±0,2	129×22×14	11	1	**620-2267**

Excursion-Trac™ logging thermometers, Traceable®

These highly-accurate logging thermometers are designed to monitor temperatures in refrigerators, freezers, water baths, heating blocks and incubators.

- High/low alarms and time stamps
- User-defined time intervals from one minute to 24 hours
- USB transferring data of CSV files: 55 readings / second
- Hassle-free retrieval of data: Unit remains in use while downloading and analysing data
- Status indicators: Low battery, memory full, USB data transfer and active alarm state

W×D×H: 70×20×107 mm

Weight: 140 g

Traceable to NIST.

Delivery information: Supplied with an individually-numbered Traceable® certificate.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
With one bottle probe	–50…+70	±0,25	0,01	1	**620-2204**
With two bottle probes	–50…+70	±0,25	0,01	1	**620-2205**
With one bullet probe	–50…+70	±0,25	0,01	1	**620-2206**
With two bullet probes	–50…+70	±0,25	0,01	1	**620-2207**
With one bottle probe and one bullet probe	–50…+70	±0,25	0,01	1	**620-2208**
With stainless steel probe	–50…+70	±0,25	0,01	1	**620-2209**
With two stainless steel probes	–50…+70	±0,25	0,01	1	**620-2210**

Ultra-accurate RTD platinum thermometer, Traceable®

Developed for experimental requirement, it is easy to use. Highly precise, it is suitable for soil, food, ovens, cuvettes, gas systems, water baths, incubators, chemical solutions and petroleum products.

- One-key operation eliminates operator technique errors
- Fail-safe display shows low battery and probe condition
- Computer output allows thermometer to be connected to data logger for capturing and storing results
- Certificate provided from an ISO 17025 calibration accredited by A2LA
- Platinum (100-ohm) four-wire probe range with one-metre cable

Delivery information: Supplied with a probe, a battery and a Traceable® certificate.

Range (°C)	Accuracy (°C)	Resolution (°C)	Probe	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–50…+400	±0,1% +0,2 <+200; ±0,15% +0,5 >+200	0,01 (<200), 0,1 (>200)	L×Ø: 152,4×3,3 mm	177×76×32	270	1	**620-1970**

Description	Pk	Cat. No.
AC adapters		
AC adapter, UK plug	1	**620-1968**

Analogue thermo-hygrometer clock

For environments involving timed applications such as offices and class rooms. Features white case and dial face with red hour, minute, and second hands.

- Three functions in one
- Contemporary design with bold markings

Ø: 250 mm

Delivery information: Supplied with a hook for wall-mounting. Requires 1 AA battery - Not included.

Range	Division	Pk	Cat. No.
–30…+50 °C; 0 - 100% RH	2,0 °C; 5,0% RH	1	**620-0921**

RH = Relative Humidity

Analogue thermo-hygrometer

For all environments, this analogue thermo-hygrometer can withstand use inside incubators, refrigerators and freezers. It features contrasting black temperature dial and red humidity dial against a white background.

- Round design
- Stainless steel casing
- Large easy to read dial

Ø: 127 mm

Delivery information: Supplied with a hook for wall-mounting.

Range	Division	Pk	Cat. No.
0…+120 °C; 0 - 100% RH	1,0 °C; 2,0% RH	1	**620-0923**

Digital thermo-hygrometer

Internal sensor and external probe with cable (3 m)

This digital thermo-hygrometer is designed for temperature and humidity measurements in fridges and freezers. It is suitable for use in food and beverage processing, storage and chemistries.

- Switch the temperature readings from the internal sensor to the external probe
- Maximum/minimum values memory switchable daily reset function
- Large display showing all values simultaneously

W×H: 63,5×95,3 mm

Weight: 136 g

Delivery information: Supplied with a waterproof sensor, a magnetic backing and 1 AAA battery.

Range	Accuracy	Resolution (°C)	Pk	Cat. No.
0…+50* °C; –50…+70** °C; 20 - 99% RH	±1,0 °C; ±3,0% RH	0,1	1	**620-0915**

* Internal sensor ** External probe

Digital thermo-hygrometer, Traceable®

This instrument is suitable for routine measurements, monitoring round the clock, quality controls and critical experimental requirements. It shows the exact air conditions in hoods, cleanrooms, storage rooms, environmental chambers and chemicals storage areas.

- Continuous and simultaneous display of relative humidity and temperature
- Minimum/maximum memories
- Fast response

W×D×H: 57×85×6 mm

Weight: 70 g

Conforms to ISO 17025 accredited by A2LA. Traceable to NIST.

Delivery information: Supplied with a Traceable® certificate, a wall mount, a bench stand, solid sensors and two AAA batteries.

Range	Accuracy	Resolution	Pk	Cat. No.
0…+50 °C; 25 - 95% RH	±1,0 °C; 2,0% RH	1,0 °C; 1,0% RH	1	**620-1921**

Digital thermo-hygrometer, Traceable® Jumbo

Internal sensor and external probe with cable (3 m)

This unit continuously and simultaneously displays ambient relative humidity and temperatures. The changes are shown in less than 30 seconds, for monitoring conditions overnight, on weekends, or any other time period.

- Easy to read jumbo display
- Probe and cable perform accurately under water
- Minimum/maximum memories displayed or cleared at any time with the touch of a button

W×D×H: 108×19×107 mm

Weight: 152,5 g

Delivery information: Supplied with a flip-open stand, a wall mount, AAA batteries and a Traceable® certificate.

Range	Accuracy	Resolution	Pk	Cat. No.
0…+50 °C (in); –50…+70 °C (ex); 25 - 95% RH	±1,0 °C; ±2,0 (mid-range); ±4,0% RH	1,0 °C; 1,0% RH	1	**628-0031**

Digital thermo-hygrometer, Traceable® Pen

This instrument continuously displays both relative humidity and temperature.

- Memory displays last readings
- Fast response in less than 30 seconds
- Handy pocket clip for easy carrying

W×D×H: 23×140×11 mm

Delivery information: Supplied with an individually serial-numbered Traceable® certificate that indicates traceability to NIST, also a 1,5 V battery.

Range	Accuracy	Pk	Cat. No.
0…+50 °C; 2 - 98% RH	±1,0 °C; ±3,5% RH	1	**620-1586**

Digital thermo-hygrometer, Traceable®

This digital thermo-hygrometer provides three displays simultaneously.

- Modern design
- Easy to read
- Clock display (AM / PM)
- Memory recalls the highest and lowest readings

W×D×H: 59×108×15 mm

Certificate indicates traceability to standards provided by NIST.

Delivery information: Supplied with a Traceable® certificate, a built-in stand and 1 AAA battery.

Range	Accuracy	Resolution	Pk	Cat. No.
0…+50 °C; 20 - 90% RH	±1,0 °C; ±5,0% RH	0,1 °C; 1,0% RH	1	**620-1673**

Alarm digital thermo-hygrometer, Traceable®

Wireless

This thermo-hygrometer, readable from up to 30 metres, can receive and display data from up to three remote modules. They can be connected to one base unit, which displays the temperature and humidity of the base unit and of the three different remote modules.

- Minimum/maximum display
- Audible alarms on modules
- Jumbo digits

W×D×H: 103×117×25 mm

Traceable® certificate indicates traceability to standards provided by NIST.

Delivery information: Supplied with a remote module.

Range	Accuracy	Resolution	Pk	Cat. No.
–20…+60 °C; 25 - 90% RH	±1,0 °C; ±2,0% RH	0,1 °C; 1,0% RH	1	**620-1674**

Description	W×D×H (mm)	Pk	Cat. No.
Probe for Traceable®			
Remote sensor	60×90×20	1	**620-1675**

Pocket thermo-hygrometers, 608
Testo

The 608-H1 thermo-hygrometer measures humidity, temperature and dew point non-stop. The 608-H2 alarm hygrometer with LED alarm functions for accurate signals when limits are exceeded.

- Dew point calculation and maximum/minimum display
- Humidity sensor not affected by condensation
- LED alarm if limits are exceeded - for 620-1660 only
- Accuracy ±1,0 digit @ +25 °C

W×D×H: 111×90×40 mm

Weight: 168 g

Delivery information: Supplied with a 9 V battery for one year of use.

Description	Range	Accuracy	Resolution	Pk	Cat. No.
Temperature, humidity and dew point meter, 608-H1	0…+50 °C; 10 - 95% RH; –20…+50 °C Td	±0,5 °C; ±3,0% RH	0,1 °C; 0,1% RH	1	**620-3663**
Temperature, humidity and dew point meter with alarm, 608-H2	–10…+70 °C; 2 - 98% RH; –40…+70 °C Td	±0,5 °C; ±2,0% RH	0,1 °C; 0,1% RH	1	**620-1660**

Td = Dew Point

Pocket thermo-hygrometer, 610
Testo

Very handy, small and easy to use, this thermo-hygrometer provides a long-term drift-free probe. It includes a backlit display and an automatic off function.

- Dew point calculation
- Wet bulb measurements
- Long-term stable humidity sensor
- "HOLD" and maximum/minimum value functions

W×D×H: 119×46×25 mm

Weight: 90 g

Delivery information: Supplied with a protective cap, a wrist strap, a belt holder and two AAA batteries.

Range	Accuracy	Resolution	Pk	Cat. No.
–10…+50 °C; 0 - 100% RH	±0,5 °C; ±2,5 (5 - 95)% RH	0,1 °C; 0,1% RH	1	**620-3305**

Accurate barometers with thermo-/hygrometers, 622 and 623
Testo

622

623

The 622 measures the current temperature, humidity and air pressure. In addition, it displays date and time.

- On site calibration and adjustment with the help of the optional calibration and adjustment software
- Adjustable calibration reminder function
- Accuracy of ±1,0 digit

The 623 provides current and past temperature and humidity values as well as date and time on an easy to read display.

- Histogram of humidity and temperature values with an overview of up to 12 weeks
- On site analysis of past temperature and humidity values without evaluation on a PC
- Accuracy of ±1,0 digit

W×D×H: 185×105×36 mm

Delivery information: Supplied with a LED alarm, a battery and a calibration protocol.

Description	Range	Accuracy	Pk	Cat. No.
Scientific ambient monitor, 622	–10…+60 °C; 0 - 100% RH; 300 - 1200 hPa	±0,4 °C; ±2,0 @25 °C (10 - 90); ±3,0% RH; ±3,0 hPa	1	**620-1686**
Ambient condition recorder, 623	–10…+60 °C; 0 - 100% RH	±0,4 °C; ±2,0 @25 °C (10 - 90); ±3,0% RH	1	**620-1687**

Description	Pk	Cat. No.
Software		
Calibration and adjustment software	1	**620-1817**

Digital thermo-hygrometers, 635
Testo

Air moisture, material equilibrium moisture and pressure dewpoint

These thermo-hygrometers allow measurements of temperature and humidity. Up to three probes can be displayed simultaneously. Data can be transmitted by infrared to the printer.

- Printer for documenting measurement data on site
- Radio probes for temperature and humidity
- Protection class IP 54
- Immediate display of the dew point difference between ambient air and the wall surface when analysing moisture on walls and ceilings
- The 635-2 can also be used with a U-value probe

W×D×H: 220×74×46 mm

Delivery information: Supplied with AA battery for 200 hours of life and a calibration protocol.

Description	Range	Accuracy	Resolution	Weight (g)	Pk	Cat. No.
Without option, 635-1	**(K)** –200…+1370 °C; **(NTC)** –40…+150 °C; 0 - 100 % RH	**K:** ±0,3 °C (–60…+60); ±0,2 °C +0,3% of m.v. **NTC:** ±0,2 °C (–25…+74,9); ±0,4 °C (–40…–25,1); ±0,4 °C (75…99,9); ±0,5% of m.v.	0,1 °C; 0,1 % RH	428	1	**620-1201**
635-2 with readings memory, software and USB cable	**(K)** –200…+1370 °C; **(NTC)** –40…+150 °C; 0 - 100 % RH	**(K)** ±0,3 (–60…+60); ±0,2 +0,3% of m.v.; **(NTC)** ±0,2 (–25…+74,9); ±0,4 (–40…–25,1; 75…99,9); ±0,5 % of m.v.	0,1 °C; 0,1 % RH	450	1	**620-0218**

Description	Range	Accuracy	Resolution	Pk	Cat. No.
Humidity module					
Humidity probe head, attachable to radio handle	–20…+70 °C; 0 - 100% RH	±0,3 °C; ±2,0 (2 - 98)% RH	0,1 °C; 0,1% RH	1	**620-0217**
Accessories for precision thermometers					
Radio module, 869.85 MHz				1	**620-0204**
Radio handle for plug-in probe heads, 869.85 MHz, incl. TC adapter				1	**620-0205**

RH = Relative Humidity

Digital thermo-hygrometers, HI 9564 and HI 9565
Hanna

These thermo-hygrometers are designed for measurements in aggressive media and low light intensity areas.

- Automatic shut-off after 20 minutes without use
- Online help showing anomalies and errors
- Model HI 9565 with dew point (Td) display
- Microchip built into the probe to store data
- No need to recalibrate the instrument

W×D×H: 164×76×45 mm

Weight: 340 g

Delivery information: Supplied in a carrying case with a probe, a 9 V battery for 250 hours of use and a factory quality control certificate.

Description	Range	Accuracy	Resolution	Pk	Cat. No.
Temperature and humidity meter, HI 9564	0…+60 °C; 20 - 95% RH	±0,5 °C; ±3,0 (50…85); ±5,0% RH	0,1 °C; 0,1% RH	1	**620-3717**
Temperature, humidity and dew point meter, HI 9565	0…+60 °C; 20 - 95% RH; –20…+60 °C Td	±0,5 °C; ±3,0 (50 - 85); ±5,0% RH	0,1 °C; 0,1% RH	1	**620-3718**

Description	Pk	Cat. No.
Protecting case		
Blue impact-resistant rubber boot	1	**620-3720**

Td = Dew point

Digital thermo-hygrometer, TH 100

Fixed PT 1000 capacitive polymer sensor (L×Ø: 35×14 mm)

This handheld instrument is designed to measure temperature and humidity in air conditioning and ambient air monitoring. It provides a quick response in EDP rooms, galleries, offices, workshops, storage rooms, private buildings, greenhouses.

Delivery information: Supplied with a 9 V IEC 6F22 battery, a certificate, instruction manual, in a cardboard box.

Range	Accuracy	Resolution	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–20…+70 °C; 10 - 95% RH	±0,5% m.v. ±0,1 °C; ±3,0% RH	0,1 °C; 0,1% RH	106×67×30	135	1	**620-1951**

Digital thermo-hygrometer, TH 200

PT 1000 capacitive polymer piezoresistive sensor (L×Ø: 35×14 mm)

This precision thermo-/hygro-/barometer features additional derived units: Dew point temperature, wet bulb temperature, moisture content and absolute humidity. It is suitable for applications of air conditioning, ambient air monitoring, meteorology, living climate and air pressure measurement in EDP rooms, storage rooms, greenhouses and production rooms.

- Minimum/maximum value memory for all measurements
- High accuracy by means of digital works calibration
- Offset and slope correction for easy adjustment
- Configurable display: values alternating
- "Hold" function to freeze the values

W×D×H: 106×67×30 mm

Weight: 130 g

Delivery information: Supplied with a 9 V IEC 6F22 battery.

Range	Accuracy	Resolution	Pk	Cat. No.
–25…+70 °C; 0 - 100% RH; 10 - 1100 mbar	±0,5% m.v. ±0,1 °C; ±2,5% RH; ±1,5 mbar	0,1 °C; 0,1% RH; 0,1 mbar	1	**620-1952**

Temperature / humidity / dew point and flow rate meter, TH 300

This handheld meter features additional units: Dew point temperature, dew point distance and enthalpy*. It is suitable for applications of air conditioning, ambient air monitoring and flow measurement.

- Double display of humidity and temperature
- Calculation of dew point temperature, dew point distance and enthalpy*
- Additional Nicr - Ni (Type K) socket for surface measurement
- Minimum/maximum value memory, Hold function
- Serial interface , direct connexion to RS 232 or USB interface of a PC via isolated interface adapter

Delivery information: Supplied with meter, humidity/temperature probe, calibration certificate and plastic case.

Range	Accuracy	Resolution (m/s)	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–40…+120 °C; 0 - 100% RH; 0,55 - 20,00 m/s	±0,5% m.v. ±0,5 °C; ±0,1% RH; ±0,1	0,1 °C; 0,1% RH; 0,01	71×26×142	160	1	**620-1954**

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Description	Range (°C)	Ø×L (mm)	Pk	Cat. No.
Probes				
General purpose probe, for surface, immersion, air and gas, TK 501, with plastic handle, 1 m silicon cable and a DIN-SMP connection	–65…+400	1,5×100	1	**620-1937**
Surface probe, TK 201, with 135 mm plastic handle, 1 m silicon cable and DIN-SMP connection	–65…+400	2,5×100	1	**620-1939**
Humidity / temperature probe HT 100 with cable			1	**620-1955**

* Enthalpy = Thermodynamic potential of a system i.e. internal energy plus the product of pressure and volume.

Temperature chart recorder, KT8
Dickson

Remote K-thermocouple probe with replaceable sensor

This chart recorder on Ø 203 mm disc provides more flexibility, a flip-up pen arm for fast pen and chart replacement and a digital display (620-2247 only).

- User selectable temperature ranges and recording times
- Recording time settable: 24 hours, 7 and 31 days
- Audible and visual alarms

W×D×H: 234×79×234 mm

Weight: 1800 g

Delivery information: Supplied with four AA batteries and mains supply, a red pen and a quick start guide. Charts (203 mm) need to be ordered separately.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Pk	Cat. No.
Temperature chart recorder, KT8P0	–50…+150	±1,0	1,0	1	**620-2246**
Temperature chart recorder with LCD, KT8P2	–50…+150	±1,0	1,0	1	**620-2247**
Temperature chart recorder with replaceable sensor, LCD and alarm, KT8P3	–50…+500	±1,0	1,0	1	**620-2263**

Temperature and humidity chart recorders, TH8
Dickson

These chart recorders with LCD are a fast method for capturing temperature and humidity data. With excellent resolution on Ø 200 mm chart, these models come equipped with an arm holding a pen that swivels upwards, allowing for easy replacement of pen and chart, a digital display and a replaceable probe.

- User-selectable recording times and temperature ranges
- Switchable °C/°F and humidity (RH)/dew point (Td) scales
- User calibration

W×D×H: 234×79×234 mm

Weight: 1,8 kg

Delivery information: Supplied with pens, master calibration certificate and back-up AA batteries. Charts need to be ordered separately.

Description	Range	Accuracy	Pk	Cat. No.
Chart recorder, Ø: 203 mm, TH8P2	–20…+50 °C; 0 - 95% RH	±1,0 °C; ±2,0 (0 - 60); ±3,0 (60 - 95)% RH	1	**620-2264**
Chart recorder with alarm, Ø: 203 mm, TH8P3	–20…+50 °C; 0 - 95% RH	±1,0 °C; ±2,0 (0 - 60); ±3,0 (60 - 95)% RH	1	**620-2248**
Chart recorder with alarm and relays, Ø: 203 mm, TH8P5	–20…+50 °C; 0 - 95% RH	±1,0 °C; ±2,0 (0 - 60); ±3,0 (60 - 95)% RH	1	**620-2249**

Description	Range	Recording time	Pk	Cat. No.
Charts				
C473	–20…+50 °C; 0 - 100% RH	7 days	60	**620-0414**
C479	+5…+40 °C; 0 - 100% RH	7 days	60	**620-0418**

Data logger with memory-card, Traceable®

This stand-alone data logger records readings on a removable SD card. A card reader (supplied) plugs into any USB computer port for an instant report.

- Card reader with USB connector - No software to install
- Display of date, time of day, and all sensor readings
- Minimum/maximum features
- Audible and LED alarm sets in 0,1 increments
- Four-line readout LCD (H:17 mm)

W×D×H: 110×91×30 mm

Weight: 200 g

Traceable® certificate ISO 17025 accredited by A2LA indicates traceability to standards provided by NIST.

Delivery information: Supplied with a 256 Mb SD card, a USB memory card reader, magnetic mounting strips, Velcro®, wall mount, bench stand, three AA batteries, an adapter, and a Traceable® certificate.

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Range	Accuracy	Resolution	Pk	Cat. No.
0…50 °C; 0 - 90 % RH; –20…+50 °C Td	±1,0 °C; ±5,0 % RH (20 - 85 % RH); ±7,0 % RH	0,1 °C; 0,1 % RH	1	**620-1965**

Wireless multi-channel temperature monitoring systems, EBI 40
Ebro

Thermocouple type K with SMP connector

The EBI 40 loggers are designed for mapping applications at high temperatures. In combination with thermal insulation box (620-1804), it can be used for two hours at 250 °C. At higher temperatures, the logger is placed remotely and temperature characteristics can be viewed on the display. The system can be used in heating chambers and ovens, for determination of hardening (lacquering) and monitoring of the complete baking and freezing processes in food industry.

- Alternative programming via keypad buttons: ESC, OK, Up, Down
- Configuration, programme upload and data download via USB connection
- Coloured display for numerical and graphical presentation of data

W×D×H: 140×118×35 mm

Conforms to IP 67

Delivery information: Supplied with a factory calibration certificate. Probes are not included.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Memory	Pk	Cat. No.
Logger (6 channels), EBI 40 TK-01	0…+500	±0,5	0,1	120 000 values	1	**620-1802**
Logger (12 channels), EBI 40 TK-02	0…+500	±0,5	0,1	240 000 values	1	**620-1803**

Description	Pk	Cat. No.
Accessories		
Software Winlog.Pro	1	**620-1572**
Thermal insulation case, EBI TIB 400-01	1	**620-1804**
Thermocouple probe, TPN 601	1	**620-1805**

Temperature loggers, EBI 300 and 310
Ebro

Temperature loggers

Probe, TPX 250

Wall mount

These temperature loggers with USB connection need no interface for programming or read-out. An automatic PDF report can be generated without any software. **EBI 300**: Related to HACCP/IFS issues or other perishable goods (EN 12830, ATP, VO(EG) 37/2005 compliant), transport of fresh, chilled and frozen products, monitoring of fridges and freezers. **EBI 310**: For pharmaceutical, medical or other perishable goods, transport of drugs, vaccines and blood products, temperature monitoring of dry ice (with TPX 250) and cryogenic (with TPX 220) shipments, validation of temperature during transport and storage.

- User friendly, waterproof
- LED display: Minimum and maximum values
- Two limit LED alarm - or five ranges for 620-1814

Conform with IP 65 - 620-1814 is CFR 21.

W×D×H: 80×34×14 mm

Weight: 35 g

Delivery information: Supplied with a two year life battery.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Memory	Pk	Cat. No.
USB data logger with NTC probe, EBI 300	–30…+60	±0,5 (–20…+40); ±0,8	0,1	40 000 values	1	**620-1815**
USB data logger with PT1000 probe, EBI 310	–30…+75	±0,2	0,1	120 000 values	1	**620-1814**

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Description	Pk	Cat. No.
Probes		
External NTC probe for EBI 300, Ø×L: 4×50 mm, TPC 300	1	**620-1860**
External PT1000 probe for EBI 310, Ø×L: 5×50 mm, TPX 220	1	**620-1861**
External PT1000 probe for EBI 310, TPX 250	1	**620-1863**
Accessories		
Wall mount	1	**620-1859**

Temperature and humidity loggers, EBI-20
Ebro

These temperature and humidity loggers record data automatically. The LCD displays the measured value, the battery level and the unit of measure. The waterproof loggers with NTC probe provide reliable recordings during transport and storage.

- Measurement frequency between one minute and 24 hours
- One button for "start" and minimum/maximum values
- Visual LED alarm

EN 12830. Software conforms to FDA 21 CFR Part 11.

W×D×H: 69×48×22 mm

Weight: 45 g

Delivery information: The loggers are supplied with a battery and a calibration certificate. It is advisable to initially order a Starting set with logger, Winlog.Basic software and interface. Further loggers can be ordered separately.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Memory	Pk	Cat. No.
Temperature logger, EBI-20 T1	–30…+60	±0,5 (–20…+40)	0,1	40 000 values	1	**620-1748**
Temperature logger with ext. probe, EBI-20 TE1	–30…+60	±0,5 (–20…+40)	0,1	40 000 values	1	**620-1749**
Temperature and humidity logger, EBI-20 TH1	–30…+60 °C; 0 - 100 % RH	±0,5 (–20…+40)	0,1	40 000 values	1	**620-1750**

Description	Pk	Cat. No.
Starting sets		
Starting set for temperature logger, EBI-20 T1	1	**620-1751**
Starting set for temperature logger with ext. probe, EBI-20 TE1	1	**620-1752**
Starting set for temperature and humidity logger, EBI-20 TH1	1	**620-1753**

Description	Pk	Cat. No.
Accessories		
Holder for EBI-20T/TH	1	**620-1425**

Wireless temperature and humidity monitoring system, EBI 25
Ebro

EBI 25-TH

The EBI 25 monitoring system consists of a data logger, an interface and evaluation and monitoring software. It can be used in the food industry and laboratories, medical, pharmaceutical and chemical fields, in storage rooms, fridges and climatic chambers.

- Alarm with signal via e-mail/SMS, automatic report generation
- Display unit location plan with data loggers
- Real time monitoring of measuring points
- Software works as stand-alone solution
- Intranet or internet solution

W×D×H: 95×48×27 mm

Weight: 65 g

Delivery information: The loggers are supplied with a 3,6 V replaceable battery, up to five years lifetime when measuring at 15 minutes and hourly wireless communication. Winlog.Wave software is available on request.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Memory	Pk	Cat. No.
EBI 25-T	–30…+60	±0,5*; ±0,8**	0,1	576 values	1	**620-1562**
EBI 25-TE with ext. probe	–30…+60	±0,5*; ±0,8**	0,1	576 values	1	**620-1563**
EBI 25-TH with humidity sensor	–30…+60 °C; 0 - 100% RH	±0,5*; ±0,8** °C; ±3,0% RH	0,1 °C; 0,1% RH	288 values	1	**620-1564**

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Description	Pk	Cat. No.
Starting sets		
EBI 25-T-set incl. three loggers, interface, software and three wall brackets	1	**620-1676**
EBI 25-TE-set incl. three loggers, interface, software and three wall brackets	1	**620-1677**

Description	Pk	Cat. No.
Accessories		
Software Winlog.Wave	1	**620-1561**
Interface incl. antenna, IF 400	1	**620-1565**
Plastic wall holder, AG 152	1	**620-1566**

* –20…+40 °C ** Remaining range

Temperature and pressure loggers, waterproof, EBI 100
Ebro

EBI 100-T241

EBI 100-TP200

PT1000 internal sensor

The EBI 100 data loggers are suitable for the monitoring of autoclaves and heating cabinets. They can be used during validation processes.

- Measurement without radio technology
- Programming and evaluation with PC
- Monitors hot processes up to 150 °C

W×D×H: 48×48×24 mm

Weight: 70 g

Delivery information: Supplied with a factory calibration certificate.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Memory	Pk	Cat. No.
EBI 100-T100, one temp. sensor	–40…+150	±0,3	0,1	27 000 values	1	**620-1680**
EBI 100-T230, one temp. needle sensor	–40…+150	±0,3	0,1	27 000 values	1	**620-1696**
EBI 100-T241, one temp. flexible probe (500×1,5 mm)	–40…+150	±0,3	0,1	27 000 values	1	**620-1697**
EBI 100-TP200, two temp. and pressure probes	0…150 °C; 1 - 4000 mbar	±0,3 °C; 20 mbar	0,1 °C; 0,1 mbar	27 000 values	1	**620-1681**
EBI 100-TP 230, two temp. and pressure probes	0…+150 °C; 1 - 3500 mbar	±0,1 °C; ±15 mbar	0,01 °C; 0,01 mbar	27 000 values	1	**620-1706**

Description	Pk	Cat. No.
Accessories		
IQ-OQ Winlog.pro software	1	**620-1694**
Interface EBI-IF-100 and Winlog.pro software	1	**620-1695**
Interface EBI-IF-200 and Winlog.pro software	1	**620-1678**
Interface EBI-IF-300 and Winlog.pro software	1	**620-1679**

Temperature and pressure loggers, waterproof, EBI 10
Ebro

EBI 10-T100

EBI 10-T220

EBI 10-T240

Wireless real time monitoring

The EBI 10 data loggers are suitable for recording temperature and pressure values in the monitoring of autoclaves and heating cabinets and in process validation.

- High accuracy even in hot processes
- User can follow the process live on the monitor
- Faulty processes can be recognized immediately and stopped, if necessary
- Realtime process monitoring saves time and effort
- Software conforms to FDA 21 CFR Part 11

Delivery information: Supplied with a factory calibration certificate, a 3,6 V replaceable probe for up to two years, depending on use.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Memory	Pk	Cat. No.
EBI 10-T100, PT1000 int. sensor	–85…+150	±0,1 (0…140); ±0,2 (–40…0; 140…250); ±0,5	0,01	100 000 values	1	**620-1684**
EBI 10-T220, PT1000 ext. sensor (Ø×L: 1,5×250 mm)	–85…+400		0,025	100 000 values	1	**620-1700**
EBI 10-T240, two PT1000 ext. sensors (Ø×L: 2,5×500 mm)	–85…+400		0,025	100 000 values	1	**620-1701**
EBI 10-T441, two PT1000 ext. axial sensors (Ø×L: 1,5×500 mm)	–85…+400		0,025	100 000 values	1	**620-1702**
EBI 10-TP200, PT1000 ext. sensor (Ø×L: 3×40 mm) and pr. ceramic sensor	–50…+150 °C; 1 - 4000 mbar	±0,1 (0…140); ±0,2 (140…150); ±15 mbar	0,025 °C 1 mbar	66 666 values	1	**620-1685**

Description	Pk	Cat. No.
Accessories		
Battery exchange set	1	**620-1693**
IQ-OQ Winlog.pro software	1	**620-1694**
Interface EBI-IF-100 and Winlog.pro software	1	**620-1695**

Temperature and pressure loggers, EBI 11
Ebro

Food

Pharmacy and industry

The EBI 11 temperature loggers are designed for screw-cap jars, bottles and tins to determine the F-values and to calculate the PE-values in food. The EBI 11 pressure loggers are used in the production of canned goods, monitoring of pasteurisation equipment, and pressure-process monitoring in production. Data is transferred to the Winlog.pro software via the interface. In the medical field, the EBI 11 loggers are used in steam sterilisers and washer/disinfectors for surgical

Continued on next page

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instruments.

- Space saving
- High temperature resistance
- Logging interval adjustable from one second to 24 hours

Ø×L: 16,5×22 mm (temperature loggers); Ø×L: 16,5×35 mm (pressure loggers)

Ordering information: A data logger, an interface and the Winlog.pro software are required as a minimum. Supplied with a replaceable battery.

Description	Range (°C)	Accuracy	Resolution	Memory	Pk	Cat. No.
EBI 11 T230 with external probe (L×Ø: 20×3 mm)	–30…+150	±0,1 °C	0,01 °C	15 000 values	1	**620-1576**
EBI 11 T240 with external probe (250×1,5 mm)	–30…+150	±0,1 °C	0,01 °C	15 000 values	1	**620-1577**
EBI 11-P100	1 - 10 000 mbar	±15/20 mbar	1 mbar	15 000 values	1	**620-1705**
EBI 11-TP110	0…150 °C; 1 - 10 000 mbar	±0,1 °C; ±15 (0- 4000), ±20 mbar	0,01 °C; 1 mbar	15 000 values	1	**620-1857**

Description	Pk	Cat. No.
Starter kits		
Food starter set, SL 4001, incl. logger EBI 11-T230, interface EBI-IF-100, adapter-set AL 114 and Winlog.pro software	1 SET	**620-1575**
Pasteurisation starter set, SL 4101 with EBI 11-T230, incl. bottle adapter set AL 115, interface EBI IF 100, software Winlog.pro and aluminium case	1	**620-1856**

Description	Pk	Cat. No.
Accessories		
IQ-OQ Winlog.pro software	1	**620-1694**
Interface EBI-IF-100 and Winlog.pro software	1	**620-1695**

Temperature and humidity loggers, 174
Testo

These reliable mini data loggers monitor the climatic conditions in warehouses, offices and in the manufacturing sector. They are placed beside the product e.g. in aeroplanes, containers and refrigerated rooms to monitor the fluctuations in temperature and humidity unobtrusively.

- Data transfer to a PC via USB interface
- Humidity sensor with long-term stability
- High data integrity, even with low battery
- Minimum/maximum values display
- Alarms via display (no buzzer)

Confom to IP 65 (620-1761) or IP 20 (620-1762) and EN 12 830.

Delivery information: Supplied with a wall holder, a factory calibration protocol and batteries.

Description	Range	Accuracy (°C)	Resolution (°C)	Memory	Pk	Cat. No.
Mini temperature logger, 174T	–30…+70 °C	±0,5	0,1	16 000 values	1	**620-1761**
Mini temperature and humidity logger, 174H	–20…+70 °C; 0 - 100 % RH	±0,5 °C; ±3,0 (2 - 98)% RH; +0,03% RH/K	0,1	16 000 values	1	**620-1762**

Description	Range	Accuracy (°C)	Resolution (°C)	Memory	Pk	Cat. No.
Starting set						
Starting set incl. temparature logger 174T and USB interface	–30…+70 °C	±0,5	0,1	16 000 values	1	**620-1759**

Description	Pk	Cat. No.
Software		
USB interface	1	**620-1838**
Software ComSoft Basic	1	**620-1839**

Temperature and humidity loggers, 175 and 176

Testo

The 175 loggers are multipurpose compact loggers for the measurement of temperature and humidity. The 176 loggers can measure pressure and are robust dataloggers which are suitable for demanding applications.

- Data security: Password protection, anti-theft lock
- Non volatile memory: 1 million values (175) and 2 million (176)
- ComSoft Basic 5 software can be downloaded free from the supplier's website - mandatory registration

Delivery information: Supplied with a long life battery (for up to eight years service, depending on the series), without USB cable and software.

Description	Range	Accuracy	Resolution	Pk	Cat. No.
Temperature loggers					
One int. sensor, 175 T1	–35…+55 °C	±0,5 °C	0,1 °C	1	**620-1840**
One int. and one ext. NTC connection, 175 T2	–35…+55 (I); –40…+120 (E) °C	±0,5 (–35...+55)°C int.	0,1 °C	1	**620-1841**
Two probe inputs (T/K), 175 T3	–50…+400 (T); –50…+1000 (K) °C	±0,5 (–50…+70); ±0,7 (70…1000) °C	0,1 °C	1	**620-1842**
One int. sensor (PT100), metal housing w/o display, 176 T1	–35…+70 °C	±0,2 °C	0,01 °C	1	**620-1844**
Two ext. PT100 connections, 176 T2	–100…+400 °C	±0,2 (–100…+200); ±0,3 (+200…+400) °C	0,01 °C	1	**620-1845**
Four ext. connections (type T/K/J), metal housing w/o display, 176 T3	–200…+400 (T); –195…+1000 (K); –100…+750 (J) °C	±1,0% (–200…–100,1) ±0,3 °C (–100…+70) ±0,5% (70…1000) °C	0,1 °C	1	**620-1846**
Four ext. connections (type T/K/J), 176 T4	–200…+400 (T); –195…+1000 (K); –100…+750 (J)	±1,0% (–200…–100,1) ±0,3 °C (–100…+70) ±0,5% (70…1000) °C	0,1 °C	1	**620-1847**
Temperature and humidity loggers					
Two int. channels (NTC/capacitive humidity sensor), 175 H1*	–20…+55 °C; 0 - 100% RH; –40…+50 °C (Td)	±0,4 (–20…+55) °C ±2,0% (2 - 98) RH at 25 °C +0,03% RH/K (Td)	0,1 °C; 1,0% RH	1	**620-1843**
Four ext. channels, two probes (NTC/capacitive humidity sensor), 176 H1*	–20…+70 °C; 0 - 100% RH; –40…+70 °C (Td)	±0,2 (–20…+70) °C	0,1 °C; 0,1% RH	1	**620-1848**
Four ext. channels, two probes (NTC/capacitive humidity sensor), metal housing w/o display, 176 H2*	–20…+70 °C; 0 - 100% RH; –40…+70 °C (Td)	±0,2 (–20…+70) °C	0,1 °C; 0,1% RH	1	**620-1849**
Temperature, humidity and pressure loggers					
Five channels with int. absolute pressure sensor and ext. connections (NTC/capacitive humidity sensor), 176 P1	–20…+70 °C; 0 - 100 % RH; 600 - 1100 mbar; –40…+70 °C (Td)	±0,2 (–20…+70); ±0,4 °C; ±3,0 mbar	0,1 °C; 0,1% RH 1 mbar	1	**620-1850**

Description	Range (°C)	Pk	Cat. No.
Cable and batteries			
USB connection cable		1	**620-1828**
AAA battery		1	**620-1829**
Li-round cell battery 3 V		1	**620-0185**
Battery, L92 microcells AAA		1	**620-1833**
Battery, TL-5903 AA cell		1	**620-1834**
Probes			
NTC stub probe (Ø×L: 3×38 mm), IP 54	–20…+70	1	**620-1852**
Probe with aluminium sleeve, IP 65	–30…+90	1	**620-1851**
Accurate immersion/penetration probe with cable (6 m), IP 67	–35…+80	1	**620-1984**
Type T needle probe	–50…+250	1	**620-3319**
Holders			
Black wall holder for 175 models		1	**620-1835**
Black wall holder for 176 models		1	**620-1836**
Software			
Software incl. data archiving, ComSoft Professional 4 CFR 21 Part 11		1	**620-1837**
Software, ComSoft CFR 21 Part 11		1	**620-1925**

* These models are not suitable for condensing atmosphere. For continuous applications in high humidity (>80% RH at ≤30 °C for >12 h, >60% RH at >30 °C for >12 h), please contact us.

Temperature loggers, Mini series
Escort

These iMini and iMini Plus temperature loggers are used during the transportation of sensitive cargo, storage of perishable goods and monitoring of chilled food.

- Large LCD
- Real time recording
- Start on demand by a simple button press or with a start delay of 0 to 255 minutes

W×D×H: 80×57×18 mm

Delivery information: The software must be ordered separately. Probe (L×Ø: 80×4,5 mm) and cable (one meter) for 620-0245 only.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Memory	Pk	Cat. No.
Intelligent logger with sensor	–40…+70	±0,5	0,5	1868 values	1	**620-9326**
Wireless logger with sensor	–40…+70	±0,5	0,5	1868 values	1	**620-9338**
Intelligent logger with probe	–40…+65	±0,5	0,5	1868 values	1	**620-0245**
Wireless logger with probe	–40…+65	±0,5	0,5	1868 values	1	**620-9339**
Intelligent Plus logger with probe	–100…+40	±0,5	0,1	8000 values	1	**620-1617**

High precision temperature and humidity loggers, iLog
Escort

Stainless steel tips (80 mm) and cable (1 m)

These loggers offers quality control for temperature- and humidity-sensitive products. They can detect and record the smallest fluctuations.

- Alarm LED indicators
- Intuitive software for easy configuration and retrieving information
- Activation with a magnetic key or by the Console software for organising and analysing the data

Ø×H: 76×18 mm

Weight: 70 g

Delivery information: Console software is required but not supplied. Please contact your local VWR office for further information.

Description	Range (°C)	Accuracy (%)	Resolution (°C)	Memory	Pk	Cat. No.
Logger with int. sensor	–40…+70	±0,3	0,1	32 000 values	1	**620-9303**
Logger with int. sensors	–40…+70 °C; 0 - 100% RH	±0,3 °C; ±3,0 % RH	0,1 °C; 0,1% RH	32 000 values	1	**620-9302**
Logger with int. and ext. sensors	–40…+70 (I); –20…+100 (E)	±0,3	0,1	32 000 values	1	**620-9329**
Logger with int. and ext. sensors	–40…+70 (I); 0…+150 (E)	±0,3	0,1	32 000 values	1	**620-2245**
Logger with two ext. probes	–40…+70	±0,3	0,1	32 000 values	1	**620-9301**

Description	Pk	Cat. No.
Accessories		
Battery for Junior and iLog range	1	**620-9320**
Interface holder for wall or other surface-mounting	1	**620-0499**
Universal interface	1	**620-0239**
USB interface	1	**620-1698**
Universal serial interface with software and magnet	1	**620-0240**
USB interface with console software and magnet	1	**620-0253**
Calibration kit for salt solutions 33,76 %	1	**620-2244**

Alarm temperature and humidity loggers, SPY TouchH'

Thanks to a touch sensitive screen recorder with USB key, the SPY TouchH' is designed for monitoring the temperature in your lab equipment i.e. fridges, freezers, incubators, cold rooms and liquid nitrogen tanks.

- Quick installation: Use screen for device configuration and data visualisation
- No computer required: Download data or save configuration with a USB key
- Real time alarm management: Local and remote alarm capabilities
- Buzzer and colour changing screen advise operators locally in case of alarms
- Secure your cold chain: Password to secure your process, encrypted data, critical events easily documented

W×D×H: 161×84×60 mm

Weight: 480 g

Conform to EN 12830 and ROHS.

Description	Range (°C)	Accuracy (°C)	Resolution (°C)	Memory	Pk	Cat. No.
SPY TouchH' U with one channel PT100 incl., UK plug	–55...+125*	±0,3*	0,1	40 000 values	1	**620-1865**
SPY TouchH' U with one channel PT100 cryo incl., UK plug	–200...+260	±0,3	0,1	40 000 values	1	**620-1867**
SPY TouchH' N with one temp. digital probe, UK plug	–40...+80	±0,3*	0,1	40 000 values	1	**620-1869**
SPY TouchH' N with one temp. and humidity digital probe, UK plug	–40...+80 °C; 0 - 100% RH	±0,3 °C*; ±2% RH**	0,1	80 000 values	1	**620-1871**
SPY TouchH' N with two temperature digital probes, UK plug	–40...+80	-	0,1	80 000 values	1	**620-1873**

* (–20…+50); ±0,5 °C; ** (0 - 90% RH); ±3,0 (90 - 100% RH)

VWR COLLECTION

SELECTED FOR YOU

Memory-card data loggers, Traceable®

These stand-alone units can record readings on a removable SD card. Memory card reader (supplied) plugs into any USB port for an instant report. Text report includes date/time of day and sensor readings.

- Captures 5,9 million readings
- Sealed bottle sensor insulated from temperature changes when refrigerator is opened
- Solution in sealed bottle is GRAS (Generally Recognised As Safe) by FDA
- Minimum/maximum feature displays highest/lowest readings for any time period
- Alarm (visual and audible) set by the user for high and low values to the nearest 0,1 °C

W×D×H: 110×91×30 mm (cable: 2 m)

Weight: 200 g

A Traceable® certificate is provided from ISO 17025 and standards provided by NIST.

Delivery information: Supplied with a thermometer, a probe, a cable, a 256 mb SD memory card, a USB memory card reader, magnetic mounting strips, Velcro®, wall mount, bench stand, three AA batteries, an adapter and a Traceable® certificate.

Range (°C)	Accuracy (°C)	Resolution (°C)	Probe	Pk	Cat. No.
–30…+70	±0,6 (0…+50); ±1,2	0,1	Bottle (25×63 mm)	1	**620-1963**
–30…+70	±0,6 (0…+50); ±1,2	0,1	Stainless steel (Ø×L: 4×25 mm)	1	**620-1964**

Temperature, humidity and shock data logger, 184 G1, Testo

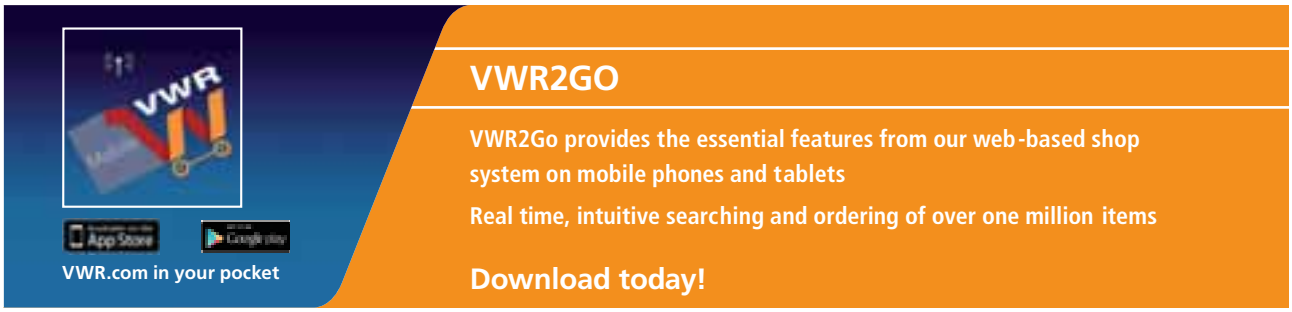
Testo

This data logger is designed for temperature, humidity and impact monitoring in the cold chain and transportation sectors. It is suitable for the food and pharmaceutical industries for the transport of sensitive goods.

- Measurement rate from one minute to 24 hours
- Clear indication of alarms and alerts
- Easy setting and automatic PDF reporting via connection to PC

ISO 9001:2008, EN 12830 and HACCP certified. CFR ready.

Range	Resolution	Memory	Pk	Cat. No.
–20…+70 °C; 0 - 1000% RH; 0 - 10 g	0,1 °C; 0,1% RH; 0,1 g	64 000 values (and 1000 values for shock)	1	**620-2285**



Barometer with thermo-/hygrometer

Brass, stainless steel case

This barometer features three scale ranges for temperature, relative humidity and pressure.

- Improved readability
- Black lines and numbers
- Unit can be calibrated acc. to the official barometric values

Ø: 152 mm

Weight: 476 g

Range	Accuracy	Pk	Cat. No.
940 - 1058 mbar; 70,5 - 79,4 cmHg; -30…+50 °C; 0 - 100% RH	±3,5 mbar; ±0,3 cmHg	1	**620-2126**

Weather station, PRO

Wireless sensor

Calendar up to the year 2050 with date and day of week in seven languages (English, German, French, Italian, Spanish, Dutch and Danish), a 12/24-hour selectable time with snooze alarm, moon phase, and animation weather forecast.

- Comfortable index icons
- Links up to three remote modules (maximum distance 30 metres)
- Dual display to show the temperature of the main unit and one external sensor at a time

W×H: 117×193 mm

Compliant with RoHS.

Delivery information: Supplied with a batteries.

Range	Accuracy (°C)	Pk	Cat. No.
0…+50 °C (in); –20…+60 °C (ex); 20 - 90% RH	±1,5	1	**620-2127**

Description	Pk	Cat. No.
Probe		
Wireless sensor for weather stations 620-2127 and 620-2128	1	**620-2147**

Weather station, Ultimate

Wireless sensors

This complete weather station features a perpetual calendar up to year 2099 with date, 12/24 hour selectable time with snooze alarm, moon phase, tide indicator, sunset and sunrise times, barometric pressure, animated weather forecast, maximum/minimum memory for hygro-thermometer. RF wireless hygro-thermometer links up to three remote sensors.

- Pressure bar chart, history and trend indicator
- Easy to read icons
- Indoor/outdoor thermo-hygrometer trend indicator

W×H: 127×201 mm

Compliant with RoHS. Traceable to standard from NIST/DKD. Conforms to ISO/IEC 17025:2005.

Delivery information: Supplied with a remote sensor incl. batteries and two AA batteries for the main unit.

Range	Accuracy (°C)	Pk	Cat. No.
0…50 °C (in); –20…+60 °C (ex); 20 - 90% RH	±1,5	1	**620-2128**

Description	Pk	Cat. No.
Probe		
Wireless sensor for weather stations 620-2127 and 620-2128	1	**620-2147**

Weather system with wireless sensors

This weather station is suitable for industrial plants and schools to measure temperature, humidity, dew point, UV index, heat index, barometric pressure/pressure bar graph, wind direction/speed, windchill, rainfall amount, and weather forecast.

- Programmable alarms for all measurements
- Minimum/maximum readings displayed

W×D×H: 190×146×38 mm

Delivery information: Supplied with sensors, an AC adapter, and four AA backup batteries.

Parameter	Range	Resolution	Features
Temperature	(In) 0…+50 °C; (Ex) –50…+70 °C	0,1 °C	Minimum/maximum memories, high/low alarms
Humidity	2 - 98% RH	1,0% RH	Minimum/maximum memories, high/low alarms
Dew point	(In) 0…+49; (Ex) +10…+60 °C Td	1,0 °C	Minimum/maximum memories, high/low alarms
Barometer (absolute pressure)	700 - 1050 mbar; 20,67 - 31,01 inHg	1,0 mb	Minimum/maximum memories, high/low alarms, sea level reference altitude adjustment, bar chart for last 24 hrs, weather forecasting with symbols (sunny, cloudy, rainy)
Wind speed	2 - 56 m/s	0,2 m/s	Wind direction, compass bearing (m/s, kph, mph, and knots)

Description	Pk	Cat. No.
Wireless weather station	1	**620-1918**

Digital anemometers, 410-1/2

Testo

Handy, small and simple, these air velocity meters can measure temperature and wind speed, as well as humidity (620-3308 only). They can also perform wind-chill measurements.

- Enclosed measurement with 40 mm vane
- Minimum/maximum values
- Automatic off function
- Data "HOLD" recall
- Backlit display

W×D×H: 133×46×25 mm

Weight: 110 g

Delivery information: Supplied with two alkaline batteries, protective cap, wrist strap and belt holder.

Description	Range	Accuracy	Resolution	Pk	Cat. No.
Air velocity and temperature meter, 401	0,4 - 20 m/s; –10…+50 °C	±0,2 m/s (+2% mv); ±0,5 °C	0,1 m/s; 0,1 °C	1	**620-3307**
Air velocity and thermo-/ hygrometer, 402	0,4 - 20 m/s; 0 - 100% RH; –10…+50 °C	±0,2 m/s +2% mv; ±2,5% RH (5 - 95%); ±0,5 °C	0,1 m/s; 0,1% RH; 0,1 °C	1	**620-3308**

Multi-function air quality measuring apparatus, 435

Testo

The 435 measuring instruments are designed to analyse the ventilation and indoor air quality of the working environment, serving as an indicator for the wellbeing of people at their workplaces and as a monitor in storage and production process areas. The indoor air quality alerts whether the air conditioning system (HVAC) is working to maximum efficiency. Absolute pressure, draught, Lux, U-value, CO_2, temperature and volume flow can additionally be determined.

- Printout on optional Testo printer (please enquire with your VWR sales office for details)
- A maximum of three wireless probes can be recorded and displayed
- In addition to classical probes on wires, a wireless measurement up to a distance of 20 m (without obstruction) is possible

Delivery information: Supplied with a AA battery for approximately 200 hours of use.

Description	Range	Accuracy	W×D×H (mm)	Weight (g)	Pk	Cat. No.
Multi-functional apparatus, 435-1	–20…+70 °C; 0 - 100% RH; 0 - 20 m/s	**Temperature**: See footnote* **% RH:** See probe data	225×74×46	428	1	**620-1199**
Multi-functional apparatus with readings memory and PC software, 435-4	Pitot: 0 - 25 hPa; 0 - 100000 Lux	**Temperature**: See footnote* **% RH/Lux:** See probe data **hPa:** ±0,02 hPa (0 - 2 hPa), 1,0% of mv (remaining range)	225×74×46	450	1	**620-0198**

Description	Pk	Cat. No.
Infrared printer		
Portable printer Ir®DA with wireless infrared interface, thermal paper roll and four AA batteries	1	**620-1903**

* **Accuracy NTC:** ±0,2 (–25…+74,9) °C; ±0,4 (–50…–25,1; 75…99,9) °C; ±0,5% of mv (remaining range)
* **Accuracy Type K/T:** ±0,3 (–60…+60) °C; ±0,2 °C ±0,3% of mv (remaining range)

Barometer with clock, Traceable®, VWR

This workstation is designed for the monitoring of conditions affecting sample analysis, and assisting in the prediction of weather changes.

- Suitable for wall mounting
- Adjustable altitude compensation (–900 to +3600 feet / –300 to +1200 metres)
- Graphic barometric trend showing present reading and previous 1-, 3-, 6-, and 12-hour readings in a bar chart format
- Forecasting indicators of weather conditions for the next 12-hours using symbols for sunny, cloudy, and rainy
- Clock: Time in AM/PM or 24-hour format and date

Traceable to standards provided by NIST (National Institute of Standards and Technology)

Range	Accuracy	Resolution	W×D×H (mm)	Weight (g)	Pk	Cat. No.
–50…+70 °C; 800 - 1050 mbar	±1,0 °C (0…+40 °C), ±2,0 °C; ±6,0 mbar (890 - 1020 mbar), ±10 mbar	0,5 °C; 1,0 mbar	197×63,5×76,2	227	1	**620-2243**

Handheld barometer with thermo-/hygrometer and altimeter, Traceable®

This compact and lightweight instrument can measure barometric pressure, temperature and altitude. It graphically displays the barometric pressure trend and has a stopwatch/clock.

- Rugged shock resistant case

Conforms ISO 17025. Traceable to standard provided by NIST.

W×D×H: 95×70×19 mm

Weight: 100 g

Delivery information: Supplied with a lanyard, and two batteries.

Range	Accuracy	Resolution	Pk	Cat. No.
–10…+60 °C; 300 - 1100 mbar; –700…+9000 m	±1,5 °C; ±8 mbar	0,1 °C; 1 mbar; 0,1 m	1	**620-1922**

Melting point apparatus, analogue, SMP11
Stuart

Samples in a capillary tube with sealed end are positioned in the heating block. The heating rate is adjusted manually. The instrument will rapidly heat up at a rate of 20 °C per minute to the set melt temperature and up to a maximum temperature of 250 °C. Accurate readings to within 1 °C of the melt temperature can be achieved by using a slower heating rate of between 1 and 10 °C per minute. Samples are illuminated by a bright white LED and viewed via a magnifying lens, which can be easily cleaned.

- Easy to use, with instructions for use printed directly on the unit, making it ideal for use in education
- Up to three samples can be viewed and tested at once
- Supplied with spirit filled, mercury-free thermometer, which is not a health hazard if broken
- BioCote® antimicrobial protection

IP protection class according to DIN EN 60529: IP 20

Ordering information: Supplied with spirit filled, mercury-free thermometer and a pack of 100 melting tubes (open both ends).

Model	SMP 11
Accuracy (°C)	±3
Ramp rate (°C/min)	1...20
Range (°C)	50...250
Resolution (°C)	1
Weight (kg)	1,7
W×D×H (mm)	370×140×110

Description	Pk	Cat. No.
SMP11, analogue melting point apparatus	1	**621-0036**

Description	Pk	Cat. No.
Accessories		
Melting point tubes, glass, open at both ends	100	**621-2017**
Melting point tubes, glass, closed at both ends	100	**621-2015**
Melting point tubes, glass, open at one end	100	**621-2016**

Melting point apparatus, digital, SMP10 and SMP20
Stuart

SMP 10

SMP 20

The SMP10 is a safe and user friendly melting point apparatus that is ideal for use in education. The temperature is selected, measured and displayed digitally making it accurate and negating the need for a thermometer. Samples are viewed via a magnifying lens with clear observation aided by built-in illumination. Extendable back feet allow the unit to be operated at the optimum viewing angle. The simple to follow instructions are printed directly on the instrument in English, French, Italian and Spanish.

The more advanced SMP20 has a 0,1 °C resolution as well as a variable ramp rate and hold key so that the exact melt temperature can be recorded.

- Two samples can be tested simultaneously
- Full access to the block aids cleaning
- Easy to operate with plateau facility
- BioCote® antimicrobial protection

Delivery information: Supplied with an individual calibration certificate showing serial number for full traceability. Also includes pack of 100 melting point tubes, open at one end.

Model	SMP10	SMP20
Accuracy (°C)	±1,0 (at +20 °C), ±2,5 (at +300 °C)	
Cool down time 350 to 50 °C (min)	~40	

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Display	3 digit LED	4 digit LED
Power supply	230 V, 50 Hz, 75 W	
Ramp rate (°C/min)	20 to plateau, 2 to melt	20 to plateau, selectable 1 - 10 to melt
Range (°C)	Ambient to 300	
Resolution (°C)	1	0,1
Weight (kg)	1,8	
W×D×H (mm)	160×220×170	

Description	Pk	Cat. No.
SMP10, digital melting point apparatus	1	**621-2020**
SMP20, digital melting point apparatus	1	**621-0049**

Description	Pk	Cat. No.
Accessories		
Melting point tubes, glass, open at both ends	100	**621-2017**
Melting point tubes, glass, closed at both ends	100	**621-2015**
Melting point tubes, glass, open at one end	100	**621-2016**

Melting point apparatus, digital, IA9000 series
Electrothermal

These Electrothermal microprocessor controlled melting point apparatuses allow quick and reliable testing of chemical samples. An adjustable extension arm facilitates comfortable viewing and helps reduce operator fatigue. The viewing head can be rotated for easier viewing and folds flat for easy and compact storage. Safety eyepiece reduces glare and protects your eyes from contact with the hot zone. Three audible beeps indicate when oven temperature has stabilised. Simple push-button controls are conveniently located. Heating chamber consists of aluminium heating block. RS232 output connector allows interface with the PR2000B printer or computer. Units can be calibrated in the field or can be sent back to the manufacturer for calibration.

Model IA9200

- Records up to four discrete temperatures by simply pushing the 'go-to' button
- Date and time can be recorded or printed using the real time clock function

Model IA9300

- Used for recording beginning and ending points (melting point ranges) of each of three samples
- Date and time can be recorded or printed using the real time clock function
- LED indicator light identifies which of the three capillary tubes is being viewed or recorded

Model	IA9200	IA9300
Accuracy (°C)	0,1 (PT100 Platinum resistance sensor)	
Memory	4 temperatures/1000 sets of data	3×2 melt temperatures/500 sets of data
Ramp rate (°C/min)	Programmable from 0,2 to 10,0 / 0,2 default	Programmable from 0,2 to 10,0 in 0,1 default
Range (°C)	Ambient ...400	
Resolution (°C)	0,1	
Weight (kg)	2,5	
W×D×H (mm)	200×350×85	

Description	Type	Pk	Cat. No.
IA9200, digital melting point apparatus	IA9200	1	**621-1102**
IA9300, digital melting point apparatus	IA9300	1	**621-0022**

Description	Pk	Cat. No.
Accessories		
Melting point capillaries, closed both ends,100 × 1,5 mm	1.000	**621-0014**
Melting point capillaries, closed both ends,100 × 2,0 mm	1.000	**621-1120**
Printer PR2000 for use with IA9000 series	1	**621-1124**
Paper roll and ribbon for printer	1	**621-0015**
AZ6730 calibration kit	1	**621-0016**
Cold finger for Electrothermal melting point apparatus	1	**621-0017**
Carbazole +245,61 °C	0,5 g	**621-1144**

Melting point apparatus, digital, SMP30
Stuart

An update of the SMP3, which incorporates some ergonomic features that allow the user to concentrate more comfortably on viewing the sample. The SMP30 allows the user to view the samples and temperature of the block simultaneously without having to refocus the eye. The bright white light LED is a robust source and delivers clean clear illumination of the tubes and sample. An optional printer is available to provide printouts of each result individually including date and time.

- Accommodates up to three samples simultaneously, designed for easy access to the block for cleaning
- Temperature display is housed within the eyepiece
- Viewing head has two way adjustment for comfort
- Multi-value LCD for important date, time and temperature information
- BioCote® antimicrobial protection

Delivery information: Supplied with individual calibration certificate and a pack of 100 melting point tubes, open at one end.

Model	SMP 30
Cool down time 350 to 50 °C (min)	~12
Display	40×4 character LCD
Memory	8 results per tube
Power supply	120/230 V 50 - 60 Hz
Ramp rate (°C/min)	0,5 - 10 (in 0,1 increments)
Range (°C)	Ambient to 400
Resolution (°C)	0,1
Sensor	PT1000 platinum resistance thermometer
Weight (kg)	3,6
W×D×H (mm)	170×200×325

Description	Pk	Cat. No.
SMP30, digital melting point apparatus	1	**621-2022**

Description	Pk	Cat. No.
Printer for use with SMP30	1	**621-2024**
Accessories		
Melting point tubes, glass, open at one end	100	**621-2016**

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Delivering high quality and superior performance

Please contact your local VWR sales office or go to vwr.com for the latest news and special offers

Melting point apparatus, automatic, SMP40
Stuart

This 'top of the range' instrument uses recent technology in digital image processing to accurately identify the melt of up to three samples simultaneously. The colour touch screen display provides a simple interface to control the process, and also a full colour display of the sample in real time. Once the samples have been run, the video files are retained as standard and can be reviewed or transferred via USB to a PC. The instrument has a split design concept that allows the user to separate the control unit from the heating unit, which allows the user to optimise the viewing position. The split design concept is also particularly useful for measurement of smelly or hazardous samples that need locating in a fume cupboard.

- Automatic measurement of up to three samples simultaneously improves productivity for the user
- 200 sample results as video can be retained
- BioCote® antimicrobial protection and designed for easy access to the block for cleaning
- Safety hood for protection of sample and ensures more reproducible lighting conditions for the automated melting point determination
- Onboard capillary storage with in-built glass cutter

Conforms to Pharmacopoeia and GLP.

Delivery information: Supplied with individual calibration certificate and a pack of 100 melting point tubes, closed at both ends.

Model	SMP40
Cool down time 350 to 50 °C (min)	~10
Display	145 mm colour VGA touch screen
Interfaces	USB
Memory	200 results with video
Power supply	120/230 V 50 - 60 Hz
Ramp rate (°C/min)	0,1 - 20 (in 0,1 increments)
Range (°C)	Ambient to 400
Resolution (°C)	0,1
Sensor	PT1000 platinum resistance thermometer
Weight (kg)	3,2
W×D×H (mm)	328×210×175

Description	Pk	Cat. No.
SMP40, automatic melting point apparatus	1	**621-2023**

Description	Pk	Cat. No.
Accessories		
Melting point tubes, glass, closed at both ends	100	**621-2015**

Calorimeters, C 2000 basic and C 2000 control

IKA

C 2000 basic and C 2000 control calorimeters are compact, modular systems designed to determine the calorific power of liquid and solid samples. They are characterised by a high degree of automation combined with exceptional ease of use. The user can choose between two measuring modes: isoperibolic and dynamic.

- Thermostatisation, automatic filling and emptying of the calorimeter's reservoirs
- Calorimetric bombs are identified and filled with oxygen automatically
- Cold water is supplied via a connection to a KV 600 thermostat or a fixed connection (C 25 pressure control valve* recommended)
- C 5010 standard calorimetric bomb is resistant to halogens and can be mounted on a C 14 disposable crucible*
- Connection interface for balance, printer, monitor and IKA C 5020 sample holder*; option to connect LIMS

Certified GHOST, DIN 51900, ISO 1928, ASTM D240, ASTM D4809, ASTM D5865, ASTM D1989, ASTM D5468 and ASTM E711.

C 2000 basic calorimeters, version 1 and C 2000 control calorimeters, version 1 are supplied with C 5010 standard calorimetric bomb; C 2000 basic version 2 is supplied with halogen-resistant calorimetric bombs C 5012, and C 5040 CalWin calorimetry software.

Absorbed power (W)	1800
Duration of measurement (min)	isoperibolic: ~ 22 dynamic: ~ 7
Flow rate (l/h)	min. 60
Max. measurement range (J)	40000
Permitted ambient relative humidity (%)	80
Permitted ambient temperature (°C)	20...25
Reproducibility (upon analysis with 1 g benzoic acid)	isoperibolic: 0,05 % RSD dynamic: 0,1 % RSD

Description	Pk	Cat. No.
C 2000 basic version 1	1	**622-0024**
C 2000 basic version 2	1	**622-0025**
C 2000 control version 1	1	**622-0026**

Description	For	Pk	Cat. No.
Accessories			
Quartz dish, C4	C 2000 basic / C 2000 control / C 5000 control	1	**622-0004**
Set of VA combustion crucibles, C5	C 2000 basic / C 2000 control / C 5000 control	25	**622-0005**
Gelatin capsules, C9	C2000 / C5000	100	**622-0000**
Combustion bags, 40×35 mm, C12	C 2000 basic / C 2000 control / C 5000 control	100	**622-0006**
Sample rack, C56	C 2000 basic / C 5000 control / C 5000 control	1	**622-0015**
Cotton thread, C710-4	C 2000 basic / C 2000 control / C 5000 control	500	**622-0002**
Benzoic acid tablet, 500 mg, C723	C 2000 basic / C 2000 control / C 5000 control	50 Tab.	**622-0010**
Standard decomposition vessel, C5010	C 2000 basic / C 5000 control / C 5000 control	1	**622-0014**
Halogen resistant decomposition vessel, C5012	C 2000 basic / C 5000 control / C 5000 control	1	**622-0017**
Ignition wire, platinum, C5012.3	C 2000 basic / C 2000 control / C 5000 control / AOD 1	2	**452-0002**
Cooling water supply, 230 V, KV600	C 2000 basic / C 2000 control / C 5000 control	1	**622-0028**

* Not included - For details of the accessories, please contact your local VWR sales office.

LED illuminated table magnifiers, VWR

These illuminated tabletop magnifiers - gooseneck or articulated arm type - include highly polished glass.

- Large viewing area
- Cover protects lens from dust and scratches
- Articulated arm models provide 200° head rotation

Description	Magnification	Pk	Cat. No.
Gooseneck magnifier, 60 LED, UK-plug	3×/8×	1	**630-1954**
Rectangular base magnifier, 60 LED, UK-plug	3×/8×	1	**630-1957**
Round base magnifier, 40 LED, UK-plug	3×/8×	1	**630-1960**

Description	Pk	Cat. No.
Replacement LED for illuminated table magnifiers		
40 LED illumination	1	**630-1965**
60 LED illumination	1	**630-1964**

Illuminated table magnifiers

Gooseneck, LED

Gooseneck

Artic. arm, rectangular base

These illuminated tabletop magnifiers - gooseneck or articulated arm type - include highly polished glass.

- Large viewing area
- Cover protects lens from dust and scratches
- Articulated arm models provide 200° head rotation

Delivery information: Supplied with 11 watt energy saving compact fluorescent bulb. 630-1086 comes with two LEDs and batteries.

Description	Magnification	Ø (mm)	Pk	Cat. No.
Gooseneck, UK-plug	1,75×/3×	88	1	**630-1057**
Articulated arm, rectangular base, UK-plug	1,75×/3×	88	1	**630-1060**
Articulated arm, round base, UK-plug	1,75×/3×	100	1	**630-1063**
Gooseneck, with two LEDs	2×/4×	110	1	**630-1086**

Description	Pk	Cat. No.
Bulbs		
Bulb for gooseneck table magnifiers	1	**630-1072**
Bulb for rectangular base table magnifiers	1	**630-1073**
Bulb for round base table magnifiers	1	**630-1074**

LED illuminated table magnifier, visolux+
Eschenbach

This magnifier offers bright and glare-free illumination provided by two SMD LEDs. An integrated preselectable orange filter can be used for a warm colour temperature.

- Large field of view
- Automatic light off after 30 minutes
- Meniscus/aspheric lens for a larger viewing distance
- Comfortable use, ergonomic tilted lens and compact design
- Cera-tec® anti-scratch hard coating: Reliability, comfort and relaxed vision

Delivery information: Supplied with a hard foam case and three AA batteries.

Magnification	W×D (mm)	Pk	Cat. No.
3,0×	100×75	1	**630-2181**

LED illuminated bench magnifiers

These illuminated magnifiers can be fixed on a table or on a bench. The square magnifier has 80 LED lights, while the round models has 90 LED lights.

- Modern design
- Articulated arm (800 mm) for a 200° rotation and better manipulation
- Cover to protect the lens from dust and scratches when the magnifier is not being used

Colour: White

Ordering information: Includes a standard table bracket (W×D×H: 30×40×64 mm).

Description	Magnification	Pk	Cat. No.
Square magnifier, UK-plug	3×	1	**630-1948**
Round magnifier, UK-plug	3×	1	**630-1951**

Description	Pk	Cat. No.
Accessories		
Replacement LED for 80 LED magnifiers	1	**630-1962**
Replacement LED for 90 LED magnifiers	1	**630-1963**

Illuminated stand magnifiers, vario, varioLED™ and varioLED™ flex
Eschenbach

Aspheric PXM® lightweight lens

These illuminated stand magnifiers are suitable for use in the scientific and professional fields, particularly for detailed technical work and reading.

- Adjustable brightness
- Shadow- and flicker-free working
- Cera-tec® anti-scratch hard coating of the lens for a relaxed vision

Description	Magnification	Ø (mm)	Pk	Cat. No.
Illuminated stand magnifier, vario	1,9/2,8×	132	1	**630-8217**
Illuminated magnifier, varioLED™	1,9×	132	1	**630-1220**

Description	Pk	Cat. No.
Lenses		
Extra aspheric PXM® lightweight lens, Ceratec® coating for varioLED™	1	**630-1221**
Accessory		
Transparent lens protector for varioLED	1	**630-1222**
Table base, steel with black finish (2 kg) (only for varioLED flex)	1	**630-2156**

LED reading magnifiers

3×

2×/8×

2×/8×

These illuminated magnifiers are suitable for everyday use.

- LED illumination
- Choice of square, round or rectangular shape
- Different magnifications according to the model

Delivery information: Item 630-1068 supplied in a pouch with battery. For the other articles, two batteries are needed but not supplied.

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Description	Magnification	W×D (mm)	Ø (mm)	Pk	Cat. No.
Round					
Folding	2/8×		88	1	**630-1067**
Folding	5×		50	1	**630-1078**
Other shapes					
Square	3×	80×80		1	**630-1065**
Rectangular	2/8×	50×100		1	**630-1066**
Rectangular	4,5×	30×38		1	**630-1068**

Digital reading magnifier, SmartLux®
Eschenbach

This high quality technology digital magnifier offers LCD brightness which can be dimmed for high levels of glare sensitivity. It can freeze frame and capture images - up to 20 images can be stored and managed. The LED illumination can be switched off when working on gloss surfaces.

- Five viewing modes: True colour and contrast-enhanced black/white, white/black, black/yellow, yellow/black
- Automatic shut-off of the device after approximately three minutes for lower consumption
- Extra large field of view due to non reflective 5" LCD and high magnification range

W×D×H: 174×90×40 mm

Weight: 220 g

Delivery information: Supplied with an integrated stand, a lithium rechargeable battery and a protective hard foam case.

Description	Magnification	Pk	Cat. No.
Video magnifier, smartlux® DIGITAL	1,7 - 12×	1	**630-2153**

Folding magnifiers
Eschenbach

These magnifiers, featuring a modern design and a glass fibre reinforced PA body, provide a distortion-free image.

- For handicraft and technical applications
- Dustproof body when closed

Ø: 23 mm

Description	Magnification	Pk	Cat. No.
Aplanatic, single lens	10×	1	**630-8261**
Achromatic, double lens	3×+6×	1	**630-8260**

Folding magnifiers
Eschenbach

Chrome-plated metal

Swivelling black metallic magnifier with loop, lens frame made from black painted metal.

- Protective case also serves as a handle
- Provide distortion-free images

Description	Magnification	Ø (mm)	Pk	Cat. No.
Folding magnifier	8×	23	1	**630-8232**
Folding magnifier, achromatic	10×	17	1	**630-8221**
Folding magnifier, aplanatic	12×	23	1	**630-8234**
Folding magnifier, achromatic	20×	17	1	**630-8222**

Folding magnifiers, mobilent
Eschenbach

Aspheric PXM® lightweight lens

The high magnification of these magnifiers is due to aspheric lenses. The plastic case is dust-proof and protects the lens making this model suitable for quick and easy applications.

- Sharp images even with a high level of magnification
- Three colours and magnifications available
- Hidden eyelet for the carry cord

Ø: 35 mm

Delivery information: Supplied with a carry cord.

Description	Magnification	Pk	Cat. No.
Red	4×	1	**630-1042**
Anthracite	7×	1	**630-1043**
White	10×	1	**630-1044**

VWR COLLECTION

SELECTED FOR YOU

Folding linen testers

These linen testers are widely used in the fields of industrial electronics, laboratories and photography.

- Glass lens
- Different sizes and magnifications
- Folding instruments

Colour: Black

Delivery information: 630-1090 is supplied with a battery.

Description	Magnification	Ø (mm)	Pk	Cat. No.
Folding magnifier, aluminium	6×	25	1	**630-1088**
Folding magnifier, adjustable, aluminium	6×	25	1	**630-1089**
Folding magnifier, LED, plastic	8×	22	1	**630-1090**
Folding magnifier, plastic	10×	10	1	**630-1087**

Magnifying spectacles, MaxDetail
Eschenbach

Thanks to the MaxDetail, both hands are free for demanding detail work. The push-on adjustable arms guarantee excellent fit.

- Large field of view
- Lightweight and modern design
- Individual focus adjustment with comfortable working distance: 400 mm

Weight: 49 g

Description	Magnification	Pk	Cat. No.
Magnifying spectacles, MaxDetail	2×	1	**630-1322**

VWR COLLECTION

SELECTED FOR YOU

Pocket microscope

Plastic

This pocket microscope can be used in industrial electronics and in the medical field.

- LED source
- Easy to use instrument
- Knob to adjust magnification

Colour: White

Ordering information: Two AA batteries are required but not included.

Delivery information: Supplied in a black pouch.

Magnification	W×D (mm)	Pk	Cat. No.
40/100×	50×140	1	**630-1093**

Reading magnifiers, powerlux
Eschenbach

These illuminated magnifiers have a Ceratec® anti-scratch hard coating ensuring reliability, comfort and a relaxed vision. They consistently provide bright and glare-free illumination thanks to two SMD LEDs.

- Comfortable use
- Automatic switch off after 30 minutes
- Compact design for intuitive movement on the material

Delivery information: Supplied with a protective hard foam case and three AA size batteries.

Description	Magnification	Ø (mm)	Pk	Cat. No.
Reading illuminated magnifier, cold white light (~8000 K)	5×	58	1	**630-1223**
Reading illuminated magnifier, cold white light (~8000 K)	7×	58	1	**630-2182**

Reading pocket magnifiers, mobilux
Eschenbach

Modern design, LED illumination and coated lens on both sides with Ceratec® anti-scratch coating for optimised performances.

- White light LED exchangeable via an attachable yellow filter with a life of 50 000 hours
- Easy handling: Large light switch for easy operation
- Large field of vision

Delivery information: Supplied with two AA batteries and case.

Magnification	W×D (mm)	Ø (mm)	Pk	Cat. No.
Square lens				
3,5×	75×50		1	**630-1312**
Round lens				
3,0×		60	1	**630-2179**
6×		58	1	**630-2180**
7×		35	1	**630-1313**
10×		35	1	**630-1311**
12,5×		35	1	**630-2178**

VWR COLLECTION

5 year warranty

SELECTED FOR YOU

Illuminated portable pocket microscopes

These handheld units are suitable for use in the field and in various types of laboratories.

- Adjustable light source onto the area to examine
- Adjustable focus control knob for an accurate view
- Zoom microscope with a snap-on microscope slide holder

Delivery information: Supplied with AA batteries and a vinyl carrying case.

Magnification	Pk	Cat. No.
60-100×	1	**630-1621**
30×	1	**630-1622**

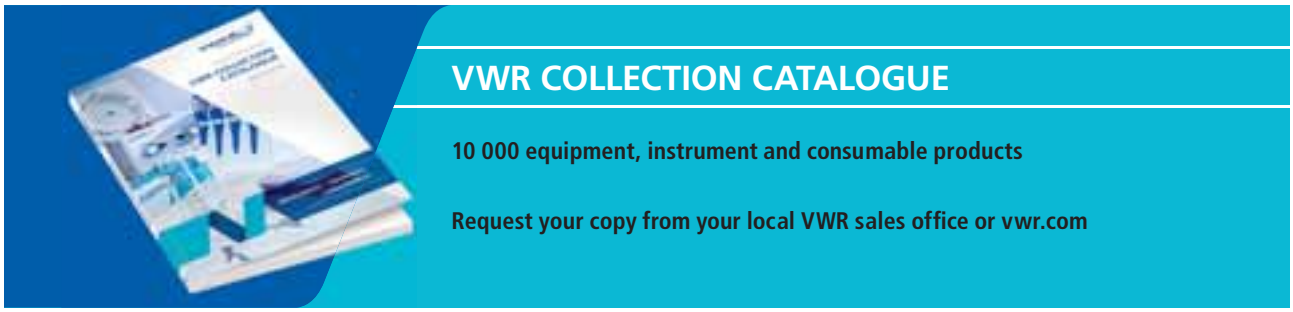
Illuminated stand magnifiers

These illuminated magnifiers provide a high magnification for a wide range of applications.

- Suitable for universal application
- Uniform illumination

Delivery information: Supplied with AA batteries.

Description	Magnification	W×D (mm)	Pk	Cat. No.
Illuminated magnifier	2×/4×	70×70	1	**630-1619**
Dual illuminated magnifier	3×/10×	44,5×44,5	1	**630-1620**



Binocular microscopes, VisiScope®, 100 series

These microscopes have been designed to fulfill all the requirements of an educational laboratory. They give students an effective introduction to the world of microscopy. The quality of the optics and mechanical reliability rank these instruments at the top of their category.

- Achromatic DIN objectives
- Interpupillary adjustment from 48 to 75 mm
- LED illumination with external power supply for low electric consumption
- Focusing mechanism with limit stop to prevent the contact between the objective and specimen

Conforms EUP 205/32/EC.

Model	BL103-POL	BL114	BL124	BL124-R	BL124-ALC	DBL124*
Type	Binocular					
Contrasting technique	Brightfield and polarisation	Brightfield				
Head	30° inclined, 360° rotating					
Eyepieces	WF 10×/18					
Nosepiece	Quadruple					
Objectives	Achromatic 4×, 10×, 40×	Achromatic 4×, 10×, 40×, 60×	Achromatic 4×, 10×, 40×, 100×			
Focusing system	Coaxial coarse and fine knobs					
Stage	Rotatable. Ø 120 mm	Mechanical. 125×116 mm with specimen holder				
Condenser	1,20 N.A. with diaphragm					
Illumination	LED				LED with automatic light control (ALC)	LED
Camera	-					3,14 megapixel
Electrical	-			R **	-	

Description	Pk	Cat. No.
Binocular microscope, BL103-POL	1	630-1802
Binocular microscope, BL114	1	630-1553
Binocular microscope, BL124	1	630-1554
Binocular microscope, BL124-R	1	630-1926
Binocular microscope, BL124-ALC	1	630-1927
Binocular microscope, DBL124	1	630-1623

Description	Magnification	Pk	Cat. No.
Spare eyepieces			
Eyepiece H5×		1	630-1624
Eyepiece WF 16×/12		1	630-1626
Eyepiece WF 10×/18		1	630-1625
Micrometer eyepiece WF 10×/18		1	630-1627
Spare objectives			
Achromatic	4×/0,10	1	630-1628
Achromatic	10×/0,25	1	630-1629
Achromatic	20×/0,40	1	630-1630
Achromatic	40×/0,65	1	630-1631
Achromatic	60×/0,85	1	630-1632
Achromatic	100×/1,25	1	630-1633
Stage			
Mechanical stage		1	630-1634
Filters			
Polarisation filter set		1	630-1635
Protection			
Dust cover		1	630-1636
Wooden box with sliding front cover, 27×27×46 mm		1	630-1809
Accessories			
Solar battery pack, SBP 10		1	630-1637
Cleaning and maintenance set, incl. lens tissue, cleaning solution, brush		1	630-2081

* Software installation requires Windows 7, 8, XP, Vista and Mac Lion 10.7 version onwards. ** Internal rechargeable battery.

Monocular microscopes, F-11 series
Motic

F-1125 LED

F-1115 LED

The F-11 series microscopes are designed for applications in education.

- LED illumination
- High quality achromatic optics
- Robust design is ideal for use by students

Delivery information: Supplied with vinyl dust cover.

Model	F1115	F1125
Type	Monocular	Monocular with dual-view head
Contrasting technique	Brightfield	
Head	45° inclined, 360° rotating	30° inclined, 360° rotating
Eyepieces	10×/18	
Nosepiece	Quadruple	
Objectives	Achromatic 4×, 10×, 40× (spring)	
Focusing system	Separated micro and macro drive	
Stage	120×110 mm with locked-on and spring clips	
Condenser	Abbe 1,25 N.A. with iris diaphragm	
Illumination	LED	

Description	Pk	Cat. No.
F1115, monocular	1	**630-0701**
F1125, monocular with dual-view head	1	**630-0137**

Description	Contrasting technique	Magnification	Pk	Cat. No.
Objectives for F11 series				
Achromatic	Brightfield	20×	1	**632-9059**
Achromatic, spring	Brightfield	60×	1	**632-9061**
Achromatic, spring and immersion oil	Brightfield	100×	1	**632-9062**

Monocular microscopes, VisiScope®, 100 series

These microscopes have been designed to fulfil all the requirements of an educational laboratory of advanced biology. They give students an effective introduction to the world of microscopy. The quality of the optics and mechanical reliability rank these instruments at the top of their category.

- Achromatic DIN objectives
- Interpupillary adjustment from 48 to 75 mm
- LED illumination with external power supply for low electric consumption
- Focusing mechanism with limit stop to prevent the contact between the objective and specimen

Conforms EUP 205/32/EC.

Model	ML103	ML103-POL	ML114	ML124	ML124-R	ML124-ALC	DML103*
Type	Monocular						
Contrasting technique	Brightfield	Brightfield and polarisation	Brightfield				
Head	30° inclined, 360° rotating						
Eyepieces	WF 10×/18						
Nosepiece	Quadruple						
Objectives	Achromatic 4×, 10×, 40×		Achromatic 4×, 10×, 40×, 60×	Achromatic 4×, 10×, 40×, 100×			Achromatic 4×, 10×, 40×
Focusing system	Coaxial coarse and fine knobs						
Stage	Plain. 125×120 mm with sample clips	Rotatable. Ø 120 mm	Mechanical. 125×116 mm with specimen holder				Plain. 125×120 mm with sample clips
Condenser	0,65 N.A. with diaphragm	1,20 N.A. with diaphragm					0,65 N.A. with diaphragm
Illumination	LED					LED with automatic light control (ALC)	LED

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Camera	-		1,3 MPx
Electrical	-	R **	-

Description	Pk	Cat. No.
Monocular microscope, ML103	1	630-1550
Monocular microscope, ML103-POL	1	630-1555
Monocular microscope, ML114	1	630-1551
Monocular microscope, ML124	1	630-1552
Monocular microscope, ML124-R	1	630-1924
Monocular microscope, ML124-ALC	1	630-1925
Monocular microscope, DML103	1	630-1556

Description	Magnification	Pk	Cat. No.
Spare eyepieces			
Eyepiece H5×		1	630-1624
Eyepiece WF 16×/12		1	630-1626
Eyepiece WF 10×/18		1	630-1625
Micrometer eyepiece WF 10×/18		1	630-1627
Spare objectives			
Achromatic	4×/0,10	1	630-1628
Achromatic	10×/0,25	1	630-1629
Achromatic	20×/0,40	1	630-1630
Achromatic	40×/0,65	1	630-1631
Achromatic	60×/0,85	1	630-1632
Achromatic	100×/1,25	1	630-1633
Stage			
Mechanical stage		1	630-1634
Filters			
Polarisation filter set		1	630-1635
Protection			
Dust cover		1	630-1636
Wooden box with sliding front cover, 27×27×46 mm		1	630-1809
Accessories			
Solar battery pack, SBP 10		1	630-1637
Cleaning and maintenance set, incl. lens tissue, cleaning solution, brush		1	630-2081

* Software installation requires Windows 7, 8, XP, Vista and Mac Lion 10.7 version onwards. ** Internal rechargeable battery.

Mono, bino and trinocular microscopes, VisiScope®, 200 series

BL 214

TL 254

A modern and ergonomic design are the primary features of this series, which also offers reliability and innovation for biological teaching.

- Objectives conform to DIN standards
- P-LED powered illumination system with adjustable intensity
- Easy to carry: Large opening behind the revolving nosepiece to be used as a handle
- Optical components treated to prevent the formation of moulds and fungi
- Increased reliability: Strict controls on materials and production processes optimised by ISO 9001:2008 quality system

Model	ML214	BL214	ML224	BL224	TL 224	BL224 PI	BL254	TL254
Type	Monocular	Binocular	Monocular	Binocular	Trinocular	Binocular		Trinocular
Contrasting technique	Brightfield							
Head	30° inclined, 360° rotating							
Eyepieces	WF 10×/18						WF 10×/20	
Nosepiece	Quadruple, reversed							
Objectives	Achromatic 4×, 10×, 40×, 60×		Achromatic 4×, 10×, 40×, 100×			IOS Planachromatic 4×, 10×, 40×, 100×	Plan achromatic 4×, 10×, 40×, 100× (oil immersion)	

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Focusing system	Coaxial coarse and fine knobs	
Stage	Double layer. 125×115 mm, 70×30 mm movement	Mechanical. 150×133 mm, X/Y movement 75×50 mm
Condenser	Abbe 1,25 N.A. with adjustable height and iris diaphragm	
Illumination	LED	

Description	Pk	Cat. No.
Monocular microscope, ML214	1	**630-1558**
Binocular microscope, BL214	1	**630-1560**
Monocular microscope, ML224	1	**630-1557**
Binocular microscope, BL224	1	**630-1559**
Trinocular microscope, TL 224	1	**630-1859**
Binocular microscope, IOS, BL224 PI	1	**630-1562**
Binocular microscope, BL254	1	**630-1928**
Trinocular microscope, TL254	1	**630-1929**

Description	Magnification	Pk	Cat. No.
Spare eyepieces			
Eyepiece H5×		1	**630-1624**
Eyepiece WF 16×/12		1	**630-1626**
Eyepiece WF 10×/18		1	**630-1625**
Micrometer eyepiece WF 10×/18		1	**630-1627**
Spare objectives			
Achromatic	4×/0,10	1	**630-1628**
Achromatic	10×/0,25	1	**630-1629**
Achromatic	20×/0,40	1	**630-1630**
Achromatic	40×/0,65	1	**630-1631**
Achromatic	60×/0,85	1	**630-1632**
Achromatic	100×/1,25	1	**630-1633**
E-plan achromatic IOS	4×	1	**630-1639**
E-plan achromatic IOS	10×	1	**630-1640**
E-plan achromatic IOS	20×	1	**630-1641**
E-plan achromatic IOS	40×	1	**630-1642**
E-plan achromatic IOS	100×	1	**630-1643**
Adapters			
CCD camera adapter 0,5× for VisiScope® 200		1	**630-1644**
Phototube adapter for APS-C sensor camera		1	**630-1645**
Filters			
Polarisation filter		1	**630-1638**
Protection			
Dust cover		1	**630-1636**
Wooden box with sliding front cover, 27×27×46 mm		1	**630-1809**
Accessories			
Solar battery pack, SBP 10		1	**630-1637**
Cleaning and maintenance set, incl. lens tissue, cleaning solution, brush		1	**630-2081**

Mono and binocular microscopes, 18 series
Motic

DM-1802

1820

1801

These brightfield microscopes are designed for use in education. The digital DM-1802 includes a built-in 3,0 megapixel digital camera complete with software for connection to a laptop or PC via USB.

- Excellent optical quality achieved through innovative design - EA objectives
- 1801/1802/1820: Wireless LED illumination with rechargeable batteries for 50 hours of continuous use
- DM-1802: For advanced teaching thanks to camera and USB interface

Delivery information: Supplied with instruction manual and vinyl dust cover.

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Model	1801	1802	1820	DM-1802
Type	Monocular		Binocular	Monocular
Contrasting technique	Brightfield			
Head	45° inclined, 360° rotating			30° inclined
Eyepieces	10×/18			
Nosepiece	Quadruple			
Objectives	Achromatic 4×, 10×, 40× (spring)			
Focusing system	Separated micro and macro drive			
Stage	Fixed with sample clips	Mechanical		
Condenser	0,65 N.A. with iris diaphragm and filter holder	Abbe 1,25 N.A. with iris diaphragm and filter holder		
Illumination	LED 3 W			Halogen 12 V/20 W
Camera	-			3,0 megapixels
Software				Images Plus 2,0 (multi-language) for PC and MAC

Description	Pk	Cat. No.
1801, monocular	1	**630-0687**
1802, monocular	1	**630-0688**
1820, binocular	1	**630-0689**
DM-1802, with built-in camera, monocular	1	**630-0552**

Description	Contrasting technique	Magnification	Pk	Cat. No.
Objectives				
Achromatic, spring, immersion oil	Brightfield	100×/1,25	1	**632-8953**

Digital binocular microscope, M10-LB
Swift by Motic

The M10-LB digital microscope is designed for applications in education. It features a built-in camera with screen and can be operated via a PC or Mac or as a stand-alone unit. Pictures can be taken with the built-in 5,0 megapixel camera, displayed on the 3" LCD and saved on an SD memory card.

- Built-in SD card slot
- Three-watt LED illumination
- Digital screen with USB output

Delivery information: Supplied with Images Plus 2.0 software and cable.

Model	M10LB
Type	Binocular
Contrasting technique	Brightfield
Head	30° inclined
Eyepieces	WF 10×/20
Nosepiece	Quadruple
Objectives	SP 4×, 10×, 40× (spring) and 100× (spring, oil immersion)
Focusing system	Coaxial coarse and fine knobs
Stage	Low-drive mechanical
Condenser	Abbe 1,25 N.A. with iris diaphragm and filter holder
Illumination	LED
Camera	5,0 megapixels
Software	Multi-language Images Plus 2,0 for PC and Mac

Description	Pk	Cat. No.
M10-LB, binocular	1	**630-1163**

Bino and trinocular microscopes, VisiScope®, 300 series

These microscopes can be used in advanced biology teaching. The series includes six models featuring achromatic, plan achromatic and infinity corrected plan achromatic objectives.

- P-LED source: Brightness is fully adjustable
- Abbe condenser with iris diaphragm and graduated NA scale
- Model TL384-M (630-1939): Brightfield for metallurgical analysis
- Interpupillary distance control: 55 - 75 mm with dioptric compensation
- Modern and ergonomic stand, adjustable focusing tension and limit stop

Model	BL384-P	TL384-P	BL384-PI	TL384-PI	BL384-PH	TL384-PH	TL384-POL	TL384-M
Type	Binocular	Trinocular	Binocular	Trinocular	Binocular	Trinocular		
Contrasting technique	Brightfield				Brightfield and phase contrast		Brightfield and polarisation	Brightfield
Head	30° inclined, 360° rotating							
Eyepieces	WF 10×/20							
Nosepiece	Quintuple, reversed							
Objectives	Plan achromatic 4×, Ph 10×, 40×, 100× (oil immersion)		IOS plan-achromatic 4x, 10x, 40x, 100x (immersion oil)		Plan-achromatic 4x, 10x, 40xPh, 100xPh (immersion oil)		IOS plan-achromatic (strain-free) 4x, 10x, 40x, 60x	IOS plan-achromatic 4x, 10x, 20x, 50x (no cover slide)
Focusing system	Coaxial coarse and fine knobs							
Stage	Mechanical, 160×140 mm		Mechanical, 216×150 mm, X/Y movement 78×54 mm					
Condenser	Abbe N.A. 1,25							
Illumination	P-LED							

Description	Pk	Cat. No.
Binocular microscope, BL384-P	1	**630-1930**
Trinocular microscope, TL384-P	1	**630-1931**
Binocular microscope, BL384-PI	1	**630-1932**
Trinocular microscope, TL384-PI	1	**630-1933**
Binocular microscope, BL384-PH	1	**630-1934**
Trinocular microscope, TL384-PH	1	**630-1935**
Trinocular microscope, TL384-POL	1	**630-1936**
Trinocular microscope, TL384-M	1	**630-1939**

Description	Contrasting technique	Magnification	Pk	Cat. No.
Objectives for VisiScope® 300				
Plan achromatic	Brightfield	20×/0,40	1	**630-1659**
Plan achromatic	Brightfield	40×/0,65	1	**630-1660**
Plan achromatic	Brightfield	60×/0,80	1	**630-1661**
Plan achromatic	Brightfield	100×/1,25	1	**630-1662**
IOS plan achromatic	Brightfield	4×/0,10	1	**630-1663**
IOS plan achromatic	Brightfield	10×/0,25	1	**630-1664**
IOS plan achromatic	Brightfield	20×/0,40	1	**630-1665**
IOS plan achromatic	Brightfield	40×/0,65	1	**630-1666**
IOS plan achromatic	Brightfield	100×/1,25	1	**630-1667**
Plan achromatic with iris diaphragm	Brightfield	100×/1,25	1	**630-1668**
Plan achromatic	Phase contrast	10×/0,25	1	**630-1669**
Plan achromatic	Phase contrast	40×/0,65	1	**630-1670**
Plan achromatic	Phase contrast	100×/1,25	1	**630-1671**
IOS plan achromatic	Phase contrast	10×/0,25	1	**630-1672**
IOS plan achromatic	Phase contrast	20×/0,40	1	**630-1673**
IOS plan achromatic	Phase contrast	40×/0,65	1	**630-1674**
IOS plan achromatic	Phase contrast	100×/1,25	1	**630-1675**
Filters				
Blue filter, Ø: 32 mm			1	**630-1690**
Frosted glass filter, Ø: 32 mm			1	**630-1693**
Polarisation filter			1	**630-1678**
Adapters				
Phototube adapter for APS-C sensor camera			1	**630-1645**
Protection				
Wooden case with a lock, 27×34×46 mm			1	**630-1810**

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Description	Contrasting technique	Magnification	Pk	Cat. No.
Accessories				
Rotating table for polarising set			1	**630-1679**
Cleaning and maintenance set, incl. lens tissue, cleaning solution, brush			1	**630-2081**
Phase contrast set with plan-achromatic objectives Ph 10×, 40×, 100× and DF condenser for dry objectives			1	**630-1676**

Bino and trinocular microscopes, VisiScope®, 500 series

These microscopes have been designed to deliver excellent performance in routine use. Two different optical systems are available: InfiniFix models, which use a true infinity corrected optical path, implemented with standard 160 mm objectives and IOS (Infinity Optical System i.e. Infinity Corrected Objectives).

- Optical system and objectives: S-Plan and Plan 160 mm objectives on InfiniFix models and Plan Infinity corrected objectives on all IOS models
- Modern design, accessible and ergonomic controls for hours of use without eye fatigue
- P-LED illuminator, which allows light-intensive applications, such as phase contrast or darkfield, without the need of complex active cooling whilst keeping the electrical consumption at lowest levels
- Two swing out condensers available for better performances: N.A. 0,10/1,20 with high magnifications; N.A. 0,22/0,90 with low magnifications (pathology)
- Double layer stage for two specimen slides (175×145 mm, X/Y range: 76×51 mm)

Model	BL524-P	BL524-PI	BL524-PH	TL524-P	TL524-PI	TL524-PH
Type	Binocular			Trinocular		
Contrasting technique	Brightfield		Brightfield and phase contrast	Brightfield		Brightfield and phase contrast
Head	30° inclined, 360° rotating	35° inclined, 360° rotating	30° inclined, 360° rotating	35° inclined, 360° rotating		30° inclined, 360° rotating
Eyepieces	WF 10×/22					
Nosepiece	Quintuple, reversed					
Objectives	Plan achromatic 4×, 10×, 40×, 100× (oil immersion)	IOS plan-achromatic 4x, 10x, 40x, 100x (immersion oil)	Plan achromatic Ph 10×, 20×, 40×, 100× (oil immersion)	Plan achromatic 4×, 10×, 40×, 100× (oil immersion)	IOS plan-achromatic 4x, 10x, 40x, 100x (immersion oil)	Plan achromatic Ph 10×, 20×, 40×, 100× (oil immersion)
Focusing system	Coaxial coarse and fine knobs					
Stage	Two-layer mechanical sliding stage, 175×145 mm					
Condenser	Swing out N.A. 1,20	Swing out N.A. 0,90	Abbe N.A. 1,25 with disc for phase contrast	Swing out N.A. 1,20	Swing out N.A. 0,90	Abbe N.A. 1,25 with centering system and disc condenser for phase contrast
Illumination	P-LED					LED

Description	Pk	Cat. No.
Binocular microscope, InfiniFix, BL524-P	1	**630-1569**
Binocular microscope, IOS, BL524-PI	1	**630-1571**
Binocular microscope, InfiniFix, BL524-PH	1	**630-1573**
Trinocular microscope, InfiniFix, TL524-P	1	**630-1570**
Trinocular microscope, IOS, TL524-PI	1	**630-1572**
Trinocular microscope, InfiniFix, TL524-PH	1	**630-1574**

Description	Contrasting technique	Magnification	Pk	Cat. No.
Eyepieces				
Eyepiece EWF 10×/22			1	**630-1695**
Eyepiece WF 15×/16			1	**630-1696**
Micrometer eyepiece WF 10×/22			1	**630-1697**
Eyecups (one pair)			1	**630-1756**
Objectives for VisiScope® 500				
Plan achromatic	Brightfield	4×/0,10	1	**630-1704**
Plan achromatic	Brightfield	10×/0,25	1	**630-1705**
Plan achromatic	Brightfield	20×/0,25	1	**630-1706**
Plan achromatic	Brightfield	40×/0,65	1	**630-1707**
Plan achromatic	Brightfield	60×/0,80	1	**630-1709**
Plan achromatic	Brightfield	100×/1,25	1	**630-1721**
IOS plan achromatic	Brightfield	4×/0,10	1	**630-1722**
IOS plan achromatic	Brightfield	10×/0,25	1	**630-1723**
IOS plan achromatic	Brightfield	20×/0,40	1	**630-1727**
IOS plan achromatic	Brightfield	40×/0,65	1	**630-1728**
IOS plan achromatic	Brightfield	60×/0,80	1	**630-1729**
IOS plan achromatic	Brightfield	100×/1,25	1	**630-1730**
Plan achromatic	Phase contrast	10×/0,25	1	**630-1731**
Plan achromatic	Phase contrast	20×/0,40	1	**630-1732**
Plan achromatic	Phase contrast	40×/0,65	1	**630-1733**

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Description	Contrasting technique	Magnification	Pk	Cat. No.
Objectives for VisiScope® 500				
Plan achromatic	Phase contrast	100×/1,25	1	**630-1734**
IOS plan achromatic	Phase contrast	10×/0,25	1	**630-1735**
IOS plan achromatic	Phase contrast	20×/0,40	1	**630-1736**
IOS plan achromatic	Phase contrast	40×/0,65	1	**630-1737**
IOS plan achromatic	Phase contrast	100×/1,25	1	**630-1738**
Filters				
Blue filter, Ø: 32 mm			1	**630-1690**
Yellow filter, Ø: 32 mm			1	**630-1692**
Yellow filter, Ø: 45 mm			1	**630-1754**
Blue filter, Ø: 45 mm			1	**630-1752**
Green filter, Ø: 45 mm			1	**630-1753**
Frosted glass filter, Ø: 45 mm			1	**630-1755**
Polarisation filter			1	**630-1739**
Stage				
Rotating table for polarising filters set			1	**630-1740**
Adapters				
Phototube adapter for digital camera			1	**630-1747**
Phototube adapter for full frame sensor SLR camera			1	**630-1646**
Phototube adapter for SLR camera for VisiScope® 500			1	**630-1746**
CCD camera adapter for 1/3" sensor			1	**630-1748**
CCD camera adapter for 1/2" sensor			1	**630-1749**
Halogen bulbs				
Halogen bulb			1	**630-1751**
Protection				
Wooden case with a lock, 27×34×46 mm			1	**630-1810**
Accessories				
Darkfield condenser			1	**630-1741**
Complete phase contrast set with plan achromatic objectives 10×, 20×, 40×, 100× (immersion oil)			1	**630-1742**
Complete phase contrast set with plan achromatic IOS objectives 10×, 20×, 40×, 100× (immersion oil)			1	**630-1743**
Phase contrast set and single plan achromatic objective 40×			1	**630-1744**
Set phase contrast and single IOS plan achromatic objective 40×			1	**630-1745**

Trinocular microscopes, VisiScope®, 800 series

TL824-BF

TL824-PH

These laboratory microscopes are specifically designed for research applications.

- Dye-cast frame
- High stability and ergonomics
- For transmitted light observation
- Interpupillary adjustment: 55 - 75 mm
- Plan achromatic IOS (Infinity Optical System) objectives
- High intensity LED illumination

Ordering information: A full range of accessories is available for the 800 series. Please contact your local VWR office for details.

Model	TL824-BF	TL824-PH
Type	Trinocular	
Contrasting technique	Brightfield	Phase contrast
Head	30° inclined, 360° rotating	
Eyepieces	WF 10×/22	
Nosepiece	Quintuple	
Objectives	IOS plan achromatic 4x, 10x, 40x, 60x and 100x	IOS plan achromatic 10×Ph, 20×Ph, 40×Ph and 100×Ph

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Focusing system	Coaxial coarse and fine knobs
Stage	Mechanical belt drive 175×145, X/Y movement: 76×52 mm
Illumination	LED

Description	Pk	Cat. No.
Trinocular microscope, TL824-BF	1	**630-1940**
Trinocular microscope, TL824-PH	1	**630-1941**

Description	Pk	Cat. No.
Eyepieces		
Eyecups (one pair)	1	**630-1756**
Adapters		
Phototube adapter for digital camera	1	**630-1747**
CCD camera adapter for 1/3" sensor	1	**630-1748**
CCD camera adapter for 1/2" sensor	1	**630-1749**
Phototube adapter for APS-C sensor camera	1	**630-1645**

Mono, bino and trinocular microscopes, B1 series

Motic

The B1 series is available with many accessories to suit most microscopy requirements in academic, veterinarian and simple lab tasks.

- Light split 50:50 (trinocular models)
- Interpupillary distance adjustment between 55 and 75 mm
- ASC (Achromatic Super Contrast) for higher optical quality with special treatment of the lenses to improve colours and contrasts

Delivery information: Supplied with immersion oil and a vinyl dust cover.

Model	B1-211 A	B1-220 A	B1-220 ASC	B1-223A	B1-223 ASC
Type	Monocular	Binocular		Trinocular	
Contrasting technique	Brightfield				
Head	45° inclined, 360° rotating			30° inclined, 360° rotating	
Eyepieces	WF 10×/18		WF 10×/20	WF 10×/18	WF 10×/20
Nosepiece	Quadruple				
Objectives	Plan achromatic 4×, achromatic 10×, 40× (spring), 100× (spring, immersion oil)			ASC 4×, 10×, 40× (spring) and 100× (spring, oil immersion)	
Focusing system	Coaxial coarse and fine knobs				
Condenser	Abbe 1,25 N.A. with iris diaphragm and filter holder				
Illumination	Halogen 12 V/20 W				
Stage	140×135 mm, movement 78×50 mm				

Description	Pk	Cat. No.
B1-211 A, monocular	1	**630-0114**
B1-220 A, binocular	1	**630-3006**
B1-220 ASC, binocular	1	**630-0115**
B1-223 A, trinocular	1	**630-0117**
B1-223 ASC, trinocular	1	**630-0116**

Description	Pk	Cat. No.
Bulbs		
Halogen bulb	1	**632-8963**
Stages		
Rotating stage	1	**630-1166**
Camera adapters		
C-mount adapter 0,5× for 1/3" chip sensors	1	**630-0092**
C-mount adapter, 0,6× for 1/2" chip sensors	1	**630-2047**
Accessories for B1		
Mirror	1	**632-9011**
Analyser and polariser	1	**632-9001**

Bino and trinocular microscopes, BA 210 and BA 310 series

Motic

Trinocular version

Digital version

These microscopes can be used in environmental, food, healthcare (dentists, veterinaries), research and educational (universities, colleges) applications and can be equipped with phase contrast, darkfield and polarising accessories. The BA 310 features Köhler illumination with field diaphragm and a larger base. The digital models are supplied with a built-in 3,0 megapixel camera with data transfer of 480 MB/s USB 2.0, a resolution of 2048×1536, white balance manually adjustable. Recommended operating system is Windows® XP, Vista or 7, or Mac: OSX, USB 2.0.

- Multi layer coated lenses for improved contrast even with weak staining
- Phase contrast available and darkfield is possible with a separate slider (210 series) or a turret condenser (310 series)
- Stage resistant to abrasion and chemicals, X/Y movement

Delivery information: Supplied with a blue filter, an allen key, immersion oil and a vinyl dust cover.

Model	BA 210		BA 210 LED		BA 210 Digital	BA 310		BA 310 LED	
Type	Binocular	Trinocular	Binocular	Trinocular	Binocular		Trinocular	Binocular	Trinocular
Contrasting technique	Brightfield								
Head	Siedentopf, 30° inclined, 360° rotating	Siedentopf, 30° inclined, 360° rotating, 20:80 light split	Siedentopf, 30° inclined, 360° rotating	Siedentopf, 30° inclined, 360° rotating, 20:80 light split	Siedentopf, 30° inclined	Siedentopf, 30° inclined, 360° rotating	Siedentopf, 30° inclined, 360° rotating, 20:80 light split	Siedentopf, 30° inclined, 360° rotating	Siedentopf, 30° inclined, 360° rotating, 20:80 light split
Eyepieces	WF 10×/20 with diopter adjustment and rubber eyecup								
Nosepiece	Quadruple					Quintuple			
Objectives	Infinity, plan achromatic 4×, 10×, 40× (spring) 100× (spring, oil immersion)								
Focusing system	Coaxial coarse and fine knobs								
Stage	140×135 mm surface, 76×50 mm movement					175×140 mm, 76×50 mm movement			
Condenser	Abbe 1,25 N.A.								
Illumination	Halogen 6 V/30 W		LED		Halogen 6 V/30 W	Halogen 6 V/30 W, Köhler		LED, Köhler	
Camera	-				3,0 MP	-			

Description	Pk	Cat. No.
BA 210		
BA 210, binocular	1	**630-3044**
BA 210, trinocular	1	**630-3045**
BA 210 LED, binocular	1	**630-1141**
BA 210 LED, trinocular	1	**630-1142**
BA 210 Digital, binocular	1	**630-1143**
BA 310		
BA 310, binocular	1	**630-3046**
BA 310, trinocular	1	**630-3047**
BA 310 LED, binocular	1	**630-1144**
BA 310 LED, trinocular	1	**630-1145**

Description	Contrasting technique	Magnification	Pk	Cat. No.
Phase contrast objectives				
EC-H PL	Phase contrast	10×/0,25	1	**630-1389**
EC-H PL	Phase contrast	20×/0,4	1	**630-1390**
EC-H PL, spring	Phase contrast	40×/0,65	1	**630-1391**
EC-H PL, spring	Phase contrast	100×/1,25	1	**630-1388**
Eyepieces				
Eyepiece WF 15×/16			1	**630-1456**
Bulbs				
Quartz halogen lamp			1	**630-1255**
LED unit			1	**630-1944**
Camera adapters				
C-mount adapter 0,65× for 2/3" chip sensors			1	**630-1945**
C-mount adapter, 0,5× for 1/2" and 1/3" chip sensors			1	**630-1503**

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Description	Contrasting technique	Magnification	Pk	Cat. No.
Accessories for BA 210 and BA 310				
Centring telescope for phase contrast			1	**630-1183**
Analyser only			1	**630-1174**
Mirror set for BA 210			1	**630-1274**
Phase contrast five-position BF, DF, PH1, PH2, PH3 turret condenser, for BA 310 only			1	**630-1458**

Bino and trinocular microscopes, BA 210 and BA 310 Elite
Motic

The BA 210 Elite allows for high performance in the educational environments in life sciences and medical applications. The BA 310 Elite is designed for routine work in the demanding applications of universities, clinics and any other life science or medical application requiring quality optical performance. This model's full Köhler configuration provides maximum illumination quality.

Delivery information: Supplied with a blue filter, 5 ml of immersion oil, a power cord, cord hanger, dust cover, allen key, and a spare fuse.

Model	BA 210-E		BA 310-E	
Type	Binocular	Trinocular	Binocular	Trinocular
Contrasting technique	Brightfield			
Head	30° inclined, 360° rotating			
Eyepieces	WF 10×/20 with diopter adjustment ±5			
Nosepiece	Quadruple, reversed		Quintuple, reversed	
Objectives	Plan achromatic 4×, 10×, 40×, 100×			
Focusing system	Coaxial coarse and fine knobs			
Stage	Mechanical with tension adjustment and sample holder, 150×150 mm, movement 80×30 mm		Mechanical with tension adjustment and sample holder, 180×170 mm, movement 80×55 mm	
Condenser	Abbe N.A. 0,90/1,25 with iris diaphragm and slider slot			
Illumination	Halogen 6 V/30 W interchangeable With LED module			

Description	Pk	Cat. No.
Binocular microscope, BA 210-E	1	**630-1827**
Trinocular microscope, BA 210-E	1	**630-1824**
Binocular microscope, BA 310-E	1	**630-1825**
Trinocular microscope, BA 310-E	1	**630-1826**

Description	Pk	Cat. No.
Camera adapters		
C-mount adapter 0,65× for 2/3" chip sensors	1	**630-1945**
C-mount adapter, 0,5× for 1/2" and 1/3" chip sensors	1	**630-1503**
Accessories for BA210-E and BA310-E		
LED module 6V/3W 4500 K ±300 K	1	**630-2138**
LED module 6V/3W 6000 K ±300 K	1	**630-2140**
Epi-LED fluorescence attachment with standard FITC filter cube and 470 nm LED module	1	**630-1828**
EPI-LED fluorescence attachment with standard Auramine O filter cube and 455 nm LED module for the detection of malaria/tuberculosis (used with non cover glass objectives)	1	**630-1829**
EPI-LED fluorescence attachment with standard MB filter cube and 470 nm LED module	1	**630-1830**
Battery power supply for Epi-LED fluorescence attachments 9000mAH×6 batteries	1	**630-2137**

Binocular microscope, DMWB1-223ASC
Motic

This sturdy, professional digital microscope is designed for applications in research and quality control.

- CCD camera
- Digital and video outputs
- Cable and software for connection to a computer, a TV and a video projector at the same time

Delivery information: Supplied with instruction manual, blue, green, yellow filters, immersion oil and dust cover.

Model	DMW-B1 223ASC
Type	Binocular
Contrasting technique	Brightfield
Head	30° inclined
Eyepieces	WF 10×/20
Nosepiece	Quadruple
Objectives	ASC 4×, 10×, 40× (spring) and 100× (spring, oil immersion)
Focusing system	Coaxial coarse and fine knobs
Stage	76×50 mm
Condenser	Abbe 1,25 N.A. with iris diaphragm and filter holder
Illumination	Halogen 12V/20W
Camera	High resolution 1/3" CCD camera, 720×576 pixels; analogue output 550 TV lines
Software	Multi-language Images Plus 2.0 for PC and Mac

Description	Pk	Cat. No.
DMWB1-223ASC, binocular	1	**630-3002**

Bino and trinocular polarising microscopes, BA310-POL
Motic

The BA 310 POL microscope offers higher optical performance and flexibility in system expansion that can be applied to thin section petrography, mineralogy, industrial and medical applications.

- Polariser mounted under the condenser holder rotates 360° with click stop 90°
- Highly stable and robust symmetrical pyramid design and T-shaped base
- Anti-fungal chemical agents sealed inside objectives, eyepieces and observation tubes
- Strain-free optical components

Delivery information: Supplied with instruction manual, hexagonal Allen key, immersion oil and vinyl dust cover.

Model	BA 310 POL	
Type	Binocular	Trinocular
Contrasting technique	Brightfield and polarisation	
Head	30° inclined	
Eyepieces	WF 10×/20 with diopter	
Nosepiece	Quadruple, reversed	
Objectives	Achromatic 4×, 10×, 40×, 60×	
Focusing system	Coaxial coarse and fine knobs	
Stage	360° circular rotating stage	
Condenser	Abbe N.A. 0,90/1,25 with strain-free iris diaphragm	
Illumination	Halogen 6 V/30 W	

Description	Pk	Cat. No.
Binocular microscope, BA 310 POL	1	**630-1822**
Trinocular microscope, BA 310 POL	1	**630-1823**

Description	Pk	Cat. No.
Bulbs		
Quartz halogen lamp	1	**630-1255**
Camera adapters		
C-mount adapter 0,65× for 2/3" chip sensors	1	**630-1945**
C-mount adapter, 0,5× for 1/2" and 1/3" chip sensors	1	**630-1503**

Binocular microscope kit, E100

This biological microscope from Nikon is suitable for education and routine laboratory applications. It is specifically designed for veterinary applications and observations of prepared slides.

- Higher optical performance: Clear and sharp images at every magnification
- Modern design with a very small footprint for minimum storage space
- High-intensity LED* eco-illumination system (IR-free) virtually eliminating eyestrain
- Mechanical stage, two 10×/20 eyepieces, vinyl cover, 8 cc immersion oil and UK power cord

Note: Not available for sale in Republic of Ireland or Northern Ireland.

Model	E100
Type	Binocular
Contrasting technique	Brightfield
Head	360° rotating
Nosepiece	Quadruple
Objectives	Plan achromatic 4×, 10×, 40×, 100× (oil immersion)
Focusing system	Coaxial coarse and fine knobs
Stage	Mechanical with specimen holder, X/Y movement 76x40 mm
Condenser	Abbe N.A. 1.25
Illumination	3W LED

Description	Pk	Cat. No.
Binocular microscope, E100	1	**630-2502**

* Halogen version also available, please contact your local VWR office for details.

Bino and trinocular microscope kits, E200 series

These E200 kits from Nikon are high quality biological microscopes for routine laboratory use or educational purposes. They are dedicated to applications in European Quality Assurance (EQA) providing assessment and certification to ISO9001, ISO14001 and OHSAS18001 management systems, pathology, cytology, observation of prepared slides and veterinary.

- LED Eco-illumination for crisp and clear images and a noticeably enhanced view
- CFI60 infinity optical sytem and high numerical aperture for research applications
- Mechanical stage, two 10×/20 eyepieces, vinyl cover, 8 cc immersion oil and UK power cord

Ordering information: For details of other accessories, cameras or alternative systems, please contact your local VWR office.

PH models require a centering telescope.

Note: Not available for sale in Republic of Ireland or Northern Ireland.

Model	E200 BF		E200 PH	
Type	Binocular	Trinocular	Binocular	Trinocular
Contrasting technique	Brightfield		Phase contrast	
Head	30° inclined, 360° rotating			
Nosepiece	Quadruple, reversed			
Objectives	E plan achromatic 4×, 10×, 40×, 100× (immersion oil)		DL achromatic 10×, 20×, 40×, 100× (immersion oil)	
Focusing system	Coaxial coarse and fine knobs			
Stage	216×150 mm, X/Y movement of 78×54 mm			
Condenser	Abbe N.A. 1,25		Five-position phase contrast turret (BF, Ph1, Ph2, Ph3, DF and closed)	
Illumination	LED			

Description	Pk	Cat. No.
Binocular microscope, E200 BF	1	**630-2441**
Trinocular microscope, E200 BF	1	**630-2444**
Binocular microscope, E200 PH	1	**630-2442**
Trinocular microscope, E200 PH	1	**630-2443**

Description	Pk	Cat. No.
Accessories		
Centering telescope C-CT with UW adapter for PH models	1	**630-2447**
C-mount adapter, 1×	1	**630-2458**
C-mount adapter, 0,7×	1	**630-2459**

Bino and trinocular microscope kits, Ci-L series

These upright research microscope kits from Nikon feature superior optical performances to meet the demands of clinical laboratory specialists and researchers. The ECLIPSE Ci series provides comfortable posture during observation and simple set-up, such as magnification switching, light intensity reproduction and image capturing. With a small footprint, the Ci series delivers compact and space-saving observation conditions. The highly-evolved Ci microscopes enable routine analysis with more comfort and greater flexibility than ever before.

The ECLIPSE Ci is eco friendly with high intensity, long-life and power saving illumination. The ergonomic design is flexible and adjustable to suit the user's natural posture with the versatility to observe a wide range of specimens. The ECLIPSE Ci-L offers a bright field of view, high durability, comfortable posture for prolonged observation, simple motorised operation (option) and various illumination techniques that you need for clinical and laboratory microscopy. The high-intensity Eco-illumination and accessories enable you to perform phase contrast, darkfield and simple polarising microscopy. By combining a collimator lens, fly-eye optics and LED illumination, bright and uniform images up to the periphery can be obtained even at high magnification. The LED illuminator offers low heat generation and provides the same colour temperature in every magnification (patent pending).

All three binocular versions feature an ergonomic eyepiece tube which features tilt and reach adjustment for ultimate ergonomic working. The trinocular kits include a fixed angle trinocular eyepiece tube, ready for immediate attachment of a C-mount and microscope camera. Please contact VWR to discuss your requirements. All six kits feature a sextuple nosepiece with analyser slot (to allow simple polarisation), two 10x widefield eyepieces, a hard coated stage with low X/Y controls, vinyl cover and a UK power cord. The **Brightfield** kits feature 4×, 10×, 40× and 100× (immersion oil) plan achromatic objectives with an achromat swingout condenser. The **Phase** kits include 10×, 20×, 40× and 100× (immersion oil) plan achromatic phase contrast objectives with a turret condenser with brightfield, phase (Ph1, Ph2 and Ph3) and darkfield positions (phase contrast centering telescope is required but not included). The **Fluo** kits include 4×, 10×, 20×, 40× and 100× (immersion oil) plan Fluor objectives, an achromat swingout condenser and a six-position epi-fluorescence attachment – just add filter blocks and an illumination system of your choice.

- High intensity, uniform six-watt LED illumination (Eco-illumination) for a long life of 60 000 hours
- Binocular versions include ergonomic eyepiece tube with tilt and reach adjustment ***
- Epi-fluorescent attachment with six filter positions (Fluo versions only)

Note: Apart from these kits, there are many other objectives and accessories (cameras, filter blocks, C-mounts) available. If you wish to discuss these options, please contact your local VWR sales office.

Note: Not available for sale in Republic of Ireland or Northern Ireland.

Model	Ci-L BF	Ci-L PH *	Ci-L FL **	Ci-L BF	Ci-L PH *	Ci-L FL **
Type	Binocular			Trinocular		
Contrasting technique	Brightfield	Brightfield and phase contrast	Brightfield and fluorescence	Brightfield	Brightfield and phase contrast	Brightfield and fluorescence
Eyepieces	WF 10×/22					
Nosepiece	Sextuple, reversed with analyser slot					
Focusing system	Coaxial coarse and fine knobs					
Illumination	High luminescent white LED (6 W)					

Description	Pk	Cat. No.
Binocular microscope kit, Ci-L BF	1	**630-2496**
Binocular microscope kit, Ci-L PH	1	**630-2498**
Binocular microscope kit, Ci-L FL	1	**630-2497**
Trinocular microscope kit, Ci-L BF	1	**630-2499**
Trinocular microscope kit, Ci-L PH	1	**630-2501**
Trinocular microscope kit, Ci-L FL	1	**630-2500**

Description	Pk	Cat. No.
Filter blocks for Ci-L Fluo models		
DAPI/PE	1	**630-2449**
FITC/GFP	1	**630-2451**
GFP-Bandpass	1	**630-2452**
TRITC/Rhodamine	1	**630-2453**
Texas red	1	**630-2454**
Accessories		
Centering telescope C-CT with UW adapter for PH models	1	**630-2447**
DSC port for ergonomic binocular tube incl. 0,7× C-mount	1	**630-2523**
D-DA simple analyser	1	**630-2524**
D-DP DIC rotatable polariser, HT	1	**630-2525**
C-mount adapter, 1×	1	**630-2458**
C-mount adapter, 0,7×	1	**630-2459**

* Requires centering telescope. ** Requires but does not include, epi-illumination light source or filter blocks (see above). VWR recommends CoolLED light sources. *** The binocular kits accept a camera with a DSC port. Equipped with a DSC port (which includes a 0,7× C-mount), this would create a more ergonomic microscope than the trinocular version.

Bino and trinocular inverted microscopes, AE 2000

Motic

The AE 2000 microscopes are designed for professional observation and inspection e.g. routine live cell applications, in both educational and high grade professional applications. The objectives Ph 10×, Ph 20× and optional Ph 40× use the same phase ring - no need to change the slider position.

- Siedentopf type head: 45° inclined, 360° swiveling
- Automatic turn off after 15 minutes of non use
- Versatile illumination: Halogen 6 V/30 W or LED
- Interpupillary distance from 48 to 75 mm
- Working distance of 72 mm or 184 mm when removing the condenser

Objectives compliant with RoHs, lead-free.

Delivery information: Phase contrast is available as an option. LED modules to be purchased separately.

Model	AE 2000	
Type	Binocular	Trinocular
Contrasting technique	Brightfield and phase contrast	
Head	45° inclined, 360° rotating	
Eyepieces	WF 10×/20 with diopter	
Nosepiece	Quadruple	
Objectives	Plan achromatic 4×, 40×, Ph 10×, Ph 20×	
Stage	200×239 mm, glass and metal stage inserts	
Condenser	0,30 N.A.	
Illumination	Halogen 6 V/30 W interchangeable. LED module available	

Description	Pk	Cat. No.
AE 2000, binocular	1	630-1316
AE 2000, trinocular	1	630-1317

Description	Contrasting technique	Magnification	Pk	Cat. No.
Eyepieces				
Eyepiece WF 15×/16			1	630-1456
CCIS objectives				
Plan achromatic. WD: 12,6 mm	Brightfield	4×/0,1	1	630-1371
Plan achromatic. WD: 16,8 mm	Brightfield	10×/0,25	1	630-1369
Plan achromatic. WD: 4,7 mm	Brightfield	20×/0,3	1	630-1367
Plan achromatic. WD: 3,0 mm	Brightfield	40×/0,5	1	630-1368
Plan achromatic. WD: 12,6 mm	Phase contrast	4×/0,1	1	630-1370
Plan achromatic. WD: 4,1 mm	Phase contrast	10×/0,25	1	630-1364
Plan achromatic. WD: 4,7 mm	Phase contrast	20×/0,3	1	630-1366
Plan achromatic. WD: 3,0 mm	Phase contrast	40×/0,5	1	630-1501
Bulbs				
LED module, 4500 K ±300 K			1	630-1320
LED module, 6000 K ±300 K			1	630-1319
Filters				
Ground glass filter, 45 mm			1	630-1383
Neutral density filter, 45 mm			1	630-1386
Stages				
Auxiliary stages (2)			1	630-1376
Attachable mechanical stage with well plate holder (128×86 mm)			1	630-1500
Glass stage insert			1	630-1377
Metal stage insert			1	630-1387
Holder for 35 mm Petri dishes			1	630-1373
Holder for 54 mm Petri dishes			1	630-1374
Holder for 65 mm Petri dishes			1	630-1372
Camera adapters				
C-mount adapter 0,65× for 2/3" chip sensors			1	630-1945
C-mount adapter, 0,5× for 1/2" and 1/3" chip sensors			1	630-1503
C-mount adapter, 1,0×			1	630-1502
Accessories for AE 2000				
Phase ring Ph0			1	630-1380
Phase ring Ph1			1	630-1381
Phase slider, three positions			1	630-1385
Condenser 0,30 N.A. WD: 72 mm			1	630-1379
Condenser 0,40 N.A. WD: 53 mm			1	630-1378

Bino and trinocular inverted microscopes, AE31E

Motic

The AE31E inverted microscopes have been designed with an extended focus on practical aspects. They work with LWD plan achromatic objectives.

- Automatic on/off setting via infrared sensor
- Light memory function that recalls the last intensity when changing objective position
- Phase objectives (included) as standard 10×, 20×, 40× work all three with the same Ph ring Ph1
- Halogen light is interchangeable with an LED module (to be purchased separately, only for the 30 W versions)
- Adjustable interpupillar distance from 48 to 75 mm
- 100 W halogen version available for maximum brightness

Model	AE31E 30W		AE31E 100W	
Type	Binocular	Trinocular	Binocular	Trinocular
Head	Siedentopf, 45° inclined			
Eyepieces	WF 10×/22 with diopter adjustment and rubber eyecup			
Nosepiece	Quintuple, sideward			
Objectives	4×, Ph 10×, Ph LWD 20×, Ph LWD 40×			
Focusing system	Coaxial coarse and fine knobs			
Stage	Hard coated with metal and glass stage inserts			
Condenser	ELWD N.A. 0,30 (WD: 72 mm) with diaphragm			
Illumination	Köhler quartz halogen 6 V /30 W		Köhler quartz halogen 6 V /100 W	

Description	Pk	Cat. No.
Binocular microscope, AE31E 30W	1	**630-2518**
Trinocular microscope, AE31E 30W	1	**630-2519**
Binocular microscope, AE31E 100W	1	**630-2520**
Trinocular microscope, AE31E 100W	1	**630-2521**

Description	Contrasting technique	Magnification	Pk	Cat. No.
CCIS objectives				
Plan achromatic. WD: 16,8 mm	Brightfield	10×/0,25	1	**630-1369**
Plan achromatic. WD: 4,7 mm	Brightfield	20×/0,3	1	**630-1367**
Plan achromatic. WD: 3,0 mm	Brightfield	40×/0,5	1	**630-1368**
Plan achromatic. WD: 12,6 mm	Phase contrast	4×/0,1	1	**630-1370**
Bulbs				
Quartz halogen lamp			1	**630-1255**
LED module, 4500 K ±300 K			1	**630-1320**
LED module, 6000 K ±300 K			1	**630-1319**
Stages				
Attachable mechanical stage with well plate holder (128×86 mm)			1	**630-1500**
Holder for 35 mm Petri dishes			1	**630-1373**
Holder for 54 mm Petri dishes			1	**630-1374**
Holder for 65 mm Petri dishes			1	**630-1372**
Camera adapters				
C-mount adapter 0,65× for 2/3" chip sensors			1	**630-1945**
C-mount adapter, 0,5× for 1/2" and 1/3" chip sensors			1	**630-1503**

Upgrade options such as fluorescence are available on request. Please contact your local VWR sales office.

Bino and trinocular inverted microscopes, Primo Vert

Zeiss

Primo Vert is designed for routine and cutting-edge research laboratories, which require compact and reliable microscopes for checking cells quickly and efficiently. Main applications include sterility checks, cell checks before protein, DNA or RNA preparation, post-donation screenings in pharmacology, cell types, cell lines in oncology, growing of cells to produce artificial tissues or organs, and documentation.

- Easy to use: Automatic On/Off function, universal phase contrast
- Long-term mechanical and optical stability
- Attractive industrial design

In addition, the Primo Vert Monitor is available on request. Features include:

- Multiple user observation in training situations
- Adjustable monitor tilt (45° - 80°) for ergonomic and comfortable work
- Easy inspection of living cells without having to look through eyepieces
- Integrated digital camera, SD memory card slot, USB port for a convenient image storage by the push-to-save
- Remote control for the acquisition of images, remotely or through glass plates of flow boxes

Ordering information: Additional configurations are available upon request, please contact your local VWR sales office.

Model	Kit 1	Kit 2	Kit 3
Type	Binocular	Trinocular	Binocular
Contrasting technique	Brightfield and phase contrast		
Head	Siedentopf, 45° inclined		
Eyepieces	WF 10×/20		
Nosepiece	Quadruple		
Objectives	4×, Ph1 10×	Ph0 4x, Ph1 10x, 20x, 40x	4x, Ph1 10x, 20x, 40x
Focusing system	Separated micro and macro drive		
Stage	200×239 mm		
Condenser	0,30	0,40	0,30
Illumination	Halogen 6V /30 W or LED		

Description	Pk	Cat. No.
Models without monitor		
Kit 1, binocular	1	**630-1224**
Kit 2, trinocular	1	**630-1226**
Kit 3, binocular	1	**630-1225**

Description	Pk	Cat. No.
Accessories for Primo Vert		
Object guide, 108×72 mm	1	**630-1504**
Universal mounting frame	1	**630-1401**

Bino and trinocular inverted microscopes, TS100

The Nikon TS100 microscopes are designed for routine applications such as tissue culture, plaque measurement and blood typing. They can be used for micromanipulations in cyto-engineering, developmental and genetic engineering, electrophysiology, pharmacology and neurochemistry in areas like molecular pathology, cell culture and embryology (IVF).

- CFI60 optical system
- LED Eco-illumination system
- Clear images, long working distance and high numerical aperture
- Patented apodized phase contrast for clear, halo-free observation at higher magnifications

Delivery information: Supplied with two 10×/22 eyepieces, vinyl cover, UK power cord plus 10×, 20× and 40× achromat ADL phase contrast objectives. For details of other accessories, cameras or alternative systems please contact your local VWR sales office.

Note: These microscopes are not available in Republic of Ireland or Northern Ireland.

Model	TS100	TS100F
Type	Binocular	Trinocular
Head	45° inclined	
Nosepiece	Quintuple	
Focusing system	Coaxial coarse and fine knobs	
Stage	Fixed	
Condenser	ELWD N.A. 0,3 with non-centerable phase slider	
Illumination	High luminescent white LED illuminator (Eco-illumination)	

Description	Pk	Cat. No.
Binocular microscope, TS100	1	**630-2445**
Trinocular microscope, TS100F	1	**630-2446**

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Description	Pk	Cat. No.
Stage		
Attachable mechanical stage	1	**630-2455**
Accessories		
C-mount adapter, 1×	1	**630-2458**
C-mount adapter, 0,7×	1	**630-2459**
Holders for TS100		
Glass slide holder (will also take 54 mm Petri dishes)	1	**630-2456**
C-HU universal holder	1	**630-2457**
Hæmacytometer holder	1	**630-2460**
Petri dish (33 mm) holder	1	**630-2461**

Bino and trinocular microscopes, VisiScope®, SZB and SZT 300 series

SZTL350

SZB350-OH

SZBL350

These stereo microscopes can be used in advanced teaching situations, laboratory and industrial applications. Professional users will value the technical features of resistance and reliability.

- Greenough optical system for a diversity of observations
- Models with illumination with a black and white plate, clips and a frosted samples disc for transmitted light
- Stand column Ø 30 mm, height 25 cm, base: 26×20×6 cm
- Stand long travel height: 42 cm, base 23×23 cm and length of the horizontal arm: 45 cm

Ordering information: A cleaning and maintenance set, incl. lens tissue, cleaning solution, brush is available on request (630-2081).

Model	SZB350	SZT350	SZB350-OH	SZT350-OH	SZBL350	SZTL350
Type	Binocular	Trinocular	Binocular	Trinocular	Binocular	Trinocular
Head	45° inclined, 360° rotating					
Eyepieces	WF 10×/20					
Zoom lens	0,7x - 4,5×					
Focusing system	Pair of knobs on each side of the stand					
Illumination	Halogen 12 V /15 W		-		Incident: High power LED Transmitted: LED diffusing disc	

Description	Pk	Cat. No.
Binocular microscope, SZB350	1	**630-1578**
Trinocular microscope, SZT350	1	**630-1580**
Binocular microscope, SZB350-OH	1	**630-1583**
Trinocular microscope, SZT350-OH	1	**630-1584**
Binocular microscope, SZBL350	1	**630-1942**
Trinocular microscope, SZTL350	1	**630-1943**

Description	Pk	Cat. No.
Eyepieces		
Eyepieces WF 10×/20	2	**630-1779**
Eyepieces WF 15×/15	2	**630-1780**
Eyepieces WF 20×/10	2	**630-1781**
Eyepiece micrometric WF 10×/20	1	**630-1782**
Eyecups, Ø 95 mm	1	**630-1794**
Lenses		
Lens 0,5×. WD: 165 mm	1	**630-1783**
Lens 0,75×. WD: 117 mm	1	**630-1784**
Lens 1,5×. WD: 47 mm	1	**630-1785**
Lens 2×. WD: 26 mm	1	**630-1786**
Stages		
Moving stage	1	**630-1790**
White and black plate, Ø: 95 mm	1	**630-1795**
Glass stage, Ø: 95 mm	1	**630-1796**
Heating stage with digital temperature controller	1	**630-1800**
Adapters		
CCD camera adapter for 1/3" sensors for VisiScope® 300	1	**630-1792**
CCD camera adapter for 1/2" sensors for VisiScope® 300	1	**630-1793**
APS-C reflex camera adapter for VisiScope® 300	1	**630-1801**
Halogen bulbs		
Halogen bulb	1	**630-1797**
Halogen bulb with dichroic mirror	1	**630-1798**
Protection		
Wooden case with a lock, 27×34×46 mm	1	**630-1810**
Dust cover	1	**630-1799**

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Description	Pk	Cat. No.
Accessories		
Polarising set (filters and rotating stage)	1	**630-1787**
Darkfield condenser	1	**630-1788**
Sample clip	1	**630-1789**

Binocular microscopes, 39 series
Motic

ST-39C

DM-39

These stereo microscopes provide high quality images. DM-39 has an integrated digital camera for connection to a PC or Mac.

- Good 3D image
- High resolution image
- Modern design

Delivery information: Supplied with a dust cover and a black and white frosted glass stage.

Model	ST-39C	ST-39Z	DM-39
Type	Binocular		
Head	45° inclined, 360° rotating		
Eyepieces	WF 10×/20		
Objectives	2×, 4×	-	2×, 4×
Zoom lens	-	1x - 3×	-
Illumination	Halogen 12 V /10 W		
Camera connection port	-		USB 2,0
Camera			3,0 megapixels
Software			Multi-language Images Plus 2,0 for PC and Mac

Description	Pk	Cat. No.
ST-39C, binocular	1	**630-3016**
ST-39Z, binocular	1	**630-0150**
DM-39, with built-in camera, binocular	1	**630-3038**

Bino and trinocular stereo zoom microscopes, SMZ-140, -143 and DMW-143
Motic

SMZ-140

DMW-143

These digital stereo zoom microscopes are suitable for routine inspection and assembly applications. The DMW-143 has an integrated digital camera for connection to a computer (PC/Mac), monitor or projector.

- High resolution image
- Anti-fungal properties
- Working distance: 80 mm

Delivery information: Supplied with black/white and frosted glass stage inserts and dust cover.

Model	SMZ-140	SMZ-143	DMW-143
Type	Binocular	Trinocular	Binocular
Head	45° inclined, 360° rotating		45° inclined
Eyepieces	WF 10×/20		
Zoom lens	1x - 4×		
Focusing system	Coarse with tension adjustment		
Illumination	Halogen incident 12 V /20 W, transmitted 12 V /10 W		
Camera connection port	-		USB, S-Video and RCA
Camera			Digital output 720×576 pixels; analogue output 550 TV lines
Software			Multi-language Images Plus 2.0 for PC and MAC

Description	Pk	Cat. No.
SMZ-140, binocular	1	**630-3017**
SMZ-143, trinocular	1	**630-3018**
DMW-143, with built-in camera, binocular	1	**630-3005**

Description	Magnification	Pk	Cat. No.
Objectives			
WD: 133 mm	0,5×	1	**632-8736**
WD: 33 mm	1,5×	1	**632-8738**
Camera adapters			
C-mount adapter, 0,4× for 1/4" and 1/3" chip sensors		1	**632-8740**
C-mount adapter, 0,5× for 1/2" and 2/3" chip sensors		1	**630-3036**

Bino and trinocular stereo zoom microscopes, SMZ-171
Motic

The SMZ-171 modular system offers the possibility to create one's microscope by choosing a head, a head holder and a stand. The optical performance (max. 460 lp/mm) combined with an expanded accessory line make the SMZ-171 the instruments for demanding requirements both for routine and research fields. They are the improved versions of the SMZ-168 models. They deliver clear and distortion-free 3D images for biological and medical preparations, industrial quality control and inspection.

- Greenough optical system
- Working distance of 110 mm
- Interpupillary distance of 48 - 75 mm
- Transmitted illumination with tilting reflector

Ordering information: A LED ring light is available for a shadow-free image.

Model	SMZ171-BH (head only)	SMZ171-TH (head only)	SMZ171-BP	SMZ171-TP	SMZ171-BLED	SMZ-171-TLED
Type	Binocular	Trinocular	Binocular	Trinocular	Binocular	Trinocular
Head	45° inclined					

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Eyepieces	WF 10×/23	
Zoom lens	0,75x - 5×	
Illumination	-	Incident and transmitted LED

Description	Pk	Cat. No.
SMZ171-BH, binocular (head only)	1	**630-2024**
SMZ171-TH, trinocular (head only)	1	**630-2027**
SMZ171-BP, binocular with pole type plain stand and head holder	1	**630-2026**
SMZ171-TP, trinocular with pole type plain stand and head holder	1	**630-2028**
SMZ171-BLED, binocular	1	**630-2025**
SMZ171-TLED, trinocular	1	**630-1807**

Description	Magnification	Pk	Cat. No.
Auxiliary objectives for SMZ series			
WD: 192 mm	0,5×	1	**630-2043**
WD: 128,6 mm	0,75×	1	**630-2042**
WD: 56,3 mm	1,5×	1	**630-2040**
WD: 38,6 mm	2,0×	1	**630-2041**
Ring lights			
Partially dimmable external light source, 60T, 6500 °K		1	**630-2046**
Fully dimmable external light source, 60T-B, 6800 °K		1	**630-2045**
Stands for SMZ series			
Universal stand, rectangular base, Ø: 32 mm		1	**630-2038**
Stand with articulated arm boom, Ø: 32 mm		1	**630-2036**
Stand with articulated arm boom and table clamp, Ø: 32 mm		1	**630-2039**
Camera adapters			
C-mount adapter 0,65× for 2/3" chip sensors		1	**630-1945**
C-mount adapter, 0,5× for 1/2" and 1/3" chip sensors		1	**630-1503**

Binocular microscopes, K-series
Motic

These stereo microscopes provide distortion-free 3D images. They are suitable for biological and industrial inspection as well as for environments where different examination methods are required.

- Large working surface
- Fatigue-free viewing
- Various contrast and documentation options
- Common Main Objective (CMO) optical system
- Meets dynamic requirement thanks to extensive range of accessories

Delivery information: Supplied with frosted glass (except 630-0139) black and white stages and vinyl dust cover.

Model	K-400L	K-400P	K-700L
Type	Binocular		
Eyepieces	WF 10×/23		
Objectives	6×, 12×, 25×, 50×		-
Zoom lens	-		6x - 31×
Illumination	Halogen 12 V /10 W	None	Halogen 12 V /10 W

Description	Pk	Cat. No.
K-400L, binocular	1	**630-0138**
K-400P, binocular	1	**630-0139**
K-700L, binocular	1	**630-3011**

Description	Pk	Cat. No.
Camera adapters		
C-mount adapter 0,45× (focusable) for 1/3" chip sensors	1	**630-2215**
C-mount adapter 0,65× (focusable) for 1/2" and 2/3" chip sensors	1	**630-2217**
Accessories for K series		
Video/photomicrography optical bridge for K-400, double iris diaphragm (with C-mount camera or SLR camera adapters)	1	**630-1186**
Video/photomicrography optical bridge for K-500 and K-700, double iris diaphragm (with C-mount camera or SLR camera adapters)	1	**630-1187**

Binocular stereo zoom microscope, Stemi DV4

Zeiss

This stereo zoom microscope provides well lit and razor sharp images. A portable C stand (210×300 mm) can switch between reflected and transmitted light. A darkfield add-on is available as an option.

- Working distance of 92 mm
- Focusing range 130 mm and built-in light adjustment
- Sample carousel to position up to 16 samples with precision

Delivery information: Supplied with handles, cover and quick reference manuals.

Model	Stemi DV4
Type	Binocular
Contrasting technique	Brightfield
Eyepieces	WF 10×/20
Zoom lens	0,8x - 3,2×
Illumination	LED

Description	Pk	Cat. No.
Stemi DV4, binocular	1	**630-2437**

Description	Pk	Cat. No.
Accessories		
Video eyepiece adaptor C-mount 0,8×	1	**630-0250**
Transmitted light darkfield option	1	**630-0251**
Storage and transport box	1	**630-0233**

Binocular stereo zoom microscopes, SMZ445

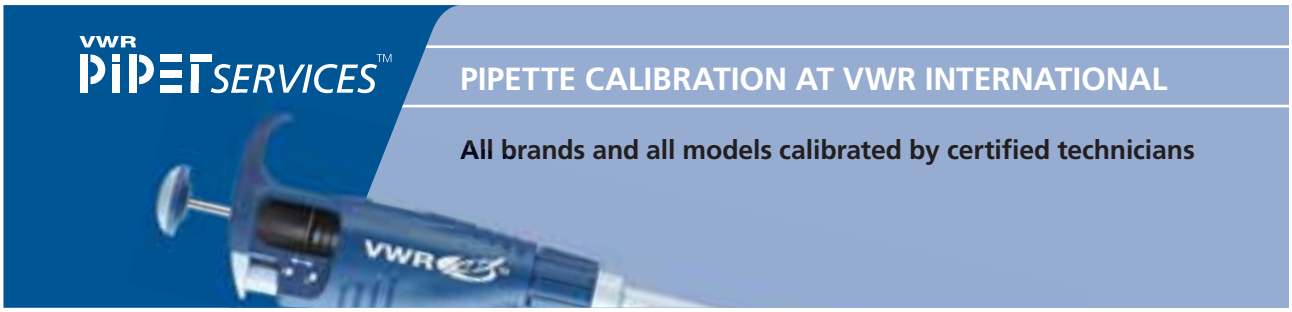
These Nikon stereo zoom microscopes deliver outstanding optical performance. They are suitable for gross observations of a wide range of specimens, from Petri dishes to plants, insects, small animals and minerals.

- Dedicated eyepiece lenses including diopter adjustments for parfocality
- Long working distance of 100 mm useful with tweezers, dissection tools or pipettes
- Mold resistant finish to maintain the quality of the lenses in hot or humid environments
- Very bright LEDs: Avoid the cost and trouble of frequent replacement and robustness for all uses
- Two versions: SMZ445 with plain stand and SMZ445 LED with dual episcopic and diascopic LED illumination. The illumination has individual on/off and intensity controls

Note: Not for sale in Republic of Ireland or Northern Ireland.

Model	SMZ445	SMZ445 LED
Type	Binocular	
Head	45° inclined	
Zoom lens	0,8× - 3,5×	
Focusing system	Coaxial coarse and fine knobs with lock position and tension control	
Illumination	-	Dual LED

Description	Pk	Cat. No.
Binocular stereo zoom microscope, SMZ445	1	**630-2440**
Binocular stereo zoom microscope, SMZ445 LED	1	**630-2439**



Bino and trinocular stereo zoom microscopes, SMZ745/745T

The Nikon SMZ745 stereo zoom microcopes offer a broad observation range for both industrial and biomedical applications. They are suitable for gross observations, regenerative studies, embryology/IVF and environmental science. Each kit includes two 10×/22 eyepieces and either a plain or hybrid LED stand with both episcopic and diascopic LED illumination, with independent controls for on/off and intensity.

- Greenough optical system
- Interpupillary adjustment: 52 - 75 mm
- Superior working distance (115 mm) for ample manipulation
- High zoom ratio (0,67× to 5×) and magnification (3,35× - 300×)
- Anti mold design for use where the temperature and humidity are high
- Optical path switching lever for easy switchover between eyepice and camera (SMZ745T models only)

Ordering information: For details of other accessories, cameras or alternative systems, please contact your local VWR sales office.

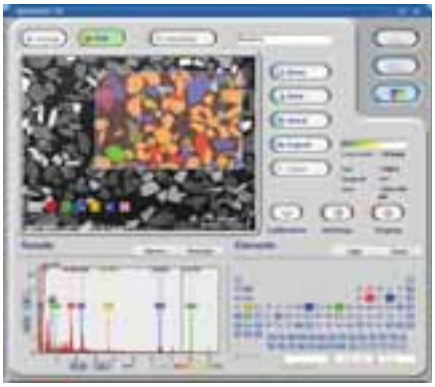
Note: Not for sale in Republic of Ireland or Northern Ireland.

Model	SMZ745 LED	SMZ745	SMZ745T LED	SMZ745T
Type	Binocular		Trinocular	
Head	45° inclined			
Zoom lens	0,67× - 5×			
Focusing system	Pair of knobs on each side of the stand			
Illumination	Dual LED	-	Dual LED	-

Description	Pk	Cat. No.
Binocular microscope, SMZ745 LED	1	**630-2503**
Binocular microscope, SMZ745	1	**630-2504**
Trinocular microscope, SMZ745T LED	1	**630-2505**
Trinocular microscope, SMZ745T	1	**630-2506**

Description	Pk	Cat. No.
Accessories		
C-mount adapter, 1×	1	**630-2458**
C-mount adapter, 0,7×	1	**630-2459**

Electron microscopes, TM 3000
Hitachi



The compact and flexible TM 3000 guarantees high quality resolution and magnification. This scanning electron microscope goes beyond the limits of an optical microscope (up to 30 000× magnification). It has been developed to give rapid results without the need for special preparation of samples. It can be used in many sectors, including food, pharmaceutical, cosmetics and healthcare, not to mention life science, polymer science, materials science, semiconductors and education.

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- Magnification of 20× to 30 000×
- Easy to use: Only five steps to obtain an image in under five minutes
- Results can be displayed in graph, table or mapping format

Elemental analysis - EDX - These X-ray analysis units can be installed inside the TM 3000 to give a qualitative and quantitative analysis of the samples under observation. The two systems refer to the periodic table of elements. The Quantax 70 (Bruker) measures the elements between Boron (5) and Americium (95), and the Swift ED 3000 (Oxford Instruments) measures the elements between Boron (5) and Uranium (92). The EDX kit is required to install the EDS analysis unit.

- Magnification of 20× to 30 000×
- Space-saving 80×50 cm
- Easy to use: Only five steps to obtain an image in under five minutes

Description	Pk	Cat. No.
Electron microscope, TM 3000	1	**630-1259**
Electron microscope, TM 3000 with XY motorised stage	1	**630-1260**

Description	Pk	Cat. No.
Accessories		
Cartridge Wehnelt	1	**630-1256**
SwiftED 3000 X-ray microanalysis system	1	**630-1257**
Tungsten filament	10	**630-1258**
EDX kit	1	**630-1261**
Quantax 70 EDS	1	**630-1262**

Please contact your local VWR sales office for further details or to arrange a demonstration.

Digital microscopes, Dino-Lite® Pro

Stand

Transparent holder

These LED microscopes are designed for a broad range of applications in quality control, education, research projects and surface checking. To reduce glare and reflections when working on shiny or reflecting materials i.e. metal, plastics, jewellery and electronics. A MicroTouch* function is also available to be used for work with tools under the microscope where tasks involve more working distance to the object: Precision repairs, rework and assembly tasks.

- Focus wheel: 10× to 70× zoom and 200× at close range
- Calibration and measurement function
- Multi language software, USB 2.0 camera connection port
- Crystal clear images: Up to 1,3 megapixel resolution
- Simple to use intruments for an innovative approach of microscopy

Delivery information: More models are available - UV/Infrared lighting, higher magnification etc. Please check with your local VWR office for further details.

Description	Pk	Cat. No.
Standard model		
Dino-Lite® AM413T with composite housing for accurate applications	1	**630-1157**
Models with polarisation filter		
Dino-Lite® AM4013MZT with aluminium alloy housing	1	**630-1345**
Dino-Lite® AM4013ZT with 8 built-in LED and composite housing for accurate applications	1	**630-1165**
Models with long working distance		
Dino-Lite® AM4013MZTL with aluminium alloy housing and polarisation filter	1	**630-1346**
Dino-Lite® AM4113TL with composite housing for accurate applications	1	**630-1617**

Description	Pk	Cat. No.
Accessories		
Backlight pack with polarisation, BL-ZW1	1	**630-1205**
Transparent holder, MS12C	1	**630-1159**
Advanced X/Y table for the column stands, MS15X	1	**630-1206**
Basic stand with desktop clamp and gooseneck, MS23B	1	**630-1349**
Basic stand solution with gooseneck, MS33W	1	**630-1300**
Compact stand, MS34B	1	**630-1350**
Square metal base with column stand, MS35B	1	**630-1161**
Square metal base with column stand and horizontal arm, MS36B	1	**630-1207**
Robust stand with flexible arm, MS52B	1	**630-1208**
Additional flexible arm for MS35B/MS36B stands, MSAK810	1	**630-1351**
Foot pedal SW-F1, for taking pictures, 100×70×30 mm	1	**630-1821**

* Click to take a picture

Digital microscopes, Dino-Lite® TV/VGA

These handheld microscopes are suitable for real time inspection with a very high resolution of 1024×768 pixels. They provide crystal clear images without a time delay making them the solution for quality control.

- MicroTouch* button: Live video stream can be frozen
- Easy and convenient examination of important details
- Connection to a TV or monitor by using a standard VGA D-sub cable

Description	Pk	Cat. No.
Dino-Lite® AM5116T, 20× - 50×, 200×	1	**630-1857**
Dino-Lite® AM5116ZT, 20× - 50×, 200× with built-in polariser	1	**630-1861**
Dino-Lite® AM5116ZTL, 10× - 90× with built-in polariser	1	**630-1862**

* Click to take a picture.

LED illumination, PLED10

The PLED10 features a double LED of 3,6 watts for advanced light control.

- Emission angle of 25 °
- Double flexible arm (L = 60 cm), 400 lm in each arm
- Double X-LED of 3,6 watts with brightness control potentiometer

Description	Pk	Cat. No.
Dual arm flexible LED illumination, PLED10	1	**631-1086**

Cold light source, VisiLight® LED 200

This high power 14 watt LED source provides a pure white light of 6300 K.

- Round modern design
- Brightness control
- Illumination at 100 mm: 70 000 lux
- Dual gooseneck light guides, 500 mm

W×D: 120×200 mm

Weight: 4,1 kg

Delivery information: Supplied with external power supply.

Description	Output (W)	Pk	Cat. No.
Cold light source, VisiLight® LED 200	14	1	**631-1085**

Cold light sources, VisiLight®

Cold light source

Gooseneck light

Ring light

These cold light sources feature modularity and flexibility. Fulfilling scientific and engineering requirements, they provide sample protection and improved homogeneity compared to standard halogen lighting. The lightweight aluminium housing maintains a low temperature.

- Noiseless cooling system and vibration free operation
- Continuously variable light intensity from 0 to 100% (150 watts)
- Optional daylight filter (631-1758) to raise the standard 3200 K colour temperature to 5400 K

Ordering information: Supplied without light guides, focus optics and filters, which must be ordered separately.

Description	Pk	Cat. No.
Cold light source, VisiLight®, UK-plug	1	**631-1772**

Description	Output (W)	Pk	Cat. No.
LED ring lights, R-LED			
Ring light, Ø×L: 8×750 mm		1	**631-1753**
Ring light guides			
Ring light adapter, Ø: 50 mm		1	**631-1779**
Ring light adapter, Ø: 58 mm		1	**631-1782**
Focus for fibre optic light guides		1	**631-1763**
Gooseneck light guide			
Two-arm gooseneck, Ø×L: 4,5×450 mm		1	**631-1752**

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Description	Output (W)	Pk	Cat. No.
Filters			
Blue filter		1	**631-1762**
Green filter		1	**631-1759**
Yellow filter		1	**631-1760**
Red filter		1	**631-1761**
Daylight filter		1	**631-1758**
Halogen bulbs			
Replacement halogen bulb	15 V/150	1	**631-1769**

Cold light sources, KL 200 LED
SCHOTT Fibre Optics

This fibre optic LED light source provides a brightness equivalent to a 20 W halogen source. It has been developed for a range of applications in stereomicroscopy and macroscopy from industry to life science.

- Low energy consumption with continuous dimming from 0 to 100%
- White light - daylight: 50 lumens output at light guide end
- No bulb changing necessary

Ordering information: An articulating arm with two M6 threads (631-0045) and corresponding base (631-0046) can be ordered separately.

Description	Pk	Cat. No.
Mounting bracket for stereomicroscope, Ø: 35 mm	1	**630-1330**
Mounting bracket for stand alone	1	**630-1331**
Mounting bracket for stereomicroscope, Ø: 25 mm	1	**630-1327**
Mounting bracket for stereomicroscope, Ø: 29 mm	1	**630-1328**
Mounting bracket for stereomicroscope, Ø: 32 mm	1	**630-1329**

Description	Pk	Cat. No.
Flexible light guides		
Holder, Ø: 5 mm	1	**631-0043**
One-arm flexible, Ø×L: 4,5×600 mm	1	**631-0003**
One-arm flexible, Ø×L: 4,5×1000 mm	1	**631-0013**
Two-arm flexible, Ø×L: 4,5×1000 mm	1	**631-0004**
Ringlight guides		
Six-point Ringlight, Ø×L: 58×900 mm	1	**631-0005**
Six-point Ringlight, Ø×L: 66×900 mm	1	**631-0006**
Filters		
Halogen filter for focusing lens (631-0009) and filterset Ø up to 5 mm, red, blue, green, yellow	1	**630-1459**
Polarisation filter for focusing lens (631-0009)	1	**631-0008**
Lenses		
Focusing lens without filter	1	**631-0009**
Focusing lens and filter set - blue, red, green, yellow - for optical fibres up to Ø 5 mm	1	**631-0007**
Accessories		
Hinged joint, 200 mm	1	**631-0045**

Cold light sources, KL 1500 LCD, KL 1500 Compact and KL 2500 LCD
SCHOTT Fibre Optics

These models are driven by a halogen bulb and are developed for stereomicroscopy and macroscopy in laboratories, industrial, life science and medical environments.

KL 1500 LCD, 150 W

- Homogeneous output and illumination adjustment: 150 W
- Continuous intensity control for constant colour temperature
- LCD indicating colour temperature and operating mode and filter slider

KL 1500 Compact, 150 W

- Homogeneous output: 150 W
- Electronic intensity control from 0 to 100%
- High frequency to avoid any flickering with digital cameras
- Filter slider

KL 2500 LCD, 250 W

- Homogeneous output and illumination adjustment: 250 W
- Continuous intensity control for constant colour temperature
- LCD indicating colour temperature and operating mode
- Five position wheel for a quick and easy use
- RS232 interface for connecting electronic accessories

Ordering information: The sources need to be completed with light guides (gooseneck or ring light), which have to be ordered separately.

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Description	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
Cold light source, KL 1500 Compact, UK-plug	183×261×137	3,0	1	**631-0892**
Cold light source, KL 1500 LCD, UK-plug	200×265×170	4,8	1	**631-0893**
Cold light source, KL 2500 LCD, UK-plug	200×265×170	6,0	1	**631-0889**

Description	Pk	Cat. No.
Gooseneck light guides		
One-arm gooseneck, Ø×L: 4,5×600 mm	1	**631-0021**
Two-arm gooseneck, Ø×L: 4,5×600 mm	1	**631-0022**
Ringlight guides		
Ringlight, Ø×L: 58×1000 mm	1	**631-0032**
Ringlight, Ø×L: 66×1000 mm	1	**631-0033**
Objective adapter for Ringlight, Ø 60 - 66 mm	1	**631-0894**
Filters		
Blue filter with holder	1	**631-1026**
Red filter with holder	1	**631-1027**
Green filter with holder	1	**631-1028**
Yellow filter with holder	1	**631-1029**
Halogen bulbs		
Halogen reflector bulb	1	**631-0518**

Cold light source, KL 1600 LED
SCHOTT Fibre Optics

The KL 1600 LED is a fibre optic light source with a multiple LED light engine, designed for industrial and life science applications in stereomicroscopy and macroscopy. The brightness is equivalent to a 150 W halogen light source.

- No bulb changing, low energy consumption
- Ripple free DC illumination, white light, no visible colour temperature shift
- Very high light intensity focused to a small field of view, high flexibility of light
- Silent fan cooling, continuous dimming from 0 to 100%
- Compact high quality housing, integrated handle, small footprint and additional iron ballast for stability when used with goosenecks filter slider with two positions - filter can remain in the light source even if it is not used
- Easy to use fixture mechanism with clamping screw
- Comprehensive range of light guides and accessories available

Description	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
Cold light source, KL 1600 LED	231×114×137	2,45	1	**631-1037**

Description	Pk	Cat. No.
Flexible light guides		
One-arm flexible, Ø×L: 5×1600 mm	1	**631-0025**
One-arm flexible, Ø×L: 8×1000 mm	1	**631-0026**
Two-arm flexible, Ø×L: 4,5×1000 mm	1	**631-0027**
Filters		
Halogen filter	1	**631-0916**

Cold light sources, KL 2500 LED
SCHOTT Fibre Optics

Cold light source with low energy consumption, ripple-free DC illumination, daylight without colour temperature shift on dimming are combined with the main advantages of fibre optics, such as very high light intensity on a small field of view.

- Wide range power supply
- Filter slider and silent fan cooling
- PC contollable via USB plug; connection for foot switch and remote control

Description	W×D×H (mm)	Weight (kg)	Pk	Cat. No.
Cold light source, KL 2500 LED, UK-plug	231×114×137	2,45	1	631-1032

Description	Pk	Cat. No.
Accessories		
Base for hinged joint, outer Ø 100 mm	1	631-0046
Flexible light guides		
Holder, Ø: 5 mm	1	631-0043
Holder, Ø: 8 mm	1	631-1033
One-arm flexible, Ø×L: 5×1600 mm	1	631-0025
One-arm flexible, Ø×L: 8×1000 mm	1	631-0026
Two-arm flexible, Ø×L: 4,5×1000 mm	1	631-0027
Filters		
Blue insert filter, Ø: 28 mm	1	631-0523
Red insert filter, Ø: 28 mm	1	631-0524
Green insert filter, Ø: 28 mm	1	631-0525
Yellow insert filter, Ø: 28 mm	1	631-0526
Halogen filter	1	631-0916
Polarisation filter, Ø: 58 mm	1	631-0037
Polarisation filter, Ø: 66 mm	1	631-0036
Lenses		
Focusing lens without filter	1	631-0009

LED illumination system, VisiLight®, I-LED

The VisiLight® I-LED spotlights can be positioned on a stand, attached on a microscope or fixed on the wall.

- Low energy consumption: Three watt LEDs
- Colour temperature of 5500 K similar to daylight
- Standard intensity control unit with control knob

Length (power cord): 1,4 m

W×D×H (intensity control box): 80×40×56 mm

Description	Pk	Cat. No.
Accessories		
Frosted glass diffuser	1	631-1757
Microscope stand and holder, 200 mm	1	631-1770
Holder for stereo microscope stand, Ø 25 mm	1	631-1776
Holder for stereo microscope stand, Ø 32 mm	1	631-1777
Wall holder for I-LED	1	631-1778

LED illumination, EasyLED
SCHOTT Fibre Optics

631-0883 and 631-0886

631-0884 and 631-0885

The EasyLED series is an innovative system integrating high brightness and controller electronics into the illuminators. This saves space on the workbench and allows easy operation. Continuous dimming and a separate On/Off switch keep the settings unchanged for the next session.

- Excellent colour fidelity
- Quiet, free of vibration LEDs
- DC-driven light: Neutral white of ~5600 K and flicker-free
- Wide range power supplies from 100 to 240 V
- Robust, black anodised metal housing and well designed heat management afford outstanding brightness and lifetime of ~30 000 hours

Spot, double spot and two branch spot illumination

- Maximum light of 40 lm
- High brightness adaptable on goosenecks and articulating arms
- Compact controller for continuous dimming and separate on/off switch

Delivery information: Supplied without holding arm - See 631-0886 and 631-0887.

Ringlight systems

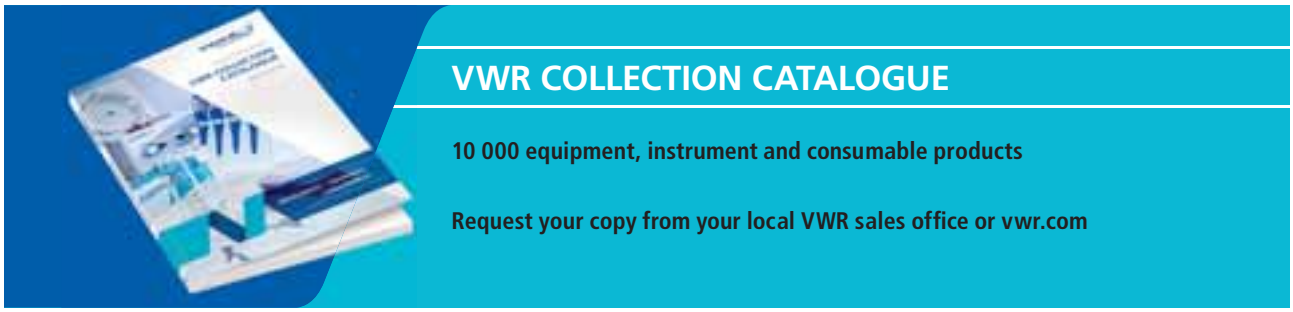
- Wide range of free working distances
- Easy and intuitive operation
- Five high brightness LEDs adaptable on various objectives
- **Ringlight Plus** with basic segment features and segment rotation
- Integrated controller for continuous dimming and separate on/off switch

Transmitted light stage system

- Illuminated area of Ø 50 mm
- Maximum luminance of 12 000 cd/m²
- Highly uniform backlight illumination
- Integrated controller for continuous dimming and separate on/off switch

Description	Pk	Cat. No.
Spot illumination system	1	**631-0883**
Double spot	1	**630-1199**

Description	Pk	Cat. No.
Ringlight guides		
Ringlight, Ø: 66 mm	1	**630-1333**
Ringlight, int. Ø: 66 mm, FWD 55 - 135 mm, max. illuminance 90 klx	1	**631-0884**
Ringlight Plus, int. Ø: 66 mm, FWD 50 - 130 mm, max. illuminance 140 klx	1	**630-1200**
Flexible light guides		
Two-arm flexible, Ø×L: 9×1000 mm	1	**630-1332**
Accessories		
Transmitted light stage system, Ø: 84 mm	1	**631-0885**
Holding arm for spot, 300 mm, M6	1	**631-0886**
Holding arm for spot, 300 mm, M8	1	**631-0887**



LED ring lights, R-LED

Anodised aluminium

The R-LED are designed for precise lighting tasks. The segments are manually controlled. The user has flexible illumination, different directions and contrast settings.

- High quality bright LEDs (48): Homogeneous and flicker-free lighting (Life span: 5 years)
- Power saving lighting system (7 W) - Colour temperature: 7000 K
- Adaptable with reducing rings to diameters up to 50 mm

Ø: 66 mm (in); 100 mm (out)

Length (cable): 1400 mm

W×D×H: 92×40×41 mm

Description	Pk	Cat. No.
Ring light, white light, UK-plug	1	631-1775
Four segment ring light, neutral, white light, UK-plug	1	631-0994
Ring light, Ø×L: 8×750 mm	1	631-1753

Description	Pk	Cat. No.
Ring light guides		
Ring light adapter, Ø 64 mm	1	631-0957
LED ring lights, R-LED		
Ring light, Ø×L: 8×750 mm	1	631-1753
Ring light guides		
Ring light adapter, Ø: 50 mm	1	631-1779
Ring light adapter, Ø: 58 mm	1	631-1782
Ring light adapter, Ø: 60 mm	1	631-0955
Ring light adapter, Ø: 62 mm	1	631-0956

LED illumination units for fluorescence, CoolLED pE-300 White

These LED illumination units are designed to offer broad spectrum use in fluorescence applications. They will excite common fluorophores used in hospital and research laboratory environments. No mercury means these are the safest and most energy efficient alternatives to old fashioned illumination systems.

- Alternative to a high-pressure mercury or metal-halide light source
- Can be fitted to most microscopes with a range of microscope adapters
- Safe result, convenient light-source for many years without any additional operating costs
- Independent controls for 3 fluorophores
- Extremely low energy

Note: Filter blocks for specific fluorophores are required but not supplied, please contact your local VWR sales office for details.

Description	Pk	Cat. No.
Illumination system, pE-300 white, Nikon	1	630-2489
Illumination system, pE-300 white, Nikon TS100	1	630-2490
Illumination system, pE-300 white, Leica	1	630-2491
Illumination system, pE-300 white, Zeiss	1	630-2492
Illumination system, pE-300 white, Olympus	1	630-2493
Illumination system, pE-300 white, Motic	1	630-2494

Please note that other CoolLED units are available for single wavelength excitation (pE-100), please see VWR website or contact your local VWR sales office for details.

LED illumination units for fluorescence, CoolLED pE-4000

The pE-4000 sets the standard as the universal light source for fluorescence microscopy. Users can operate the system as a simple white light source (replacing a conventional mercury-based light source), or as an advanced, fully-controllable, excitation and stimulation source.

Continued on next page

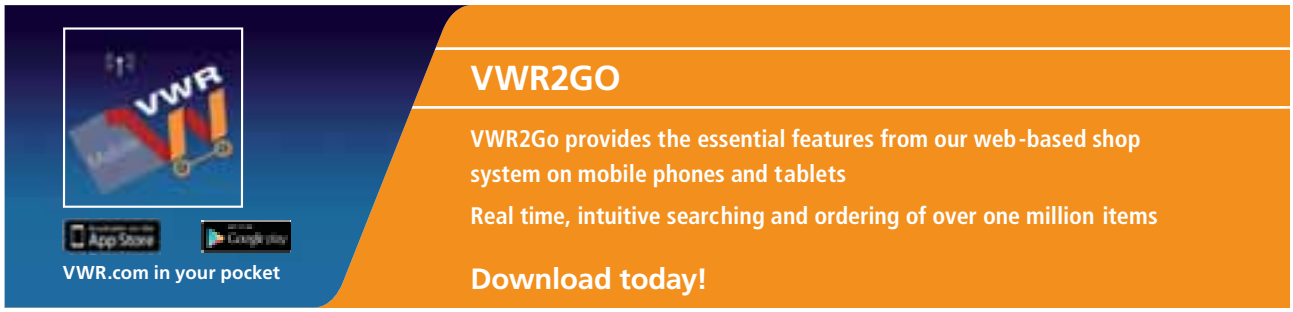
Continued from previous page

- More power: Wavelength grouping ensures optimal compatibility with all single- and multi-band filter sets
- Precise intensity control, easy to use, presets allowing to match white spectrum to existing filter cubes and higher contrast images from matched-white spectrum
- Excellent field uniformity at sample (no mercury), long life (25 000 hours), no bulb changing, bulb alignment or warm up process, quiet operation, high efficiency and wide range of microscope adapters

Note: Specific filter blocks are required but not supplied, please contact your local VWR sales office for details.

Ordering information: A complete system consists of the pE-4000, liquid light guide plus a microscope specific adapter.

Description	Pk	Cat. No.
Fluorescence illumination system, pE-4000	1	**630-2495**
Liquid light guide (LxØ: 1 m × 3 mm)	1	**630-2413**
Collimating adapter, Nikon fit	1	**630-2414**
Collimating adapter, Nikon TS100 fit	1	**630-2438**
Collimating adapter, Zeiss fit	1	**630-2462**
Collimating adapter, Olympus fit	1	**630-2463**
Collimating adapter, Motic fit	1	**630-2464**



Digital cameras, VisiCam®

These cameras are colour CMOS units with USB 2.0 interface and a large image sensor for a large field of view. These features allow capture of high quality images and videos.

The VisiCam® analyser software provides most standard functions for image analysis in microscopy such as marking, counting, measuring, storage, auto/manual white balance and objectives calibration.

- Capture format: .JPG, .PNG, .TIF, .TGA, .PCX, .JP2, .JPC, .PGX, .RAS, .PNM
- Compatible with Windows® XP, Vista and 7

Delivery information: Supplied with a calibration slide, VisiCam® analysis software and drivers. For other applications, please contact your local VWR sales office.

Model	VisiCam® 1.3	VisiCam® 3,0	VisiCam® 5,0	VisiCam® 10
Max resolution	1,3 MP	3,0 MP	5,0 MP	10 MP
Sensor	⅓" colour CMOS	½" colour CMOS		

Description	Pk	Cat. No.
VisiCam® 1.3, 1,3 MP	1	**630-1030**
VisiCam® 3.0, 3,0 MP	1	**630-1031**
VisiCam® 5.0, 5,0 MP	1	**630-1032**
VisiCam® 10, 10 MP	1	**630-1484**

Description	Pk	Cat. No.
Accessories for VisiCam®		
Calibration slide	1	**630-1123**
CCTV lens, 16 mm	1	**630-1124**
C-mount eyepiece adapter 0,5× and 30 mm ring	1	**630-1121**

Tablet camera, VisiCam®

This tablet camera can capture, store, analyse and transmit every image. It can be used in chemistry, geology, electronic industry, research universities and production quality control. This stand-alone system can save space on your bench with a modern capture system.

- CMOS sensor camera
- Resolution of 5 megapixels (2592×1936)

Tablet

- Android operating system
- 25 cm LED display, 1024×768 pixels; multi point capacitive touch screen
- Memory: 8 GB, expandable through SD card
- Outputs: HDMI, mini USB - no need for computer
- Networking: WiFi and Bluetooth
- C-mount connection for mounting on the photo port of virtually any trinocular microscope

Delivery information: Supplied with image analysis software.

Description	Pk	Cat. No.
Digital tablet camera	1	**630-1858**

Digital cameras, Dino-Eye USB

These cameras can turn standard microscopes into digital models when mounted on eyepieces 630-1473 fits on the C-mount adapter of a standard microscope.

- 72,5× magnification: AM4023 and AM4023X
- Still image, video and time lapse video outputs
- Compatible with Windows® XP, Vista, 7 and recent Mac OS via USB interface
- Resolution up to 1,3 megapixels

Delivery information: Supplied with (Windows®) DinoCapture and (Mac) DinoXcope software.

Description	Pk	Cat. No.
Dino-Eye USB, AM4023, 1,3 MP for Ø 23 mm eyepieces	1	**630-1472**
Dino-Eye USB HR, AM7023, 5 MP for Ø 23 mm eyepiece	1	**630-1606**
Dino-Eye USB, AM4023CT, 1,3 MP for C-mount standard adapter	1	**630-1473**
Dino-Eye USB HR, AM7023B, 5 MP for Ø 30 mm eyepiece	1	**630-1607**
Dino-Eye USB, AM4023X, 1,3 MP for Ø 23, 30 and 30,5 mm eyepieces	1	**630-1475**
Dino-Eye USB HR, AM7023CT, 5 MP for C-mount standard adapter	1	**630-1608**
Dino-Eye USB, AM423U, 1,3 MP for Ø 36 mm eyepiece	1	**630-1158**

Digital cameras, Moticam series

Motic

Moticam 5

Moticam 1

Moticam 3

CMOS technology

The **Moticam 1 and 1SP** cameras are suitable for schools. They can be used with interactive white boards for integrated teaching. The live resolution along with the colour balance make these cameras a great tool for a first introduction to digital microscopy. **Moticam 2 and 3** are fast cameras providing high resolution live imaging up to 3,0 megapixels. They are designed for use in colleges and universities, as well as in clinics and veterinary centres. The **Moticam 5 and 10** offer high resolution live imaging and can be converted to professional format (300 dpi) for image capture. The viewing options allow the user to display a faster frame rate at full screen while still being able to capture an image at maximum resolution.

- C-mount connection for mounting on the photo port of any trinocular microscope
- C-mount (which is microscope specific) must be purchased separately
- Camera kit includes Ø 30 and 38 mm adapters to fit into the eyepiece tube if no photo port is available

Delivery information: Supplied with Images Plus 2.0 Software (PC/Mac), eyepiece adapters (Ø 30 and 38 mm), calibration slide, USB cable, macro lens (which can be focused) and a macrotube for macro-specimens.

Model	Live resolution	Optical calculation	Focusable lens
Moticam 1	800×600 pixels	1/4″	8 mm
Moticam 1SP	1,3 megapixels	1/3″	12 mm
Moticam 2	2,0 megapixels	1/3″	12 mm
Moticam 3	3,0 megapixels	1/2″	16 mm
Moticam 5	5,0 megapixels	1/2,5″	12 mm
Moticam 10	10 megapixels	1/2,5″	12 mm

Description	Pk	Cat. No.
Moticam 1, 800×600 pixels	1	**630-1517**
Moticam 1SP, 1,3 megapixels	1	**630-1520**
Moticam 2, 2,0 megapixels	1	**630-1518**
Moticam 3, 3,0 megapixels	1	**630-1519**
Moticam 5, 5,0 megapixels	1	**630-1515**
Moticam 10, 10,0 megapixels	1	**630-1513**

Digital camera, Moticam X WiFi
Motic

The Moticam X is a high resolution streaming WiFi camera. By creating its own wireless network, the user can simply log on, view, capture and edit live images from your microscopes via the MotiConnect app on your android or iPad tablet.

- Send streaming images to up to six WiFi enabled devices without the need for a router
- View live images without any cable connection on any WiFi computer using the Images Plus 2.0 software
- "All-in-One" box: Two variable diameter eyepiece adapters, calibration slide, macro-tube, USB power supply and software

Description	Pk	Cat. No.
Moticam X, 1,3 MP	1	630-1840

Digital cameras, Moticam 580 and 580 INT
Motic

The Moticam 580 and 580 INT are next generation HD digital cameras. They have the ability to display 1080p resolution images either on an HD monitor via an HDMI cable (Moticam 580) or via an integrated LCD monitor (Moticam 580 INT). They are suitable for educational, clinical, industrial and research use.

The Moticam INT 580 has been designed for easy integration with Motic BA microscopes. The microscope's images can be shared on the screen in real time. 5 MP still or 1080p video images can be captured onto an SD card.

The Moticam 580 is an independent, multi output digital camera that can be connected to any microscope equipped with a trinocular eyepiece (microscope specific C-mount must be purchased separately) or, by using the supplied eyepiece adapters, it can be fitted to almost any binocular microscope.

- Outputs: HDMI, USB, RCA video
- CMOS / two sensors 1, 5"
- Total number of pixels 2592×1944 (capture)
- Active resolution (HDMI) 1080i (HD)
- Active resolution (USB) 800×600 pixels
- Capture format SD 5,0 MPx (2592×1944) map
- Video capture 1080p (full HD)
- Remote and Images Plus 2.0 software for PC and MAC, Direct Show and Twain Driver

The HD signal multiplies by 1080 the amount of detail in the digital image - up to five times compared to standard definition (SD) or analogue video.

Delivery information: Supplied with software, eyepiece adapters (Ø 30 and 38 mm), calibration slide, USB cable, RCA cable, HDMI cable, remote control, focusable macro lens and macro tube (for macro specimens). SD card and microscope specific C-Mount are not included and will need to be purchased separately.

Description	Pk	Cat. No.
Moticam 580, 5,0 MP on SD-card	1	630-1516
Moticam 580 INT, 5,0 MP, 800×600 via USB	1	630-1848

Digital cameras, Moticam PRO
Motic

CCD technology

These 3.3 (Pro 252) and 5.0 (Pro 282) mega pixels cameras offer high quality live imaging. They are equipped with high quality SONY ICX chips.

- Real-time image transfer: USB 2.0
- External power supply for the cooled versions
- Compatible with Windows® XP, Vista, 7 and Mac OSX

Delivery information: 630-1148 and 630-1139 models are cooled using a Peltier device for epi-fluorescence analysis, incl. Images Plus 2.0 standard and Images Advanced 3.2 software.

Description	Pk	Cat. No.
Moticam PRO 285B, cooled, 1,4 MP	1	**630-2034**
Moticam PRO 285A, non cooled, 1,4 MP	1	**630-2035**
Moticam PRO 252A, non cooled, 3,2 MP	1	**630-1140**
Moticam PRO 252B, cooled, 3,2 MP	1	**630-1148**
Moticam PRO 282A, non cooled, 5,0 MP	1	**630-1138**
Moticam PRO 282B, cooled, 5,0 MP	1	**630-1139**

Digital camera, AxioCam ERc5s Rev 2
Zeiss

This high resolution compact digital camera for microscopy can work in a stand-alone mode, using an optional kit including a HDMI DVI adapter, a USB connector, a 4 GB SD card, a USB SD card reader and a remote control or be controlled via a PC with the included Zeiss Zen Blue software.

- Global or spot white balance
- A 15" screen (630-1361) can be added
- S-video output to connect to any video device
- HDMI connection to monitor or digital projector with high contrast details and outstanding colours
- USB output available to connect a PC or the power supply of a stand-alone kit
- True 5 mega pixel capture via SD card or on PC

Delivery information: Supplied with software. Please contact your local VWR office for full details on options and accessories.

Description	Pk	Cat. No.
Digital camera, ERc5s Rev 2, 5 MP	1	**630-2522**

Description	Pk	Cat. No.
Accessories for AxioCam		
Screen, 38 cm	1	**630-1361**
"Stand-alone" kit incl. adapter USB-power supply, HDMI/DVI cable to connect the camera to the monitor, infrared remote controller, SD card and USB reader for SD card	1	**630-2526**

Immersion oils

These immersion oils have the same refractive index as glass. Immersion oils can help to eliminate the deflection of light rays almost completely, significantly improving the performance of microscope objectives.

Description	Pk	Cat. No.
Immersion oil	100 ml	**1.04699.0100**
Immersion oil	500 ml	**1.04699.0500**
Immersion oil, DIN ISO 8036-1	100 ml	**1.15577.0100**

Microscope slides

Clear white glass

These slides with cut or ground edges are either plain or frosted.

W×D×H: 76×26×1 mm

Description	Pk	Cat. No.
Cut edges		
Plain	50	**631-1550**
Frosted	50	**631-1551**
Ground edges		
Plain	50	**631-1552**
Frosted	50	**631-1553**

Microscope slides

Clear white glass

- Frosted ends in six different colours
- Available with either cut or ground edges
- Writing surface is resistant to all common dyes and solvents

W×D×H: 76×26×1 mm

Colour	Pk	Cat. No.
Cut edges		
White	50	**631-1554**
Blue	50	**631-1555**
Rose	50	**631-1556**
Yellow	50	**631-1557**
Green	50	**631-1558**
Orange	50	**631-1559**
Ground edges 45°		
White	50	**631-1560**
Rose	50	**631-1561**
Blue	50	**631-1562**
Yellow	50	**631-1563**
Green	50	**631-1564**
Orange	50	**631-1565**

Microscope slides, Superfrost®

Extra-white soda-lime glass

These slides with ground edges, washed and polished, offer a high quality result. Tolerance dimensions meets the relevant ISO standard.

- Cellophane wrapped
- High level of safety
- Twinfrost slides with embossed surface for easier writing on and reading

W×D: 76×26 mm

Description	Thickness (mm)	Pk	Cat. No.
Slides with 90° ground edges, BS 7011	0,85 - 1,0	50	**631-0908**
Slides with 90° ground edges, BS 7011	1,0 - 1,15	50	**631-0905**
Slides with 90° ground edges, ISO 8037/1	0,85 - 1,0	50	**631-0113**
Slides with 90° ground edges, ISO 8037/1	1,0 - 1,15	50	**631-0114**
Slides with 90° ground edges, BS 7011, twinfrosted 20 mm	0,85 - 1,0	50	**631-0907**
Slides with 90° ground edges, BS 7011, twinfrosted 20 mm	1,0 - 1,15	50	**631-0906**
Slides with 90° ground edges, ISO 8027/1, twinfrosted 20 mm	0,85 - 1,0	50	**631-0116**
Slides with 90° ground edges, ISO 8037/1, twinfrosted 20 mm	1,0 - 1,15	50	**631-0117**
Slides with 90° ground edges, SuperFrost white ISO 8037/1	0,95 - 1,05	50	**631-0909**

Microscope slides, Colorfrost®

These microscope slides come with a light opaque coating in different colours. Each colour codes different specimens at a glance according to urgency, processing or staining technique, etc.

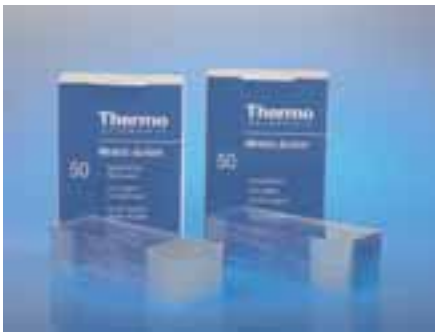
- Resistant to commonly used solvents
- Resistant to scratching or sticking when stacked together
- Label areas on the top of the slide for quick and easy identification of the "right" side

W×D×H: 76×26×1 mm

Description	Colour	Pk	Cat. No.
Ground 90°	Blue	50	**631-0910**
Ground 90°	Pink	50	**631-0911**
Ground 90°	Yellow	50	**631-0912**
Ground 90°	Green	50	**631-0913**

IVD

Microscope slides, Menzel-Gläser
Thermo Scientific



- Various designs: Ground or cut edges
- With or without frosted ends
- Washed clean and polished

W×D×H: 76×26×1 mm

Conform to ISO 8037/I

Description	Pk	Cat. No.
Cut edges		
Slides without frosted end	50	**631-0098**
Slides without frosted end, wrapped in cellophane	50	**631-0701**
Slides without frosted end, wrapped in cellophane	50	**630-1984**
Slides with a frosted end on 15 mm	50	**631-0411**
Slides with a frosted end on 20 mm	50	**630-1985**
Slides with a frosted end on 20 mm, wrapped in cellophane	50	**630-1986**
Slides with twinfrosted ends on 15 mm	50	**631-0412**
Slides with twinfrosted ends on 20 mm	50	**631-1303**
Ground edges		
Slides without frosted end, 45° ground edges, clear white	50	**631-9439**
Slides without frosted end, 45° ground edges (extra-white)	50	**631-1316**
Slides without frosted end, 45° ground edges, wrapped in cellophane	50	**630-1999**
Slides with a frosted end on 45° ground edges	50	**630-2012**
Slides with a frosted end on 45° ground edges, wrapped in cellophane	50	**630-2013**
Slides without frosted end, 45° ground edges, 76×38 mm, thickness 1,3 - 1,5 mm, packed in paper	50	**631-0414**
Slides with 90° ground edges	50	**631-0704**
Slides with 90° ground edges	50	**630-2021**
Slides with 90° ground edges	50	**630-2022**
Slides with a frosted end on 20 mm, 90° ground edges	50	**631-0845**
Slides with a frosted end on 20 mm, 90° ground edges	50	**631-0846**
Slides with twinfrosted ends on 20 mm, 45° ground edges	50	**631-0649**
Slides with twinfrosted ends on 15 mm, 90° ground edges	50	**631-0417**
Bevelled edges		
Bevelled, without frosted end	50	**631-0902**
Bevelled, frosted end	50	**631-9434**

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IVD

Microscope slides, SuperFrost®, Menzel-Gläser
Thermo Scientific

These slides are made of extra-white glass, washed clean and polished. They are suitable for *in vitro* diagnostic (IVD) applications.

- Labelling area resistant to all common solvents
- Six colours for identification and colour coding
- Thick labelling area to prevent slides from sticking together or getting scratched

W×D×H: 76×26×1 mm

Complies with ISO 8037/I

Colour	Packed	Pk	Cat. No.
Cut			
White	In a box	50	**631-1304**
White	In a box, cellophane wrapped	50	**630-1987**
White	In a box, cellophane wrapped	100	**631-0702**
Blue	In a box	50	**631-0650**
Blue	In a box, cellophane wrapped	50	**630-1988**
Pink	In a box, cellophane wrapped	50	**630-1989**
Yellow	In a box	50	**631-1310**
Yellow	In a box, cellophane wrapped	50	**630-1990**
Green	In a box	50	**631-0652**
Green	In a box, cellophane wrapped	50	**630-1992**
Orange	In a box	50	**631-1314**
Orange	In a box, cellophane wrapped	50	**630-1996**
Purple	In a box	50	**630-1997**
Purple	In a box, cellophane wrapped	50	**630-1998**
Ground 45°			
White	In a box	50	**631-1318**
White	In a box, cellophane wrapped	50	**630-2014**
Blue	In a box	50	**631-1320**
Blue	In a box, cellophane wrapped	50	**630-2015**
Pink	In a box, cellophane wrapped	50	**630-2016**
Yellow	In a box	50	**631-1324**
Yellow	In a box, cellophane wrapped	50	**630-2017**
Green	In a box	50	**631-1326**
Green	In a box, cellophane wrapped	50	**630-2018**
Orange	In a box	50	**631-1328**
Orange	In a box, cellophane wrapped	50	**630-2019**
Purple	In a box	50	**630-2020**
Ground 90°			
White	In a box	50	**631-0367**
Blue	In a box	50	**631-0418**
Rose	In a box	50	**631-0419**
Yellow	In a box	50	**631-0874**
Green	In a box	50	**631-0421**
Orange	In a box	50	**631-0875**
Purple	In a box	50	**630-2023**

IVD

Microscope slides
Marienfeld

Soda-lime glass, hydrolytic class 3

- For *in vitro* diagnostic (IVD) applications
- Pre-washed and ready to use
- Either ground or cut versions

W×D×H: 76×26×1 mm

Description	Pk	Cat. No.
White		
Cut edges	50	**631-9460**
Cut edges, twinfrosted 20 mm	50	**631-9461**
Ground edges 90°	50	**631-9462**
Ground edges 90°, twinfrosted 20 mm	50	**631-0015**
Extra-white (low auto-fluorescence)		
Cut edges	50	**631-9463**
Cut edges, twinfrosted 20 mm	50	**630-1604**
Ground edges 90°	50	**631-9464**
Ground edges 90°, twinfrosted 20 mm	2.500	**630-1605**

IVD

Microscope slides, UniMark®
Marienfeld

Made of soda-lime glass, hydrolytic class 3, the bright printed colours of UniMark® slides frosted ends contrast well with the markings.

- Frosted end for labelling
- Different colours to identify preparations securely
- Thin coating to facilitate the processing of the slides in automated systems

W×D×H: 76×26×1 mm

For *in vitro* diagnostic (IVD) applications.

Description	Colour	Pk	Cat. No.
With 90° ground edges			
Slides in standard packing	White	50	**631-0093**
Slides in standard packing	Yellow	50	**631-0094**
Slides in standard packing	Green	50	**631-0095**
Slides in standard packing	Blue	50	**631-0096**
Slides in standard packing	Rose	50	**631-0097**
Slides in standard packing	Orange	50	**631-1209**
Boxes (50) of 50 slides in an aluminium bag	White	2.500	**630-2513**
Boxes (50) of 50 slides in an aluminium bag	Yellow	50	**630-1599**
Boxes (50) of 50 slides in an aluminium bag	Green	50	**630-1600**
Boxes (50) of 50 slides in an aluminium bag	Blue	50	**630-1601**
Boxes (50) of 50 slides in an aluminium bag	Rose	50	**630-1602**
Boxes (50) of 50 slides in an aluminium bag	Orange	50	**630-1603**
With cut edges			
Slides in standard packing	White	50	**631-1203**
Slides in standard packing	Yellow	50	**631-1204**
Slides in standard packing	Green	50	**631-1205**
Slides in standard packing	Blue	50	**631-1206**
Slides in standard packing	Rose	50	**631-1207**
Slides in standard packing	Orange	50	**631-1208**

Microscope slides
Corning®

Plain

Frosted

Water-white glass

These slides are either frosted on one side, on both sides, or plain.

- Clarity reinforced
- Frosted slides are sandblasted, easy to write on and highly legible
- Each slide is inspected for chips and rough edge before being shipped

Description	L×W (mm)	Pk	Cat. No.
Plain	75×25	10 Pack	**734-4035**
Frosted on one side	75×25	10 Pack	**734-4039**
Frosted on both sides	75×25	10 Pack	**734-4040**
Plain	75×38	5 Pack	**734-4036**
Plain	75×50	5 Pack	**734-4037**

Adhesion slides, SuperFrost® Plus

The Superfrost Plus slides are specially treated for frozen tissue sections and cytology preparation applications, eliminating the need for special adhesives and protein coatings. By electrostatically binding tissue sections to the slide virtually preventing any loss during staining. Cytology preparations placed on these slides resist cell loss during enzyme digestion, DNA denaturation, and RNA hybridisation. Slides also improve tissue adherence during microwave staining. Slides are individually selected for uniform quality. They have precision-ground edges on all four sides and are annealed to minimise chipping and breakage. They are thin and flat, and resistant to corrosion or fogging.

- Permanent positive charge binding fresh frozen tissue sections and cytology preparations to the slide
- With 90° ground edges and colour frosted ends for labelling
- For tissue section thickness of 2 to 5 µm

W×D×H: 76×26×1 mm

Colour	Pk	Cat. No.
White	72	**631-0108**
Blue	72	**631-0446**
Rose	72	**631-0447**
Yellow	72	**631-0448**
Green	72	**631-0449**

Adhesion slides, Polysine®

These slides are coated with a permanent adhesive and provide excellent cell and tissue adhesion. Designed using the latest technology with built-in properties that electrostatically and chemically attract freshly frozen tissue sections, formalin-fixed, paraffin-embedded tissue sections or cytocentrifuge preparations and cytology smears. Recommended for molecular biology techniques, cytocentrifuged preparations to reduce tissue loss during prolonged DNA hybridisation and immunocytochemistry.

- Tissue section thickness of 2 to 5 µm
- With 90° ground edges and colour frosted end for labelling
- Adhesion superior to glue, protein or silane treated slides

W×D×H: 76×26×1 mm

Colour	Pk	Cat. No.
White	72	**631-0107**
Blue	72	**631-0683**
Rose	72	**631-0684**
Green	72	**631-0686**

Adhesive slides, Q Path®

These slides can be used for the diagnostic testing of cells suspension and tissue samples. They are produced according to the standard ISO 8037/1.

- Suitable for *in vitro* diagnostic (IVD) applications
- Store in a place with a stable temperature
- Store in a place with a low level of humidity

Conformity EN 375:2001.

Colour	Thickness (mm)	Pk	Cat. No.
White	~1	72	**630-2087**
Blue	~1	72	**630-2088**
Green	~1	72	**630-2089**
Yellow	~1	72	**630-2090**
Pink	~1	72	**630-2091**

IVD

Adhesion slides, SuperFrost® Plus, Menzel-Gläser
Thermo Scientific

The Superfrost Plus slides hold tissue sections without the need for expensive coating steps. They eliminate tissue loss during staining, as well as hours of slide preparation by electrostatically attracting frozen tissue sections and cytology preparations, binding them to the slide. Slides are made from fine sheet glass and selected for uniform quality. They have precision-ground edges on four sides and are annealed to minimize chipping and breakage, whilst also being resistant to corrosion or fogging.

- Permanent positive charge, which binds fresh frozen, fixed or embedded tissue sections and cytology preparations to the slide
- 90° ground edges and frosted ends for labelling
- Tissue section thickness of 2 to 5 µm

W×D×H: 75×25×1 mm

Description	Colour	Pk	Cat. No.
SuperFrost® Plus, cellophane wrapped, box in cellophane	White	72	**631-9483**
SuperFrost® Plus, cellophane wrapped, box in cellophane	Blue	72	**630-0950**
SuperFrost® Plus, cellophane wrapped, box in cellophane	Pink	72	**630-0951**
SuperFrost® Plus, cellophane wrapped, box in cellophane	Yellow	72	**630-0952**
SuperFrost® Plus, cellophane wrapped, box in cellophane	Green	72	**630-0954**

IVD

Adhesion slides, SuperFrost Ultra Plus®, Menzel-Gläser
Thermo Scientific

Positive electrostatic attraction strongly binds frozen tissue sections, fixed or embedded. These slides are suitable for difficult cytological preparations.

- Ground edges and frosted end for labelling
- No additional coating necessary
- No background staining in standard H&E stains
- For use in automated systems
- For 2 - 5 µm thick tissue sections

W×D×H: 75×25×1 mm

Description	Pk	Cat. No.
Adhesion slides, 90° ground edges, SuperFrost Ultra Plus®	72	**631-0099**

IVD

Adhesion slides, SuperFrost® Plus Gold, Menzel-Gläser
Thermo Scientific

Made by a glass adhesive technology which first attracts and then chemically bonds fresh or formalin-fixed frozen tissue sections firmly to the surface of the slide. For special stains, immunocytochemical and *in situ* DNA hybridisation techniques.

- With 90° ground edges and frosted end for labelling
- Securely attach difficult to bond tissue sections
- Washed and polished

W×D×H: 76×26×1 mm

Description	Pk	Cat. No.
Adhesion slides, SuperFrost® Plus Gold	72	**630-1324**

IVD

Adhesion slides, Polysine®, Menzel-Gläser
Thermo Scientific

These slides, made using a technology that electrostatically and chemically attracts fresh cell preparations, formalin fixed Bouin's or alcohol fixed paraffin embedded tissues, are ideal for immunocytochemical and molecular hybridisation assays. Unaffected by enzyme pre-digestion or heating, tissue loss is minimised in prolonged *in-situ* DNA hybridisation techniques and in immunocytochemical methods.

- With 90° ground edges and frosted end for labelling
- Adhesion superior to glue, protein or silane treated slides
- For 2 - 5 µm thick tissue sections

W×D×H: 75×25×1 mm

Description	Pk	Cat. No.
Adhesion slides, Polysine®	72	**631-1349**

IVD

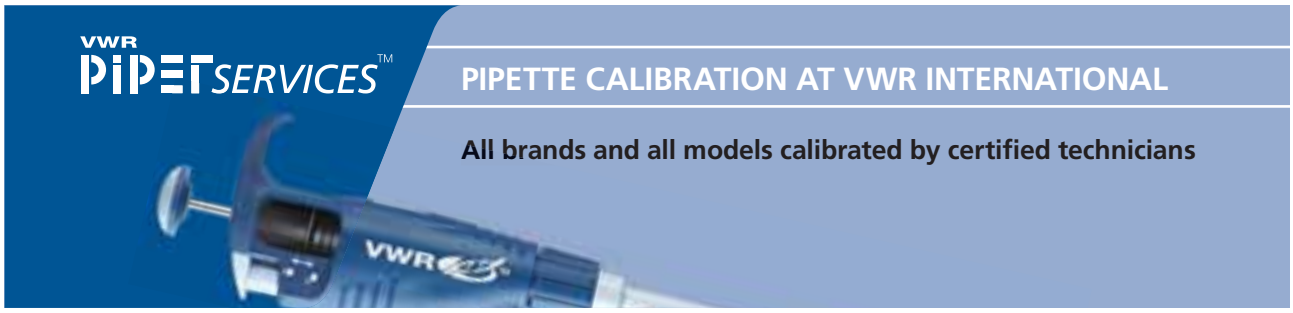
Adhesion slides, HistoBond®
Marienfeld

The glass surface of the HistoBond® slide is loaded with a permanent positive charge which fastens all types of section to the glass. Proteinic adhesives, which often interfere with stains and immunoreactions or have disturbing background effects, are no longer required. The tissue sections adhere to the glass when subjected to frequent washing or even cooking in the microwave. In most cases, this reliable bonding makes it possible to dispense with double experiments which saves time and reduces the costs of routine section preparations. HistoBond® adhesive microscope slides have silane treated surfaces are pre-cleaned and ready for use, autoclavable with silky frosted marking area of approx. 20 mm (at one end, on both sides).

- Ground edges 90°
- Twin frosted 20 mm at one end, both sides

W×D×H: 76×26×1 mm

Description	Pk	Cat. No.
Pure white glass with low self-fluorescence	50	**631-9470**
Pure white glass with low self-fluorescence	100	**631-0623**
Half white standard glass	50	**631-0624**
Half white standard glass	100	**631-0625**



Cavity slides for immunofluorescence, Menzel-Gläser
Thermo Scientific

These autoclavable slides with 90° ground edges and hydrophobic epoxy- or PTFE-coating are developed for clinical diagnosis. Available with wells or rings.

- Hydrophobic coating (PTFE)
- Bioadhesive surface
- Clean wettable wells
- Versions with round wells: 631-0456, 631-0462, 631-0470, 631-0476, 631-0479 and 631-0480
- Chemically resistant

W×D×H: 75×25×1 mm

Material	Colour	No. of wells	Well Ø (mm)	Pk	Cat. No.
Epoxy-coated					
Epoxy	White	1	8	100	**631-0463**
Epoxy	White	1	15	100	**631-0464**
Epoxy	Black	3	10	100	**631-0455**
Epoxy	Black	3	12	100	**631-0454**
Epoxy	Black	3	14	100	**631-0453**
Epoxy	White	5	8	100	**631-0456**
Epoxy	Black	6	10	100	**631-0458**
Epoxy	Black	8	6	100	**631-0451**
Epoxy	Black	8	11	100	**631-0459**
Epoxy	Black	10	6	100	**631-0457**
Epoxy	White	12	5	100	**631-0452**
Epoxy	Black	12	14	100	**631-0462**
Epoxy	Black	21	4	100	**631-0460**
Epoxy	Black	30	2	100	**631-0461**
PTFE-coated					
PTFE	White	1	8	100	**631-0477**
PTFE	White	1	15	100	**631-0478**
PTFE	Black	3	10	100	**631-0469**
PTFE	Black	3	12	100	**631-0468**
PTFE	Black	3	14	100	**631-0467**
PTFE	White	5	8	100	**631-0470**
PTFE	Black	8	6	100	**631-0465**
PTFE	Black	8	11	100	**631-0473**
PTFE	Black	10	6,7	100	**631-1371**
PTFE	White	12	5	100	**631-9423**
PTFE	White	12	5	100	**631-0476**
PTFE	Black	21	4	100	**631-0474**
PTFE	Black	30	2	100	**631-0475**
Latex-coagulation					
Latex	Black/Yellow	3	26	50	**631-0480**

Cavity slides
Marienfeld

Soda-lime glass, hydrolytic class 3

The cavities are carefully ground and polished. This results in grooveless, immaculate surfaces.

- Pre-cleaned
- *In vitro* diagnostic (IVD) applications according to IVD directive 98/79/EC
- Recommended best before date and batch number for comprehensive information and traceability

W×D×H: 76×26×1,5 mm

Well depth: 0,6 - 0,8 mm

Description	Colour	No. of wells	Well Ø (mm)	Pk	Cat. No.
Ground edges	Clear	1	1,5 - 1,8	10	**631-9475**
Ground edges	Clear	1	1,5 - 1,8	50	**630-1611**
Ground edges	Clear	2	1,5 - 1,8	50	**630-1612**
Ground edges	Clear	3	1,5 - 1,8	50	**630-1613**

Cover glasses

Pure white glass of hydrolytic class I

The cover slips are suitable for *in vitro* diagnostic (IVD) applications.

- No bubbles, no flaws
- Pre-washed
- Rectangular or square shape

Thickness: 0,13 - 0,16 mm

Packaging: 100 slips packed in dispenser boxes with separate lid.

L×W (mm)	Pk	Cat. No.
Rectangular		
21×26	2.000	**631-1569**
24×32	1.000	**631-1572**
24×40	1.000	**631-1573**
24×50	1.000	**631-1574**
24×60	1.000	**631-1575**
Square		
15×15	1.000	**631-1566**
18×18	1.000	**631-1567**
20×20	1.000	**631-1568**
22×22	1.000	**631-1570**
24×24	1.000	**631-1571**

Cover glasses, rectangular

Pure white glass of hydrolytic class 1

- Without bubbles or flaws
- Cleaned and polished

Delivery information: Packed in plastic hinged lid dispenser boxes.

L×W (mm)	Thickness (mm)	Pk	Cat. No.
18×24	0,13	1.000	**631-0130**
20×20	0,13	1.000	**631-0122**
22×32	0,13	1.000	**631-0133**
22×32	0,16	1.000	**631-0134**
22×40	0,13	1.000	**631-0135**
22×40	0,16	1.000	**631-0136**
22×50	0,13	1.000	**631-0137**
22×50	0,16	1.000	**631-0138**
24×32	0,13	1.000	**631-0143**
24×32	0,16	1.000	**631-0144**
24×40	0,13	1.000	**631-0145**
24×50	0,13	1.000	**631-0146**
24×50	0,16	1.000	**631-0147**
25×40	0,13	1.000	**631-0165**

Cover glasses, square

Pure white glass of hydrolytic class 1

- No bubbles or flaws
- Cleaned and polished

Packaging: In a plastic box with hinged lid.

L×W (mm)	Thickness (mm)	Pk	Cat. No.
18×18	0,08	1.000	**631-0119**
18×18	0,13	1.000	**631-0120**
18×18	0,16	1.000	**631-0121**
22×22	0,08	1.000	**631-0123**
22×22	0,13	1.000	**631-0124**
22×22	0,16	1.000	**631-0125**
22×22	0,19	1.000	**631-0126**
24×24	0,13	1.000	**631-0127**

Cover glasses, round

Pure white glass of hydrolytic class I

These round cover slips are suitable for *in vitro* diagnostic (IVD) applications.

- No bubbles, no flaws
- Pre-washed

Thickness: 0,13 - 0,16 mm

Packaging: 100 slips packed in dispenser boxes with separate lid.

Ø (mm)	Pk	Cat. No.
10	1.000	631-1576
12	1.000	631-1577
13	1.000	631-1578
15	1.000	631-1579
18	1.000	631-1580
20	1.000	631-1581
22	1.000	631-1582
24	1.000	631-1583
25	1.000	631-1584
30	1.000	631-1585

Cover glasses, round

Pure white glass of hydrolytic class 1

- Without bubbles or flaws
- Cleaned and polished

Packaging: In plastic dispenser boxes with hinged lid.

Ø (mm)	Thickness (mm)	Pk	Cat. No.
6	0,08	1.000	631-0168
9	0,13	1.000	631-0169
10	0,08	1.000	631-0170
13	0,08	1.000	631-0148
13	0,13	1.000	631-0149
13	0,16	1.000	631-0150
16	0,08	1.000	631-0151
16	0,13	1.000	631-0152
18	0,16	1.000	631-0153
19	0,08	1.000	631-0154
19	0,13	1.000	631-0155
19	0,16	1.000	631-0156
22	0,08	1.000	631-0157
22	0,13	1.000	631-0158
22	0,16	500	631-1089
24	0,13	1.000	631-0161
25	0,13	1.000	631-0171
25	0,16	1.000	631-0172
30	0,13	1.000	631-0174
32	0,13	1.000	631-0162
35	0,08	1.000	631-0175
35	0,13	1.000	631-0176
40	0,13	1.000	631-0177
50	0,13	1.000	631-0178

Cover glasses, Thermanox™, Nunc™
Thermo Scientific

These cover glasses remain flat during normal use.

- Resistant to common solvents
- Autofluorescent from 380 to 545 nm
- Surfaced treatment on one side for optimal cell attachment and growth

Thickness: 0,2 mm

L×W (mm)	Pk	Cat. No.
24×30	500	**734-2154**
10,5×22	500	**734-2115**
22×60	500	**734-2116**

Cover glasses, Menzel-Gläser
Thermo Scientific

Pure white glass of hydrolytic class 1

The cover slips are suitable for *in vitro* diagnostic (IVD) applications.

- Uniform quality of thickness
- No bubbles or flaws
- Pre-washed for IVD applications

L×W (mm)	Thickness (mm)	Pk	Cat. No.
Square/rectangular			
9×35	0,13 - 0,16	1.000	**631-0423**
9×50	0,13 - 0,16	1.000	**631-0426**
10×50	0,13 - 0,16	1.000	**631-0428**
12×12	0,13 - 0,16	1.000	**631-9448**
15×15	0,13 - 0,16	1.000	**631-0710**
18×18	0,13 - 0,16	1.000	**631-1331**
20×20	0,13 - 0,16	1.000	**631-1334**
21×26	0,13 - 0,16	1.000	**631-1335**
22×22	0,13 - 0,16	1.000	**631-1336**
22×22	0,16 - 0,19	1.000	**631-0851**
22×32	0,13 - 0,16	1.000	**631-0852**
22×40	0,16 - 0,19	1.000	**631-1370**
22×50	0,08 - 0,12	1.000	**630-1461**
22×50	0,13 - 0,16	1.000	**631-1365**
24×24	0,13 - 0,16	1.000	**631-1337**
24×32	0,13 - 0,16	1.000	**631-0711**
24×36	0,13 - 0,16	1.000	**631-0712**
24×40	0,13 - 0,16	1.000	**631-1333**
24×50	0,16 - 0,19	1.000	**631-9430**
24×55	0,13 - 0,16	1.000	**631-9444**
24×60	0,13 - 0,16	1.000	**631-1339**
24×60	0,16 - 0,19	1.000	**631-0853**
25×50	0,13 - 0,16	1.000	**631-0854**
32×32	0,13 - 0,16	1.000	**630-0953**
50×75	0,13 - 0,16	1.000	**631-9431**
Automated - for Shandon slipping equipment			
24×40	0,13 - 0,16	1.000	**631-0974**
24×50	0,13 - 0,16	1.000	**631-0901**
24×60	0,13 - 0,16	1.000	**631-0973**

IVD

Cover glasses, round, Menzel-Gläser
Thermo Scientific

Pure white glass of hydrolytic class 1

These cover glasses are suitable for *in vitro* diagnostic (IVD) applications.

- Uniform quality of thickness
- No bubbles, no flaws
- Pre-washed

Ø (mm)	Thickness (mm)	Pk	Cat. No.
10	0,13 - 0,16	1.000	**631-1340**
12	0,13 - 0,16	1.000	**631-0713**
14	0,13 - 0,16	1.000	**631-0899**
15	0,13 - 0,16	1.000	**631-1341**
18	0,13 - 0,16	1.000	**631-1342**
18	0,19 - 0,23	1.000	**630-1462**
20	0,13 - 0,16	1.000	**631-1343**
22	0,13 - 0,16	1.000	**631-1344**
24	0,13 - 0,16	1.000	**631-1345**
25	0,13 - 0,16	1.000	**631-1346**
30	0,13 - 0,16	1.000	**631-1347**

IVD

Cover glasses
Marienfeld

Chemically resistant borosilicate glass D 263™ M of hydrolytic class I

- Without bubbles or flaws
- Suitable for *in vitro* diagnostic (IVD) applications

Thickness: 0.13 - 0.16 mm

Packaging: Per 100 in hinged boxes or in boxes with separate lid.

L×W (mm)	Pk	Cat. No.
Plastic boxes with separate lid		
12×12	1.000	**630-1585**
15×15	1.000	**631-0655**
16×16	1.000	**630-1586**
18×18	1.000	**631-0656**
20×20	1.000	**631-0657**
22×22	1.000	**631-0653**
24×24	1.000	**631-0659**
Plastic boxes with hinged lid		
22×22	2.000	**630-1587**
24×24	2.000	**630-1588**
21×26	2.000	**630-1589**
22×40	1.000	**630-1590**
22×50	1.000	**630-1591**
22×60	1.000	**630-1592**
24×36	1.000	**630-1593**
24×46	1.000	**630-1594**
24×48	1.000	**630-1595**
24×55	1.000	**630-1596**

IVD

Cover glasses
Marienfeld

These rectangular cover slips for haemocytometers/counting chambers are available in three different formats. They are suitable for *in vitro* diagnostic (IVD) applications.

Thickness: 0,4 mm

Packaging: In poly bags, ten plastic bags each containing ten cover slips in a slide box.

L×W (mm)	Pk	Cat. No.
20×26	100	**631-0673**
22×22	100	**631-0674**
24×24	100	**631-0675**

Cover glasses
Marienfeld

Borosilicate glass D 263™ M, hydrolytic class 1

- Colourless, suitable for fluorescence microscopy
- High-precision cover glasses with a thickness of 170 µm for improved quality
- Highly recommended for objectives with high numerical aperture and high resolution

Description	L×W (mm)	Ø (mm)	Thickness (mm)	Pk	Cat. No.
Square / Rectangular					
Cover glasses, square	18×18	-	0,17	2.000	**630-2185**
Cover glasses, square	22×22	-	0,17	2.000	**630-2186**
Cover glasses, rectangular	24×50	-	0,17	1.000	**630-2187**
Cover glasses, rectangular	24×60	-	0,17	2.000	**630-2188**
Round					
Cover glasses, round	-	10	0,17	1.000	**630-2189**
Cover glasses, round	-	12	0,17	1.000	**630-2190**
Cover glasses, round	-	13	0,17	1.000	**630-2191**
Cover glasses, round	-	18	0,17	1.000	**630-2200**
Cover glasses, round	-	24	0,17	1.000	**630-2204**
Cover glasses, round	-	25	0,17	1.000	**630-2213**

IVD

Cover glasses, round
Marienfeld

Pure white borosilicate glass D 263 ™ M of hydrolytic class I

- No bubbles, no flaws
- Suitable for *in vitro* diagnostic (IVD) applications

Thickness: 0,13 - 0,16 mm

Packaging: 100 cover glasses per box with separate lid.

Ø (mm)	Pk	Cat. No.
10	1.000	**631-0665**
12	1.000	**631-0666**
13	1.000	**630-1597**
14	1.000	**631-0692**
15	1.000	**631-0667**
16	1.000	**631-0668**
18	1.000	**631-0669**
20	1.000	**631-0670**
22	1.000	**631-0671**
24	1.000	**631-0672**
25	1.000	**631-0693**
30	1.000	**631-0694**

Cover glasses, Corning® BioCoat™
Corning®

Made of German glass No. 1, these cover glasses have a uniform coating of either poly-L-lysine, poly-D-lysine and laminin, human fibronectin or rat tail collagen. They are designed for applications where optically clear, thin glass bottoms are needed such as immunofluorescence microscopy, fluorescence imaging of live cells, confocal microscopy, high resolution and inverted microscopy and phase contrast microscopy.

- Optically clear
- Low background fluorescence
- Non-neurotoxic

Continued on next page

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Description	Ø (mm)	Pk	Cat. No.
Round coverslips, Poly-L-Lysine coated	12	80	734-1005
Round coverslips, Poly-D-Lysine coated	12	80	734-1006
Round coverslips, Poly-D-Lysine/Laminin coated	12	80	734-1007
Round coverslips, Fibronectin coated	22	60	734-1008
Round coverslips, Collagen I coated	22	60	734-1009

Slide holders

PE

Sturdy slide holder designed for 15, 40 or 90 standard slides (76×26 mm).

- For drying and cleaning

Colour: White

Description	Pk	Cat. No.
Slide holder for 15 slides	1	631-0717
Slide holder for 40 slides	1	631-0718
Slide holder for 90 slides	1	631-0719

Slide cabinet, Q Path®

Cardboard

- Rigid, plastic laminated and stackable
- For long term storage
- Four drawers

W×D×H: 290×295×90 mm

Colour: Yellow

Description	Pk	Cat. No.
Slide cabinet for 1860 slides	10	631-1064

Slide cabinets, Q Path®

Cardboard

This model with lid is designed for the storage of 1000 slides. It can be used in cytology and histology applications.

W×D×H: 84×155×310 mm

Description	Pk	Cat. No.
Cardboard slide cabinets for 1000 slides	10	631-1066

Slide holder cabinet

This cabinet stores 100 microscope slide holders (up to 400 slides). The cardboard microscope slide holders offer instant reference and fast fingertip retrieval. They sort, classify, or arrange slides in any order. Cards can be added, removed or changed for fast updating.

- Durable holder is 75×125 mm cardboard fitted with a protective plastic frame, which provides secure protection of specimens
- Each slide holder card accepts four 75×26 mm slides of any thickness
- Visible, four position tabs provide 'in-sight' indexing, and ruled data lines keyed to numbered slots allow complete slide identification and comments

L×W×D: 413×130×165 mm

Weight: 450 g

Description	Pk	Cat. No.
Microscope slide holder cabinet	1	**631-0824**
Microscope slide holders	12	**631-0823**

Slide folders

Cardboard

Slide trays hold 20 or 30 standard microscopy slides (76×26 mm).

- Thumb cut for easy slide removal
- Horizontal compartments are recessed protecting the specimens when the cover is closed

Colour: White (black rims)

Description	Pk	Cat. No.
Tray for 20 slides	1	**631-0689**
Tray for 30 slides	1	**631-0690**

Slide trays, Q Path® Flip Top

Plastic

These models are available with or without lid, allowing for safe transport of 20 slides.

Colour: White or blue

Description	Pk	Cat. No.
White flip tray with lid	1	**631-1076**
White flip tray	10	**631-1077**
Blue flip tray with lid	1	**631-1078**

Slide trays
Kartell

PVC

Work station for 76×26 mm slides.

- Easy identification of different dyes on the slides
- Easy removal of slides

Colour: White

Description	Pk	Cat. No.
Tray for 20 slides, 340×190 mm	1	**631-9004**
Tray for 40 slides, 680×190 mm	1	**631-9144**

Slide boxes, Q Path®

PP

This box for five slides prevents the items from breaking or sticking. It can be used for applications in cytology, such as conventional smears.

W×D×H: 82×30×18 mm

Description	Colour	Pk	Cat. No.
Plastic slide boxes for 5 slides	Translucent	500	**631-1079**

Slide boxes

Plastic

These heavy duty, two piece microscope slide boxes store 25, 50 or 100 standard slides (76×26 mm) for transport.

- Stack securely on top of each other
- Colour coded for easy identification
- Slide inventory sheet on inside of the cover
- Separate lid (box for 25), lid with plastic snap closure (box for 50) or with nickel plated clasp and hinge pin (box for 100)

W×D×H: 141×88×35 mm (25), 208×175×34 mm (50), 141×88×35 mm (100)

Colour	Pk	Cat. No.
Cork lined, for 25 slides		
Blue	1	**631-1506**
Green	1	**631-1507**
Red	1	**631-1508**
White	1	**631-1510**
Foam lined, for 25 slides		
Blue	1	**631-1522**
Red	1	**631-1524**
White	1	**631-1526**
Cork lined, for 50 slides		
Blue	1	**612-2706**
Red	1	**612-2707**
White	1	**612-2708**
Cork lined, for 100 slides		
Blue	1	**631-1500**
Green	1	**631-1501**
Red	1	**631-1502**
Yellow	1	**631-1503**
White	1	**631-1504**
Foam lined, for 100 slides		
Blue	1	**631-1517**
Red	1	**631-1519**
White	1	**631-1521**

Slide boxes

PP

Slide boxes holding either 25 or 100 standard slides (76×26 mm).

- Hinged lids are held securely closed by latch lock
- Stacking feet maximise stability when placed on top of one another
- Slide inventory sheet on the inside of the lid

W×D×H: 90×140×35 mm (for 25), 165×210×35 mm (for 100)

Colour	Pk	Cat. No.
For 25 slides		
White	1	**631-0738**
Blue	1	**631-0739**
Red	1	**631-0740**
For 100 slides		
White	1	**631-0735**
Blue	1	**631-0736**
Red	1	**631-0737**

Slide boxes, SlideFile™

SlideFile™ is designed to store 75×25 mm slides. A removable tray inside the storage box allows for having 100 individual numbered slots. This impact resistant storage system can hold up to 400 slides per unit, for space efficient storage. All slides are stored upright for easier manipulation. The number of slides can be doubled, by storing two slides per slot. Not autoclavable.

- Available in five different colours to help slide classification and minimise the possibility of sample mix-up
- Transparent hinged cover makes it easy to see the contents of the box at a glance
- Unique feature with this system to read barcodes without having to remove the slides from the box
- Stackable

W×D×H: 82×245×86 mm

Delivery information: Each system includes a slide box and a removable tray. Index cards are numbered from one to 100 for recording slide titles are supplied with each box.

Colour	Pk	Cat. No.
Blue	10	**631-1900**
Green	10	**631-1901**
Pink	10	**631-1902**
White	10	**631-1903**
Yellow	10	**631-1904**

Slide mailers

PP, natural or coloured

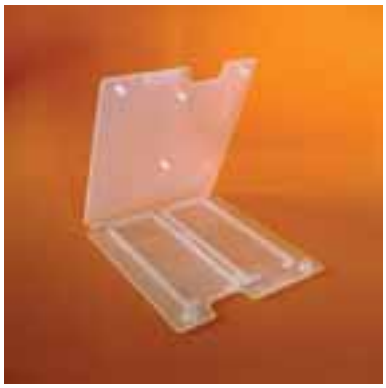
This secure protection for two standard slides (76×26 mm) is designed for storage and shipping.

- Large, easy to secure snap caps
- Particularly suitable for mailing by standard mail
- Colourful designs make them easy to identify and sort

Ordering information: The range contains slide mailers in red, yellow, blue, purple and orange.

Description	Colour	Pk	Cat. No.
Slide mailers	Assorted	25	**211-0341**
Slide mailers	Natural	25	**211-0342**

Slide mailers, Q Path®



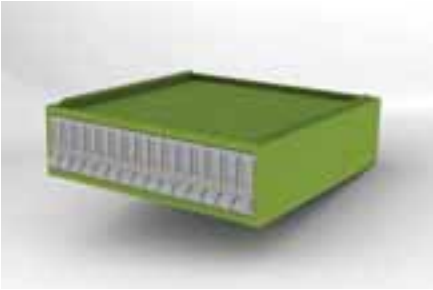
PP

These mailers are designed for cytology applications.

- Two formats
- Rigid material
- For clinical studies

Description	Pk	Cat. No.
Two compartments, 95×85 mm	600	**631-1074**
Three compartments, 95×104 mm	600	**631-1075**

Slide organisers, Q Path®



These robust organisers allow for archiving a large number of microscope slides.

- Stackable

W×D×H: 480×480×140 mm

Delivery information: Supplied with a locking rack.

Description	Pk	Cat. No.
Metal bloc with PVC slide drawers (14) for 5500 slides, 12 kg	1	**631-1068**
Metal bloc with metal slide drawers (14) for 5500 slides, 17 kg	1	**631-1069**

Description	Pk	Cat. No.
Accessories		
Base for organisers with 2, 7, 8 or 14 drawers	1	**631-1071**
Lid for organisers with 2, 7, 8 or 14 drawers	1	**631-1073**
Locking rack for 76×26 mm slides	10	**631-1070**

Slide drawers, Q Path®

Metal

These metalic drawers are suitable for the storage of 50×50 mm or 80×57 mm microscopy slides.

- For 2700 slides

Weight: 9 kg

Description	Pk	Cat. No.
Organiser for transparencies with seven metal drawers	1	**631-1049**

Description	Pk	Cat. No.
Accessories		
Base for organisers with 2, 7, 8 or 14 drawers	1	**631-1071**
Lid for organisers with 2, 7, 8 or 14 drawers	1	**631-1073**

Slide drawer
Kartell

ABS

Stackable drawers with lid and wheels to store up to 10 000 standard microscope slides.

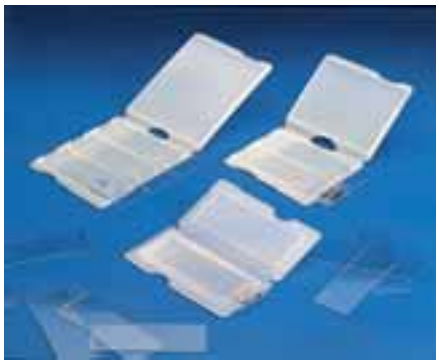
- One drawer can accommodate ten supports/slide boxes (631-9750 for 100 slides)
- Up to ten drawers can be stacked

W×D×H: 420×420×140 mm (one drawer)

Ordering information: Parts need to be ordered separately. For use with microscope slide boxes (631-9750).

Description	Pk	Cat. No.
Drawer	1	**631-9146**
Lid for drawer	1	**631-9147**
Set of four wheels	1 SET	**631-9148**

Slide mailers
Kartell



HDPE

These mailers are suitable for the safe transportation of cytological and geological microscope slides.

- Separate compartment with guide rails and more space for each slide
- Flush closing
- Light, flat

W×D×H: 50×100×6 mm (for 1); 67×85×6 mm (for 2); 84×100×6 mm (for 3)

Description	Colour	Pk	Cat. No.
Slide mailer for one slide	Clear	10	**631-9160**
Slide mailer for three slides	Clear	10	**631-9161**
Slide mailer for two slides	Clear	10	**631-9145**

Slide mailer
Kartell

PP

For storing and shipping five to ten microscope slides depending on their thickness or a 12 ml specimen. Supplied with small loop on cap for tagging.

- Very robust, chemically inert
- 20 mm of slide projects above jar for easy removal
- Very deep tap thread allowing leakproof seal for shipment

Ø×H: 45×90 mm

Description	Colour	Pk	Cat. No.
Slide mailer	White	1	**631-9150**

Slide mailer
Heathrow Scientific

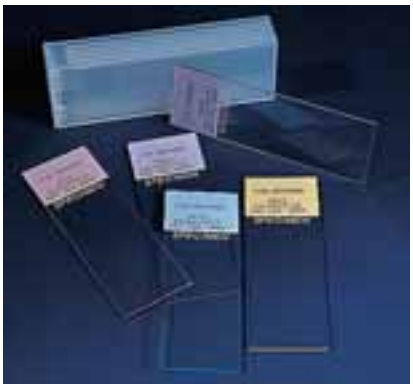
PP

For five standard slides. Useful for transporting and storing slides, as well as for staining.

- Snap closure on one end
- Guide rails for separate storage and easy removal

Description	Colour	Pk	Cat. No.
Slide mailer	Translucent	25	**631-9782**

Slide mailer, Menzel Gläser
Thermo Scientific



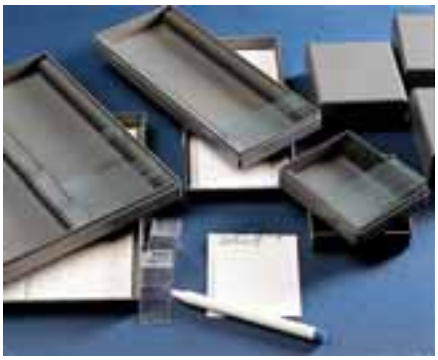
This box holds five standard slides securely and prevents breakage.

- Prevents contact with other slides
- Tissue samples and smears can be transported without damage

W×D×H: 82×30×15 mm

Description	Colour	Pk	Cat. No.
Slide mailer	Clear	1	**631-1302**

Slide boxes
Kartell



PS

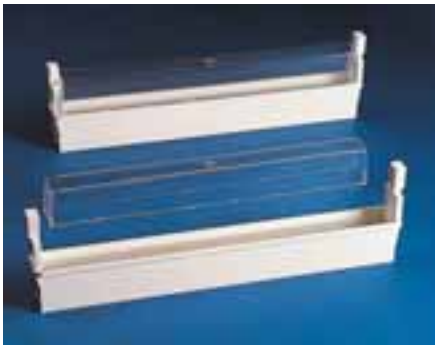
These high impact resistant slide boxes for 25, 50 or 100 standard slides (76×26 mm) have removable lids.

- Well spaced slots for easy handling of slides
- Numbering for cross reference with corresponding index card
- Locating lugs so boxes can be stacked

W×D×H: 83×98×38 mm (for 25); 97×230×35 mm (for 50); 280×230×35 mm (for 100)

Description	Colour	Pk	Cat. No.
Box for 25 slides	Grey	1	**631-9140**
Box for 50 slides	Grey	1	**631-9141**
Box for 100 slides	Grey	1	**631-9142**

Slide boxes
Kartell



PS

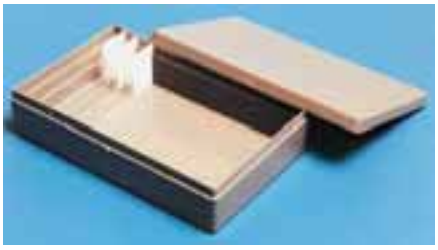
For storage of large quantities of 76×26 mm microscope slides.

- Each unit accommodates 100 slides
- Each cavity is numbered
- Can be stored in drawers (631-9146)

W×D×H: 38×360×100 mm

Description	Pk	Cat. No.
Lid (dust cover)	2	**630-1323**
Storage system (without lid)	2	**631-9750**

Slide box



Plastic

For 50 slides (76×26 mm). Close fitting lid and index.

Description	Pk	Cat. No.
Microscope slide box	10	**631-0100**

Dissection sets
RSG Solingen

Stainless steel

These instruments are designed for the dissection of samples ready for microscopic analysis.

- **Small set - 6 pcs.** Scalpel pointed, 160 mm, blade 40 mm; spatula, 150×10 mm; tweezer pointed, straight, 105 mm; microscopy scissors, straight, 100 mm; needle straight with plastic handle, 140 mm; lance with plastic handle, 140 mm
- **Large set - 9 pcs.** Scalpel pointed, 160 mm, blade 40 mm; spatula 150×10 mm; tweezer pointed, straight, 105 mm; microscopy scissors, straight, 100 mm; microscopy scissors, curved, 100 mm; needle straight with plastic handle, 140 mm; needle curved with plastic handle, 140 mm; lance with plastic handle, 140 mm; razor with blade and plastic handle
- **Anatomical set - 13 pcs.** Scalpel pointed, 160 mm, blade 40 mm; scalpel pointed, 130 mm, blade 17 mm; scalpel round, 130 mm, blade 17 mm; spatula 150×10 mm; tweezer pointed, straight, 105 mm; tweezer blunt, straight, 115 mm; microscopy scissors, straight, 100 mm; microscopy scissors, curved, 100 mm; bandage scissors pointed / blunt, 130 mm; director, 150 mm; needle straight with plastic handle, 140 mm; needle curved with plastic handle, 140 mm; lance with plastic handle, 140 mm

Delivery information: Supplied in leather case with zipper.

Description	Pk	Cat. No.
Small microscopy set, 6 pcs.	1 SET	**631-0616**
Large microscopy set, 9 pcs.	1 SET	**631-0617**
Anatomical dissecting set, 13 pcs.	1 SET	**631-0618**

Dissection sets

These high quality dissecting instruments are designed for everyday use. They are subject to stringent manufacturing quality procedures, and therefore suitable for surgical applications.

The Basic Set includes:

- Two scalpels
- Two needles
- One seeker
- One blunt forceps
- One sharp forceps
- One fine scissors
- One blunt scissors

The Advanced Set includes:

- Three scalpels
- Two needles
- One seeker
- One section lifter
- One blunt forceps
- One sharp forceps
- One sharp curved forceps
- One fine scissors
- One blunt scissors
- One section razor

Description	Pk	Cat. No.
Dissection kit Basic Set in PVC roll, 9 pcs.	1	**631-1092**
Dissection kit Advanced Set in PVC roll, 13 pcs.	1	**631-1093**

Staining jars
Kartell

PMP

Staining jar supplied with two lids. Caution: Xylene can cause etching after two days at room temperature.

- One lid for when rack is not in use, providing evaporation free storage of staining liquid
- Second lid with special opening to allow handle of staining rack (631-9520) to be inserted

Delivery information: For use with 631-9520.

Description	W×D×H (mm)	Pk	Cat. No.
Staining jar with 2 lids	81×101×70	1	**631-9511**

Staining jars
Kartell

PMP (TPX), transparent

Staining jar similar to Hellendahl design for 16 standard microscope slides 76×26 mm (in pairs, back to back).

• Extension and cover

Description	W×D×H (mm)	Pk	Cat. No.
Staining jar, Hellendahl type	57×57×90	1	**631-9130**

Staining jars according to Hellendahl
Wheaton

Soda-lime glass

These staining jars hold up to eight single standard slides (76×26 mm) positioned vertically or 16 slides back to back.

• Wide top for convenient transfer
• For staining slides that are inscribed on one end

Description	W×D×H (mm)	Pk	Cat. No.
Staining jar acc. to Hellenddahl	76×25×75	6	**720-0711**

Staining jars according to Hellendahl
Wheaton

Soda-lime glass

Staining jar holds eight individual 76×26 mm standard slides or 16 slides back to back.

• Easy to use due to wide opening
• For staining or use as a TLC developing chamber

Description	W×D×H (mm)	Pk	Cat. No.
Staining jar acc. to Hellendahl	42×26×85	6	**720-0710**

Staining jars

Soda-lime glass

For 10 standard microscopy slides (76×26 mm).

Description	Pk	Cat. No.
Staining jar according to Coplin	1	**631-9331**

Staining jars according to Coplin
Wheaton

Soda-lime glass

This staining jar has the capacity for up to ten standard slides of 76×26 mm with white PP screw cap.

- Slides extend above the opening
- Easy manipulation without using forceps
- Stable rectangular base

Description	W×D×H (mm)	Pk	Cat. No.
Staining jar acc. to Coplin, with screw cap	26×26×70	6	**720-0707**

Staining jar according to Coplin

Soda-lime glass. With grooves, to accept ten 76×26 mm slides, vertically, back to back.

- Complete with drop-on lid

Description	Pk	Cat. No.
Staining jar acc. to Coplin	1	**720-0576**

Staining racks
Kartell

PP

Staining rack with horizontal tray, holds 20 standard slides 76×26 mm.

- For use with 631-9511

W×D×H: 86×695×21 mm

Description	W×D×H (mm)	Pk	Cat. No.
Staining rack	86×695×21	1	**631-9520**

Staining racks
Kartell

Made from POM (polyoxymethylene)

For staining and autoradiography.

- Rack for 25 slides
- Staining trough with lid for one rack

Description	W×D×H (mm)	Pk	Cat. No.
Rack for 25 slides	91×79×38	1	**631-0357**
Staining trough for one rack with drainage platform	100×87×51	1	**631-0358**
PS storage box for up to four racks	192×169×39	1	**631-0359**

Staining racks, with dishes
Wheaton

Soda-lime glass and stainless steel

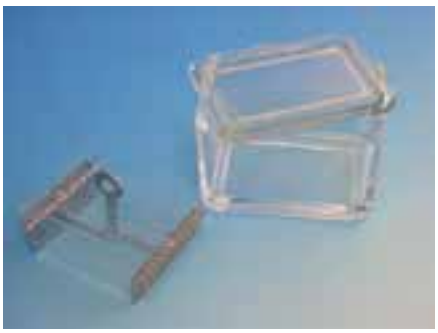
Dishes with lids and rack available in different sizes.

- Rack for 16 standard slides (32 back to back)
- Rack for 40 standard slides (76×26 mm) or for use with 76×38 mm slides or 76×51 mm slides

W×D×H: 70×120×90 mm

Description	W×D×H (mm)	Pk	Cat. No.
Rack with handle for 16 slides		3	**720-0702**
Rack with handle for 40 slides		3	**720-0706**
Dish	70×120×90	3	**720-0703**
Lid		3	**720-0704**
Dish and lid complete	70×120×90	6	**720-0705**

Staining dishes



Soda-lime glass

Staining dish for 76×26 mm slides or slides with width up to 45 mm.

- Removable cover

Description	W×D×H (mm)	Pk	Cat. No.
Staining dish with lid, without tray	90×70×65	1	**631-0347**
Staining dish with lid and tray for 10 slides	90×70×65	1	**631-0346**

Description	W×D×H (mm)	Pk	Cat. No.
Accessories for staining dishes			
Lid for staining dish	-	1	**631-0864**
Stainless steel rack for staining jars, for 10 slides	-	1	**631-0348**

Staining jars

631-9313

631-9311

631-9310

Soda-lime glass

These staining jars are suitable for standard microscope slides (76×26 mm).

- Three versions
- For 16 or 10 slides
- Acc. to Hellendahl or Schiefferdecker

Description	Pk	Cat. No.
Staining dishes acc. to Schiefferdecker, for up to 10 slides	1	**631-9313**
Staining dishes acc. to Hellendahl, for up to 16 slides, with extension	1	**631-9311**
Staining dishes acc. to Hellendahl, for up to 16 slides	1	**631-9310**

Staining Dish
Wheaton

Soda-lime glass

This staining dish with lid can hold ten single standard slides of 76×26 mm or 20 slides back to back.

- Accommodates 19 slides arranged alternately straight across and diagonally

Description	W×D×H (mm)	Pk	Cat. No.
Staining dish	80×55×35	6	**720-0701**

Staining dishes
Wheaton

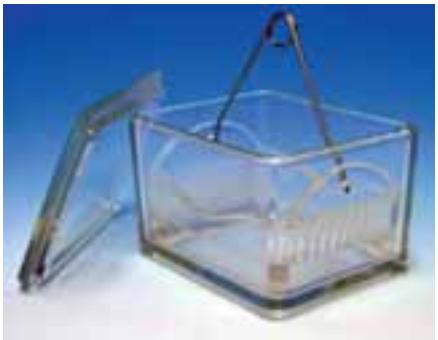
Soda-lime glass and stainless steel

Standard for manual staining procedures. The rack holds 10 single slides, 19 slides arranged alternately straight across and diagonally, or 20 slides back to back of standard size 75×25 mm, 75×38 mm and 75×51 mm.

- Removable glass slide rack has an open bottom to facilitate rapid immersion and drainage, reducing carry-over

Description	W×D×H (mm)	Pk	Cat. No.
Staining dish, complete, includes dish, cover and rack	95×76×64	6	**631-2500**
Staining dish, only	95×76×64	3	**631-2501**
Cover for staining dish	-	3	**631-2502**
Staining dish with cover	95×76×64	3	**631-2503**
Staining rack, only, for 10 to 20 slides	-	3	**631-2504**
Handles for staining racks	-	6	**631-2505**

Staining jars



Soda-lime glass

Staining system contains staining jar, rack and handle made from stainless steel.

- For 10 standard slides (76×26 mm)

Description	W×D×H (mm)	Pk	Cat. No.
Staining jar with lid, for rack 631-9321	105×85×80	1	**631-9328**
Rack for 10 slides, glass, without handle	-	1	**631-9321**
Handle, stainless steel, for staining rack 631-9321	-	1	**631-9329**

Slide staining system, StainTray™ M920

ABS plastic

The StainTray™ has a black, rigid base that is resistant to a wide range of chemicals (avoid chlorinated hydrocarbons). It can hold up to 20 slides on 4 plastic rails covered with a polymer strip for holding slides perfectly in place even if the tray is held at an angle. This tray is suitable for routine staining requiring a humid chamber, and is ideal for haematology, cytology and microbiology laboratories. Single-handed operation makes handling safe and easy.

- The tray is available with a choice of two possible covers - a clear one allowing for visual examination or a black one for fluorescent work
- Drain plug can be removed so that the tray can be emptied easily
- Four rubber feet are provided to increase stability of the base. The units are stackable to save space

W×D×H: 380×240×45 mm

Description	Pk	Cat. No.
Base with transparent lid	1	**631-1922**
Base with black lid	1	**631-1923**
Transparent lid, PETG	1	**631-1924**
Black lid, ABS plastic	1	**631-1925**

Staining systems, EasyDip™

Acetal plastic

The slide staining system has two components: A square staining jar and a 12-position vertical slide rack. The staining jar is made of resistant acetal plastic and will resist most staining agents including alcohol and xylene but not phenol. Autoclavable, it is therefore suitable for special stains, frozen sections and special processes.

- Jars can be loosely joined to each other to keep the same order when moved around
- Wide stable base for stability while inside is recessed to reduce reagent volume
- Available in five colours to aid identification of contents or applications
- Assorted: Blue, green, pink, white and yellow

Volume: 80 ml

W×D×H: 76×64×92 mm

Ordering information: The slide staining rack is included with article 720-0791 only.

Description	Colour	Pk	Cat. No.
Kit with 5 jars and 1 rack	Assorted	1 KIT	**720-0791**
Slide staining cuvettes	Blue	6	**720-0792**
Slide staining cuvettes	Green	6	**720-0794**
Slide staining cuvettes	Rose	6	**720-0795**
Slide staining cuvettes	White	6	**720-0796**
Slide staining cuvettes	Yellow	6	**720-0797**
Slide staining rack	Dark Grey	6	**720-0793**

Description	Pk	Cat. No.
Accessories		
Stainless steel holder for EasyDip™, 425×102×38 mm	1	**630-1540**

Staining tiles
Haldenwanger

Glazed porcelain

These large tiles with cavities/wells are suitable for staining applications.

Colour: White

No. of wells	Well size (mm)	Pk	Cat. No.
6	Ø×H: 36×11	1	**631-9201**
12	Ø×H: 20×3	1	**631-9202**
12	Ø×H: 25×6	1	**631-9200**

IVD

Cell counters, Bürker
Marienfeld

Glass

These cell counters for investigations of cell suspensions are equipped with two sets of grids. They are engraved into two ground and polished surfaces on the central ridge (=chamber bottom). This central ridge is located between two elevated ridges that are also ground and polished.

• *In vitro* diagnostic (IVD) applications

Conform to DIN 12847 and the German Calibration Ordinance

Delivery information: Supplied in a transparent plastic box.

Description	Pk	Cat. No.
Cell counting chamber, bright lined, Bürker	1	**631-0921**
Cell counting chamber, bright lined, Bürker-Türk	1	**630-1544**
Cell counting chamber, bright lined, with clamps, Bürker	1	**630-1542**
Cell counting chamber, bright lined, with clamps, Bürker-Türk	1	**630-1545**
Cell counting chamber, dark lined, Bürker	1	**631-0920**
Cell counting chamber, dark lined, Bürker-Türk	1	**630-1543**
Cell counting chamber, dark lined, with clamps, Bürker	1	**630-1541**
Cell counting chamber, dark lined, with clamps, Bürker-Türk	1	**631-0922**

IVD

Cell counters
Marienfeld

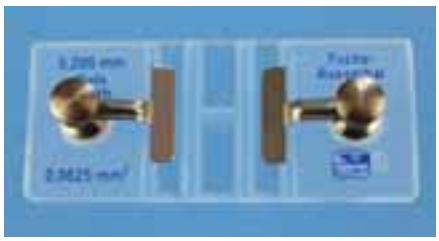
For *in vitro* diagnostic (IVD) applications

These counting chambers are suitable for counting leucocytes and erythrocytes. They are supplied with two cover glasses - Thickness: 0,4 mm.

• Double net ruling: Two counting grids with one division
• Approved for *in vitro* diagnostic (IVD) applications
• Meet the demands of the IVD directive 98/79/EC

Description	Depth (mm)	Pk	Cat. No.
Cell counting chamber, bright lined, without clamps, Neubauer Improved	0,1	1	**630-1509**
Cell counting chamber, dark lined, without clamps, Fuchs-Rosenthal	0,2	1	**630-1510**
Cell counting chamber, dark lined, without clamps, Nageotte	0,5	1	**630-1511**

Cell counters, Fuchs-Rosenthal



For counting cells in cerebro-spinal fluid

This ruling is used for counting leukocytes, eosinophils and cells in cerebro-spinal fluid.

• Subdivision: 16 square groups of 1 mm² each, consisting of 16 mini squares (0,25×0,25 mm) each

Total area of ruling: 16 mm²

Description	Pk	Cat. No.
Cell counter, Fuchs-Rosenthal, depth 0,1 mm	1	**631-0930**
Cell counter, double, Fuchs-Rosenthal, depth 0,2 mm	1	**631-0929**
Cell counter, double, with clamps, Fuchs-Rosenthal, depth 0,2 mm	1	**631-0924**

Cell counters, Neubauer Improved

These cell counters are designed for blood tests and urine analysis. Nine large squares of 1 mm² each correspond to Neubauer ruling. The central square of 1 mm² contains – owing to the closer intermediate lines – 25 squares of 16 mini squares 0,05×0,05 mm each.

- Counting erythrocytes corresponds to Thoma method
- Counting leucocytes in five large squares of 1 mm² each

Depth of chamber: 0,1 mm

Total area of ruling: 9,0 mm²

Description	Pk	Cat. No.
Cell counter, double, Neubauer Improved	1	**631-0926**
Cell counter, double, bright-lined, Neubauer Improved	1	**630-2183**
Cell counter, Neubauer Improved	1	**630-2528**

VWR COLLECTION

SELECTED FOR YOU

IVD

Q Path® Quickspot and Q Path® Slide holder for Turbitec

The Q Path® Quickspot and Q Path® Slide holder for Turbitec are centrifugation accessories used to carry out cyto-centrifugation. They allow a cell suspension to be deposited on a slide (e.g. gynaecological specimens). The Q Path® Slide holder is a support for positioning the slide and the Q Path® Quickspot is the sample filling chamber. These two accessories fit together, and must be used together.

- Q Path® Slide holder (reusable) and Q Path® Quickspot (single use), both adapted for IVD applications
- The two accessories fit together and are used together
- Resistant to centrifugation up to 2039 ×g for 30 minutes, and to alcohol and water for up to four days

Note: This product is designed to be used with Hettich® centrifuges (Rotofix, Rotina) with compatible rotor and buckets.

Description	Pk	Cat. No.
Q Path® QuickSpot, sampling volume of 8 ml per chamber	500	**630-2094**
Q Path® Slide holder, for 600 tests	1	**630-2093**
Q Path® Turbitec slides	50	**630-2095**

Comparator kits, Lovibond® system 2000

Tintometer

Available for many of the commonly used colour scales, these kits are a convenient means of ordering the complete range of equipment required. Each system includes:

- A visual comparator instrument which brings the sample and colour standards into the same field of view for more accurate colour matching
- A selection of colour standards - stable-coloured glass filters in test discs, which have been pre-calibrated to give direct readings over set measuring ranges
- A standardised bench top light source to ensure constant and uniform lighting conditions for colour matching and therefore consistent and accurate readings
- Glassware of the appropriate type and path length

Type	Description	Pk	Cat. No.
AF325	Platinum-Cobalt Units (10 - 250 mg Pt/l) Nessleriser 2150 with Daylight 2000 Lighting Unit and 113 mm (50 ml) Nessler cylinders; Pt-Co discs NSH (10 - 90 mg Pt/l), NSB (70 - 250 mg Pt/l); stand for using Nessleriser with natural lighting	1	**633-0021**
AF328	Platinum-Cobalt Units (Low Range, 0 - 70 mg Pt/l)) Nessleriser 2250 with Daylight 2000 Lighting Unit and 250 mm Nessler cylinders; Pt-Co discs CAA (0 - 30 mg Pt/l), CAB (30 - 70 mg Pt/l); stand for using Nessleriser with natural lighting	1	**633-0022**
AF330	European Beer Convention (EBC) colour scale for measuring beers and malts, Comparator 2000+ with Daylight 2000 Lighting Unit (EBC version), EBC discs, W680/OG/10 mm fused cells	1	**633-0151**
AF331	IFU colour scale colour grading kit for fruit juices, including Colour Comparator 2000+ with Daylight 2000 Lighting Unit,FU discs 4/48,1 - 9; 4/49 9 - 17; 4/50 17 - 25), W680/OG/13 mm fused cells	1	**633-0152**
AF332	European Pharmacopoeia (EP) Colour Comparator 2000+ with Daylight 2000 Lighting Unit; EP discs: 4/64A, R1-R7; 4/64B, Y1-Y7; 4/64C, B1-B9; 4/64D, BY1-BY7; 4/64D, GY1-GY7; 2 x W680/OG/40 mm fused cells, with 40 mm path length	1	**633-0023**
AF333	Iodine colour scale with Comparator 2000+ with Daylight 2000 Lighting Unit, iodine discs, W680/OG/25 and W680/OG/10 mm fused cells	1	**633-0153**
AF334	Gardner Colour Comparator 2000+ with Daylight 2000 Lighting Unit; Gardner discs: 4/30 AS, 1 - 9; 4/30 BS, 10 - 18; W680/OG/10 mm fused cell, with 10 mm path length	1	**633-0024**

Spectrocolorimeter, Lovibond® LC 100

Tintometer

A lightweight, handheld imaging spectrocolorimeter that enables setting and maintaining colour standards throughout the manufacturing process. In less than 2 seconds the instrument provides not only a reading but also a report telling how close the colour is to a measured standard. The instrument takes images of the sample using 8 different visible illuminations and 1 ultraviolet LED (9 bands in total) for more accurate colour measurement. Each measurement is a combination of 27 images illuminated with different colours from different directions.

- Measurement of food, powders cosmetics, pastes and pharmaceuticals
- Readings and comparison charts within seconds
- Conformance reports in PDF and Excel formats
- Indoor use only
- Battery rechargeable via USB cable from a computer

The SV 100 holder supports the LC 100 at an ergonomic viewing angle. A secure cap is provided to cover the sample, protecting it from excessive ambient light, enabling quick yet accurate readings

Delivery information: The integrated package (LC 100 and SV 100) is supplied with case containing all the accessories required for accurate colour measurement.

Model	LC 100
Illuminants	D65
Light source	25 independent tridirectional LEDs
Measuring area (mm)	4 and 8
Observer	A (10)
Measuring geometry	45/0 image capture
Reproducibility	short term typically 0,10 ΔE 94 on white (d65/10)
Measurement time	1,8 s
Display	45 mm colour TFT
Storable data sets	20 standards/350 samples
Interfaces	USB

Description	Pk	Cat. No.
LC 100 spectrocolorimeter	1	**633-0242**
Integrated package LC 100 and SV 100	1	**633-0243**

Automatic transmittance colorimeters, Lovibond® PFX*i* 195 series

Tintometer

A series of spectrophotometric colorimeters for colour grading of optically clear samples. Each version of the PFX*i* 195 includes a selection of standard colour scales that is used in a specific industry sector. Additional scales can be added, at the time of order or remotely, as optional upgrades to provide the flexibility to meet individual requirements. Results can also be displayed in terms of spectral data and CIE values.

For product types that are incompatible with the standard colour scales the PFX*i* 195 software allows the users to build up a customised scale from a series of reference samples and then to obtain the closest match to the stored reference.

The RCMSi (Remote Calibration and Maintenance Service via internet) feature allows a calibrated measurement to be taken using an ISO 17025 certified liquid standard. The spectral response is transmitted to The Tintometer Ltd's secure calibration server. On completion of this procedure, a traceable calibration certificate is e-mailed to the user. A set of standards is included with each meter to allow one RCMSi check at no cost. Subsequent RCMSi checks would be chargeable.

- RCMSi provides confidence of calibration and reduces on site servicing and maintenance
- Consistent and reliable colour data - removes operator subjectivity in colour grading
- Allows calculation and description of off-hue status
- Easily customised to user specification
- Accommodates a range of sample cells and tubes including standard flow-though cells

Ordering information: Details of the most popular PFX*i* 195 versions are shown below. Versions that include FAC Colour, Klett Colour (blue filter KS-42), Hess-Ives Colour Units, Yellowness Index, US Naval Stores, Rosin, Chinese Pharmacopoeia are also available.

Delivery information: Each PFX*i* 195 is supplied complete with Windows® compatible software, Lovibond® optical glass cells for the included colour scales, a spare lamp, instructions and RCMSi starter kit.

Model	PFX*i* 195
Light source	5 V, 10 W tungsten halogen lamp
Illuminants	CIE Illuminant A, B, C,D65
Optical system	9 interference filters
Range (nm)	420 - 710
Spectral bandwidth (nm)	20
Reproducibility	Chromaticity(x y) ±0,0004
Measurement time	Less than 20 seconds
Path length (mm)	0,1 - 50
Display	LCD, 240×128, backlit graphic display (white on blue)
Keyboard	23 key tactile membrane keypad
Data capacity	100 000 +
Calibration	Baseline: single key press, fully automated
Interfaces	USB, LAN, RS232C ports
Power requirements	90 - 240 V
W×D×H (mm)	435×195×170
Weight (kg)	6,8

Description	For	Pk	Cat. No.
PFXi195/1 Pt-Co/Hazen/APHA; Gardner; Iodine; CIE Values; Spectral data	Liquid chemicals & industrial oils	1	**633-0213**
PFXi195/2 Saybolt; ASTM Colour; Pt-Co/Hazen/APHA; CIE Values; Spectral data	Petroleum oils & fuels	1	**633-0214**
PFXi195/3 FAC; Gardner; CIE values; Spectral data	Dark oils and Fats	1	**633-0215**
PFXi195/4 EBC (CIE &430 nm); ASBC (CIE &430 nm); Series 52 (Brown); CIE Values; Spectral data	Beers, malts & caramels	1	**633-0216**
PFXi195/5 European/US Pharmacopoeia; Pt-Co/Hazen/ APHA; CIE Values; Spectral data	Pharmaceutical solutions	1	**633-0217**
PFXi195/6 Klett Colour (blue filter KS-42); Pt-Co/Hazen/APHA; Hess-Ives Colour Units; CIE values; spectral data	Industrial oils and surfactants	1	**633-0218**
PFXi195/7 ICUMSA Colour (420, 560, 710 nm); Honey Colour (Pfund Equivalents); Series 52 (Brown); CIE values; spectral data	Sugar solutions, syrups & honey	1	**633-0219**
PFXi195/8 ADMI (spectral & tristimulus filter methods); Pt-Co/Hazen/APHA; CIE values; spectral data	Waters & wastewaters	1	**633-0220**
PFXi195/9 CIE values (standard selection); L*C*h colour space; Hunter L a b colour space; spectral data	Transparent samples	1	**633-0221**

Spectrophotometric colorimeters, Lovibond® PFX*i* 880 series

Tintometer

A series of automatic spectrophotometric colorimeters for objective colour analysis of edible oils, chemicals, petrochemicals, fuels and other transparent products. The PFX*i* 880 instruments are rugged colorimeters with fabricated steel housings, which function equally well as QC instruments within the laboratory or on 24-hour operation in a production environment. The accuracy and repeatability of the colour data provided by these colorimeters ensures consistency in colour measurement, giving processors the confidence needed to make important decisions regarding raw materials and refining operations.

An integrated heater unit is available as an option for melting solid samples such as fats and waxes preventing them from solidifying in the cell. Each instrument features a long sample chamber for cells up to 153 mm (6") path length, ensuring precise colour measurement even with unsaturated samples such as solvents and white oils.

The RCMSi (Remote Calibration and Maintenance Service via internet) feature allows a calibrated measurement to be taken using an ISO17025 certified liquid standard. The spectral response is transmitted to The Tintometer Ltd's secure calibration server. On completion of this procedure, a traceable calibration certificate is e-mailed to the user. A set of standards is included with each meter to allow one RCMSi check at no cost. Subsequent RCMSi checks would be chargeable.

The **PFX*i* 880/CIE** colorimeter – a basic instrument without special colour scales – has broad application use for measurement of CIE values.

The **PFX*i* 880/L** colorimeter expresses colour in terms of Lovibond® units, a traditional colour scale that is widely used for edible oils and chemicals.

The **PFX*i* 880/AT** colorimeter gives colour data according to the AOCS Tintometer® scale, a modified red and yellow version of the Lovibond® scale.

The **PFX*i* 880/S** automatically measures ICUMSA Colour at 420 nm, 560 nm or 720 nm and at a known Brix value; it also expresses colour in terms of the Red, Yellow, Blue and Neutral units that make up the Lovibond RYBN Colour scale.

The PFX*i* 880/P Petrochemical colorimeter is designed to conform to the requirements of ASTM D 6045, which covers the automatic determination of both Saybolt and ASTM Colour of a wide range of petroleum products.

The **PFX*i* 880/IP 17** gives data for IP 17 method A and B (Lovibond RYBN and IP units).

On each instrument results can also be displayed in terms of CIE values and spectral data.

- RCMSi provides confidence of calibration and reduces on site servicing and maintenance
- Removes subjectivity of measurement
- Robust instrument for in process and final analysis tasks
- Easy to use
- Large, removable sample chamber for easy cleaning

Key • included as standard + available as part of an optional upgrade kit

Delivery information: Supplied with Lovibond® optical glass cells of the relevant path lengths for each scales included, a service pack, RCMSi standards, spare lamp and instructions.

Colour scales	Scope	Range	L	AT	P	IP 17	S	CIE
Lovibond RYBN	Oils, fats, chemicals, resins and other transparent liquids in terms of Lovibond **R**ed, **Y**ellow, **B**lue and **N**eutral units	0 - 70 Red, Yellow; 0 - 40 Blue; 0 - 3.9 Neutral	•	+	+	•	•	•
Saybolt Colour	Light coloured petroleum products including aviation fuels, kerosine, white mineral oils, hydrocarbon solvents and petroleum waxes	-16 (darkest) to +30 (lightest)	+	+	•	+	+	•
ASTM Colour	A wide range of petroleum products including lubricating oils, heating oils and diesel fuel oils	0.5 - 8 units (resolution 0.1 units)	+	+	•	+	+	•
ICUMSA 420 and 560 nm	Sugar solutions and syrups		+	+	+	+	•	•
IP units	Light coloured products e.g. kerosene, white spirit, undyed motor fuel	Water white (0.25) to standard white (4.0)	+	+	+	•	+	•
AOCS Tintometer	Oils fats and derivatives	0.1 - 20 red 1.0 - 70 yellow	+	•	+	+	+	•
CIE values	X Y Z tri-stimulus values; x y Y chromaticity co-ordinates; CIE L*a*b* colour space; ΔE colour difference	Defined by spectrum locus	•	•	•	•	•	•

Model	PFX*i* 880 (all models)
Light source	5 V, 10 W tungsten halogen lamp
Illuminants	CIE Illuminant A, B, C,D65
Optical system	16 interference filters
Range (nm)	420 - 710
Spectral bandwidth (nm)	10
Reproducibility	Chromaticity(x y) ±0,0002
Measurement time	Less than 25 seconds
Path length (mm)	0,1 - 153

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Display	240×128, backlit graphic display, (white on blue)
Keyboard	23 key membrane keypad
Data capacity	100 000 +
Calibration	Baseline: single key press, fully automated
Interfaces	USB, LAN, RS232C ports
Power requirements	90 - 240 V
W×D×H (mm)	515×195×170
Weight (kg)	7,7

Description	For	Pk	Cat. No.
PFXi 880/L with integrated heater unit	Edible oils, fats, resins and chemicals	1	**633-0223**
PFXi 880/L	Edible oils, fats, resins and chemicals	1	**633-0222**
PFXi 880/AT with integrated heater unit	Oils, fats and derivatives	1	**633-0225**
PFXi 880/AT	Oils, fats and derivatives	1	**633-0224**
PFXi 880/P with integrated heater unit	Petroleum products	1	**633-0227**
PFXi 880/P	Petroleum products	1	**633-0226**
PFXi 880/IP with integrated heater unit	Light coloured petroleum fuels, oils & waxes	1	**633-0229**
PFXi 880/IP	Light coloured petroleum fuels, oils & waxes	1	**633-0228**
PFXi 880/S with integrated heater unit	Sugar solutions and syrups	1	**633-0231**
PFXi 880/S	Sugar solutions and syrups	1	**633-0230**
PFXi 880/CIE with integrated heater unit	Chemicals, edible oils & fats, coatings, water and wastewaters, food & beverages, petroleum fuels, oils & waxes, plastics, sugar solutions, syrups & honey, pharmaceuticals & cosmetics, medical & clinical, beers, malts & caramels, perfumes, household & personal care	1	**633-0233**
PFXi 880/CIE	Chemicals, edible oils & fats, coatings, water and wastewaters, food & beverages, petroleum fuels, oils & waxes, plastics, sugar solutions, syrups & honey, pharmaceuticals & cosmetics, medical & clinical, beers, malts & caramels, perfumes, household & personal care	1	**633-0232**

Spectrophotometric colorimeters, Lovibond® PFX*i* 950 series

Tintometer

Two spectrophotometric colorimeters that each include several of the popular scales that meet the requirements of objective colour analysis of oils, chemicals, fuels and other transparent products. The PFX*i* 950 instruments are rugged colorimeters with fabricated steel housings, which function equally as QC instruments within the laboratory or on 24-hour operation in a production environment. The accuracy and repeatability of the colour data provided by these colorimeters ensures consistency in colour measurement, giving processors the confidence needed to make important decisions regarding raw materials and refining operations.

An integrated heater unit is available as an option for melting solid samples such as fats and waxes preventing them from solidifying in the cell. Each instrument features a long sample chamber for cells up to 153 mm (6") path length, ensuring precise colour measurement even with unsaturated samples such as solvents and white oils.

The RCMSi (Remote Calibration and Maintenance Service via internet) feature allows a calibrated measurement to be taken using an ISO 17025 certified liquid standard. The spectral response is transmitted to The Tintometer Ltd's secure calibration server. On completion of this procedure, a traceable calibration certificate is e-mailed to the user. A set of standards is included with each meter to allow one RCMSi check at no cost. Subsequent RCMSi checks would be chargeable.

The **PFX*i* 950** colorimeter expresses colour in terms of Lovibond RYBN, AOCS-Tintometer Colour, Gardner Colour, CIE Values, Spectral Data.

The **PFXi 950 /P** Petrochemical colorimeter incorporates the core colour scales for mineral oils and petrochemicals including both Saybolt and ASTM Colour. It also includes Pt-Co/Hazen/APHA scales.

On each instrument results can also be displayed in terms of CIE values and spectral data.

- RCMSi provides confidence of calibration and reduces on site servicing and maintenance
- Removes subjectivity of measurement
- Robust instrument for in process and final analysis tasks
- Easy to use
- Large, removable sample chamber for easy cleaning

Key: • included as standard + available as part of an optional upgrade kit

Ordering information: Upgrades are available to include other colour scales including FAC Colour, Iodine, Klett Colour (blue filter KS-42), Yellowness Index, beta carotene, chlorophyll A&B for the PFX*i* 950. For the PFX*i* 950/P the other upgrades include Iodine colour, Acid wash colour, Dyed aviation gasoline. Please ask for details.

Delivery information: Supplied with Lovibond® optical glass cells of the relevant path lengths for each scales included, a service pack, RCMSi standard, spare lamp and instructions.

Colour scales	Scope/Application	Range	PFX*i* 950	PFX*i* 950/P
Lovibond RYBN	Oils, fats, chemicals, resins and other transparent liquids in terms of Lovibond Red, Yellow, Blue and Neutral units	0 - 70 Red, Yellow; 0 - 40 Blue; 0 - 3.9 Neutral	•	+
AOCS Tintometer	Oils fats and derivatives	0.1 - 20 red; 1.0 - 70 yellow	•	+

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Gardner colour	Oils and chemicals ranging from yellow to red including lecithin, resins drying oils and fatty acids	1 - 18 units	•	+
Saybolt Colour	Light coloured petroleum products including aviation fuels, kerosine, white mineral oils, hydrocarbon solvents and petroleum waxes	-16 (darkest) to +30 (lightest)	+	•
ASTM Colour	A wide range of petroleum products including lubricating oils, heating oils and diesel fuel oils	0.5 - 8 units (resolution 0.1 units)	+	•
IP units	Light coloured products e.g. kerosene, white spirit, undyed motor fuel	Water white (0.25) to standard white (4.0)	+	•
Pt-Co/Hazen/APHA	Clear liquids such as petroleum spirits, solvent and alcohols	0 - 500 mg Pt/l	+	•
CIE Values	X Y Z tri-stimulus values; x y Y chromaticity co-ordinates; CIE L*a*b* colour space; ΔE colour difference	Defined by spectrum locus	•	•

Model	PFXi 950 and PFXi 950/P
Light source	5 V, 10 W tungsten halogen lamp
Illuminants	CIE Illuminant A, B, C,D65
Optical system	16 interference filters
Range (nm)	420 - 710
Spectral bandwidth (nm)	10
Reproducibility	Chromaticity(x y) ±0,0002
Measurement time	Less than 25 seconds
Path length (mm)	0,1 - 153
Display	240×128, backlit graphic display, (white on blue)
Keyboard	23 key membrane keypad
Data capacity	100 000 +
Calibration	Baseline: single key press, fully automated
Interfaces	USB, LAN, RS232C ports
Power requirements	90 - 240 V
W×D×H (mm)	515×195×170
Weight (kg)	7,7

Description	For	Pk	Cat. No.
PFXi 950 with integrated heater unit	Edible oils, fats, resins, liquid chemicals and transparent liquids	1	**633-0235**
PFXi 950	Edible oils, fats, resins, liquid chemicals and transparent liquids	1	**633-0234**
PFXi 950/P with integrated heater unit	Petrochemicals, fuel oils, lubricants, solvents, white oil and waxes	1	**633-0237**
PFXi 950/P	Petrochemicals, fuel oils, lubricants, solvents, white oil and waxes	1	**633-0236**

Spectrophotmetric colorimeters, Lovibond® PFX*i* 995 series

Tintometer

The PFX*i* 995 spectrophotometers are top of the range, versatile instruments that offer comprehensive colour data requirements for either the Petrochemicals industry or the Food and Chemicals industries for edible oils, fats, chemicals etc. The PFX*i* 995 and PFX*i* 995/P provide objective, unbiased colour data according to a comprehensive range of established industry scales, spectral data and CIE values. They are ideal for companies that process a broad selection of product types with varied colour specifications, particularly in central test facilities or in independent testing laboratories. The instruments are easily customised to display only those scales of interest to the user.

An integrated heater unit is available as an option for melting solid samples such as fats and waxes preventing them from solidifying in the cell (temperature range is ambient to 95 °C). Each instrument features a long sample chamber for cells up to 153 mm (6") path length, ensuring precise colour measurement even with unsaturated samples such as solvents and white oils.

The RCMSi (Remote Calibration and Maintenance Service via internet) feature allows a calibrated measurement to be taken using an ISO 17025 certified liquid standard. The spectral response is transmitted to The Tintometer Ltd's secure calibration server. On completion of this procedure, a traceable calibration certificate is e-mailed to the user. A set of standards is included with each meter to allow one RCMSi check at no cost. Subsequent RCMSi checks would be chargeable.

The PFX*i* 995 colorimeter includes the following colour scales: Lovibond RYBN, AOCS-Tintometer Colour, Gardner Colour, Pt-Co/Hazen/APHA Colour, FAC Colour, Chlorophyll A & B, beta Carotene, Iodine Colour, Hess-Ives Colour Units, Klett Colour (blue filter KS-42), Kreis Value, CIE Values, Spectral Data.

The PFX*i* 995/P Petrochemical colorimeter includes the following colour scales: Saybolt Colour, ASTM Colour, Pt-Co/Hazen/APHA Colour, Gardner Colour, Lovibond RYBN, IP Units, CIE Values, Spectral Data.

For details of applications and ranges for each colour scale please enquire.

- RCMSi provides confidence of calibration and reduces on site servicing and maintenance
- Removes subjectivity of measurement
- Robust instrument for final analysis tasks
- Versatile yet easy to use
- Large, removable sample chamber for easy cleaning

Ordering information: Upgrades available for the PFX*i* 950 include other colour scales including FAC Colour, Iodine, Klett Colour (blue filter KS-42), Yellowness Index, beta carotene, chlorophyll A&B.
Upgrades for the PFX*i* 950/P include Iodine colour, Acid wash, colour Dyed aviation gasoline. Please ask for details.

Delivery information: Supplied with Lovibond® optical glass cells of the relevant path lengths for each scales included, a service pack, RCMSi standard, spare lamp and instructions.

Model	PFX*i* 995 and PFX*i* 995/P
Light source	5 V, 10 W tungsten halogen lamp
Illuminants	CIE Illuminant A, B, C,D65
Optical system	16 interference filters
Range (nm)	420 - 710
Spectral bandwidth (nm)	10
Reproducibility	Chromaticity(x y) ±0,0002
Measurement time	Less than 25 seconds
Path length (mm)	0,1 - 153
Display	240×128, backlit graphic display, (white on blue)
Keyboard	23 key membrane keypad
Data capacity	100 000 +
Calibration	Baseline: single key press, fully automated
Interfaces	USB, LAN, RS232C ports
Power requirements	90 - 240 V
W×D×H (mm)	515×195×170
Weight (kg)	7,7

Description	For	Pk	Cat. No.
PFX*i* 995 with integrated heater unit	Chemicals, edible oils & fats, food & beverages, petroleum fuels (but the PFXi 995/P is the preferred option), oils & waxes, perfumes, household & personal care	1	**633-0239**
PFX*i* 995	Chemicals, edible oils & fats, food & beverages, petroleum fuels, oils & waxes, perfumes, household & personal care	1	**633-0238**
PFXi 995/P with integrated heater unit	Petrochemicals, fuel oils, lubricants, solvents, white oil and waxes	1	**633-0241**
PFXi 995/P	Petrochemicals, fuel oils, lubricants, solvents, white oil and waxes	1	**633-0240**

Certified colour reference standards

Tintometer

For routine calibration of colorimeters and verification of test data. Lovibond® certified colour reference materials are supplied with full traceability to internationally recognised standards. Each standard comes in a 500 ml bottle with a 12-month guarantee of colour stability and full certification including MSDS. Individual values may vary but these are always specified on the certificate of calibration supplied with each standard.

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Description	Pk	Cat. No.
ASTM Colour 1, (certified to ISO 17025)	500 ml	**633-0004**
ASTM Colour 3, (certified to ISO 17025)	500 ml	**633-0005**
Saybolt Colour 0, (certified to ISO 17025)	500 ml	**633-0006**
Saybolt Colour +12, (certified to ISO 17025)	500 ml	**633-0007**
Pt-Co 5 mg Pt/l, certified under ISO 9001 quality system	500 ml	**633-0008**
Pt-Co 10 mg Pt/l, certified under ISO 9001 quality system	500 ml	**633-0009**
Pt-Co 30 mg Pt/l, certified under ISO 9001 quality system	500 ml	**633-0010**
Pt-Co 50 mg Pt/l, certified under ISO 9001 quality system	500 ml	**633-0011**
Gardner Colour 2, (certified to ISO 17025)	500 ml	**633-0012**
Gardner Colour 5, (certified to ISO 17025)	500 ml	**633-0013**

Flame photometers, PFP7 and PFP7/C

The PFP7 Industrial and PFP7/C Clinical models are low temperature, single channel flame photometers designed for the routine determinations of Na and K (Ca, Ba and Li optional). With in-built automatic flame failure detection for user safety these products are ideal for use in clinical, industrial and educational applications.

The Model PFP7/C is specifically designed for use in clinical applications. The in-built lineariser circuitry enables readings of both Na and K at the normal clinical serum concentrations to be displayed directly in mmol/l. Serum samples must be diluted 200:1 or 100:1 prior to presentation to the flame photometer.

- Na, K & Li determination
- Electronic ignition with flame failure safety system
- Fine and coarse sensitivity controls
- Operates on propane, butane, natural gas or LPG

Ordering information: An oil- and moisture-free compressed air supply, 6 l/min at 1 kg/cm² together with a gas supply are required and must be ordered separately. Please contact VWR for more information.

Delivery information: Model PFP7 supplied with Na, K, Li, Ba and Ca filters, and the PFP7/C supplied with Na, K and Li filters. Both models are also supplied with connecting hoses and clips, compressor plug, drain tap and operating/service instructions.

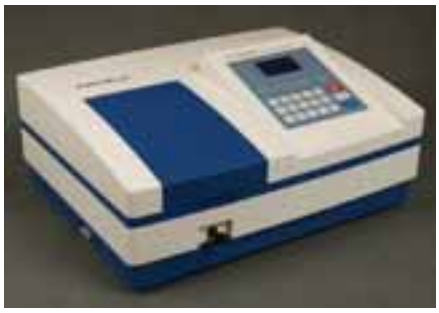
Model	PFP7/C Clinical	PFP7 Industrial
Detection sensitivity	Na/K <0,2 ppm; Li <0,25 ppm; Ca <15 ppm	
Linearity	±2%	
Range	120 - 160 mmol/l Na 0 - 10,0 mmol/l K	0 - 199,9 ppm detector response
Reproducibility	±1% for 20 consecutive samples using 10 ppm Na sample	
Weight (kg)	8	
W×D×H (mm)	420×300×360	

Description	Pk	Cat. No.
Flame photometer PFP7	1	**633-0208**
Flame photometer PFP7/C	1	**633-0209**

Description	Pk	Cat. No.
Accessories		
Compressor Model 8515	1	**633-0040**
Water separator (large)	1	**633-0035**
Regulator, natural gas	1	**633-0038**
Regulator, butane gas	1	**633-0036**
Regulator, propane gas	1	**633-0037**
Fuel filter	1	**633-0257**
Calcium filter	1	**633-0032**
Lithium filter	1	**633-0033**
Barium filter	1	**633-0034**
Sodium standard solution 1000 ppm	600 ml	**633-0094**
Potassium standard solution 1000 ppm	600 ml	**633-0095**
Diluent concentrate solution	600 ml	**633-0097**

Spectrophotometers, Vis V-1200 or UV/Vis UV-1600PC

V-1200



UV-1600PC

The V-1200 and UV-1600PC are basic Visible and UV/Vis spectrophotometers for routine daily quality control requirements, in-process control and teaching laboratories. The instruments are reliable, robust and easy to use. The wide range of different accessories available will help to adapt and fine tune the units to meet the user's demands. With the support of the standard software, stored results and data can be downloaded from internal memory to PC (V-1200). The application software offers all the important methods for routine measurements (UV-1600PC).

- Large LCD display (128×64 pixels)
- Can save up to a total of 200 results and 200 standard curves
- Download data to PC via USB interface
- Application software, allows PC control of the spectrophotometers (delivered with UV-1600PC), includes the following methods: Basic mode, quantitative, wavelength scan, kinetics, multi-wavelength, DNA/proteins
- Variety of optional accessories including an automatic 8-cell changer

Delivery information: Accessories supplied as standard with the V-1200: Four optical glass cells, 4-position cell holder, power cable with UK and EU plug, dust cover. Accessories supplied as standard with the UV-1600PC: Four optical glass cells, two quartz cells, 4-position cell holder, power cable with UK and EU plug, dust cover, application software for PC control.

Model	V-1200	UV-1600PC
Light source	Tungsten halogen	Deuterium/tungsten halogen
Optical system	Single beam, grating 1200 lines/mm silicon photodiode detector	
Wavelength range (nm)	325 - 1000	190 - 1100
Spectral bandwidth (nm)	4	
Wavelength accuracy (nm)	±2	±0,5
Wavelength repeatability (nm)	≤0,8	≤0,3
Photometric range	–0,3 to 3 A; 0 - 200% T	
Photometric accuracy	±0,5% T	±0,5% T
Photometric stability	±0,002 A/h @ 500 nm	
Photometric reproducibility	±0,3% T	±0,2% T
Stray light	≤0,3% T	±0,05% T @ 220, 360 nm
Display	Graphic LCD (128×64 pixels)	
Interfaces	USB port to PC / parallel port to printer	
Languages	EN, DE, ES, FR	
Power requirements	220 V / 50 Hz	
W×D×H (mm)	490×360×210	490×360×240
Weight (kg)	12	14

Description	Pk	Cat. No.
V-1200 Vis spectrophotometer including 4-cell changer	1	**634-6000**
UV-1600PC UV/Vis scanning spectrophotometer including 4-cell changer	1	**634-6001**

Description	For	Pk	Cat. No.
Accessories			
Cell holder, 4-cell, 10 mm path length	V-1200, UV-1600PC, V-3000PC, UV-3100PC	1	**634-6003**
Cell holder, 4-cell, 10 to 100 mm path length	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6005**
Cell holder, for cylindical cell, Ø 22 mm with path length 10 to 100 mm	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6006**
Cell holder, water jacketed, 1 cell, 10 mm path length	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6007**
Cell holder for test tubes	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6009**
Cell holder, solid sample, 10 mm path length	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6011**
Cell holder, water jacketed, 4-cell, 10 mm path length	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6012**
A-102, constant temperature (Peltier) system with beam height 15 mm	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-0698**
Thermal printer	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6039**
Thermal paper for printer, 57 mm	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	2 Roll	**634-6043**
Lamp, halogen, 12 V/20 W	V-1200, UV-1600PC, V-3000PC, UV-3100PC	1	**634-6037**
Lamp, deuterium	UV-1600PC, UV-3100PC, UV-6300PC	1	**634-6038**

Spectrophotometers, scanning, visible V-3000PC and UV/Vis UV-3100PC

Two fully scanning spectrophotometers for advanced measurements and quality control. Reliable, robust and easy to use instruments with a range of accessories that will support the creation of a personal spectrophotometer measuring station. The application software offers all the important methods expected from a 'universal' instrument. All housed in a robust casing with a well designed optical bench.

- Large LCD display (320×240 pixels)
- Full scan mode
- Easily accessible USB port for data import and export
- Supplied application software 'UV/Vis Analyst' allows PC control of the spectrophotometer
- Methods for PC control or stand-alone include: Basic mode, quantitative, wavelength scan, kinetics, multi-wavelength, DNA/protein
- The range of accessories includes an automatic 8-cell changer and Peltier thermostated single cell holder

Delivery information: Supplied with 4 optical glass cells, 2 quartz cells (not V3000-PC), dust cover, USB cable, USB (8 GB) stick, UV/Vis Analyst software for PC control, 4-position cell holder (10 mm), power cables with UK, CH and EU plugs.

Model	V-3000PC	UV-3100PC UV/Vis
Light source	Tungsten halogen	Deuterium/tungsten halogen
Optical system	Single beam, grating 1200 lines/mm, silicon photodiode detector	
Wavelength range (nm)	320 - 1100	190 - 1100
Spectral bandwidth (nm)	4	2
Wavelength accuracy (nm)	±0,5	
Wavelength repeatability (nm)	≤0,2	
Photometric range	–0,3 to 3 A; 0 - 200% T; 0 - 9999 Conc	
Photometric accuracy	≤±0,5% T or 0,005 A at 1 A	
Photometric stability	±0,002 A/h @ 500 nm	
Photometric reproducibility	±0,2% T	
Stray light	±0,05% T at 360 nm	±0,05% T @ 220, 360 nm
Baseline flatness	±0,002 A (320 - 1000 nm)	±0,002 A (200 - 1000 nm)
Scan speed (nm/min)	Low, medium, high (max. 3000 nm/min)	
No. of standards	200 standard curves	
Display	5" graphic LCD (320×240 pixels)	
Results storage	200	
Interfaces	USB port to PC / USB to memory stick/ parallel port to printer	
Languages	EN, DE, ES, FR	
Power requirements	220 V/50 Hz	
W×D×H (mm)	490×360×240	
Weight (kg)	12	14

Description	Pk	Cat. No.
V-3000PC, visible scanning spectrophotometer	1	**634-6040**
UV-3100PC, UV/Vis scanning spectrophotometer	1	**634-6042**

Description	For	Pk	Cat. No.
Accessories			
Cell holder, 4-cell, 10 mm path length	V-1200, UV-1600PC, V-3000PC, UV-3100PC	1	**634-6003**
Cell holder, 4-cell, 10 to 100 mm path length	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6005**
Cell holder, for cylindical cell, Ø 22 mm with path length 10 to 100 mm	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6006**
Cell holder, water jacketed, 1 cell, 10 mm path length	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6007**
Cell holder for test tubes	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6009**
Cell holder, 8-position auto cell changer	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6010**
Cell holder, solid sample, 10 mm path length	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6011**
Cell holder, water jacketed, 4-cell, 10 mm path length	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6012**
A-100, constant temperature (Peltier) sipper system, beam height 15 mm, (appropriate flow cell required)	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-0763**
A-101 sipper system with beam height 15 mm, (appropriate flow cell required)	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-0699**
A-102, constant temperature (Peltier) system with beam height 15 mm	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-0698**
Flow cell, optical glass, 10 mm path length, beam height 15 mm	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-0691**
Flow cell, quartz glass, 10 mm path length, beam height 15 mm	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-0695**
Thermal printer	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6039**
Lamp, halogen, 12 V/20 W	V-1200, UV-1600PC, V-3000PC, UV-3100PC	1	**634-6037**
Lamp, deuterium	UV-1600PC, UV-3100PC, UV-6300PC	1	**634-6038**
Replacement battery type CR2032	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-0653**

Spectrophotometer, UV/Vis scanning, U-5100
Hitachi

The compact, reliable, entry level model of the Hitachi range that can be used in a wide range of quantitative analytical applications that includes biotechnology or quality control laboratories.

- Ratio beam optics and aberration corrected concave diffraction grating provides highly stable photometric values with low noise levels
- Low power consumption and long life xenon flash lamp
- Full range scanning over the range of 190 to 1100 nm with a selectable scanning rate range of 40 to 2400 nm/min
- Large LCD and user friendly keypad
- Automatic 6 cell turret supplied as standard – helps reduce measurement times

Model	U-5100
Light source	Xenon
Optical system	Ratio beam
Detector	Silicon photodiode ×2
Wavelength range (nm)	190 - 1100
Spectral bandwidth (nm)	5
Wavelength accuracy (nm)	±1,0 (484,6 nm)
Photometric range	Abs:–3000 to 3000 %T: 0 - 300% T Conc: 0,000 - 9999
Photometric accuracy	±0,003 Abs (0 - 0,5 Abs) ±0,005 Abs (0,5 - 1 Abs)
Photometric reproducibility	±0,002 Abs (0 to 1,0 Abs)
Stray light	0,07% or less (220 nm NaI, 340 nm $NaNO_2$)
Noise (RMS) (A)	0,0002 Abs (260 nm, 0 Abs)
Baseline flatness	±0,010 Abs (200 - 950 nm)
Scan speed (nm/min)	40, 100, 200, 400, 800, 1200, 2400
Measuring modes	Quantitative computations, wavelength scan, time scan, multi-wavelength measurements, ratio calculation measurement (DNA measurement)
Display	Backlit LCD (120×90 mm)
Keyboard	28 key soft keypad
Interfaces	Centronics parallel (printer)
W×D×H (mm)	356×426×235
Weight (kg)	13

Description	Pk	Cat. No.
U-5100 UV/Vis spectrophotometer	1	**634-0757**

Description	Pk	Cat. No.
Accessories		
Auto sipper, without temperature control	1	**634-0758**
Single cell holder, 10 mm optical path	1	**634-0759**
Rectangular long path cell holder, 10-100 mm optical path	1	**634-0760**

Spectrophotometers, visible, GENESYS™ 20
Thermo Scientific

The GENESYS™ 20 is a single beam instrument, ideal for routine measurements in teaching laboratories, quality control or for process control in production. It is reliable, robust and precise. A variety of single position cell holders e.g. for COD vials and 50 mm cells; filters and test tube holders are available as additional options to fit the instrument.

- Spill-proof laminated keypad for easy cleaning
- Multi-language LCD display
- Clear on-screen messages and prompts
- Simple 10 key operation
- PC control is possible using optional VISIONlite software

Model	GENESYS™ 20
Light source	Tungsten halogen
Optical system	Single beam

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Wavelength range (nm)	325 - 1100
Spectral bandwidth (nm)	8
Photometric range	–0,1 to 2,5 A; 0 to 125% T; 0 to 1999 C; absorbance, transmission, concentration, factors
Display	LCD, 20 character, 2 lines
W×D×H (mm)	300×330×190
Weight (kg)	4,5
Accessories included	Dust cover, operator manual and 5 disposable cuvettes
Optional internal printer	-
Storage of data	None
Supplied cell holder	Single cell for 10 mm path length square cells
Test storage	One set of parameters in non volatile memory
Wavelength accuracy	±2,0 nm

Description	Pk	Cat. No.
GENESYS™ 20 visible spectrophotometer, UK-plug	1	**634-0385**

Description	Pk	Cat. No.
Accessories		
Spare printer paper rolls (5) for GENESYS™ 20	5 Roll	**634-0502**
Filter set standards	1	**634-2113**
Spare single cell holder for GENESYS™ 20	1	**634-0388**
Test tube holder	1	**634-1673**
Spare halogen lamp for GENESYS™ 20	2	**634-1000**

Spectrophotometers, Vis and UV/Vis, GENESYS™ 10S
Thermo Scientific

The GENESYS™ 10S models are compact, robust, economical, easy to use, scanning instruments. They are versatile and include software that has advanced functionality for more demanding samples, yet are easy to use for the routine sample. A range of optional application specific software is available that increases the flexibility of the instruments. See Life Science model (GENESYS™ 10S UV/Vis BIO) in the Biophotometers section.

- Intuitive and powerful internal software
- USB connectivity
- Instant on and maintenance-free Xenon flash lamp, guaranteed for three years
- UV/Vis model has 1,8 nm bandwidth that allows the system to meet Pharmacopoeia requirements for resolution
- Fast wavelength scanning

Delivery information: Supplied with a six position cell changer, single cell holder, spare fuses, USB memory device, USB cable, dust cover and operator manual.

Model	GENESYS™ 10S Vis	GENESYS™ 10S UV/Vis
Lamp source, lifetime	Tungsten halogen (1000 hrs)	Xenon flash, 5 years typically
Optical system	Single beam	Split beam - internal reference detector
Wavelength range (nm)	325 - 1100	190 - 1100
Spectral bandwidth (nm)	5	1,8
Wavelength accuracy (nm)	±1,0	
Photometric range	Up to 3,0 A at 340 nm	Up to 3,5 A at 260 nm
Photometric accuracy	0,5% or ±0,005 A, whichever is greater up to 2 A	±0,005 A at 1,0 A 0,010 A $K_2Cr_2O_7$
Stray light	< 0,1%T at 340, and 400 nm	<0,08% T at 220, 340 nm (NaI, $NaNO_3$) <1,0% 198 nm (KCl)
Scan speed (nm/min)	10 - 4200	
Display	Graphical 320×240 pixel backlit LCD (97×71 mm)	
Keyboard	Membrane keypad	
Interfaces	USB type A port for USB memory device (front panel) USB type B port for optional PC (rear panel) USB type A port for external printer (rear panel)	
Printer	Optional 40-column, internal, graphical	
Standard cell holder	Integral 6-position cell changer, single cell holder	
Power requirements	100 - 240 V, selected automatically	
W×D×H (mm)	300×400×250	
Weight (kg)	8,6	

Description	Pk	Cat. No.
GENESYS™ 10S Vis spectrophotometer, power leads with EU-plug and UK-plug	1	**634-0593**
GENESYS™ 10S Vis spectrophotometer with internal printer and power leads with EU-plug and UK-plug	1	**634-0594**
GENESYS™ 10S UV/Vis spectrophotometer, power leads with EU-plug and UK-plug	1	**634-0595**
GENESYS™ 10S UV/Vis spectrophotometer with internal printer and power leads with EU-plug and UK-plug	1	**634-0596**

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Description	Pk	Cat. No.
Accessories		
Tungsten halogen lamp assembly, for GENESYS™ 10S Vis spectrophotometers	1	**634-1015**
Nanocell, 0.2 mm path length, 0.7 µl volume	1	**634-0618**
Nanocell, 1.0 mm path length, 0.7 µl volume	1	**634-0619**
Nanocell adapter, 0.2 mm path length	1	**634-0620**
Nanocell adapter, 1.0 mm path length	1	**634-0621**
Nanocell, UV, 0.2 and 1.0 mm path length	1	**634-0622**
Cell holder 10 mm with aluminium baseplate	1	**634-0632**
Cell holder, cylindrical, long 50 mm path length with baseplate	1	**634-0633**
Cell holder, rectangular, long, 50 mm path length with baseplate	1	**634-0634**
Cell holder, cylindrical, long, 100 mm path length with baseplate	1	**634-0635**
Cell holder, rectangular, long, 100 mm path length with baseplate	1	**634-0636**
Test tube holder with baseplate	1	**634-0637**
Cell holder, single, liquid thermostated, with baseplate	1	**634-0638**
Air cooled Peltier accessory	1	**634-0623**
Sealed Peltier recirculator 20 - 60 ºC	1	**634-0624**
Silicone tubing for sipper systems	7,6 m	**634-0630**
Thermal block, single	1	**634-0626**
Light sealing sample compartment lid	1	**634-0625**
Door kit, light grey	1	**634-0629**
Internal printer	1	**634-0631**
Printer paper rolls for internal printer, GENESYS™ 6/10 series	5 Roll	**634-0379**

Spectrophotometers UV/Vis, Ultrospec™ 2100 *pro*
GE Healthcare

A robust and simple to use single beam scanning instrument for general laboratory measurements that also includes software routines for nucleic acid measurements and enzyme kinetics.

- Standard absorbance and concentration measurement
- Large sample compartment
- Standard curve routine for protein determination
- Stored routines for DNA, RNA and oligonucleotide quantitation and purity check
- Capable of upgrade to remote operation with SWIFT II software for more sophisticated applications

Delivery information: Supplied with eight position cell changer and serial and parallel interfaces.

Model	Ultrospec™ 2100 *pro*
Light source	Xenon
Optical system	Two silicon photodiodes
Wavelength range (nm)	190 - 900
Spectral bandwidth (nm)	<3
Photometric range	–3,000 to +3,000A
Display	LCD
Storage capacity	18 methods
Interfaces	Serial and parallel
W×D×H (mm)	510×350×160
Weight (kg)	13

Description	Pk	Cat. No.
Ultrospec™ 2100 *pro*, Classic	1	**80-2112-21**
Ultrospec™ 2100 *pro*, Yellow	1	**80-2112-22**

Spectrophotometers, UV/Vis, UviLine 9100/9400
SI Analytics

High performance, single beam spectrophotometers, with choice of visible (9100) or UV/Visible (9400) wavelength ranges. In addition to the standard spectrophotometer functions of absorbance and transmission, the instrument has a wide range of menu driven evaluations and therefore has applications across many disciplines. Furthermore users can easily program and store more than 100 of their own methods. A large graphic display provides on-line spectra and together with the simple to use keyboard guides the user in menu navigation.

- Complete functionality for scanning with online graphics, kinetics and multi-wavelength analytics
- USB interface enables connection with USB memory sticks, printers with USB interface and external PC keyboards
- Automatic wavelength calibration and compensation of ambient light
- Extensive range of evaluation functions such as min/max recognition, add and substract spectrum etc.
- GLP compliant with user login with three levels of operation

Delivery information: Instrument supplied with a thermostatable single cell holder (10 mm path length).

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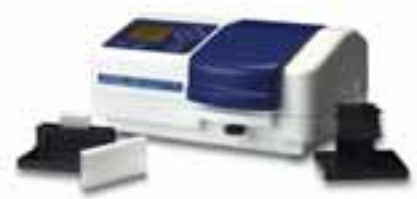
Model	UviLine 9100	UviLine 9400
Light source	Tungsten halogen	Xenon
Optical system	Single beam	
Wavelength range (nm)	320 - 1100	190 - 1100
Spectral bandwidth (nm)	4	
Wavelength accuracy (nm)	±1	
Photometric range	–3,3 to 3,3 A	
Photometric accuracy	0,3% or ±0,003 A (from 0 - 0,6 A)	
Photometric stability	<1% at 2 A between 340 - 900 nm	
Stray light	<0,1% at 340 and 400 nm	
Display	Graphic backlit display, 320×240 pixel	
Keyboard	Alphanumeric, function and cursor direction softkeys	
Method storage	>100 (extendable via USB)	
Interfaces	1× USB-A; 1× USB-B; 1× RS232C	
Power requirements	110 - 220 V, 50/60 Hz	
W×D×H (mm)	404×314×197	
Weight (kg)	4	

Description	Pk	Cat. No.
UviLine 9100 Vis spectrophotometer	1	**634-5000**
UviLine 9400 UV/Vis spectrophotometer	1	**634-5001**

Description	Pk	Cat. No.
Accessories		
Replacement halogen lamp for UviLine 9100	1	**634-0597**
5+1 automated cell changer	1	**634-5002**
Cell holder, single, 10 mm	1	**634-0598**
Cell holder, single, thermostatable, 10 mm	1	**634-5004**
Sipper SZ2150, controlled from UviLine	1	**634-5005**
Cell holder, single, thermostated (Peltier), 10 mm	1	**634-5006**

Spectrophotometers, 6300 series
Jenway



The 6300 series is designed to provide the user with a compact, high quality, easy to use measurement system for routine analysis being used widely in education, environmental analysis, healthcare, food and quality control in food and beverage industries.

- Large sample compartment that enables a wide range of sampling devices to be fitted
- Simple keypad layout and menu operating protocols

Model 6300 - Visible range

- Display simultaneously shows both wavelength and the selected photometric value
- Absorbance, transmittance and concentration measurement modes

Model 6305 - UV/Visible range

- A three point wavelength calibration is performed each time the unit is switched on
- Pulsed xenon lamp extends range to 198 nm

Delivery information: Supplied with mains lead, pack 100 disposable cuvettes, 10×10 mm cell holder, interface cable and PC application software on CD-ROM

Model	6300	6305
Light source	Tungsten halogen	Xenon
Wavelength range (nm)	320 - 1000	198 - 1000
Spectral bandwidth (nm)	8	
Wavelength resolution (nm)	1	
Photometric range	–0,3 to 1,999 A; 0 to 199,9% T; –300 to 1999 C	
Photometric accuracy	±1% T	<0,5% T (220, 340 nm)
Stray light	<0,5% T	<0,5% T
Calibration	Blank with a single standard or factor / up to 6 standards	
Storage capacity	-	
Interfaces	Analogue and RS232 serial	
W×D×H (mm)	365×272×160	
Weight (kg)	6	

Description	Pk	Cat. No.
6300 spectrophotometer, Visible range	1	**634-0086**
6305 spectrophotometer, UV/Visible range	1	**634-0094**

Description	Pk	Cat. No.
Accessories		
Cell holder, 10 to 100 mm path length	1	**634-0087**
Cell holder, 4-position rotary (manual), 10 mm pathlength	1	**634-0548**
Software, DataWay for PC	1	**634-0544**
Lamp, tungsten halogen for 63, 67 and 73 series visible spectrophotometers	1	**634-0083**

Spectrophotometers, split beam, 67 series
Jenway

A range of scanning spectrophotometers with a wide range of applications that have been designed for environments where speed, sample flexibility and regulatory conformance are required. Scanning at an impressive 1500 nm/minute, even with data collection at 0,1 nm intervals, enables zooming to higher resolutions without the need to re-scan. The large colour touch screen display offers simple, intuitive operation and clear representation of results. The sealed QWheel™ allows for fine cursor control or scrolling. The range features significant data storage capability with the option of a removable SD and SD/USB memory cards to transfer data to another instrument or a PC. Transfer of data is also possible via the included software.

- Colour LCD with touch screen interface
- Individual operator passwords and different levels of access provide secure multi-user operation
- Kinetics for timed measurement and enzyme reaction monitoring
- Plug-in accessory modules for a range of sample options
- Software supports compliance with CFR21 Part 11

Ordering information: Cell holders and cuvettes may be ordered separately.

Delivery information: Instrument supplied with UK/EU/US power lead, single 10×10 mm cell holder, 1 GB internal memory, SD/USB external memory card, 100 disposable cuvettes, instruction manual and PC software on CD-ROM with interface cable.

Model	6700	6705	6715
Light source	Tungsten halogen	Xenon	
Optical system	Sealed, MgF_2 coated, split beam		
Wavelength range (nm)	320 - 1100	190 - 1100	
Spectral bandwidth (nm)	4		1,5
Wavelength accuracy (nm)	±1,0		
Wavelength resolution (nm)	0,1		
Wavelength repeatability (nm)	±0,2		
Photometric range	–0,300 to 3,000 A & 0 to 199,9% T		
Photometric accuracy	±0,005 A at 1 A		
Photometric stability	<0,001 A per hour		
Photometric resolution	0,001 A & 0,1% T		
Stray light	<0,1% at 340 nm	<0,05% at 220 nm	
Scan speed (nm/min)	1500 at 0,1 nm data steps		
PC software	Supplied on CD ROM with USB Interface Cable		
Multi-wavelength data points	Up to 4 wavelengths		
Curve fit algorithms	Linear, quadratic and cubic functions		
Calculations	Difference and ratio		
Quantitation range	–99999 to +99999		
Kinetics time limits	0 to 9999 seconds		
Kinetics calibration	Standard or factor		
Post scan analysis	Peak/valley peak, peak ratios, area, zoom, wavelength table, derivatives, smoothing, overlay		
No. of standards	20 with up to 5 replicates of each		
Configuration	Secure multi-user or free access for up to 10 users		
No. of methods	>1000 on internal flash memory or removable media		
Results storage			
Interfaces	USB, Centronics, analogue		
Removable media	MM/SD Memory card or SD/USB memory card		
Power requirements	100 - 230 V AC 50 or 60 Hz (UK, Euro or US power leads supplied)		
W×D×H (mm)	490×390×220		
Weight (kg)	7,5		

Description	Pk	Cat. No.
Spectrophotometer 6700, Visible	1	**634-0583**
Spectrophotometer 6705, UV/Visible	1	**634-0584**
Spectrophotometer 6715, UV/Visible	1	**634-0585**

Description	Pk	Cat. No.
Accessories		
Water jacketed cell holder	1	**634-3008**
Peltier for 67 series	1	**634-3007**
Sipper system for 67 series	1	**634-3006**
Internal printer	1	**634-3009**
Paper roll for thermal printer	1 Roll	**634-0667**

Spectrophotometers, 73 series
Jenway

Jenway 7315 with optional printer

The 73 series spectrophotometers are designed to provide the user with a compact, easy to operate instrument for use in education and general QC laboratories.

- Icon driven software for easy and intuitive navigation
- Small footprint with graphical display in the compartment lid
- Autologging capabilities and optional internal printer
- Press-to-read xenon lamp (7305 and 7315) to extend xenon lamp life
- Extensive range of accessories available

Models 7310 and 7315

These models have more advanced features including:

- Scanning capability
- Kinetic measurements with real time graphical display
- Supervisor security functions to protect methods/options and operator ID
- Quantitation using up to six standards with curve fit
- Results and method saving to USB memory stick

Delivery information: Supplied fitted with 10×10 mm cuvette holder, supplied with pack 100 disposable cuvettes, instruction manual, universal power supply, PC software on CD ROM and interface cable. Models 7310 and 7315 are supplied with USB memory stick.

Model	7300	7305	7310	7315
Light source	Tungsten halogen	Xenon	Tungsten halogen	Xenon
Optical system	Single beam with silicon photodiode			
Wavelength range (nm)	320 - 1000	198 - 1000	320 - 1000	198 - 1000
Spectral bandwidth (nm)	5			
Wavelength accuracy (nm)	±2,0			
Wavelength resolution (nm)	1			
Wavelength repeatability (nm)	±0,5			
Photometric range	–0,300 to 2,500 A; 0 - 199,9% T			
Photometric accuracy	±0,01 A at 1,000 A; ±1,0% T			
Photometric resolution	0,001 A; 0,1% T			
Scan speed (nm/min)	–		160 nm/min at 1 nm resolution, up to 900 nm/min for 5 nm resolution	
Measuring modes	Absorbance, % transmittance, concentration		Absorbance, % transmittance, concentration; scanning, kinetics and quantitation	
Calibration	Blank with a single standard or factor			
Display	Graphical LCD			
Method storage	-		240 methods internally	
Interfaces	RS232		RS232 + USB port	
Removable media	–		2GB USB memory stick (supplied)	
GLP			Current time and date, user ID, instrument lock and method lock	
W×D×H (mm)	275×400×220			
Weight (kg)	6			

Description	Pk	Cat. No.
7300 spectrophotometer, visible range	1	**664-0067**
7305 spectrophotometer, UV/Vis range	1	**664-0066**
7310 spectrophotometer, visible range	1	**664-0065**
7315 spectrophotometer, UV/Vis range	1	**664-0064**

Description	Pk	Cat. No.
Accessories		
Micro-cell holder with reduced aperture	1	**634-0765**
10×10 mm path length cell holder	1	**634-0764**
Cell holder, 10 to 100 mm path length	1	**634-0087**
8 cell automatic turret cell holder	1	**664-0061**
Water heated 10×10 mm path length cell holder	1	**664-0056**
Peltier heater	1	**664-0062**
Sipper pump	1	**664-0063**
Combined sipper with Peltier heater	1	**664-0060**
Lamp, tungsten halogen for 63, 67 and 73 series visible spectrophotometers	1	**634-0083**
Internal printer	1	**634-3009**
Paper roll for thermal printer	1 Roll	**634-0667**

Spectrophotometer, visible range, S800

A visible range spectrophotometer, with diode array detector, the S800 is a small, lightweight instrument that is easy to use. It is ideal for student use in busy teaching laboratories with a large display that is easy to read. The instrument is simple to set up and use, giving rapid results. Accepts standard 10 mm pathlength cuvettes or a test tube adapter set is available for use with 10, 12 and 16 mm tubes.

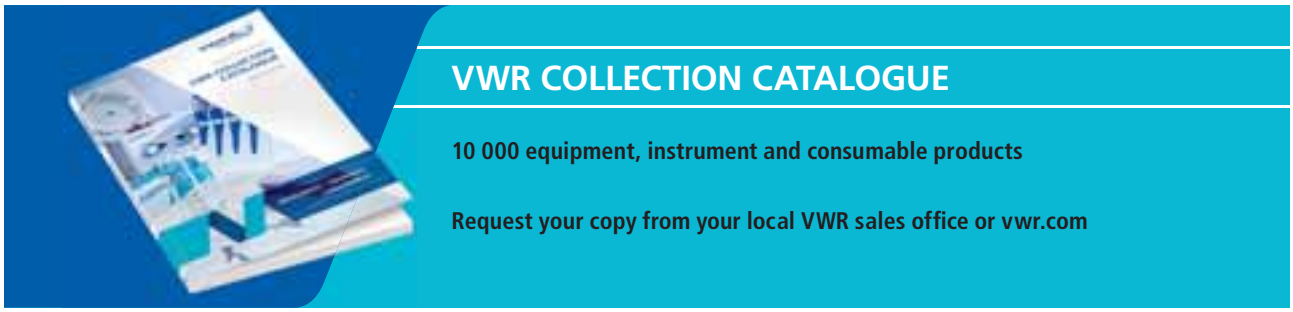
- 7 nm bandwidth, single beam with monochromator, visible spectrophotometer
- Compact, easy to use, service, clean and store
- Absorbance, % transmission, concentration and kinetics
- Educational experiments and tutorial included

Delivery information: Supplied with graphico software, serial cable and starter pack of cuvettes.

Model	S800
Light source	Tungsten halogen
Optical system	Monochromator
Detector	Diode array
Wavelength range (nm)	330 - 800
Spectral bandwidth (nm)	7
Wavelength accuracy (nm)	±2
Photometric range	–0,300 to 2,500 A, 0 to 200%T
Photometric accuracy	±0,003 A at 0 - 0,5A at 546 nm
Photometric stability	0,005 A per hour at 0 A at 546 nm
Measuring modes	Fixed wavelength (abs/%T), concentration (factor), simple kinetics
Display	Large LCD
Power requirements	90 - 265 V
W×D×H (mm)	220×270×120
Weight (kg)	1,75

Description	Type	Pk	Cat. No.
Visible spectrophotometer S800	Single beam	1	**634-0520**

Description	Pk	Cat. No.
Accessories		
Test tube adapters (10, 12, 16 mm)	1	**634-0515**



Spectrophotometer, UV/Vis, double beam, UV-6300PC

A double beam spectrophotometer suitable for a wide range of applications including general research, pharmaceutical, biochemical and clinical laboratory use, new material development and quality control. The instrument can be used in stand-alone mode or in conjunction with a PC using the supplied UV-Vis Analyst software which then delivers more powerful data processing, expanded data collecting, and removes the limit on storage capability.
Stand-alone functionality includes:

- Standard photometrics - absortpion, transmission, concentration
- Quantitative analysis and kinetics
- Multi-wavelength scan, spectrum scan
- DNA/RNA and protein analysis

Delivery information: Supplied with 4 optical glass cells, 2 quartz cells, dust cover, USB cable, USB (8 GB) stick, UV-Vis Analyst software for PC control, single cell holders for sample and reference, power cables with UK, CH and EU plugs.

Model	UV-6300PC
Light source	Deuterium and tungsten halogen lamps
Optical system	Double beam
Wavelength range (nm)	190 - 1100
Spectral bandwidth (nm)	1
Wavelength accuracy (nm)	±0,3
Photometric range	–0,3 to 3,0 A; 0 to 200% T; 0 - 9999C
Photometric accuracy	±0,002 A at 1 A; ≤0,3% T
Photometric stability	0,001 A/h at 500 nm
Stray light	≤0,05% T at 220 and 360 nm
Baseline flatness	0,001 A (200 - 1000 nm)
Scan speed (nm/min)	100 - 3000
Scan	Scan intervals: 0,1; 0,2; 0,5; 1,0 and 5,0 nm
PC software	UV-Vis Analyst
Display	LCD 320×240 pixel
Control	Internal control via keypad with optional PC control
Storage capacity	200 results and 200 standard curves
Interfaces	USB and parallel printer interface
Languages	English, French, German and Spanish
W×D×H (mm)	590×420×260
Weight (kg)	26

Description	Pk	Cat. No.
UV-6300PC, double beam spectrophotometer	1	**634-6041**

Description	For	Pk	Cat. No.
Accessories			
Cell holder, 4-cell, 10 to 50 mm path length	V-1200, UV-1600PC, V-3000PC, UV-3100PC	1	**634-6004**
Cell holder, 4-cell, 10 to 100 mm path length	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6005**
Cell holder, for cylindical cell, Ø 22 mm with path length 10 to 100 mm	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6006**
Cell holder, water jacketed, 1 cell, 10 mm path length	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6007**
Cell holder for test tubes	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6009**
Cell holder, 8-position auto cell changer	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6010**
Cell holder, solid sample, 10 mm path length	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6011**
Cell holder, water jacketed, 4-cell, 10 mm path length	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6012**
A-100, constant temperature (Peltier) sipper system, beam height 15 mm, (appropriate flow cell required)	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-0763**
A-101 sipper system with beam height 15 mm, (appropriate flow cell required)	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-0699**
A-102, constant temperature (Peltier) system with beam height 15 mm	UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-0698**
Thermal printer	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	1	**634-6039**
Thermal paper for printer, 57 mm	V-1200, UV-1600PC, V-3000PC, UV-3100PC, UV-6300PC	2 Roll	**634-6043**
Lamp, deuterium	UV-1600PC, UV-3100PC, UV-6300PC	1	**634-6038**

Spectrophotometer, double beam, UV/Vis, UH5300
Hitachi

The high end, double beam, version of the Hitachi 5000 series (U-5100) with connectivity for the modern laboratory.

- Double beam instrument with achievable wavelength resolution of 1 nm
- Long life xenon flash lamp
- Remote operation by PC or tablet terminals such as the iPad® via wireless LAN

Ordering information: For details of the full range of accessories please contact the local VWR sales office.

Model	UH5300
Light source	Xenon flash lamp
Detector	Silicon photodiode
Wavelength range (nm)	190 - 1100
Spectral bandwidth (nm)	1
Wavelength accuracy (nm)	±0,3 (Xe: 260,6; 484,3; 881;9 nm; Hg: 253,7; 435,8; 546,1 nm)
Wavelength repeatability (nm)	±0,1
Photometric range	–3,3 to 3,3 A; 0 - 300% T
Photometric accuracy	±0,002 A (0 - 0,5 A); ±0,004 A (0,5 - 1,05 A)
Stray light	<1% at 198 nm (KCl); 0,05% at 220 nm (NaI); 0,05% at 340 nm ($NaNO_2$)
Noise (RMS) (A)	<0,0001 (260 nm, 0 A)
Baseline flatness	±0,0009 A/h (260 nm, 2 hours after power on)
Scan speed (nm/min)	10, 40, 100, 200, 400, 800, 1200, 2400, 4800, 6000
Interfaces	USB, LAN port
Standard cell holder	Automatic 6-cell turret
W×D×H (mm)	510×490×280
Weight (kg)	19

Description	Pk	Cat. No.
UH5300	1	**634-0829**

Description	Pk	Cat. No.
Accessories		
Auto sipper for the UH5300, cell capacity 50 µl	1	**634-0798**
Water circulated cell holder with magnetic stirrers for agitation of sample solution	1	**634-0799**
Single cell holder for 10 mm path length cell for UH5300	1	**634-0800**
Holder base for single cell holder and a selection of other holders	1	**634-0801**
Front panel for UH5300	1	**634-1061**
IQ/OQ documentation for UH5300	1	**634-1062**

Spectrophotometers, double beam, UV/Vis scanning, U-2900 and U-2910
Hitachi

Reliable, accurate spectrophotometers for use in a wide range of applications including biotechnology, new material development and quality control.

The U-2900 is designed for direct input of data and reading of results by the operator but can be controlled externally by a PC with the optional UV Solutions program. The U-2910 is designed for PC control only.

- High resolution, satisfying European Pharmacopoeia (spectral bandpass*: 1,5 nm)
- Stable optics due to double beam and stigmatic concave diffraction grating provides aberration-free measurements
- Large colour backlit LCD and user friendly keypad on U-2900
- Full range scanning over the range of 190 - 1100 nm with a selectable scanning rate range of 10 - 3600 nm/min
- Validation and self diagnostic functions are included as standard on the U-2900

Model	U-2900	U-2910
Light source	Deuterium and tungsten halogen lamps	
Optical system	Double beam	
Wavelength range (nm)	190 - 1100	
Spectral bandwidth (nm)	1,5*	
Wavelength accuracy (nm)	±0,3 (at 656,1; 486,0 nm)	
Photometric range	–3 to 3,0 A; 0 to 300% T	

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Photometric accuracy	±0,002 A (0 to 5 A) ±0,004 A (0,5 to 1,0 A) ±0,008 A (1,0 to 2,0 A) ±0,3% T; all checked with NIST SRM930	
Stray light	≤0,05% (220 nm NaI, 340 nm $NaNO_2$)	
Scan speed (nm/min)	10, 100, 200, 400, 800, 1200, 2400, 3600	
Application software	Includes absorbance, transmittance, ratio mode, concentration, wavelength scan, time scan, multiple wavelength measurement, A260/A280 ratio calculation, validation functions and automatic calibration and self-diagnostic functions**	Includes absorbance, transmittance, ratio mode, concentration, wavelength scan, time scan, multiple wavelength measurement, Ratio A260/A280 calculation, validation functions and automatic calibration and self-diagnostic functions**
Display	Backlit colour LCD (264 mm)	-
Keyboard	Keypad	N/A
Control	Internal control via keyboard with optional PC control	Computer required
Results storage	Can be saved on USB flash memory	
Interfaces	RS232C (exclusive for UV Solutions program), printer interface (Centronics), USB port	
Power requirements	100 - 240 V	
W×D×H (mm)	500×605×283 with LCD lowered	500×605×241
Weight (kg)	31	29

Description	Pk	Cat. No.
U-2900 spectrophotometer	1	**634-0718**
U-2910 spectrophotometer (PC required but not supplied)	1	**634-0719**

Description	Pk	Cat. No.
Software		
UV Solutions	1	**634-0724**
Option package for colour calculations	1	**634-0725**
Report generator	1	**634-0726**
UV Navigation	1	**634-0727**
Nucleic acid measurement	1	**634-0728**
GLP/GMP program	1	**634-0729**
Accessories		
Deuterium lamp	1	**634-0755**
Tungsten halogen lamp	1	**901-0082**
Communication cable	1	**634-0036**
Electronic thermostatically controlled 10 mm cell holder 10 - 60 °C	1	**634-0050**
Rectangular long path cell holder, 4-position, 10 - 100 mm	1	**634-0054**
Micro cell mask 1.5 mm wide	1	**634-0710**
Micro cell mask 1.2 mm wide	1	**634-0711**
Rectangular long path cell holder, 10 - 100 mm	1	**634-0055**
Cylindrical long path cell holder, single position	1	**634-0056**
Glass filter holder	1	**634-0057**
5-Position turret cell holder	1	**634-0058**
Thermostated (by water circulation) single cell holder	1	**634-0059**
Film holder	1	**634-0060**
Micro flow cell unit	1	**634-0061**
Tandem cell holder	1	**634-0062**
Polariser holder with polariser	1	**634-0063**
Flow cell unit	1	**634-0065**
Automatic sipper	1	**634-0720**
Automatic sipper with temperature control 20 - 40 °C	1	**634-0721**
6 cell positioner with temperature control 20 - 40 °C	1	**634-0722**
AS-1010 autosampler	1	**634-0723**

**U-2910 provides the equivalent functions via PC control.

Spectrophotometers, double beam, UV/Vis scanning, U-3900 and U-3900H

Hitachi

The U-3900 double beam, single monochromator system and the U-3900H double beam, double monochromator spectrophotometers are comprehensive, research-grade solutions for a variety of applications. The instruments provide excellent performance afforded by low stray light, selectable bandpass and high energy.

The U-3900H is particularly useful for measurement of samples with high absorbance/low transmittance yet still achieving excellent linearity.

- Double beam stability provides improved accuracy and repeatability over extended periods of time, plus the ability to reference-beam attenuate highly absorbing species for improved signal to noise
- 'UV Solutions for U-3900' software (supplied) offers the flexibility and wide ranging functionality that customers demand in any laboratory environment
- Selectable scanning rate range of 1,5 - 2400 nm/min and changeable scan rate for the UV region to minimise noise further
- Interface via USB and a laptop or notebook PC format can easily sit on the flat surface of the instrument (see picture)
- Long lasting and robust metal housing with a large optical bench made of aluminium casting

Ordering information: A full range of accessories including sipper systems, alternative cell holders, filter holders and integrating spheres are available from VWR. Please ask your local VWR specialist for further details.

Model	U-3900	U-3900H
Light source	Deuterium and tungsten halogen lamps	
Optical system	Double beam (100 mm spacing) with single monochromator	Double beam (100 mm spacing) with double monochromator
Wavelength range (nm)	190 - 900	
Spectral bandwidth (nm)	0,1; 0,5, 1; 2; 4; 5 (6 steps)	
Wavelength accuracy (nm)	±0,1 (at 656,1 nm after wavelength calibration)	
Photometric range	–3,8 to 3,8 A; 0 to 300% T	–5,5 to 5,5 A effective range with a 1% light attenuating plate; 0 to 300% T
Photometric accuracy	±0,002 A (0 to 0,5 A) ±0,003 A (0,5 to 1,0 A) ±0,006 A (1,0 to 2,0 A) ±0,3% T; all checked with NIST SRM930	
Stray light	0,015% (NaI: 220 nm, $NaNO_2$: 340 nm)	0,00025% (NaI: 220 nm, $NaNO_2$: 340 nm)
Baseline flatness	Within ±0,0003 A (190 - 850 nm)	Within ±0,0004 A (190 - 850 nm)
Scan speed (nm/min)	1,5; 3; 15; 30; 60; 120; 300; 600; 1200; 1800; 2400	
Control	Computer required	
Interfaces	USB	
Sample compartment W×D×H (mm)	120×300×140	
Power requirements	100 - 240 V	
W×D×H (mm)	680×692×257	
Weight (kg)	45	

Description	Pk	Cat. No.
U-3900 (PC required but not supplied)	1	**634-0756**
U-3900H (PC required but not supplied)	1	**634-0754**

Description	Pk	Cat. No.
Accessories		
Deuterium lamp	1	**634-0755**
Tungsten halogen lamp	1	**901-0082**
Micro cell holder	1	**634-0701**
Electronic thermostatically controlled 10 mm cell holder 0 - 100 °C	1	**634-0576**
Electronic thermostatically controlled 10 mm cell holder 10 - 60 °C	1	**634-0050**
Rectangular long path cell holder, 10 - 100 mm	1	**634-0055**
Cylindrical long path cell holder, single position	1	**634-0056**
Glass filter holder	1	**634-0057**
5-Position turret cell holder	1	**634-0058**
Thermostated (by water circulation) single cell holder	1	**634-0059**
Film holder	1	**634-0060**
Micro flow cell unit	1	**634-0061**
Tandem cell holder	1	**634-0062**
6 cell positioner with temperature control 20 - 40 °C	1	**634-0722**
Auto sipper without thermostatic control for use with autosampler	1	**634-0577**
Auto sipper, thermostatically controlled for use with autosampler	1	**634-0578**
AS-1010 autosampler	1	**634-0723**
Integrating sphere, 150 mm	1	**634-0573**
Integrating sphere, 60 mm	1	**634-0574**
5 degree specular reflectance accessory	1	**634-0575**

Spectrophotometers, UV/Vis, double beam, Ultrospec™ 7000 series
GE Healthcare

The Ultrospec™ 7000/7000PC are double beam UV/Visible spectrophotometers designed to meet the day to day needs of a busy laboratory. Engineered for robust lower cost operation with minimal maintenance requirements yet providing touch screen operation, multiple user profiles and a choice of data export methods. Stand-alone or PC controlled versions are available. Software for wavelength scanning, fixed wavelength, standard curves, kinetics and pre-stored life science methods are supplied as standard.

- 2 nm bandwidth
- 2 year warranty on instrument and 3 year warranty on high energy xenon lamp reduces running costs
- Colour touch screen with clear and simple operation for stand-alone models
- Equation editor software for custom calculations to be applied to measured data
- Multi-user analytical instrument with secure login to protect methods

Ordering information: For details of the full range of accessories, including Datrys™ software options for PC-piloted version please see the VWR website or contact your local VWR sales office.

Model	Ultrospec™ 7000
Light source	Pulsed xenon lamp
Optical system	Double beam monochromator
Detector	Dual silicon photodiode
Wavelength range (nm)	190 - 1100
Spectral bandwidth (nm)	2
Wavelength accuracy (nm)	±0,5
Wavelength repeatability (nm)	±0,1
Photometric range	–4 to 4 A
Photometric accuracy	±0,002 A at 0,5 A; ±0,004 A at 1 A; ±0,006 A at 2 A
Photometric reproducibility	±0,002 A at 1 A
Stray light	<0,05 %T at 220 nm using NaI and 340 nm using $NaNO_2$
Noise (RMS) (A)	<0,0002 at 500 nm
Interfaces	USB 2.0
W×D×H (mm)	533×457×330
Weight (kg)	<18

Description	Pk	Cat. No.
Ultrospec™ 7000 stand-alone instrument with inbuilt software and colour touch screen	1	**29-0036-05**
Ultrospec™ 7000PC for PC control supplied with Datrys™ control software	1	**29-0036-06**
Ultrospec™ 7000 stand-alone instrument with inbuilt software, colour touch screen and printer	1	**29-0036-07**
Ultrospec™ 7000 stand-alone instrument with inbuilt software, colour touch screen and Bluetooth® accessory	1	**29-0036-08**
Ultrospec™ 7000 stand-alone instrument with inbuilt software, colour touch screen and with printer and Bluetooth® accessory	1	**29-0036-09**

Spectrophotometers, UV/Vis, double beam, Ultrospec™ 8000 and 9000 series
GE Healthcare

The Ultrospec™ 8000/8000PC and 9000/9000PC are double beam UV/Visible spectrophotometers designed to meet the requirements of critical analysis and users in controlled or regulated laboratory environments. Stand-alone or PC controlled versions are available for both series. Software for wavelength scanning, fixed wavelength, standard curves, kinetics and prestored life science methods are supplied as standard.

- 2 year warranty on the instrument
- Full European Pharmacopoeia compatibility
- Colour touch screen with clear and simple operation (stand-alone models only)
- Equation editor software for custom calculations to be applied to measured data
- Multi-user analytical instrument with secure login to protect methods

8000 series

- 1 nm bandwidth

9000 series

A higher specification instrument particularly suited to method development especially with difficult samples

- Variable bandwidth optics
- Custom calculation facility for method development

Ordering information: For 21 CFR part 11 compatibility, optional Datrys™ CFR software and optional IQ/OQ system qualification can also be made available. For details of the full range of accessories please see the VWR website or contact your local VWR sales office.

Model	Ultrospec™ 8000	Ultrospec™ 9000
Light source	Tungsten halogen and deuterium lamps	

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Optical system	Double beam monochromator	
Detector	Dual silicon photodiode	
Wavelength range (nm)	190 - 1100	
Spectral bandwidth (nm)	1	0,5; 1; 2; 4; variable
Wavelength accuracy (nm)	±0,3	
Wavelength repeatability (nm)	±0,1	
Photometric range	–4 to 4 A	
Photometric accuracy	±0,002 A at 0,5 A; ±0,004 A at 1 A; ±0,006 A at 2 A	
Photometric reproducibility	±0,002 A at 1 A	
Stray light	<0,025 %T at 220 nm using NaI and 340 nm using $NaNO_2$; <1 %T at 198 nm KCl	
Noise (RMS) (A)	<0,00005 at 500 nm	
Interfaces	USB 2.0	
W×D×H (mm)	533×457×330	
Weight (kg)	<18	

Description	Pk	Cat. No.
8000 series		
Ultrospec™ 8000 stand-alone instrument with inbuilt software and colour touch screen	1	**29-0036-10**
Ultrospec™ 8000PC for PC control supplied with Datrys™ control software	1	**29-0036-11**
Ultrospec™ 8000 stand-alone instrument with inbuilt software, colour touch screen and printer	1	**29-0036-12**
Ultrospec™ 8000 stand-alone instrument with inbuilt software, colour touch screen and Bluetooth® accessory	1	**29-0036-13**
Ultrospec™ 8000 stand-alone instrument with inbuilt software, colour touch screen and with printer and Bluetooth® accessory	1	**29-0036-14**
9000 series		
Ultrospec™ 9000 stand-alone instrument with inbuilt software and colour touch screen	1	**29-0036-16**
Ultrospec™ 9000PC for PC control supplied with Datrys™ control software	1	**29-0036-17**
Ultrospec™ 9000 stand-alone instrument with inbuilt software, colour touch screen and printer	1	**29-0036-18**
Ultrospec™ 9000 stand-alone instrument with inbuilt software, colour touch screen and Bluetooth® accessory	1	**29-0036-19**
Ultrospec™ 9000 stand-alone instrument with inbuilt software, colour touch screen and with printer and Bluetooth® accessory	1	**29-0036-20**

Spectrophotometer, UV/Vis double beam 6850

Jenway

The 6850 double beam spectrophotometer offers variable spectral bandwidth, highly stable optics and excellent measurement accuracy. It has measurement modes for photometrics, concentration, multi-wavelength, spectrum scanning, kinetics, quantitation, DNA/RNA and protein analysis.

Jenway Prism PC software is supplied as standard and offers additional functionality with preloaded methods for DNA/RNA and protein analysis, as well as extensive post-measurement tools, unlimited results saving and easy export of data. A PC running Windows 2000, XP, Vista, Windows 7 is required.

The 6850 is ideal for quality control, general research, pharmaceutical, biochemical and clinical laboratory applications. Conforms to European Pharmacopoeia requirements.

- Full scanning over the range of 190 to 1100 nm; scan interval: 0.1, 0.2, 0.5, 1, 2 or 5 nm
- Variable spectral bandwidth: 0.5, 1, 2, 4, 5 nm
- Multi-wavelength: Up to 10 wavelengths (up to 20 with PC software)
- Kinetic measurements: Up to 12 hours with time intervals of 0.1, 0.2, 0.5, 1, 2, 5, 10 or 30 seconds
- Quantitation points: Up to 3 wavelengths

Delivery information: Supplied fitted with single 10x10 mm cuvette holder in sample and reference position, instruction manual, power cables, PC software on CD ROM with USB connection cable and dongle, 2× quartz cuvettes, 4× glass cuvettes and dust cover.

Model	6850
Light source	Tungsten halogen and deuterium lamps
Optical system	Double beam monochromator
Wavelength range (nm)	190 - 1100
Spectral bandwidth (nm)	0,5; 1; 2; 4; 5 variable
Wavelength accuracy (nm)	±0,3 (at 0,5 and 1 nm bandwidths); ±0,5 (at 2, 4, 5 nm bandwidths)
Wavelength resolution (nm)	0,1
Wavelength repeatability (nm)	±0,2
Photometric range	–0,3 to 3,0 A; 0 to 200% T
Photometric accuracy	±0,002 A (0 - 0,5 A); ±0,3% T (0 - 100% T)
Photometric stability	±0,001 A/h at 500 nm after 15 min warm up
Photometric resolution	0,001 A; 0,1% T
Stray light	<0,05% T at 220 and 360 nm
Noise (RMS) (A)	0,0005
Scan speed (nm/min)	100 - 2000
Measuring modes	Absorbance, % transmittance, concentration, scanning, kinetics and quantitation, DNA/RNA Ratio, concentration, A320 correction
Kinetics time limits	Up to 12 hours with time intervals of 0,1; 0,2; 0,5; 1; 2; 5; 10; 30 seconds
Calibration	Blank with standards or factor
Display	Graphical LCD
Method storage	Unlimited via data export
Interfaces	USB and parallel

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GLP	Current time and date, user ID, instrument lock and method lock
W×D×H (mm)	600×450×200
Weight (kg)	22

Description	Pk	Cat. No.
6850 double beam UV/Vis spectrophotometer	1	**634-0825**

Description	Pk	Cat. No.
Accessories		
Micro cuvette holder	1	**634-0815**
10×10 mm path length cuvette holder	1	**634-0814**
Water heated 10x10 mm single cell holder	1	**634-0813**
8-position automatic cell changer	1	**634-0816**

Fluorescence spectrophotometer, F-2700
Hitachi

The Hitachi F-2700 is a flexible instrument with excellent performance and range of functionality. The user can choose to operate the instrument in stand-alone mode for teaching or routine measurements, or for the more advanced applications like quantum yield measurements and full spectral correction, then the PC controlled function can be selected. Features an easy to use keypad.

The variable bandwidth, wide dynamic range, rapid scan speeds, combined with the exceptional sensitivity deliver very impressive performance for this class of instrument.

- Excellent sensitivity; signal to noise (S/N) >800 RMS
- Incorporates a multi-step bandpass of 2,5 to 20 nm, making it applicable to a variety of samples
- PC control using optional FL Solutions software; featuring versatile quantitative analysis functions, data export function, quantum yield measurements, spectral correction and a scan speed of 12 000 nm/min
- Unique Full Range Spectral Correction (option) for comparable and true spectra
- Horizontal beams permit measuring a trace amount of sample ≥0,6 ml (in square 10 mm path length cells)

Model	F-2700
Light source	150 W Xenon lamp with self de-ozonating lamp housing
Sensitivity	S/N >800 RMS; S/N >250 (peak to peak)
Dynamic range	About 6 orders of magnitude
Monochromator	Aberration-free concave diffraction grating of 900 lines/mm provided on both excitation and emission sides
Photometric display range	–9999 to 9999
Wavelength range (nm)	220 - 730
Wavelength resolution (nm)	2,5
Wavelength accuracy (nm)	Within ±3,0
Bandpass (excitation and emission) (nm)	2,5; 5; 10; 20
Wavelength scan speeds (nm/min)	60; 300; 1500; 3000 (stand-alone mode) 60; 300; 1500; 3000; 12000 (when controlled by PC)
PC software	FL Solutions (not included as standard but required for PC control)
Interfaces	USB 2.0
W×D×H (mm)	600×503×343
Weight (kg)	41

Description	Pk	Cat. No.
F-2700 fluorescence spectrophotometer	1	**634-0600**

Description	For	Pk	Cat. No.
Accessories			
Cell holder with programmable temperature control	F-2700	1	**634-0616**
Micro cell holder	F-2700, F-2710, F-7000	1	**634-0609**
Micro cell unit	F-2700	1	**634-0071**
Low scatter micro cell with black quartz mask	F-2700	1	**634-0749**
Absorbance cell holder	F-2700, F-2710, F-7000	1	**634-0748**
High sensitivity cell holder	F-2710, F-7000	1	**634-0737**
Solid sample holder	F-2710, F-7000	1	**634-0075**
4-turret sample compartment	F-2710, F-7000	1	**634-0753**
8-turret sample compartment	F-2710, F-7000	1	**634-0752**
Thermostatically controlled single cell holder	F-2710, F-7000	1	**634-0713**
Thermostatically controlled single cell holder with stirring	F-2710, F-7000	1	**634-0714**
Low temperature measurement accessory	F-2700, F-2710, F-7000	1	**634-0608**
Spectral correction accuracy kit	F-2700, F-2710, F-7000	1	**634-0611**
Polarisation accessory (measurement of polarisation angle) for UV/Vis range 260-700 nm	F-2700, F-2710, F-7000	1	**634-0073**
Polarisation accessory for visible range 380 to 730 nm	F-2700, F-2710, F-7000	1	**634-0746**
Quantum yield measurement unit	F-2700, F-2710, F-7000	1	**634-0612**
Photomultiplier R928F	F-2700, F-2710, F-7000	1	**634-0617**

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Description	For	Pk	Cat. No.
Accessories			
Xenon lamp, 150 W	F-2700, F-2710, F-7000	1	**903-0155**
Substandard light source for F-2700	F-2700	1	**634-0610**
FL Solutions software for F-2700	F-2700	1	**634-0604**

Fluorescence spectrophotometers with PC control, F-2710 and F-7000
Hitachi

Hitachi have extended their range of compact fluorescence spectrophotometers with remote PC control to make full use of the supplied FL Solutions software. The updated software is a powerful tool for analysis and has a wide range of functionalities. A wide range of accessories is available.

F-2710

Although an entry class instrument, the F-2710 delivers high standards of performance, operability and in particular high sensitivity. These features make the F-2710 ideal for applications ranging from teaching laboratories to biotech and material research.

- High sensitivity Signal to Noise (S/N): 10 000
- High scanning speed of 12 000 nm/minute
- Wide photometric range for high and low intensity measurements performed under the same conditions
- 3D measurement for examination of the relationship between excitation and emission wavelengths
- Accurate zero point correction for reliable measurement of weak fluorescence

F-7000

A top of the range laboratory fluorescence spectrophotometer with excellent performance that gives the instrument extensive application capabilities. These include measurement of fluorescent materials, phosphorescence measurement, FRET, BRET and measurement of Ca^{2+} in cells.

- Ultra-high sensitivity measurement in an instrument with such compact design
- Wide areas of applications in the industrial materials, pharmaceutical and biological fields
- Very rapid scanning speed of 60 000 nm/min allows observation of quick reactions with 3D time scan spectrum
- Optional microplate reader accessory for 96-well plates (see accessories)
- Measures up to 6-digit concentration values

Ordering information: PC is required but is not included. Please ask a VWR specialist for required PC specification. Common accessories are listed below, but for details of the full range of accessories please contact VWR.

Model	F-2710	F-7000
Light source	150 W Xenon lamp	
Sensitivity	Background: Signal/Noise 10 000 or better (RMS), slit 10 nm and excitation at 350 nm with 2 second response; Peak: S/N 800 or above (RMS), slit 5 nm and excitation at 350 nm with 2 second response	Background: Signal/Noise 15 000 or better (RMS), slit 10 nm and excitation at 350 nm with 4 second response; Peak: S/N 800 or above (RMS), slit 5 nm and excitation at 350 nm with 2 second response
Dynamic range	6 or more orders of magnitude	
Monochromator	Single monochromator (grating)	
Detector	Photomultiplier	
Photometric display range	–9999 to 9999	
Wavelength range (nm)	220 - 730, expandable up to 800 nm with optional detector	200 - 750, expandable up to 900 nm with optional detector
Wavelength resolution (nm)	2,5	1
Wavelength accuracy (nm)	±3	±1
Bandpass emission (nm)	2,5; 5; 10; 20	1; 2,5; 5; 10; 20
Bandpass excitation (nm)		
Wavelength scan speeds (nm/min)	60; 300; 1500; 3000; 12000	30, 60, 240, 1200, 2400, 12000, 30000, 60000
PC software	FL Solutions included as standard	
Sample handling	10 mm square cuvette holder (standard)	
Interfaces	USB 2.0	
Power supply	100, 115, 200, 230, 240 V AC; 50/60 Hz; 380 VA	
W×D×H (mm)	600×503×343	620×520×300
Weight (kg)	41	

Description	Pk	Cat. No.
F-2710 fluorescence spectrophotometer	1	**634-0762**
F-7000 fluorescence spectrophotometer	1	**634-0761**

Description	For	Pk	Cat. No.
Accessories			
Micro cell holder	F-2700, F-2710, F-7000	1	**634-0609**
Flow cell unit for 55 µl for HPLC	F-2710, F-7000	1	**634-0750**
Absorbance cell holder	F-2700, F-2710, F-7000	1	**634-0748**
Flow cell unit for 180 µl for HPLC	F-2710, F-7000	1	**634-0751**
High sensitivity cell holder	F-2710, F-7000	1	**634-0737**
Solid sample holder	F-2710, F-7000	1	**634-0075**
4-turret sample compartment	F-2710, F-7000	1	**634-0753**
8-turret sample compartment	F-2710, F-7000	1	**634-0752**
Thermostatically controlled single cell holder	F-2710, F-7000	1	**634-0713**

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Description	For	Pk	Cat. No.
Accessories			
Thermostatically controlled single cell holder with stirring	F-2710, F-7000	1	**634-0714**
Sample sipper	F-2710, F-7000	1	**634-0736**
Cut-off filter set	F-2710, F-7000	1	**634-0747**
Low temperature measurement accessory	F-2700, F-2710, F-7000	1	**634-0608**
Spectral correction accuracy kit	F-2700, F-2710, F-7000	1	**634-0611**
Polarisation accessory (measurement of polarisation angle) for UV/Vis range 260-700 nm	F-2700, F-2710, F-7000	1	**634-0073**
Polarisation accessory for visible range 380 to 730 nm	F-2700, F-2710, F-7000	1	**634-0746**
Quantum yield measurement unit	F-2700, F-2710, F-7000	1	**634-0612**
Photomultiplier R928F	F-2700, F-2710, F-7000	1	**634-0617**
Xenon lamp, 150 W	F-2700, F-2710, F-7000	1	**903-0155**
Auto sipper for F-2710 only	F-2710	1	**634-0773**
Micro sampling assembly	F-7000	1	**634-0734**
Cell holder with constant temperature control	F-7000	1	**637-0195**
Microplate reader	F-7000	1	**634-0740**
Low temperature measurement accessory	F-7000	1	**634-0735**
Automatic polarisation accessory for visible range	F-7000	1	**634-0739**
Automatic polarisation accessory for UV/Vis	F-7000	1	**634-0738**
Report generator programme for FL Solutions software	F-7000	1	**634-0741**
Intracellular cation measurement programme	F-7000	1	**634-0742**

Fluorimeters, 6200 series
Jenway

Three models are available to cover a wide range of applications starting with the economical, wide range but less sensitive 6270 model. The 6280 is more suited for sensitive determinations with an emission wavelength up to 650 nm whereas the 6285 is suited for sensitive determinations up to 850 nm.

The simple keyboard and display help the user navigate through logical menu driven applications. Up to 20 methods can be created without restriction and be saved for future use, they can also be locked against accidental change by password entry, ensuring data integrity. The permanent time and date tag on every stored reading further enhances Good Laboratory Practice, while calibration reminders and operator identity can also be entered to support conformance and traceability of operation.

- Total Energy Transfer (TET) system for maximum sensitivity
- Intelligent Filter Modules (IFM) ensure correct filters are fitted
- Raw fluorescence and concentration values displayed
- Kinetic (timed reading) functions
- Electrically heated sample holder and sipper pump options

Emission and excitation filters are not included and should be purchased as separate items. Interference filters are available in the range 250 - 700 nm with wavelength intervals typically 5 - 10 nm. For further details of interference filters for specific applications, and details of sample holder options please contact your local VWR sales office.

Delivery information: All models supplied with mains adapter for use on 90 to 230 V A/C supply with UK, Euro and USA mains leads and operating instructions.

Model	6270	6280	6285
Light source	Pulsed xenon lamp with press-to-read operation		
Expected life	No replacement of xenon lamp expected in normal operation		
Sensitivity (quinine sulphate)	1 µg/ml	<1 ng/ml	
Dynamic range	$5{,}2\times10^4$	$5{,}2\times10^6$	
Detector	Silicon photodiode	Photomultiplier	
Wavelength range (nm)	190 - 1100	190 - 650	190 - 850
Wavelength selection	Intelligent Filter Modules (IFM)		
Raw fluorescence	√		
Concentration			
Calibration	Blank + up to 6 standards		
Kinetics (timed readings)	In both above modes		
Time limits	1 reading every 3 to 999 seconds		
PC software	Compatible with DataWay (option)		
Methods stored	20		
Results stored	100/method		
GLP	Method lock with password access. Time and date stamped results. Last calibration date and time stored. Calibration interval set. Calibration due reminder. User ID		
Sample handling	10 mm square cuvette holder. Heated sample holder (option). Sipper pump (option)		
Interfaces	RS232		
Power supply	90 to 230 VAC universal mains adapter. 12 VDC input (cigarette lighter cable and battery pack options)		
W×D×H (mm)	365×272×160		
Weight (kg)	6		

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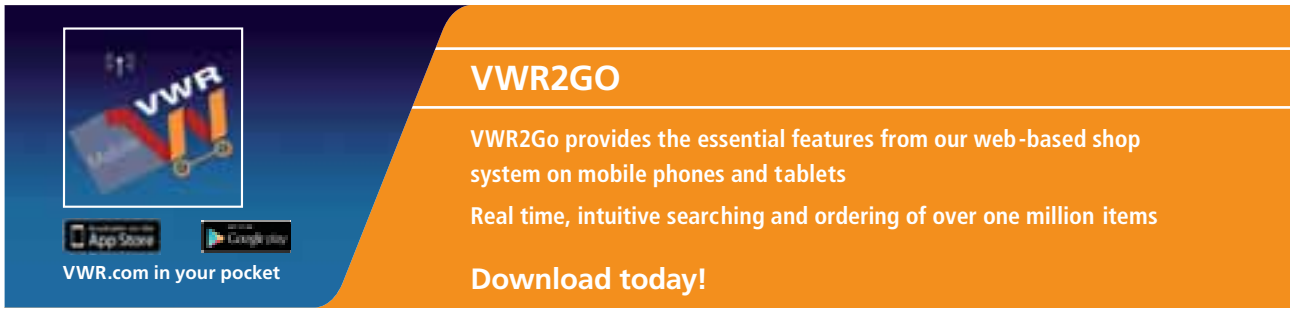
Description	Pk	Cat. No.
Fluorimeter, model 6270	1	634-0522
Fluorimeter, model 6280	1	634-0531
Fluorimeter, model 6285	1	634-0532

Description	Pk	Cat. No.
Accessories		
Bandpass filter, 380 - 500 nm	1	634-0523
Bandpass filter, 480 - 580 nm	1	634-0524
Bandpass filter, 320 - 380 nm	1	634-0525
Low cut-off filter 610 nm	1	634-0526
Low cut-off filter 545 nm	1	634-0527
Low cut-off filter 475 nm	1	634-0528
Low cut-off filter 395 nm	1	634-0529
Low cut-off filter 305 nm	1	634-0530
Heated cell system comprising heated cell holder, controller and connection leads	1	637-0196
Sipper pump, supplied with inlet and outlet tubing	1	637-0197
Software, DataWay for PC	1	634-0544



Microvolume spectrophotometers, mySPEC

mySPEC

mySPEC Touch

For microvolume concentration and purity measurements

The versatile mySPEC range of spectrophotometers allows the user to perform measurements on nucleic acids and proteins contained in a very small sample volume. The 'mySPEC Twin' models have an additional port for a cuvette so that cell density or enzymatic activity measurements can be performed. Preconfigured modules allow for rapid, fully automated data analysis for a wide variety of applications including, concentration and purity of RNA and DNA; protein measurements (A280, Bradford, Lowry, BCA, Pierce 660); determination of labelling efficiencies; colorimetric assays on enzymatic activities and cell density measurements.

- Requires just 1 µl sample
- Quick and simple to use - no cuvettes required – just pipette, measure (<5 seconds) then wipe
- Large dynamic range from 2 ng/µl to 15 µg/µl (ds DNA) puts an end to error-prone dilutions and calculations
- "Twin"' versions combining microvolume and cuvette function including temperature control (30...40 °C) and stirrer (0; 50; 1000 min^{-1})
- Stand-alone 8.4'' touch screen versions available
- Automated data analysis after user-defined purity settings

Model	mySPEC	mySPEC Twin	mySPEC Touch	mySPEC Twin Touch
Light source	Xenon flash lamp			
Detector	2048 silicon CCD array			
Wavelength range (nm)	190 - 840			
Wavelength accuracy (nm)	±1			
Wavelength resolution (nm)	<1,8 (FWHM @ Hg 253,7 nm)			
Photometric range	0,02 - 300 (10 mm equivalent Absorption)			
Photometric accuracy	±3% (at 0.76 Abs at 350 nm)			
Photometric reproducibility	0,002			
Concentration units	2 - 15000 ng/µl (dsDNA)	2 - 15000 ng/µl (dsDNA) 0,4 - 750 ng/µl (dsDNA) in cuvettes	2 - 15000 ng/µl (dsDNA)	2 - 15000 ng/µl (dsDNA) 0,4 - 750 ng/µl (dsDNA) in cuvettes
Cuvettes	n/a	up to 10 mm pathlength	n/a	up to 10 mm pathlength
Display	External PC		8,4" touch creen	
Software	Compatible with Windows® XP, Windows® Vista, Windows® 7, Windows® 8		N/a	
Interfaces	USB			
Voltage	12 V DC			
Power consumption	30 W			
W×D×H (mm)	140×250×190		230×310×370	
Weight (kg)	2	2,1	4,3	

Description	Pk	Cat. No.
mySPEC microvolume spectrophotometer with USB cable and software for connection to external PC (not supplied)	1	**732-2533**
mySPEC Twin microvolume spectrophotometer with cuvette capability, supplied with USB cable and software for connection to external PC (not supplied)	1	**732-2535**
mySPEC Touch stand-alone microvolume spectrophotometer	1 SET	**732-2534**
mySPEC Twin Touch, stand-alone microvolume spectrophotometer with cuvette capability	1 SET	**732-2536**

Spectrophotometers, GENESYS™ 10S Bio

Thermo Scientific

The upgraded GENESYS™10S Bio models are compact, robust, economical, easy to use, scanning, split beam UV/Vis instruments with improved performance. The instrument is versatile and includes intuitive and powerful internal software with preconfigured methods that can be edited and stored to a readily accessible customised assay.

- USB connectivity
- 1,8 nm bandwidth for improved nucleic acid measurement (ratio and concentration)
- Direct protein measurement at 280 and 205 nm
- Standard measurement of protein concentrations using Coomassie/Bradford; Lowry; modified Lowry; BCA; Pierce Micro-BCA and 660 protein assays
- Six cell changer for automated multi-sample experiments

Ordering information: A wide variety of accessories is available for the wide ranging requirements of life science applications, please contact VWR for details.

Delivery information: Supplied with a six position cell changer, single cell holder, spare fuses, USB memory device, USB cable, dust cover and operator manual.

Model	GENESYS™ 10S Bio
Light source	Xenon flash, 5 years typically (3 years guaranteed)
Optical system	Split beam, internal reference detector
Wavelength range (nm)	190 - 1100
Spectral bandwidth (nm)	1,8
Wavelength accuracy (nm)	±1,0
Photometric range	Up to 3,5 A at 260 nm
Photometric accuracy	±0,005 A at 1,0 A 0,010 A $K_2Cr_2O_7$
Scan speed (nm/min)	10 - 4200
Stray light	<0,08% T at 220, 340 nm (NaI, $NaNO_3$) <1,0% 198 nm (KCl)
Standard cell holder	Integral 6-position cell changer, singe cell holder
Display	Graphical 320×240 pixel backlit LCD (91×71 mm)
Keyboard	Membrane keypad
Printer	Optional, 40-column, internal, graphical
Interfaces	USB type A port for USB memory device (front panel) USB type B port for optional PC (rear panel) USB type A port for external printer (rear panel)
Power supply	100 - 240 V, selected automatically
W×D×H (mm)	300×400×250
Weight (kg)	8,6

Description	Pk	Cat. No.
GENESYS™ 10S Bio, UV/Vis spectrophotometer, power leads with EU-plug and UK-plug	1	**634-0591**
GENESYS™ 10S Bio, UV/Vis spectrophotometer, with internal printer and power leads with EU-plug and UK-plug	1	**634-0592**

Description	Pk	Cat. No.
Accessories		
Nanocell, 0.2 mm path length, 0.7 µl volume	1	**634-0618**
Nanocell, 1.0 mm path length, 0.7 µl volume	1	**634-0619**
Nanocell adapter, 0.2 mm path length	1	**634-0620**
Nanocell adapter, 1.0 mm path length	1	**634-0621**
Nanocell, UV, 0.2 and 1.0 mm path length	1	**634-0622**
Printer paper rolls for internal printer, GENESYS™ 6/10 series	5 Roll	**634-0379**

Spectrophotometer, NanoVue™ Plus
GE Healthcare

Measurement of low sample volumes made easy

The NanoVue™ Plus spectrophotometer is an easy to use and reliable instrument for the measurement of nucleic acid and protein samples. Samples of 0,5 to 2 µl can be pipetted directly onto a novel gold sample plate for measurement and then simply recovered using a pipette. If sample recovery is not required, the sample plate with hydrophobic coating can be quickly and easily wiped clean.

- Ideally suited to the life scientist where sample is limited and speed and convenience of analysis is key
- Eliminates the need for cuvettes, capillaries or other sample devices - just drop and read
- Pre-defined methods for nucleic acid quantitation, including concentration, purity and theoretical Tm
- Pre-defined methods for protein quantitation, including direct UV, Bradford, BCA, Biuret and Lowry, with the ability to run up to 27 standards

Delivery information: Supplied complete with software for Print Via Computer (PVC) and software CyDye™ and calibration fluid.

Model	NanoVue™ Plus
Light source	Long-life stabilised xenon flash lamp
Detector	Twin CCD array
Wavelength range (nm)	200 - 1100
Spectral bandwidth (nm)	5
Wavelength accuracy (nm)	±2
Wavelength repeatability (nm)	±0,5
Photometric accuracy	Maximum ±1% at 259 nm at 0,7 to 0,8 A using uracil
Display	Backlit graphical LCD
Method storage	90
Interfaces	USB port, optional Bluetooth®
Power supply	100 to 240 VAC ±10%, 50/60 Hz, 50 VA
W×D×H (mm)	260×390×100
Weight (kg)	4,5

Description	Pk	Cat. No.
NanoVue™ Plus with SD card	1	**28-9569-60**
NanoVue™ Plus	1	**28-9569-65**
NanoVue™ Plus with printer	1	**28-9569-66**
NanoVue™ Plus with Bluetooth®	1	**28-9569-67**

Description	Pk	Cat. No.
Accessories		
Path length calibration kit	1 KIT	**28-9244-05**
SD card	1	**28-9432-14**
Sample plate replacement kit, gold	1 KIT	**28-9553-01**

Photometer, BioPhotometer plus
Eppendorf

An updated Eppendorf compact photometer for rapid and reliable analysis of ds/ssDNA, RNA, oligonucleotides, proteins and bacterial cell density/turbidity measurement. The BioPhotometer plus has nine measurement wavelengths and more pre-programmed methods.

- Easy to use, compact and lightweight
- Programmed methods: ssDNA, dsDNA, RNA, Oligo, Protein, OD 600 and Lowry, Bradford and BCA (also possible as micro-methods)
- Enzymatic assays (e.g. peroxidase, alkaline phosphatase, ß-galactosidase)
- FOI: Incorporation rate of fluorescent molecules (550 nm/650 nm), e.g. for microarray experiments
- User selectable languages - English, French, German

Model	BioPhotometer plus
Light source	Xenon flash
Optical system	Absorption single beam photometer with reference beam
Wavelength range (nm)	230; 260; 280; 340; 405; 490; 550; 595; 650
Spectral bandwidth (nm)	5 at 230 to 340 nm 7 at 405 to 650 nm

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Photometric range	0,000 to 3,000 A (2 A at 340 nm); Dye methods:2 A at 550/650 nm	
Photometric accuracy	±1% (1 A)	
Random error	≤0,5% at 1 A	≤0.5% at 1 A
Systematic error/random error	±1% at 1 A	
Display	Backlit LCD (33×60 mm)	
Keyboard	19-key foil membrane keypad	
Software	Absorbance; concentration via factor; concentration via calibration with 1 to 10 standards; one point calibration; non-linear regression; ratios 260/280 and 260/230; molar concentration; total yield; for dye methods: FOI	
Method memory	32 pre-programmed, modifiable method programmes	
Test storage	Last 100 results with corresponding parameters	
Interfaces	RS232C serial, PC connection optional	
Power supply	100 - 240 V	
W×D×H (mm)	200×320×100	
Weight (kg)	3	

Description	Pk	Cat. No.
BioPhotometer plus, UK-plug	1	**634-0590**
BioPhotometer plus, UK-plug and Eppendorf µCuvette™ G1,0 microvolume measuring cells	1 KIT	**634-1033**

Description	Pk	Cat. No.
Accessories		
Secondary UV/Vis filter	1	**732-6015**
Printer, thermal, DPU414 including printer cable	1	**634-0027**
Thermal paper for printer	5	**700-5118**

Cell density meter, Ultrospec™ 10 Classic

GE Healthcare

The Ultrospec™ 10 Classic cell density meter is a small, portable and easy to use instrument that can measure growth rates of *E. coli*, other bacteria, and yeast in suspension at 600 nm*. Ideal for use in small research labs, the lightweight instrument may be taken to the area of the lab where the cells are grown or used in incubation cabinets or under anaerobic conditions. Spillages are easily wiped from the smooth surface, and the cell compartment area can be sterilised. Up to 99 results may be stored for subsequent recall, printed or downloaded to an appropriate program on a personal computer for analysis. The Ultrospec™ 10 can accept either 10 mm path length cuvettes or 14 - 17 mm tubes. Rechargeable batteries provide almost 1 month of cord-free use under normal operating conditions.

- Lightweight, portable, battery operated device for cell density measurement
- Easy to use, easy to clean, easy to sterilise
- Download results to a PC for convenient data storage and retrieval

Model	Ultrospec™ 10
Wavelength range (nm)	600
Spectral bandwidth (nm)	40
Photometric range	–0,3 to 1,99 A
Photometric accuracy	±0,05 A at 1 A using neutral density filters
Photometric reproducibility	±0,02 A at 1 A
Cuvettes	10 mm path length micro and macro cuvettes and Ø 14 - 17 mm tubes
Test storage	99 readings
Interfaces	RS232
Power supply	Mains supply or internal rechargeable NiMH battery
W×D×H (mm)	180×150×60
Weight (kg)	0,6

Description	Pk	Cat. No.
Ultrospec™ 10 cell density meter, Classic	1 KIT	**80-2116-30**

* Not recommended for use with mammalian cell lines

Spectrophotometer, UV/Vis life science analyser, Genova Plus

Jenway

The Genova Plus is a UV/Vis spectrophotometer dedicated to life science analysis. It allows the measurement of DNA concentrations and purity ratios using wavelengths recorded at 260, 280 and 230 nm, with an optional correction at 320 nm. The Genova Plus is pre-programmed with Bradford, Lowry, Biuret, BCA and Direct UV methods for protein analysis. The Genova Plus has an OD measurement mode enabling cell growth to be monitored by measuring absorbance at 600 nm, 595 nm or any other user selected wavelength. The purity scan across the entire wavelength range from 198 to 1000 nm (interval: selectable 1, 2 or 5 nm) displays any distorted peaks enabling impurities to be easily identified.

As well as the dedicated life science measurement modes, this instrument can also be used as a standard spectrophotometer with measurement modes for photometrics, concentration, multi-wavelength, spectrum scanning, quantitation and kinetics. The 3 year warranty includes the Xenon lamp.

- Icon driven software for easy and intuitive navigation
- Small footprint with graphical display in the compartment lid, optional internal printer
- Press-to-read xenon lamp to extend xenon lamp life
- Pre-programmed parameters for DNA/RNA analysis; methods for protein analysis; purity scan function; plus standard spectrophotometer functions
- Method and result saving to USB memory stick

Ordering information: There is an extensive range of accessories available, many of which are listed below. Please contact VWR for details on other options including dust cover and 4GB USB memory stick.

Delivery information: Supplied fitted with micro-cuvette holder, supplied with 10x10 mm cuvette holder, pack 100 disposable micro-cuvettes, instruction manual, universal power supply, USB memory stick.

Model	Genova Plus
Light source	Xenon lamp
Optical system	Single beam with silicon photodiode
Wavelength range (nm)	198 - 1000
Spectral bandwidth (nm)	5
Wavelength accuracy (nm)	±2
Wavelength resolution (nm)	1
Wavelength repeatability (nm)	±0,5
Photometric range	–3,00 to +2,500 A; 0 - 199,9% T; 0 - 9999 Conc
Photometric accuracy	±1% T, ±0.01 Abs at 1,000 Absorbance*
Photometric stability	<0,002 A / hr (after 30 minute warm-up)
Photometric resolution	0,1% T; 0,001 A
Stray light	<0,05% (220 nm, 340 nm)
Measuring modes	Absorbance, % transmittance, concentration; kinetics and quantitation, dsDNA, ssDNA, RNA, Oligonucleotides, 260/ 280, 260/230, variable ratio
Concentration units	ppm; mg/l; g/l; M; mM; %; µg/l; µg/ml; mg/ml; ng/ml; blank
Display	Custom graphics LCD
Method storage	312 (including pre-programmed methods)
Interfaces	USB, analogue, RS232, integral printer (optional)
Removable media	USB stick (supplied)
GLP	Current time and date, user ID, instrument lock and method lock
W×D×H (mm)	275×400×220
Weight (kg)	6

Description	Pk	Cat. No.
Genova Plus UV/Vis spectrophotometer (life science analyser)	1	**634-0826**

Description	Pk	Cat. No.
Accessories		
TrayCell for ultra-micro sample volumes	1	**634-0785**
Pack of 100 disposable micro-cells	100	**634-0784**
Micro-cell holder with reduced aperture	1	**634-0765**
10×10 mm path length cell holder	1	**634-0764**
Cell holder, 10 to 100 mm path length	1	**634-0087**
8 cell automatic turret cell holder	1	**664-0061**
Water heated 10×10 mm path length cell holder	1	**664-0056**
Peltier heater	1	**664-0062**
Sipper pump	1	**664-0063**
Combined sipper with Peltier heater	1	**664-0060**
Internal printer	1	**634-3009**

* Assessment must be performed with a 10x10 mm path length cuvette holder installed.

Spectrophotometer, UV/Vis Micro-volume, life science analyser, Genova Nano
Jenway

The Genova Nano incorporates a micro-volume accessory with the dedicated life science functions of the Genova Plus, along with those of a standard spectrophotometer – Jenway's first 3 in 1 spectrophotometer. The Genova Nano measures small sample volumes as low as 0.5 µl with a high degree of accuracy, reproducibility and speed. It has the ability to measure small sample volumes, conserves precious samples, reduces the need for dilutions and eliminates the requirement for cuvettes. Cleaning is quick and simple; wiping the read heads with a microfibre cloth removes all trace of the sample, allowing faster change over between samples and therefore increasing sample throughput.

The Genova Nano also functions as a dedicated to life science analyser, allowing the measurement of DNA concentrations and purity ratios using wavelengths recorded at 260, 280 and 230 nm, with an optional correction at 320 nm. It is pre-programmed with Pierce 660, Bradford, Lowry, Biuret, BCA and Direct UV methods for protein analysis. The Genova Nano has an OD measurement mode enabling cell growth to be monitored by measuring absorbance at 600 nm, 595 nm or any other user selected wavelength. The purity scan across the entire wavelength range from 198 to 1000 nm (interval: selectable 1, 2 or 5 nm) displays any distorted peaks enabling impurities to be easily identified.

As well as the dedicated life science measurement modes, this instrument can also be used as a standard spectrophotometer with measurement modes for photometrics, concentration, multi-wavelength, spectrum scanning, quantitation and kinetics.

The press-to-read xenon lamp extends xenon lamp life . The 3 year warranty includes the Xenon lamp.

- Min sample volume: 0.5 µl at 0.2 mm (1.0 µl at 0.5 mm); Max sample volume: 5 µl
- Detects DNA concentrations as low as 2 ng/µl with measurement time of <6.5 seconds
- Icon driven software for easy and intuitive navigation, with method and result saving to USB memory stick
- Small footprint with graphical display in the compartment lid, optional internal printer
- Pre-programmed parameters for DNA/RNA analysis; methods for protein analysis; purity scan function; plus standard spectrophotometer functions

Ordering information: There is an extensive range of accessories available, many of which are listed below. Please contact VWR for details on other options.

Delivery information: Supplied fitted with micro-volume accessory (quartz stainless steel), 10×10 mm cell holder, micro-cuvette holder and 4 GB USB stick.

Model	Genova Nano
Light source	Xenon lamp
Optical system	Single beam with silicon photodiode
Wavelength range (nm)	198 - 1000
Spectral bandwidth (nm)	5
Wavelength accuracy (nm)	±2
Wavelength resolution (nm)	1
Wavelength repeatability (nm)	±0,5
Photometric range	15 to 125 A; 0 - 199,9% T; Max. Conc. 6000 ng/µl (dsDNA) (at 0,2 mm)
Photometric accuracy	±2% at 260 nm
Photometric stability	<0,002 A / hr (after 30 minute warm-up)
Photometric resolution	0,001 A; 0,1% T
Stray light	<0,05% (220 nm, 340 nm)
Measuring modes	Absorbance, % transmittance, concentration; kinetics and quantitation, dsDNA, ssDNA, RNA, Oligonucleotides, 260/ 280, 260/230, variable ratio
Concentration units	ppm; mg/l; g/l; M; mM; %; µg/l; µg/ml; mg/ml; ng/ml; blank
Display	Custom graphics LCD
Method storage	312 (including pre-programmed methods)
Interfaces	USB, analogue, RS232, integral printer (optional)
GLP	Current time and date, user ID, instrument lock and method lock
W×D×H (mm)	275×400×220
Weight (kg)	7,7

Description	Pk	Cat. No.
Genova Nano UV/Vis spectrophotometer (life science analyser)	1	**634-0827**

Description	Pk	Cat. No.
Accessories		
TrayCell for ultra-micro sample volumes	1	**634-0785**
Pack of 100 disposable micro-cells	100	**634-0784**
Micro-cell holder with reduced aperture	1	**634-0765**
10×10 mm path length cell holder	1	**634-0764**
Cell holder, 10 to 100 mm path length	1	**634-0087**
8 cell automatic turret cell holder	1	**664-0061**
Water heated 10×10 mm path length cell holder	1	**664-0056**
Peltier heater	1	**664-0062**
Sipper pump	1	**664-0063**
Combined sipper with Peltier heater	1	**664-0060**
Internal printer	1	**634-3009**

Cell density meter, Biowave, CO 8000

The CO 8000 cell density meter is a small, portable and easy to use instrument for measuring the density of *E.coli* and yeast cells in suspension at 600 nm. Ideal for use in small research labs, the CO 8000 may be taken to the area of the lab where the cells are grown or used in incubation cabinets or under anaerobic conditions. Up to 99 results may be stored for subsequent recall, printing or download to spreadsheet. Since it can accept either 10 mm path length cuvettes or tubes (adapter* required for 10 and 12 mm test tubes), the instrument may be used with Erlenmeyer side arm flasks. The instrument has rechargeable batteries that are automatically charged when it is connected to the mains. This allows almost 1 month use under normal operating conditions when fully charged offering great flexibility and portability.

- Lightweight portable device for measuring the cell density of cultures
- Easy to clean with ethanol or sterilise with formaldehyde or ethylene oxide
- Long lifetime LED source

Model	CO8000
Light source	LED
Optical system	Single beam with interference filters
Wavelength range (nm)	600
Spectral bandwidth (nm)	40
Photometric range	–0,3 to 1,99 A
Photometric reproducibility	±0,02 A at 1 A using cuvettes
Cuvettes	10×10 mm, semi micro, macro
Path length (mm)	10 (standard cuvette); 10*, 12* (test tubes); 16 (round tube)
Display	LCD
Interfaces	RS232
Power supply	110/240 V via mains transformer/Ni MH battery
W×D×H (mm)	150×180×60
Weight (kg)	0,6

Description	Type	Pk	Cat. No.
CO8000 colorimeter mains/battery	Single beam with filters	1	**633-0162**

Description	Pk	Cat. No.
Accessories		
Adapter for 10 and 12 mm tubes	1	**633-0163**

Spectrophotometers, Biowave II, UV/Vis, scanning

The Biowave II UV/Vis scanning diode array spectrophotometers from Biochrom have been designed to meet the routine spectroscopy needs of life science customers requiring a small, lightweight instrument that is easy to use. There are pre-defined methodologies for nucleic acid quantification (DNA, RNA and oligionucleotides), protein assays (BCA, Biuret, Bradford and Lowry) and for cell culture density measurements. The visualisation of the nucleic acid scan is particularly useful, especially for RNA samples where impurities may be present in the 230 nm region. The large backlit graphical display enables wavelength scans, kinetic assays (including slope calculation) and standard curves to be viewed. Results may be printed to an optional, integrated high quality graphical thermal printer for a paper record or exported via a USB connection to a suitable PC running optional Print Via Computer (PVC) software for advanced reporting or data storage.

- Biowave II+ is a higher resolution, 3 nm bandwidth version
- Pre-programmed methods for DNA, RNA, Oligos, proteins and cell density
- Nucleic acid scans for purity checking
- Low volume capability with 10 µl quartz cells
- Novel optics with a xenon source for long lamp lifetime and low running costs

Model	Biowave II	Biowave II+
Light source	Xenon	
Optical system	Monochromator holographic grating	
Detector	1024 CCD array	
Measuring modes	Fixed wavelength (abs/%T), Abs ratio, concentration (standard curve), concentration (factor), multiwavelength, kinetics, life science methods, cell density	
Wavelength range (nm)	190 - 1100	
Spectral bandwidth (nm)	5	3
Wavelength accuracy (nm)	±2	
Wavelength repeatability (nm)	±1	
Photometric range	–0,300 to 2,500 A	
Photometric accuracy	±0,003 A at 0 - 0,5 A at 546 nm	
Photometric reproducibility	0,002 A at 0 - 0,5 A at 546 nm	
Stray light	0,5% T at 220 and 340 nm	
Display	Graphical LCD	
Method storage	Up to 90	
Interfaces	USB to PC	

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Power supply	90 - 250 V
W×D×H (mm)	260×390×100
Weight (kg)	4,5

Description	Pk	Cat. No.
Biowave II UV/Visible spectrophotometer	1	**634-0817**
Biowave II UV/Visible spectrophotometer with printer	1	**634-0818**
Biowave II UV/Visible spectrophotometer with Bluetooth®	1	**634-0819**
Biowave II UV/Visible spectrophotometer with SD card accessory	1	**634-0823**
Biowave II UV/Visible spectrophotometer with USB interface for data export via data stick (csv.file format)	1	**634-0831**
Biowave II+ UV/Visible spectrophotometer	1	**634-0820**
Biowave II+ UV/Visible spectrophotometer with printer	1	**634-0821**
Biowave II+ UV/Visible spectrophotometer with Bluetooth®	1	**634-0822**
Biowave II+ UV/Visible spectrophotometer with SD card accessory	1	**634-0824**

VWR COLLECTION

Delivering high quality and superior performance

Please contact your local VWR sales office or go to vwr.com for the latest news and special offers

Cuvettes, disposable

Macro

Semi-micro

Disposable cuvettes made from optical polystyrene (PS) with optimal transmittance from 340 to 900 nm or PMMA with a range of 300 to 900 nm.

- Minimal variation of extinction values
- Recessed windows
- Resealable packaging

Type	Window material	Optical path length (mm)	Volume (ml)	Range	Pk	Cat. No.
Semi-micro	PS	10	1,5 - 3	340 - 900 nm	100	**634-0676**
Semi-micro	PMMA	10	1,5 - 3	300 - 900 nm	100	**634-0678**
Macro	PS	10	2,5 - 4	340 - 900 nm	100	**634-0675**
Macro	PMMA	10	2,5 - 4	300 - 900 nm	100	**634-0677**

Cuvettes, disposable
Brand

Macro

Semi-micro

BRAND® standard disposable macro or semi-micro cuvettes are available made of PS or PMMA. They are ideal for kinetic measurements and are supplied in a resealable, practical packaging. The cuvettes are delivered grouped by mould cavity number to ensure lowest variation of extinction coefficient.

PMMA cuvettes - range of application: 300 nm to 900 nm; standard deviation at 320 nm ≤±0.004 extinction units.

PS cuvettes - range of application: 340 nm to 900 nm; standard deviation at 360 nm ≤±0.005 extinction units.

- Arrow indicates optical path orientation
- Clear, clean optical path of 10 mm
- Recessed windows protect against scratches

External: Cuvette:12.5×12.5×45 mm

Window: Macro cuvette: 10×35 mm

Window: Semi-micro cuvette: 4.5×23 mm

Type	Window material	Optical path length (mm)	Volume (ml)	Pk	Cat. No.
Macro	PS	10	2,5 - 4,5	100	**634-8111**
Semi-micro	PS	10	1,5 - 3	100	**634-8112**
Macro	PMMA	10	2,5 - 4,5	100	**634-0000**
Semi-micro	PMMA	10	1,5 - 3	100	**634-0001**

UV/Vis cuvettes, disposable
Brand

Semi-micro

Macro

Micro

Disposable UV cuvettes made of plastic often replace expensive and sensitive cuvettes made from glass and/or quartz glass. The high chemical resistance permits use with most polar solvents, as well as acids and caustic solutions. The UV micro cuvettes can be used for measurements from as low as 230 nm and with small sample quantities (70 µl is sufficient for measurement). The light path of each cuvette is 10 mm. Two different centre heights enable use in most commercial photometers.

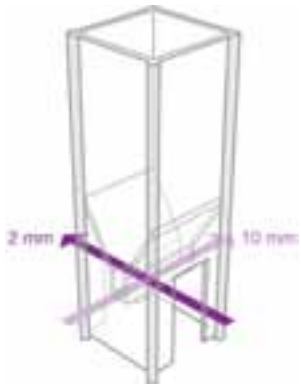
- Specially developed for photometric measurements of proteins, DNA and RNA within the UV range
- Ideally suited for measurements at 260 nm, 280 nm and in the visible wavelength range
- Round coloured caps, for microcuvettes only, ensure easy sample identification and provide a tight seal to –20 °C
- Individually wrapped micro UV cuvettes are free of DNase, DNA and RNase

Type	Volume	Pk	Cat. No.
Semi-micro UV cuvette, window 4,5×23 mm	1500 - 3000 µl	100	**612-5684**
Macro UV cuvette, window 10×35 mm	2500 - 4500 µl	100	**612-5685**
Micro UV cuvette, CH=15 mm, window 2×3,5 mm	70 - 550 µl	100	**612-5688**
Micro UV cuvette, CH=15 mm, window 2×3,5 mm	70 - 550 µl	500	**612-5689**
Micro UV cuvette, CH=15 mm, window 2×3,5 mm, individually wrapped	70 - 550 µl	100	**612-2506**
Micro UV cuvette, CH=8,5 mm, window 2×3,5 mm	70 - 850 µl	100	**612-5686**
Micro UV cuvette, CH=8,5 mm, window 2×3,5 mm	70 - 850 µl	500	**612-5687**
Micro UV cuvette, CH=8,5 mm, window 2×3,5 mm, individually wrapped	70 - 850 µl	100	**612-2505**

Colour	Pk	Cat. No.
Caps for micro UV cuvettes, PE		
Blue	100	**612-5690**
Yellow	100	**612-5691**
Green	100	**612-5692**
Orange	100	**612-5693**

CH = Centre height of the light path

Cuvettes, disposable, Eppendorf UVette®
Eppendorf



The plastic material of the disposable UVette® provides a transparency range of 220 - 1600 nm. The design of the cuvette has a funnel-shaped base, which prevents the capillary effect and ensures that the liquids constantly remain in the centre of the measuring area - particularly important for volumes as low as 50 µl. The design also allows for a 2 mm and a 10 mm optical path length by simple rotation of the UVette® by 90 degrees. Using the 2 mm path length, there is in most cases no need for dilutions of highly concentrated samples.

- Compatible with most spectrophotometers (with the appropriate adapter)
- Four optical windows and graduations at 500 and 1000 µl
- No adapters required for use with Eppendorf BioPhotometer

Eppendorf UVette® 80

- Individually blister-packed for contamination-free work

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• DNA, RNase and protein-free

Eppendorf UVette® starter set

• 80 individually packaged UVettes® + 1 universal adapter for a 15 mm light centre height (including GeneQuant); convertible to 8.5 mm

Eppendorf UVette® routine pack

200 UVettes® bulk packaged in a reclosable box - an economical option

Description	Optical path length (mm)	Pk	Cat. No.
Eppendorf UVette® 80	2/10	80	**634-1921**
Eppendorf UVette® routine pack	2/10	200	**634-1923**
Eppendorf UVette® starter set	2/10	1 SET	**634-1922**

Description	Pk	Cat. No.
Accessories		
UVette® adapter for 8.5 mm path height	1	**634-0022**
UVette® adapter for 10 mm path height	1	**634-0023**
UVette® adapter for 15 mm path height	1	**634-0024**
UVette® adapter for GeneQuant	1	**634-0025**

Cuvettes, disposable

Kartell

Disposable cuvettes made from optical polystyrene (PS) with optimal transmittance from 340 to 800 nm or PMMA with a range of 280 to 800 nm, with a transmission value at 300 nm of 70%.

- Optical variation less than 1%
- Optical path length of 10 mm
- Packaged in dust-free conditions

Hellma cuvettes for spectroscopy

Glass spectrophotometer cells from Hellma

Cells are made from various types of glass. The most important criterion for the choice of the type of glass is the spectral range for which the cell is intended. Coloured logos are fused onto each cell thus indicating the range over which it can be used.

The optical path length is a particularly important parameter for some photometric applications.

Logo	Glass type	Spectral range (nm)	Applications/spectrum
QS	Quartz glass of the highest quality SUPRASIL®	200 - 2500	UV
QH or UV	Glass made of natural crystalline quartz	230 - 2500	UV
QX	Synthetic quartz free of OH absorption	200 - 3500	Near IR
OS	Special optical glass	320 - 2500	Visible
OG	Optical glass – not normally used in spectrophotometry	360 - 2500	Visible
BF	Chemical resistant borosilicate glass	330 - 2500	Visible
Material	**Optical path length (mm)**	**Tolerance (± mm)**	
Quartz	0.01 to 0.05	0.003	
Quartz	0.1 to 0.2	0.005	
Quartz	0.5 to 20	0.01	
Quartz	40 to 100	0.02	
Special optical glass	0.1 to 20	0.01	
Special optical glass	40 to 100	0.02	
Optical glass	10 to 30	0.1	
Optical glass	40 to 100	0.2	

Cells for spectroscopy, semi-micro, glass
Hellma

Type	Window material	Optical path length (mm)	Height (mm)	Volume (µl)	Base thickness (mm)	Pk	Cat. No.
Cells without lid or stopper							
6040-OG	Optical glass	10	45	1400	3,2	1	**634-9101**
Cells with PTFE lid							
108.QS	Quartz glass, SUPRASIL®	10	45	1000	9	1	**634-9154**
108B.QS*	Quartz glass, SUPRASIL®	10	45	1000	9	1	**634-0782**
104-OS	Special optical glass	10	45	1400	3,2	1	**634-9112**
104-QS	Quartz glass, SUPRASIL®	10	45	1400	3,2	1	**634-9122**
104-QX	Quartz glass, SUPRASIL® 300	10	45	1400	3,2	1	**634-9132**
104B-OS*	Special optical glass	10	45	1400	3,2	1	**634-9140**
104B-QS*	Quartz glass, SUPRASIL®	10	45	1400	3,2	1	**634-9150**
104-OS	Special optical glass	50	45	7000	3,2	1	**634-9115**
104-QS	Quartz glass, SUPRASIL®	50	45	7000	3,2	1	**634-9125**
Cells with round PTFE stopper							
114-QS	Quartz glass, SUPRASIL®	5	46	700	3,2	1	**634-9156**
114-OS	Special optical glass	10	46	1400	3,2	1	**634-9148**
114-QS	Quartz glass, SUPRASIL®	10	46	1400	3,2	1	**634-9158**
114B-QS*	Quartz glass, SUPRASIL®	10	46	1400	3,2	1	**634-0783**

* Black side walls and base

Cells for spectroscopy, micro, glass
Hellma

104.002-QS

104.002B-QS

Micro cells with 2 mm internal width

Type	Window material	Optical path length (mm)	Height (mm)	Volume (µl)	Pk	Cat. No.
Micro cells with PTFE lids						
108.002-QS	Quartz glass, SUPRASIL®	10	45	500	1	**634-9240**
108.002B-QS*	Quartz glass, SUPRASIL®	10	45	500	1	**634-1060**
104.002-OS	Special optical glass	10	45	700	1	**634-9079**

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Type	Window material	Optical path length (mm)	Height (mm)	Volume (µl)	Pk	Cat. No.
Micro cells with PTFE lids						
104.002-QS	Quartz glass, SUPRASIL®	10	45	700	1	**634-9080**
104.002B-OS*	Special optical glass	10	45	700	1	**634-9214**
104.002B-QS*	Quartz glass, SUPRASIL®	10	45	700	1	**634-9081**
Micro cells with PTFE stoppers						
115-QS	Quartz glass, SUPRASIL®	10	40	400	1	**634-9242**
115B-QS	Quartz glass, SUPRASIL®	10	40	400	1	**634-9241**

* Black side walls and base

Cells for spectroscopy, TrayCells
Hellma

The Hellma TrayCell is designed for measurements of DNA/RNA or protein samples and enables highly accurate analysis of extremely small samples with remarkable reproducibility. The dimensions of the TrayCell are equivalent to a standard cuvette in order to work in most spectrophotometers. The sample is placed on the measuring window and the appropriate cap is fitted on top.

- Small samples yet easy to fill measure and clean cells
- 2 mirrored caps are supplied to provide either 0.2 mm or 1 mm defined path lengths
- Quartz SUPRASIL® windows allow wavelength range of 190 - 1100 nm
- Spacer blocks are provided to achieve different heights/centre heights

Centre heights: 8.5; 15; 20 mm

Note: Please contact your local VWR office for further details and advice.

Description	Optical path length (mm)	Height (mm)	Volume (µl)	Pk	Cat. No.
TrayCell 105.800-UVS	0,2/1	68,5	0,7 - 5	1	**634-9110**
TrayCell 105.810-UVS	0,2/1	53	0,7 - 5	1	**634-9836**

Microvolume protein quantification kit, QuantiMate

The Biochrom QuantiMate is a robust device designed for concentration and purity determinations of nucleic acids and proteins. The dimensions of the cell are equivalent to a standard cuvette in order to work in most spectrophotometers.

- Exceptional measurement performance which means that concentration results are more accurate and more reproducible
- Samples can be measured without time consuming dilutions
- Broad measurement range so only one cuvette is required for most concentrations
- Use from 0,8 to 2,5 µl of precious sample - save sample for downstream experiments
- Pathlength accuracy of ±5 µm which dramatically improves measurement accuracy

Ordering information: Supplied with either 8.5 or 15 mm beam height window. If you are unsure of the beam height of your spectrophotometer please contact your local VWR sales office for advice.

Description	Window material	Optical path length (µm)	Volume (µl)	Pk	Cat. No.
Beam height = 15 mm					
QuantiMate set includes 200 and 500 µm pathlengths	Quartz	200/500		1	**730-1450**
QuantiMate 200	Quartz	200	>0,8	1	**730-1451**
QuantiMate 500	Quartz	500	>2,5	1	**730-1452**
Beam height = 8,5 mm					
QuantiMate set includes 200 and 500 µm pathlengths	Quartz	200/500		1	**730-1453**
QuantiMate 200	Quartz	200	>0,8	1	**730-1454**
QuantiMate 500	Quartz	500	>2,5	1	**730-1455**

Cells for spectroscopy, ultra-micro, glass
Hellma

Type	Window material	Optical path length (mm)	Height (mm)	Volume (µl)	Pk	Cat. No.
With PE stoppers						
105.202-QS	Quartz glass, SUPRASIL®	10	45/15*	50	1	**634-9091**
105.202-QS	Quartz glass, SUPRASIL®	10	45/8,5**	50	1	**634-9092**
105.203-QS	Quartz glass, SUPRASIL®	10	45/15*	50	1	**634-9328**
105.203-QS	Quartz glass, SUPRASIL®	10	45/8,5**	50	1	**634-9093**
105.201-QS	Quartz glass, SUPRASIL®	10	45/15*	100	1	**634-9089**
105.201-QS	Quartz glass, SUPRASIL®	10	45/8,5**	100	1	**634-9090**
105.200-QS	Quartz glass, SUPRASIL®	10	45/15*	160	1	**634-9087**
105.200-QS	Quartz glass, SUPRASIL®	10	45/8,5**	160	1	**634-9088**
With pipette tips for filling						
105.210-QS	Quartz glass, SUPRASIL®	5	40/15*	5	1	**634-0434**
105.210.QS	Quartz glass, SUPRASIL®	5	40/8,5**	5	1	**634-9315**
105.210-QS	Quartz glass, SUPRASIL®	10	40/15*	10	1	**634-0432**
105.210-QS	Quartz glass, SUPRASIL®	10	40/8,5**	10	1	**634-0433**

* 15 mm is the centre height for the cell
** 8.5 mm is the centre height of the cell

Cells for flow-through measurements, glass
Hellma

The cells are designed with a chamber to minimise bubble formation.

- Pressure tested
- Contact surfaces specially treated to reduce bubble adhesion within the chamber

Connector type A; inlet/outlet tubes with ID of 1.75 mm and OD of 3.5 mm and length 8.5 ±0,5 mm

Connector type B; with 2 screw connectors M 6×1 and FEP tubes with OD of 1.9 mm, ID of 1.1 mm and 500 mm length

The height in the table below refers to the cell height/centre height. If no centre height is given then both heights are acceptable.

Type	Aperture H×W (mm)	Connector type	Pressure tested at
Connector type A			
170	17,5×3,5	A	3 bar
178.010	Ø 3		
170-OS	17,5×6,5		
170	17,5×3,5		
176	11×4		
170	17,5×3,5		
178.010	Ø 3		
176	11×4		

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Connector type B			
170.700	17,5×3,5	B	5 bar
178.710	Ø 3	3 bar	
		5 bar	
		3 bar	
170.700	17,5×3,5	5 bar	
176.700	11×3,5	3 bar	5 bar
178.710	Ø 3		3 bar
			5 bar
			3 bar
170.700	17,5×3,5		5 bar

Type	Window material	Optical path length (mm)	Height (mm)	Volume (µl)	Pk	Cat. No.
Connector type A						
170-QS	Quartz glass, SUPRASIL®	0,1	35	6,2	1	**634-9817**
170-QS	Quartz glass, SUPRASIL®	0,2	35	12,4	1	**634-9818**
170-QS	Quartz glass, SUPRASIL®	0,5	35	31	1	**634-9819**
178.010-QS	Quartz glass, SUPRASIL®	10	38,5/8,5	80	1	**634-9097**
170-OS	Special optical glass	1	35	120	1	**634-9720**
170-QS	Quartz glass, SUPRASIL®	1	35	120	1	**634-9820**
176-QS	Quartz glass, SUPRASIL®	5	45/15	230	1	**634-9106**
170-QS	Quartz glass, SUPRASIL®	2	35	240	1	**634-9821**
178.010-QS	Quartz glass, SUPRASIL®	50	45/15	370	1	**634-9098**
176-QS	Quartz glass, SUPRASIL®	10	45/15	450	1	**634-9107**
176-QS	Quartz glass, SUPRASIL®	50	45/15	2250	1	**634-9108**
Connector type B						
170.700-QS	Quartz glass, SUPRASIL®	0,1	35	6,2	1	**634-9823**
170.700-QS	Quartz glass, SUPRASIL®	0,2	35	12,4	1	**634-9824**
170.700-QS	Quartz glass, SUPRASIL®	0,5	35	31	1	**634-9825**
178.710-OS	Special optical glass	10	35/15	80	1	**634-9741**
178.710-QS	Quartz glass, SUPRASIL®	10	35/15	80	1	**634-9945**
178.710-OS	Special optical glass	10	35/8,5	80	1	**634-9795**
170.700-QS	Quartz glass, SUPRASIL®	1	35	120	1	**634-9826**
170.700-QS	Quartz glass, SUPRASIL®	2	35	124	1	**634-9827**
176.700-QS	Quartz glass, SUPRASIL®	5	35/15	195	1	**634-9103**
176.700-QS	Quartz glass, SUPRASIL®	5	35/8,5	195	1	**634-9100**
176.700-QS	Quartz glass, SUPRASIL®	10	35/15	390	1	**634-9104**
176.700-QS	Quartz glass, SUPRASIL®	10	35/8,5	390	1	**634-9102**
176.700-QS	Quartz glass, SUPRASIL®	20	35/15	780	1	**634-9105**

Cells for fluorescence spectroscopy, macro and semi-micro, glass

Hellma

Type	Window material	Optical path length (mm)	Height (mm)	Volume (µl)	Pk	Cat. No.
Rectangular macro cells with 4 polished windows and PTFE lids or stoppers						
101-OS	Special optical glass	10×10	45	3500	1	**634-0507**
101-QS	Quartz glass, SUPRASIL®	10×10	45	3500	1	**634-0508**
111-OS	Special optical glass	10×10	46	3500	1	**634-9413**
111-QS	Quartz glass, SUPRASIL®	10×10	46	3500	1	**634-9423**
Rectangular semi-micro cells with 4 polished windows and PTFE lids						
104F-OS	Special optical glass	10×4	45	1400	1	**634-9096**
104F-QS	Quartz glass, SUPRASIL®	10×4	45	1400	1	**634-9095**

Cells for fluorescense spectroscopy, ultra-micro, glass
Hellma

Cells, predominantly made of black quartz, designed to fit standard cell holder and also to eliminate capillary action which reduces filling volumes required.

- 3 windows
- Aperture height of 5 mm
- PE stoppers

Type	Window material	Optical path length (mm)	Height (mm)	Volume (µl)	Pk	Cat. No.
105.250-QS	Quartz glass, SUPRASIL®	10×2	45/15*	120	1	**634-9094**
105.250-QS	Quartz glass, SUPRASIL®	10×2	45/8,5**	120	1	**634-9471**
105.251-QS	Quartz glass, SUPRASIL®	3×3	45/15*	70	1	**634-9461**
105.251-QS	Quartz glass, SUPRASIL®	3×3	45/8,5**	70	1	**634-0439**
105.253-QS	Quartz glass, SUPRASIL®	10×2	45/15*	120	1	**634-9332**
105.253-QS	Quartz glass, SUPRASIL®	10×2	45/8,5**	120	1	**634-9331**
105.254-QS	Quartz glass, SUPRASIL®	3×3	45/15*	70	1	**634-9334**
105.254-QS	Quartz glass, SUPRASIL®	3×3	45/8,5**	70	1	**634-9333**

* centre height for the cell = 15 mm
** centre height for the cell = 8,5 mm

Solvents for spectroscopy UV/Vis, Uvasol®

Description	Pk	Cat. No.
Acetone Uvasol®	500 ml	**1.00022.0500**
Acetone Uvasol®	2,5 l	**1.00022.2500**
Dichloromethane Uvasol®	500 ml	**1.06048.0500**
Dimethyl sulphoxide Uvasol®	500 ml	**1.02950.0500**
Dimethyl sulphoxide Uvasol®	2,5 l	**1.02950.2500**
Ethanol Uvasol®	500 ml	**1.00980.0500**
Methanol Uvasol®	500 ml	**1.06002.0500**
Methanol Uvasol®	2,5 l	**1.06002.2500**
n-Hexane Uvasol®	500 ml	**1.04372.0500**
Pentane Uvasol®	1 l	**1.07179.1000**
Propan-2-ol Uvasol®	1 l	**1.00993.1000**
Propan-2-ol Uvasol®	2,5 l	**1.00993.2500**
Tetrahydrofuran Uvasol®	500 ml	**1.08110.0500**
Tetrahydrofuran Uvasol®	2,5 l	**1.08110.2500**
Toluene Uvasol®	1 l	**1.08331.1000**
Trifluoroacetic acid Uvasol®	100 ml	**1.08262.0100**

UV/Vis standards

For spectrophotometer calibration according to Ph. Eur.

The checking of UV/Vis spectrophotometers is incorporated in the European Pharmacopoeia and is indispensable in the pharmaceutical industry. However, all other users who operate according to standards and guidelines such as GLP, GMP, USP and ISO 9001 are required to check their analytical systems at regular intervals and to document such checks.

The following parameters can be checked:

- Wavelength accuracy
- Stray light
- Spectral resolution power
- Absorption

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Description	Pk	Cat. No.
UV/Vis standards		
UV/Vis Standard 1: Potassium dichromate solution for absorbance according to Ph. Eur.	8 Ampoul	**1.08160.0001**
UV/Vis Standard 1a: Potassium dichromate solution (600 mg/l) for the absorbance at 430 nm according to Ph. Eur.	1 Ampoul	**1.04660.0001**
UV/Vis Standard 2: Sodium nitrite solution for stray light testing according to Ph. Eur.	3 Ampoul	**1.08161.0001**
UV/Vis Standard 3: Sodium iodide solution for stray light testing according to Ph. Eur.	3 Ampoul	**1.08163.0001**
UV/Vis Standard 4: Potassium chloride solution for stray light testing according to Ph. Eur.	3 Ampoul	**1.08164.0001**
UV/Vis Standard 5: Toluene solution in n-hexane for testing of the resolution power acc. Ph. Eur.	8 Ampoul	**1.08165.0001**
UV/Vis Standard 6: Holmium oxide solution reference material for the wavelength according to Ph. Eur.	3 Ampoul	**1.08166.0001**
Rectangular cells		
Rectangular cells, 10 mm, quartz	2	**1.00784.0001**

Secondary standards for spectrophotometer calibration

Hellma

The calibration set consists of three grey glass filters for checking the absorbance accuracy, and a holmium oxide glass filter for checking the wavelength accuracy. The glass filters are mounted in precision aluminium frames. They are designed for use with the standard 10 mm cell holder provided with spectrophotometers. The set, along with an empty mount, is supplied in a sturdy wooden case. For identification purposes, the set number is engraved on each filter mount. The absorbance values and/or peak position wavelengths of each filter are quoted in the accompanying calibration certificate. A copy of the values, for laboratory use, can be found on the inside face of the case lid.

Description	Pk	Cat. No.
Calibration set with 4 filters	1 SET	**634-9691**

Description	Type	Pk	Cat. No.
Individual filters			
Solid wavelength calibration standard for spectrophotometers	Holmium oxide filter	1	**634-9693**
Neutral glass filter, absorbance calibration standard for spectrophotometers, certified	NG 11	1	**634-9694**
Neutral glass filter, absorbance calibration standard for spectrophotometers, certified	NG 5	1	**634-9695**
Neutral glass filter, absorbance calibration standard for spectrophotometers, certified	NG 4	1	**634-9696**
Didymium glass filter, wavelength (visible) and absorbance (UV) calibration standard for spectrophotometers, certified	BG 36	1	**634-0668**

Filters can be ordered separately, please ask your local VWR sales office for details.

Rack for cuvettes

Kartell

PE

Rack for 12 cuvettes with 10 mm path length.

For	W×D×H (mm)	Pk	Cat. No.
12 (2×6)	170×50×12	1	**634-8580**

Handheld refractometers with automatic temperature compensation (ATC)

These robust refractometers are easy to use and deliver exact, consistent results.

- Automatic temperature compensation (ATC) to 20 °C from between 10 °C and 30 °C
- Robust design
- Easy to read scales
- Easy to use and clean

Description	Range	Resolution	Pk	Cat. No.
Sugar	0 - 10 °Brix	0,1 °Brix	1	**635-0629**
Sugar	0 - 18 °Brix	0,1 °Brix	1	**635-0630**
Sugar	0 - 32 °Brix	0,2 °Brix	1	**635-0631**
Sugar	0 - 55 °Brix	1 °Brix	1	**635-0634**
Sugar	28 - 62 °Brix	0,2 °Brix	1	**635-0632**
Sugar	45 - 82 °Brix	0,2 °Brix	1	**635-0633**
Sugar	58 - 92 °Brix	0,5 °Brix	1	**635-0635**
Salinity	0 - 10% NaCl	0,1% NaCl	1	**635-0636**
Salinity	0 - 28% NaCl	0,2% NaCl	1	**635-0637**
Ethylene glycol F.pt.(°C)	–50...0 °C	5 °C	1	**635-0638**
Wine: Oechsle / KMW Babo	30 - 140 Oechsle / 0 - 27 KMW Babo	1 Oe / 0,2 KMW Babo	1	**635-0639**

Refractometers, handheld, Eclipse
Bellingham + Stanley

The Eclipse series combines quality optics and an ergonomic design, making them suitable for a wide range of process and quality control applications particularly in the food industry.

- High precision clear scale
- Simple zero adjustment with lock
- Anti-roll design
- Comfortable eyepiece with smooth adjustment
- Easy clean prism and push-on prism flap protection

Delivery information: Supplied with case, instruction manual and certificate of conformity.

Description	Range (°Brix)	Resolution	Pk	Cat. No.
Sugar	0 - 15	0,1 °Brix	1	**635-0037**
Sugar	0 - 30	0,2 °Brix	1	**635-0038**
Sugar	0 - 50	0,5 °Brix	1	**635-0039**
Sugar	45 - 80	0,2 °Brix	1	**635-0040**
Sugar	72 - 95	0,2 °Brix	1	**635-0041**
Sugar	28 - 65	0,2 °Brix	1	**635-0042**
Water in honey	10 - 30%	0,2%	1	**635-0187**
Antifreeze - °C protection/ battery acid SG	–40...0 °C / 1,1 - 1,35	5 °C / 0,05 g/ml	1	**635-0050**
Salinity	0 - 28% NaCl	0,2% NaCl	1	**635-0291**
Refractive Index	1,330 - 1,420 nD	0,001 nD	1	**635-0049**

Description	Range (°Brix)	Pk	Cat. No.
Low sample volume (<1µl)			
Sugar	0 - 50	1	**635-0292**
Sugar	45 - 80	1	**635-0293**

Description	Pk	Cat. No.
Accessories		
Silica test plate with RI 1.45839 for Eclipse and Abbe 5 refractometers	1	**635-0056**

Handheld refractometers, MASTER series
Atago

The MASTER series of handheld refractometers provides a range of easy to use instruments for a wide variety of applications. The design has an ergonomic grip and a prism housing that allows for the sample to cover the prism without having to lift the daylight plate.

MASTER-M

Standard model

- Clear scale
- Only two to three drops of sample required

MASTER-T

These instruments have automated temperature compensation in the range 10 to 30 °C.

MASTER-α

These instruments have automated temperature compensation and are IP 65 (except eyepiece), dust-tight and protected against water jets.

MASTER-P

These models are designed with a plastic body for resistance to salty and acidic samples.

W×D×H (mm): 33×33×204 (all models)

Weight (g): 160 (except MASTER P: 100 g)

Description	Range (°Brix)	Pk	Cat. No.
MASTER series, Brix scales			
MASTER-α	0 - 33,0	1	**635-0401**
MASTER-T	0 - 33,0	1	**635-0402**
MASTER-M	0 - 33,0	1	**635-0403**
MASTER-2α	28,0 - 62,0	1	**635-0410**
MASTER-2T	28,0 - 62,0	1	**635-0411**
MASTER-2M	28,0 - 62,0	1	**635-0404**
MASTER-Pα	0 - 33,0	1	**635-0495**
MASTER-PM	0 - 33,0	1	**635-0496**
Special scales			
MASTER-S28α (P-series), salinity	0 - 28% NaCl	1	**635-0497**
MASTER-BC (M-series), battery coolant	-50...0 °C / 1,150...1,300	1	**635-0498**

Handheld refractometers, OPTi Digital
Bellingham + Stanley

A range of reliable premium quality instruments for a wide range of applications.

- Shallow prism dish of 316 stainless steel
- Optical glass prism
- Zero calibration with distilled water, automated temperature compensation (ATC)
- ABS housing

Delivery information: Supplied with 2× AAA batteries, multi-language user guide pack, certificate of calibration and protective carry case.

Model	OPTi
Sample size (ml)	0,3
Response time	2 seconds
Operating temperature range (°C)	5...40
Power supply	2× AAA
W×D×H (mm)	54×115×30
Weight (g)	85 plus batteries

Description	Range	Precision	Pk	Cat. No.
Single scale models, general purpose				
Brix 54	0 - 54 °Brix	±0,2 °Brix	1	**635-0593**
R.I. 1,42	1,33 - 1,42 nD	±0,0003 nD	1	**635-0594**
Starch 30	0 - 30%	±0,2%	1	**635-0595**
Salinity 28	0 - 28% NaCl	±0,2% NaCl	1	**635-0596**

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Description	Range	Precision	Pk	Cat. No.
Dual scale wine models with ATC				
Wine AP (alcohol probable)	0 - 35% w/w 0 - 22% AP	±0,2% w/w ±0,2% AP	1	**635-0599**
Wine OE-D (German)	0 - 35% w/w 30 - 130 Oechsle (D)	±0,2% w/w ±1 Oechsle (D)	1	**635-0600**
Wine OE-CH (Swiss)	0 - 35% w/w 0 - 130 Oechsle (CH)	±0,2% w/w ±1 Oechsle (CH)	1	**635-0601**
Wine KMW	0 - 35% w/w 0 - 25 Babo	±0,2% w/w ±1 Babo	1	**635-0602**
Wine Baumé	0 - 35% w/w 0 - 28 °Baumé	±0,2% w/w ±0,2 °Baumé	1	**635-0603**
Wine Baumé/AP (alcohol probable)	0 - 28 °Baumé 0 - 22% AP	±0,2 °Baumé ±0,2% AP	1	**635-0604**
Wine ABV	0 - 35% w/w 10 - 135 °Zeiss	±0,2% w/w ±0,5 °Zeiss	1	**635-0605**
Dual scale models, beer and beverages				
Brewing	10 - 135 °Zeiss 0 - 30 °Plato	±0,5 °Zeiss ±0,2 °Plato	1	**635-0606**
Dual scale industrial/general purpose models				
Chemical 1: Brix/RI with ATC	0 - 54 °Brix 1,33 - 1,42 nD	±0,2 °Brix ±0,0003 nD	1	**635-0597**
Chemical 2: RI/Temp	1,33 - 1,42 nD 5 - 40 °C	±0,0003 nD ±1	1	**635-0598**
Automotive A1: Brix/Ethylene glycol °C protection (Fpt)	0 - 54 °Brix 0...-50 °C	±0,2 °Brix ±1	1	**635-0610**
Automotive A2: Brix DEF/Adblue®	0 - 54 °Brix 0 - 40*	±0,2 °Brix ±0,2*	1	**635-0611**
Automotive A3: Brix/Propylene glycol °C protection (Fpt)	0 - 54 °Brix 0...-50 °C	±0,2 °Brix ±1	1	**635-0612**
Automotive A4: DEF Adblue®/Ethylene glycol °C protection (Fpt)	0 - 40* 0...-50 °C	±0,2* ±1	1	**635-0613**
Automotive A5: DEF Adblue®/Ethylene glycol °F protection (Fpt)	0 - 40* 30...-40 °F	±0,2* ±1 °F	1	**635-0614**
Automotive antifreeze °C: Ethylene glycol/propylene glycol protection (Fpts)	0...-50 °C 0...-50 °C	±1 °C ±1	1	**635-0615**
Automotive antifreeze °F: Ethylene glycol/propylene glycol protection (Fpts)	30...-40 °F 30...-40 °F	±1 °F ±1 °F	1	**635-0616**
Heat transfer liquids PG/C: propylene glycol by volume/protection	0 - 60% v/v 0...-50 °C	±0,4% v/v ±1	1	**635-0617**
Heat transfer liquids EG/C: ethylylene glycol by volume/protection	0 - 60% v/v 0...-50 °C	±0,4% v/v ±1	1	**635-0618**
Heat transfer liquids EG/PG	0 - 60% v/v 0 - 60% v/v	±0,4% v/v ±0,4% v/v	1	**635-0619**
Heat transfer liquids EG/F	0 - 60% v/v 30...-40 °F	±0,4% v/v ±1 °F	1	**635-0620**
Coolant: Brix/RI	0 - 18 °Brix 1,33 - 1,38 nD	±0,2 °Brix ±0,0003 nD	1	**635-0621**
Aviation: RI (ATC)/DiEGME (FSII)	1,33 - 1,42 nD 0,0 - 0,25	±0,0003 nD ±0,02	1	**635-0622**
Dual scale life science models				
Aquatic: Seawater PPT (parts per thousand) / seawater specific gravity (S.G.)	0 - 180 / 1,0 - 1,07	±1 / ±0,001	1	**635-0607**
Sport: Urine S.G. / Brix	1,0 - 1,05 / 0 - 30 °Brix	±0,001 / ±0,2 °Brix	1	**635-0608**
Vetinary: Urine S.G.: small mammal / large mammal	1,0 - 1,05 / 1,0 - 1,05	±0,001 / ±0,001	1	**635-0609**

* % Urea $(NH_2)_2CO$

IP65

Portable refractometers, digital, PAL series

Atago

The PAL series of handheld digital refractometers are pocket sized, battery operated instruments that are easy to use, delivering rapid results.

- Automatic temperature compensation (ATC) from 10 to 100 °C for PAL-1/2/3/S
- Simple single-handed operation
- IP 65 allows rinsing off the sample with running water

Delivery information: Supplied with storage case, pipette and instruction manual.

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Model	PAL series
Sample size (ml)	0,3
Response time	3 seconds (typical)
Power supply	2× AAA batteries
W×D×H (mm)	55×31×109
Weight (g)	100

Description	Range	Precision	Pk	Cat. No.
PAL-1	0 - 53 °Brix	±0,2 °Brix	1	**635-0153**
PAL-2	45 - 93 °Brix	±0,2 °Brix	1	**635-0154**
PAL-3	0 - 93 °Brix	±0,1 °Brix	1	**635-0214**
PAL- Alpha	0 - 85 °Brix	±0,2 °Brix	1	**635-0363**
PAL-RI	1,3306 - 1,5284 nD	±0,0003 nD	1	**635-0364**
PAL-03S salinity	0 - 28% NaCl	±0,2% NaCl	1	**635-0155**
PAL-22S moisture % in honey	12 - 30%	±0,2%	1	**635-0156**
PAL-88S Coolant, propylene glycol % / freezing point (°C)	0 - 90% / –50...0 °C	±0,4% / ±1	1	**635-0158**
PAL-91S Coolant, ethylene glycol % / freezing point (°C)	0 - 70% / –50...0 °C	±0,4% / ±1	1	**635-0160**

There are over 80 special scales for the PAL series available on request for a variety of products; dextran, fructose, glucose, lactose, maltose, honey, soya milk, sea water, citric acid.

Handheld refactometers, Refracto 30PX/30GS
Mettler-Toledo

Refracto 30GS

These refractometers, which use the total reflection method, are handheld instruments for measurements in the laboratory and production environments. The backlit LC display and the simple intuitive menu structure allow the user to easily change settings in seconds. The sample can either be placed on the measurement cell or the sensor can be immersed directly into the fluid. The results can be displayed in a wide variety of standard units and also units applicable to antifreeze and wine measurement as well as customised applications.

- Automatic temperature compensation
- Use as a handheld or bench top instrument
- Choice of use - immerse sensor in liquid or add sample to cell
- Storage of up to 1100 results and easy transfer with IR interface (adapter accessory 635-0117 required)
- Refracto GS has sapphire prism and thus extended range and faster response

Delivery information: Supplied with carry case, HelloCD™ software, 2×AAA batteries, cleaning tissues, 2×LDPE pipettes, two PE vials and operating instructions.

Model	Refracto 30PX/30GS
Response time	3 - 180 seconds
Operating temperature range (°C)	10 - 40
Interfaces	Infrared for printer or PC
Power supply	2×AAA batteries
Weight (g)	~250

Description	Range	Precision	Pk	Cat. No.
Refracto 30PX	1,32 - 1,50 nD; 0 - 85 °Brix	±0,0005 nD; 0,1 °Brix	1	**635-0445**
Refracto 30GS	1,32 - 1,62 nD; 0 - 85 °Brix	±0,0005 nD; 0,1 °Brix	1	**635-0446**

Description	Pk	Cat. No.
Accessories		
Infrared adapter / RS232 DB9M	1	**635-0117**

Refractometer, Abbe 5
Bellingham + Stanley

The Abbe 5 is an economical refractometer with applications in educational establishments and laboratories where wide refractive index ranges are required or where sample throughput is relatively low. In most cases normal daylight may be used as the instrument is fitted with mirrored reflectors to direct the light through the instrument optics. Results are obtained in either RI or °Brix sugar scale with the prism temperature being monitored electronically and displayed on the integral digital display. Water bath connections provide prism temperature control with appropriate external water bath and circulator. The Abbe 5 has an operating temperature range of +5 °C to +70 °C.

Power source: LR44 alkaline 1,5 V button cell

Ordering information: For some applications a light source may be required which must be ordered separately.

Delivery information: Refractometer is supplied in a hard flight case for easy transport and storage, with a glass calibration plate, contact liquid and instructions manual.

Model	Refractive index (nD)	Range (°Brix)	Pk	Cat. No.
Abbe 5	1,30 - 1,70	0 - 95	1	**635-0480**

Description	Pk	Cat. No.
Accessories		
Incandescent 12 V/5 W with 300 mm gooseneck, bench mounted 230 V power supply with UK and EU plug	1	**635-0482**
Spare light bulbs	5	**635-0483**
Refractive index contact liquids		
Contact liquid (monobromonaphthalene) for test plates	6 ml	**635-0000**
Contact liquid (SMI) for solid samples with RI to 1.74	3 ml	**635-0449**
Accessories		
Spare prism box assembly	1	**635-0484**
Silica test plate with RI 1.45839 for Eclipse and Abbe 5 refractometers	1	**635-0056**

Digital refractometers, RFM300+ series
Bellingham + Stanley

RFM 330+

The RFM300+ series are robust refractometers for food and other industrial applications. They upgrade the previous 300 series models with a wider refractive index range, internal Peltier temperature control and faster response. A large sampling area on the prism allows measurement of not only homogenous fluids, but also for 'difficult to read' samples like fruit pulps and industrial resins. The measurements can be user-configured, which allow for offset and scaling abilities.

- Shallow, easy to clean prism dish with sapphire prism optical system
- Polyacetal presser with selectable auto-start read function
- SMART temperature stability check - only displays results when sample is stable
- Up to 700 readings stored in memory can be downloaded to a PC using free downloadable software
- On screen menu in English, French, German and Brazilian Portuguese*

Ordering information: The RFM330+ and RFM340+ can be easily fitted with the combination of the optional extras** (see accessories listing) to make the instruments usable in wash-down and humid factory environments typical of the food industry.
*Other languages may be available on request. Please contact your local VWR sales office.

Delivery information: Supplied with relevant cable for power supply (100 - 240 V, 50 - 60 Hz) and multi-language instruction manual on CD ROM.

Model	RFM330+	RFM340+
Light source	LED with filter 589 nm (life 100000 hours)	
Prism	Artificial sapphire with Ø 12 mm sample area	
Measurement range - refractive index (nD)	1,32 - 1,58	A) 1,32 - 1,36 B) 1,36 - 1,58
Measurement range - Brix (°Brix)	0 - 100	A) 0 - 20 B) 20 - 100
Scales - user defined	100 scales - configurable	
Accuracy (nD)	±0,0001	±0,00002 (1,32 - 1,36) ±0,00004 (1,36 - 1,58)
Accuracy (°Brix)	±0,1	±0,01 (0 - 20) ±0,03 (20 - 100)
Resolution (nd)	0,0001	0,00001
Resolution (°Brix)	0,1	0,01
Reading time (s)	<4	
Temperature sensor accuracy (°C)	±0,03	
Measuring range - temperature (°C)	10 below ambient to 70	
Storage of data	700 results	

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Interfaces	1 parallel printer, 2×RS232
Power supply AC (V)	100 - 240; 50 - 60 Hz
W×D×H (mm)	310×430×320
Weight (kg)	5,4

Description	Pk	Cat. No.
RFM330+, UK-plug	1	**635-0435**
RFM340+, UK-plug	1	**635-0439**

Description	Pk	Cat. No.
Accessories		
Replacement filter for EPP	20	**635-0443**
**Enhanced Protection Pack (EPP) including air filter and exhaust arrangements for wet environments	1	**635-0440**
**Splash cover for RFM300+/700/800/900 series	1	**635-0442**
Replacement filter (standard models)	20	**635-0444**
**Waterproof power supply with open ended lead (no plug)	1	**635-0441**

Digital refractometers, RFM700 series

Bellingham + Stanley

The RFM700 series are robust, fully automatic instruments that are ideally suited to the food, sugar, and beverage industries, and the capability has been extended to allow for use in other non-food industries.

The instruments are configured to operate in °Brix with results temperature compensated to 20 °C in accordance with ICUMSA. In addition, two industry standard (RI, Sodium Chloride, A.P. Baume etc.) or user-defined scales can be configured using free software downloadable from the Internet (except for the RFM 745).

- Simple graphical user interface
- Easy-clean artificial sapphire prism in stainless steel dish and sealed outer casing
- Red LED 6 digit display is easy to read
- One touch zero calibration with water or SPAN calibration with standard materials

Conforms to ASTM D 5006

Model	RFM712	RFM732	RFM742	RFM745
Light source	LED with filter 589 nm (life 100000 hours)			
Measurement range - Brix (°Brix)	0 - 50	0 - 100		0 - 100; 42% HFCS; 55% HFCS; 90% HFCS
Scales - user defined	2 configurable			-
Accuracy (°Brix)	±0,1		±0,04	
Resolution (°Brix)	0,1		0,01	
Reading time (s)	3,2	4,5		
Temperature sensor accuracy (°C)	±0,05			
ATC	ICUMSA, AG , none or user defined			
Interfaces	RS232			
W×D×H (mm)	230×520×290			
Weight (kg)	3,9			

Description	Pk	Cat. No.
RFM712, UK-Plug	1	**635-0422**
RFM732, UK-Plug	1	**635-0426**
RFM742, UK-Plug	1	**635-0430**
RFM745, UK-Plug	1	**635-1002**

Digital refractometers, RFM900 series
Bellingham + Stanley

The RFM900 series are replacement instruments for the RFM800 series. They are high specification, configurable refractometers with an artificial sapphire prism and a range of features that make the series ideally suited for all environments where regulatory compliance and accuracy are critical. The robust, fully automatic instruments incorporate a Peltier thermostat extending the measuring range up to 80 °C - making it suitable for a wide range of pharmaceutical, chemical, petrochemical and research applications.

The results can be displayed and saved in tabular format either in units of refractive index or degrees Brix or alternatively in over 15 industry standard scales that can be loaded from the instrument library. Four languages are selectable: English, French, German and Spanish*. ICUMSA temperature compensation is also provided.

- Simple to use and navigate applications with two point calibration
- Easy sample application and cleaning with modified low profile sample dish and non-contact presser
- Wide measuring range with choice of four or five decimal place accuracy
- RFID (radio frequency identification) operator identification and protection
- SMART mode gives result only when temperature and reading have stabilised

Conforms to technical requirements of 21CFR Part 11, OIML, GLP, ASTM D1218-02, ASTM 1747 & ASTM D 5006

Ordering information: The RFM960 and RFM970 can be easily fitted with the combination of the optional extras** (see accessories listing) to make the instruments usable in wash-down and humid factory environments. *Other languages may be available on request. Flowcell versions are also available on request, please ask your local VWR sales office for details.

Delivery information: Supplied with RFID tags (3 pcs), relevant power supply (100 - 240 V, 50 - 60 Hz) and multi-language instruction manual on CD ROM.

Model	RFM960	RFM970
Light source	LED 589 nm (life> 100000 hours)	
Measurement range - refractive index (nD)	1,30 - 1,70	
Measurement range - Brix (°Brix)	0 - 100	
Scales - user defined	Yes	
Accuracy (nD)	±0,0001	±0,00002
Accuracy (°Brix)	±0,1	±0,02
Resolution (nd)	0,0001	0,00001
Resolution (°Brix)	0,1	0,01
Reading time (s)	4 minimum, programmable	
Temperature sensor accuracy (°C)	±0,03	
Measuring range - temperature lower limit	0 °C or 10 °C below ambient	
Measuring range - temperature upper limit	80 °C	
Temperature compensation range - sucrose (°C)	5 - 80	
ATC - user-defined	Simple coefficient or polynomial function	
Temperature stability	±0,05 °C	
Storage of data	700 results	
Interfaces	2× RS232 and Parallel printer	
Power supply AC (V)	100 - 240; 50 - 60 Hz	100 - 240; 50 - 60 Hz
W×D×H (mm)	210×300×160	
Weight (kg)	4,7	

Description	Pk	Cat. No.
RFM960 UK- plug	1	**635-0488**
RFM970 UK-plug	1	**635-0492**

Description	Pk	Cat. No.
Accessories		
**Enhanced Protection Pack (EPP) including air filter and exhaust arrangements for wet environments	1	**635-0440**
**Splash cover for RFM300+/700/800/900 series	1	**635-0442**
**Waterproof power supply with open ended lead (no plug)	1	**635-0441**
RFID tags – pack of 3	3	**635-0493**
RFID tags – pack of 10	10	**635-0494**

Refractive index standards according to Ph. Eur.

Several reference materials for use in testing instruments are described in the European pharmacopoeias (e.g. Ph Eur. 2.2.6). In this case, the substances trimethylpentane, toluene and methylnaphthalene are prescribed. This instrument test should be carried out prior to every analysis. The comprehensive product range includes standards suitable for practically every operating range; the range 1.3915 - 1.6160 (20 °C) is covered.

Continued on next page

Continued from previous page

Description	Pk	Cat. No.
RI standard kit2, toluene/water, traceable to SRM from NIST & PTB	1 Kit	**1.08961.0001**
RI standard kit1, trimethylpentane/water, traceable to SRM from NIST & PTB	1 Kit	**1.08962.0001**
RI standard kit3, 1-methylnaphthalene/water, traceable to SRM from NIST & PTB	1 Kit	**1.08963.0001**

Brix sugar standards for refractometers, CertiPUR®

Refractive index standards traceable to SRM from NIST and PTB.

- Each ampoule contains about 8 ml solution
- Minimum shelf life of Brix standard 0° is 36 months
- All other standards minimum shelf life is 24 month
- Tested for homogeneity and stability
- Storage at room temperature

Specification	Pk	Cat. No.
0° Brix ±0,02°	5 Ampoul	**5.00400.0001**
5° Brix ±0,05°	5 Ampoul	**5.00405.0001**
10° Brix ±0,05°	5 Ampoul	**5.00410.0001**
20° Brix ±0,05°	5 Ampoul	**5.00420.0001**
30° Brix ±0,05°	5 Ampoul	**5.00430.0001**
40° Brix ±0,1°	5 Ampoul	**5.00440.0001**
50° Brix ±0,1°	5 Ampoul	**5.00450.0001**
60° Brix ±0,1°	5 Ampoul	**5.00460.0001**

Calibration fluids and oils for refractometry

Bellingham + Stanley

A range of fluids for verification/calibration at the low and high ends of the refractive index scale and corresponding degrees Brix range. Manufactured in accordance with EN/ISO/IEC 17025:2005 and are traceable to NIST.

AG fluids

- Low end of the Brix scale
- Available in multi-pack formats 5×5 ml and 20×5 ml
- Maximum uncertainty ±0.000037 RI or ±0.019 °Brix

Calibration oils

- High end of the Brix scale
- Available in 5×5 ml multi-packs
- Maximum uncertainty ±0.000074 RI or ±0.030 °Brix

Refractive index	Specification	Packed	Pk	Cat. No.
AG fluids				
1,33659	2,50 °Brix	5×5 ml	25 ml	**635-0450**
1,34026	5,00 °Brix	5×5 ml	25 ml	**635-0451**
1,34401	7,50 °Brix	5×5 ml	25 ml	**635-0452**
1,34782	10,00 °Brix	5×5 ml	25 ml	**635-0453**
1,34968	11,20 °Brix	5×5 ml	25 ml	**635-0454**
1,35093	12,00 °Brix	5×5 ml	25 ml	**635-0455**
1,35171	12,50 °Brix	5×5 ml	25 ml	**635-0456**
1,35568	15,00 °Brix	5×5 ml	25 ml	**635-0457**
1,39986	40,00 °Brix	5×5 ml	25 ml	**635-0458**
1,33659	2,50 °Brix	20×5 ml	100 ml	**635-0459**
1,34026	5,00 °Brix	20×5 ml	100 ml	**635-0460**
1,34401	7,50 °Brix	20×5 ml	100 ml	**635-0461**
1,34782	10,00 °Brix	20×5 ml	100 ml	**635-0462**
1,34968	11,20 °Brix	20×5 ml	100 ml	**635-0463**
1,35093	12,00 °Brix	20×5 ml	100 ml	**635-0464**
1,35171	12,50 °Brix	20×5 ml	100 ml	**635-0465**
1,35568	15,00 °Brix	20×5 ml	100 ml	**635-0466**
1,39986	40,00 °Brix	20×5 ml	100 ml	**635-0467**
Calibration oil				
1,46990	71,81 °Brix	5×5 ml	25 ml	**635-0468**
1,52256	91,76 °Brix	5×5 ml	25 ml	**635-0469**
1,56138	-	5×5 ml	25 ml	**635-0506**

For other sucrose standard solutions please contact VWR.

Digital refractometer for seawater analysis
Hanna

The HI 96822 digital refractometer is a rugged, portable, water resistant device that utilises the measurement of the refractive index to determine the salinity of natural and artificial seawater, ocean water or brackish intermediates. Within seconds, the refractive index and temperature are measured and converted into one of 3 popular measurement units: Practical Salinity Units (PSU), salinity in parts per thousand (ppt), or specific gravity (S.G. (20/20)).

- Direct readout of PSU or ppt or SG (20/20) with automatic temperature compensation feature
- Easy clean sample well - stainless steel ring and flint glass prism
- Large clear LCD display with water resistant IP 65 casing
- Calibrate to zero using pure water
- Battery operated with auto shut-off after 3 minutes

Delivery information: Supplied with 9 V battery and instruction manual.

Model	HI 96822
Sample size (ml)	100 µl
Response time	1,5 seconds
Scales	PSU: 0 - 50 ppt: 0 - 150 Specific gravity (20/20): 1.000 - 1.114
Resolution	1 / 1 / 0,0001 (PSU/ppt/SG)
Operating temperature range (°C)	0...80
Temperature compensation range (°C)	10...40
Temperature precision (°C)	±0,3 at 20
Power supply	Battery 9 V
W×D×H (mm)	192×104×89
Weight (g)	420

Description	Pk	Cat. No.
HI 96822 Digital refractometer for seawater analysis	1	**635-0665**

Digital polarimeter, ADP410
Bellingham + Stanley

The ADP410 is a dual scale, fully automatic, digital polarimeter suitable for measuring the rotation of optically active samples. The ADP410 is a basic model suited to factory and laboratory use.

Operation is simple with touch-of-a-button control for scale compensation selection, zero calibration and the display of optical density and temperature. Both Angular Degree and International Sugar (ISS) scales are selectable. Results are displayed digitally (LED) and can be printed via an RS232 interface. Polarimeter tubes from 20 mm up to 220 mm in length can be used. Temperature compensation can be achieved from a single sensor, which can measure either the temperature within the sample chamber or, when placed in the centre-filling arm of the measurement tube, the temperature of the actual sample. Optional water-jacketed tubes can be used for precise temperature control.

- Dual scale
- Reading time 15 seconds
- Quartz control plates available for verification and calibration
- Conforms to minimum requirements of USP/EP/BP

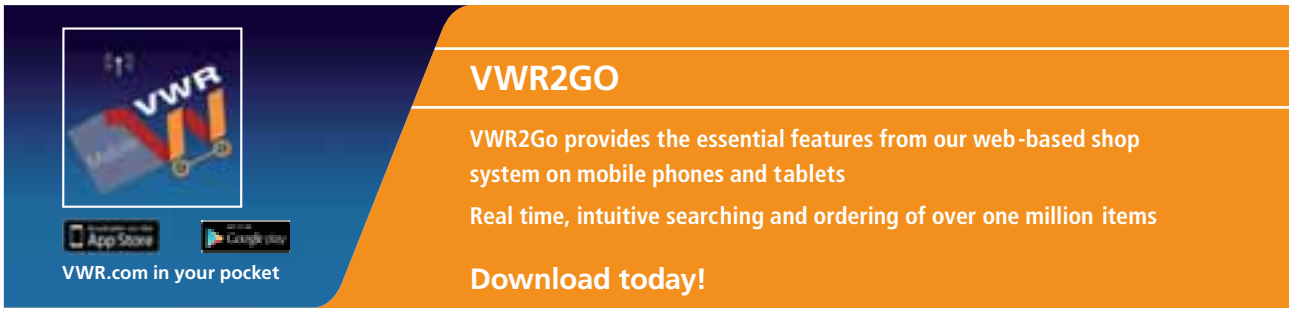
Delivery information: Polarimeter supplied with 1×200 mm straight centre tube (635-0027), power supply and instruction manual.

Ordering information: For quartz control plates please see entry for the ADP440+.

Model	ADP410
Angular scale - accuracy (°A)	±0,02
Angular scale - range (°A)	–90...+90
Angular scale - resolution (°A)	0,01
Interfaces	1× RS232
Light source - beam diameter (mm)	4
Light source - type	LED with interference filter (589 nm)
Optical density range (OD)	0,0 - 2,0
Sugar scale - accuracy (°Z)	±0,05
Sugar scale - range (°Z)	–225...+225
Sugar scale - resolution (°Z)	0,01
Temperature compensation	None, sugar, quartz
Weight (kg)	9
W×D×H (mm)	620×340×150

Description	Pk	Cat. No.
ADP410 UK-plug	1	**635-0414**

Description	Pk	Cat. No.
Accessories		
Slotted lid for 200 mm centre fill tube with water jacket	1	**635-0416**
Slotted lid for 100 mm centre fill tube with water jacket	1	**635-0417**
Slotted lid for 200 mm flow type tube with water jacket	1	**635-0418**
Slotted lid for 100 mm flow type tube with water jacket	1	**635-0419**



Polarimeter, fully automatic, ADP440+

Bellingham + Stanley

The ADP440+ is a general purpose, fully automatic digital polarimeter suitable for measuring the rotation of optically active samples across a wide range of laboratory applications and is especially suited for use in pharmaceutical laboratories. Data handling is in accordance with GLP and can also be configured to meet the operational requirements of FDA regulation 21 CFR part 11.

Operation is simple with touch-of-a-button control for automatic read, print, scale change and zero setting. Both Angular Degree and International Sugar (ISS) scales are selectable. Results are displayed digitally and can be printed directly or sent to a computer. On screen menus in English, French, Spanish or German are selectable. Polarimeter tubes from 20 mm up to 220 mm in length can be used. The exterior power supply means low heat generation within the instrument and hence rapid stabilisation. Temperature compensation can be achieved from a single sensor, which can measure either the temperature within the sample chamber or, when placed in the centre-filling arm of the measurement tube, the temperature of the actual sample. Optional water-jacketed tubes can be used for precise temperature control.

- Refractometer port for connection to RFM (for Purity applications, no PC required)
- Multiple scales incl. Specific Rotation, concentration and purity
- Real time clock for recording date and time of result and RFID operator identification and protection
- Response times can be selected depending on precision required
- Quartz control plates available for verification and calibration

Conforms to USP/EP/BP/JP & technical requirements of FDA 21 CFR Part 11 & ICUMSA.

Delivery information: Polarimeter supplied with 1×200 mm straight centre tube (635-0027), pack of three RFID (radio frequency identification) tags, power supply and instruction manual.

Ordering information: Validation documentation available on request. For flow and water jacketed tubes, special slotted lids are required. Please see ADP410 accessories for details.

Model	ADP440+
Angular scale - accuracy (°A)	±0,01
Angular scale - range (°A)	–355...+355 (7 selectable ranges)
Angular scale - resolution (°A)	0,001
Interfaces	2× RS232, parallel printer
Light source - beam diameter (mm)	4
Light source - type	LED with interference filter (589 nm)
Optical density range (OD)	0,0 - 3,0
Sugar scale - accuracy (°Z)	±0,03
Sugar scale - range (°Z)	–225...+225
Sugar scale - resolution (°Z)	0,001
Temperature compensation	None, sugar, quartz, user-defined
Weight (kg)	9
W×D×H (mm)	550×280×150

Description	Pk	Cat. No.
ADP440+ UK-plug	1	**635-0379**

Description	Pk	Cat. No.
Quartz Control Plates		
Standard quartz control plate +15 °Z, +5,2 °A	1	**635-0023**
Standard quartz control plate +100 °Z, +34,6 °A	1	**635-0022**
Accessories		
RFID tags – pack of 3	3	**635-0493**
RFID tags – pack of 10	10	**635-0494**
Standard glass sample tube with bulb, 100 mm	1	**635-0024**
Centre filling glass tube with straight central arm, 100 mm	1	**635-0026**
Centre filling glass tube with cup shaped centre filler, 100 mm	1	**635-0028**
Centre filling glass tube with nickel plated brass outer water jacket, 100 mm	1	**635-0503**
Standard glass sample tube with bulb, 200 mm	1	**635-0025**
Centre filling glass tube with straight central arm, 200 mm	1	**635-0027**
Centre filling glass tube with cup shaped centre filler, 200 mm	1	**635-0029**
Centre filling glass tube with nickel plated brass outer water jacket, 200 mm	1	**635-0504**
Low strain cover glasses for glass tubes	12	**635-0289**
Rubber washers for use between cover glasses and end cap of glass tubes	12	**635-0290**
End caps, plastic	2	**635-0030**

NMR sample tubes, 5 mm, economy

Borosilicate glass 5.1

- Ideal for high throughput NMR and autosampling NMR systems
- Each tube is etched with the catalogue number and a writing area

External diameter: 4,947 mm ±0,019 mm
Wall thickness: 0,43 mm ±0,02 mm

Delivery information: Supplied with caps in packs of five tubes.

Length (mm)	Camber (µm)	Concentricity (µm)	Frequency (MHz)	Pk	Cat. No.
178	3,8	2,5	700	5	**634-0444**
203	3,8	2,5	700	5	**634-0445**
178	3,8	3,8	600	5	**634-0446**
203	3,8	3,8	600	5	**634-0447**
178	6	13	500	5	**634-0448**
203	6	13	500	5	**634-0449**
178	13	25	400	5	**634-0450**
203	13	25	400	5	**634-0451**
178	13	51	300	5	**634-0452**
203	13	51	300	5	**634-0453**
178	25	51	200	5	**634-0454**
203	25	51	200	5	**634-0455**
178	50	51	100	5	**634-0456**
203	50	51	100	5	**634-0457**
178	76	76	100	5	**634-0458**
203	76	76	100	5	**634-0459**
229	76	76	100	5	**634-0460**

NMR sample tubes, 5 mm, economy

Borosilicate glass 3.3

- Each tube is etched with the catalogue number and a writing area

External diameter: 4,9635 mm ±0,0065 mm

Wall thickness: 0,38 mm ±0,02 mm

Delivery information: Supplied with caps in packs of five tubes.

Length (mm)	Camber (µm)	Concentricity (µm)	Frequency (MHz)	Pk	Cat. No.
178	51	76	100	5	**634-0571**
229	51	76	100	5	**634-0582**

NMR sample tubes, 5 mm, disposable

Borosilicate glass 5.1

- Each tube is etched with the catalogue number and a writing area

External diameter: 4,947 ±0,019 mm
Wall thickness: 0,043 ±0,02 mm

Delivery information: Supplied without caps in packs of 100 tubes

Length (mm)	Camber (µm)	Concentricity (µm)	Frequency (MHz)	Pk	Cat. No.
178	102	102	100	100	**634-0461**
203	102	102	100	100	**634-0462**

NMR sample tube caps

Manufactured in ethylene vinyl acetate (EVA)

- Caps for 5 mm OD NMR tubes
- Available in eight colours

Not recommended for use with chloroform and DMSO

Colour	Pk	Cat. No.
Assorted	100	634-0466
Assorted	1.000	634-0467
Black	100	634-0468
Black	1.000	634-0469
Blue	100	634-0470
Blue	1.000	634-0471
Green	100	634-0472
Green	1.000	634-0473
Orange	100	634-0474
Orange	1.000	634-0475
Lilac	100	634-0476
Lilac	1.000	634-0477
Red	100	634-0478
Red	1.000	634-0479
White	100	634-0480
White	1.000	634-0481
Yellow	100	634-0482
Yellow	1.000	634-0483

Density meters, portable, Densito 30PX

Mettler-Toledo

Suitable for measuring the densities of liquids, this instrument uses the oscillating body method. Handling is easy - just immerse the sampling tube, pull the trigger and read the final result directly in the measurement units you want to use, such as SG, API degrees, °Brix, H_2SO_4 %, Baume degrees and many more. The sampling speed can be adjusted to the task at hand: Slow for viscous samples to avoid the formation of air bubbles or very fast for efficient rinsing of the cell. In addition, an external syringe can be used for very high viscosity samples. This means a wide variety of samples can be tested. The Densito not only measures the sample temperature very accurately, it also lets you choose a temperature correction coefficient before each measurement. 1100 results along with sample ID, temperature and/or temperature coefficients can be saved then downloaded to either a printer or PC via the integrated infrared interface (accessory infrared / RS232 adapter required).

- Easy sampling and results in seconds
- Large choice of units including Density, SG and °Brix
- 1100 memory storage
- Infrared downloads to printer or PC
- Backlit dot matrix display gives clear results with date and time

Delivery information: Supplied with carry case, Help CD, batteries and standards.

Accuracy (g/cm³)	±0,001
Interfaces	Infrared for printer or PC
Measurement range (g/cm³)	0 - 2
Resolution (g/cm³)	0,0001
Temperature range (°C)	5...40
Temperature resolution (°C)	0,1
Weight (g)	360

Description	Pk	Cat. No.
Densito 30PX handheld meter	1	**614-1595**

Description	Pk	Cat. No.
Accessories		
Water density standard, 0,998 g/cm³, certified at 20 °C, uncertainty (typically) 0,001 g/cm³, 3 ml sachets	10	**614-1802**
Sampling tube with washer	1	**614-1593**
Sample pump complete	1	**614-1594**
Adapter for external syringe	1	**614-1592**
Infrared adapter / RS232 DB9M	1	**635-0117**

Glass density bottles, calibrated, BLAUBRAND®

Brand

Borosilicate glass 3.3, DIN ISO 3507, Gay-Lussac type

The density bottles (pycnometers) are individually adjusted. The nominal capacity is indelibly engraved on each bottle. Each bottle is calibrated with its own stopper. The volume in cm³ is specified to a precision of 3 decimal places.

- Bottle and stopper (with capillary) are marked with unique matching identification number
- Top of stopper ground and polished, for ease of cleaning
- Individual certificate included
- Reference temperature: 20 °C

Volume (nom.) (ml)	Pk	Cat. No.
5	1	**614-0701**
10	1	**614-0702**
25	1	**614-0703**
50	1	**614-0704**
100	1	**614-0705**

Hydrometers, M50 series

Glass hydrometers without thermometer, packed in a strong transparent plastic case.

- Conform to ISO 649 (BS 718, DIN 12791, NF B 35511)
- Calibration temperature: 20 °C
- Division 0,001 g/ml

Length: 270 mm

Range (g/ml)	Division (g/ml)	Pk	Cat. No.
0,800 - 0,850	0,001	1	614-0311
0,850 - 0,900	0,001	1	614-0312
0,900 - 0,950	0,001	1	614-0313
0,950 - 1,000	0,001	1	614-0314
1,000 - 1,050	0,001	1	614-0315
1,050 - 1,100	0,001	1	614-0316
1,100 - 1,150	0,001	1	614-0317
1,150 - 1,200	0,001	1	614-0318

Hydrometers, M100 series

Glass hydrometers without thermometer, packed in a strong transparent plastic case.

- Conform to ISO 649 (BS 718, DIN 12791, NF B 35511)
- Calibration temperature: 20 °C
- Division 0,002 g/ml

Length: 250 mm

Range (g/ml)	Division (g/ml)	Pk	Cat. No.
0,800 - 0,900	0,002	1	614-0109
0,900 - 1,000	0,002	1	614-0110
1,000 - 1,100	0,002	1	614-0111
1,100 - 1,200	0,002	1	614-0112
1,200 - 1,300	0,002	1	614-0113
1,300 - 1,400	0,002	1	614-0114

Hydrometers, general purpose

General purpose hydrometers for low and high surface tension.

- Calibration temperature: 20 °C
- Reading below the meniscus

Range (g/ml)	Division (g/ml)	Pk	Cat. No.
Division 0.001 g/ml, Length: 300 mm			
0,700 - 0,800	0,001	1	614-0023
0,800 - 0,900	0,001	1	614-0024
0,900 - 1,000	0,001	1	614-0025
1,000 - 1,100	0,001	1	614-0026
1,100 - 1,200	0,001	1	614-0027
1,200 - 1,300	0,001	1	614-0028
1,300 - 1,400	0,001	1	614-0029
1,400 - 1,500	0,001	1	614-0030
1,500 - 1,600	0,001	1	614-0031
1,600 - 1,700	0,001	1	614-0032
1,700 - 1,800	0,001	1	614-0033
1,800 - 1,900	0,001	1	614-0034
1,900 - 2,000	0,001	1	614-0035
Division 0.002 g/ml, Length: 300 mm			
0,600 - 0,800	0,002	1	614-0036
0,800 - 1,000	0,002	1	614-0037
1,000 - 1,200	0,002	1	614-0009
1,200 - 1,400	0,002	1	614-0038
1,400 - 1,600	0,002	1	614-0039
1,600 - 1,800	0,002	1	614-0040
1,800 - 2,000	0,002	1	614-0041

Hydrometers, general purpose, short

General purpose hydrometers without thermometer.

- Calibration temperature: 20 °C
- Reading below the meniscus

Length 160 mm

Range (g/ml)	Division (g/ml)	Length (mm)	Pk	Cat. No.
0,760 - 0,820	0,001	160	1	**614-0204**
0,820 - 0,880	0,001	160	1	**614-0205**
0,880 - 0,940	0,001	160	1	**614-0206**
0,940 - 1,000	0,001	160	1	**614-0207**
1,000 - 1,060	0,001	160	1	**614-0208**
1,060 - 1,120	0,001	160	1	**614-0209**
1,120 - 1,180	0,001	160	1	**614-0210**
1,180 - 1,240	0,001	160	1	**614-0211**
1,240 - 1,300	0,001	160	1	**614-0212**
1,300 - 1,360	0,001	160	1	**614-0213**
1,360 - 1,420	0,001	160	1	**614-1654**
1,420 - 1,480	0,001	160	1	**614-1655**
1,480 - 1,540	0,001	160	1	**614-1656**

Hydrometers for mineral oils

With thermometer (–10 to +60 °C) contained within the stem.

- Calibration temperature: 15 °C

Length: 400 mm

Range (g/ml)	Division (g/ml)	Length (mm)	Pk	Cat. No.
0,610 - 0,700	0,001	400	1	**614-0428**
0,680 - 0,770	0,001	400	1	**614-0429**
0,750 - 0,840	0,001	400	1	**614-0430**
0,820 - 0,910	0,001	400	1	**614-0431**
0,890 - 0,990	0,001	400	1	**614-0432**

Hydrometers, Baumé

Without thermometer.

- Calibration temperature: 15 °C.

Range (°Bé)	Division	Length (mm)	Pk	Cat. No.
0 - 5	0,1°	260	1	**614-0305**
0 - 10	0,5°	220	1	**614-0310**
0 - 15	1,0°	220	1	**614-0561**
0 - 20	1,0°	220	1	**614-0562**
0 - 30	1,0°	240	1	**614-0563**
0 - 40	1,0°	280	1	**614-0564**
0 - 50	1,0°	280	1	**614-0565**
0 - 70	1,0°	280	1	**614-0568**

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Hydrometer cylinder
Brand

PP, translucent

With spout and overflow vessel. This ensures that the hydrometer can be read with a completely filled cylinder.

- Very good chemical and thermal resistance
- Robust and stable

Capacity (ml)	I-Ø (mm)	I-height (mm)	Pk	Cat. No.
500	50	350	1	**612-0864**

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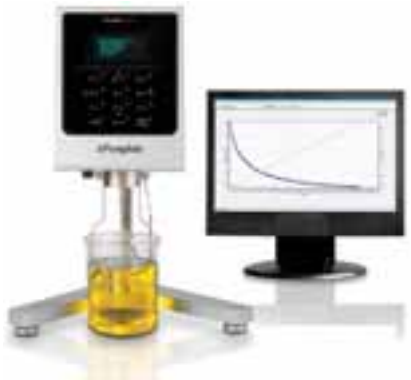
Rotational viscometers, Premium series
Fungilab



Premium series viscometers are the 'top of the range' performance digital rotational viscometer for study and documentation of complex behaviour of fluid samples.

- Graphic display for easy menu access and reading of results and to obtain the graphic flow curve behaviour of the sample in real time
- 12 key touch keypad
- Relative, absolute and kinematic viscosity reading automatically
- Autotest and Autorange functions, 10 working memories and programming features step, multistep and ramp, time to torque and time to stop; temperature reading PT100
- Interface: USB connection
- 10 language options
- Data logger software included for downloading data to computer in Excel® format

Data Boss software for rheological studies and viscometer control through the PC is optional. The Fungilab Data Boss software provides instantaneous viscosity flow curves. Up to four data sets may be plotted simultaneously. Mathematical modelling for yield stress calculations (Bingham Plastic, Casson, Power Law, IPC Paste analysis). More than 12 viscosity plots can be configured. Offers simple graphic presentation of data and stores the data in a Microsoft® Access database.

TÜV certified. ISO 9001. BS: 6075, 5350. ISO: 2555, 1652. ASTM: 115, 789, 1076, 1084, 1286, 1417, 1439, 1638, 1824, 2196, 2336, 2364, 2393, 2556, 2669, 2849, 2983, 2994, 3232, 3236, 3716.

Delivery information: Supplied complete with standard spindles (4 spindles for L model, and 6 spindles for R and H models), viscometer stand and spindle protector, carrying case, PT100, USB cable, power supply cable and data logger software.

Model	Range (cP)	Revolutions (min^{-1})	No. of speeds	Pk	Cat. No.
Premium H	200 - 106×10^6	0,01 - 250	2600	1	**616-0096**
Premium R	100 - 40×10^6	0,01 - 250	2600	1	**616-0095**
Premium L	20 - 6×10^6	0,01 - 250	2600	1	**616-0094**
Premium H + Data Boss	200 - 106×10^6	0,01 - 250	2600	1	**616-0106**
Premium R + Data Boss	100 - 40×10^6	0,01 - 250	2600	1	**616-0105**
Premium L + Data Boss	20 - 6×10^6	0,01 - 250	2600	1	**616-0104**

1 cP = 1 mPa.s
The Fungilab viscometers are compatible with many major brands of spindles, including Brookfield.

Rotational viscometers, Expert series
Fungilab

A range of advanced programmable viscometers for complex and routine measurement in quality control and R&D laboratories. The 12 touch key user interface enables the user to quickly navigate the program menu and decide on what is included in the readout of the monochrome graphic display. The readout includes selected speed (min^{-1}); selected spindle; viscosity reading (either cP or cSt); shear rate and shear stress (with coaxial spindles). Temperature data is also displayed from the PT100 sensor (included) which enables a wider range of samples to be measured which require temperatures above or below ambient for best results. Ten language options.

- Precision of ±1% full scale and resolution of 0,1 for viscosity range lower than 10 000 cP
- Temperature range of 0 - 100 °C with resolution of 0,1 °C and precision of ±0,1 °C
- AUTO-TEST, AUTO-RANGE and time measurement functions with ten working memories
- AISI 316 stainless steel spindles – marked and easily identifiable
- USB interface allows data transfer to a PC in Excel® format using the data logger software

Delivery information: Supplied with standard spindles (four for the L model and six for the R and H models); viscometer stand and spindle protector; carrying case; USB cable and data logger software.

Model	Range (cP)	Revolutions (min^{-1})	No. of speeds	Pk	Cat. No.
Expert L	20 - 6×10^6	0,01 - 200	54	1	**616-0091**
Expert R	100 - 40×10^6	0,01 - 200	54	1	**616-0092**
Expert H	200 - 106×10^6	0,01 - 200	54	1	**616-0093**

1 cP = 1 mPa.s
The Fungilab viscometers are compatible with many major brands of spindles, including Brookfield.

Rotational viscometers, Smart series
Fungilab

Simple robust viscometers for routine measurement in quality control and R&D laboratories. The 6 touch key user interface enables the user to easily navigate the program menu and decide on what is included in the readout of the monochrome graphic display. The readout includes selected speed (min^{-1}); selected spindle; viscosity reading (either cP or cSt); shear rate and shear stress (with coaxial spindles). Temperature data can also be displayed if the optional PT100 sensor is used. Ten language options.

- Precision of ±1% full scale and resolution of 0,1 for viscosity range lower than 10 000 cP
- Time measurement functions – time to torque and time to stop with 10 working memories
- AUTO-TEST, AUTO-RANGE functions
- AISI 316 stainless steel spindles – marked and easily identifiable
- USB interface allows data transfer to a PC in Excel® format using the data logger software

Delivery information: Supplied with standard spindles (four for the L model and six for the R and H models); viscometer stand and spindle protector; carrying case; USB cable and data logger software.

Model	Range (cP)	Revolutions (min^{-1})	No. of speeds	Pk	Cat. No.
Smart L	20 - 2×10^6	0,3 - 100	18	1	**616-0086**
Smart R	100 - 13×10^6	0,3 - 100	18	1	**616-0087**
Smart H	200 - 106×10^6	0,3 - 100	18	1	**616-0088**

1 cP = 1 mPa.s
The Fungilab viscometers are compatible with many major brands of spindles, including Brookfield.

Rotational viscometers, Alpha series
Fungilab

A basic, simple robust entry level viscometer for routine measurement in quality control and R&D laboratories. The 6 touch key user interface enables the user to easily navigate the program menu and decide on what is included in the readout. The readout includes selected speed (rpm); selected spindle; viscosity reading (cP) and selected spindle (SP). Menu in eight languages.

- Precision of ±1% full scale and resolution of 0,1 for viscosity range lower than 10 000 cP
- AUTO-TEST , AUTO-RANGE functions
- AISI 316 stainless steel spindles – marked and easily identifiable
- User-enabled calibration

Delivery information: Supplied with standard spindles (four for the L model and six for the R and H models); viscometer stand and spindle protector.

Model	Range (cP)	Revolutions (min^{-1})	No. of speeds	Pk	Cat. No.
Alpha H	200 - 106×10^6	0,3 - 100	18	1	**616-0085**
Alpha R	100 - 13×10^6	0,3 - 100	18	1	**616-0084**
Alpha L	20 - 2×10^6	0,3 - 100	18	1	**616-0083**

Description	Pk	Cat. No.
Accessories		
External digital temperature probe	1	**616-0100**

The Fungilab viscometers are compatible with many major brands of spindles, including Brookfield.

Heldal unit for helicoidal movement
Fungilab

The Heldal accessory has been designed to determine the comparative and apparent viscosity in non–flowing samples such as creams, pastes and gels. The drive motor slowly lowers or raises the viscometer so that the T-bar spindle creates a helical path through the sample thus eliminating the problem of cavitation and keeping the spindle in constant contact with the sample.

- Compatible with all Fungilab rotational viscometers
- Easy to use, install and clean

Delivery information: Supplied with motor, six T-shaped spindles and carrying case.

Viscometer type	Range (cP)
L	234 - 3.12×10^{6}
R	2,490 - 3.33×10^{7}
H	19,500 - 2.6×10^{8}

Description	Pk	Cat. No.
Heldal unit	1 SET	**645-0008**

Low viscosity adapters
Fungilab

LCP/B without flow jacket *LCP with flow jacket*

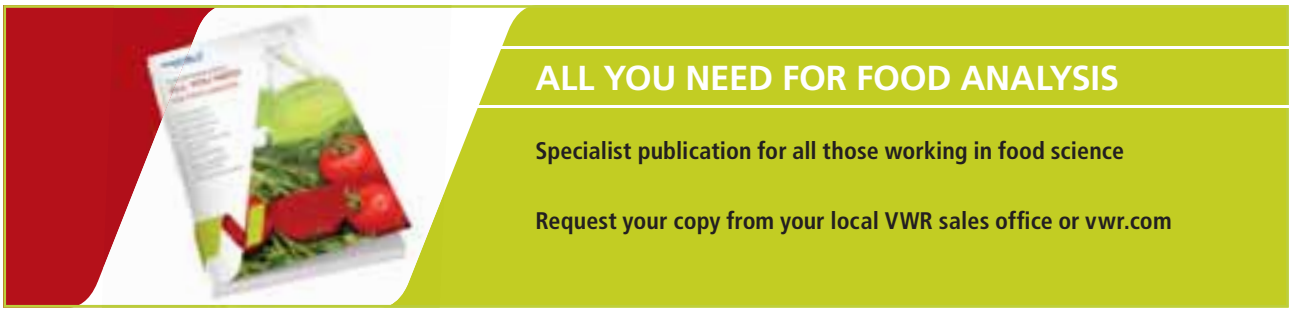
The LCP adapter is used on the rotational viscometers to perform accurate and reproducible readings on materials with viscosity as low as 1 cP (mPa.s). Cylindrically designed for shear measurements.

- Easy to clean, removable stainless steel sample container
- Sample volume: From 16 to 18 ml
- Choice of chamber without or with flow jacket for rapid and precise control of temperature

Delivery information: Supplied with spindle.

Viscometer type	Range (cP) with LCP and LCP/B
L	1 - 2000
R	5 - 21333

Description	Pk	Cat. No.
Low viscosity adapter with flow jacket, LCP	1	**645-0006**
Low viscosity adapter without flow jacket, LCP/B	1	**645-0007**



Small sample adapters
Fungilab

APM with flow jacket

APM/B without flow jacket

The small sample adapters consist of a small cylindrical sample chamber and coaxial spindles designed for accurate measurements of small sample volumes.

- Sample volume: From 8 to 13 ml
- Removable, easy to clean, stainless steel, sample chamber
- Choice of chamber without or with flow jacket for rapid and precise control of temperature

Ordering information: Spindles to be ordered separately, for details please visit www.vwr.com or contact your local VWR sales office.

Delivery information: Supplied with mounting bracket, sample chamber and storage case.

Viscometer type	Range (cP) 1 cP = 1 mPa.s
L	2 - 2×10^5
R	38 - 3.3×10^6
H	300 - 26.66×10^6

Description	Pk	Cat. No.
Small sample adapter with flow jacket, APM	1	**645-0003**
Small sample adapter without flow jacket, APM/B	1	**645-0004**

Description	Pk	Cat. No.
Accessories		
Box set of 3 spindles TL5 (3 - 10 000 cP); TL6 (30 - 100 000 cP); TL7 (60 - 200 000 cP)	1 SET	**645-0044**
Box set of 4 spindles TR8 (R models 50 - 170 000 cP); TR9 (R models 250 - 830 000 cP); TR10 (R models 500 - 1 700 000 cP); TR11 (R Models 1000 - 3 300 000 cP)	1 SET	**645-0045**

Viscosity standards, silicone oils, certified
Fungilab

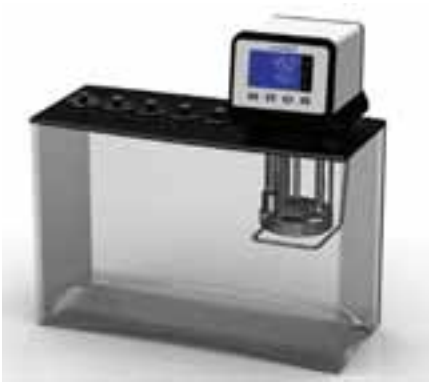
Designed specifically for use with rotational viscometers, these standards are designed to facilitate calibration of the viscometer.

- Certified to BS EN ISO/IEC 17025 standards and referred to at 20 and 25 °C
- Supplied in 600 ml 'ready to use' packs – therefore no transfer required
- Tamper evident packaging

Type	Viscosity (cP)	Pk	Cat. No.
RT5	4,972	600 ml	**616-0082**
RT10	9,972	600 ml	**616-0081**
RT50	50,33	600 ml	**616-0080**
RT75	76,33	600 ml	**616-0079**
RT100	101,66	600 ml	**616-0078**
RT250	244,1	600 ml	**616-0077**
RT350	344,1	600 ml	**616-0076**
RT500	501,9	600 ml	**616-0075**
RT1000	1019	600 ml	**616-0074**
RT5000	5094	600 ml	**616-0073**
RT10000	10061	600 ml	**616-0072**
RT12500	12309	600 ml	**616-0071**
RT30000	30240	600 ml	**616-0070**
RT60000	60586	600 ml	**616-0069**
RT100000	99565	600 ml	**616-0068**

Viscosity = approximate viscosity at 25 °C. 1 cP = 1 mPa.s

Viscosity baths



Viscosity baths for use with popular capillary viscometers are configured to accommodate specific testing and quality control needs, including ASTM D-445. Choice of models with round or square top openings. These transparent polycarbonate baths with user friendly SD temperature controller feature four control buttons and on-screen prompts in French, German, Spanish and English. Controller bridge made from chemical resistant DuraTop™ is easily removed to clean the tank.

- Large EasyView™ LCD display with alarm or fault icons and prompts and menus in four languages: French, German, Spanish and English
- Swivel 180™ rotating controllers, LidDock™ lid stowing system and DuraTop™ chemically resistant deck
- User-adjustable high and low temperature limits and low liquid level alarms
- Two speed pressure pump with tap water cooling coil
- Single point calibration

Comply with DIN 12876-1, Safety Class I

Maximum pump capacities:
10,2 l/min, 200 mbar

Delivery information: Supplied with lids for viscometer openings. For probes and accessories, please visit www.vwr.com

Model	Round holes	Square holes
Bath capacity (l)	29	
Bath depth (mm)	286	
Bath material	Polycarbonate	
Display resolution	±0,01	
Temperature range (°C)	Ambient +10...85	
Temperature stability (°C)	±0,04	
Viscometer positions	5	3
W×D×H (mm)	229×544×526	

Description	Pk	Cat. No.
Viscosity bath with 5 round holes for viscometers, SD temperature controller	1	**462-0209**
Viscosity bath with 3 square holes for viscometers, SD temperature controller	1	**462-0210**

Description	Pk	Cat. No.
Spare lids		
Spare lid with 5 round holes and covers, for VWR viscosity baths (462-0209 or 462-0210)	1	**462-0289**
Spare lid with 9 round holes and covers, for VWR viscosity baths (462-0209 or 462-0210)	1	**462-0290**
Spare lid with 3 square holes and covers for VWR viscosity baths (462-0209 or 462-0210)	1	**462-0291**

Viscosity baths, Visco baths
Julabo

ME-16G

ME-18V

ME-31A

A range of stable, thermostatically controlled baths for visible and precise temperature applications in the bath tank, which are particularly suited for capillary viscometer measurements.

The Julabo baths are equipped with a built-in cooling coil, for applications near ambient, using tap water cooling. To achieve temperatures around 0 °C or even as low as –40 °C, an additional refrigeration unit with a special cooling coil will be required.

- Transparent to observe flow of fluid through the viscometer
- Stability: ±0,01 °C
- Programmer with real time clock
- VFD Comfort-Display for actual temperature values and set point

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ME-18V

The top of the range model is supplied with a stainless steel bath tank having an insulated bath mantle. The two 185×245 mm windows are made of multiple layer insulation glass. Can be used according to ASTM D445.

Model	ME-31A	ME-18V	ME-16G
Bath capacity (l)	31	18	16
Bath depth (mm)	37		31
Bath material	Plexiglas®	Stainless steel/glass	Glass
Bath opening/viscometer (mm)	90×90		76×76
Display resolution	±0,01		
Temperature range (°C)	20...+60	20...+150	20...+100
Temperature stability (°C)	±0,01		
Viscometer positions	3	2	
Weight (kg)	11	17	16
W×D×H (mm)	500×200×560	360×240×540	Ø290×480

Description	Pk	Cat. No.
ME-31A Visco bath	1	**461-0385**
ME-18V Visco bath	1	**461-0394**
ME-16G Visco bath	1	**461-0396**

Description	Pk	Cat. No.
Accessories		
Bath cover for ME-18V with 4×Ø 51 mm openings	1	**461-3543**
Bath cover for ME-31A with 5×Ø 51 mm openings	1	**462-0093**

Ubbelohde viscometers
SI Analytics

Calibrated with constant for automatic measurement

Viscometers with suspended ball level for determination of absolute and relative viscosity of liquids with Newtonian flow behaviour.

- Calibrated according to DIN 51 562. part 1, ISO/DIS 3105 (BS-IP-SL)
- Filling quantity: 15 to 20 ml
- Recommended minimum flow through time is 200 seconds
- Overall length ~290 mm

Capillary no.	Range (mm^2/s)	Ø int. (mm)	Constant (K)	Pk	Cat. No.
0	0,3 - 1	0,36	0,001	1	**616-3334**
0c	0,5 - 3	0,47	0,003	1	**616-3338**
0a	0,8 - 5	0,53	0,005	1	**616-3339**
I	1,2 - 10	0,63	0,01	1	**616-3340**
Ic	3 - 30	0,84	0,03	1	**616-3341**
Ia	5 - 50	0,95	0,05	1	**616-3335**
II	10 - 100	1,13	0,10	1	**616-3342**
IIc	30 - 300	1,5	0,30	1	**616-3343**
IIa	50 - 500	1,69	0,50	1	**616-3336**
III	100 - 1000	2,01	1	1	**616-3344**
IIIc	300 - 3000	2,65	3	1	**616-3345**
IIIa	500 - 5000	3	5	1	**616-3337**
IV	1000 - 10000	3,6	10	1	**616-3346**

Ubbelohde viscometers
SI Analytics

Not calibrated, without constant

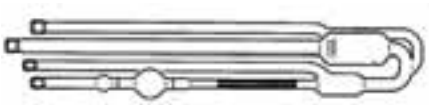
Viscometers with suspended ball level for determination of relative viscosity of liquids with Newtonian flow behaviour.

- DIN 51 562. part 1, ISO/DIS 3105 (BS-IP-SL)
- Filling quantity: 15 to 20 ml
- Recommended minimum flow through time is 200 seconds
- Overall length ~290 mm

Capillary no.	Range (mm^2/s)	Ø int. (mm)	Constant (K)	Pk	Cat. No.
0c	0,5 - 3	0,47	0,003	1	**616-3347**
0a	0,8 - 5	0,53	0,005	1	**616-3348**
I	1,2 - 10	0,63	0,01	1	**616-3349**
Ic	3 - 30	0,84	0,03	1	**616-3350**
II	10 - 100	1,13	0,1	1	**616-3351**
IIc	30 - 300	1,5	0,3	1	**616-3352**
III	100 - 1000	2,01	1	1	**616-3353**
IIIc	300 - 3000	2,65	3	1	**616-3354**
IV	1000 - 10000	3,6	10	1	**616-3355**

Ubbelohde viscometer (DIN) with additional tube

SI Analytics



Calibrated with constant for automatic measurement

Viscometers with suspended ball level for determination of relative or absolute kinematic viscosity.

- The additional filling and cleaning tube and glass threads ensure safe operational use
- DIN 51 562. part 1, ISO/DIS 3105, BS 133, NFT 60-100
- Filling quantity: 18 - 22 ml
- Overall length: ~290 mm

Capillary no.	Range (mm^2/s)	Ø int. (mm)	Constant (K)	Pk	Cat. No.
0a	0,8 - 5	0,53	0,005	1	**616-3379**
0c	0,5 - 3	0,47	0,003	1	**616-3380**
I	1,2 - 10	0,63	0,01	1	**616-3381**
Ic	3 - 30	0,84	0,03	1	**616-3382**
II	10 - 100	1,13	0,1	1	**616-3383**
IIc	30 - 300	1,5	0,3	1	**616-3384**
III	100 - 1000	2,01	1	1	**616-3385**
IIIc	300 - 3000	2,65	3	1	**616-3386**
IV	1000 - 6000	3,6	10	1	**616-3387**

Ubbelohde viscometers (DIN)

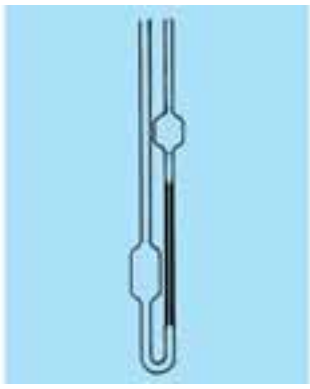
SI Analytics

Viscometers with suspended ball level for determination of absolute and relative viscosity of liquids with Newtonian flow behaviour. Calibrated with constant for manual measurement according to DIN 51 562 part 1, ISO/DIS 3105.

- Filling quantity: 15 - 20 ml
- Recommended minimum flow through time is 200 seconds
- Overall length: ~290 mm

Capillary no.	Range (mm^2/s)	Ø int. (mm)	Constant (K)	Pk	Cat. No.
0	0,3 - 1	0,36	0,001	1	**616-1101**
0c	0,5 - 3	0,47	0,003	1	**616-1102**
0a	0,8 - 5	0,53	0,005	1	**616-1103**
I	1,2 - 10	0,63	0,01	1	**616-1104**
Ic	3 - 30	0,84	0,03	1	**616-1105**
Ia	5 - 50	0,95	0,05	1	**616-1106**
II	10 - 100	1,13	0,1	1	**616-1107**
IIc	30 - 300	1,50	0,3	1	**616-1108**
IIa	50 - 500	1,69	0,5	1	**616-1109**
III	100 - 1000	2,01	1	1	**616-1110**
IIIc	300 - 3000	2,65	3	1	**616-1111**
IIIa	500 - 5000	3,00	5	1	**616-1112**
IV	1000 - 10000	3,60	10	1	**616-1113**
IVc	3000 - 30000	4,70	30	1	**616-0029**
V (ISO)	>10000	6,30	100	1	**616-0030**

Viscometers, U-tube



Unmounted and uncertified glass viscometers, type BS/U.

Comply with ASTM445-IP 71 and BS 188.

Size	Range (mm^2/s)	Pk	Cat. No.
A	1 - 5	1	**616-3254**
B	2 - 15	1	**616-3255**
C	6 - 45	1	**616-3256**
D	20 - 120	1	**616-3257**
E	60 - 500	1	**616-3258**
F	200 - 1000	1	**616-3259**
G	600 - 4000	1	**616-3260**
H	2000 - 15000	1	**616-3261**

Viscometer, falling ball, VISCO BALL
Fungilab

The VISCO BALL measures the viscosity of transparent Newtonian liquids and gases and is particularly suited to low viscosity materials. It has applications in research and quality control for a wide range of industries including food, cosmetics, petroleum detergents and paints. According to the Hoppler principle, the time is measured for a ball to travel a reference distance through the sample liquid in a cylindrical tube when inclined at 80°, and this measurement correlates to a dynamic viscosity. When the temperature is controlled precisely the viscosity result from this type of viscometer meets DIN 53015 and ISO 12058 standards and has very good accuracy. The VISCO BALL can be also be inclined and secured at angles other than 80° to meet different individual user requirements.

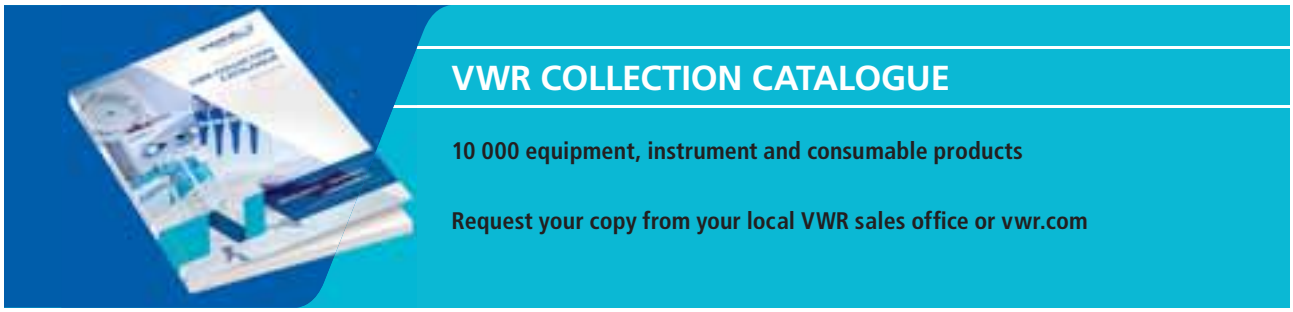
The tube can be easily turned upside down and the measurement can be repeated. Six different balls are available to give a wide range of measurement.

- Wide dynamic viscosity range: 0,6 to 105 cP (mPa.s)
- Tube can be positioned at other angles, in addition to 80°, to meet different requirements
- High accuracy with reproducibility better than 0,5% and comparability better than 1%
- Extended re-calibration periods
- Ball for gases available as an option, please enquire for details

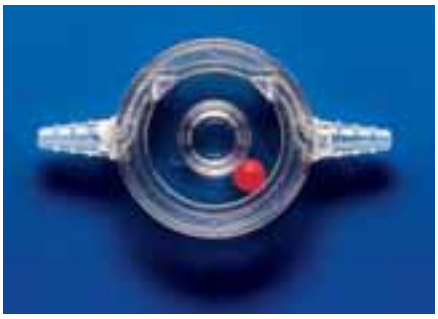
Delivery information: The instrument is supplied with six balls for liquid measurement, control thermometer (–1 to +26 °C), cleaning tools, calibration sheet and instruction manual.

Ball number	Material	Viscosity range mPa.s
1	Borosilicate glass	0.6 to 10
2	Borosilicate glass	7 to 130
3	Nickel iron alloy	30 to 700
4	Nickel iron alloy	200 to 4800
5	Stainless steel	1500 to 45000
6	Stainless steel	>7500

Description	Pk	Cat. No.
VISCO BALL, falling ball viscometer	1	**645-0005**



Flow indicator
Kartell



Flow indicator made from Styrene-acrylonitrile (SAN), provides a clear optical indicator of flow, as the speed of rotation of the ball is proportional to the flow rate.

- For liquid flows from 50 ml/minute in the horizontal position and 140 ml/minute in a vertical position
- Minimum air flow: 3 litres/minute in the horizontal position and 8 litres/minute in a vertical position
- Not to be used with corrosive fluids or over 50 °C

Connector o.d.: 6.5 - 10 mm

W×D×H (mm): 102×14×52

Description	Material	Tube Ø (mm)	Connector	Colour	Pk	Cat. No.
Flow indicator	SAN	6,5 - 10	Barbed	Red/Transparent	1	**229-0576**

Flow indicator, paddle wheel
Kartell

This flow indicator made from Styrene-acrylonitrile (SAN), provides a clear optical indicator of flow, as the speed of rotation of the paddle wheel is proportional to the flow rate. Can be used with gases, but not to be used with corrosive fluids or over 85 °C.

- For liquid flows down to 5 ml/second
- Maximum recommended flow rate up to 95 ml/second and maximum pressure 2 bar

Connector o.d.: 6.5 - 11 mm

W×D×H (mm): 90×15×40

Description	Material	Tube Ø (mm)	Connector	Colour	Pk	Cat. No.
Flow indicator, paddle wheel	SAN	6 - 11	Barbed	Red/Transparent	1	**229-0577**

Flow indicators
Bürkle

These paddle wheel flow indicators give a clear visualisation of the flow rates of liquids or gas in tubing. The flow indicator can operate in either direction of flow and can be mounted at any angle. The paddle wheel impeller starts to rotate at about 150 ml/min.

- Colour coding - red, black or blue

LiquiMobil in SAN

More suitable for coolant circuits and contributes to reduction of water consumption appreciably. Not usable with aggressive liquids. Maximum operating temperature +30 °C.

CheMobil in PMP

PMP shows reasonable chemical resistance, which makes it possible to use with a great number of fluids. CheMobil is not however appropriate for strong acids, bases and solvents.

CheMobil is steam sterilisable. Maximum operating temperature +60 °C.

Acceptable maximum pressure 2 bar

Connector o.d.: 6 - 11 mm

Dimensions: 88×15×40 mm

Type	Material	Tube Ø (mm)	Colour	Pk	Cat. No.
LiquiMobil	SAN	6 - 11	Red	1	**618-1111**
LiquiMobil	SAN	6 - 11	Black	1	**618-1112**
LiquiMobil	SAN	6 - 11	Blue	1	**618-1110**
CheMobil	PMP	6 - 11	Red	1	**618-1121**
CheMobil	PMP	6 - 11	Black	1	**618-1122**
CheMobil	PMP	6 - 11	Blue	1	**618-1120**

Titrator, compact, G20, One Click Titration™

Mettler-Toledo

This reliable titrator is designed for basic routine applications and titrations in the analysis of food, water and chemicals. The One Click™ user interface is optimised for direct access to all routine tasks and provides clear information to the user. It offers four shortcut buttons for immediate start of routine operations and user-specific home screens with customisable shortcuts and user-defined operation languages.

- Easy to use, large, colour touch screen with One Click™ user interface enables users to execute routine procedures with just one touch
- Plug & Play: Titrant and sensor are automatically detected upon connection to the titrator and all applicable data is stored on the burette or sensor chip
- More than 20 pre-programmed standard methods from diverse application areas can be used directly or adapted to user needs
- Wide selection of standard calculations which can also be adapted to modified method parameters
- Sensor inputs: Potentiometric/polarised; Reference; PT1000 temperature

Ordering information: Supplied with integrated burette drive, DGi115-SC Plug & Play sensor, compact rod stirrer and 20 ml burette. Other accessories, such as software, printers and dosing units, need to be ordered separately.

Model	G20
Display	QVGA 5,7″ colour TFT
Stirrer connection	Yes
Dosing accuracy	0,2% of the burette volume
Filling time	20 s
Burette resolution	1 µl (20 ml burette)
Method storage	>20 pre-programmed; 5 user methods
mV - range	± 2000
mV - resolution	0,1
Polarisation - range (µA)	0 - 200
Polarisation - resolution (µA)	0,1
Polarisation - accuracy (µA)	0,2
Measurement units	mV, µA, °C
Connections	Ethernet, COM, USB, CAN Bus, TTL-I/O
W×D×H (mm)	210×333×320
Weight (kg)	4,2

Description	Pk	Cat. No.
Titrator G20	1	**661-0159**

Description	Diaphr.	Electrolyte	Connection	Temp. (°C)	Pk	Cat. No.
Combined pH electrodes						
Combined glass pH electrode DG111-SC, with integrated glass sleeve	Ceramic frit	3 mol/l KCl	S7 screw cap, detachable cable	0...+80	1	**662-1653**
Combined glass pH electrode DG113-SC, with integrated glass sleeve	Movable PTFE sleeve junction	LiCl 1 mol/l	S7 screw cap, detachable cable	0...+60	1	**662-2736**
Combined glass pH electrode DG115-SC, with integrated glass sleeve	Fixed ground glass sleeve junction	3 mol/l KCl	S7 screw cap, detachable cable	0...+100	1	**662-2737**
Combined glass pH electrode DG115-SC, Plug & Play, with integrated glass sleeve and sensor chip	Fixed ground glass sleeve junction	3 mol/l KCl	S12 plug	0...+100	1	**662-1669**
Redox combined electrodes						
Combined platinum ring electrode DM140-SC, with integrated glass sleeve	Ceramic frit junction	KCl 3 mol/l saturated with AgCl	S7 screw cap, detachable cable	0...+80	1	**662-1654**
Combined silver ring electrode DM141-SC, with integrated glass sleeve	Ceramic frit junction	KNO_3 1 mol/l	S7 screw cap, detachable cable	0...+80	1	**662-1655**
Double platinum electrode, DM143-SC						
Double pin platinum electrode, DM143-SC, with integrated glass sleeve	-	-	S7 screw cap, detachable cable	0...+80	1	**661-1002**

Description	Pk	Cat. No.
Accessories		
Standard beaker, PP, 100 ml	120	**661-0175**
Standard beaker, PP, 100 ml	480	**661-0120**
LEMO cable for electrode connection	1	**661-0155**
Glass beaker, 80 ml	20	**661-0156**
Compact printer USB-P25, with USB interface, for standard paper (57,5 mm)	1	**661-0157**
Interchangeable burette DV1005, 5 ml	1	**661-0165**
Interchangeable burette DV1020, 20 ml	1	**661-0166**
Replaceable protective sheet for touch screen	1	**661-0097**
Compact overhead stirrer with two propellers	1	**661-0173**
DP5 Phototrode™ with 5 selectable wavelengths, for two-phase titrations, incl. Y cable and power supply unit	1	**661-0174**
USB cable 1.8 m for PC or printer	1	**661-0103**
Ink cartridge OKI B401d, black	1	**661-0123**

Titrators for pH/alkalinity and total hardness, potentiometric, TitraLab®

Hach Lange

These automatic titrators are designed for accurately determining the total hardness (Ca + Mg content) or the pH and alkalinity level of water. Thanks to their ease of use and robustness they can be be used by professionals as well as non specialists performing potentiometric titrations in laboratories or production areas. Both titrators provide a reliable, more automated and cost effective alternative to manual titrations in water and QC laboratories.

- Integrated high resolution (40 000 steps) electronic burette provides very high levels of analytical accuracy and reproducibility
- Embedded, preset application packages for dedicated sample type: No programming required, instrument is ready to use
- Push-button operation and preset display according to chosen application
- Self explanatory interface and pre-programmed methods facilitate use and eliminate need for operator training
- Integrated peristaltic pump for automatic sample preparation with reagent additions prior to start of titration: Increases sample throughput (total hardness model)

TitraLab® pH/alkalinity - advised titrant: HCl or H_2SO_4 0,1N
TitraLab® total hardness - advised titrant: EDTA 0,01M (0,02N)

Each TitraLab® unit comes complete with all the accessories needed, including electrode and magnetic stirrer but not chemical reagents. Suitable reagents (TITRINORM®) need to be ordered separately.

Model	TitraLab® pH/alkalinity	TitraLab® total hardness
Measuring range	Advised 10 - 1000 mg/l $CaCO_3$ (10 ml Titrant) – Max. 2000 mg/l $CaCO_3$ (20 ml Titrant)	Advised 12 - 400 ppm $CaCO_3$ (10 ml Titrant) – Max. 800 ppm $CaCO_3$ (20 ml Titrant)
Keypad	Push buttons	
Dosing volume	50 ml	
Burette resolution	40000 steps	
Measurement units	meq/l; mmol/l; ppm; mg/l; dGH; °dH; gpg; °e; °Clark; °F	
Ambient temperature	15...40 °C	
W×D×H (mm)	130×160×300	
Weight (kg)	± 4	

Description	Pk	Cat. No.
Titrator, TitraLab®, for pH/alkalinity in water	1	**611-2790**
Titrator, TitraLab®, for total hardness of water	1	**611-2791**

Description	Electrolyte	Connection	pH	Temp. (°C)	For	Pk	Cat. No.
Combined pH electrode, sensION+ 5011T							
5011T, with PT1000 sensor	Non-refillable solid polymer	1 m cable	2 - 14	0...+80	Wastewater applications	1	**662-1628**
Accessories							
Electrovalve for burette						1	**662-1629**
Stirring bar, PTFE, 20×6 mm						10	**662-1630**
Replacement syringe, PP, 10 ml						1	**661-0147**
Spare pump cassette with neoprene tube, inner Ø 2 mm, 70 ml/min						1	**661-0149**
KyoMouse RS thermal printer with connection cable to instrument						1	**661-1000**
Thermal paper for KyoMouse RS printer, 5 rolls						5 Roll	**661-1001**

Titrators, automatic, Titronic® universal

SI Analytics

Motor driven piston burettes for manual titration and also precise dosing instruments for dosable liquids, solvents and titrating agents. The dosing speed and interval time between doses can be set with the keypad.

- 50 ml dosing unit
- Reliable results
- Accuracy <0,1%

Ordering information: Supplied with 50 ml dosing unit, titration tip with hose, stand rod, electrode/ titration tip holder, TM 96 magnetic stirrer and hand controller.

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Model	Titronic® universal
Display resolution (ml)	0,01
Volume display (ml)	0,00 - 999,9
Cylinder	20 ml or 50 ml DURAN® cylinder with UV protection
Dosing volume	0,00 - 999,9 ml
Dosing speed	0 - 40 ml/min (with 20 ml dosing unit) 0,1 - 100 ml/min (with 50 ml dosing unit)
Filling time	30 - 999 s (adjustable)
Interval time	0,1 - 999,9 s
Connections	For TM 96 magnetic stirrer, 2×RS232 for connection to serial printer and PC
W×D×H (mm)	134×310×205 incl. dosing unit without stirrer
Weight (kg)	2,1
Compliance	EN ISO 8655-3
Display	8 line backlit LCD

Description	Pk	Cat. No.
Titronic® universal 50 ml, Module 2	1	**661-4436**

Description	Pk	Cat. No.
Accessories		
Set incl. bottle top adapter (GL 45) and 1 l reagent bottle, brown	1 SET	**661-4466**
Bottle top adapter (GL 45)	1	**661-4418**
Adapter for reagent bottle with S 40 thread	1	**661-4419**

Titrators, pH/mV, TitroLine® easy
SI Analytics

TitroLine® easy Module 3

A compact range of titrators for precise and quick pH and mV titrations (i.e. chloride) to the inflection (EQ) or pre-set end point (EP). Also suitable for manual titration. Typical applications include:

- Salt content in foodstuffs (cheese, soya sauce, ketchup)
- Total acidity in wine and soft drinks
- Nitrogen according to Kjeldahl
- Alkalinity

Ordering information: TitroLine® easy Module 1 without electrode: TitroLine® easy with 20 ml dosing unit, titration tip with hose, stand rod, electrode/titration tip holder, magnetic stirrer and hand controller.

TitroLine® easy Module 2 for pH titration: Supplied as Module 1, with the addition of a pH combination electrode and buffer set.

TitroLine® easy Module 3 for halogenide titration: Supplied as Module 1, with the addition of a Ag combination electrode.

Display	8 line backlit LCD
Display resolution (ml)	0,01
Volume display (ml)	0,00 - 999,9
Cylinder	20 ml DURAN® cylinder with UV protection
Keypad	6-button control with polyester foil
Keypad connection	For the manual hand controller TZ 3680
Stirrer connection	Plug and socket connection with integrated low voltage power supply for the TM 96 magnetic stirrer
Dosing accuracy	Systematic error: 0,1% Random error: 0,05%
Burette resolution	1/8000
mV - range	±1400 (pH 0 - 14, measuring range –30...+115 °C)
Measuring input electrode	pH/mV electrode with DIN or BNC socket and reference electrode 1×4 mm
Measuring input PT1000	Temperature sensor PT1000 (connection sockets 2×4 mm)
Ambient temperature	10 - 40 °C for operation and storage
Power supply	230 V; 50/60 Hz or 115 V; 50/60 Hz
Connections	RS232
W×D×H (mm)	135×310×205 incl. dosing unit without stirrer
Weight (kg)	2,4

Description	Pk	Cat. No.
TitroLine® easy, Module 1	1	**661-4455**
TitroLine® easy, Module 2	1	**661-4456**
TitroLine® easy, Module 3	1	**661-0063**

Description	Pk	Cat. No.
Accessories		
Set incl. bottle top adapter (GL 45) and 1 l reagent bottle, brown	1 SET	**661-4466**
Bottle top adapter (GL 45)	1	**661-4418**
Adapter for reagent bottle with S 40 thread	1	**661-4419**

Titrators, Titronic® 500 and TitroLine® 6000 / 7000

SI Analytics

TitroLine® 6000 / 7000

Titronic® 500

Automatic titrators TitroLine® 6000 and TitroLine® 7000 are used in the laboratories of water supply companies and wastewater treatment plants, and the food and chemical industries. Typical applications include analysis of alkalinity and carbon dioxide, nitrogen (Kjeldahl), chloride, COD, acid number, iodine number, and others. The piston burette Titronic® 500 is used in all industry sectors. Applications include all manual titration and dosing tasks and sample preparation.

- Brilliant, high contrast TFT display
- Compact exchangeable units (5/10/20/50 ml) can store all reagent specific data plus the unit size (TitroLine® 6000/7000 only)
- Connection of stirrer, keyboard, printer, balance, PC and USB storage media can be done via 3 USB and 2 RS232 ports
- Standard methods and formulae allow easy generation of up to 50 user-defined methods
- Common functions: Manual titration, dosing tasks, formulae for miscellaneous calculations

Ordering information: Titronic® 500 basic unit: Supplied with magnetic stirrer TM 235, exchangeable unit (20 ml), stand rod TZ 1510, electrode clamp Z 305, manual controller TZ 3880 and power supply (100 - 240 V).

TitroLine® 6000 basic unit: Supplied with magnetic stirrer TM 235, exchangeable unit (10, 20 or 50 ml), incl. brown glass bottle for titration reagent, GL 45 and S 40 bottle adapters, hoses, drip off tube and titration tip.

TitroLine® 7000 basic unit: Supplied with magnetic stirrer TM 235, exchangeable unit (10, 20 or 50 ml), incl. brown glass bottle for titration reagent, GL 45 and S 40 bottle adapters, hoses, drip off tube and titration tip.

Model	Titronic® 500	TitroLine® 6000	TitroLine® 7000
Display	High contrast TFT display		
Dosing volume	20 ml	10 / 20 / 50 ml	
Functions	Preparation of solvents (manual or automatic with connected balance)	pH/mV measuring input with reference input; Titration to mV and pH end point; Dynamic and linear titration to equivalence point (EQ), mV and pH; Dead stop titration	pH/mV measuring input with reference input; Titration to mV and pH end point; Dynamic and linear titration to equivalence point (EQ), mV and pH; Dead stop titration; pH-stat titration; Especially suitable for non aqueous titration
Method storage	5	10	50
Measuring input electrode	-	2×4 mm socket	
Connections	3×USB, 2×RS232		
W×D×H (mm)	153×296×450		
Weight (kg)	3,5 kg		

Description	Pk	Cat. No.
Titronic® 500 with magnetic stirrer and 20 ml exchangeable unit	1	**661-0121**
TitroLine® 6000 with magnetic stirrer and 10 ml exchangeable unit	1	**661-0111**
TitroLine® 6000 with magnetic stirrer and 20 ml exchangeable unit	1	**661-0112**
TitroLine® 6000 with magnetic stirrer and 50 ml exchangeable unit	1	**661-0113**
TitroLine® 7000 with magnetic stirrer and 10 ml exchangeable unit	1	**661-0114**
TitroLine® 7000 with magnetic stirrer and 20 ml exchangeable unit	1	**661-0115**
TitroLine® 7000 with magnetic stirrer and 50 ml exchangeable unit	1	**661-0116**

Description	Pk	Cat. No.
Accessories		
Exchangeable unit, 5 ml	1	**661-0124**
Exchangeable unit, 10 ml	1	**661-0125**
Exchangeable unit, 20 ml	1	**661-0126**
Exchangeable unit, 50 ml	1	**661-0127**
Titration software TitriSoft 3.0	1	**661-1010**
USB thermal printer, TZ 3863, 112 mm	1	**661-1008**
Thermal paper TZ 3864, for printer TZ 3863, very high durability (5 rolls)	5	**661-1009**
PC keyboard, USB connection	1	**661-0128**

Titrator, Karl Fischer, volumetric, TitraLab® KF 1S2B
Hach Lange

This automatic analyser is specifically designed for fast volumetric moisture analysis, providing the perfect solution to routine measurements. Ideal for quick and accurate moisture content determination by KF analysis in chemical and petrochemical industries as well as in food & beverage processing.

- High resolution, 40 000 step electronic burette delivers dependably accurate results
- Intuitive product interface, ready to use, pre-programmed methods and preset display provide easy operation
- Integrated peristaltic pumps for automatic and safe solvent reagent additions and waste disposal management
- Compact setup with "All-included" application packaging including electrode and accessories
- RS232C interface enables communication with a computer or printer

Ordering information: Supplied with electrode and cable connection, 1×5 ml glass syringe and two pumps, electrode holder with magnetic stirrer and special KF titration cell, and power supply. Chemicals need to be ordered separately.

Model	KF 1S2B
Measuring range	0,01 - 100% H_2O
Keypad	7 membrane keys, splash-proof
Resolution	0,001% (0 - 10% H_2O); 0,01% (10 - 100% H_2O)
Dosing accuracy	≤ 0,2%
Burette resolution	40000 steps
Functions	Moisture content determination
Measurement units	%, ppm
Ambient temperature	+15...+40 °C
Connections	BNC (electrode), RCA (cinch) for magnetic stirrer, Mini-DIN (for external keypad), RS232C
W×D×H (mm)	130×160×300
Weight (kg)	4

Description	Pk	Cat. No.
Karl Fischer titrator, TitraLab® KF 1S2B	1	**661-0146**

Description	Pk	Cat. No.
Accessories		
Double platinum electrode (Pt), 0 - 80 °C, for KF titrations	1	**661-0152**
Spare pump cassette with neoprene tube, Ø 3,2mm, 170 ml/min	1	**661-0150**
5 ml syringe, Salt Line, glass	1	**661-0151**

Titrators, Karl Fischer, volumetric, TitroLine® 7500 KF
SI Analytics

TitroLine® 7500 KF is a volumetric generalist for a wide range of uses. Applications include KF volumetry, dead stop titrations (SO_2, bromine number), dosing tasks and preparation of solutions. Ideal for KF analysis in pharmaceutical, chemical, food and mineral oil industries.

- Fast, easy and precise
- With ready to use methods for different applications (e.g. titre determination, blank value)
- High visibility, full colour display with online titration curve, can be easily viewed from a distance and extreme angles
- Storage of results via USB port (PDF and CSV format)
- With intelligent interchangeable modules (5, 10, 20 ml)

Ordering information: Supplied with interchangeable module WA 05, 10 or 20, TM 235 KF titration stand with integrated stirrer and pump (incl. all bottles and tubes), titration vessel TZ 1770, micro-dual platinum electrode KF 1100, starter kit (consisting of molecular sieve, needles with syringes and glass wool) and power supply 100 - 240 V.

Model	TitroLine® 7500 KF
Display	Graphic TFT display
Keypad	Front keypad or external USB keyboard TZ 3835
Stirrer connection	Plug-and-socket connection for magnetic stirrer TM 235/TM 235 KF
Resolution	0,5 µg
Dosing accuracy	Systematic measuring deviation: 0,1 - 0,15% Random measuring deviation: 0,05 - 0,07%
Dosing volume	5 / 10 / 20 ml
Burette resolution	10000 steps
Method storage	50
Measurement units	% ppm, mg, mg/l, mg/piece, ml

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Measuring input electrode	KF / Dead stop (µA)- indicator electrode input (2×4 mm socket)
Power supply	100 - 240 V, 50/60 Hz
Connections	2 × USB-A, 1 × USB-B, 2 × RS232
W×D×H (mm)	153×296×450
Weight (kg)	3,5
Compliance	GLP

Description	Pk	Cat. No.
Karl Fischer titrator, TitroLine® 7500 KF, complete with interchangeable module WA 05	1	**661-0138**
Karl Fischer titrator, TitroLine® 7500 KF, complete with interchangeable module WA 10	1	**661-0139**
Karl Fischer titrator, TitroLine® 7500 KF, complete with interchangeable module WA 20	1	**661-0140**

Description	Pk	Cat. No.
Accessories		
Titration stand with integrated pump and stirrer TM 235 KF	1	**661-0145**

Titrators, Karl Fischer, Coulometric, TitroLine® 7500 KF Trace
SI Analytics

These very compact, easy to operate instruments are ideal for the coulometric water determination according to Karl Fischer in low water contents, as well as for the bromine number determination. They are suitable for small liquid or gaseous sample amounts and can be used for quality control in the chemical, petrochemical, pharmaceutical and food industries.

- High visibility, full colour display with online titration curve
- With standard methods for different applications (for example blank value)
- Include three USB and two RS232 ports for expansion and connection of devices
- Storage of results on PDF and CSV
- Module 2 and 4 include a solvent pump

Ordering information: All units are supplied with keyboard, stand rod TZ 1748 and retaining clamp TZ 1749, power supply, electrode KF 1150 and KF starter kit TZ 1789 with molecular sieve, glass wool and a set of syringes with needles.
Module 1 additionally includes: Magnetic stirrer TM 235, titration vessel TZ 1751 and generator electrode TZ 1752 without diaphragm.
Module 2 additionally includes: KF titration stand (pump and stirrer) TM 235 KF including waste (1 L clear bottle), solvent (1 L amber bottle) and moisture bottle (100 ml) with all tubes, titration vessel TZ 1754 and generator electrode TZ 1752 without diaphragm.
Module 3 additionally includes: Magnetic stirrer TM 235, titration vessel TZ 1751 and generator electrode TZ 1753 with diaphragm.
Module 4 additionally includes: KF titration stand (pump and stirrer) TM 235 KF including waste (1 L clear bottle), solvent (1 L amber bottle) and moisture bottle (100 ml) with all tubes, titration vessel TZ 1754 and generator electrode TZ 1753 with diaphragm.

Model	TitroLine® 7500 KF Trace
Display	Graphic TFT display
Keypad	Front keypad or external USB keyboard TZ 3835
Stirrer connection	Plug-and-socket connection for magnetic stirrer TM 235/TM 235 KF
Resolution	0,1 µg
Dosing accuracy	±3 µg at 10 - 1000 µg / 0,3% at > 1 mg
Dosing volume	10 µg - 5 mg
Dosing speed	2 mg/min
Method storage	50
Power supply	100 - 240 V, 50/60 Hz
Connections	2 × USB-A, 1 × USB-B, 2 × RS232
W×D×H (mm)	130×250×80 mm
Weight (kg)	1,0

Description	Pk	Cat. No.
Karl Fischer titrator, TitroLine® 7500 KF Trace, Module 1, with titration vessel TZ 1751 with 3 openings	1	**661-0141**
Karl Fischer titrator, TitroLine® 7500 KF Trace, Module 2, with titration vessel TZ 1754 with 5 openings and pump	1	**661-0142**
Karl Fischer titrator, TitroLine® 7500 KF Trace, Module 3, with titration vessel TZ 1751 with 3 openings	1	**661-0143**
Karl Fischer titrator, TitroLine® 7500 KF Trace, Module 4, with titration vessel TZ 1754 with 5 openings and pump	1	**661-0144**

Description	Pk	Cat. No.
Accessories		
Titration stand with integrated pump and stirrer TM 235 KF	1	**661-0145**

Titrators, potentiometric and volumetric, Titroline® 7750

SI Analytics

The Titroline® 7750 is the all-rounder for both potentiometric titration and volumetric KF titration. The titrator combines the features of the potentiometric titrator TitroLine® 7000 and the volumetric Karl Fischer titrator TitroLine® 7500.

- Highly visible full colour display, that can be easily viewed from a distance and extreme angles
- With standard methods for potentiometric and KF titration and interchangeable modules (5, 10, 20 and 50 ml)
- System is easily expendable thanks to the USB and RS232 hosts
- Data storage of results (PDF and CSV format) including method transfer via USB port

Ordering information: Unit supplied with stand rod and titration clamp Z 305, power supply 100-240 V and with or without magnetic stirrer.

Model	Titroline® 7750
Display	Graphic TFT display, 320×240 pixels
Keypad	Polyester coated
Dosing accuracy	Accuracy: 0,15 % Precision: 0,05 - 0,07 % (depending on the interchangeable unit used)
Dosing volume	5 / 10 / 20 / 50 ml
Burette resolution	10000 steps
Functions	Solution preparation, titration to mV and pH end points, dynamic and linear titration to inflection points (EQ) mV and pH, non aqueous titrations, dead stop titration, pH-stat-titration, water determination according to KF volumetry
pH - range	–3...+18
pH - accuracy	0,002 ± 1 digit (without sensor)
pH - resolution	0,001
mV - range	±2000
mV - resolution	0,1
mV - accuracy	0,1 ± 1 digit
Measuring input electrode	pH/mV electrode with DIN or BNC socket; double platinum electrode (µA)
Measuring input PT1000	Temperature sensor PT1000 (connection sockets 2×4 mm)
Ambient temperature	10...40 °C
Connections	2 × USB-A, 1 × USB-B, 2 × RS232
W×D×H (mm)	153×296×450
Weight (kg)	2,3

Description	Pk	Cat. No.
Titrator, TitroLine® 7750, basic unit without magnetic stirrer	1	**661-1006**
Titrator, TitroLine® 7750, basic unit with magnetic stirrer	1	**661-1007**

Description	Pk	Cat. No.
Accessories		
Exchangeable unit, 5 ml	1	**661-0124**
Exchangeable unit, 10 ml	1	**661-0125**
Exchangeable unit, 20 ml	1	**661-0126**
Mikro-double platinum electrode for Karl Fischer titrations, KF 1100, with fixed cable, double platinum pin and tapper NS 7,5 for titration vessel TZ 1770 and TZ 1772	1	**661-1003**
Titration stand with pump, TM 235 KF , basic unit without bottles, tubes and power supply	1	**661-1011**
Karl-Fischer titration vessel, TZ 1770, DURAN® glass vessel TZ 1775 (30 - 150 ml), removable head made of PP/PTFE, 1 drilling NS 19/NS 14,5/NS 7,5 and 3 drillings with screw threads, titration tip, moisture trap and weighing funnel	1	**661-1005**
Starter kit KF, TZ 1789, consisting of molecular sieve, needles with syringes and glass wool	1	**661-1012**
Stand rod, TZ 1748, stainless steel, Ø 10 mm	1	**661-1004**
Titration software TitriSoft 3.0	1	**661-1010**
USB thermal printer, TZ 3863, 112 mm	1	**661-1008**
Thermal paper TZ 3864, for printer TZ 3863, very high durability (5 rolls)	5	**661-1009**

Titrators, Karl Fischer, volumetric and coulometric, V20 / C20

Mettler-Toledo

V20

C20

These routine KF titrators combine fast and precise water content determination. The V20 is designed to analyse samples from any industry with water content between 100 ppm to 100% and the C20 can determine water content between 1 ppm to 5%.

- Simple and quick to operate: One Click™ user interface in 9 languages with large colour touch screen and user-dedicated home screen
- Solvent Manager liquid handling device for user protection against chemicals
- Powerful LabX titration PC software connected via USB or direct Ethernet (TCP/IP)
- V20 features intelligent burettes with RFID chip saving all relevant titration data
- C20 features a generator cell with or without diaphragm: The generator cell without diaphragm is more convenient to analyse the majority of samples, as no catholyte is needed, but can also be used for very precise low water thanks to its unique design

Ordering information: V20 supplied with built-in burette motor, burette DV1005 (5 ml), KF DM143–SC sensor, titration vessel with stoppers and tubes, magnetic stirrer and magnetic stirring bar, 2× brown glass bottles for reagents and waste and bottle of molecular sieve.

C20D supplied with complete coulometric cell and electrode with diaphragm, KF DM143–SC sensor, titration vessel with stoppers and tubes, magnetic stirrer and magnetic stirring bar, brown glass bottle for waste and bottle of molecular sieve.

C20X supplied with complete coulometric cell and electrode without diaphragm, KF DM143–SC sensor, titration vessel with stoppers and tubes, magnetic stirrer and magnetic stirring bar, brown glass bottle for waste and bottle of molecular sieve.

Model	V20	C20D	C20X
Display	Touch screen, VGA 5,7 inch, colour TFT, 320×240 pixels		
mV - range	±2000		
mV - resolution	0,1		
mV - accuracy	±2		
Polarisation - range (µA)	0 - 24		
Polarisation - resolution (µA)	0,1		
Polarisation - accuracy (µA)	±1		
W×D×H (mm)	680×300×430	700×300×440	700×300×430
Weight (kg)	3,2	3,0	3,2

Description	Pk	Cat. No.
Volumetric titrator V20	1	**661-0094**
Coulometric titrator C20D with generator cell with diaphragm	1	**661-0095**
Coulometric titrator C20X with generator cell without diaphragm	1	**661-0096**

Description	Pk	Cat. No.
Accessories		
Glass beaker, 80 ml	20	**661-0156**
Compact printer RS-P26 with RS232C interface cable	1	**661-0118**
Silicone tube 850 mm to connect Solvent Manager to solvent bottle	1	**661-0098**
Silicone tube 800 mm for volumetric cell draining	1	**661-0099**
Replaceable protective sheet for touch screen	1	**661-0097**
USB cable 1.8 m for PC or printer	1	**661-0103**
Ink cartridge OKI B401d, black	1	**661-0123**

Reagents for Karl Fischer titrations, apura®

The apura® range is designed to provide reagents for the determination of water by Karl Fischer titration of a wide range of substrates and by a variety of methodologies. These include reagents for one or two component systems; combined coulometric reagents; solvents for oils and fats; reagents and solvents for determination of water in ketones and aldehydes. Calibration standards are also available. The water standards in ampoules are tested against NIST and each pack contains the batch specific certificate with the exact water content, uncertainty data, measuring method, NIST batch and shelf life.

- CombiTitrants and CombiSolvents are non toxic
- Very accurate and reproducible results
- Rapid and reliable

Description	Pk	Cat. No.
Sodium tartrate dihydrate apura®, water standard for volumetric KF titration	100 g	**1.06664.0100**
Karl Fischer reagent A, with pyridine, 1 ml B + A =~3 mg H_2O	1 l	**1.09246.1000**
Karl Fischer reagent A, with pyridine, 1 ml B + A =~3 mg H_2O	2,5 l	**1.09246.2500**
Karl Fischer reagent B, pyridine-free, 1 ml B + A =~3 mg H_2O	1 l	**1.09247.1000**
Karl Fischer reagent B, pyridine-free, 1 ml B + A =~3 mg H_2O	2,5 l	**1.09247.2500**
Karl Fischer reagent 5, single component reagent, with pyridine 1 ml = ~5 mg H_2O	1 l	**1.09248.1000**
Karl Fischer reagent 5, single component reagent, with pyridine 1 ml = ~5 mg H_2O	2,5 l	**1.09248.2500**
CombiCoulomat frit apura®, KF reagent for coulometric water determination for cells with diaphragm	500 ml	**1.09255.0500**
CombiCoulomat fritless apura®, KF reagent for coulometric water determination for cells with and without diaphragm	500 ml	**1.09257.0500**
CombiCoulomat fritless apura®, KF reagent for coulometric water determination for cells with and without diaphragm	2,5 l	**1.09257.2500**
Water standard, 1 ml contains 5 mg of H_2O, apura®	250 ml	**1.09259.0250**
Solid water standard Lactose 5% apura®	10 g	**1.12939.0010**
CombiTitrant 1 apura® 1 ml/1 mg H_2O with 1-component reagent for volumetric KF titration	1 l	**1.88001.1000**
CombiTitrant 2 apura® 1 ml/2 mg H_2O with 1-component reagent for volumetric KF titration	1 l	**1.88002.1000**
CombiTitrant 5 apura® 1 ml/5 mg H_2O with 1-component reagent for volumetric KF titration	500 ml	**1.88005.0500**
CombiTitrant 5 apura® 1 ml/5 mg H_2O with 1-component reagent for volumetric KF titration	1 l	**1.88005.1000**
CombiTitrant 5 apura® 1 ml/5 mg H_2O with 1-component reagent for volumetric KF titration	2,5 l	**1.88005.2500**
CombiTitrant 5 Keto apura® 1 ml/5 mg H_2O with 1-component reagent for volumetric KF titration for aldehydes and ketones	1 l	**1.88006.1000**
CombiSolvent Keto apura® with 1-component reagent for volumetric KF titration for aldehydes and ketones	1 l	**1.88007.1000**
CombiSolvent apura®, methanol-free solvent with 1-component reagent for volumetric KF titration	2,5 l	**1.88008.2500**
CombiMethanol apura® with 1-component reagent max. 0,01% H_2O for volumetric KF titration	1 l	**1.88009.1000**
CombiMethanol apura® with 1-component reagent max. 0,01% H_2O for volumetric KF titration	2,5 l	**1.88009.2500**
Titrant 5 apura® 1 ml/5 mg H_2O with 2-component reagents for volumetric KF titration	500 ml	**1.88010.0500**
Titrant 5 apura® 1 ml/5 mg H_2O with 2-component reagents for volumetric KF titration	1 l	**1.88010.1000**
Titrant 5 apura® 1 ml/5 mg H_2O with 2-component reagents for volumetric KF titration	2,5 l	**1.88010.2500**
Titrant 2 apura® 1 ml/2 mg H_2O with 2-component reagents for volumetric KF titration	1 l	**1.88011.1000**
Solvent apura® with 2-component reagents for volumetric KF titration	1 l	**1.88015.1000**
Solvent apura® with 2-component reagents for volumetric KF titration	2,5 l	**1.88015.2500**
Solvent Oils & Fats apura® with 2-component reagent for volumetric KF titration for oils and fats	1 l	**1.88016.1000**
CombiSolvent Oil apura® with 1-component reagent for volumetric KF titration for oils	1 l	**1.88020.1000**
CombiSolvent Fats apura® with 1-component reagent for volumetric KF titration for fats in foodstuffs	1 l	**1.88021.1000**
Buffer solution for strong acids apura® for KF titration	500 ml	**1.88035.0500**
Buffer solution for strong bases apura® for KF titration	500 ml	**1.88036.0500**
Water standard 0.01% 1 g/0.1 mg H_2O apura® for coulometric KF titration, 10×8 ml ampoules	10 Amp	**1.88050.0010**
Water standard 0.1% 1 g/1 mg H_2O apura® for coulometric KF titration, 10×8 ml ampoules	10 Amp	**1.88051.0010**
Water standard 1% 1 g/10 mg H_2O apura® for volumetric KF titration, 10×8 ml ampoules	10 Amp	**1.88052.0010**
Solid water standard 1% apura® for KF oven method	5 g	**1.88054.0005**
Water standard 1% apura® for oil samples for coulometric KF titration (15-30 ppm), 10×8 ml ampoules	10 Amp	**1.88055.0010**

pH/°C & ORP/°C meters, pH10 Pen & ORP15 Pen

Simple, compact instruments designed for quick accurate results in an economical pen format. Ideal for agriculture, education, fruit and vegetable washing, swimming pools, wastewater, pulp bleaching and aquaculture.

- LCD with a graphic display, IP 67 waterproof housing
- Replaceable electrodes
- Non volatile memory stores 50 sets of data (pH or absolute/relative ORP, temperature, date and time stamp)
- GLP functionality - saves and displays last calibration data
- Automatic temperature compensation; automatic calibration and buffer recognition

Warranty: 1 year (instrument) / 6 months (electrode)

Ordering information: Supplied with 4× LR44 batteries.

Model	pH10 Pen	ORP15 Pen
pH - range	0,00...+14,00	-
pH - resolution	0,01	
pH - accuracy	±0,1	
pH - calibration	1, 2 or 3 point	
mV - range	-	±1100
mV - resolution		1
mV - accuracy		1 ±1 last significant digit
Temperature range (°C)	0,0...+100	–10...+100
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	±0,3	
Temperature ATC probe	Thermistor, 10 kΩ/25 °C	
Data logging - capacity	50 data sets	
Display	LCD	
Batteries	~35 h	
Weight (kg)	0,105 (with batteries)	
Compliance	IP 67 / GLP	

Description	Pk	Cat. No.
pH10 Pen	1	**662-0121**
ORP15 Pen	1	**662-0126**

Description	Pk	Cat. No.
Accessories		
Replacement pH electrode, blue	1	**662-0122**
Replacement ORP electrode kit, incl. electrode, collar, 3× O-rings, sensor cap, blue	1	**662-0127**
Replacement pH electrode kit, pH10, light grey	1	**664-0167**
Replacement ORP electrode kit ORP15A, incl. electrode, collar, 3× O-rings, sensor cap, light grey	1	**664-0166**
Replacement sensor cap	1	**662-0123**
Replacement battery compartment	1	**662-0124**
Carrying case, soft-sided, for VWR pH10 and ORP15 pen meters	1	**662-1117**
Button, alkaline manganese	1	**139-2264**

pH tester, pH-Checker®
Hanna

pH tester supplied with interchangeable pH combination electrode with screw connector.

- Manual two points calibration
- Use two 1,5 V batteries for about 3000 hours of continuous use

Ordering information: Supplied with combination pH electrode and 2× 1,5 V batteries.

Model	pH Checker®
pH - range	0,00...+14,00
pH - resolution	0,01
pH - accuracy	±0,2
W×D×H (mm)	50×25×66
Weight (kg)	0,07

Description	Pk	Cat. No.
pH-Checker®	1	**662-4020**

Description	Pk	Cat. No.
Accessories		
Spare pH electrode HI 1270	1	**662-4174**

Waterproof pH/°C testers, pHep®4 / pHep®5
Hanna

Easy to use pH testers that float. They have a waterproof casing and provide accurate, economic pH measurements on the spot for a wide variety of applications across many industry types.

- Exclusive cartridge pH electrode with easy replacement
- Automatic pH calibration
- Temperature sensor providing fast response time and accurate readings
- Battery level indicator, automatic shut-off
- 4× 1,5 V batteries, 300 hours of continuous use

Ordering information: pHep®4 and pHep®5 supplied complete with pH electrode, protective cap, electrode removal tool and batteries.

Model	pHep®4	pHep®5
pH - range	–2,0...+16,0	–2,00...+16,00
pH - resolution	0,1	0,01
pH - accuracy	±0,1	±0,05
pH - calibration	Automatic, in 1 or 2 points with 2 sets of memorised buffers (pH 4,01 / 7,01 / 10,01 or pH 4,01 / 6,86 / 9,18)	
Temperature range (°C)	–5,0...+60,0	
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	±0,5	
Display	Dual level LCD	
W×D×H (mm)	40×26×163	
Weight (kg)	0,1	
Compliance	IP 67	

Description	Pk	Cat. No.
pHep®4 (waterproof)	1	**662-4184**
pHep®5 (waterproof)	1	**662-4185**

Description	Pk	Cat. No.
Accessories		
Spare pH electrode HI 73127	1	**662-4188**

Pocket pH meter, LAQUAtwin B-712
Horiba

This pocket meter incorporates a flat sensor technology, using the same measurement principle as traditional glass electrodes but in a small and compact flat format. The flat electrode enables quick and accurate direct measurements of solid or liquid micro samples as small as 100 µl (50 µl when using the sampling sheet). Large volume samples can also be measured easily by immersing the sensor. The LAQUAtwin meter is suitable for quick on-site testing in food industries and agriculture as well as for laboratories in universities and research.

- Large LCD display, durable waterproof ABS housing
- Flat glass sensor enables direct measurements, no sample preparation required
- Autocalibration function recognises standards and is user-selectable for either one- or two-point calibrations
- Temperature compensation
- Auto hold, automatic power off after 30 minutes

Delivery information: Supplied with two batteries, pipette, instruction manual, quick manual, storage case, two bottles of standard solutions (pH 7/pH 4), 14 ml each, and five pieces of sampling sheet.

Model	B-712
pH - range	2 - 12
pH - accuracy	±0,1
pH - calibration	1- or 2-point
Temperature compensation	Automatic
Display	Custom (monochrome) digital LCD
Power supply	2 × CR2032 batteries
W×D×H (mm)	164×29×20
Weight (kg)	0,05 (without batteries)
Compliance	IP 67

Description	Pk	Cat. No.
Pocket pH meter LAQUAtwin B-712	1	**662-1492**

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Description	Pk	Cat. No.
Accessories		
pH replacement electrode S010 for meter B-712, flat and waterproof	1	**662-1495**
Standard solution (pH 4,01) Y014, in bottle, 14 ml	6	**662-1716**
Standard solution (pH 6,86) Y017, in bottle, 14 ml	6	**662-1715**
Additional sampling sheets, Y046, packed in box	100	**662-1491**
Sampling sheet holder Y048, for samples that contain particulates, for use with sampling sheets B Y046	1	**662-1494**

pH/mV/°C meter, handheld, pH 110

Economical, accurate, robust and waterproof pH meter. This complete ready to use set incorporates a robust transport case, electrode and temperature sensor with different cable lengths and buffers.

- IP 67 waterproof housing, large display and easy to use keypad
- Automatic temperature compensation
- 50 data sets reviewable memory
- 1000 hour battery life; auto-shut off function (30 minutes of non use)
- Electrode offset recognition; auto-lock and hold of readings on display

Warranty: 3 years for instruments and 6 months for electrodes/probes/cables

Ordering information: Supplied in a carrying case with 1 m cable, pH/°C sensor and calibration buffers (4,01/7,00/10,00).

Model	pH 110
pH - range	–2,00...+16,00
pH - resolution	0,01
pH - accuracy	±0,1% ±2 digits
pH - calibration	Auto-buffer recognition using US & VWR buffers (VWR buffers set as default: 4,01, 6,86, 9,18 at 25 °C / 4,00, 6,87, 9,23 at 20 °C)
mV - range	–1999...+1250
mV - resolution	1
mV - accuracy	±0,1% ±1 digit
Temperature range (°C)	–10...+120
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,3 ±2 digits
Data logging - capacity	50 data sets
Compliance	IP 67

Description	Pk	Cat. No.
Handheld pH/mV/°C meter pH 110 (incl. pH/°C probe with 1 m cable)	1	**662-1350**

Description	Pk	Cat. No.
Accessories		
pH electrode, 1 m cable (pH 1001)	1	**662-1785**
Temperature probe, 1 m cable (pH 1001)	1	**662-1786**
pH/temperature electrode, 1 m cable waterproof	1	**662-9904**
pH/temperature electrode, 4 m cable waterproof	1	**662-9905**
ORP electrode, 1 m cable	1	**662-9906**
pH buffer capsules 4,01 ± 0,02	50	**332732B**
pH buffer capsules 7,00 ± 0,02	50	**332742D**
pH buffer capsules 10,00 ± 0,02	50	**332762H**

VWR COLLECTION

Delivering high quality and superior performance

Please contact your local VWR sales office or go to vwr.com for the latest news and special offers

pH/mV/°C meter, handheld, pHenomenal® pH 1100 H

This user friendly portable instrument with robust IP 67 rated housing provides high resolution and accuracy for precise measurements in field applications. With waterproof USB output for connection to a computer. GLP compliant.

- Large LCD graphic display with continuous LED backlight shows both pH/mV and temperature value simultaneously
- Data logging function selectable between 1 minute and 1 hour
- 5000 data set memory capacity with automatic storing; additional 200 point memory for manual storage
- Automatic power shut-off: Adjustable from 10 min to 24 h
- Automatic buffer recognition of DIN and NIST buffers (1,68 / 4,00 / 6,86 / 9,18 / 12,54)
- Three additional technical buffers at 25 °C (4,00 / 7,00 / 10,00) in memory
- Advanced self-test and diagnostics (electrode efficiency diagnostic, drift control); calibration symbol shows when recalibration is required
- Energy saving: 4× AA batteries for over 1000 operating hours

Ordering information: Ready-to-use pH portable set pH 1100 H includes instrument in robust plastic case, gel epoxy pH electrode with built-in temperature sensor 111 (1 m cable), starter kit (two buffers, one plastic beaker), stand and instruction manual (22 languages) on CD ROM.

Model	pH 1100 H
pH - range	–2,000...+20,000
pH - resolution	0,1 / 0,01 / 0,001 (selectable)
pH - accuracy	±0,1 / ±0,01 / ±0,001
pH - calibration	Up to 5 points
Automatic buffer recognition	BDH Prolabo® TITRINORM® buffers at 25 °C: 4,00/6,98/9,94 NIST/DIN 19266 (1,68/4,00/6,86/9,18/12,54) Technical buffers at 25 °C: 4,00/7,00/10,00
mV - range	±1200,0 / ±2500
mV - resolution	0,1 / 1
mV - accuracy	±0,3 / ±1
Temperature range (°C)	Auto: –5,0...+105,0; Manual: –25...+130
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,2
Temperature compensation	Auto/Manual
Data logging - capacity	5000 data sets
Data logging - log function	Selectable between 1 second and 1 hour
Display	LCD graphical display with LED backlight
Connections	BNC for pH / banana for temperature
Outputs	Waterproof USB connection (slave, bidirectional)
Power supply	4× AA batteries
Compliance	IP 67 / GLP
Battery Life	1000 hours

Description	Pk	Cat. No.
Handheld pH/mV/°C meter pH 1100 H, pHenomenal®	1 SET	**662-1659**

Description	Material	Electrolyte	Ø×L (mm)	Diaphr.	Connection	Pk	Cat. No.
pH electrode, pHenomenal®							
pHenomenal® 111 pH electrode, 3 in 1, with temperature sensor	Epoxy	Gel	12×120	Ceramic	BNC, 1 m cable	1	**662-1157**

Description	Pk	Cat. No.
Accessories		
pHenomenal® electrode storage tube	1	**662-1167**
pHenomenal® storage/measuring vessel	1	**662-1248**
pHenomenal® extension stick, aluminium, 1,5 m	1	**662-1224**
pHenomenal® communication kit (CD-ROM, USB cable, manual)	1	**662-1225**
pHenomenal® field case	1	**662-1168**
pHenomenal® electrode stand, holds up to 4 electrodes + 1 temperature sensor	1	**662-1169**
Electrolyte KCl 3 mol/l	100 ml	**83605.180**
Cleaning solution pepsin/hydrochloric acid	100 ml	**83603.180**
Buffer solutions in bottles		
Buffer solution AVS TITRINORM®, ready to use, pH 4	100 ml	**32095.184**
Buffer solution pH 10 (boric acid/sodium hydroxide/potassium chloride) AVS TITRINORM®	100 ml	**32040.185**
Buffer solution AVS TITRINORM®, ready to use, pH 7	100 ml	**32096.187**

pH/mV/°C meters, handheld, pH 3110 / 3210 / 3310 / 3310 IDS

WTW

pH 3210

Field case

Waterproof handheld meters designed for unlimited outside use.

- Large display allowing excellent readability even under bad lighting conditions
- Robust housing and sealed silicone keypad with protection class IP 66/67
- Up to 2500 hours continuous operation time with one battery set

pH 3110: Easy and functional

Reliable, clearly designed meter for basic and standard measurements, e.g. in education applications.

- Large LCD display
- Tactile response offering clear operation
- Built-in timer for correct measurements
- Automatic temperature compensation

pH 3210: Comfortable and versatile

For challenging measurements in the field and on the plant, e.g. water/wastewater analysis, chemical/pharmaceutical industry, etc.

- Backlit graphic display
- Menu-controlled operation
- The CMC function (Continuous Measurement Control) informs the users whether they are measuring inside the calibrated range and gives an alert when they are outside
- Large data memory (date, time and ID numbers for measurements)
- Four user-selectable languages available (English, German, French, Spanish)

pH 3310: Communicative and professional

For professional field measurements requiring documentation and data transfer. The pH 3310 IDS meters can be used with all IDS pH and ORP electrodes for measurements down to 100 m water depth. Conventional special electrodes with S7 plug head can also be connected via adapter.

Same specifications as pH 3210, with:

- Extended memory for 5000 GLP-compliant data
- Time-controlled data logger with adjustable intervals for long-term monitoring
- Waterproof mini USB interface to a PC
- QSC function shows graphically the current sensor condition over its operating time and supports maintenance and on time replacement (only pH 3310 IDS meters)

Ordering information: All pH meters are available in sets including pH electrode, STP buffers (technical buffers) and accessories.

Model	pH 3110	pH 3210	pH 3310
pH - range	–2,0...+19,9 / –2,00...+19,99 / –2,000...+19,999		
pH - accuracy	±0,1 / ±0,01 / ±0,001		
pH - calibration	1, 2 or 3 points with WTW or DIN buffers	1, 2, 3, 4 or 5 points with 16 sets of memorised buffers	
mV - range	±1200,0 / ±2000	±1200,0 / ±2500	
mV - accuracy	±0,3 / ±1		
Temperature range (°C)	–5,0...+105,0		
Temperature accuracy (°C)	±0,1		
Memory	Current calibration		Last 5
Data logging - capacity	-	200 manual	200 manual / 5000 automatic
Data logging - log function		Manual	Manual / time-controlled
Display	LCD	Backlit graphic LCD	
Connections	DIN / 4 mm banana		
Outputs	-		USB
Batteries	4× 1,5 V AA or 4× 1,2 V NiMH		
Weight (kg)	0,6		
Compliance	IP 66/67		IP 66/67, GLP

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Description	Pk	Cat. No.
pH 3110		
pH 3110 (instrument only with instruction manual, CD-ROM and batteries)	1	**662-0503**
pH 3110 set SenTix® 21 (instrument in field case with SenTix® 21 pH electrode, STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM and batteries)	1	**662-0504**
pH 3110 set SenTix® 41 (instrument in field case with SenTix® 41 pH electrode, STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM and batteries)	1	**662-0505**
pH 3110 TW set for drinking water (instrument in field case with SenTix® 81 pH electrode, STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM, batteries and measuring vessel MG/pH)	1	**662-0506**
pH 3210		
pH 3210 (instrument only with instruction manual, CD-ROM and batteries)	1	**662-0518**
pH 3210 set SenTix® 41 (instrument in field case with SenTix® 41 pH electrode, STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM and batteries)	1	**662-0996**
pH 3210 TW set for drinking water (instrument in field case with SenTix® 81 pH electrode, STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM, batteries and measuring vessel MG/pH)	1	**662-0997**
pH 3210 set SenTix® 51 (instrument in field case with SenTix® 51 pH electrode, STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM and batteries)	1	**662-0998**
pH 3310		
pH 3310 (instrument only with instruction manual, CD-ROM, batteries, software and USB cable)	1	**662-0999**
pH 3310 set SenTix® 41 (instrument in field case with SenTix® 41 pH electrode, STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM, batteries, software and USB cable)	1	**662-1111**
pH 3310 set TW for drinking water (instrument in field case with SenTix® 81 pH electrode, STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM, batteries, software, USB cable and measuring vessel MG/pH)	1	**662-1112**
pH 3310 set SenTix® 51 (instrument in field case with SenTix® 51 pH electrode, STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM, batteries, software and USB cable)	1	**662-1113**
pH 3310 IDS		
pH 3310 IDS (instrument only with instruction manual)	1	**662-1828**
pH 3310 IDS set 1 (instrument in field case with IDS pH electrode SenTix® 940 (1,5 m cable), STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM, batteries, software and USB cable)	1	**662-1713**
pH 3310 IDS set 2 (instrument in field case with IDS pH electrode SenTix® 940-3 (3 m cable), STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM, batteries, software and USB cable)	1	**662-1829**
pH 3310 IDS set 3 (instrument in field case with IDS pH electrode SenTix® 950 (1,5 m cable), STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM, batteries, software and USB cable)	1	**662-1830**
pH 3310 IDS set 4 (instrument in field case with IDS pH electrode SenTix® 980 (1,5 m cable), STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM, batteries, software and USB cable)	1	**662-1714**
pH 3310 IDS set 5 (instrument in field case with IDS pH electrode SensoLyt® 900-P (1,5 m cable), STP4 and STP7 buffers, stand, beaker, instruction manual, CD-ROM, batteries, software and USB cable)	1	**662-1831**

Description	Temp. (°C)	Material	Electrolyte	Connection	For	Pk	Cat. No.
SenTix® PLUS electrodes (general applications: For use in the laboratory or for field work)							
pH electrode SenTix® 21	0...+80	Plastic	Gel	DIN, fixed 1 m cable	General applications	1	**662-1302**
pH electrode SenTix® 41, with temperature sensor	0...+80	Plastic	Gel	DIN + banana plug (1×4 mm), fixed 1 m cable	General applications	1	**662-1305**
pH electrode SenTix® 41-3, with temperature sensor	0...+80	Plastic	Gel	DIN + banana plug (1×4 mm), fixed 3 m cable	General applications	1	**662-1306**
pH electrode SenTix® 51, with temperature sensor	0...+80	Plastic	KCl 3 mol/l, without Ag+	DIN + banana plug (1×4 mm), fixed 1 m cable	Water/wastewater/ food/beverages	1	**662-0106**
pH electrode SenTix® 81, with temperature sensor	0...+100	Glass	KCl 3 mol/l, without Ag+	DIN + banana plug (1×4 mm), fixed 1 m cable	Wastewater/ pure water/foods/ beverages/acids/ alkali/TRIS	1	**662-1315**
SenTix® PLUS special electrodes							
SenTix® ORP combination electrode	0...+100	Glass	KCl 3 mol/l	S7**	Wastewater	1	**662-1400**
Accessories							
Cable, 1 m, with S7/DIN plug						1	**662-1425**
Protective housing SM PRO for ProfiLine/MultiLine						1	**662-1278**

** Without cable

pH/mV/°C meter, handheld, FiveGo™ FG2

Mettler-Toledo

FiveGo™ FG2

Carry bag

Economical, handy, portable measuring instrument for rapid and reliable results. Suitable for a wide range of applications in various markets, such as food & beverage, agriculture, industry and water/environmental.

- Ergonomic and compact design
- Five self-explanatory buttons for the simplest, intuitive operation
- Large, well organised LCD display that simultaneously shows measurement readings, temperature, endpoint criteria and other helpful icons
- Storage capacity for up to 30 measurements, mV/ORP measuring mode and IP 54 protection

Ordering information: FG2-Basic FiveGo™ pH meter supplied with electrode clip (but without electrode), wrist strap, operating manual, "Quick guide", declaration of conformity, test certificate and 4× batteries.

FG2-Kit FiveGo™ pH meter supplied with gel, epoxy pH electrode LE438 with buit-in temperature sensor, 4× buffer sachets (2× pH 4,01 and 2× pH 7,00), electrode clip, wrist strap, operating manual, "Quick guide", declaration of conformity, test certificate and 4× batteries.

FG2-Field Kit FiveGo™ pH meter supplied with gel, epoxy pH electrode LE438 with buit-in temperature sensor, 4× buffer sachets (2× pH 4,01 and 2× pH 7,00), carry bag, 4× sample bottles, electrode clip, wrist strap, operating manual, "Quick guide", declaration of conformity, test certificate and 4× batteries.

FG2-Food kit FiveGo™ pH meter supplied with the same accessories as the Field Kit unit but with pH electrode LE427 instead of LE438.

Model	FG2
pH - range	0,00...+14,00
pH - resolution	0,01
pH - accuracy	±0,01
pH - calibration	Max. 2 points, 4 predefined buffer groups
mV - range	±1999
mV - resolution	1
mV - accuracy	±1
Temperature range (°C)	0,0...+100,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,5
Data logging - capacity	30 measurements
Display	LCD
Connections	BNC/RCA (NTC 30 kOhm)
Power supply	4x AAA batteries 1,5 V
W×D×H (mm)	169×82×36
Weight (kg)	0,18 (without batteries)
Compliance	IP 54

Description	Pk	Cat. No.
Handheld pH/mV/°C meter FiveGo™ pH FG2-Basic	1	**662-2778**
Handheld pH/mV/°C meter FiveGo™ pH FG2-Kit	1	**662-2779**
Handheld pH/mV/°C meter FiveGo™ pH FG2-Field Kit	1	**662-2780**
Handheld pH/mV/°C meter FiveGo™ pH FG2-Food Kit, incl. LE427 pH sensor	1	**662-1223**

Description	Material	Electrolyte	For	Pk	Cat. No.
pH / Redox electrodes					
pH electrode LE438 with integrated temperature probe	POM	Gel	Aqueous media	1	**662-2777**
pH electrode LE427, spear tip, plastic coated	Glass	DPA gel	Solid samples, meat, fruit, cheese, soil	1	**662-1119**
Redox electrode LE510, refillable, nylon frit	POM	9811 paste	Dirty solutions, water treatments	1	**662-2897**

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Description	Pk	Cat. No.
Accessories		
Temperature probe, NTC 30 kOhm, Ø×L 3×120 mm	1	**663-0009**
Hygienic food compact case for meters with 1 - 2 electrodes, reserve batteries, sample bottles, buffer liquid and small accessories	1	**662-1463**
Electrode clip FiveGo™	1	**662-2791**
Operating instructions for pH meters "Five"	1	**662-2898**

pH/mV/°C meter, handheld, SevenGo™ SG2
Mettler-Toledo

SG2

Food kit

Field case

Easy to use, robust pH meter for routine field applications.

- Large, easy to read display showing all data (measured values, settings, etc.) at a glance
- Continuous indication of electrode and battery condition
- Automatic endpoint and buffer recognition as well as temperature compensation
- Data memory for 30 data points
- Three-point calibration with predefined or user-defined buffers

Ordering information: SG2-B includes instrument only without electrode, including pH meter with BNC fitting, complete with batteries, wrist strap, operating instructions, test certificate and declaration of conformity.

SG2-ELK Electrode kit includes pH meter with InLab®413 SG IP 67 rated "3-in-1" electrode (1,8 m fixed cable) complete with batteries, wrist strap, SevenGo clip, buffer sachets (2 each ; 4,01, 7,00 and 9,21), operating instructions, test certificate and declaration of conformity.

SG2-FK Field kit includes the same items as SG2-ELK plus field compact case, rubber holster, field electrode arm and calibration bottles.

SG2 Food kit includes the portable pH meter with InLab® Solids Pro IP 67 puncture electrode and buffer sachets (2 each: 4,01/7,00 and 9,21/10,01), hygienic food compact case and 4 sample bottles.

Model	SG2
pH - range	0,00...+14,00
pH - resolution	0,01
pH - accuracy	±0,01
pH - calibration	3 points with 4 predefined or user-defined buffers
mV - range	±1999
mV - resolution	1
mV - accuracy	±1
Temperature range (°C)	–5,0...+105,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,5
Data logging - capacity	30 measurements
Connections	BNC/RCA (NTC 30 kOhm)
Power supply	4× 1,5 V AA batteries or 1,3 V rechargeable battery with NiMH cells
W×D×H (mm)	220×90×45
Weight (kg)	0,325 (without battery)
Compliance	IP 67, GLP

Description	Pk	Cat. No.
Handheld pH/mV/°C meter SevenGo™ SG2-B	1	**662-0330**
Handheld pH/mV/°C meter SevenGo™ SG2-ELK (Electrode kit)	1	**662-2808**
Handheld pH/mV/°C meter SevenGo™ SG2-FK (Field kit)	1	**662-2812**
Handheld pH/mV/°C meter SevenGo™ SG2-Food kit (incl. InLab® Solids Pro IP67 puncture electrode and compact food case)	1	**662-1243**

Description	Material	Electrolyte	Ø×L (mm)	Connection	Pk	Cat. No.
pH electrodes, InLab®						
InLab® 413 SG	PEEK	XEROLYT® Polymer	12×120	BNC/RCA (Cinch), 1,8 m cable	1	**662-2738**
InLab® 413 SG	PEEK	XEROLYT® Polymer	12×120	BNC/RCA (Cinch), 10 m cable	1	**662-2739**
InLab® Solids Pro IP67	Glass	XEROLYT® EXTRA Polymer	6×25	BNC/RCA (Cinch), 1,8 m cable	1	**662-1245**

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Description	Material	Electrolyte	Ø×L (mm)	Connection	Pk	Cat. No.
Redox electrodes, InLab®						
InLab® Redox	Glass body, platinum ring	3 mol/l KCl	12×120	S7	1	**662-2877**
Accessories						
Hygienic food compact case for meters with 1 - 2 electrodes, reserve batteries, sample bottles, buffer liquid and small accessories					1	**662-1463**
SevenGo™ compact field case (empty)					1	**662-1233**
RS232 cable					1	**661-0119**
S7 screw head						
BNC connector 1,2 m cable					1	**662-0607**

pH/mV/°C meters, handheld, Portavo® 902 and 904

Knick

These portable, intuitive meters with analogue and digital sensor inputs are suitable for daily routine pH/°C and mV measurements. Their versatile functionality, robustness and the large selection of sensors make them the perfect choice for both laboratory and process applications. Waterproof according to IP 66/IP 67.

- Reinforced plastic enclosure for rough industrial applications
- Integrated cover protects the display and serves as lab stand
- With analogue (DIN) sensor input and digital Memosens input, which allow signals to be digitised and transferred inductively i.e. via a non contact connection
- Integrated sensor quiver (protective container for sensor) prevents sensor dry-out and damage
- Clear, scratch resistant glass display is easy to read, even after years of use

Portavo® 902 Set includes the Portavo® 902 pH meter and the digital SE102 NMS glass pH electrode with temperature sensor PT1000 and Memosens cable CA/MS-001XFA (1 m).

Portavo® 904 additionally features a data logger with a capacity of 5000 values, micro USB port for PC connection, power supply, Paraly® 112 PC software and Li-Ion accumulator.

Portavo® 904 ATEX is the only portable analyser with Zone 0/1 ATEX approval. It can be used in harzardous areas. The instrument is supplied with relevant certificates. Additional copies can be found on the Knick website.

Delivery information: Supplied with batteries (4× AA), manual, carrying strap and certificate. Portavo® 904 also includes a USB cable (1,5 m) and software. All devices except for the set are delivered without electrodes, which need to be ordered separately.

Model	Portavo® 902	Portavo® 904	Portavo® 904 ATEX
pH - range	–2...+16		
pH - accuracy	< ±0,01		
mV - range	±1300		
mV - accuracy	< ±0,1 % of value +0,3		
Temperature range (°C)	NTC 30: –20...120 PT1000: –40...+250		
Temperature accuracy (°C)	< 0,5 K		
Data logging - capacity	-	5000 values	
Display	LCD, 3 lines		
Connections	1x analogue sensor input (DIN 19262; 13/4 mm) 1x M8 socket, 4 pins, for Memosens lab cable 2x 4-mm socket for separate temperature detector	1 x analogue sensor input (DIN 19262; 13/4 mm) 1x M8 socket, 4 pins, for Memosens lab cable 2x 4-mm socket for separate temperature detector	1 x analogue sensor input (DIN 19262) 1 x M8 socket, 4 pins, for Memosens lab cable 2 x 4-mm socket for separate temperature detector
Outputs	-	Micro USB port	
Power supply	4× AA batteries (1000 hours operating time)	4× AA batteries (1000 hours operating time); Li-ion accumulator	4× AA batteries (1000 hours operating time); ATEX conform
W×D×H (mm)	127×30×155		
Weight (kg)	0,5		
Compliance	IP 66/IP 67		IP 66/IP 67; ATEX

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Description	Pk	Cat. No.
Handheld pH meter, Portavo® 902, ready-to-use set incl. electrode SE 102 NMS	1	**662-1424**
Handheld pH meter, Portavo® 902, without electrode	1	**665-0288**
Handheld pH meter, Portavo® 904, without electrode	1	**665-0289**
Handheld pH meter, Portavo® 904 ATEX, without electrode, for harzardous areas	1	**665-0290**

Description	Pk	Cat. No.
pH electrodes		
SE 101 N, combination pH/Pt1000 electrode	1	**665-0292**
SE 101 NMS, combination pH/NTC-30k electrode, plug head, without Memosens cable	1	**662-1667**
SE 102 N, combination pH/Pt1000 electrode	1	**662-3534**
SE 102 NMS, combination pH/NTC-30k electrode, plug head, without Memosens cable	1	**662-1668**

Description	Pk	Cat. No.
Accessories		
Memosens cable, M8, for connection of meter with Memosens sensors, 1,5 m	1	**662-1666**
Robust field case (for meter, sensor, various small parts and user manual)	1	**662-1599**
pH buffer set CaliMat, 4,00/7,00/9,00, ready-to-use; 250 ml each	1 SET	**662-1826**

pH/mV/°C meter, handheld, HI 83141
Hanna

Reliable, practical pH/mV/°C meter, ideal for teaching and field measurements.

- Compact and ergonomic
- Manual pH calibration
- Automatic temperature compensation (0 to +70 °C)
- Measurements displayed with the current mode (pH, mV or °C)
- Low battery indicator

Ordering information: Supplied with pH electrode HI 1230B, temperature probe HI 7669AW, calibration and cleaning solutions, calibration screwdriver, 9 V battery and protective housing.

Model	HI 83141
pH - range	0,00...+14,00
pH - resolution	0,01
pH - accuracy	±0,01
pH - calibration	Manual (2 points)
mV - range	±1999
mV - resolution	1
mV - accuracy	±1
Temperature range (°C)	0,0...+100,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,4
Display	LCD
Connections	BNC
W×D×H (mm)	164×76×45
Weight (kg)	0,180

Description	Pk	Cat. No.
pH/mV/°C meter HI 83141	1	**662-4115**

Description	Temp. (°C)	Material	Electrolyte	Diaphr.	Connection	For	Pk	Cat. No.
Redox electrode								
ORP electrode HI 3230B; range ±2000 mV	20...40	Plastic	Gel	Ceramic	BNC, 1 m cable	Municipal water and quality control	1	**662-3022**

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Description	Temp. (°C)	Material	Electrolyte	Diaphr.	Connection	For	Pk	Cat. No.
ATC probes								
ATC probe HI 7669AW	0...+100	Stainless steel	-	-	1 m cable, phono plug	HI 8314, HI 8424, HI 8915	1	**662-4015**
pH electrodes								
Combination pH electrode HI 1230B	0...+80	Plastic	Gel	Ceramic	BNC, 1 m cable	Field applications	1	**662-5140**

pH/mV/°C meters, handheld, HI 9124 / HI 9125

Hanna

HI 9124

Field case

Heavy duty waterproof pH meters designed with the latest microprocessor technology to provide accurate and reliable results under harsh industrial conditions.

- Large multi-level LCD with simultaneous display of pH and temperature (°C or °F)
- Automatic pH calibration with five standard buffer values, buffer recognition to avoid errors, and automatic temperature compensation
- HI 9125 can be used with ORP electrodes (the resolution automatically switches from 0,1 to 1 mV when the reading exceeds 700 mV)
- Battery Error Prevention System technology, which automatically turns the instrument off when the battery level is too low to ensure reliable readings
- 3× 1,5 V AAA batteries for approx. 200 hours of continuous use; auto-off after 20 minutes of non-use (can be disabled)

Ordering information: HI 9124 and HI 9125 supplied with HI 1230B pH electrode, HI 7662 temperature probe, pH 4,01 and pH 7,01 buffer sachets (20 ml), 100 ml plastic beaker, 3× 1,5 V AAA batteries and rugged carrying case.

Model	HI 9124	HI 9125
pH - range	–2,00...+16,00	
pH - resolution	0,01	
pH - accuracy	±0,01	
pH - calibration	Automatic, 1 or 2 point with 5 standard buffer values (pH 4,01, 6,86, 7,01, 9,18, 10,01)	
mV - range	-	±699,9 / ±1999
mV - resolution		0,1 / 1
mV - accuracy		0,2 / 1
Temperature range (°C)	+20,0...+120,0	
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	±0,4	
Temperature compensation	Automatic or manual, –20 to +120 °C	
Data logging - capacity		500 points
Connections	BNC	
W×D×H (mm)	71,6×36×192	
Weight (kg)	0,525	
Compliance	IP 67	

Description	Pk	Cat. No.
Handheld pH/°C meter HI 9124	1	**662-1264**
Handheld pH/mV/°C meter HI 9125	1	**662-1269**

Description	Temp. (°C)	Material	Electrolyte	Diaphr.	Connection	For	Pk	Cat. No.
ATC probes								
ATC probe HI 7662	–20...+120	Stainless steel	-	-	1 m cable	HI 9026, Na and NaCl meters	1	**662-3024**
pH electrodes								
Combination pH electrode HI 1230B	0...+80	Plastic	Gel	Ceramic	BNC, 1 m cable	Field applications	1	**662-5140**

pH/°C meter, handheld, HI 991001
Hanna

HI 991001 meter offers IP 67 waterproof protection in a compact case.

- Stainless steel bodied single probe measures pH and temperature
- Ideal for harsh environments and heavy use
- Large display with graphic symbols, showing simultaneous pH and temperature readings
- Automatic pH calibration at 1 or 2 points using standard or NIST buffers
- Long battery life (over 1500 hours of continuous use), remaining battery level display

Ordering information: Supplied complete with HI 1296D pH electrode with internal temperature sensor, pH 4 and pH 7 buffer sachets, electrode cleaning solution (2× 20 ml), batteries and rugged carrying case.

Model	HI 991001
pH - range	–2,00...+16,00
pH - resolution	0,01
pH - accuracy	±0,02
pH - calibration	Automatic, 1 or 2 points with 2 sets of memorised buffer values (4,01 / 7,01 / 10,01 or 4,01 / 6,86 / 9,18)
Temperature range (°C)	–5,0...+105,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,5 (up to +60 °C) / ±1 (outside)
W×D×H (mm)	150×80×36
Weight (kg)	0,210
Compliance	IP 67

Description	Pk	Cat. No.
pH/°C meter HI 991001	1	**662-4024**

Description	Material	Electrolyte	Diaphr.	Connection	For	Pk	Cat. No.
pH electrodes							
pH electrode HI 1296D	Stainless steel	Gel	Cloth	DIN, 1 m cable	Wastewater	1	**662-4000**

pH/°C meter, handheld, YSI 60
YSI

The YSI 60 measures pH and temperature at depths up to 100 feet. Ideal for aquaculture, drinking water, ground water, coastal/estuaries, surface water and wastewater. Extremely robust weighted probe, ideal for harsh environments and heavy usage.

- Simple push-button calibration
- Automatic temperature compensation
- User-replaceable pH electrode
- pH electrode stored in compartment of the body of meter

Ordering information: Supplied with probe/pH sensor and a non detachable cable (10 feet). Other cable lengths available on request.

pH - range	0,00...+14,00
pH - resolution	0,0 ±0,1 unit within 10 °C of calibration
pH - accuracy	±0,2 unit within 20 °C
Temperature range (°C)	–5...+75
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,1
Temperature compensation	Automatic
Display	Backlit display
Compliance	IP 65

Description	Pk	Cat. No.
Handheld pH/°C meter YSI 60	1	**662-1345**

Description	Pk	Cat. No.
Accessories		
Replacement pH combination electrode, for YSI 60 and 63 meters	1	**662-1832**

pH/°C meter for dairy applications, handheld, HI 99161

Hanna

This waterproof, compact meter is specifically designed for monitoring the pH value in dairy applications and in food. The pH electrode features a rugged, easy to clean PVDF body with a conical tip which is ideal for measurements in semi-solids such as meats and cheeses.

- Multi-level LCD display with on-screen tutorial messages for calibration and set-up
- Automatic temperature compensation, automatic one or two point calibration
- BEPS (Battery Error Prevention System) alerts the user in the event that low battery power could adversely affect readings
- Electrolyte used in the electrode is free from poisonous silver chloride which effectively eliminates food contamination by the electrode

Ordering information: Supplied with FC 202D pH/temperature probe with 1 m cable, pH 4.01 buffer solution sachet (HI 70004), pH 7.01 buffer solution sachet (HI 70007), two electrode cleaning solution sachets (HI 700642), batteries, instructions and hard carrying case.

Model	HI 99161
pH - range	–2,00...+16,00
pH - resolution	0,01
pH - accuracy	±0,02
pH - calibration	Automatic, 1 or 2 points with 2 sets of buffers (Standard 4.01, 7.01, 10.01 or NIST 4.01, 6.86, 9.18)
Temperature range (°C)	–5,0...+105,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,5 (up to +60 °C) / ±1 (outside)
Temperature compensation	Automatic (0...60 °C)
Display	Multi-level LCD
Power supply	3× AAA batteries (1,5 V)
W×D×H (mm)	58×30×152
Weight (kg)	0,205

Description	Pk	Cat. No.
pH/°C meter for food and dairy applications, HI 99161	1	**662-5117**

pH/mV/°C/ion meter, bench, pHenomenal® IS 2100L

This user friendly instrument with articulated electrode stand and IP 43 rated housing provides high resolution and accuracy for precise multi-parameter measurements. With USB output for connection to a computer. GLP compliant.

- Large LCD graphic display with continuous LED backlight shows both pH/mV and temperature value simultaneously
- Data logging function selectable between 1 minute and 1 hour; memory capacity of 5000 data sets
- Automatic power shut-off: Adjustable from 10 min to 24 h
- Automatic buffer recognition of DIN and NIST buffers (1,68 / 4,00 / 6,86 / 9,18 / 12,54)
- Three additional technical buffers at 25 °C (4,00 / 7,00 / 10,00) in memory
- Advanced self-test and diagnostics (electrode efficiency diagnostic, drift control); calibration symbol shows when recalibration is required
- Choice of mains supply or 4× AA batteries for over 1000 operating hours

Ordering information: Ready to use IS 2100L set includes instrument, pH glass electrode with built-in temperature sensor 221, 1 m cable and articulated stand, two buffers, plastic beaker and instruction manual (22 languages) on CD ROM.

Model	IS 2100L
pH - range	–2,000...+20,000
pH - resolution	0,1 / 0,01 / 0,001 (selectable)
pH - accuracy	±0,1 / ±0,01 / ±0,001
pH - calibration	Up to 5 points
Automatic buffer recognition	BDH Prolabo® TITRINORM® buffers at 25 °C: 4,00/6,98/9,94 NIST/DIN 19266 (1,68/4,00/6,86/9,18/12,54) Technical buffers at 25 °C: 4,00/7,00/10,00
mV - range	±1200,0 / ±2500
mV - resolution	0,1 / 1 (selectable)
mV - accuracy	±0,3 / ±1
ISE - range	0,001 - 9999 mg/l; 10^{-9} - 99,999 mol/l; 0,001 - 99999 ppm
ISE - calibration	2 - 7 points
ISE - units	mol/l, mg/l, ppm
Temperature range (°C)	Auto: –5,0...+105,0; manual: –25...+130
Temperature resolution (°C)	0,1 / 1
Temperature accuracy (°C)	±0,2
Temperature compensation	Auto/manual
Data logging - capacity	5000 data sets

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Data logging - log function	Selectable between 1 minute and 1 hour
Display	LCD graphical display with LED backlight
Connections	BNC for pH / banana for temperature
Outputs	USB connection (slave, bidirectional)
Power supply	Mains or 4× AA batteries
Compliance	IP 43 / GLP

Description	Pk	Cat. No.
Bench pH/mV/°C/ion meter pHenomenal® IS 2100L	1 SET	**662-1658**

Description	Material	Electrolyte	Ø×L (mm)	Connection	Pk	Cat. No.
pH electrode, pHenomenal®						
pHenomenal® 221 pH electrode, with temperature sensor	Glass	Refillable	12×120	BNC, 1 m cable	1	**662-1161**

Description	Pk	Cat. No.
Accessories		
pHenomenal® electrode storage tube	1	**662-1167**
pHenomenal® storage/measuring vessel	1	**662-1248**
pHenomenal® storage/measuring vessel	1	**662-1248**
pHenomenal® compact survival kit (incl. electrode storage tube, 4 slots for storage of pH buffer, cleaning solution, etc., and 1 slot for a dropper bottle)	1	**662-1166**
pHenomenal® communication kit (CD-ROM, USB cable, manual)	1	**662-1225**
pHenomenal® electrode stand, holds up to 4 electrodes + 1 temperature sensor	1	**662-1169**
Electrolyte KCl 3 mol/l	100 ml	**83605.180**
Cleaning solution pepsin/hydrochloric acid	100 ml	**83603.180**
Buffer solutions in bottles		
Buffer solution AVS TITRINORM®, ready to use, pH 4	100 ml	**32095.184**
Buffer solution AVS TITRINORM®, ready to use, pH 7	100 ml	**32096.187**

pH/mV/°C/ion meter, handheld, SevenGo pro™ SG8
Mettler-Toledo

Field case

Professional, single-channel instrument for the determination of pH, mV, rel. mV, and ion concentration. Outstanding ease of use paired with IP 67 protection for tough environments.

- Simple ion concentration determination
- Time interval measurement with automatic data logging
- Data memory for 200 GLP data points
- Five-point calibration with choice of six pre-defined and one user-defined buffer set (choice of segmented or linear calibration)
- Infrared interface for data transmission to a printer or PC

Ordering information: SG8-Basic, meter only without electrode, includes pH/ion meter with BNC fitting, complete with batteries, wrist strap, operating instructions, test certificate and declaration of conformity.

SG8-ELK Electrode kit includes pH/ion meter with InLab®413 SG IP 67 rated "3-in-1" electrode (1,8 m fixed cable) complete with batteries, wrist strap, SevenGo clip, buffer sachets (2 each of 4,01, 7,00 and 9,21), operating instructions, test certificate and declaration of conformity.

SG8-FK Field kit includes the same items as SG8-ELK plus field compact case, rubber holster, field electrode arm and calibration bottles.

Model	SG8
pH - range	–2,000...+19,999
pH - resolution	0,001
pH - accuracy	±0,002
pH - calibration	Up to 5 points with 6 pre-defined or user-defined buffers
mV - range	±1999
mV - resolution	0,1
mV - accuracy	±0,1
Temperature range (°C)	–5,0...+130,0 (ATC); –30,0...+130,0 (MTC)
Temperature resolution (°C)	0,1

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Temperature accuracy (°C)	±0,2
Data logging - capacity	200 points
Display	Backlit LCD
Connections	BNC/RCA (NTC 30 kOhm)
Outputs	IR to printer or PC via RS232 or USB adapter
Power supply	4× 1,5 V AA batteries or 1,3 V rechargeable battery with NiMH cells
W×D×H (mm)	220×90×45
Weight (kg)	0,325 (without battery)
Compliance	IP 67, GLP

Description	Pk	Cat. No.
Handheld pH/mV/°C/Ion meter SevenGo pro™ SG8-Basic	1	**662-0328**
Handheld pH/mV/°C/Ion meter SevenGo pro™ SG8-ELK, instrument with Electrode kit	1	**665-0514**
Handheld pH/mV/°C/Ion meter SevenGo pro™ SG8-FK, instrument with Field kit	1	**665-0515**

Description	Temp. (°C)	Material	Electrolyte	Diaphr.	Connection	Pk	Cat. No.
pH electrodes, InLab®							
InLab® 413 SG	0...+100	PEEK	XEROLYT® Polymer	3 mol/l KCl	BNC/RCA (Cinch), 1,8 m cable	1	**662-2738**
Accessories							
Printer RS-P25 (with RS232-cable)						1	**662-1827**
Hygienic food compact case for meters with 1 - 2 electrodes, reserve batteries, sample bottles, buffer liquid and small accessories						1	**662-1463**
SevenGo™ compact field case (empty)						1	**662-1233**
Infrared USB adapter						1	**662-2750**
Infrared RS232 adapter						1	**662-2751**

pH/mV/°C/ion meters, handheld, HI 98183 / HI 98184 / HI 98185

Hanna

Three models are available to cover all applications. All meters feature pH calibration check. The electrode condition is always displayed on the graphic LCD and the out of calibration range warning alerts the user if the measurement is taken too far from the calibration points. These instruments offer up to 5 pH calibration points using either Hanna's standard or user selectable buffer values for added versatility, with comprehensive GLP data stored. A relative mV scale is also available for ORP measurements. Models HI 98184 and HI 98185 add an ISE range, with HI 98185 allowing a choice of measurement values.

- Calibration check: pH electrode condition, clean electrode/contaminated buffer warning, outside calibration range warning
- Up to 5 calibration points with standard or custom buffers
- Screen displays electrode condition and calibration points
- Direct ion concentration determination (with HI 98184 and HI 98185)
- ISE Readings in ppm (HI 98184), or choice of 12 measurement units (HI 98185)

Ordering information: Supplied with pH electrode and temperature probe, pH 4,01 and pH 7,01 buffer solutions, 4× 1,5 V AA, 1300 mAh rechargeable batteries, battery charger with power adapter and carrying case.

Model	HI 98183	HI 98184	HI 98185
pH - range	–2,0...+20,0 / –2,00...+20,00 / –2,000...+20,000		
pH - resolution	0,1 / 0,01 / 0,001		
pH - accuracy	±0,01 / ±0,002		
pH - calibration	Up to 5 points, 7 standard buffers available plus 5 custom buffers		
mV - range	±2000		
ISE - range	-	$1{,}00\times10^{-3}$ - $1{,}00\times10^{5}$ ppm	$1{,}00\times10^{-7}$ - $99{,}9\times10^{9}$ ppm
ISE - resolution		3 digits 0,01 / 0,1 / 1 / 10 concentration	
Temperature range (°C)	–20,0...+120,0		
Temperature resolution (°C)	0,1		
Data logging - capacity	200 points	300 points	
Data logging - log function	On demand		
Display	Graphic LCD		
Connections	DIN		
Outputs	Opto-Isolated USB		

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W×D×H (mm)	95×227×52
Weight (kg)	0,525
Compliance	IP 67 according to DIN EN 60529

Description	Pk	Cat. No.
Handheld pH/mV/°C meter HI 98183	1	**662-3021**
Handheld pH/mV/°C/ion meter HI 98184 (2-point ISE calibration)	1	**665-0182**
Handheld pH/mV/°C/ion meter HI 98185 (5-point ISE calibration)	1	**665-0183**

Description	Material	Electrolyte	Diaphr.	Connection	For	Pk	Cat. No.
pH electrodes							
pH electrode HI 72911B, with integrated temperature sensor	Titanium	Polymer	PTFE	BNC + phono, 1 m cable	Cooling towers and boilers	1	**620-1609**

pH/mV/°C meter, bench, pHenomenal® pH 1100L

This user friendly instrument with articulated electrode stand and IP 43 rated housing provides high resolution and accuracy for precise measurements. With USB output for connection to a computer. GLP compliant.

- Large LCD graphic display with continuous LED backlight showing both pH/mV and temperature value simultaneously
- Data logging function selectable between 1 minute and 1 hour; memory capacity of 5000 data sets
- Automatic power shut-off: Adjustable from 10 min to 24 h
- Automatic buffer recognition of DIN and NIST buffers (1,68 / 4,00 / 6,86 / 9,18 / 12,54)
- Three additional technical buffers at 25 °C (4,00 / 7,00 / 10,00) in memory
- Advanced self-test and diagnostics (electrode efficiency diagnostic, drift control); calibration symbol shows when recalibration is required
- Choice of mains supply or 4× AA batteries for over 1000 operating hours

Ordering information: Ready to use pH 1100L set includes instrument, pH glass electrode with built-in temperature sensor 221, 1 m cable and articulated stand, two buffers, plastic beaker and instruction manual (22 languages) on CD ROM.

Model	pH 1100L
pH - range	–2,000...+20,000
pH - resolution	0,1 / 0,01 / 0,001 (selectable)
pH - accuracy	±0,1 / ±0,01 / ±0,001
pH - calibration	Up to 5 points
Automatic buffer recognition	BDH Prolabo® TITRINORM® buffers at 25 °C: 4,00/6,98/9,94 NIST/DIN 19266 (1,68/4,00/6,86/9,18/12,54) Technical buffers at 25 °C: 4,00/7,00/10,00
mV - range	±1200,0 / ±2500
mV - resolution	0,1 / 1 (selectable)
mV - accuracy	±0,3 / ±1
Temperature range (°C)	Auto: –5,0...+105,0; manual: –25...+130
Temperature resolution (°C)	0,1 / 1
Temperature accuracy (°C)	±0,2
Temperature compensation	Auto/manual
Data logging - capacity	5000 data sets
Data logging - log function	Selectable between 1 minute and 1 hour
Display	LCD graphical display with LED backlight
Connections	BNC for pH / banana for temperature
Outputs	USB connection (slave, bidirectional)
Power supply	Mains or 4× AA batteries
Compliance	IP 43 / GLP

Description	Pk	Cat. No.
Bench pH/mV/°C meter pH 1100L, pHenomenal®	1 SET	**662-1657**

Description	Material	Electrolyte	Ø×L (mm)	Diaphr.	Connection	Pk	Cat. No.
pH electrode, pHenomenal®							
pHenomenal® 221 pH electrode, with temperature sensor	Glass	Refillable	12×120	Ceramic	BNC, 1 m cable	1	**662-1161**
pHenomenal® LS 221 (Tris) pH electrode, with temperature sensor	Glass	KCl 3 mol/l, refillable	12×120	Platinum	BNC, 1 m cable	1	**662-1247**
Accessories							
pHenomenal® electrode storage tube						1	**662-1167**
pHenomenal® storage/measuring vessel						1	**662-1248**
pHenomenal® compact survival kit (incl. electrode storage tube, 4 slots for storage of pH buffer, cleaning solution, etc., and 1 slot for a dropper bottle)						1	**662-1166**
pHenomenal® communication kit (CD-ROM, USB cable, manual)						1	**662-1225**
pHenomenal® electrode stand, holds up to 4 electrodes + 1 temperature sensor						1	**662-1169**
Electrolyte KCl 3 mol/l						100 ml	**83605.180**
Cleaning solution pepsin/hydrochloric acid						100 ml	**83603.180**

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Description	Material	Electrolyte	Ø×L (mm)	Diaphr.	Connection	Pk	Cat. No.
Buffer solutions in bottles							
Buffer solution AVS TITRINORM®, ready to use, pH 4						100 ml	**32095.184**
Buffer solution pH 10 (boric acid/sodium hydroxide/potassium chloride) AVS TITRINORM®						100 ml	**32040.185**
Buffer solution AVS TITRINORM®, ready to use, pH 7						100 ml	**32096.187**

pH/mV/°C Meter, Bench, Lab 850
SI Analytics

High precision instrument for fast, reliable and accurate results.

- Plastic foil keypad, polyester, tactile response, and acoustic/optical alarm
- Precise calibration and measurement in shorter time
- Current calibration data can be recalculated
- Automatic calibration with up to 3 points and automatic buffer recognition among 16 selectable buffer sets for reliable measuring values at high level
- CalClock pH calibration system with monitoring and display of the probe condition and the calibration time switch

Ordering information: Supplied with cover, stand and universal power supply.

Model	Lab 850
pH - range	–2...+19,999
pH - accuracy	±0,005 ±1 digit
pH - calibration	1, 2 or 3 point (16 buffer sets pre-programmed)
mV - range	±999,9
mV - accuracy	±0,3 ±1 digit
Temperature range (°C)	–5...+120
Temperature accuracy (°C)	±1
Data logging - capacity	800 points
Display	LCD
Connections	DIN
Outputs	RS232
Power supply	Batteries or universal power supply
W×D×H (mm)	190×240×80
Weight (kg)	1

Description	Pk	Cat. No.
Lab 850	1	**663-0083**

Description	Temp. (°C)	Diaphr.	Connection	For	Pk	Cat. No.
Electrodes with temperature sensor						
IoLine pH electrode IL-pHT-A120MF-DIN-N, sphere membrane shape, PT1000	–5...+100	Platinum	DIN + banana plug	General applications, low ion media	1	**662-6067**
Accessories						
Buffer set L4893 incl. 2× 9 amp. pH 4,01/6,87 (20 ml), manufacturer's certificate and electrolyte solution L3008					1 SET	**662-0904**

pH/mV/°C meters, bench, Lab 850 / 860 / 870

SI Analytics

Lab 860

Wireless transmission of electrode identification data

High precision instruments for fast, reliable and accurate results

pH meter Lab 850, starter model

- Plastic foil keypad, polyester, tactile response, and acoustic/optical alarm
- Precise calibration and measurement in shorter time
- Current calibration data can be recalculated
- Automatic calibration with up to 3 points and automatic buffer recognition among 16 selectable buffer sets for enhanced reliability
- CalClock pH calibration system with monitoring and display of the probe condition and the calibration time switch
- Data transmission via RS232

pH meter Lab 860, for demanding routine measurements

Same features as Lab 850, in addition:

- Data transmission via USB slave
- Automatic calibration with up to 5 points

pH meter Lab 870, for chemical and pharmaceutical applications

Same features as Lab 850, in addition:

- No data storage
- Data transmission via USB slave
- Automatic calibration with up to 5 points
- Automatic recognition of the new sensors with unique identification (e.g. BlueLine 14 pH ID - included in set) in order to use the correct calibration for the identified sensor and avoid errors in measurement

Ordering information: Sets include the meter, power supply, electrode stand, dust cover and BlueLine 14 pH electrode with integrated sensor (Blueline 14 pH ID for Lab 870 Set), and calibrations solutions (NIST).

For qualification, detailed documents and certificates are available for all instruments. Please ask for details.

Model	Lab 850	Lab 860	Lab 870
pH - range	–2...+19,999		
pH - accuracy	±0,005 ±1 digit		
pH - calibration	1, 2 or 3 point	1 - 5 points	
mV - range	±999,9		
mV - accuracy	±0,3 ±1 digit		
Temperature range (°C)	–5...+120		
Temperature accuracy (°C)	±1		
Data logging - capacity	800 points (time controlled: 5 s - 60 min)	800 points (manual)	-
Display	LCD		
Connections	DIN / BNC		
Outputs	RS232	RS232 / USB	
W×D×H (mm)	190×240×80		
Weight (kg)	1		

Description	Pk	Cat. No.
Lab 850 DIN Set	1	**663-0086**
Lab 850 BNC Set	1	**663-0085**
Lab 860 DIN Set	1	**663-0089**
Lab 860 BNC Set	1	**663-0090**
Lab 870 DIN Set	1	**663-0094**
Lab 870 BNC Set	1	**663-0093**

Description	Temp. (°C)	Material	Electrolyte	Diaphr.	Connection	For	Pk	Cat. No.
Accessories								
Universal electrode 14 pH, NTC30 sensor	–5...+100	Glass	KCl 3 mol/l	Platinum	DIN + banana plug	General applications	1	**662-6133**
Universal electrode 14 pH, NTC30 sensor, ID function (automatic electrode recognition)	–5...+100	Glass	KCl 3 mol/l	Platinum	DIN + banana plug	General applications	1	**662-1953**

pH/mV/°C/ion meters, bench, digital, ProLab 1000 / 3000

SI Analytics

ProLab 1000

ProLab 3000

Wireless transmission of electrode identification data

Measurement instruments with advanced technology for precise specification applications in research and process control.

- Graphic display provides crystal clear readability and simultaneous display of measurements and parameters
- Automatic electrode identification and wireless transmission of identification data to the instrument
- Automatic electronic user identification by means of an electronic badge
- 2 distinct pH inputs with galvanic separation enable measurements to be taken with 2 electrodes at the same time in the same container with no interference
- CalClock pH calibration display system with monitoring and display of the probe condition

Compliant with EU 73/23, EN 61010-1: 2001

Ordering information: Meter only is supplied with cover, S4D straight support stand and power supply.
The ProLab 1000 sets are supplied with A 161 1M-ID pH/temperature electrode and calibration solutions, cover, universal power supply unit and S4D straight support.
The ProLab 3000 set is supplied with IL-pHT-A170MF-DIN-N pH/temperature electrode and DIN buffers, cover, universal power supply unit and S4D straight support stand.

Model	ProLab 1000		ProLab 3000
pH - range	–2,000...+20,000 / –2,00...+20,00 / –2,0...+20,0		
pH - accuracy	±0,003 / ±0,01		±0,002 / ±0,01
pH - calibration	Automatic from 1 to 5 points with NIST/DIN buffer sets and techniques		Automatic or manual, from 1 to 5 points with NIST/DIN buffer sets and techniques
mV - range	±1999,9 / ±1999		±2200,0 / ±2200
mV - accuracy	±0,2 / ±1		±0,1 / ±1
ISE - range	0,000 - 999,99 mg/l		10×10^{-39} - $9{,}9\times10^{39}$ mg/l
ISE - calibration	2 - 5 points		2 - 9 points
ISE - units	mg/l		mg/l, %, ppm, mg/kg, mol/l
Temperature range (°C)	–10,0...+120,0		–35,0...+150,0
Temperature accuracy (°C)	±0,1		
Data logging - capacity	Manual or automatic (1500 data points, storage intervals adjustable from 5 s to 60 min)		Manual or automatic (10 000 data points, storage intervals adjustable from 1 s to 60 min)
Display	Backlit, graphic (black/white)		Backlit colour graphic (QVGA)
Connections	BNC	DIN	
Outputs	Bi-directional RS232 interface, USB		
W×D×H (mm)	240×280×80		
Weight (kg)	2,5		
Compliance	EU 73/23, EN 61010-1: 2001		

Description	Pk	Cat. No.
ProLab 1000 Set (BNC connection)	1	**663-4017**
ProLab 1000 Set (DIN connection)	1	**663-4011**
ProLab 3000 (DIN connection), meter only	1	**662-0365**
ProLab 3000 Set (DIN connection)	1	**662-1957**

Description	Temp.	Material	Electrolyte	Ø×L (mm)	Diaphr.	Connection	Pk	Cat. No.
pH combination electrodes with temperature sensor, ScienceLine								
Combination electrode, A 161 1M-DIN-ID, with PT 1000 temperature sensor, Silamid®-reference system, with sensor recognition (ID function)	–5...+100	Glass	KCl 3 mol/l	12×170	Platinum	DIN + 4 mm banana plug, 1 m fixed cable	1	**662-1955**

pH/mV/°C Meter, Bench, FiveEasy™ FE20 / FiveEasy™ FEP20

Mettler-Toledo

FiveEasy™

Accessories

Economic, easy to use instrument for rapid and reliable results. Suitable for a wide range of applications in various markets, such as food & beverage, agriculture, industry and water/environmental. Power supply: 100 - 240 V / 50 - 60 Hz / 9 V DC.

- Ergonomic and compact design
- Five self-explanatory buttons for the simplest, intuitive operation
- Large, well organised LCD display that simultaneously shows measurement readings, temperature, endpoint criteria and other helpful icons
- Separate reference electrode input, mV/ORP measuring mode and a diagnostic self-test
- Automatic endpoint and buffer recognition as well as temperature compensation
- FEP20: Storage capacity for 99 measurements, RS232 output and 3-point calibration

Ordering information: FE20/FEP20-Basic FiveEasy™ supplied without electrode but with operating manual, "Quick guide", power adapter, declaration of conformity and test certificate.

FE20-Kit FiveEasy™ supplied as FE20-Basic plus power adapter, glass pH electrode LE409, electrode arm and 4× buffer sachets (2× pH 4,01 and 2× pH 7,00).

FE20/FEP20-ATC Kit FiveEasy™ supplied as FE20/FEP20-Basic plus plastic pH electrode LE438 with built-in temperature sensor, electrode arm and 4× buffer sachets (2× pH 4,01 and 2× pH 7,00).

Model	FE20	FEP20
pH - range	0,00...+14,00	
pH - resolution	0,01	
pH - accuracy	±0,01	
pH - calibration	Max. 2 points, 3 predefined buffer groups	Max. 3 points, 3 predefined buffer groups
mV - range	±1999	
mV - resolution	1	
mV - accuracy	±1	
Temperature range (°C)	0,0...+100,0	
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	±0,5	
Data logging - capacity	-	99 measurements
Display	LCD	
Connections	BNC/RCA (NTC 30 kOhm)	
Outputs	-	RS232
W×D×H (mm)	200×175×52	
Weight (kg)	0,6	

Description	Pk	Cat. No.
FiveEasy™		
Bench pH/mV/°C meter FiveEasy™ pH FE20-Basic	1	**662-2781**
Bench pH/mV/°C meter FiveEasy™ pH FE20-Kit	1	**662-2782**
Bench pH/mV/°C meter FiveEasy™ pH FE20-ATC Kit	1	**662-1118**
FiveEasy™ Plus		
Bench pH/mV/°C meter FiveEasy™ Plus FEP20-Basic	1	**662-1414**
Bench pH/mV/°C meter FiveEasy™ Plus FEP20-ATC Kit	1	**662-1415**

Description	Material	Electrolyte	Connection	For	Pk	Cat. No.
pH / Redox electrodes						
pH electrode LE438 with integrated temperature probe	POM	Gel	BNC, 1,2 m cable	Aqueous media	1	**662-2777**

Description	Pk	Cat. No.
Accessories		
Electrode arm FiveEasy™	1	**662-2789**
Power adapter FiveEasy™	1	**662-2788**
Rubber socket cap FiveEasy™, for covering electrode arm hole	2	**662-2790**
Operating instructions for pH meters "Five"	1	**662-2898**

pH/mV/°C meters, bench, SevenExcellence™ S400

Mettler-Toledo

Not only do these meters measure pH and ORP with classical sensors, but they also support pH measurement with ISFET technology. The instruments can effectively cope with complex applications and stringent requirements in regulated markets as well as with routine measurement tasks in laboratories.

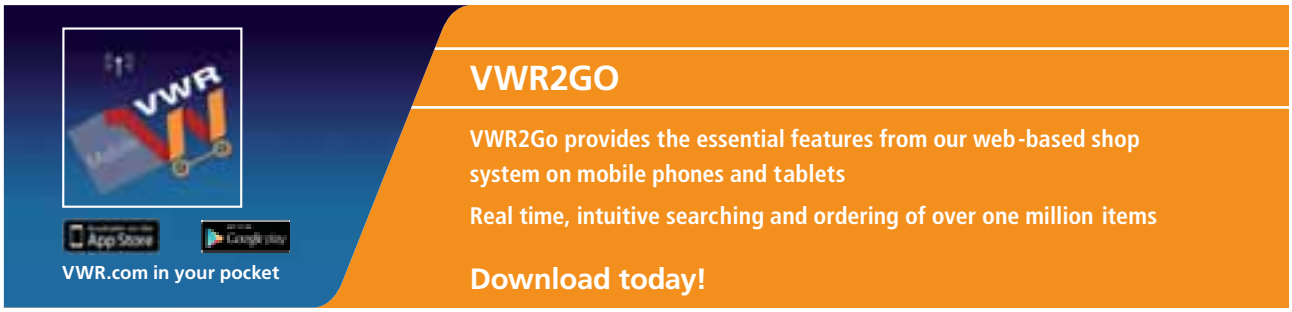
- Large colour display, user friendly touch screen and menu guidance in 10 languages
- Flexible method concept (17 predefined and 50 user-defined methods) for high reproducibility and security
- Fits three modules in any composition and order, can be expanded with additional measurement parameters at any time
- Extra security thanks to sophisticated user management and Intelligent Sensor Management (ISM®)
- USB, Ethernet and RS232 interfaces allow connection of a barcode scanner, fingerprint reader, Rondolino sample changer, USB stick or network printer
- Electrode arm can be operated with one hand, moving straight up and down to bring the electrode to the perfect position (uPlace™)

Ordering information: Supplied with modules (pH/mV expansion unit, two blank expansion units), uPlace™ electrode holder, semi-transparent cover, operating instructions, installation and quick guide, LabX® direct pH PC software, declaration of conformity and test certificate.

Model	S400
pH - range	–2...+20 ISFET pH: 0...14
pH - resolution	0,001/0,01/0,1
pH - accuracy	±0,002 ISFET pH: ± 0,05
pH - calibration	max. 5 points
Automatic buffer recognition	Automatic or manual, 8 predefined and 20 user-defined buffer groups
mV - range	±2000
mV - resolution	0,1/1
mV - accuracy	±0,1
Temperature range (°C)	–30...+130
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,1
Data logging - capacity	20000 data points, 250 analyses
Display	TFT colour display
Connections	BNC, NTC30 kΩ temperature sensor input, Mini-DIN ISFET sensor input, Mini-LTW digital sensor input, Mini-DIN stirrer connection
Outputs	USB, RS232, LAN
W×D×H (mm)	235×188×75
Weight (kg)	1,12
Compliance	GLP

Description	Pk	Cat. No.
pH/mV/°C meter S400 Basic	1	**662-1464**
pH/mV/°C meter S400 Kit, with InLab® Expert Pro-ISM, guide to pH measurements and two buffer sachets for pH 4,01/7,00/9,21/10,00	1	**662-1466**
pH/mV/°C meter S400 Bio-Kit, with InLab® Routine Pro-ISM cable kit instead of InLab® Expert Pro-ISM	1	**662-1467**
pH/mV/°C meter S400 ISFET-Kit, with InLab® 490 instead of InLab® Expert Pro-ISM	1	**662-1465**

Description	Pk	Cat. No.
Accessories		
Module, pH/Ion expansion unit	1	**662-1468**
Module, pH/mV expansion unit	1	**662-1474**
Module, conductivity expansion unit	1	**662-1469**
Module, blank expansion unit	1	**662-1470**
uMix™ magnetic stirrer, adjustable stir speed	1	**662-1471**
Semi-transparent cover	1	**662-1472**
Protective film for display	2	**662-1473**
Storage vial for pH electrodes (Ø 12 mm)	1	**662-2889**



pH/°C meters, compact, educational, HI 207 / HI 208
Hanna

Compact, easy to use all-in-one pH meters, ideal for teaching.

- Wide pH range
- Temperature and pH probe, beaker holder and beaker with beaker-top electrode holder
- Automatic temperature compensation from –5 to +105 °C
- Battery operation for taking measurements in the field
- Integral magnetic stirrer on the HI 208 only

Ordering information: Supplied with HI 1291D pH/temperature probe with 0,5 m cable, plastic beaker, electrode holder, rubber o-ring, pH 4.01 & 7.01 buffer solutions (20 ml each), one 12 V DC mains adapter and instruction manual.

Model	HI 207	HI 208
pH - range	–2,00...+16,00	
pH - resolution	0,01	
pH - accuracy	±0,02	
pH - calibration	Automatic, 1 or 2 points with 2 stored sets of buffers (pH 4,01, 7,01, 10,01 or 4,01, 6,86, 9,18)	
Temperature range (°C)	–5,0...+105,0	
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	±0,5% up to +60 °C; ±1 °C above	
Display	LCD	
W×D×H (mm)	190×105×50	

Description	Pk	Cat. No.
pH/°C meter HI 207	1	**662-2914**
pH/°C meter HI 208 with integrated magnetic stirrer	1	**662-2915**

pH/mV/ORP/°C meter, bench, HI 2215
Hanna

Precise, user-friendly pH/mV/ORP/°C meter for laboratory and industrial analysis in difficult conditions.

- Ergonomic design, extra large LCD display
- Simultaneous display of pH, mV and temperature
- Automatic pH calibration in 1, 2, 3, 4 or 5 points with 7 predefined and 2 user-selectable buffers
- Manual or automatic temperature compensation
- Data logger for up to 100 measurements (manual) or up to 500 measurements (automatic) with GLP calibration protocol

Ordering information: Supplied with HI 1131B pH electrode, HI 7662 temperature probe, pH 4,01 and pH 7,01 buffer sachets (20 ml each), 220/12 V adapter and electrolyte solution.

Model	HI 2215
pH - range	–2,0...+16,0 / –2,00...+16,00 / –2,000...+16,000
pH - resolution	0,1 / 0,01 / 0,001
pH - accuracy	±0,01
pH - calibration	Automatic in 1, 2, 3, 4 or 5 points with 7 predefined buffers (1,68, 4,01, 6,86, 7,01, 9,18, 10,01, 12,45) and 2 user-selectable buffers
pH/mV - range	±999,9
pH/mV - resolution	0,1
pH/mV - accuracy	±0,2
mV - range	±2000
mV - resolution	1
mV - accuracy	±1
Temperature range (°C)	–20,0...+120,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,5 (between 0 and +100 °C) / ±1 (outside)
Temperature compensation	Manual or automatic from –20 to +120 °C
Data logging - capacity	100 measurements (manual) / 500 measurements (automatic)
Connections	PC via USB port
W×D×H (mm)	235×218×108
Weight (kg)	1,3
Compliance	GLP

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Description	Pk	Cat. No.
Bench pH/mV/ORP/°C meter HI 2215	1	**662-1261**

Description	Temp. (°C)	Material	Electrolyte	Diaphr.	Connection	For	Pk	Cat. No.
ATC probes								
ATC probe HI 7662	–20...+120	Stainless steel	-	-	1 m cable	HI 9026, Na and NaCl meters	1	**662-3024**
pH electrodes								
pH electrode HI 1131B, refillable	-	Glass	KCl 3,5M + AgCl	Ceramic	BNC, 1 m cable	General laboratory purposes, beer testing	1	**662-4102**

pH/mV/°C meters, bench, 3505 / 3510 / 3520

Jenway

3505

3510

3505: Educational applications

Simple to use laboratory pH/mV/°C meter for use in general purpose and educational applications. It utilises rotary controls for mode selection and pH calibration. A novel design feature ensures that inadvertent movement of the calibration controls has no effect during sample measurement.

- Large display, clear LCD readout
- Manual 2-point pH calibration
- Manual or automatic temperature compensation
- Calibration controls locked during measurement
- Battery or mains operated

3510: Routine laboratory applications

Versatile unit, which utilises the best of modern technology to simplify operation without sacrificing accuracy or reliability. Ideal for routine laboratory applications.

- Simultaneous readout of pH and temperature (pH resolution to 3 decimal places)
- User-selectable 1, 2 or 3-point pH calibration
- Automatic or manual buffer selection
- Storage of up to 32 results
- RS232 connection to printer or PC via DataWay software

3520: Research grade

Dynamic pH/mV meter offering research grade specifications with a comprehensive range of features and functions, making it suitable for the broadest range of research, general laboratory, QC and GLP based applications.

- Up to 3 decimal place resolution
- User-selectable 1, 2 or 3-point pH calibration
- Automatic or manual buffer selection
- Storage of up to 500 results
- RS232 connection to printer or PC or infrared (IrDA) communication

Ordering information: 3505 supplied with epoxy combination pH electrode, electrode stand and holder, ATC probe 662-0338, BNC shorting plug, buffer sachets and battery.

3510 and 3520 supplied with glass combination pH electrode 662-0343, electrode stand and holder, ATC probe 662-0338, BNC shorting plug, pH 4, 7 and 10 buffer sachets and UK power supply.

Model	3505	3510	3520
pH - range	–2,00...+16,00	–2,000...+19,999	–2,000...+20,000
pH - resolution	0,01	0,001 / 0,01 / 0,1	
pH - accuracy	±0,02	±0,003	
pH - calibration	Manual 2-point	User-selectable 1, 2 or 3-point	
mV - range	±1999	±1999,9	
mV - resolution	1	0,1 / 1	
mV - accuracy	±1	±0,2	
Temperature range (°C)	–10...+105		
Temperature resolution (°C)	0,1		
Temperature accuracy (°C)	±0,5		
Data logging - capacity	-	Up to 32 results	Up to 500 results
Display	LCD	Backlit LCD	Backlit 1/8 VGA monochrome LCD
Connections	BNC		
Outputs	-	Analogue, RS232	Analogue, RS232 and IrDA
W×D×H (mm)	250×55×210		
Weight (kg)	0,850		
Compliance	-		GLP

Description	Pk	Cat. No.
Bench pH/mV/°C meter 3505, without mains supply	1	**662-0049**
Bench pH/mV/°C meter 3510, with UK power supply	1	**662-0050**
Bench pH/mV/°C meter 3520, with UK power supply	1	**662-0051**

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Description	Material	Pk	Cat. No.
ATC electrode			
ATC/temperature probe		1	**662-0338**
pH electrodes			
Combination pH electrode, general purpose	Epoxy	1	**662-1355**
Combination pH electrode, general purpose	Glass	1	**662-0343**

pH/mV/°C meters, bench, inoLab® pH 7110 / 7310

WTW

High quality instruments with advanced measuring technology, offering functions including automatic AutoRead, CMC (Continuous Measurement Control) and QSC (Quality Sensor Control) making measurements more convenient and reliable.

inoLab® 7110: Accurate measurements

The inoLab® 7110 series is perfectly suited for routine measurements in general laboratory applications. Whether measuring pH or conductivity in environmental, chemical, pharmaceutical, medical or food and beverage industries, this series offers advanced features in a simple to use package.

- AutoRead function ensures repeatable results
- Easy calibration including calibration timer
- Intuitive user-interface, large display and keypad with tactile feedback

inoLab® 7310: Compliant documentation

The 7310 series is designed for all applications in laboratories where documentation supporting AQA (Analytical Quality Assurance) and GLP (Good Laboratory Practice) is required. These meters offer all the features of the 7110 series plus additional documentation functions.

- USB interface for fast data transfer
- Complete data transfer in .csv format
- Data output via optional integrated printer
- Easy to read, graphic display
- Data optimisation with the CMC (Continuous Measurement Control) function

Ordering information: Supplied with universal power supply, stand, CD-ROM including software and USB cable. The application sets also include sensors.

Model	pH 7110	pH 7310
pH - range	–2,0...+20,0 / –2,00...+20,00 / –2,000...+19,999	
pH - accuracy	±0,1 / ±0,01 / ±0,005	
pH - calibration	1-, 2-, 3-point WTW technical buffer, DIN/NIST buffer	1-, 2-, 3-, 4-, 5-point, WTW technical buffer, DIN/NIST 20 additional buffer sets
mV - range	±1200,0 / ±2000	±1200,0 / ±2500
mV - accuracy	±0,3 / ±1	
Temperature range (°C)	–5,0...+105,0	
Temperature accuracy (°C)	±0,1	
Data logging - capacity	-	500 manually / 5000 automatic
Display	7-segment LCD	Graphic display
Connections	-	Mini USB
Outputs	DIN or BNC / 4 mm banana	
Power supply	Universal power supply, 4× 1,5 V AA or 4× 1,2 V NiMH-rechargeable battery	

Description	Pk	Cat. No.
inoLab® pH 7110		
inoLab® pH 7110 (DIN), instrument only	1	**662-1357**
inoLab® pH 7110 (BNC), instrument only	1	**662-1359**
inoLab® pH 7110 set 2 (DIN), instrument with combined pH electrode SenTix® 41, buffer 4, 7 and 10,01, storage solution	1	**662-1349**
inoLab® pH 7110 set 4 (DIN), instrument with combined pH electrode SenTix® 81, buffer 4, 7 and 10,01, storage solution	1	**662-1358**
inoLab® pH 7110 set 7 (BNC), instrument with combined pH electrode SenTix® 42, buffer 4, 7 and 10,01, storage solution	1	**662-1360**
inoLab® pH 7110 set 9 (BNC), instrument with combined pH electrode SenTix® 82, buffer 4, 7 and 10,01, storage solution	1	**662-1361**
inoLab® pH 7310		
inoLab® pH 7310 (DIN), instrument only	1	**662-1362**
inoLab® pH 7310 P (DIN), instrument with integrated printer	1	**662-1363**
inoLab® pH 7310 (BNC), instrument only	1	**662-1368**
inoLab® pH 7310 P (BNC), instrument with integrated printer	1	**662-1369**
inoLab® pH 7310 set 2 (DIN), instrument with combined pH electrode SenTix® 41, buffer 4, 7 and 10,01, storage solution	1	**662-1364**
inoLab® pH 7310 P set 2 (DIN), instrument with combined pH electrode SenTix® 41, buffer 4, 7 and 10,01, storage solution and integrated printer	1	**662-1365**
inoLab® pH 7310 set 4 (DIN), instrument with combined pH electrode SenTix® 81, buffer 4, 7 and 10,01, storage solution	1	**662-1366**
inoLab® pH 7310 P set 4 (DIN), instrument with combined pH electrode SenTix® 81, buffer 4, 7 and 10,01, storage solution and integrated printer	1	**662-1367**

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Description	Temp. (°C)	Material	Electrolyte	ØxL (mm)	Connection	For	Pk	Cat. No.
SenTix® PLUS electrodes (general applications: For use in the laboratory or for field work)								
pH electrode SenTix® 41, with temperature sensor	0...+80	Plastic	Gel	12×120	DIN + banana plug (1×4 mm), fixed 1 m cable	General applications	1	**662-1305**
pH electrode SenTix® 81, with temperature sensor	0...+100	Glass	KCl 3 mol/l, without Ag+	12×120	DIN + banana plug (1×4 mm), fixed 1 m cable	Wastewater/pure water/ foods/beverages/acids/ alkali/TRIS	1	**662-1315**
pH electrode SenTix® 82, with temperature sensor	0...+100	Glass	KCl 3 mol/l, without Ag+	12×120	BNC + banana plug (1×4 mm), fixed 1 m cable	Wastewater/pure water/ foods/beverages/acids/ alkali/TRIS	1	**662-1316**

pH/mV/°C/ion meter, bench, inoLab® pH/ION 7320

WTW

This two-channel instrument is ideal for precision measurements of pH, ISE or Redox and automatic documentation acc. to GLP/ AQA as required by accredited laboratories.. The high resolution measurements can be controlled conveniently and easily via a graphical user interface.

- Five-point calibration for measuring pH, and up to seven-point for measuring ions
- USB interface for fast data transfer in .csv format or via the optional integrated printer
- CMC function for pH and ISE visualises the ideal measuring range and supports correct measuring
- Graphic display with text menu for convenient handling
- Blank value correction, increment methods: known addition, known subtraction, sample addition, sample subtraction

Ordering information: Available as DIN or BNC models and with or without integral printer.

Model	pH/ION 7320
pH - range	–2,000...+20,000
pH - resolution	0,01 / 0,001
pH - accuracy	±0,005 / ±0,01
pH - calibration	MultiCal® automatic calibration (1 - 5 points)
mV - range	±1200,0 / ±2500
mV - accuracy	±0,3 / ±1
ISE - range	0 - 999999
ISE - resolution	1, 2 or 3 significant digits
ISE - calibration	Automatic calibration (1 - 7 points)
ISE - units	mg/l, mg/kg, mmol/l, ppm, %
Temperature range (°C)	–5...+105
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,1
Data logging - capacity	Manual (500), automatic (5000), programmable
Display	Backlit graphic display with CMC
Connections	DIN or BNC
Outputs	USB
Compliance	IP 43, GLP

Description	Pk	Cat. No.
inolab pH/ION 7320 meter only (DIN connection) without integral printer or electrode	1	**662-1683**
inolab pH/ION 7320 meter only (DIN connection) with integral printer but without electrode	1	**662-1684**

Description	Temp. (°C)	Material	Electrolyte	Connection	For	Pk	Cat. No.
SenTix® PLUS electrodes (general applications: For use in the laboratory or for field work)							
pH electrode SenTix® 81, with temperature sensor	0...+100	Glass	KCl 3 mol/l, without Ag+	DIN + banana plug (1×4 mm), fixed 1 m cable	Wastewater/ pure water/foods/ beverages/acids/ alkali/TRIS	1	**662-1315**

pH/mV/°C/ion meter, bench, SevenCompact™ S220

Mettler-Toledo

Intuitive, user friendly and powerful meter. Measures pH, ORP and ion concentration in various units. Ideal for a wide range of applications.

- User friendly operation, clear, well arranged colour display
- Menu guidance in 10 languages
- GLP compliant
- Supports ISM® technology (Intelligent Sensor Management)

Ordering information: S220-Basic, meter only, is supplied with electrode holder, protective cover, operating instructions, quick guide, declaration of conformity and test certificate.
S220-Kit includes instrument, InLab® Expert Pro ISM® electrode, guide to pH measurements and 2 buffer sachets for pH 4,01, 7,00, 9,21 and 10,00, electrode holder, protective cover, quick guide, declaration of conformity and test certificate.

S220-Bio supplied with the same items as for S220-Kit with the exception that the InLab® Routine Pro ISM® electrode replaces the InLab® Expert Pro ISM®.

S220-Univ supplied with the same items as for S220-Kit with the exception that the InLab® Versatile Pro electrode replaces the InLab® Expert Pro ISM®.

Model	S220
pH - range	–2,000...+20,000
pH - resolution	0,001 / 0,01 / 0,1
pH - accuracy	±0,002
pH - calibration	Max. 5 points with 8 predefined buffer groups and 1 user-defined buffer group
mV - range	±2000,0
mV - resolution	0,1 / 1
mV - accuracy	±0,2
ISE - range	0,000 - 10000,0 ppm
ISE - resolution	± last significant digit
ISE - accuracy	±0,5%
ISE - units	%, ppm, mg/l, mmol/l, mol/l, px
Temperature range (°C)	Manual: –30,0...+130,0 Automatic: –5,0...+130,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,1
Temperature compensation	Manual/automatic
Data logging - capacity	1000 measurements
Display	TFT
Connections	BNC (pH sensor), Mini-DIN (stirrer), Cinch/RCA (NTC 30 kΩ or PT1000 temperature sensor), 2 mm reference
Outputs	RS232, USB-A, USA-B
W×D×H (mm)	204×174×74
Weight (kg)	0,89
Compliance	IP 54 / GLP

Description	Pk	Cat. No.
SevenCompact™ S220-Basic	1	**662-1378**
SevenCompact™ S220-Kit	1	**663-0194**
SevenCompact™ S220-Bio	1	**663-0195**
SevenCompact™ S220-Univ	1	**663-0196**

Description	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Diaphr.	Connection	For	Pk	Cat. No.
pH electrodes, InLab® ISM®									
InLab® Routine Pro ISM®	0...+100	Glass	3 mol/l KCl	12×120	Ceramic	MultiPin™	General purpose	1	**663-0197**
InLab® Expert Pro ISM®	0...+100	PEEK	XEROLYT® polymer	12×120	Open junction	1,2 m cable, BNC/RCA (Cinch)	Wastewater, highly saline solutions; gels, soaps and shampoos; proteinaceous media; beverages; suspended solids, oily samples	1	**663-0198**
Economy pH electrodes, InLab® Versatile									
InLab® Versatile Pro	0...+100	Polysulfone	3 mol/l KCl	12×120	Ceramic	1,2 m cable, BNC/RCA (Cinch)	General purpose	1	**662-2825**

pH/mV/°C/ion meter, bench, SevenExcellence™, S500

Mettler-Toledo

This single channel instrument can easily handle the most complex applications and meets stringent requirements in regulated markets. The meter is flexible and can be modularly expanded with additional measurement parameters at any time. Special methods for the most common incremental ion measurement techniques are included, such as standard addition, subtraction and sample addition and subtraction methods.

- Methods for incremental ion measurements, guiding the user through the individual steps
- Full ion support: Twelve most commonly used ion types are pre-programmed in the instrument
- Large colour display, touch screen and user friendly menu guidance in 10 languages
- Flexible method concept for high reproducibility and security
- Extra security thanks to sophisticated user management and Intelligent Sensor Management (ISM®)
- Integrated interfaces (USB, RS232 and Ethernet) for data exchange

Ordering information: Supplied with module (pH/Ion expansion unit, two blank expansion units), uPlace™ electrode holder, semi-transparent cover, operating instructions, installation and quick guide, LabX® direct pH PC software, declaration of conformity and test certificate.

Model	S500
pH - range	–2...+20
pH - resolution	0,001/0,01/0,1
pH - accuracy	±0,002
pH - calibration	max. 5 points
mV - range	±2000
mV - resolution	0,1/1
mV - accuracy	±0,1
ISE - range	0 - 999999 mg/l, ppm 0 - 100 mol/l, % 0 - 100000 mmol/l –2...20 px
ISE - resolution	0,001 - 1 (0 - 999999 mg/l, ppm; 0 - 100000 mmol/l; –2...20 px) 0,0001 (0 - 100 mol/l, %)
ISE - accuracy	±0,5%
ISE - units	mg/l, ppm, %, mol/l, mmol/l, px
Temperature range (°C)	–30...+130
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,1
Data logging - capacity	20 000 data points, 250 analyses
Display	TFT colour display
Connections	BNC (pH/ion sensor input), NTC30 kΩ or PT1000 temperature sensor input, Mini-LTW digital sensor input, Mini-DIN stirrer connection
Outputs	RS232, USB, LAN
W×D×H (mm)	235×188×75
Weight (kg)	1,12
Compliance	GLP

Description	Pk	Cat. No.
pH/mV/°C/ion meter S500 Basic (meter only)	1	**662-1478**
pH/mV/°C/ion meter S500 kit, with InLab® Expert Pro-ISM, guide to pH measurements and two buffer sachets for pH 4,01/7,00/9,21/10,00	1	**662-1479**
pH/mV/°C/ion meter S500 Bio-Kit, with InLab® Routine Pro-ISM cable kit instead of InLab® Expert Pro-ISM	1	**662-1480**
pH/mV/°C/ion meter S500 Fluoride kit, with PerfectION™ Fluoride instead of InLab® Expert Pro-ISM	1	**662-1483**

Description	Pk	Cat. No.
Accessories		
Module, pH/Ion expansion unit	1	**662-1468**
Module, pH/mV expansion unit	1	**662-1474**
Module, conductivity expansion unit	1	**662-1469**
Module, blank expansion unit	1	**662-1470**
uMix™ magnetic stirrer, adjustable stir speed	1	**662-1471**
Semi-transparent cover	1	**662-1472**
Protective film for display	2	**662-1473**

pH/mV/°C/ion meters, bench, colour graphic display, HI 4221 / HI 4222

Hanna

- Colour graphical screen with text messages, clear symbols and language selection, easy and adjustable configuration
- Intuitive use with contextual help menu
- Calibration Check™ function issues a graphical message to alert the user when measured values fall outside the calibration range and to provide a constant record of the condition of the electrode
- Up to five pH calibration points with predefined or user defined buffers
- Automatic or manual compensation of temperature variations -20,0 to +120,0 °C

Ordering information: HI 4221 and HI 4222 supplied with pH electrode HI 1131B with glass body, temperature probe HI 7662T, 12 V DC mains adapter, 2× buffer solutions for pH 4 and 7, electrode filling solution and electrode holder.

Model	HI 4221	HI 4222
pH - range	–2,0...+20,0 / –2,00...+20,00 / –2,000...+20,000	
pH - resolution	0,1 / 0,01 / 0,001	
pH - accuracy	±0,1 / ±0,01 / ±0,002	
pH - calibration	Automatic up to 5 points, with 8 predefined buffers (1,68, 3,00, 4,01, 6,86, 7,01, 9,18, 10,01, 12,45) + 5 user-defined buffers	
mV - range	±2000,0	
mV - resolution	0,1	
mV - accuracy	±0,2	
ISE - range	-	1×10^{-7} - $99{,}9\times10^{9}$
ISE - resolution		1 / 0,1 / 0,01
ISE - accuracy		±0,5% (monovalent ions); ±1%
ISE - calibration		Automatic up to 5 points with 6 predefined reference values and 5 user-defined reference values
ISE - units		ppm, ppt, g/l, mg/l, ppb, µg/l, mg/ml, M, mol/l, mmol/l, %w/v, user
Temperature range (°C)	–20,0...+120,0	
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	±0,2	
Display	Colour graphics	
Connections	BNC	
Outputs	Independent USB and RS232 ports	
W×D×H (mm)	159×230×93	
Weight (kg)	0,8	
Compliance	GLP	

Description	Pk	Cat. No.
Colour graphic display pH/mV/°C meter HI 4221	1	**662-3012**
Colour graphic display pH/mV/°C/ISE meter HI 4222	1	**665-0175**

Description	Temp. (°C)	Material	Electrolyte	Diaphr.	Connection	For	Pk	Cat. No.
ATC probes								
ATC probe HI 7662T	–20...+120	Stainless steel	-	-	1 m cable	HI 42xx series bench meters; HI 90x series titrators	1	**662-3027**
pH electrodes								
pH electrode HI 1131B, refillable	-	Glass	KCl 3,5M + AgCl	Ceramic	BNC, 1 m cable	General laboratory purposes, beer testing	1	**662-4102**
Accessories								
Windows compatible software (compatible with Windows 7 but not Windows Vista)							1	**662-4018**
PC connection cable							1	**662-4118**

VWR COLLECTION

Delivering high quality and superior performance

Please contact your local VWR sales office or go to vwr.com for the latest news and special offers

VWR COLLECTION

SELECTED FOR YOU

Universal pH electrodes

With 1 m fixed cable or S7 connector

- Checked at 5 points during the manufacturing process and lot stamped to assure quality
- With a storage soaker bottle to protect the electrode keeping the item in top condition and instantly ready for use

pH range: 0 - 14

Temperature range: 0 to +100 °C (10 to 100 °C for flat tips)

Response time: 95% <1 second (95% <5 seconds for flat tips)

Electrode	Applications
Simple junction / Ceramic junction	Aqueous media
Double junction	Aqueous media, microbiology samples, beer
Flat tip, double junction	Agar, food and beverage, serum, soil, Tris buffers, viscous samples
Semi-micro	Tap water, seawater, disinfectants, soap
Large surface flat tip	Agar, food, cosmetics, leather, water, viscous samples
Spear tip, double junction	Bread, butter, cheese, fats, meat

Type	pH	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Connection	For	Pk	Cat. No.
With 1 m fixed cable									
Ceramic junction	0 - 14	0...+100	Glass	3,5 M KCl	12×150	DIN	Aqueous media	1	**662-1790**
Simple junction (Pellon)	0 - 14	0...+100	Epoxy	Gel	12×150	DIN		1	**662-1760**
Semi-micro, Pellon junction	0 - 14	0...+100	Epoxy	Gel	6×150	BNC	Tap water, seawater, desinfectants, soap	1	**662-1767**
Large surface flat tip, HDPE junction	0 - 14	0...+100	Epoxy	Gel	15×115	BNC	Agar, food, cosmetics, leather, water, viscous samples	1	**662-1769**
Double junction (Pellon)	0 - 14	0...+100	Epoxy	Gel	12×150	BNC	Aqueous media, microbiology samples, beer	1	**662-1761**
Double junction (Pellon)	0 - 14	0...+100	Epoxy	Gel	12×150	DIN		1	**662-1762**
Flat tip, double junction (HDPE/ Pellon)	0 - 14	+10...+100	Epoxy	Gel	12×150	BNC	Agar, food and beverage, serum, soil, Tris buffers, viscous samples	1	**662-1763**
Flat tip, double junction (HDPE/ Pellon)	0 - 14	+10...+100	Glass	3,5 M KCl	12×150	BNC		1	**662-1797**
Spear tip, double junction (PVDF/ Pellon)	0 - 14	0...+100	Epoxy	Gel	12/9×150	BNC	Bread, butter, cheese, fats, meat	1	**662-0084**
With S7 connector									
Simple junction (Pellon)	0 - 14	0...+100	Epoxy	Gel	12×150	S7	Aqueous media	1	**662-1771**
Ceramic junction	0 - 14	0...+100	Glass	3,5 M KCl	12×150	S7		1	**662-1791**
Semi-micro, Pellon junction	0 - 14	0...+100	Epoxy	Gel	6×150	S7	Distilled water, ultra-pure water, toothpaste, Tris buffers, microbiology	1	**662-1775**
Double junction (Pellon)	0 - 14	0...+100	Epoxy	Gel	12×150	S7	Aqueous media, Tris buffers	1	**662-1772**
Flat tip, double junction (HDPE/ Pellon)	0 - 14	0...+100	Epoxy	Gel	12×150	S7	Agar, food and beverage, serum, soil, Tris buffers, viscous samples	1	**662-1773**

Description	Pk	Cat. No.
Accessories		
BNC connector, 1 m cable, coaxial, Coax53	1	**662-1410**
DIN connector, 1 m cable, coaxial, Coax54	1	**662-1411**

VWR COLLECTION

SELECTED FOR YOU

Universal pH and redox electrodes

Electrodes with different connections

Cable with BNC connector

Laboratory and field electrodes for general applications. Supplied with a fixed cable or plug head, VWR electrodes can be connected to most pH meters on the market. All VWR electrodes are checked at two points during the manufacturing process and then lot stamped to assure quality. They are supplied with a soaker storage bottle and cap to ensure the pH-sensitive glass and reference junction remain in top condition and are instantly ready for use.

- Comfortable handling
- Reliable and rapid readings
- Gel or liquid electrolyte, glass or epoxy body shaft
- Available with different connections: Plug head or fixed cable (1 m) with either DIN or BNC type plug

Type	Application
SJ 113 / SJ 114 / SJ 115	General purpose, education
DJ 113 / DJ 114 / DJ 115	Harsh environment, rugged use, field or plant; water, wastewater
SF 113 / SF 114 / SF 115 / SF 223 / SF 224 / SF 225 (flat)	Flat surface - cheese, meat, agar / paper
SM 123 / SM 124 / SM 125 (semi-micro)	Small sample size - Tris buffers, proteins, enzymes; Semi-solids - fruit, meat, cheese, jam
SJ 223 / SJ 224 / SJ 225	General purpose; Tris buffers, proteins, enzymes
SM 223 / SM 224 / SM 225 (semi-micro)	Small sample size - Tris buffers, proteins, enzymes / test tubes, small flasks and beakers; Semi-solids - fruit, meat, cheese, jam
SP 223 / SP 224 / SP 225 (spear)	Semi-solids - fruit, meat, cheese, jam; Small sample size - Tris buffers, proteins, enzymes / test tubes, small flasks and beakers

Type	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
SJ 113	Epoxy	Gel	Ceramic	12×120	1 m cable with BNC connector	1	**662-1382**
SJ 114	Epoxy	Gel	Ceramic	12×120	1 m cable with DIN connector	1	**662-1383**
SJ 115	Epoxy	Gel	Ceramic	12×120	Plug head	1	**662-1384**
DJ 113	Epoxy	Gel	Ceramic	12×120	1 m cable with BNC connector	1	**662-1385**
DJ 114	Epoxy	Gel	Ceramic	12×120	1 m cable with DIN connector	1	**662-1386**
DJ 115	Epoxy	Gel	Ceramic	12×120	Plug head	1	**662-1387**
SF 113 (flat)	Epoxy	Gel	Ceramic	12×120	1 m cable with BNC connector	1	**662-1388**
SF 114 (flat)	Epoxy	Gel	Ceramic	12×120	1 m cable with DIN connector	1	**662-1389**
SF 115 (flat)	Epoxy	Gel	Ceramic	12×120	Plug head	1	**662-1390**
SM 123 (semi-micro)	Glass	Gel	Ceramic	12/6×120	1 m cable with BNC connector	1	**662-1391**
SM 124 (semi-micro)	Glass	Gel	Ceramic	12/6×120	1 m cable with DIN connector	1	**662-1392**
SM 125 (semi-micro)	Glass	Gel	Ceramic	12/6×120	Plug head	1	**662-1393**
SJ 223	Glass	KCl 3 mol/l	Ceramic	12×120	1 m cable with BNC connector	1	**662-1395**
SJ 224	Glass	KCl 3 mol/l	Ceramic	12×120	1 m cable with DIN connector	1	**662-1396**
SJ 225	Glass	KCl 3 mol/l	Ceramic	12×120	Plug head	1	**662-1397**
SF 223 (flat)	Glass	KCl 3 mol/l	Ceramic	12×120	1 m cable with BNC connector	1	**662-1398**
SF 224 (flat)	Glass	KCl 3 mol/l	Ceramic	12×120	1 m cable with DIN connector	1	**662-1399**
SF 225 (flat)	Glass	KCl 3 mol/l	Ceramic	12×120	Plug head	1	**662-1401**
SM 223 (semi-micro)	Glass	KCl 3 mol/l	Ceramic	12/6×120	1 m cable with BNC connector	1	**662-1402**
SM 224 (semi-micro)	Glass	KCl 3 mol/l	Ceramic	12/6×120	1 m cable with DIN connector	1	**662-1403**
SM 225 (semi-micro)	Glass	KCl 3 mol/l	Ceramic	12/6×120	Plug head	1	**662-1404**

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Type	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
SP 223 (spear)	Glass	KCl 3 mol/l	Ceramic	12/6×120	1 m cable with BNC connector	1	**662-1405**
SP 224 (spear)	Glass	KCl 3 mol/l	Ceramic	12/6×120	1 m cable with DIN connector	1	**662-1406**
SP 225 (spear)	Glass	KCl 3 mol/l	Ceramic	12/6×120	Plug head	1	**662-1407**

Description	Pk	Cat. No.
Accessories		
BNC connector, 1 m cable, coaxial, Coax53	1	**662-1410**
DIN connector, 1 m cable, coaxial, Coax54	1	**662-1411**
Radiometer connector, 1 m cable, coaxial, Coax56	1	**662-1412**
Lemo (metrohm) connector, 1 m cable, coaxial, Coax57	1	**662-1413**

VWR COLLECTION

SELECTED FOR YOU

pH electrode, pHenomenal®

662-1156

662-1157

662-1159

With BNC connector and cable

These electrodes are checked at five points during the manufacturing process and then lot stamped to ensure quality. Every electrode is supplied with a soaker storage bottle and cap to ensure the pH-sensitive glass and reference junction remain in top condition and are instantly ready for use.

Type	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
pHenomenal® 110, gel	Epoxy	Gel	Ceramic	12×120	BNC, 1 m cable	1	**662-1156**
pHenomenal® 111, 3 in 1, gel *	Epoxy	Gel	Ceramic	12×120	BNC, 1 m cable	1	**662-1157**
pHenomenal® 111-3, 3 in 1, gel *	Epoxy	Gel	Ceramic	12×120	BNC, 3 m cable	1	**662-1158**
pHenomenal® 220, refillable	Glass	Refillable	Ceramic	12×120	BNC, 1 m cable	1	**662-1159**
pHenomenal® 221, refillable *	Glass	Refillable	Ceramic	12×120	BNC, 1 m cable	1	**662-1161**
pHenomenal® 211, refillable *	Epoxy	Refillable	Ceramic	12×120	BNC, 3 m cable	1	**662-1162**
pHenomenal® MIC 220, refillable, Micro	Glass	Refillable	Ceramic	6/12×120	BNC, 1 m cable	1	**662-1163**
pHenomenal® SPEAR 220, spear type	Glass	Gel	Ceramic	6/12×120	BNC, 1 m cable	1	**662-1164**
pHenomenal® LS 221 (Tris) *	Glass	KCl 3 mol/l, refillable	Platinum	12×120	BNC, 1 m cable	1	**662-1247**

Type	Material	Connection	Pk	Cat. No.
Temperature sensor pHenomenal® TEMP21				
pHenomenal® TEMP21	Epoxy	4 mm banana, 1 m cable	1	**620-1659**

* integrated temperature probe

VWR COLLECTION

SELECTED FOR YOU

Combined pH electrodes with internal temperature compensation

With 1 m fixed cable

- Three electrodes in one
- Compatible with most pH meters
- With protective cap for electrode preservation under optimal conditions

pH range: 0 - 14

Temperature range: 0 to +70 °C

Response time: 90% < 1 second

Type	Material	Electrolyte	Ø×L (mm)	Connection	For	Pk	Cat. No.
PT1000	Epoxy	Gel	12×150	DIN + 4 mm banana	Mettler, Knick, Schott	1	**662-0076**
30 K NTC	Epoxy	Gel	12×150	BNC + banana ×2	Orion	1	**662-0080**

Combined pH electrodes, pHASE

With 1 m fixed cable

Combined electrodes providing fast, accurate and stable pH measurements, ideal for control quality and research and development use.

- Fast, accurate and stable pH measurements, fast thermal equilibration, high accuracy even in samples with large temperature range
- Available with sealed design (economical, easy to use, with minimum maintenance) or Rapid-Renew design (refillable electrodes used with dirty or other samples that cause junction fouling)
- Available with epoxy body (with good chemical resistance, maximum ruggedness and removable bulb guard) or glass body (maximum chemical resistance with fully exposed ruggedised bulbs)

pH range: 0 - 14

Accuracy: to 0,04 pH between 0 to +100 °C in pH 7 buffer

Stability: 0,005 pH or less drift per hour

Temperature range: 0 to +100 °C

Electrode	Applications
Sealed, double junction (Pellon)	Aqueous media, beverage, Tris buffer
Refillable, double junction (plastic), epoxy	Most applications
Refillable, double junction (plastic), glass	Aqueous media, beverage, Tris buffer, cosmetics, ultra-pure water

Type	pH	Material	Electrolyte	Ø×L (mm)	Connection	For	Pk	Cat. No.
Refillable, double junction (plastic)	0 - 14	Epoxy	3,5 mol/l KCl	12×150	BNC	Most applications	1	**662-1782**
Sealed, double junction (Pellon)	0 - 14	Epoxy	Gel	12×150	BNC	Aqueous media, beverage, Tris buffer	1	**662-1778**
Refillable, double junction (plastic)	0 - 14	Glass	3,5 mol/l KCl	12×150	DIN	Aqueous media, beverage, Tris buffer, cosmetics, ultra-pure water	1	**662-1801**

Description	Pk	Cat. No.
Accessories		
Refill solution 3,5 mol/l KCl	100 ml	**662-1784**

Speciality pH electrodes

With 1 m fixed cable

- Material: Epoxy
- Electrolyte: Gel
- pH range: 0 - 14

Electrode	Applications
Double junction (Pellon)	Tap water, sea water, microbiology samples, beverage, Tris buffer
Flat extra wide, double junction (HDPE/Pellon)	Agar, microbiological samples, cheese, butter, water
Low ionic, double juntion (Pellon)	Low ionic strength solutions

Type	pH	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Connection	For	Pk	Cat. No.
Double junction (Pellon)	0 - 14	0...+100	Epoxy	Gel	12×150	Belling Lee, coaxial	Tap water, seawater, microbiology samples, beverage, Tris buffer	1	**662-1803**
Flat extra wide, double junction (HDPE/Pellon)	0 - 14	+10...+100	Epoxy	Gel	15×115	BNC	Agar, microbiological samples, cheese, butter, water	1	**662-1805**
Low ionic, double juntion (Pellon)	0 - 14	0...+100	Epoxy	Gel	12×150	BNC	Low ionic strength solutions	1	**662-1807**

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Type	pH	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Connection	For	Pk	Cat. No.
ORP (Redox), Pellon junction	0 - 14	0...+100	Epoxy	Gel	12×150	BNC	Electroplating baths	1	**662-1787**
pH only half cell	0 - 14	0...+100	Glass	-	12×150	DIN	Water, creams, beverage	1	**662-1792**
Reference only half cell, double junction (ceramic/Pellon)	0 - 14	0...+100	Epoxy	Gel	12×150	2 mm pin	Water, creams, beverage, Tris buffer	1	**662-1806**

Redox electrode, pHenomenal®

With BNC connector and cable

Type	Material	Connection	Pk	Cat. No.
pHenomenal® ORP220, refillable	Glass	BNC, 1 m cable	1	**662-1165**

Redox electrodes

Type	Material	Electrolyte	Ø×L (mm)	Connection	Pk	Cat. No.
RD 113 (Redox)	Epoxy	Gel	12×120	BNC, 1 m cable	1	**662-1408**
RD 223 (Redox)	Glass	Gel	12×120	BNC, 1 m cable	1	**662-1409**

pH electrodes

Hanna

HI 1131B

HI 1230B

HI 1288

Type	pH	Temp. (°C)	Material	Electrolyte	Diaphr.	Connection	For	Pk	Cat. No.
HI 1053B	0 - 12	–5...+100	Glass	KCl 3,5M + AgCl	Ceramic	BNC, 1 m cable	Fats, creams, soil samples, semi-solid products, low conductivity solutions, and emulsions	1	**662-5143**
HI 1131B	0 - 13	-	Glass	KCl 3,5M + AgCl	Ceramic	BNC, 1 m cable	General laboratory purposes, beer testing	1	**662-4102**
HI 1131P	0 - 13	-	Glass	KCl 3,5M + AgCl	Ceramic	BNC + pin, 1 m cable		1	**662-3023**
HI 1332B	0 - 13	0...80	Plastic	KCl 3,5M	Ceramic	BNC, 1 m cable	Chemicals, field applications, quality control testing	1	**662-5137**
HI 1288	0 - 13	-	Stainless steel	Gel	Cloth	DIN, 1 m cable	Wastewater	1	**662-4000**
HI 1618D	0 - 13	-	Plastic	Gel	Cloth	DIN, 1 m cable	Field applications	1	**662-4135**
HI 1230B	0 - 13	0...+80	Plastic	Gel	Ceramic	BNC, 1 m cable		1	**662-5140**
HI 72911B	0 - 13	-	Titanium	Polymer	PTFE	BNC + phono, 1 m cable	Cooling towers and boilers	1	**620-1609**
FC 240B, conic tip (3×5 mm)	0 - 13	–5...+30	Stainless steel 316	Viscolene	Open junction	BNC, 1 m cable	Dairy products, cheese, and quality control	1	**662-1730**
HI 1288	0 - 13	0...+60	PVC	Gel	Cloth	DIN, 1,2 m cable	General purpose, water treatment, agriculture, boilers and cooling towers	1	**662-4146**
HI 1413B/50, flat tip, for use with Skincheck™ tester	0 - 12	-	Glass	Viscolene	Open junction	BNC, 1 m cable	Skin	1	**662-1731**
HI 1413B, flat tip	0 - 12	-	Glass	Viscolene	Open junction	BNC, 1 m cable	Surfaces, skin, leather, paper and emulsions	1	**662-5139**
HI 1083B, with micro bulb and spheric tip (Ø 3 mm)	0 - 13	0...+100	Glass	Viscolene	Open junction	BNC, 1 m cable	Biotechnology, small samples (< 100 µl)	1	**662-4103**

Economy pH electrodes, InLab®, Easy series
Mettler-Toledo

- Robust and cost-effective electrodes, simple to operate
- Maintenance-free gel electrolyte
- Ideal for highly saline solutions, soft drinks and beer, and measurements in aquariums
- Conform to RoHS ('Restriction of Hazardous Substances' in electrical and electronic equipment) and WEEE ('Waste Electrical and Electronic Equipment')

Junction: Ceramic

pH range: 0 - 14

Temperature range: 0...+80 °C

Reference system: Ag/AgCl

Ordering information: Supplied with test certificate. Other electrodes on request.

Type	pH	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Connection	For	Pk	Cat. No.
InLab® Easy	0 - 14	0...+80	Polysulfone (PSU)	Gel	12×120	S7	Highly saline solutions; soft drinks and beer; aquariums	1	**662-2818**
InLab® Easy BNC	0 - 14	0...+80	Polysulfone (PSU)	Gel	12×120	1,2 m cable; BNC		1	**662-2819**
InLab® Easy DIN	0 - 14	0...+80	Polysulfone (PSU)	Gel	12×120	1,2 m cable; DIN 19262		1	**662-2820**

General purpose pH electrodes, InLab® Routine
Mettler-Toledo

662-2826

662-2830

662-2832

With S7 or MultiPin™ (pH/temperature) connector

- ARGENTHAL™ reference system with silver-ion trap so that there is no risk of contamination by sulphides and proteins
- Conform to RoHS ('Restriction of Hazardous Substances' in electrical and electronic equipment) and WEEE ('Waste Electrical and Electronic Equipment')

Junction: Ceramic

pH range: 0 - 14

Temperature range: 0...+100 °C

Temperature probe: NTC30 for InLab® Routine Pro; PT1000 for InLab® Routine PT1000/Routine Pro-L

Material: Glass

Electrolyte: 3 mol/l KCl

Ordering information: Supplied with test certificate and without cable. Other electrodes on request.

Type	pH	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Connection	For	Pk	Cat. No.
InLab® Routine	0 - 14	0...+100	Glass	3 mol/l KCl	12×120	S7	General purpose	1	**662-2826**
InLab® Routine Pro*	0 - 14	0...+100	Glass	3 mol/l KCl	12×120	MultiPin™	General purpose	1	**662-2830**
InLab® Routine PT1000*	0 - 14	0...+100	Glass	3 mol/l KCl	12×120	MultiPin™	General purpose	1	**662-2832**
InLab® Routine Pro-L*	0 - 14	0...+100	Glass	3 mol/l KCl	12×170	1,2 m; DIN 19262 / 4 mm banana; gold-plated	General purpose	1	**662-2833**
Kit InLab® Routine Pro*	0 - 14	0...+100	Glass	3 mol/l KCl	12×120	MultiPin™ + BNC/RCA (Cinch) cable	General purpose	1	**662-2831**
InLab® Routine set	0 - 14	0...+100	Glass	3 mol/l KCl	12×120	DIN	General purpose	1	**662-2827**
InLab® Routine set	0 - 14	0...+100	Glass	3 mol/l KCl	12×120	BNC	General purpose	1	**662-2828**

* Integrated temperature probe

pH electrodes, InLab®, Expert Series
Mettler-Toledo

662-2840

662-2842

662-2843

Ideal for critical samples such as suspensions or samples of unknown composition (e.g. wastewater).

- ARGENTHAL™ reference system with silver-ion trap
- Solid XEROLYT® polymer electrolyte: No need for a junction (no possibility of contamination)
- Unbreakable PEEK shaft

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• Conform to RoHS ('Restriction of Hazardous Substances' in electrical and electronic equipment) and WEEE ('Waste Electrical and Electronic Equipment')

pH range: 0 - 14

Temperature range: 0...+100 °C

Temperature probe: NTC30 kOhm for InLab® Expert Pro and InLab® Expert NTC30; PT1000 for InLab® Expert DIN and InLab® Expert PT1000

Ordering information: Supplied with test certificate and without cable. Other electrodes on request.

Electrode	Applications
InLab® Expert / Expert Pro	Wastewater, highly saline solutions; gels, soaps and shampoos; proteinaceous media; beverages; suspended solids, oily samples

Type	pH	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Connection	Pk	Cat. No.
InLab® Expert DIN	0 - 14	0...+100	PEEK	XEROLYT® polymer	12×120	1,2 m cable; DIN 19262/4 mm	1	**662-2842**
InLab® Expert NTC30	0 - 14	0...+100	PEEK	XEROLYT® polymer	12×120	MultiPin™	1	**662-2843**
InLab® Expert PT1000	0 - 14	0...+100	PEEK	XEROLYT® polymer	12×120	MultiPin™	1	**662-2844**
InLab® Expert Pro	0 - 14	0...+100	PEEK	XEROLYT® polymer	12×120	1,2 m cable; BNC/ RCA (Cinch)	1	**662-2840**

Specialty pH electrodes, InLab®
Mettler-Toledo

662-2834

662-2848

662-2850

• ARGENTHAL™ reference system with silver-ion trap (except InLab® Surface + InLab® Pure with Ag/AgCl; InLab® Viscous with SteadyForce™)
• XEROLYT® polymer electrolyte for InLab® Solids/Solids Pro: No need for a junction (no possibility of contamination)
• MultiPin™: pH/temperature

pH range: 0 - 14 for InLab® Reach + Viscous series; 1 - 11 for InLab® Solids/Solids Pro/Surface/Cool/Hydrofluoric/1010/Pure/Pure Pro

Ordering information: Supplied with test certificate and without cable. Other electrodes on request.

Electrode	Applications
InLab® Reach / Reach Pro / Reach PT1000	Waste water, highly saline solutions; wine and vinegar; photographic and galvanic baths; large sample vessels
InLab® Solids / Solids Pro	Cosmetics; dairy products; food
InLab® Surface	Surface measurements (e.g. skin, leather, textiles, paper, gelled agar)
InLab® Cool	Cold samples (<5 °C); soft surface water; drinking water; beverages
InLab® 1010 (for Knock instruments)	Viscous media, cremes, emulsions, non-aqueous solutions
InLab® Hydrofluoric	HF bearing media (<1 g/l)
InLab® Viscous	Glutinous and fatty of samples (cosmetics, paints or resins)
InLab® Pure	Water
InLab® Pure Pro	Pure and ultrapure water

Type	Temp. (°C)	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
InLab® Reach	0...+100	Glass	3 mol/l KCl	Ceramic	12×300	S7	1	**662-2834**
InLab® Reach Pro*	0...+100	Glass	3 mol/l KCl	Ceramic	12×400	MultiPin™	1	**662-2835**
InLab® Reach PT1000*	0...+100	Glass	3 mol/l KCl	Ceramic	12×400	MultiPin™	1	**662-2836**
InLab® Solids	0...+80	Glass	XEROLYT® PLUS polymer	Open junction	6×25	S7	1	**662-2848**
InLab® Solids Pro*	0...+80	Glass	XEROLYT® PLUS polymer	Open junction	6×25	MultiPin™	1	**662-2849**
InLab® Surface	0...+50	Polysulfone	3 mol/l KCl, AgCl saturated	ABS-ring	12×110	S7	1	**662-2850**
InLab® Cool	–30...+80	Glass	FRISCOLYT-B®	Immovable glass sleeve	12×120	S7	1	**662-2869**
InLab® 1010*	0...+80	PEEK	Gel	Open junction	12×110	DIN/4 mm, 1,2 m cable	1	**662-2902**
InLab® Hydrofluoric	0...+100	Glass	3 mol/l KCl	Ceramic	12×120	S7	1	**662-2870**
InLab® Pure Pro*	0...+80	Glass	KCl 3 mol/l	Immovable glass sleeve	12×170	MultiPin™	1	**662-2868**

* Integrated temperature probe

pH electrodes, InLab® Science
Mettler-Toledo

With S7 or MultiPin™ (pH/temperature) connector

ARGENTHAL™ reference system with silver-ion trap so that there is no risk of contamination by sulphides and proteins.
Conform to RoHS ('Restriction of Hazardous Substances' in electrical and electronic equipment) and WEEE ('Waste Electrical and Electronic Equipment').

Junction: Movable glass sleeve

Material: Glass

Electrolyte: 3 mol/l KCl

Ordering information: Supplied with test certificate and without cable.

Type	pH	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Connection	For	Pk	Cat. No.
InLab® Science	0 - 12	0...+100	Glass	3 mol/l KCl	12×120	S7	General purpose; More complex matrices (e.g. emulsions, biological media)	1	**662-2837**
InLab® Science Pro, with bridge electrolyte chamber*	0 - 12	0...+100	Glass	3 mol/l KCl	12×170	MultiPin™	Emulsions, dispersions, Tris buffers, non-aqueous samples	1	**662-2838**

* Integrated temperature probe (NTC30)

Combined pH electrodes
Mettler-Toledo

DG111-SC

DG113-SC

Combined glass pH electrodes for direct pH measurement and acid/base titrations in aqueous (DG11-SC, DG115-SC/DGi115-SC) or non-aqueous medium (DG113-SC). The all-rounder for a large variety of uncritical applications in almost all kinds of industries: Acid content of beverages, acid and base capacity of water samples, pH start applications.

- Integrated glass sleeve for secure fixation in the titration head
- With S7 screw cap and detachable cap or with Plug & Play S12 connection
- Plug & Play sensor features an integrated sensor chip which allows data storing and monitoring

DG111-SC: ARGENTHAL™ reference system with silver ion trap; with ceramic frit diaphragm
DG113-SC: Ag/AgCl/LiCl reference system; movable PTFE sleeve junction
DG115-SC: ARGENTHAL™ reference system with silver ion trap; fixed ground-glass sleeve junction
DGi115-SC: Plug & Play sensor, ARGENTHAL™ reference system with silver ion trap; fixed ground-glass sleeve junction

Ordering information: Each electrode is supplied with 25 ml of reference electrolyte, individual quality certificate and unique serial number.

Type	pH	Temp. (°C)	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	For	Pk	Cat. No.
DG111-SC	0 - 14	0...+80	Glass	3 mol/l KCl	Ceramic frit	12×149,5	S7 screw cap, detachable cable	Aqueous media	1	**662-1653**
DG113-SC	0 - 12	0...+60	Glass	LiCl 1 mol/l	Movable PTFE sleeve junction	12×149,5	S7 screw cap, detachable cable	Non-aqueous media	1	**662-2736**
DG115-SC	0 - 14	0...+100	Glass	3 mol/l KCl	Fixed ground glass sleeve junction	12×149,5	S7 screw cap, detachable cable	Aqueous media	1	**662-2737**
DGi115-SC, Plug & Play	0 - 14	0...+100	Glass	3 mol/l KCl	Fixed ground glass sleeve junction	12×149,5	S12 plug		1	**662-1669**

pH electrodes, InLab® Micro
Mettler-Toledo

662-2863

662-2864

662-2866

With S7, BNC or MultiPin™ (pH/temperature) connector

- ARGENTHAL™ reference system with silver-ion trap
- XEROLYT® EXTRA polymer electrolyte: High signal stability, very short response time and high chemical resistance (InLab® Semi-Micro)
- InLab® Flex-Micro features a flexible thin shaft (Ø 6 mm): Ideal for measuring pH in test tubes and other small containers
- InLab® Ultra-Micro features a long thin shaft (Ø 3 mm): Ideal for measuring extremely small sample volumes in very small vessels
- Friscolyte-B® electrolyte enables stable and drift-free readings even when the membrane touches the vial (only InLab® Ultra-Micro)

pH range: 0 - 14 for InLab® Micro/Micro Pro/Semi-Micro-L/Flex-Micro; 0 - 12 for InLab® Semi-Micro; 1 - 11 for InLab® Ultra-Micro

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Ordering information: Supplied with test certificate. Other electrodes available on request.

Electrode	Applications
InLab® Semi-Micro / Semi-Micro-L	Highly saline solutions; cosmetics; pharmaceutical and biological samples
InLab® Micro / Micro Pro	Highly saline solutions; cosmetics; pharmaceutical and biological samples; dairy products; water-based paint and oily samples

Type	pH	Temp. (°C)	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
InLab® Micro	0 - 14	0...+100	Glass	3 mol/l KCl	Ceramic	3×60	MultiPin™	1	**662-2863**
InLab® Micro Pro	0 - 14	0...+100	Glass	3 mol/l KCl	Ceramic	5×130	MultiPin™	1	**662-2865**
InLab® Semi-Micro	0 - 12	0...+100	Glass	XEROLYT® EXTRA Polymer	Open junction	6×100	S7	1	**662-2864**
InLab® Semi-Micro-L	0 - 14	0...+100	Glass	3 mol/l KCl	Ceramic	6×230	S7	1	**662-2866**
InLab® Ultra-Micro	1 - 11	0...+80	Glass	FRISCOLYT-B®	Ceramic	3×40	S7	1	**662-1346**
InLab® Flex-Micro	0 - 14	0...+80	Plastic	3 mol/l KCl	PTFE	6×180	BNC, 1 m cable	1	**662-1347**

pH electrodes, InLab® ISM®
Mettler-Toledo

High-performance electrodes combining robustness with state-of-the-art measurement technology. Fully traceable.

The revolutionary Intelligent Sensor Management system (ISM®) offers the user an even greater level of security. The calibration data is stored on the chip in the sensor and is used automatically when the sensor is connected to the meter. This ensures that the meter always uses the latest calibration data.

- Intelligent electrodes - Does not need to be recalibrated when using another Seven-series meter
- Easy to clean, low-maintenance, long lifetime
- Compatible with SevenGo Duo™ (SG23) and SevenGo Duo pro™ (SG78) meters

MultiPin™: pH / temperature
Material: Glass (except InLab® Expert Pro: PEEK)
Temperature range: 0...+100 °C (except InLab® Solids Pro/Pure Pro: 0...+80 °C)
With integrated NTC 30 kOhm temperature probe

Ordering information: Supplied with test certificate.

ISM® pH electrode	Applications
InLab® Routine Pro ISM®	General purpose
InLab® Science Pro ISM®	General purpose; more complex matrices (e.g. emulsions, biological media)
InLab® Expert Pro ISM®	Wastewater, highly saline solutions; gels, soaps and shampoos; proteinaceous media; beverages; suspended solids, oily samples
InLab® Solids Pro ISM®	Cosmetics; dairy products; food
InLab® Micro Pro ISM®	Highly saline solutions; cosmetics; pharmaceutical and biological samples
InLab® Pure Pro ISM®	Pure and ultrapure water; cold samples (<5 °C) with average conductivity; boiler feed water
InLab® Power Pro ISM®	Wastewater with average conductivity; proteinaceous media; dairy products; paints and emulsions; hydrocarbons; corrosive and hot acids/bases

Type	pH	Temp. (°C)	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
InLab® Routine Pro ISM®	0 - 14	0...+100	Glass	3 mol/l KCl	Ceramic	12×120	MultiPin™	1	**662-1234**
InLab® Routine Pro ISM®	0 - 14	0...+100	Glass	3 mol/l KCl	Ceramic	12×120	MultiPin™	1	**663-0197**
InLab® Expert Pro ISM®	0 - 14	0...+100	PEEK	XEROLYT® polymer	Open junction	12×120	1,2 m cable, BNC/RCA (Cinch)	1	**663-0198**
InLab® Expert Pro ISM®	0 - 14	0...+100	PEEK	XEROLYT® polymer	Open junction	12×120	1,2 m cable, BNC/RCA (Cinch)	1	**662-1153**
InLab® Science Pro ISM®	0 - 12	0...+100	Glass	3 mol/l KCl	Moving, ground glass	12×170	1,2 m cable, BNC/RCA (Cinch)	1	**662-1235**
InLab® Solids Pro ISM®	1 - 11	0...+80	Glass	XEROLYT®PLUS polymer	Open junction	6×25	MultiPin™	1	**662-1236**
InLab® Micro Pro ISM®	0 - 14	0...+100	Glass	3 mol/l KCl	Ceramic	12×130	MultiPin™	1	**662-1237**
InLab® Pure Pro ISM®	1 - 11	0...+80	Glass	3 mol/l KCl	Fixed, ground glass	12×170	MultiPin™	1	**662-1238**
InLab® Power Pro ISM®	0 - 12	0...+100	Glass	DPA gel	Ceramic	12×170	MultiPin™	1	**662-1239**

Description	Pk	Cat. No.
Accessories		
Cable for ISM® electrodes, MultiPin™, 1,8 m	1	**662-1240**
Cable for ISM® electrodes, MultiPin™, 5 m	1	**662-1241**

Reference electrodes, InLab®
Mettler-Toledo

662-2871

662-2872

662-2873

With S7 connector

- InLab® Reference Pro is ideal for measurements with ion selective electrodes
- Reference system for InLab® Reference series: ARGENTHAL™ with silver-ion trap (no risk of contamination by sulphides and proteins) for InLab® Reference; Ag/AgCl for InLab® Reference Pro, ARGENTHAL™ for InLab® Reference Flow

Material: Glass

Ordering information: Supplied with test certificate and without cable. Other electrodes on request.

Electrode	Applications
InLab® Reference / Reference Pro / Reference Flow	Highly saline solutions; corrosive and hot acids/bases

Type	Temp. (°C)	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
InLab® Reference	0...+100	Glass	KCl 3 mol/l	Ceramic	12×120	S7	1	**662-2871**
InLab® Reference Pro	0...+60	Glass	Gel + KCl 3 mol/l	Movable PTFE sleeve	12×120	S7	1	**662-2872**
InLab® Reference Flow	0...+130	Glass	KCl 3 mol/l	Triple ceramic	12×120	S7	1	**662-2873**

Redox electrodes, InLab®
Mettler-Toledo

662-2877

662-2882

With S7 connector

- ARGENTHAL™ reference system with silver-ion trap (InLab® Redox Micro: without silver-ion trap)
- EQUITHAL® technology with symmetrical conducting layers guarantees shortest response times despite large changes in temperature
- Conform to RoHS ('Restriction of Hazardous Substances' in electrical and electronic equipment) and WEEE ('Waste Electrical and Electronic Equipment')

Junction: Ceramic

pH range: 0 - 14

Temperature range: 0...+100 °C

Ordering information: Supplied with test certificate and without cable. Other electrodes on request.

Type	pH	Temp. (°C)	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
InLab® Redox	-	0...+100	Glass body, platinum ring	3 mol/l KCl	Ceramic	12×120	S7	1	**662-2877**
InLab® Redox Ag	-	0...+100	Glass body, silver ring	1 mol/l KNO_3	Ceramic	12×120	S7	1	**662-2882**

S7/MultiPin™ cables for pH/redox electrode connection
Mettler-Toledo

662-0606

662-0611

662-0607

Coaxial

- S7: pH
- MultiPin™: pH/Temperature

Ordering information: Other cables on request.

Description	Pk	Cat. No.
S7 screw head		
DIN connector 1,2 m cable	1	**662-0606**
BNC connector 1,2 m cable	1	**662-0607**
S7 screw head for reference electrodes		
4 mm banana, 1,2 m cable	1	**662-0611**
2 mm pin, 1,2 m cable	1	**662-0612**
MultiPin™ connection		
DIN 19262/1x4 mm connector, 1,2 m cable	1	**662-0608**
DIN/RCA (Cinch) connector, 1,2 m cable	1	**662-9067**
BNC/RCA (Cinch) connector, 1,2 m cable	1	**662-0609**
BNC/1×4 mm connector, 1,2 m cable	1	**662-2766**

pH electrodes, SenTix® PLUS
WTW

SenTix® 21

SenTix® MIC

SenTix® 41

These proven and tested pH electrodes are easy to use and offer high quality and precision. The optimised membrane glass guarantees quick measurement even at low temperatures. The easy to use fill-hole cover prevents electrolyte from leaking out during storage.

- SenTix® PLUS electrodes with gel electrolyte and a plastic body are robust and shock-proof. The membrane glass is optimally safe-guarded by a protective shield
- SenTix® PLUS electrodes with liquid electrolyte – the capillary effect of the platinum wire guarantees constant outflow and prevents contamination by precipitates or dirt even during changes in temperature; with membrane glass for an even quicker response
- SenTix® HW and HWS electrodes: Electrolyte flow speed can be adjusted for optimal use

Type	pH	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Connection	For	Pk	Cat. No.
SenTix® PLUS electrodes (general applications: For use in the laboratory or for field work)									
SenTix® 20	0 - 14	0...+80	Plastic	Gel	12×120	S7	General applications	1	**662-1301**
SenTix® 21	0 - 14	0...+80	Plastic	Gel	12×120	DIN, fixed 1 m cable		1	**662-1302**
SenTix® 21-3	0 - 14	0...+80	Plastic	Gel	12×120	DIN, fixed 3 m cable		1	**662-1303**
SenTix® 22	0 - 14	0...+80	Plastic	Gel	12×120	BNC, fixed 1 m cable		1	**662-1304**
SenTix® 41*	0 - 14	0...+80	Plastic	Gel	12×120	DIN + banana plug (1×4 mm), fixed 1 m cable		1	**662-1305**
Sentix® 41-3M*	0 - 14	0...+80	Plastic	Gel	12×120	DIN + banana plug (1×4 mm), fixed 3 m cable		1	**662-1306**
SenTix® 51*	0 - 14	0...+80	Plastic	KCl 3 mol/l, without Ag+	12×120	DIN + banana plug (1×4 mm), fixed 1 m cable	Water/ wastewater/food/ beverages	1	**662-0106**
SenTix® 60	0 - 14	0...+100	Glass	KCl 3 mol/l, without Ag+	12×122	S7	General applications, beverages, drinking/mineral water, protein, salt and acids	1	**662-1308**
SenTix® 61	0 - 14	0...+100	Glass	KCl 3 mol/l, without Ag+	12×120	DIN, fixed 1 m cable		1	**662-2151**
SenTix® 81*	0 - 14	0...+100	Glass	KCl 3 mol/l, without Ag+	12×120	DIN + banana plug (1×4 mm), fixed 1 m cable	Wastewater/pure water/foods/ beverages/acids/ alkali/TRIS	1	**662-1315**
SenTix® 82*	0 - 14	0...+100	Glass	KCl 3 mol/l, without Ag+	12×120	BNC + banana plug (1×4 mm), fixed 1 m cable		1	**662-1316**
SenTix® 91*	0 - 14	0...+100	Glass	KCl 3 mol/l, without Ag+	12×170	DIN + banana plug (1×4 mm), fixed 1 m cable	General applications, beverages, drinking/mineral water, TRIS, salt, acids	1	**662-1277**
SenTix® PLUS special electrodes									
SenTix® SP	2 - 13	0...+80	Glass	Referid®	15/5×65/25	S7**	Penetration (bread, cheese, meat, fruit juice, solids)	1	**662-0291**
SenTix® Sur	2 - 13	0...+50	Glass	Referid®	12×120	S7**	Flat surfaces (leather, paper, skin, solids)	1	**662-1318**
SenTix® MIC	0 - 14	0...+100	Glass	KCl 3 mol/l, without Ag+	12/5×40/80	S7**	Small samples	1	**662-1319**
SenTix® ORP	-	0...+100	Glass	KCl 3 mol/l	12×120	S7**	Wastewater	1	**662-1400**
SenTix® HW	0 - 14	0...+60	Glass	KCl 3 mol/l, without Ag+	12×170	S7**	High concentration or low ionic strength samples	1	**662-1213**
SenTix® HWD	0 - 14	–5...+100	Glass	KCl 3 mol/l	12×170	DIN with 4 mm banana plug, fixed 1 m cable*	Low ionic strength samples	1	**662-1682**
SenTix® MIC-D	0 - 14	–5...+100	Glass	KCl 3 mol/l	3×96	DIN, fixed 1-m cable	Small samples	1	**662-1275**

Description	Pk	Cat. No.
Accessories		
Cable, 1 m, with S7/DIN plug	1	**662-1425**
Cable, 1 m, with S7/BNC plug	1	**662-1327**
Cable, 1 m, with SMEK/DIN plug	1	**662-1311**

* with integrated temperature probe (NTC 30 KOhm)
** without cable (available separately)

pH electrodes, BlueLine
SI Analytics

BlueLine 28 pH

BlueLine 13 pH

BlueLine 21 pH

Combination electrodes for use in the laboratory or for field work.

- Robust gel-filled electrodes with a temperature range of –5 to +80 °C
- Glass electrodes for high performance with a temperature range of –5 to +100 °C

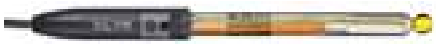
pH range: 0 - 14

Type	Temp. (°C)	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	For	Pk	Cat. No.
BlueLine 11 pH	–5...+100	Glass	KCl 3 mol/l	Platinum	12×120	S7	Drinking water, juices, wine, beer	1	**662-6130**
BlueLine 12 pH	–5...+100	Glass	KCl 3 mol/l	Platinum	12×120	DIN		1	**662-6131**
BlueLine 13 pH	–5...+100	Glass	KCl 3 mol/l	Ground joint	12×170	S7	Low ionic strength solutions	1	**662-6132**
BlueLine 14 pH	–5...+100	Glass	KCl 3 mol/l	Platinum	12×120	DIN + banana plug	General applications	1	**662-6133**
BlueLine 14 pH ID, with automatic electrode recognition	–5...+100	Glass	KCl 3 mol/l	Platinum	12×120	DIN + banana plug		1	**662-1953**
BlueLine 17 pH	–5...+100	Glass	KCl 3 mol/l	Platinum	12×120	BNC	Drinking water, juices, wine, beer	1	**662-6197**
BlueLine 18 pH	–5...+100	Glass	KCl 3 mol/l	Platinum	12×120	DIN + banana plug	General applications	1	**662-6114**
BlueLine 21 pH	–5...+100	Glass	Referid®	Hole	12/5×65/25	S7	Fruits, vegetables, meat	1	**662-6136**
BlueLine 22 pH	–5...+80	Plastic	Gel	Fibre	12×120	S7	Water, wastewater	1	**662-6137**
BlueLine 23 pH	–5...+80	Plastic	Gel	Fibre	12×120	DIN		1	**662-6138**
BlueLine 24 pH	–5...+80	Plastic	Gel	Fibre	12×120	DIN + banana plug		1	**662-6139**
BlueLine 25 pH	–5...+80	Plastic	Gel	Fibre	12×120	BNC		1	**662-6140**
BlueLine 27 pH	–5...+100	Glass	Referid®	Anular gap	12×120	S7	Surfaces, paper, skin, leather	1	**662-6142**
BlueLine 28 pH	–5...+80	Plastic	Gel	Fibre	12×120	DIN + banana plug	Surfaces	1	**662-6115**
BlueLine 31 Rx	–5...+100	Glass	KCl 3 mol/l	Ceramic	12×120	S7	Redox measurements	1	**662-6143**

Description	Pk	Cat. No.
Accessories		
Cable, 1 m, with S7/DIN plug	1	**662-1425**
Cable, 1 m, with S7/BNC plug	1	**662-1327**
Cable, 1 m, with SMEK/DIN plug	1	**662-1311**

pH combination electrodes, IoLine
SI Analytics

662-6071


662-6067

662-6065

These electrodes have been developed for the most critical pH measurements in research and quality control, pharmacies, biotechnology and the food industry. They are 100% metal ion-free and, hence, ideally suited for measurements that are critical with respect to sample contamination by ions such as silver and for pH measurements in Tris buffers too.

- Longer service life with patented three chamber reservoir in the reference electrode
- Precise, fast measurements and improved stability of measurement values, especially with changing temperatures or at temperatures other than calibration point, due to iodine/iodide reference system with lower temperature sensitivity
- Free choice of the bridge electrolyte for optimum adaptation to the sample due to double electrolyte system

Reference system: Iodine/iodide

Shaft material: Glass

Temperature range: –5...+100 °C

pH range: 0 - 14

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Type	pH	Temp. (°C)	Diaphr.	Ø×L (mm)	Connection	For	Pk	Cat. No.
Electrodes without temperature sensor								
IoLine IL-pH-A120MF-DIN, sphere membrane shape	0 - 14	–5...+100	Platinum	12×120	DIN, 1m fixed cable	General applications, low ion media	1	**662-6077**
IoLine IL-pH-A120-DIN, sphere membrane shape	0 - 14	–5...+100	Ceramic	12×120	DIN, 1m fixed cable		1	**662-6076**
IoLine IL-pH-A120MF, sphere membrane shape	0 - 14	–5...+100	Platinum	12×120	S7		1	**662-6090**
IoLine IL-SP-pH-A, spear membrane shape	0 - 14	–5...+100	Ceramic	12×120 (8×50/70)	S7	Insert measurement	1	**662-6071**
Electrodes with temperature sensor								
IoLine IL-pHT-A120MF-DIN-N, sphere membrane shape, PT1000, ID function	0 - 14	–5...+100	Platinum	12×120	DIN + banana plug	General applications, low ion media	1	**662-6067**
IoLine IL-pHT-A170MF-DIN-N, sphere membrane shape, PT1000, ID function	0 - 14	–5...+100	Platinum	12×170	DIN + banana plug		1	**662-6065**

pH electrodes, ScienceLine

SI Analytics

Heavy duty laboratory electrodes for practically all applications in the laboratory and in the field.

- Maximum measuring accuracy and consistency, with optimum sensor service life
- Maximum adaptability for all applications, even at high temperatures

Reference system: Silver/silver chloride

Electrolyte: KCl 3 mol/l

Shaft material: Glass

Temperature range: –5 to +100 °C (H 61 / H 63: +10 to + 100 °C)

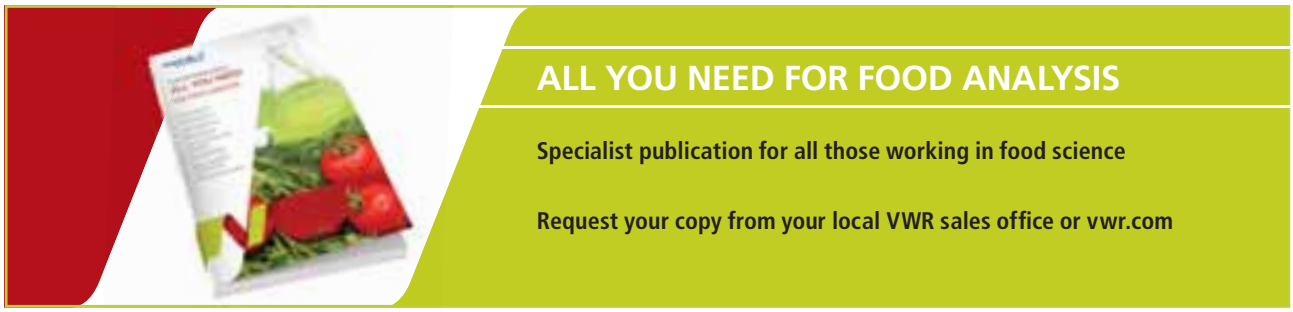
pH range: 0 - 14

Ordering information: Supplied with serial number and quality certificate.

Type	Temp. (°C)	Diaphr.	Ø×L (mm)	Connection	For	Pk	Cat. No.
A 7780	–5...+100	3× Ceramic	12×120	S7*	Agriculture, dairy products, water analysis	1	**662-0101**
N 61	–5...+100	Platinum	12×170	S7*	Wide range of applications	1	**662-0512**
N 62	–5...+100	Platinum	12×120	S7*		1	**662-6172**
N 6280	–5...+100	Ceramic	12×120	S7*		1	**662-6105**
N 52 BNC	–5...+100	Platinum	12×120	BNC		1	**662-6113**
N 52 A	–5...+100	Platinum	12×120	DIN		1	**662-6112**
N 42 A	–5...+100	Ceramic	12×120	DIN	Water analysis, technical applications	1	**662-6107**
H 61	+10...+100	Platinum	12×170	S7*		1	**662-0513**
H 63	+10...+100	Platinum	12×320	S7*		1	**662-0515**

Description	Pk	Cat. No.
Accessories		
Cable, 1 m, with S7/DIN plug	1	**662-1425**
Cable, 1 m, with S7/BNC plug	1	**662-1327**
Cable, 1 m, with SMEK/DIN plug	1	**662-1311**

* without cable (available separately)



pH and ORP microelectrodes

SI Analytics

For small sample volumes in life science and pharmaceutical applications.

- Reliable and reproducible results
- Highest quality and long lasting
- Accurate and highly precise
- Designed for small volumes and life science applications

Suitable temperature range: –5...+100 °C

pH electrodes are equipped with A-type membrane glass. pH electrodes with integrated temperature measurement are using a PT1000 sensor.

For most accurate results, we recommend using the ProLab 3000 meter in combination with these electrodes.

Description	Type	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
pH/temperature microelectrode, Silamid® reference system, cylindrical membrane shape	A 157	Platinum	12/5×40/130	SMEK plug head	1	**662-6174**
pH/temperature microelectrode, Silamid® reference system, cylindrical membrane shape	A 157 1M-DIN-ID	Platinum	12/5×40/130	DIN + banana plug, 1 m fixed cable	1	**662-1678**
pH/temperature microelectrode, Silamid® reference system, cylindrical membrane shape	A 157 1M-BNC-ID	Platinum	12/5×40/130	BNC + banana plug, 1 m fixed cable	1	**662-1679**
pH microelectrode, Ag/AgCl reference system, cylindrical membrane shape	BlueLine 16 pH	Platinum	12/5×120 (40/80)	Plug head	1	**662-6135**
pH microelectrode, iodine/iodide reference system, cylindrical membrane shape	IL-MICRO-pH-A	Platinum	12/6×170 (130/40)	Screw plug head S7	1	**662-6095**
pH microelectrode, iodine/iodide reference system, cylindrical membrane shape	IL-MICRO-pH-A-DIN	Platinum	12/6×170 (130/40)	DIN plug, 1 m fixed cable	1	**662-6063**
pH microelectrode, iodine/iodide reference system, cylindrical membrane shape	IL-MICRO-pH-A-BNC	Platinum	12/6×170 (130/40)	BNC plug, 1 m fixed cable	1	**662-6096**
pH/temperature microelectrode, iodine/iodide reference system, cylindrical membrane shape	IL-MICRO-pHT-A-DIN-N	Platinum	12/6×170 (130/40)	DIN + banana plug, 1 m fixed cable	1	**662-6069**
pH/temperature microelectrode, iodine/iodide reference system, cylindrical membrane shape	IL-MICRO-pHT-A-BNC-N	Platinum	12/6×170 (130/40)	BNC + banana plug, 1 m fixed cable	1	**662-6070**
pH microelectrode, Silamid® reference system, spear membrane shape, tapper NS 7,5	N 5800 A	3× platinum	5×96	DIN plug, 1 m fixed cable	1	**662-1267**
pH microelectrode, Silamid® reference system, spear membrane shape, tapper NS 7,5	N 5800 BNC	3× platinum	5×96	BNC plug, 1 m fixed cable	1	**662-1675**
pH microelectrode, Silamid® reference system, sphere membrane shape, tapper NS 7,5	N 5900 A	Platinum	5×96	DIN plug, 1 m fixed cable	1	**662-0520**
pH microelectrode, Silamid® reference system, cylindrical membrane shape, tapper NS 7,5	N 6000 A	Platinum	3×96	DIN plug, 1 m fixed cable	1	**662-6109**
pH microelectrode, Silamid® reference system, cylindrical membrane shape, tapper NS 7,5	N 6000 BNC	Platinum	3×96	BNC plug, 1 m fixed cable	1	**662-1676**
pH microelectrode, Silamid® reference system, cylindrical membrane shape, tapper NS 7,5	N 6000 1M-DIN-ID	Platinum	3×96	DIN plug, 1 m fixed cable	1	**662-1680**
pH microelectrode, Silamid® reference system, cylindrical membrane shape, tapper NS 7,5	N 6000 1M-BNC-ID	Platinum	3×96	BNC plug, 1 m fixed cable	1	**662-1681**
pH microelectrode, Silamid® reference system, cylindrical membrane shape	N 6003	Ceramic	3×180	Plug head	1	**662-1673**
ORP microelectrode, Silamid® reference system, rod membrane shape, tapper NS 7,5	Pt 5900 A	Platinum	5×96	DIN plug, 1 m fixed cable	1	**662-1674**
ORP microelectrode, Silamid® reference system, rod membrane shape, tapper NS 7,5	Pt 5900 BNC	Platinum	5×96	BNC plug, 1m fixed cable	1	**662-1677**
ORP microelectrode, Silamid® reference system, rod membrane shape, tapper NS 7,5	Pt 5901	Platinum	5×160	Plug head	1	**662-1672**

pH electrodes, SteamLine
SI Analytics

Autoclavable high-tech electrodes with outstanding electrical and physical perfomance characteristics guaranteeing exceptional accuracy and reliability over long periods of time. Can be used in demanding environments. Developed for a wide range of uses in the agrofood industry or biotechnology, they can be used equally well for taking continuous measurements in the chemical industry. Suitable for CIP and SIP applications. Certificate of maximum operating temperature and pressure supplied.

- pH-sensitive glass body
- pH measurement with temperature compensation for increased accuracy
- pH range: 0 - 14
- Temperature range: 0...+135 °C
- Pressure range: Vacuum to 10 bar

Type	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
SL80-120pH	Glass	SILAMID®	Ceramic	12×120	Screw plug head	1	**662-6145**
SL80-225pH	Glass	SILAMID®	Ceramic	12×225	Screw plug head	1	**662-6146**
SL81-120pHT-VP, with PT1000 sensor	Glass	SILAMID®	Ceramic	12×120	VP screw plug head	1	**662-1833**

Description	Pk	Cat. No.
Accessories		
9902/05 cable for coaxial plug head (SL80, SL89), 5 m	1	**662-6164**
SMEK 19/05 cable for SMEK plug head (SL81, SL82), 5 m	1	**662-6163**

Other electrodes with different cable lengths are available on request.

pH electrodes

P12

P14

With BNC connector, 1 metre cable

- Fast response
- Low noise and drift
- Reliable performance

pH range: 0 - 14

Electrode	Applications
P11 / P14 / P20	General purpose
P17	Surface
P12 / P13	Liquids
P16	Tris
P18	Slurries
P19	Semi-solids

Type	pH	Temp. (°C)	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	For	Pk	Cat. No.
Standard, single junction electrodes for general purpose applications										
P14	0 - 14	0...+60	Epoxy	AgCl	Porous PTFE	12×120	BNC	General purposes	1	**662-1356**
P11	0 - 14	0...+80	Glass	AgCl	Annular ceramic	12×120	BNC		1	**662-1199**
P17, Flat head	0 - 14	0...+80	Epoxy	AgCl	Porous PTFE	12×120	BNC	Surface	1	**662-1203**
P20 with integral ATC	0 - 14	0...+80	Epoxy	AgCl	Ceramic PTFE	12×120	BNC	General purposes	1	**662-1206**
Combination electrodes, single junction, for all situations										
P12, long reach micro	0 - 14	0...+80	Glass	AgCl	Frit ceramic	Stem 6×150	BNC	Liquids	1	**662-1200**
P13, semi-micro	0 - 14	0...+80	Glass	AgCl	Frit ceramic	Stem 4,5×90	BNC		1	**662-1201**
P16	0 - 14	0...+50	Glass	HgCl	Frit ceramic	Stem 6×90	BNC	Tris	1	**662-1202**
P17	0 - 14	0...+80	Epoxy	AgCl	Porous PTFE	Stem 6×120	BNC	Surface measurements, paper	1	**662-1744**
P18, spear	0 - 14	0...+80	Glass	AgCl	Annular ceramic	12×120	BNC	Slurries	1	**662-1204**
P19, spear	0 - 14	0...+80	Glass	AgCl	Frit ceramic	Stem 6×40	BNC	Semi-solids	1	**662-1205**

pH electrodes, pH PLUS

PP11

With BNC connector, 1 m cable

- Faster measurements
- Double junction, prevents long term drift
- High reproducibility and good linearity

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Type	pH	Temp. (°C)	Material	Diaphr.	Ø×L (mm)	For	Pk	Cat. No.
PP11	0 - 14	0...+100	Glass	Annular ceramic	12×120	Laboratory	1	**662-1207**
PP11-ROD, with robust glass tip	0 - 14	0...+100	Glass	Annular ceramic	12×120	General purpose	1	**662-1208**
PP12	0 - 14	0...+100	Glass	Frit ceramic	6×150	Measurements in flasks	1	**662-1209**
PP16	0 - 14	0...+100	Glass	Frit ceramic	6×90	Tris	1	**662-1228**
PP17	0 - 14	0...+90	Epoxy	Porous PTFE	12×120	Measurements of flat surfaces	1	**662-1210**
PP18	0 - 14	0...+100	Glass	Ceramic	12×120	Soil, semi-solids	1	**662-1745**

Specialist food electrodes

130-77

P11/DWP

P14/RJ/LF

With BNC connector, 1 metre cable

- Fast response
- Low noise and drift
- Reliable performance

Temperature range: 0 to +80 °C

Electrode	Applications
P11/DWP	Drinking water
P14/RJ/LF	Jam and fruit preserves
P19	Meat/cheese
130-77	Frozen or semi-frozen foodstuffs

Type	pH	Temp. (°C)	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	For	Pk	Cat. No.
130-77 (Glass sensor)	0 - 14	0...+80	Stainless steel	-	-	12×120	BNC	Frozen or semi-frozen foodstuffs	1	**662-1229**
P11/DWP	0 - 14	0...+80	Glass	AgCl	Annular ceramic	12×120	BNC	Drinking water	1	**662-1230**
P14/RJ/LF	1 - 13	0...+80	Epoxy	-	Replaceable ceramic	12×120	BNC	Jam and fruit preserves	1	**662-1231**
P19	0 - 14	0...+80	Epoxy	AgCl	Frit ceramic	(Stem) 6×40	BNC	Meat/cheese	1	**662-1242**

Cables for electrodes
SI Analytics

Description	Pk	Cat. No.
Cable LB1A with S7/DIN connections, 1 m length	1	**662-6144**
Cable LB1BNC with S7/BNC connections, 1 m length	1	**662-6165**

pH electrodes for field measurements
Hamilton

662-9216

662-9220

Maintenance free SINGLE PORE electrodes for general applications and portable measurements with a polymeric electrolyte, which ensures easy handling.

- Universally applicable, especially for ion-weak solutions, water and sewage, emulsions and suspensions
- Fast response and accurate readings with the patented SINGLE PORE concept
- Shatter-proof plastic shaft for portable measurements

pH range: 0 - 14
Electrolyte: POLISOLVE

Ordering information: Supplied with certificate.

Electrode	Applications
POLILYTE	General application
POLIPLAST	Water and sewage

Type	Temp. (°C)	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
POLYPLAST	0...+60	Plastic	POLISOLVE	SINGLE PORE	12×120	BNC, 1 m cable	1	**662-9217**
POLYPLAST	0...+60	Plastic	POLISOLVE	SINGLE PORE	12×120	S7	1	**662-9216**
POLYPLAST Temp DIN*	0...+60	Plastic	POLISOLVE	SINGLE PORE	12×120	DIN+Banana	1	**662-9221**
POLYPLAST ORP	0...+60	Plastic	POLISOLVE	SINGLE PORE	12×120	S7+BNC cable	1	**662-9240**
POLILYTE LAB	–10...+80	Glass	POLISOLVE	SINGLE PORE	12×120	S7	1	**662-9220**
POLILYTE LAB Temp DIN*	–10...+80	Glass	POLISOLVE	SINGLE PORE	12×120	DIN+Banana	1	**662-9237**

* Integrated temperature sensor

pH electrodes for general laboratory and foodstuff applications

Hamilton

662-9211

662-9219

662-9231

EVEREF reference system provides stable potentials resulting in long sensor lifetime.

- Specially formulated electrolytes allow pH measurements of aqueous and biological (protein containing) matrices
- Special membrane shapes for small sample volumes or semi-solid samples

Electrolyte: KCl 3 M (BIOTRODE: PROTELYTE / DOUBLE PORE: POLISOLVE)
Diaphragm: Ceramic (FLUSHTRODE: Sleeve / DOUBLE PORE: 2× Single Pore)
pH range: 0 - 14

Ordering information: Supplied with individual certificate and serial number.

Electrode	Applications
LIQ GLASS	General applications
FLUSHTRODE	Viscous samples, ion weak media and media containing proteins
MINITRODE	Small volumes (e.g. vials)
BIOTRODE	Small samples
SLIMTRODE	Measurements in test tubes
DOUBLE PORE	Meat/cheese

Type	Temp. (°C)	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
LIQ GLASS	–10...+100	3 mol/l KCl	Ceramic	12×120	S7	1	**662-9200**
FLUSHTRODE	–10...+80	3 mol/l KCl	Sleeve	12×120	S7	1	**662-9206**
MINITRODE	0...+100	3 mol/l KCl	Ceramic	3×60	S7	1	**662-9209**
BIOTRODE	0...+100	PROTELYTE	Ceramic	3×60	S7	1	**662-9211**
SLIMTRODE	0...+100	3 mol/l KCl	Ceramic	6×100	S7	1	**662-9213**
DOUBLE PORE	0...+60	POLISOLVE	2×Single Pore	6×35	S7	1	**662-9219**
FILLTRODE	0...+60	SKYLYTE-CL	Ring	12×120	S7	1	**662-9231**

Description	Pk	Cat. No.
Accessories		
Cable S7/BNC, length 1 m (for electrodes before 2007)	1 m	**662-9225**
Cable S7/DIN, length 1 m (for electrodes before 2007)	1	**662-9226**
Electrolyte KCl 3 M	100 ml	**662-9202**
Electrode storage solution	500 ml	**662-9223**

pH electrodes for food industry

Hanna

FC100B

FC200B

FC210B

These pH electrodes are suitable for measuring the pH value in different types of food.

- Available with BNC or DIN connector
- Different tip shapes for different food types

Ordering information: Supplied with 1 m white cable.

Type	pH	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	For	Pk	Cat. No.
FC 100B, with spheric tip (Ø 7,5 mm)	0 - 13	PVDF	KCl 3,5 M	Single ceramic	12×120	BNC, 1 m cable	Cheese	1	**620-3773**
FC 200B, with conic tip (6×10 mm)	0 - 12	PVDF	Viscolene	Open	6×120	BNC, 1 m cable	Milk, dairy products, semi solid foods	1	**662-1718**
FC 200B, with conic tip (6×10 mm)	0 - 12	PVDF	Viscolene	Open	6×75	DIN, 1 m cable		1	**662-4150**
FC 210B, with conic tip (12×12 mm)	0 - 12	Glass	Viscolene	Open	12×120	BNC, 1 m cable	Milk, yogurt, creams	1	**620-3775**

Sensor packages for Sartorius Stedim Bioreactor Systems, BIOSTAT A & B

Hamilton

These packages were developed for the easy maintenance of the pH and dissolvd oxygen sensors fixed on the Sartorius bioreactor Systems BIOSTAT A & B for fermentation processing. Each of the service kits include one Easyferm Plus electrode at the described length for replacing the electrode on the bioreactor system and one DO Oxyferm membrane kit for maintaining the DO probe.

- pH electrode available with two different connector heads: S8 or VP 6
- Package simplifies the control of the sensors in the bioreactors systems
- Including certification traceable to international standards for quick and safe pH sensor 2-point calibration

Delivery information: Each package is supplied with one pH electrode EasyFerm Plus, two 250 ml pH buffer bottles (pH 4 and pH 7) with certification, three Oxyferm membrane bodies, one bottle of oxylyte electrolyte, pipette, two spare-o-rings and a polishing strip.

Type	pH	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
Service kit K8 120	0 - 14	Pressurised PhermLyte	HP-Coatramic	12×120	K8	1	**662-9249**
Service kit K8 160	0 - 14	Pressurised PhermLyte	HP-Coatramic	12×160	K8	1	**662-9250**
Service kit K8 200	0 - 14	Pressurised PhermLyte	HP-Coatramic	12×200	K8	1	**662-9251**
Service kit K8 225	0 - 14	Pressurised PhermLyte	HP-Coatramic	12×225	K8	1	**662-9252**
Service kit K8 325	0 - 14	Pressurised PhermLyte	HP-Coatramic	12×325	K8	1	**662-9253**
Service kit K8 425	0 - 14	Pressurised PhermLyte	HP-Coatramic	12×425	K8	1	**662-9254**
Service kit VP 120	0 - 14	Pressurised PhermLyte	HP-Coatramic	12×120	VP 6	1	**662-9255**
Service kit VP 160	0 - 14	Pressurised PhermLyte	HP-Coatramic	12×160	VP 6	1	**662-9256**
Service kit VP 225	0 - 14	Pressurised PhermLyte	HP-Coatramic	12×225	VP 6	1	**662-9257**
Service kit VP 325	0 - 14	Pressurised PhermLyte	HP-Coatramic	12×325	VP 6	1	**662-9258**
Service kit VP 360	0 - 14	Pressurised PhermLyte	HP-Coatramic	12×360	VP 6	1	**662-9259**
Service kit VP 425	0 - 14	Pressurised PhermLyte	HP-Coatramic	12×425	VP 6	1	**662-9260**

pH electrode solutions

WTW

Description	Pk	Cat. No.
Pepsin, cleaning solution 250 ml	3	**662-8291**
KCl 3 M saturated with AgCl	250 ml	**662-0335**
KCl 3 M	250 ml	**662-0282**

Cleaning solutions for electrodes

For full information concerning health and safety data please see the VWR chemical catalogue or the www.vwr.com website.

Description	Pk	Cat. No.
Pepsin/hydrochloric acid	500 ml	**83603.260**
Pepsin/hydrochloric acid	1 l	**83603.290**

Electrode stand, pHenomenal®

Electrode arm moves smoothly in almost any direction, holding up to 4 electrodes + 1 temperature sensor safely and securely in selected positions. Fingertip control raises, lowers, and pivots the holder. The arm articulates at three points while maintaining electrodes in a vertical position.

- Ideal for multiple readings
- Accepts all standard electrodes
- Pivots 360°, extends 53 cm

Description	Pk	Cat. No.
pHenomenal® electrode stand, holds up to 4 electrodes + 1 temperature sensor	1	**662-1169**

Electrode stand
Hanna

Cantilever stand holds 3 electrodes in any position.

- Large enamel coated steel base providing stability
- For 12 mm body diameter electrodes

Description	Pk	Cat. No.
Electrode stand, for 3 electrodes	1	**662-4105**

Electrode stand, STH 650
WTW

Bench top stand with flexible electrode holder, suitable for pH combination electrodes and temperature sensors.

Description	Pk	Cat. No.
Electrode stand STH 650	1	**662-0412**

Electrode stand
Mettler-Toledo

Free standing or mounted on the right or left side of Mettler-Toledo Seven™ instruments.

- Stand for 4 electrodes and one temperature sensor
- Adjustable spring allowing electrode weight compensation

Description	Pk	Cat. No.
Electrode stand and holder, complete	1	**665-0017**

Combined ion selective electrodes, 800 series
WTW

These easy-to-use, robust, high quality ion-selective electrodes are ideal for field applications.

- Combined with built-in reference electrodes which make them particularly suitable for measurement of small volume samples

Ordering information: These ion selective electrodes will require additional electrolyte and ion strength adjustment solutions (ISA) as well as freshly prepared standards (see ISA solutions).

Description	Type	Concentration	pH	For	Pk	Cat. No.
With DIN connector						
Cl 800 with DIN-plug, combined electrode for chloride	Cl 800 (DIN)	2 - 35000 mg/l, 5×10^{-5} - 1 mol/l	2 - 12	Drinking water, foodstuffs	1	**662-7373**
CN 800 with DIN-plug, combined electrode for cyanide	CN 800	0,2 - 260 mg/l, 8×10^{-6} - 10^{-2} mol/l	0 - 14	Electroplating baths	1	**662-7375**
Cu 800 with DIN-plug, combined electrode for copper	Cu 800	0,0006 - 6400 mg/l, 10^{-8} - 10^{-1} mol/l	2 - 6	Electroplating baths	1	**662-7377**
F 800 with DIN-plug, combined electrode for fluoride	F 800	0,02 - sat. mg/l, 10^{-6} - sat. mol/l	5 - 7	Toothpaste, cement	1	**662-7379**
With BNC connector						
Cl 800 with BNC-plug, combined electrode for chloride	Cl 800 (BNC)	2 - 35000 mg/l, 5×10^{-5} - 1 mol/l	2 - 12	Drinking water, foodstuff	1	**662-7372**

Description	Pk	Cat. No.
Accessories		
Universal electrolyte for electrolytic bridge ELY/BR/503	250 ml	**662-0492**
TISAB buffer solution (F800), 1 l bottle	4	**662-0359**
ISA/FK solution, $NaNO_3$, 5 mol/l (Cl800 / Cu800)	500 ml	**662-0350**
MZ/NH_3/CN alkaline solution, NaOH, 10 mol/l (CN800)	250 ml	**662-0382**
Standard solution ES/Cl: 10 g/l Cl (Cl800)	1 l	**662-1420**
Standard solution ES/F: 10 g/l F (F800)	1 l	**662-0360**
Standard solution ES/Cu: 10 g/l, Cu (Cu800)	1 l	**662-0364**

Combined ion selective electrodes, perfectION™
Mettler-Toledo

Combined ion-selective electrodes consisting of a measuring electrode complete with an integrated reference.

- Click & Clear™ junction enables optimum contact between the electrolyte and measurement solution, even in difficult samples
- The electrolyte solution can be made to flow easily through the junction by pressing the electrode head downwards
- The junction needs to be cleaned between measurements and the electrolyte can be simply emptied and refilled if necessary

Ordering information: Each electrode is supplied with one replacement module. The reference electrolytes must be ordered separately.

Description	Concentration	pH	Temp. (°C)	Material	Electrolyte	Connection	Pk	Cat. No.
perfectION™ electrodes								
perfectION™ Cl^-	5×10^{-5} - 1 mol/l	2 - 12	0...+80	Epoxy	B	BNC, 1,2 m cable	1	**662-1280**
perfectION™ Cl^-	5×10^{-5} - 1 mol/l	2 - 12	0...+80	Epoxy	B	Lemo, 1,2 m cable	1	**662-1283**
perfectION™ F^-	10^{-6} mol/l - saturated	4,5 - 5,5	0...+80	Epoxy	A	BNC, 1,2 m cable	1	**662-1281**
perfectION™ F^-	10^{-6} mol/l - saturated	4,5 - 5,5	0...+80	Epoxy	A	Lemo, 1,2 m cable	1	**662-1284**
perfectION™ I^-	5×10^{-8} - 1 mol/l	0 - 12	0...+80	Epoxy	D	BNC, 1,2 m cable	1	**662-1286**
perfectION™ K^+	10^{-6} - 1 mol/l	2,5 - 11	0...+40	Epoxy	E	BNC, 1,2 m cable	1	**662-1287**
perfectION™ Na^+	10^{-7} - 1 mol/l	8 - 11	0...+80	Glass	3 mol/l KCl	S7	1	**662-1282**

Description	Pk	Cat. No.
Reference electrolytes		
Ion Electrolyte A, 60 ml	5	**662-1288**
Ion Electrolyte B, 60 ml	5	**662-1289**
Ion Electrolyte D, 60 ml	5	**662-1290**
Ion Electrolyte E, 60 ml	5	**662-1291**

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Description	Pk	Cat. No.
ISA solutions		
ISA solution for Cl^- and I^-	475 ml	**662-1292**
ISA solution for K^+	475 ml	**662-1293**
ISA solution for F^-	3.790 ml	**662-1294**
Membranes		
Membrane module for perfectION™ K^+	1	**662-1295**
Electrolyte KCl 3 mol/l	500 ml	**83605.260**

Other electrodes available on request. For further information please contact your local VWR office.
ISA solution for Na^+: NH_4Cl / NH_4OH

Combined ion selective electrodes

With BNC connector, 1 m cable

Rugged solid-state electrodes with built-in reference elements that do not require any filling solution or maintenance. Ideal for unskilled operatives.

- Fully submersible and waterproof
- Virtually unbreakable
- Colour coded caps for identification in the field
- Can be left dry for long periods
- Long lifetime

Description	Concentration	pH	Temp. (°C)	Connection	Pk	Cat. No.
Sodium (Na^+)	$3 - 10^{-7}$	1 - 9	0...+50	BNC	1	**662-1179**
Ammonia (NH_3)	$1 - 10^{-6}$	11 - 13	0...+50	BNC	1	**662-1180**
Nitrate (NO_3^-)	$1 - 7\times10^{-6}$	2 - 11	0...+50	BNC	1	**662-1181**
Calcium (Ca_{2+})	$10^{-1} - 5\times10^{-7}$	3,5 - 11	0...+50	BNC	1	**662-1182**
Ammonium (NH_4^+)	$0,5 - 5\times10^{-5}$	0 - 8,5	0...+50	BNC	1	**662-1183**
Chloride (Cl^-)	$1 - 3\times10^{-6}$	1 - 12	+5...+50	BNC	1	**662-1184**
Fluoride (F^-)	$10^{-1} - 10^{-6}$	4 - 8	+5...+50	BNC	1	**662-1185**
Potassium (K^+)	$1 - 10^{-6}$	1 - 9	0...+50	BNC	1	**662-1186**
Perchlorate (ClO_4^-)	$1 - 2\times10^{-6}$	0 - 11	0...+50	BNC	1	**662-1187**
Barium (Ba_{2+})	$10^{-1} - 10^{-5}$	3 - 10	0...+50	BNC	1	**662-1188**
Water hardness	$2\times10^{-1} - 5\times10^{-5}$	4,5 - 10	0...+50	BNC	1	**662-1189**
Silver (Ag^+)	$1 - 10^{-7}$	1 - 9	+5...+50	BNC	1	**662-1190**
Lead (Pb_{2+})	$10^{-1} - 10^{-6}$	3 - 7	+5...+50	BNC	1	**662-1191**
Cadmium (Cd_{2+})	$10^{-1} - 10^{-6}$	3 - 7	+5...+50	BNC	1	**662-1192**
Bromide (Br^-)	$1 - 5\times10^{-6}$	1 - 12	+5...+50	BNC	1	**662-1193**
Iodide (I^-)	$1 - 5\times10^{-7}$	2 - 12	+5...+50	BNC	1	**662-1194**
Cyanide (CN^-)	$10^{-2} - 10^{-6}$	11 - 13	+5...+50	BNC	1	**662-1195**
Sulphide (S^{2-})	$1 - 10^{-7}$	13 - 14	+5...+50	BNC	1	**662-1196**
Copper (Cu_{2+})	$1 - 10^{-7}$	2 - 7	+5...+50	BNC	1	**662-1197**
Thiocyanate (SCN^-)	$10^{-1} - 2\times10^{-6}$	2 - 12	+5...+50	BNC	1	**662-1198**

Combined ion selective electrodes, Orion
Thermo Scientific

Orion ion selective electrodes (ISE) allow ions in aqueous solutions to be measured quickly, accurately, and economically.

- With their unique redox internal system, the ISE electrodes provide faster responses, greater stability and accuracy compared to conventional ISE electrodes

BN: Electrodes with BNC-connection cable (Length: 1 m)

WP: Secure and waterproof connection

Description	Concentration	Temp. (°C)	Connection	Pk	Cat. No.
Combination electrodes					
Sodium ROSS® half-cell, 8411BN	Saturated to 10^{-6} M	0...+80	BNC waterproof	1	**662-0747**
Sodium ROSS® combination, 8611BNWP	Saturated to 10^{-6} M	0...+80	BNC waterproof	1	**662-1523**
Ammonia, gas-sensing, 9512BNWP	1,0 M - 5×10^{-7} M	0...+50	BNC waterproof	1	**662-1592**

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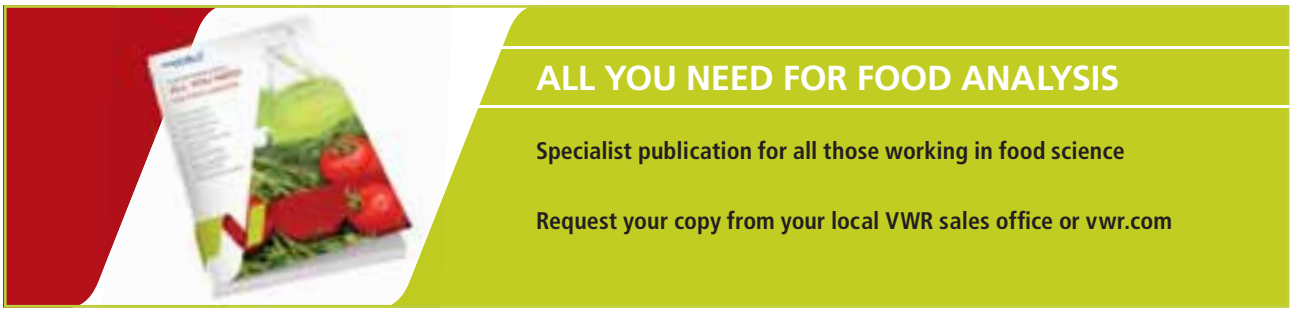
Description	Concentration	Temp. (°C)	Connection	Pk	Cat. No.
Combination electrodes					
Fluoride ionplus® Sure-Flow® solid-state combination, 9609BNWP	Saturated to 10^{-6} M	0...+80	BNC waterproof	1	**662-1539**
Chloride ionplus® Sure-Flow® solid-state combination, 9617BNWP	1,0 M - 5×10^{-5} M	0...+80	BNC waterproof	1	**662-1541**
Nitrate ionplus® Sure-Flow® combination, 9707BNWP	1,0 M - 7×10^{-6} M	0...+40	BNC waterproof	1	**662-1576**

Description	pH	Temp. (°C)	Material	Connection	For	Pk	Cat. No.
Half-cell							
ROSS® Sure-Flow half-cell, for use with sodium half-cell 8411BN	0 - 14	0...100	Glass	Pin-tip	Dirty or viscous samples	1	**662-0714**

Description	Pk	Cat. No.
Fillling solutions, Orion™		
Orion™ 900001 filling solution, equitransferent solution saturated with AgCl, 5×50 ml	5	**662-0749**
Filling solution for Sodium ion selective electrode (2 M NH_4Cl), 5×60 ml	300 ml	**662-0752**
Orion 900011 filling solution, 4 M KCl saturated with Ag, 5×50 ml	5	**662-0753**
Optimum Results F filling solution for Nitrate ionplus® electrode, 5×60 ml	1 Set	**662-0760**
Optimum Results A filling solution for Fluoride ionplus® electrode, 5×60 ml	1 Set	**662-0761**
Optimum Results B filling solution for Chloride ionplus® electrode, 5×60 ml	300 ml	**662-0762**
Filling solution for Ammonia electrode, 1×50 ml	1 Set	**662-0855**
Ionic strength adjusting (ISA) solutions for use with ion selective electrodes		
Ionic strength adjuster for sodium ion selective electrode, in a bottle	475 ml	**662-0745**
Ionic strength adjuster for chloride ion selective electrode, in a bottle	475 ml	**662-0824**
Ionic strength adjuster for fluoride ion selective electrode (with TISAB II), in a 1 gallon (US) container	3,785 l	**662-0828**
Ionic strength adjuster/pH adjuster for ammonium ion selective electrode, in a bottle	475 ml	**662-0857**
Accessories		
Polishing strips for solid-state electrodes	24	**662-1544**
Membranes for Ammonia electrode 9512BN	20	**662-0856**
Bonded membranes for Ammonia electrode 9512BN	3	**662-1515**

Other ISE electrodes available on request. For further information please contact the VWR Technical.



VWR CHEMICALS

Buffer solutions, 20 °C AVS TITRINORM®

- Solutions prepared from AnalaR® NORMAPUR® grade analytical reagents
- True analytical value on the label to an accuracy of ± 0,02 pH units (pH 1- 10) (± 0,05 for pH 12.00 buffer)
- Traceable to SRM from NIST
- Batch number and packing date for traceability
- Certificate of analysis available from www.vwr.com

For full information concerning health and safety data please see the www.vwr.com website.

Ordering information: If significantly large volumes are required please contact your local VWR sales office for a customised offer.

Description	pH value	Pk	Cat. No.
Buffer solutions in bottles			
Buffer solution pH 1,00 (20 °C, glycine buffer) ±0,02 pH units AVS TITRINORM®	1,00	1 l	**32031.297**
Buffer solution pH 2,00 (20 °C, citrate buffer) ±0,02 pH units AVS TITRINORM®	2,00	1 l	**32032.291**
Buffer solution pH 3,00 (20 °C, citrate buffer) ±0,02 pH units AVS TITRINORM®	3,00	1 l	**32033.294**
Buffer solution pH 3,00 (20 °C, citrate buffer) ±0,02 pH units AVS TITRINORM®	3,00	5 l	**32033.374**
Buffer solution pH 4,00 (20 °C) (potassium hydrogen phthalate) ±0,02 pH units AVS TITRINORM®	4,00	500 ml	**32095.264**
Buffer solution pH 4,00 (20 °C) (potassium hydrogen phthalate) ±0,02 pH units AVS TITRINORM®	4,00	1 l	**32095.297**
Buffer solution pH 4,00 (20 °C) (potassium hydrogen phthalate) ±0,02 pH units AVS TITRINORM®	4,00*	5 l	**32095.366**
Buffer solution pH 4,00 (20 °C) (potassium hydrogen phthalate) ±0,02 pH units AVS TITRINORM®	4,00**	5 l	**32095.377**
Buffer solution pH 4,00 (potassium hydrogen phthalate) AVS TITRINORM®	4,00 (red coloured)	500 ml	**32044.268**
Buffer solution pH 4,00 (potassium hydrogen phthalate) AVS TITRINORM®	4,00 (red coloured)***	1 l	**32044.290**
Buffer solution pH 4,00 (potassium hydrogen phthalate) AVS TITRINORM®	4,00 (red coloured)	1 l	**32044.292**
Buffer solution pH 4,66 (20 °C) (acetic acid/sodium acetate) ±0,02 pH units AVS TITRINORM®	4,66	500 ml	**98192.260**
Buffer solution pH 4,66 (20 °C) (acetic acid/sodium acetate) ±0,02 pH units AVS TITRINORM®	4,66	1 l	**98192.290**
Buffer solution pH 5,00 (20 °C, citrate buffer) ±0,02 pH units AVS TITRINORM®	5,00	1 l	**32035.291**
Buffer solution pH 6,.00 (20 °C, citrate buffer) ±0,02 pH units AVS TITRINORM®	6,00	1 l	**32036.294**
Buffer solution pH 6.88 (20 °C) (Potassium dihydrogen phosphate/disodium hydrogen phosphate) ±0,02 pH units AVS TITRINORM®	6,88	500 ml	**83601.260**
Buffer solution pH 6.88 (20 °C) (Potassium dihydrogen phosphate/disodium hydrogen phosphate) ±0,02 pH units AVS TITRINORM®	6,88	1 l	**83601.290**
Buffer solution pH 7,00 (20 °C) (potassium dihydrogen phosphate/disodium hydrogen phosphate) ±0,02 pH units AVS TITRINORM®	7,00	500 ml	**32096.267**
Buffer solution pH 7,00 (20 °C) (potassium dihydrogen phosphate/disodium hydrogen phosphate) ±0,02 pH units AVS TITRINORM®	7,00	1 l	**32096.291**
Buffer solution pH 7,00 (20 °C) (potassium dihydrogen phosphate/disodium hydrogen phosphate) ±0,02 pH units AVS TITRINORM®	7,00*	5 l	**32096.360**
Buffer solution pH 7,00 (20 °C) (potassium dihydrogen phosphate/disodium hydrogen phosphate) ±0,02 pH units AVS TITRINORM®	7,00**	5 l	**32096.371**
Buffer solution pH 7,00 (20 °C) (potassium dihydrogen phosphate/disodium hydrogen phosphate) ±0,02 pH units AVS TITRINORM®	7,00	10 l	**32096.400**
Buffer solution pH 7,00 (20 °C) (potassium hydrogen phthalate/disodium hydrogen phosphate) ±0,02 pH units AVS TITRINORM®	7,00 (green coloured)	500 ml	**32045.262**
Buffer solution pH 7,00 (20 °C) (potassium hydrogen phthalate/disodium hydrogen phosphate) ±0,02 pH units AVS TITRINORM®	7,00 (green coloured)***	1 l	**32045.290**
Buffer solution pH 7,00 (20 °C) (potassium hydrogen phthalate/disodium hydrogen phosphate) ±0,02 pH units AVS TITRINORM®	7,00 (green coloured)	1 l	**32045.295**
Buffer solution pH 7,00 (20 °C) (potassium hydrogen phthalate/disodium hydrogen phosphate) ±0,02 pH units AVS TITRINORM®	7,00 (green coloured)	5 l	**32045.375**
Buffer solution pH 8,00 (20 °C, borate buffer) ±0,02 pH units AVS TITRINORM®	8,00	1 l	**32038.291**
Buffer solution pH 9,00 (20 °C, borate buffer) ±0,02 pH units AVS TITRINORM®	9,00	500 ml	**32039.261**
Buffer solution pH 9,00 (20 °C, borate buffer) ±0,02 pH units AVS TITRINORM®	9,00	1 l	**32039.294**
Buffer solution pH 9,00 (20 °C, borate buffer) ±0,02 pH units AVS TITRINORM®	9,00	5 l	**32039.374**
Buffer solution pH 9,00 (boric acid/potassium chloride/sodium hydroxide) AVS TITRINORM®	9,00 (blue coloured)	500 ml	**32046.265**
Buffer solution pH 9,00 (boric acid/potassium chloride/sodium hydroxide) AVS TITRINORM®	9,00 (blue coloured)***	1 l	**32046.290**
Buffer solution pH 9,00 (boric acid/potassium chloride/sodium hydroxide) AVS TITRINORM®	9,00 (blue coloured)	1 l	**32046.298**
Buffer solution pH 9,00 (boric acid/potassium chloride/sodium hydroxide) AVS TITRINORM®	9,00 (blue coloured)	5 l	**32046.378**
Buffer solution pH 9,22 (20 °C, borate buffer) ±0,02 pH units AVS TITRINORM®	9,22	500 ml	**32097.261**
Buffer solution pH 9,22 (20 °C, borate buffer) ±0,02 pH units AVS TITRINORM®	9,22	1 l	**32097.290**
Buffer solution pH 10 (boric acid/sodium hydroxide/potassium chloride) AVS TITRINORM®	10,00	1 l	**32040.298**
Buffer solution pH 10 (boric acid/sodium hydroxide/potassium chloride) AVS TITRINORM®	10,00	5 l	**32040.378**
Buffer ammonia solution pH 10 (20 °C) ±0,05 pH units AVS TITRINORM® (NFT 90-003 standard)	10,00 (total hardness in water)	500 ml	**98213.260**
Buffer solution pH 11,00 (20 °C) (disodium hydrogen phosphate/sodium hydroxide) ±0,05 pH units AVS TITRINORM®	11,00	1 l	**32041.292**
Buffer solution pH 12,00 (20 °C) (disodium hydrogen phosphate/sodium hydroxide) ±0,05 pH-units AVS TITRINORM®	12,00	1 l	**32042.295**

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Description	pH value	Pk	Cat. No.
Buffer solution sets			
Buffer solution set pH 4,00 / 7,00 / 10,00 (3×100 ml), coloured		1	**83610.600**
Buffer solutions set pH 4,00 / 7,00 / 10,00 (3×250 ml), coloured		1	**83610.610**
Buffer and checking solution set pH 4,00 / 7,00 / 10,00, and electrolyte and cleaning solutions (100 ml)		1 SET	**83609.600**

* 5 litre plastic bottle
** Bag in a box 5 litre
*** 1 litre dosing bottles

Standard reference materials and buffer solutions, CertiPUR®

Materials for the precise calibration and monitoring of pH instruments.

- Traceable to NIST primary standard and PTB
- Maximum deviation ±0,003 pH units
- Measured in an independent accredited calibration laboratory for the pH value measurement (DKD-K-14301)

Description	pH value	Pk	Cat. No.
CertiPUR® certified secondary standard reference material			
Potassium tetraoxalate dihydrate	1,681 (25°C)	25 g	**1.01961.0025**
Potassium hydrogen tartrate	3,639 (25°C)	25 g	**1.01963.0025**
Potassium hydrogen phthalate	4,005 (25°C)	25 g	**1.01965.0025**
Potassium dihydrogen phosphate/ disodium hydrogen phosphate (2×25 g)	6,863/7,416 (25°C)	2	**1.01960.0001**
Disodium tetraborate decahydrate	9,184 (25°C)	25 g	**1.01964.0025**
Sodium hydrogen carbonate/sodium carbonate	10,014 (25°C)	2	**1.01962.0001**
CertiPUR® certified secondary standard reference buffer solution (100 ml plastic bottle)			
Potassium tetraoxalate dihydrate	1,681 (25°C)	5	**1.07204.0105**
Potassium hydrogen phthalate	4,005 (25°C)	5	**1.07200.0105**
Potassium dihydrogen phosphate/ disodium hydrogen phosphate	6,863 (25°C)	5	**1.07202.0105**
Potassium dihydrogen phosphate/ disodium hydrogen phosphate	7,416 (25°C)	5	**1.07205.0105**
Disodium tetraborate decahydrate	9,184 (25°C)	5	**1.07203.0105**

Buffer solutions, Certipur®, colour coded

Materials for the precise calibration and monitoring of pH meters.

- Traceable to NIST primary standard and PTB - Uncertainty ±0,015 (except pH 10 with ±0,05)
- Colour coded solutions for quick identification
- Larger pack sizes available, the easy to use Titripac® packaging eliminates contamination issues
- Reference temperature: +20 °C

Measured in an independent accredited calibration laboratory for the pH value measurement (DKD-K-14301).

Description	Pk	Cat. No.
Certipur® buffer solution, pH 4,00, red	500 ml	**1.09475.0500**
Certipur® buffer solution, pH 4,00, red	4 l	**1.09475.4000**
Certipur® buffer solution, pH 4,00, red	10 l	**1.09475.9010**
Certipur® buffer solution, pH 7.00, green	500 ml	**1.09477.0500**
Certipur® buffer solution, pH 7.00, green	4 l	**1.09477.4000**
Certipur® buffer solution, pH 7.00, green	10 l	**1.09477.9010**
Certipur® buffer solution, pH 9.00, blue	500 ml	**1.09476.0500**
Certipur® buffer solution, pH 9.00, blue	4 l	**1.09476.4000**
Certipur® buffer solution, pH 9.00, blue	10 l	**1.09476.9010**
Certipur® buffer solution, pH 10,00, yellow	500 ml	**1.09400.0500**
Certipur® buffer solution, pH 10,00, yellow	4 l	**1.09400.4000**
Certipur® buffer solution, pH 10,00, yellow	10 l	**1.09400.9010**

Buffer solutions, ready to use, Certipur®

Materials for the precise calibration and monitoring of pH meters.

- Traceable to NIST primary standard and PTB - deviation max. ±0,01 (except pH 10 with ±0,02)
- Larger 4 and 10 l pack sizes in easy to use Titripac® packaging which eliminates contamination issues
- Reference temperature: +20 °C except 1.99022.4000 which is 25 °C

Measured in an independent accredited calibration laboratory for the pH value measurement (DKD-K-14301).

Packaging: Plastic bottles (1 l) or PE/aluminium Titripac® pack (4 l and 10 l).

Description	pH value	Contents	Pk	Cat. No.
Buffer solution (glycine/sodium chloride/hydrogen chloride), traceable to SRM from NIST and PTB pH 1.00 (20 °C) Certipur®	1,00	Glycine Sodium chloride Hydrogen chloride	1 l	**1.09432.1000**
Buffer solution (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 2.00 (20 °C) Certipur®	2,00	Citric acid Sodium hydroxide Hydrogen chloride	1 l	**1.09433.1000**
			10 l	**1.09433.9010**
Buffer solution (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 3.00 (20 °C) Certipur®	3,00	Citric acid Sodium hydroxide Hydrogen chloride	1 l	**1.09434.1000**
Buffer solution (citric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 4.00 (20 °C) Certipur®	4,00	Citric acid Sodium hydroxide Hydrogen chloride	1 l	**1.09435.1000**
			4 l	**1.09435.4000**
			10 l	**1.09435.9010**
Buffer solution (citric acid/sodium hydroxide), traceable to SRM from NIST and PTB pH 5.00 (20 °C) Certipur®	5,00	Citric acid/sodium hydroxide	1 l	**1.09436.1000**
Buffer solution (citric acid/sodium hydroxide), traceable to SRM from NIST and PTB pH 6.00 (20 °C) Certipur®	6,00	Citric acid Sodium hydroxide	1 l	**1.09437.1000**
Buffer solution (disodium hydrogen phosphate/potassium dihydrogen phosphate) traceable to SRM from NIST and PTB pH 7.00 (20 °C) Certipur®	7,00	Disodium hydrogen phosphate Potassium dihydrogen phosphate	1 l	**1.09439.1000**
			4 l	**1.09439.4000**
			10 l	**1.09439.9010**
Buffer solution (boric acid/sodium hydroxide/hydrogen chloride), traceable to SRM from NIST and PTB pH 8.00 (20 °C) Certipur®	8,00	Boric acid Sodium hydroxide Hydrogen chloride	1 l	**1.09460.1000**
Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 9.00 (20 °C) Certipur®	9,00	Boric acid Sodium hydroxide Potassium chloride	1 l	**1.09461.1000**
			4 l	**1.09461.4000**
			10 l	**1.09461.9010**
Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 10.00 (20 °C) Certipur®	10,00		1 l	**1.09438.1000**
			4 l	**1.09438.4000**
			10 l	**1.09438.9010**
Buffer solution (boric acid/potassium chloride/sodium hydroxide), traceable to SRM from NIST and PTB pH 11.00 (20 °C) Certipur®	11,00	Boric acid/potassium chloride/ sodium hydroxide	1 l	**1.09462.1000**
Buffer solution (disodium hydrogen phosphate/sodium hydroxide) traceable to SRM from NIST und PTB pH 12.00 (25 °C) Certipur®	12,00	Disodium hydrogen phosphate Sodium hydroxide	4 l	**1.99022.4000**

Buffer solutions in sachets, Certipur®

For calibration of pH meters.

- Practical 30 ml sachets - one use per sachet - no risk of contamination
- Solutions are always fresh and ready to use
- Batch traceable to NIST
- Reference temperature: +25 °C
- Precision: Deviation is max. ±0,015 pH units

Description	pH value	Pk	Cat. No.
Certipur® buffer solution, pH 2,00, citric acid, sodium hydroxide, hydrogen chloride	2,00	30	**1.99012.0001**
CertiPUR® buffer solution, pH 4,01, potassium hydrogen phthalate	4,01	30	**1.99001.0001**
Certipur® buffer solution, pH 7,00, potassium hydrogen phosphate, disodium hydrogen phosphate	7,00	30	**1.99002.0001**
Certipur® buffer solution, pH 9,00, boric acid, sodium hydroxide, potassium chloride	9,00	30	**1.99003.0001**

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Description	pH value	Pk	Cat. No.
Certipur® buffer solution, pH 9,18, disodium tetraborate	9,18	30	**1.99019.0001**
CertiPur® buffer solution, pH 10,00, boric acid, sodium hydroxide, potassium chloride	10,00	30	**1.99004.0001**
Certipur® buffer solution, pH 11,00, boric acid, sodium hydroxide, potassium chloride	11,00	30	**1.99021.0001**
Certipur® buffer solution, pH 12,00, potassium dihydrogen phosphate, sodium hydroxide	12,00	30	**1.99022.0001**
Certipur® buffer solution, set 1 (pH 4,01, 7,00 and 9,00)	4,01/7,00/9,00	30	**1.99005.0001**
Certipur® buffer solution, set 2 (pH 4,01, 7,00 and 10,00)	4,01/7,00/10,00	30	**1.99006.0001**

Conductivity/°C tester, waterproof, CO30

- Conductivity, TDS and temperature measurement with simultaneous display of 2 parameters
- Calibration, one or two points
- Automatic temperature compensation, auto-ranging selection
- Replaceable conductivity cell
- IP 67 waterproof casing, low battery indicator

Ordering information: Supplied with 8×LR44 batteries.

Model	CO 30
Conductivity - range	0 – 1990 µS/cm (2 – 19,90 mS/cm with auto-ranging)
Conductivity - resolution	5 µS / 0,05 mS / 0,10 mS
Conductivity - accuracy	±1% full scale
Conductivity - calibration	Manual, 1- or 2-point
TDS - range	0,00 – 10,00 g/l
TDS - resolution	0,10 g/l
TDS - accuracy	±1% full scale
Temperature range (°C)	0,00...+99,5
Temperature resolution (°C)	0,5
Temperature accuracy (°C)	±0,5
Temperature compensation	Automatic
Temperature coefficient	1,91%/°C
Reference temperature	+25 °C
Power supply	8×LR44 batteries
Compliance	IP 67

Description	Pk	Cat. No.
Waterproof conductivity/°C tester CO30	1	**663-0160**

Description	Pk	Cat. No.
Accessories		
Sensor replacement kit	1	**663-0161**
Replacement sensor cap	1	**662-0123**
Replacement battery compartment	1	**662-0124**

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Waterproof conductivity/TDS/°C testers, DiST®5/6
Hanna

These instruments measure conductivity, TDS and temperature.

- Waterproof casing
- Automatic temperature compensation
- Interchangeable conductivity/TDS probe
- Automatic shut-off after 8 minutes of non use

Ordering information: Supplied with 4×1,5 V batteries, protection cap and probe removal tool.

Model	DiST®5	DiST®6
Conductivity - range	0 - 3999 µS/cm	0,00 - 20,00 mS/cm
Conductivity - resolution	1 µS/cm	0,01 mS/cm
Conductivity - accuracy	2% full scale	
Conductivity - calibration	Automatic in 1 point	
TDS - range	0 - 1999 ppm	0,00 - 10,00 ppt
TDS - resolution	1 ppm	0,01 ppt
TDS - accuracy	2% full scale	
Temperature range (°C)	0,0...+60,0	
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	0,5	
Temperature compensation	Automatic with β adjustable from 0,0 to 2,4%/°C	
Power supply	4×1,5 V batteries	
W×D×H (mm)	40×26×163	
Weight (kg)	0,1	
Compliance	IP 67	

Description	Pk	Cat. No.
DiST®5	1	**663-5011**
DiST®6	1	**663-5012**

Description	For	Pk	Cat. No.
Conductivity cells			
Spare conductivity probe HI 73311	DiST® 5 & 6	1	**662-4189**
Accessories			
Replacement batteries, 1,5 V		12	**662-3028**

Pocket conductivity/TDS testers, Primo
Hanna

The Primo series of portable testers provide a fast and dependable way to measure the total dissolved solids or conductivity in water samples. Users just need to press the button on top of the meter in order to turn it on. It is ready to use immediately.

- Primo 2 also measures temperature
- Temperature is compensated automatically to ensure the readings are consistent to the standard or reference temperature
- Calibration mode: Meter recognises the calibration solution and calibrates itself
- Batteries for approx. 200 hours of use
- Auto-off after 5 minutes of non use

Delivery information: Supplied with fixed probe, batteries and instructions.

Model	Primo 4	Primo 0	Primo 2	Primo 5
Conductivity - range	0 - 10,00 mS/cm	0 - 1999 mg/l		0 - 1999 µS/cm
Conductivity - resolution	0,01 mS/cm	1 mg/l		1 µS/cm
Conductivity - accuracy	±2% F.S.			
Temperature range (°C)	-		0...60	-
Temperature resolution (°C)			0,1	
Temperature accuracy (°C)			±0,5	
Temperature compensation	Automatic (0...60 °C)			
Power supply	2 x 1,5 V batteries			
W×D×H (mm)	50×25×66	50×25×180		
Weight (kg)	0,05			
Calibration	Automatic, at 5,00 mS/cm (calibration solution: HI 70039)	Automatic, at 1382 ppm (calibration solution: HI 70032P)		Automatic, at 1413 µS/cm (calibration solution: HI 70031)

Description	Pk	Cat. No.
Conductivity/TDS tester, Primo 4, with fixed probe with 1 m cable	1	**663-0244**
Conductivity/TDS tester, Primo 0, with direct probe	1	**663-0242**
Conductivity/TDS tester, Primo 2, with direct probe	1	**663-0243**
Conductivity/TDS tester, Primo 5, with direct probe	1	**663-0245**

Pocket conductivity meter, LAQUAtwin B-771
Horiba

This meter features a unique flat sensor that enables quick, accurate and direct measurements of micro samples as small as 0,12 ml. The sensor does not need to be dipped into the sample, a few drops are sufficient. Ideal for quick field testing of fresh water (rain, rivers, lakes, hot springs) and soil, as well as for an accurate analysis of surface cleanliness prior to coating and painting.

- Measures conductivity, salt and TDS
- Auto range change, automatic temperature compensation
- Auto hold, automatic power off after 15 minutes
- Durable waterproof ABS housing
- Replaceable electrode

Delivery information: Supplied with two batteries, pipette, instruction manual, quick manual, storage case, standard solution (1,41 mS/cm) and treatment reagent (14 ml).

Model	B-771
Conductivity - range	0 - 19,9 mS/cm
Conductivity - resolution	1 µS/cm (0 - 199 µS/cm) 0,01 mS/cm (0,20 - 1,99 mS/cm) 0,1 mS/cm (2,0 - 19,9 mS/cm) 1 mS/cm (20 - 199 mS/cm)
Conductivity - accuracy	±2% F.S. (for each range) ±1digit
Conductivity - calibration	1- or 2-point
Salinity - range	0 - 1,1%
TDS - range	0 - 9900 ppm
Display	Custom (monochrome) digital LCD
Power supply	2 × CR2032 batteries
W×D×H (mm)	164×29×20
Weight (kg)	0,045 (without batteries)
Compliance	IP67

Description	Pk	Cat. No.
Pocket conductivity meter LAQUAtwin B-771	1	**663-0229**

Description	Pk	Cat. No.
Accessories		
Conductivity standard solution (12,9 mS/cm) Y071H, in bottle, 14 ml	6	**663-0238**
Conductivity standard solution (1,41 mS/cm) Y071L, in bottle, 14 ml	6	**663-0239**
Replacement conductivity sensor S070, flat and waterproof, for B-771	1	**662-1493**

Conductivity meter, handheld, VARIO Cond
WTW

Ultra-pure water cell

VARIO Cond

Compact, light, easy to use conductivity meter, perfect for measuring conductivity of pure water in the semiconductor industry or cell culture laboratories, and for maintaining water treatment equipment.

- Rubber casing for more convenient handling
- Extremely wide measurement range
- TetraCon® measurement 4-electrode cell or LR/01 V cell for measuring conductivity of ultrapure water, with drainage reservoir
- Touch screen
- Battery provides power for up to 500 hours of continuous operation; the device switches off automatically if not used for 10 minutes

Ordering information: Supplied in a carrying case serving as a kit with one measurement cell for ultrapure water or one four-electrode TetraCon® cell and a 0,01 mol/l solution of KCl.

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Model	VARIO Cond with TetraCon V	VARIO Cond with LR/01 V
Conductivity - range	0,00 - 19,99 / 0,0 - 199,9 mS/cm	0,00 - 19,99 / 0,0 - 199,9 / 0 - 1999 µS/cm
Conductivity - cell constant	0,475 cm^{-1}	0,1 cm^{-1}
Resistivity - range	0,000 - 1,999 / 0,00 - 19,99 / 0,0 - 199,9 / 0 - 1999 MΩ/cm	
Salinity - range	0,0 - 70,0 ppt	
TDS - range	0 - 1999 mg/l	
Temperature range (°C)	–5,0...+105,0	
Temperature resolution (°C)	0,1	
W×D×H (mm)	140×80×33 (without probe)	
Weight (kg)	0,115 (without probe and battery)	
Compliance	IP 65	

Description	Pk	Cat. No.
VARIO Cond Set, incl. TetraCon® 4-electrode cell	1	**663-1922**
VARIO Cond Set, incl. ultrapure water cell LR/01 V	1	**663-1923**

Conductivity/TDS/°C meter, handheld, pHenomenal® CO 3100 H

This user friendly portable instrument with robust IP 67 rated housing provides high resolution and accuracy for precise measurements in field applications. With waterproof USB output for connection to a computer. GLP compliant.

- Large LCD graphic display with continuous LED backlight showing conductivity, TDS and temperature values simultaneously
- Data logging function selectable between 1 minute and 1 hour
- 5000 data set memory capacity with automatic storing; additional 200 data set memory for manual storage
- Automatic power shut-off: Adjustable from 10 min to 24 h
- Advanced self-test and diagnostics (electrode efficiency diagnostic, drift control); calibration symbol shows when re-calibration is required
- Energy saving: 4× 'AA' batteries for over 1000 operating hours

Ordering information: Ready-to-use portable set CO 3100 H includes instrument in robust plastic case, conductivity probe with built-in temperature sensor CO 11 (1,5 m cable), starter kit (standard and plastic beaker), stand and instruction manual (22 languages) on CD ROM.

Model	CO 3100 H
Conductivity - range	0,001 µS/cm - 1000 mS/cm
Conductivity - resolution	Min. 0,001 µS/cm (depending on probe)
Conductivity - accuracy	±0,5% of measured value
Conductivity - cell constant	Depending on probe
Conductivity - calibration	1-point
Resistivity - range	1 Ω/cm - 999 MΩ/cm
Resistivity - resolution	Min. 1 Ω/cm (depending on probe)
Resistivity - accuracy	±0,5% of measured value
Salinity - range	0,00 - 70 ppt
TDS - range	0 mg/l - 199,9 g/l
TDS - resolution	0,1 mg/l / 1 mg/l / 0,01 g/l
TDS - accuracy	±1% of measured value ±1 digit
Temperature range (°C)	–5...+105,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,2
Temperature compensation	Automatic and manual: 0,001 to 2,500%/°C or without compensation
Display	Graphic LCD display with LED backlight
Data logging - capacity	5000 data sets
Data logging - log function	Selectable between 1 minute and 1 hour
Connections	8-pin connection for conductivity and temperature
Outputs	Watertight USB connection (slave, bidirectional)
Power supply	4× AA batteries
Compliance	IP 67 / GLP

Description	Pk	Cat. No.
Handheld conductivity/TDS/°C meter CO 3100 H, pHenomenal®	1 SET	**663-0234**

Description	Material	Conductivity	Cell constant	Temp. (°C)	Connection	Ø×L (mm)	Pk	Cat. No.
Conductivity cell, pHenomenal®								
pHenomenal® CO11, 2-pole graphite, integrated NTC 30	Epoxy	10 µS/cm - 20 mS/cm	0,84 cm^{-1}	0...+80	8 pin, 1,5 m cable	15,3×120	1	**663-0147**
Accessories								
pHenomenal® electrode storage tube							1	**662-1167**
pHenomenal® storage/measuring vessel							1	**662-1248**
pHenomenal® communication kit (CD-ROM, USB cable, manual)							1	**662-1225**

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Description	Material	Conductivity	Cell constant	Temp. (°C)	Connection	ØxL (mm)	Pk	Cat. No.
Accessories								
pHenomenal® electrode stand, holds up to 4 electrodes + 1 temperature sensor							1	**662-1169**
Conductivity standard, KCl 0,01 mol/l; 1413 mS/cm							100 ml	**83607.180**
Conductivity standard, KCl 0,1 mol/l; 12 800 µS/cm							500 ml	**83608.260**

Conductivity/TDS/°C meters, handheld, waterproof, HI 99300 / HI 99301

Hanna

Compact instruments designed to measure various parameters (conductivity, TDS and temperature), perfect for use in the field.

- User-friendly LCD screen with simultaneous display of conductivity or TDS and temperature values, battery powered for flexible use
- Battery Error Prevention System (BEPS) switches the instrument off when the battery charge level is too low to ensure reliable measurements
- Automatic calibration of parameters with automatic temperature compensation
- Multi-parameter probe HI 76306 (conductivity, TDS and temperature) with DIN connection and 1 m cable
- 4×1,5 V AAA batteries (500 hours of continuous use)

Ordering information: HI 99300 and HI 99301 supplied with multi-parameter probe HI 76306 and 1 m cable, batteries and carrying case.

Model	HI 99300	HI 99301
Conductivity - range	0 - 3999 µS/cm	0,00 - 20,00 mS/cm
Conductivity - resolution	1 µS/cm	0,01 mS/cm
Conductivity - accuracy	±2%	
TDS - range	0 - 2000 ppm	0,00 - 10,00 ppt
TDS - resolution	1 ppm	0,01 ppt
TDS - accuracy	±2%	
Temperature range (°C)	0,0...+60,0	
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	±0,5	
Display	LCD	
W×D×H (mm)	80×38×143	
Weight (kg)	0,210	
Compliance	IP 67	

Description	Pk	Cat. No.
Waterproof conductivity/TDS/°C meter HI 99300	1	**665-0172**
Waterproof conductivity/TDS/°C meter HI 99301	1	**665-0173**

Description	For	Pk	Cat. No.
Conductivity cells			
Conductivity/TDS/°C probe HI 76306	HI 99300/HI 99301	1	**663-0199**

Conductivity meter, handheld, HI 8733

Hanna

Specially designed for field and laboratory use in production and quality control for solutions with concentrations ranging from deionised water to brine.

- On-screen operation guide
- Multiple scales cover a wide range
- Automatic temperature compensation
- Rugged potentiometric probes are made of PVC: Ideal for indoor as well as outdoor measurements

Ordering information: Supplied with HI 76302W conductivity probe (with internal temperature sensor and 1 m cable), five 12880 µS/cm HI 70030 calibration solution sachets, 9 V battery, instructions and rugged carrying case.

Model	HI 8733
Conductivity - range	0,0 - 199,9 µS/cm / 0 - 1999 µS/cm / 0,00 - 19,99 mS/cm / 0,0 - 199,9 mS/cm
Conductivity - resolution	0,1 µS/cm / 1 µS/cm / 0,01 mS/cm / 0,1 mS/cm
Conductivity - accuracy	±1% full scale
Temperature compensation	Automatic from 0 to +50 °C with ß adjustable from 0 to 2,5%/°C

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Power supply	9 V battery (±100 hours of continuous use)
W×D×H (mm)	164×76×45
Weight (kg)	0,250
Compliance	IP 65

Description	Pk	Cat. No.
Conductivity meter HI 8733	1	**663-5042**

Description	For	Pk	Cat. No.
Conductivity cells			
Conductivity probe HI 76302W, 4-ring, built-in temperature sensor	HI 8733, HI 9033, HI 9034, HI 933300, HI 93301	1	**663-5010**

Conductivity meter, handheld, waterproof, HI 9033

Hanna

This conductivity meter is extremely resistant to environmental conditions such as rain, humidity, dust and mud.

- A single probe is used to take conductivity measurements in four ranges
- Automatic temperature compensation (ATC)
- Power supply: 1×9 V battery, approx. 100 hours of constant use
- Alarm indicating that the battery charge is too low to ensure a reliable reading

Ordering information: Supplied complete with conductivity probe HI 76302W with internal temperature sensor and 1 m cable, and a rigid carrying case.

Model	HI 9033
Conductivity - range	0,0 - 199,9 µS/cm / 0 - 1999 µS/cm / 0,00 - 19,99 mS/cm / 0,0 - 199,9 mS/cm
Conductivity - resolution	0,1 µS/cm / 1 µS/cm / 0,01 mS/cm / 0,1 mS/cm
Conductivity - accuracy	±0,1%
Conductivity - calibration	Manual, 1 point
Connections	ATC, DIN
W×D×H (mm)	196×80×60
Weight (kg)	0,425

Description	Pk	Cat. No.
Handheld conductivity meter, waterproof, HI 9033	1	**663-5044**

Description	For	Pk	Cat. No.
Conductivity cells			
Conductivity probe HI 76302W, 4-ring, built-in temperature sensor	HI 8733, HI 9033, HI 9034, HI 933300, HI 93301	1	**663-5010**

Conductivity/TDS/°C meter, handheld, waterproof, HI 9835

Hanna

HI 9835 combines conductivity, TDS, salinity and temperature measurements for laboratory and field applications.

- Waterproof housing
- Automatic or manual temperature compensation

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- Probe design innovation using four rings enhanced with platinum for greater stability and increased ranges of measurable concentrations and temperature
- 4×1,5 V AAA batteries (included) or 12 V DC output; auto-off after five minutes of non-use

Ordering information: Supplied complete with HI 76309 conductivity probe with stainless steel sensor and 1 m cable, batteries and rugged carrying case.

Model	HI 9835
Conductivity - range	0,00 µS/cm up to 500,0 mS/cm (6 ranges)
Conductivity - resolution	0,01 µS/cm up to 0,1 mS/cm
Conductivity - accuracy	±1% ±(0,05 µS/cm or 1 digit)
Conductivity - calibration	Automatic, in 1 point, with 6 memorised values
Salinity - range	0,0 - 400,0%
Salinity - resolution	0,1%
Salinity - accuracy	±1%
TDS - range	0,00 mg/l up to 400,0 g/l (6 ranges)
TDS - resolution	0,01 mg/l up to 0,1 g/l
TDS - accuracy	±1% ±(0,03 mg/l or 1 digit)
Temperature range (°C)	0,0...+60,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±1
Temperature compensation	Automatic, manual from 0 °C to +60 °C
Temperature calibration	2 point, at 0 and +50 °C
Temperature coefficient	Adjustable from 0,00 to 6,00%/°C
Display	Backlit LCD
W×D×H (mm)	80×60×196
Weight (kg)	0,5
Compliance	IP 67

Description	Pk	Cat. No.
Handheld, waterproof conductivity/TDS/°C meter HI 9835	1	**663-5018**

Description	For	Pk	Cat. No.
Conductivity cells			
Conductivity probe HI 76309, 4-ring, built-in temperature sensor, ATC	HI 9835/HI 98360	1	**663-5014**

Conductivity/°C meter, handheld, FiveGo™ FG3
Mettler-Toledo

Carry bag

Economic handy, portable measuring instrument allowing rapid and reliable results. Suitable for a wide range of applications in various markets, such as food & beverage, agriculture, industry and water/environmental. Power supply: 4 AAA batteries 1,5 V.

- Ergonomic and compact design; with large, well organised LCD display that simultaneously shows measurement readings, temperature, endpoint criteria and other helpful icons
- Five self-explanatory buttons for the simplest, intuitive operation
- Storage capacity for up to 30 measurements, IP 54 protection against dust and water ingress
- Automatic endpoint recognition, automatic calibration, linear temperature compensation and selectable reference temperatures

Ordering information: Supplied with test certificate.

FG3-Basic FiveGo™ meter only, includes conductivity meter (no probe), electrode clip, wrist strap, operating manual, "Quick guide", declaration of conformity, test certificate and 4 x batteries.

FG3-K FiveGo™ conductivity supplied with conductivity/temperature probe LE703 (with cable) and four calibration sachets (2×1413 µS/cm and 2×12,88 mS/cm);

FG3-Field kit FiveGo™ conductivity meter as FG3-Basic plus conductivity/temperature probe LE703 (with cable), 4× calibration sachets (2× 1413 µS/cm and 2× 12,88 mS/cm), carry bag and 4× sample bottles.

Model	FG3
Conductivity - range	0,0 µS/cm - 199,9 mS/cm
Conductivity - accuracy	±0,5%
Conductivity - calibration	1 point
Salinity - range	0,00 - 19,99 ppt

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TDS - range	0,1 mg/l - 199,9 g/l
Temperature range (°C)	0,0...+100,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,3
Display	LCD
Connections	Mini-DIN
W×D×H (mm)	169×82×36
Weight (kg)	0,18 (without batteries)
Compliance	IP 54

Description	Pk	Cat. No.
Portable conductivity meter FiveGo™ conductivity FG3-Basic	1	**663-0120**
Portable conductivity meter FiveGo™ conductivity FG3-Kit	1	**663-0121**
Portable conductivity meter FiveGo™ conductivity FG3-Field kit	1	**663-0122**

Description	Material	Conductivity (mS/cm)	Cell constant	Temp. (°C)	Connection	Ø×L (mm)	Pk	Cat. No.
Conductivity cells								
Conductivity cell LE703, 4 poles, graphite	PC	0,01 - 200	0,55 cm^{-1}	0...+80	Mini-DIN, 1 m cable	12×120	1	**663-0130**
Accessories								
Hygienic food compact case for meters with 1 - 2 electrodes, reserve batteries, sample bottles, buffer liquid and small accessories							1	**662-1463**
Electrode clip FiveGo™							1	**662-2791**

IP67

Conductivity/°C meter, handheld, SevenGo™ SG3
Mettler-Toledo

Field case

Easy to use, robust, ergonomically designed conductivity meter for routine field applications.

- Linear temperature compensation
- Three pre-defined calibration standards: 84 µS/cm, 1413 µS/cm or 12,88 mS/cm
- Data storage for 30 measurement points
- 4×1,5 V AA battery, or 1,3 V NiMH cell battery

SG3-Basic, meter only, includes conductivity meter (no electrode), complete with batteries, wrist strap, operating instructions, test certificate and declaration of conformity.

SG3-Electrode kit includes conductivity meter with InLab®738 conductivity sensor IP 67 rated (1,8 m fixed cable), complete with batteries, wrist strap, SevenGo clip, conductivity standard sachets, operating instructions, test certificate and declaration of conformity.

SG3-Field kit includes the same items as SG3-ELK plus field compact case, rubber holster, field electrode arm and calibration bottles.

Model	SG3
Conductivity - range	0,01 µS/cm - 500 mS/cm
Conductivity - resolution	0,01 / 1
Conductivity - accuracy	±0,5%
Conductivity - cell constant	0,56 cm^{-1}
Resistivity - range	0,00 - 100,00 MΩ/cm
Salinity - range	0,00 - 80,00 ppt
TDS - range	0,01 mg/l - 300 g/l
TDS - resolution	0,01 / 1
TDS - accuracy	±0,5%
Temperature range (°C)	–5,0...+105,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,2
Data logging - capacity	30 measurements
W×D×H (mm)	220×90×45
Weight (kg)	0,325 (without battery)
Compliance	IP 67

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Description	Pk	Cat. No.
Handheld conductivity meter SevenGo™ SG3-Basic	1	**662-1426**
Handheld conductivity meter SevenGo™ SG3-Electrode-Kit	1	**663-0110**
Handheld conductivity meter SevenGo™ SG3-Field kit	1	**663-0112**

Description	Material	Conductivity (mS/cm)	Cell constant	Temp. (°C)	Connection	Ø×L (mm)	Pk	Cat. No.
Conductivity cells								
Conductivity/temperature cell InLab® 738 (4 poles, NTC 30 kOhm)	Epoxy	0,01 - 1000	0,57 cm^{-1}	0...+100	LTW, 1,8 m cable	12×120	1	**663-0150**
Accessories								
Hygienic food compact case for meters with 1 - 2 electrodes, reserve batteries, sample bottles, buffer liquid and small accessories							1	**662-1463**
SevenGo™ compact field case (empty)							1	**662-1233**

Conductivity/°C meter, handheld, SevenGo pro™ SG7
Mettler-Toledo

SevenGo pro™ SG7-Basic

Field case

Professional, single channel instrument for particularly demanding tasks offering exceptional ease of use. Ideal for regulated working environments such as the pharmaceutical, chemical, cosmetic and food manufacturing industries.

- Calibration with pre-defined or user-defined standards or with cell constant
- Linear and non linear temperature compensation
- Measurement of purified water according to USP
- Data memory for 200 GLP data points
- Comprehensive GLP functions; sensor and sample identification

Ordering information: SG7-Basic meter only (without electrode) is supplied with batteries, wrist strap, SevenGo clip, operating instructions, test certificate and declaration of conformity.
SG7-ELK Electrode kit includes conductivity meter with InLab®738 conductivity sensor IP 67 rated (1,8 m fixed cable) complete with batteries, wrist strap, SevenGo clip, conductivity standard sachets, operating instructions, test certificate and declaration of conformity.
SG7-USP/EP Electrode kit includes the same items but an InLab® 742 (IP 67) electrode for low conductivities.

SG7-FK2/FK10 Field kit includes the same items as SG7-ELK plus field compact case, rubber holster, field electrode arm and calibration bottles.

Model	SG7
Conductivity - range	0,01 µS/cm - 1000 mS/cm
Conductivity - resolution	0,01
Conductivity - accuracy	±0,5%
Conductivity - calibration	1-point
Resistivity - range	0,00 - 100,00 MΩ/cm
Salinity - range	0,00 - 80,00 ppt
Salinity - resolution	0,01 / 1
Salinity - accuracy	±0,5%
TDS - range	0,01 mg/l - 600 g/l
TDS - resolution	0,01 / 1
TDS - accuracy	±0,5%
Temperature range (°C)	–5,0...+105,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,1
Data logging - capacity	200
Connections	7-pin LTW (IP 67)
Outputs	IR to printer or PC via RS232 or USB adapter
Power supply	4×1,5 V AA batteries or 1,3 V rechargeable battery with NiMH cells
W×D×H (mm)	220×90×45
Weight (kg)	0,325 (without battery)
Compliance	IP 67 / GLP

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Description	Pk	Cat. No.
Handheld conductivity meter SevenGo pro™ SG7-Basic	1	**664-0159**
Handheld conductivity meter SevenGo pro™ SG7-ELK (Electrode-Kit)	1	**663-0111**
Handheld conductivity meter SevenGo pro™ SG7-FK2 (Field Kit)	1	**663-0115**
Handheld conductivity meter SevenGo pro™ SG7-FK10 (Field Kit) with 10 m cable	1	**663-0116**
Handheld conductivity meter, SevenGo pro™ SG7-USP/EP Electrode-Kit	1	**663-0137**

Description	Material	Conductivity (mS/cm)	Cell constant	Temp. (°C)	Connection	Ø×L (mm)	Pk	Cat. No.
Conductivity cells								
Conductivity/temperature cell InLab® 738 (4 poles, NTC 30 kOhm)	Epoxy	0,01 - 1000	0,57 cm^{-1}	0...+100	LTW, 1,8 m cable	12×120	1	**663-0150**
Accessories								
Hygienic food compact case for meters with 1 - 2 electrodes, reserve batteries, sample bottles, buffer liquid and small accessories							1	**662-1463**
SevenGo™ compact field case (empty)							1	**662-1233**

Conductivity meters, handheld, Cond 3110 / 3210 / 3310

WTW

Cond 3110

Field case

Waterproof handheld meters designed for unlimited outside use.

- Large display allowing excellent readability even under bad lighting conditions
- Robust housing and sealed silicone keypad with protection class IP 66/67

Cond 3110: Easy and functional

Reliable, clearly designed meter for basic and standard measurements, e.g. in education applications.

- Large LCD display
- Tactile response offering clear operation
- Built-in timer ensuring accurate measurements
- Automatic temperature compensation
- Up to 1000 hour continuous operation time with one battery set

Cond 3210: Comfortable and versatile

For challenging measurements in the field and on the plant, e.g. water/wastewater analysis, chemical/pharmaceutical industry.
Same specifications as Cond 3110, with:

- Backlit graphic display
- Menu-controlled operation
- The CMC function (Continuous Measurement Control) informs the users whether they are measuring inside the calibrated range and gives an alert when they are outside
- Large data memory (date, time and ID numbers for measurements)
- Four selectable languages available (English, German, French, Spanish)

Cond 3310: Communicative and professional

For professional field measurements requiring documentation and data transfer. The Cond 3310 IDS meters can be used with all IDS conductivity cells.

Same specifications as Cond 3210, with:

- Extended memory for 5000 GLP-compliant data sets
- Time-controlled datalogger with adjustable intervals for long-term monitoring
- Waterproof mini USB interface to a PC
- Qualified Status Change is represented graphically on the display to show current electrode condition and advise when replacement is necessary (only Cond 3310 IDS meters)

All conductivity meters are available in sets including sensors and accessories.

Model	Cond 3110	Cond 3210	Cond 3310 / 3310 IDS
Conductivity - range	0 - 1000 mS/cm	0,0 - 199,9 / 200 - 1999 (µS/cm); 2,00 - 19,99 / 20,0 - 199,9 / 200 - 1000 (mS/cm)	
Conductivity - accuracy	±0,5%	±0,1 / ±1 (µS/cm); ±0,01 / ±0,1 / ±1 (mS/cm)	
Conductivity - cell constant	Fixed: 0,475 cm^{-1} / 0,800 - 0,880 cm^{-1} Calibratable: 0,450 - 0,500 cm^{-1} / 0,800 - 0,880 cm^{-1}	Fixed: 0,010 cm^{-1} Calibrated: 0,450 - 0,500 cm^{-1} / 0,800 - 0,880 cm^{-1} Adjustable: 0,090 - 0,110 cm^{-1} / 0,250 - 25,000 cm^{-1}	
Resistivity - range	-	0,00 - 20 MΩ/cm	
Salinity - range	0,0 - 70,0 ppt		
TDS - range	-	0 - 1999 mg/l / 0 - 199,9 g/l	
Temperature range (°C)	–5,0…+105,0		
Temperature accuracy (°C)	±0,1		
Temperature compensation	Non linear	Linear (10 - 75 °C) / non linear (0 - 35 °C; nLF: 35 - 50 °C)	
Display	7-segment LCD	Backlit graphic LCD	
Data logging - capacity	-	200 manual	200 manual / 5000 automatic
Data logging - log function		Manual	Manual / time-controlled
Connections	8-pin		
Outputs	-		mini USB

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Power supply	4×1,5 V AA or 4×1,2 V NiMH	
Weight (kg)	0,6	
Compliance	IP 66/67	IP 66/67, GLP

Description	Pk	Cat. No.
Cond 3110		
Cond 3110 (instrument only with CD-ROM and batteries)	1	**663-8121**
Cond 3110 Set TetraCon® 325 (instrument in field case with TetraCon® 325 conductivity cell, standard solution 1413 µS/cm at +25 °C, stand, beaker, CD-ROM and batteries)	1	**663-8122**
Cond 3110 Set TetraCon® 325-3 (instrument in field case with TetraCon® 325-3 conductivity cell with 3 m cable, standard solution 1413 µS/cm at +25 °C, stand, beaker, CD-ROM and batteries)	1	**663-8123**
Cond 3110 Set KLE 325 (instrument in field case with KLE 325 conductivity cell, standard solution 1413 µS/cm at +25 °C, stand, beaker, CD-ROM and batteries)	1	**663-8124**
Cond 3210		
Cond 3210 (instrument only with CD-ROM and batteries)	1	**663-8125**
Cond 3210 Set TetraCon® 325 (instrument in field case with TetraCon® 325 conductivity cell, standard solution 1413 µS/cm at +25 °C, stand, beaker, CD-ROM and batteries)	1	**663-8126**
Cond 3210 Set TetraCon® 325-3 (instrument in field case with TetraCon® 325-3 conductivity cell with 3 m cable, standard solution 1413 µS/cm at +25 °C, stand, beaker, CD-ROM and batteries)	1	**663-8127**
Cond 3210 Set LR 325/01 (instrument in field case with LR 325/01 pure water cell, flow-through vessel, stand, CD-ROM and batteries)	1	**663-8128**
Cond 3310		
Cond 3310 (instrument only with CD-ROM, batteries, software and USB cable)	1	**663-8129**
Cond 3310 Set TetraCon® 325 (instrument in field case with TetraCon® 325 conductivity cell, standard solution 1413 µS/cm at +25 °C, stand, beaker, CD-ROM, batteries, software and USB cable)	1	**663-8130**
Cond 3310 Set TetraCon® 325-3 (instrument in field case with TetraCon® 325-3 conductivity cell with 3 m cable, standard solution 1413 µS/cm at +25 °C, stand, beaker, CD-ROM, batteries, software and USB cable)	1	**663-8131**
Cond 3310 Set LR 325/01 (instrument in field case with LR 325/01 pure water cell, flow-through vessel, stand, CD-ROM, batteries, software and USB cable)	1	**663-8132**
Cond 3310 IDS		
Cond 3310 IDS (instrument only with CD-ROM and batteries)	1	**663-0249**
Cond 3310 IDS Set 1 (instrument in field case with 4-electrode IDS conductivity cell TetraCon® 925, standard solution 1413 µS/cm at +25 °C, stand, beaker, CD-ROM, batteries, software and USB cable)	1	**663-0236**
Cond 3310 IDS Set 2 (instrument in field case with 4-electrode IDS conductivity cell TetraCon® 925-3 (3 m cable), standard solution 1413 µS/cm at +25 °C, stand, beaker, CD-ROM, batteries, software and USB cable)	1	**663-0250**
Cond 3310 IDS Set 3 (instrument in field case with 2-electrode IDS conductivity cell LR 925/01 including flow-through vessel, stand, beaker, CD-ROM, batteries, software and USB cable)	1	**663-0237**
Cond 3310 IDS Set 4 (instrument in field case with 4-electrode IDS conductivity cell TetraCon® 925-P (plug head), standard solution 1413 µS/cm at +25 °C, stand, beaker, CD-ROM, batteries, software, AS/IDS-1.5 cable and USB cable)	1	**663-0251**

Description	Material	Conductivity	Cell constant	Temp. (°C)	Connection	Ø×L (mm)	Pk	Cat. No.
Conductivity cells								
TetraCon® 325/C, for chemical media	Epoxy	1 µS/cm - 2 S/cm	0,475 cm^{-1}	–5...+80	1,5 m cable	15,3×120	1	**663-0227**
TetraCon® 325, POM head, immersion depth 36/120 mm	Epoxy	1 µS/cm - 2 S/cm S/cm	0,475 cm^{-1}	0...100	1,5 m cable	15,3×120	1	**663-8117**
LR 325/01 with temperature probe for ultrapure water	Stainless steel	0,001 - 200 µS/cm	0,100 cm^{-1}	–5...+80	1,5 m cable	12×120	1	**663-8118**
TetraCon® 325-3, POM head	Epoxy	1 µS/cm - 2 S/cm	0,475 cm^{-1}	–5...+80	3 m cable	15,3×120	1	**663-1841**
TetraCon® 325-6, POM head	Epoxy	1 µS/cm - 2 S/cm	0,475 cm^{-1}	–5...+80	6 m cable	15,3×120	1	**663-1842**
KLE 325 with temperature probe	Epoxy	10 µS/cm - 20 mS/cm	0,84 cm^{-1}	0...80	1,5 m cable	15,3×120	1	**663-0146**
Accessories								
Protective housing SM PRO for ProfiLine/MultiLine							1	**662-1278**

Conductivity meter, field, ProfiLine Cond 1970i

WTW

ProfiLine Cond 1970 i

This field conductivity meter is both hose-proof (IP 66) and submersible (IP 67).

- Large silicone keys for field use, large and easy to read display
- Output for transferring data
- With 800 data file datalogger, a real time clock and recorder output, conforms to all GLP requirements
- Powerful NiMH batteries (1500 hour battery life) or power supply 240 V

Ordering information: Supplied with carrying/support handle, carrying strap, NiMH batteries and universal power supply. Electrodes must be ordered separately.

Model	Cond 1970i
Conductivity - range	0,0 µS/cm - 500 mS/cm
Conductivity - accuracy	±0,5% of value

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Conductivity - cell constant	Calibratable: 0,450 - 0,500 cm^{-1} and 0,800 - 1,200 cm^{-1} Fixed: 0,01 cm^{-1} Freely adjustable: 0,25 - 2,5 cm^{-1} and 0,09 - 0,11 cm^{-1}
Salinity - range	0,0 - 70,0 ppt
TDS - range	0 - 1999 mg/l
Temperature range (°C)	–5,0...+105,0
Temperature accuracy (°C)	±0,1 K
Temperature compensation	Automatic, can be switched off
Temperature coefficient	Non linear function for natural waters to EN 27 888 and ultrapure water function Linear compensation (0,01 - 2,99%/K) No compensation
Reference temperature	20 or 25 °C, selectable
Power supply	NiMH rechargeable batteries
Compliance	IP 66/67

Description	Pk	Cat. No.
Conductivity meter Profiline Cond 1970i with adapter	1	**663-8120**

Conductivity meters, handheld, Portavo® 902/904/904 ATEX

Knick

These portable, intuitive meters with analogue and digital sensor inputs are suitable for routine conductivity measurements. Their versatile functionality, robustness and the large selection of sensors make them the perfect choice for both laboratory and process applications. Waterproof according to IP 66/ IP 67.

- Reinforced plastic enclosure for rough industrial applications
- Integrated cover protects the display and serves as lab stand
- With analog (DIN) sensor input and digital Memosens input, which allows signals to be digitized and transferred inductively i.e. via a non-contact connection
- Integrated sensor quiver (protective container for sensor) prevents sensor drying out and becoming damaged
- Clear glass display is easy to read, even after years of use

Portavo® 904 additionally features a data logger with a capacity of 5000 values, micro USB port for PC connection, power supply, Paraly 112 PC software and Li-Ion accumulator.
Portavo® 904 ATEX is the only portable analyser with Zone 0/1 ATEX approval. It is explosion-proof and can be used in harzardous areas.
The 904 ATEX meter is supplied with appropriate certification. Replacement copies can be found on the Knick website.

Ordering information: All devices are delivered without electrodes, which need to be ordered separately.

Model	Portavo® 902	Portavo® 904	Portavo® 904 ATEX
Conductivity - range	2-electrode sensor: 0,1 µS...200 mS 4-electrode sensor: 0,1 µS...1000 mS		
Conductivity - resolution	0,001 µS/cm (c < 0,05 cm^{-1}) 0,01 µS/cm (c = 0,05...0,2 cm^{-1}) 0,1 µS/cm (c = 0,2...0,8 cm^{-1}) 0,1 µS/cm (c > 0,8 cm^{-1})		
Conductivity - accuracy	< ±0,5 % of value + 0,4 µS		
Conductivity - cell constant	0,005...200,0 cm^{-1} (adjustable)		
Resistivity - range	00,00...99,99 MΩ cm		
Salinity - range	0,0...45,0 g/kg (0...30 °C)		
TDS - range	0...1999 mg/l (10...40 °C)		
Temperature range (°C)	NTC 30: –20...+120 Pt1000: –40...+250 Memosens: –50...+250		
Temperature accuracy (°C)	< ±0,2 K		
Temperature compensation	linear (0...20 %/K)		
Display	LCD, 3 lines		
Data logging - capacity	-	5000 values	
Connections	1 x multi contact, 8 pins, for analogue sensors 2 x 4-mm socket for separate temperature detector 1 x M8 socket, 4 pins, for Memosens lab cable		
Outputs	-	Micro USB	
Power supply	4 alkaline AA batteries (1000 hours operating time)	4 alkaline AA batteries (1000 hours operating time); 4 NiMH or Li-ion batteries (chargeable via USB)	4 AA batteries (suitable for ATEX areas)
W×D×H (mm)	132×30×156		
Weight (kg)	0,5		
Compliance	IP 66/IP 67		IP 66/IP 67; IECEx Ex ia IIC T4/T3 Ga

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Description	Pk	Cat. No.
Handheld conductivity meter, Portavo® 902, without electrode	1	663-0224
Handheld conductivity meter, Portavo® 904, without electrode	1	663-0225
Handheld conductivity meter, Portavo® 904 ATEX, without electrode, for hazardous areas	1	663-0226

Description	Material	Conductivity	Cell constant	Temp. (°C)	Connection	For	Pk	Cat. No.
Conductivity electrodes								
SE 202, 2-electrode, with integrated temperature probe, incl. flow cell	Stainless steel	0,01...199,9 µS/cm	0,100 cm^{-1} ±2%	–5...+100	8-pin	Low conductivity solutions	1	665-0295
SE 204, 4-electrode, with integrated temperature probe	Epoxy	1 µS/cm...500 mS/cm	0,475 cm^{-1} ±1,5%	–5...+100	8-pin	Natural waters, aqueous solutions, salinity determination	1	665-0297
ZU 6985, 4-electrode conductivity sensor, with Pt 1000 temperature probe	Glass	0,001...1000 mS/cm	1,19 cm^{-1} ±1,0%	–20...+100	Via adapter	Laboratory applications	1	663-2111
Accessories								
Memosens cable, M8, for connection of meter with Memosens sensors, 1,5 m							1	662-1666
Robust field case (for meter, sensor, various small parts and user manual)							1	662-1599
Replacement flow cell for 2-electrode conductivity sensor SE 202							1	665-0299
KPG® tube for 4-electrode conductivity sensor ZU 6985, incl. O-ring							1	665-0298
Adapter for connecting conductivity sensors with 2 banana plugs with instrument							1	665-0300
Adapter for connecting 4 electrode sensor ZU 6985 with instrument							1	665-0301
Conductivity standard, 12,88 mS/cm ±1 %, one ampoule for producing 1000 ml 0,1 mol/l NaCl solution							1	663-2112

Conductivity/TDS/°C meter, bench, pHenomenal® CO 3100 L

This user friendly instrument with articulated electrode stand and IP 43 rated housing provides high resolution and accuracy for precise measurements. With USB output for connection to a computer. GLP compliant.

- Large LCD graphic display with continuous LED backlight showing both conductivity/TDS and temperature values simultaneously
- Data logging function selectable between 1 minute and 1 hour; memory capacity of 5000 data sets
- Automatic power shut-off: Adjustable from 10 min to 24 h
- Advanced self-test and diagnostics (electrode efficiency diagnostic, drift control); calibration symbol shows when re-calibration is required
- Choice of mains supply or 4× 'AA' batteries for over 1000 operating hours

Ordering information: Ready to use conductivity CO 3100 L set includes instrument, conductivity probe CO 11 with built-in temperature sensor, 1,5 m cable and articulated stand, standard and plastic beaker and instruction manual (22 languages) on CD ROM.

Model	CO 3100 L
Conductivity - range	0,001 µS/cm - 1000 mS/cm
Conductivity - resolution	Min. 0,001 µS/cm (depending on probe)
Conductivity - accuracy	±0,5% of measured value
Conductivity - cell constant	0,001 - 25 (depending on probe)
Conductivity - calibration	1-point
Resistivity - range	1 Ω/cm - 999 MΩ/cm
Resistivity - resolution	Min. 1 Ω/cm
Resistivity - accuracy	±0,5% of measured value
Salinity - range	0,00 - 70 ppt
TDS - range	0 mg/l - 199,9 g/l
TDS - resolution	0,1 mg/l / 1 mg/l / 0,01 g/l
TDS - accuracy	±0,5% of measured value
Temperature range (°C)	–5...+105,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,2
Temperature compensation	Automatic and manual: 0,001 to 2,500%/°C or without compensation
Display	Graphic LCD display with LED backlight
Data logging - capacity	5000 data sets
Data logging - log function	Selectable between 1 minute and 1 hour
Connections	8-pin connection for conductivity and temperature
Outputs	Watertight (IP 43) USB connection (slave, bidirectional)
Power supply	4× AA batteries
Compliance	IP 43 / GLP

Description	Pk	Cat. No.
Bench conductivity/TDS/°C meter CO 3100 L, pHenomenal®	1 SET	663-0233

Description	Pk	Cat. No.
Conductivity cell, pHenomenal®		
pHenomenal® CO11, 2-pole graphite, integrated NTC 30	1	663-0147

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Description	Pk	Cat. No.
Accessories		
pHenomenal® electrode storage tube	1	**662-1167**
pHenomenal® storage/measuring vessel	1	**662-1248**
pHenomenal® communication kit (CD-ROM, USB cable, manual)	1	**662-1225**
pHenomenal® electrode stand, holds up to 4 electrodes + 1 temperature sensor	1	**662-1169**
Conductivity standard, KCl 0,01 mol/l; 1413 mS/cm	100 ml	**83607.180**
Conductivity standard, KCl 0,1 mol/l; 12 800 µS/cm	500 ml	**83608.260**

Conductivity/°C meters, bench, FiveEasy™ FE30 / FiveEasy™ Plus FEP30
Mettler-Toledo

Economic, easy to use instrument for rapid and reliable results. Suitable for a wide range of applications in various markets, such as food & beverage, agriculture, industry and water/environmental. Power supply: 100-240 V / 50-60 Hz / 9 V DC.

- Ergonomic and compact design, with a large, well organised LCD display that simultaneously shows measurement readings, temperature, endpoint criteria and other helpful icons
- Five self-explanatory buttons for the simplest, intuitive operation
- Automated endpoint recognition and calibration with linear temperature compensation and selectable reference temperatures
- FEP30: Storage capacity for up to 99 measurements and RS232 output

FE30-Kit FiveEasy™ / FEP30-Kit FiveEasy™ Plus-Basic,
meter only, includes conductivity meter (no probe), Quick guide, power adapter, operating manual, declaration of conformity and test certificate.

FE30-Kit FiveEasy™ / FEP30-Kit FiveEasy™ Plus Kits supplied with Quick guide, power adapter, operating manual, declaration of conformity and test certificate, conductivity/°C electrode LE703 (with cable), electrode arm and 4× calibration sachets (2× 1413 µS/cm and 2× 12,88 mS/cm).

Model	FE30	FEP30
Conductivity - range	0,0 µS/cm - 199,9 mS/cm	0,1 µS/cm - 199,9 mS/cm
Conductivity - accuracy	±0,5%	
Conductivity - calibration	1 point	
Salinity - range	0,00 - 19,99 ppt	
TDS - range	0,1 mg/l - 199,9 g/l	
Temperature range (°C)	0,0...+100,0	
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	±0,3	
Display	LCD	
Data logging - capacity	-	99 measurements
Connections	Mini-DIN	
Outputs	-	RS232
W×D×H (mm)	200×175×52	
Weight (kg)	0,6	

Description	Pk	Cat. No.
FiveEasy™		
Bench conductivity meter FiveEasy™ conductivity FE30-Basic	1	**663-0123**
Bench conductivity meter FiveEasy™ conductivity FE30-Kit	1	**663-0124**
FiveEasy™ Plus		
Bench conductivity meter FiveEasy™ Plus FEP30-Basic	1	**663-0201**
Bench conductivity meter FiveEasy™ Plus FEP30-Kit	1	**663-0200**

Description	Conductivity (mS/cm)	Cell constant	Material	Connection	Pk	Cat. No.
Conductivity cells						
Conductivity cell LE703, 4 poles, graphite	0,01 - 200	0,55 cm^{-1}	PC	Mini-DIN, 1 m cable	1	**663-0130**
Conductivity cell InLab® 731 (4 poles)	0,01 - 1000	0,57 cm^{-1}	Epoxy / Graphite	Mini-DIN, 1,2 m cable	1	**663-0148**
Accessories						
Electrode arm FiveEasy™					1	**662-2789**
Power adapter FiveEasy™					1	**662-2788**

Conductivity/TDS/°C meters, bench, 4510 / 4520

Jenway

4510

Easy-to-use meter from Jenway offering the flexibility to meet the broadest range of applications and for those where greater accuracy is required. Automatic conductivity standard recognition and endpoint detection.

- Simultaneous display of conductivity or TDS and temperature
- Automatic selection of range for best resolution
- Calibration by cell constant or standard solutions
- Storage of up to 32 results
- Bi-directional RS232 link to printer or PC

4520

High specification laboratory conductivity/resistivity/TDS/salinity/°C meter that offers additional accuracy with 1, 2 or 3 point conductivity calibration across a wide measurement range. The dedicated 'pure water' mode ensures the optimum accuracy for this difficult application.

- Special pure water mode for ultra low conductivity measurements
- Storage of 500 results with built in data logger
- Infra-red data link (IrDA) for connection to printer and RS232 link to connect to printer or PC via DataWay software

Ordering information: 4510 and 4520 supplied with glass conductivity probe 663-0005 with ATC (K=1), electrode holder and UK power supply.

Model	4510	4520
Conductivity - range	6 auto-selected from 0 to 1999 mS/cm*	6 automatic ranges from 0 to 19,99 S/cm*
Conductivity - resolution	0,01 µS - 1 mS	0,01 µS - 0,01 S
Conductivity - accuracy	±0,5% ±2 digits	
Conductivity - cell constant	0,010 - 19,999 cm^{-1}	
Resistivity - range	-	0 - 20 MΩ/cm
Resistivity - resolution		0,01
Salinity - range		0 - 99,9 g/l
Salinity - resolution		0,1 g/l
Salinity - accuracy		0 - 35 ±1 g/l / 35 - 99,9 ±3 g/l
TDS - range	7 auto-selected from 0 to 1999 g/l*	6 auto-selected from 0 to 1999 g/l*
TDS - resolution	0,01 mg/l - 1 g/l	
TDS - accuracy	±0,5% ±2 digits	
Temperature range (°C)	–10...+105	
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	±0,5	
Temperature compensation	ATC and manual, 0 to +100 °C	
Display	Backlit LCD	
Connections	7-pin DIN	
Outputs	Analogue and RS232	Analogue, RS232 and IrDA interface
W×D×H (mm)	210×250×55	
Weight (kg)	0,850	
Compliance	-	GLP

Description	Pk	Cat. No.
Bench conductivity/TDS/°C meter 4510	1	**664-0112**
Bench conductivity/TDS/°C meter 4520	1	**664-0113**

Description	Pk	Cat. No.
Conductivity cells		
Conductivity cell with ATC, 4-wire	1	**663-0005**
Accessories		
IrDA/Serial printer incl. roll of thermal paper, serial connection lead, power supply and 3 power connection leads	1	**664-0108**
Interface cable kit	1 KIT	**664-0109**
Dust cover	1	**664-0111**

* With cell constant (K)=10

Conductivity/°C meter, bench, SevenCompact™ S230

Mettler-Toledo

Intuitive and powerful meter combining precise electrochemical measurement technologies with flexibility, innovative design and ease of use. Measures conductivity, salinity, total dissolved solids, resistivity and conductivity ash. Ideal for a wide range of applications.

Regulations
Pure & ultra-pure water: USP/EP compliant
Bioethanol: ABNT NBR 10547:2006
Sugar analysis: ICUMSA GS2/3-17 and GS 1/3/4/7/8-13

- User friendly operation, clear, well arranged colour display
- Menu guidance in 10 languages
- GLP-compliant
- Service offering, including IQ/OQ
- Supports ISM® technology (Intelligent Sensor Management)

Ordering information: S230-Basic includes instrument (without electrode), electrode holder, protective cover, operating instructions, quick guide, declaration of conformity and test certificate.
S230-Kit includes instrument, InLab® 731-ISM conductivity probe, guide to conductivity and dissolved oxygen, 2 calibration sachets for 1413 µS/cm and 12,88 mS/cm, electrode holder, protective cover, quick guide, declaration of conformity and test certificate.

S230-USP/EP supplied with the same items as for S230-Kit with the exception that the InLab® 741-ISM electrode replaces the InLab® 731-ISM, and without 12,88 mS/cm calibration sachets.

Model	S230
Conductivity - range	0,001 µS/cm - 1000 mS/cm
Conductivity - resolution	0,001 - 1
Conductivity - accuracy	±0,5%
Conductivity - calibration	1-point with 13 predefined calibration standards or 1 user-defined calibration standard
Resistivity - range	0,00 - 100,0 MΩ/cm
Resistivity - resolution	0,00 - 1,0 MΩ/cm
Resistivity - accuracy	±0,5%
Salinity - range	0,00 - 80,00 ppt
Salinity - resolution	0,00 - 1,0
Salinity - accuracy	±0,5%
TDS - range	0,00 mg/l - 1000 g/l
TDS - resolution	0,1 - 1
TDS - accuracy	±0,5%
Temperature range (°C)	Manual: –30,0...+130,0 Automatic: –5,0...+130,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,1
Temperature compensation	Manual / automatic
Display	TFT
Data logging - capacity	1000 measurements
Connections	Mini-DIN (conductivity and temperature sensor, combined), Mini-DIN (stirrer), mini-LTW (digital sensor)
Outputs	RS232, USB-A, USA-B
W×D×H (mm)	204×174×74
Weight (kg)	0,89
Compliance	IP 54; GLP; Pure & ultrapure water - USP/EP compliant, Bioethanol - ABNT NBR 10547:2006, Sugar analysis - ICUMSA GS2/3-17 and GS 1/3/4/7/8-13

Description	Pk	Cat. No.
SevenCompact™ S230-Basic	1	**663-0179**
SevenCompact™ S230-Kit	1	**663-0192**
SevenCompact™ S230-USP/EP	1	**663-0193**

Description	Material	Conductivity (mS/cm)	Cell constant	Temp. (°C)	Connection	Ø×L (mm)	Pk	Cat. No.
Accessories								
InLab® 731-ISM®	Epoxy / Graphite	0,01 - 1000	0,57 cm^{-1}	0...+100	Fixed cable (1,2 m), Mini-DIN	12×120	1	**663-0176**
InLab® 731-ISM®-2m	Epoxy / Graphite	0,01 - 1000	0,57 cm^{-1}	0...+100	Fixed cable (2 m), Mini-DIN	12×120	1	**663-0177**
InLab® 741-ISM®	Stainless steel	0,001 - 500	0,105 cm^{-1}	0...+100	Fixed cable (1,2 m), Mini-DIN	12×120	1	**663-0178**

Conductivity meters, bench, Lab 960 / 970

SI Analytics

Lab 960 Set

Wireless transmission of electrode identification data

High-precision instruments which guarantee fast, reliable and accurate results.

- Membrane keypad, wide LCD and visible and audible alarm
- With integral RS232 interface and USB port for transmitting data to a PC without the need for a specific adapter
- Lab 970: Automatic detection of connected electrodes via sensors with wireless transmission of data to the instrument
- Certificates of quality available for all instruments

Ordering information: Lab 960 Set includes the meter, one conductivity cell LF 813 T (polymer) and one conductivity testing solution KCl 0,01 mol/l; Lab 970 Set includes the meter, one conductivity cell LF 913 T ID (glass) and one conductivity testing solution KCl 0,01 mol/l.

Model	Lab 960	Lab 970
Conductivity - range	0,000 µS/cm - 500 mS/cm	
Conductivity - accuracy	±0,5%	
Conductivity - cell constant	Fixed: 0,010 Adjustable: 0,090 - 0,110/0,250 - 2,500 Calibrated: 0,450 - 0,500/0,585 - 0,715/0,800 - 1,200	
Temperature range (°C)	–5...+120	
Temperature accuracy (°C)	±0,1	
Display	Wide screen LCD monitor	
Data logging - capacity	800 data points (manual or automatic)	-
Connections	PT1000 / NTC30 kOhm temperature probes	
Outputs	Bidirectional RS232 interface, USB port	
W×D×H (mm)	190×240×80 mm	
Weight (kg)	1	
Compliance	GLP	

Description	Pk	Cat. No.
Lab 960 Set (incl. cover, arm stand and power supply)	1	**663-0096**
Lab 970 Set (incl. cover, arm stand and power supply)	1	**663-0108**

VWR COLLECTION

Delivering high quality and superior performance

Please contact your local VWR sales office or go to vwr.com for the latest news and special offers

Conductivity/°C meters, bench, inoLab® Cond 7110 / 7310

WTW

High quality instruments with advanced measuring technology, offering functions including automatic AutoRead, CMC (Continuous Measurement Control) and QSC (Quality Sensor Control) making measurements more convenient and reliable than ever.

inoLab® 7110: Accurate measurements

The inoLab® 7110 series is perfectly suited for routine measurements in general laboratory applications. Whether measuring pH or conductivity in environmental, chemical, pharmaceutical, medical or food and beverage industries, this series offers advanced features in a simple to use package.

- AutoRead function ensures repeatable results
- Easy calibration including calibration timer
- Intuitive user-interface, large display and keypad with tactile feedback

inoLab® 7310: Compliant documentation

The 7310 series is designed for all applications in laboratories where documentation supporting AQA (Analytical Quality Assurance) and GLP (Good Laboratory Practice) is required. These meters offer all the features of the 7110 series plus additional documentation functions.

- USB interface for fast data transfer
- Complete data transfer in .csv format
- Data output via optional integrated printer
- Easy to read, graphic display
- Data optimisation with the CMC (Continuous Measurement Control) function
- Sets with USP kit for measurements in ultrapure water according to pharmacopeia are available

Ordering information: Supplied with universal power supply, stand, CD-ROM including software and USB cable. The application sets also include sensors.
Sets supplied with USP kit include LR 325/01 Ultrapure water cell, D01/T glass flow-through vessel, NIST traceable 5 µS standard with accuracy ±2% and 6R/SET/LabTesting set.

Model	Cond 7110	Cond 7310
Conductivity - range	0 µS/cm - 1000 mS/cm	0,000 - 1,999 µS/cm / 0,00 - 19,99 µS/cm / 0 µS/cm - 1000 mS/cm
Conductivity - accuracy	±0,5% of value	
Conductivity - cell constant	Calibrated: 0,450 - 0,500 cm^{-1} / 0,800 - 0,880 cm^{-1} Fixed: 0,01 cm^{-1} Adjustable: 0,090 - 0,110 cm^{-1} / 0,250 - 25,000 cm^{-1} Standard: KCl 0,01 mol/l	
Resistivity - range	-	0,00 - 20 MΩ/cm
Salinity - range	0,0 - 70,0 ppt	
Temperature range (°C)	–5,0...+105,0	
Temperature accuracy (°C)	±0,1	
Display	7-segment LCD	Backlit, graphic LCD
Data logging - capacity	-	500 manually / 5000 automatic
Connections	8-pin sensor plug	
Outputs	-	Mini USB
Power supply	Universal power supply, 4×1,5 V AA or 4×1,2 V NiMH rechargeable battery	

Description	Pk	Cat. No.
inoLab® Cond 7110		
inoLab® Cond 7110, instrument only	1	**663-0167**
inoLab® Cond 7110 Set 1, instrument with 4-electrode graphite conductivity cell TetraCon® 325, 0,01 mol/l KCl conductivity standard	1	**663-0168**
inoLab® Cond 7110 Set 3, instrument with conductivity cell KLE 325, conductivity standard	1	**663-0169**
inoLab® Cond 7310		
inoLab® Cond 7310, instrument only	1	**663-0170**
inoLab® Cond 7310 P, instrument with integrated printer	1	**663-0171**
inoLab® Cond 7310 Set 1, instrument with 4-electrode graphite conductivity cell TetraCon® 325, 0,01 mol/l KCl conductivity standard	1	**663-0172**
inoLab® Cond 7310 P Set 1, instrument with 4-electrode graphite conductivity cell TetraCon® 325, 0,01 mol/l KCl conductivity standard and integrated printer	1	**663-0173**
inoLab® Cond 7310 Set 6, instrument with USP Kit	1	**663-0174**
inoLab® Cond 7310 P Set 6, instrument with USP Kit and integrated printer	1	**663-0175**

Description	Conductivity	Cell constant	Temp. (°C)	Material	Ø×L (mm)	Connection	Pk	Cat. No.
Conductivity cells								
TetraCon® 325, POM head, immersion depth 36/120 mm	1 µS/cm - 2 S/cm S/cm	0,475 cm^{-1}	0...100	Epoxy	15,3×120	1,5 m cable	1	**663-8117**
KLE 325 with temperature probe	10 µS/cm - 20 mS/cm	0,84 cm^{-1}	0...80	Epoxy	15,3×120	1,5 m cable	1	**663-0146**

Conductivity meter, bench, SevenExcellence™, S700

Mettler-Toledo

This convenient, reliable instrument is suitable for complex applications and stringent requirements in regulated markets as well as for routine measurement tasks in laboratories. It offers various conductivity based measurement parameters and can also be modularly expanded with additional measurement parameters at any time. For special applications such as USP/EP and conductivity ash it guides users through the measurement steps and notifies them when a measurement is out of range.

Regulations
Pure & ultra-pure water: USP/EP compliant
Bioethanol: ABNT NBR 10547:2006
Sugar Analysis: ICUMSA GS2/3-17 and GS 1/3/4/7/8-13

- Large colour display, user friendly touch screen and menu guidance in 10 languages
- Flexible method concept (13 predefined and 20 user-defined methods) for high reproducibility and security
- Fits three modules in any composition and order, can be expanded with additional measurement parameters at any time
- Extra security thanks to sophisticated user management and Intelligent Sensor Management (ISM®)
- USB, Ethernet and RS232 interfaces allow connection of a barcode scanner, fingerprint reader, Rondolino sample changer, USB stick or network printer
- Electrode arm can be operated with one hand, moving straight up and down to bring the electrode to the perfect position (uPlace™)

Ordering information: S700 Basic, meter only, supplied with modules (conductivity expansion unit, two blank expansion units), uPlace™ electrode holder, semi-transparent cover, operating instructions, installation and quick guide, LabX® direct pH PC software, declaration of conformity and test certificate.
S700 Kit: As S700-Basic but also with InLab® 731-ISM, guide to conductivity measurements and two calibration sachets for 1413 µS/cm and 12,88 mS/cm.
S700 Trace kit: As S700 kit but with InLab® Trace instead of InLab® 731-ISM, and flow cell, without calibration sachets.

Model	S700
Conductivity - range	0,001 µS/cm - 2000 ms/cm
Conductivity - resolution	0,001 - 1 (0,001 - 999999 µS/cm; 0,001 - 2000 mS/cm; 0,1 - 999999 µS/m) 0,0001 - 1 (0,001 - 200 S/m; 0,001 - 200000 mS/m)
Conductivity - accuracy	±0,5%
Conductivity - calibration	1-point
Resistivity - range	0,01 - 100 MΩcm
Resistivity - resolution	0,0001 - 1 (0,01 - 100 MΩcm) 0,01 - 1 (0,01 - 999999 Ωcm)
Resistivity - accuracy	±0,5%
Salinity - range	0,01 - 80 ppt
Salinity - resolution	0,01 - 0,1
Salinity - accuracy	±0,5%
TDS - range	0,001 - 1000 g/l, ppt 0,001 - 999999 mg/l, ppm
TDS - resolution	0,001 - 1
TDS - accuracy	±0,5%
Temperature range (°C)	–30...+130
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,1
Temperature compensation	Linear, non linear, off, pure water
Reference temperature	20/25 °C
Display	TFT colour display
Data logging - capacity	20000 data points, 250 analyses
Connections	Mini-DIN (conductivity + temperature), NTC30 kΩ or PT1000 (external temperature input), Mini-LTW digital sensor input, Mini-DIN stirrer connection
Outputs	USB, RS232, LAN
W×D×H (mm)	235×188×75
Weight (kg)	1,12
Compliance	GLP, USP/EP compliant, ABNT NBR 10547:2006, ICUMSA GS2/3-17 and GS 1/3/4/7/8-13

Description	Pk	Cat. No.
Conductivity meter S700 Basic	1	**662-1475**
Conductivity meter S700 Kit	1	**662-1476**
Conductivity meter S700 Trace kit	1	**662-1477**

Description	Pk	Cat. No.
Accessories		
Module, pH/Ion expansion unit	1	**662-1468**
Module, pH/mV expansion unit	1	**662-1474**
Module, conductivity expansion unit	1	**662-1469**
Module, blank expansion unit	1	**662-1470**

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Description	Pk	Cat. No.
Accessories		
uMix™ magnetic stirrer, adjustable stir speed	1	**662-1471**
Semi-transparent cover	1	**662-1472**
Protective film for display	2	**662-1473**

Conductivity cells
Mettler-Toledo

These conductivity probes with integrated temperature sensor are suitable for different sample types. They all provide automatic temperature compensation.

Suitable for:
InLab 710 / InLab 720: SevenEasy™, SevenMulti™, FiveEasy™, FiveGo™
InLab 731 / InLab 741: SevenExcellence™, SevenCompact™
InLab 738: SevenGo Duo™ SG23, SevenGo Duo pro™ SG78

Cell	Application
LE703	General conductivity measurements (not recommended for samples below 10 µS/cm)
InLab® 731	Rough handling, general measurements in aqueous media
InLab® 738	Rough handling, general measurements in the field or factory
InLab® 741	Measurements in pure and ultrapure water

Type	Conductivity	Cell constant	Temp. (°C)	Material	Ø×L (mm)	Connection	Pk	Cat. No.
InLab® 720 (2 poles)	0,1 - 500 µS/cm	0,06 cm^{-1}	0...+100	Glass	12×120	Mini-DIN, 1 m cable	1	**662-2814**
InLab® 710 (4 poles)	0,01 - 500 mS/cm	0,80 cm^{-1}	0...+100	Glass	12×120	Mini-DIN, 1 m cable	1	**663-0061**
LE703	0,01 - 200 mS/cm	0,55 cm^{-1}	0...+80	PC	12×120	Mini-DIN, 1 m cable	1	**663-0130**
InLab® 731 (4 poles)	0,01 - 1000 mS/cm	0,57 cm^{-1}	0...+100	Epoxy / Graphite	12×120	Mini-DIN, 1,2 m cable	1	**663-0148**
InLab® 731 (4 poles)	0,01 - 1000 mS/cm	0,57 cm^{-1}	0...+100	Epoxy / Graphite	12×120	Mini-DIN, 2 m cable	1	**663-1001**
InLab® 741 (2 steel poles)	0,001 - 500 µS/cm	0,105 cm^{-1}	0...+100	Stainless steel	12×120	Mini-DIN, 1,2 m cable	1	**663-0149**
InLab® 751-4 mm (2 poles)	10 µS/cm - 100 mS/cm	1,0 cm^{-1}	0...+100	Glass	4×120	Mini-DIN, 1 m cable	1	**663-0231**
InLab® 738 (4 poles, NTC 30 kOhm)	0,01 - 1000 mS/cm	0,57 cm^{-1}	0...+100	Epoxy	12×120	LTW, 1,8 m cable	1	**663-0150**

IP67

Conductivity cells, ISM®
Mettler-Toledo

High-performance electrodes combining robustness with state-of-the-art measurement technology. Compatible with either SevenExcellence™ and SevenCompact™ meters (663-0176/663-0177/663-0178) or with SevenGo Duo™ SG23 and SevenGo Duo pro™ SG78 meters (663-000/663-0145). Fully traceable.

The revolutionary intelligent sensor management system (ISM®) offers the user an even greater level of security. The calibration data is stored on a chip in the sensor and is used automatically when the sensor is connected to the meter. This ensures that the meter always uses the latest calibration data.

Temperature range: 0...+100 °C (with NTC 30 kΩ)
Ø×L: 12×120 mm

Ordering information: Supplied with test certificate.

Type	Conductivity (mS/cm)	Cell constant	Temp. (°C)	Material	Ø×L (mm)	Connection	Pk	Cat. No.
InLab® 731-ISM®	0,01 - 1000	0,57 cm^{-1}	0...+100	Epoxy / Graphite	12×120	Fixed cable (1,2 m), Mini-DIN	1	**663-0176**
InLab® 731-ISM®-2m	0,01 - 1000	0,57 cm^{-1}	0...+100	Epoxy / Graphite	12×120	Fixed cable (2 m), Mini-DIN	1	**663-0177**
InLab® 741-ISM®	0,001 - 500	0,105 cm^{-1}	0...+100	Stainless steel	12×120	Fixed cable (1,2 m), Mini-DIN	1	**663-0178**
InLab® 738-ISM®	0,01 - 1000	0,57 cm^{-1}	0...+100	Epoxy / Graphite	12×120	Fixed cable (1,8 m), LTW	1	**663-0000**
InLab® 742-ISM®	0,001 - 500	0,105 cm^{-1}	0...+100	Stainless steel	12×120	Fixed cable (1,8 m), LTW	1	**663-0145**

Conductivity cells
WTW

TetraCon® 325, TetraCon® V and **KLE 325** are suitable for on-site measurements in rivers, lakes and wastewater, fish farming, ground water measurements and applications in water laboratories.
TetraCon® 325/C is particularly suitable for heavy chemical applications, e.g. for acid media.
LR 325/01 is ideal for measurements in ultapure water.

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Type	Conductivity	Cell constant	Temp. (°C)	Material	Ø×L (mm)	Connection	Pk	Cat. No.
TetraCon® 325/C	1 µS/cm - 2 S/cm	0,475 cm^{-1}	–5...+80	Epoxy	15,3×120	1,5 m cable	1	**663-0227**
TetraCon® 325, POM head, immersion depth 36/120 mm	1 µS/cm - 2 S/cm S/cm	0,475 cm^{-1}	0...100	Epoxy	15,3×120	1,5 m cable	1	**663-8117**
LR 325/01	0,001 - 200 µS/cm	0,100 cm^{-1}	–5...+80	Stainless steel	12×120	1,5 m cable	1	**663-8118**
TetraCon® 325-3, POM head	1 µS/cm - 2 S/cm	0,475 cm^{-1}	–5...+80	Epoxy	15,3×120	3 m cable	1	**663-1841**
TetraCon® 325-6, POM head	1 µS/cm - 2 S/cm	0,475 cm^{-1}	–5...+80	Epoxy	15,3×120	6 m cable	1	**663-1842**
TetraCon® V, immersion depth 40 mm	1 µS/cm - 2 S/cm	0,475 cm^{-1}	0...100	Epoxy	15,3×120	1,5 m cable	1	**663-0065**
KLE 325	10 µS/cm - 20 mS/cm	0,84 cm^{-1}	0...80	Epoxy	15,3×120	1,5 m cable	1	**663-0146**

Conductivity cells

Jenway

663-0005

665-0002

665-0003

Conductivity cells with built-in ATCs for use with Jenway 4310, 4320 and 4330 conductivity meters.

Length: 120 mm

Type	Cell constant	Material	Pk	Cat. No.
With ATC, 4-wire	1 cm^{-1}	Glass	1	**663-0005**
With ATC, 2-wire	0,100 cm^{-1}	Epoxy	1	**665-0002**
With ATC, 2-wire	1 cm^{-1}	Epoxy	1	**665-0003**
With ATC, 2-wire	10 cm^{-1}	Epoxy	1	**665-0004**
Mini DIN	1 cm^{-1}	Epoxy	1	**663-0247**

Conductivity electrodes

Knick

SE 204

ZU 6985

SE 202: 2-electrode sensor with integrated temperature probe (NTC 30 kohm) and flow cell.
SE 204: 4-electrode sensor with integrated temperature probe (NTC 30 kohm).
SE 215 MS: Digital 2-electrode sensor with integrated temperature probe (NTC 30 kohm) and Memosens connection.
ZU 6985: 4-electrode sensor with quick-reacting Pt 1000 temperature probe and KPG® tube.

Type	Conductivity	Cell constant	Temp. (°C)	Material	Ø×L (mm)	Connection	For	Pk	Cat. No.
SE 202, 2-electrode, integrated temperature probe	0,01...199,9 µS/cm	0,100 cm^{-1} ±2%	–5...+100	Stainless steel	12×120	8-pin	Low conductivity solutions	1	**665-0295**
SE 204, 4-electrode, with integrated temperature probe	1 µS/cm...500 mS/cm	0,475 cm^{-1} ±1,5%	–5...+100	Epoxy	15,3×120	8-pin	Natural waters, aqueous solutions, salinity determination	1	**665-0297**
ZU 6985, 4-electrode, with Pt 1000 temperature probe	0,001...1000 mS/cm	1,19 cm^{-1} ±1,0%	–20...+100	Glass	16×110	Via adapter	Laboratory applications	1	**663-2111**

Conductivity standards

Description	Pk	Cat. No.
Conductivity standard, KCl 0,01 mol/l; 1413 mS/cm	500 ml	**83607.260**
Conductivity standard, KCl 0,01 mol/l; 1413 mS/cm	1 l	**83607.290**

Conductivity standards, Certipur®

The conductivity sachets are convenient, easy to use and ensure accurate and reliable results both in the field or in the laboratory. The 30 ml sachets always provide a fresh solution and prevent contamination by microorganisms, CO_2 or other substances. The conductivity sensor can be simply inserted in the sachet.

- Traceable to PTB and NIST
- Tested against primary reference standards

Description	Pk	Cat. No.
Conductivity standard (water), 0 µS/cm, in plastic bottles, 5×100 ml	500 ml	**1.01810.0105**
KCl 0,0001 mol/l, 15 µS/cm, in plastic bottles, 5×100 ml	5	**1.01811.0105**
KCl 0,001 mol/l, 147 µS/cm, sachets of 30 ml	30	**1.01586.0001**
KCl 0,001 M, 147 µS/cm, in 500 ml plastic bottle	500 ml	**1.01557.0500**
KCl 0,01 M, 1410 µS/cm, sachets of 30 ml	30	**1.01553.0001**
KCl 0,01 M, 1410 µS/cm, in 500 ml plastic bottle	500 ml	**1.01203.0500**
KCl 0,1 M, 12 800 µS/cm, sachets of 30 ml	30	**1.01554.0001**
KCl 0,1 M, 12 800 µS/cm, in 500 ml plastic bottle	500 ml	**1.01254.0500**
KCl 1 M, 111 000 µS/cm, in 500 ml plastic bottle	500 ml	**1.01255.0500**

Conductivity and TDS standards

Hanna

An extensive range of standard solutions designed to ensure maximum accuracy of conductivity meters and sensors.

- The labels on the bottles and sachets include the batch number, expiry date and the relationship between conductivity and temperature

Description	Pk	Cat. No.
Conductivity standard 84 µS/cm	500 ml	**663-5054**
Conductivity standard 1413 µS/cm, 20 ml sachet, with certificate	25	**663-5003**
Conductivity standard 1413 µS/cm, 20 ml sachet	25	**663-5004**
Conductivity standard 1413 µS/cm, with certificate	500 ml	**663-0246**
Conductivity standard 1413 µS/cm	500 ml	**663-5048**
Conductivity standard 5000 µS/cm, 20 ml sachet, with certificate	25	**663-5006**
Conductivity standard 5000 µS/cm, 20 ml sachet	25	**663-5063**
Conductivity standard 5000 µS/cm	500 ml	**663-5009**
Conductivity standard 12 880 µS/cm, 20 ml sachet,with certificate	25	**663-5002**
Conductivity standard 12 880 µS/cm	500 ml	**663-5047**
Conductivity standard 111 800 µS/cm	500 ml	**663-5008**
TDS standards, 500 ml bottle		
TDS standard 12.41 ppt (+25 °C)	460 ml	**663-5053**
TDS standard 1382 ppm (+25 °C)	500 ml	**663-5007**

Oxygen meter, handheld, DO 210

- IP 67 waterproof housing, large display and easy to use keypad
- Automatic temperature compensation
- 50 data sets reviewable memory
- 1000 hour battery life; auto-shut off function (30 min of non use)
- Electrode offset recognition; auto-lock and hold of readings on display

Warranty: 3 years for instruments and 6 months for electrodes/probes/cables.

Ordering information: Supplied in a carrying case with 1 m or 4 m cable, polarographic DO sensor and 6 screw-on cap membrane spares.

Model	DO 210
DO - concentration (mg/l)	0 - 20
DO - resolution (mg/l)	0,1% / 0,01
DO - accuracy	±2% of reading
DO - % saturation	0 - 200%
DO - barometric pressure range	450 - 825 mmHg
Temperature range (°C)	–6...+46
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,3 ±1 digit
Compliance	IP 67

Description	Pk	Cat. No.
Handheld DO meter DO 210 incl. 1 m cable DO/°C probe	1	**664-0081**
Handheld DO meter DO 210 incl. 4 m cable DO/°C probe	1	**664-0082**

Description	Connection	Pk	Cat. No.
Accessories			
Dissolved oxygen/°C probe	1 m cable	1	**664-0083**
Dissolved oxygen/°C probe	4 m cable	1	**664-0003**
Dissolved oxygen/°C probe	10 m cable	1	**664-0004**
Cap membrane kit (6 each) with probe solution		6	**664-0005**

Oxygen meter, handheld, with optical sensor, DO 220

This compact, portable meter measures dissolved oxygen and temperature using a smart optical sensor. Values are transmitted from and to the sensor in modified digital RS485 format. Ideal for field measurements.

- IP 67 waterproof housing, segmented LCD showing DO and temperature values simultaneously
- 50 data sets reviewable memory
- Sensor cap coefficients to be manually entered into instrument by end user; sensor cap change after 12 - 16 months
- 100 hours battery life; low battery indicator
- Electrode offset recognition; auto-lock and hold of readings on display

Delivery information: Supplied in a soft carrying case with optical DO sensor incl. 1 m or 4 m cable.

Model	DO 220
DO - concentration (mg/l)	0 - 20
DO - resolution (mg/l)	0,1%; 0,01
DO - accuracy	±1,5% full scale
DO - calibration	Saturated air; 1 or 2 points with a zero % value
DO - % saturation	0 - 200%
DO - barometric pressure range	375 - 825 mmHg
Temperature range (°C)	0...50
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,5
Data logging - capacity	50
Display	Segmented LCD
Compliance	IP 67
Battery Life	100 hours

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Description	Pk	Cat. No.
Handheld DO meter DO 220, with optical sensor with 1 m cable	1	664-0169
Handheld DO meter DO 220, with optical sensor with 4 m cable	1	664-0170

Description	Pk	Cat. No.
Accessories		
DO/°C sensor with 1 m cable, 220-1	1	664-0171
DO/°C sensor with 4 m cable, 220-4	1	664-0172
Carrying case, hard-sided	1	664-0173
Replacement sensor cap	1	664-0174

Oxygen meter, handheld, pHenomenal® OX 4100 H

This user friendly portable instrument with robust IP 67 rated housing provides high resolution and accuracy for precise measurements in field applications. With waterproof USB output for connection to a computer. GLP compliant.

- Large LCD graphic display with continuous LED backlight showing both oxygen and temperature values simultaneously
- Data logging function selectable between 1 minute and 1 hour
- 5000 data set memory capacity with automatic storing; additional 200 data set memory for manual storage
- Automatic power shut-off: Adjustable from 10 min to 24 h
- Advanced self-test and diagnostics (electrode efficiency diagnostic, drift control); calibration symbol shows when re-calibration is required
- Energy saving: 4× 'AA' batteries for over 1000 operating hours

Ordering information: Ready-to-use portable oxygen set OX 4100 H includes instrument in robust plastic case, galvanic oxygen probe OXY11-3 with built-in temperature sensor, 3 m cable and stand, maintenance kit and instruction manual (22 languages) on CD ROM.

Model	OX 4100 H
DO - concentration (mg/l)	0,00 - 20,00 / 0 - 90,0 (according to the sensor)
DO - resolution (mg/l)	0,01 / 0,1%
DO - accuracy	±0,5% (between +5 and +30 °C)
DO - calibration	Water saturated air
DO - % saturation	0,0 - 200,0 / 0 - 600 (according to the sensor)
DO - barometric pressure range	0 - 200,0 hPa / 0 - 1250 mbar (automatic)
DO - salinity compensation (g/l)	Manual input
DO - salinity factor (ppt)	0,0 - 35
Temperature range (°C)	0,0...+100,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,2
Temperature compensation	0 to +50 °C (automatic)
Data logging - capacity	5000 points
Data logging - log function	Selectable between 1 minute and 1 hour
Display	Graphic LCD display with LED backlight
Connections	8-pin connection for oxygen and temperature
Outputs	Watertight USB connection (slave, bidirectional)
Compliance	IP 67 / GLP

Description	Pk	Cat. No.
Handheld DO meter OX 4100 H, pHenomenal®, with galvanic oxygen probe	1 SET	664-0176

Description	Connection	Pk	Cat. No.
Dissolved oxygen probe, pHenomenal®			
pHenomenal® OXY11-3, galvanic	3 m cable, 8-pin	1	664-0042
Accessories			
pHenomenal® storage/measuring vessel		1	662-1248
pHenomenal® extension stick, aluminium, 1,5 m		1	662-1224
pHenomenal® communication kit (CD-ROM, USB cable, manual)		1	662-1225
pHenomenal® dissolved oxygen maintenance kit		1	664-0049
pHenomenal® field case		1	662-1168
pHenomenal® electrode stand, holds up to 4 electrodes + 1 temperature sensor		1	662-1169

Oxygen meter, handheld, pHenomenal® OX 4110 H, with optical oxygen probe

This user friendly portable instrument with robust IP 67 rated housing provides high resolution and accuracy for precise optical oxygen measurements in field applications. With waterproof USB output for connection to a computer. GLP compliant.

- Large LCD graphic display with continuous LED backlight showing both oxygen and temperature values simultaneously
- Data logging function selectable between 1 minute and 1 hour
- 5000 data set memory capacity with automatic storing; additional 200 data set memory for manual storage
- Automatic power shut-off: Adjustable from 10 min to 24 h
- Advanced self-test and diagnostics (electrode efficiency diagnostic, drift control); calibration symbol shows when re-calibration is required
- Energy saving: 4× 'AA' batteries for over 1000 operating hours

Ordering information: Ready-to-use portable oxygen set OX 4110 H includes instrument in robust plastic case, optical oxygen probe OXY21-3 with built-in temperature sensor, 3 m cable and stand, maintenance kit and instruction manual (22 languages) on CD ROM.

Model	OX 4110 H
DO - concentration (mg/l)	0,00 - 20,00 / 0 - 50
DO - resolution (mg/l)	0,01 / 0,1%
DO - accuracy	±0,1 mg/l or ±1% (0 - 20,00 mg/l / 0 - 200%); ±10% of value (> 20 mg/l/200%)
DO - calibration	Water saturated air
DO - % saturation	0 - 200 / 200 - 500
DO - barometric pressure range	0 - 200,0 hPa / 0 - 1250 mbar (automatic)
DO - salinity compensation (g/l)	Manual input
DO - salinity factor (ppt)	0,0 - 35
Temperature range (°C)	0,0...+50,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,2
Temperature compensation	0 to +50 °C (automatic)
Data logging - capacity	5000 data sets
Data logging - log function	Selectable between 1 minute and 1 hour
Display	Graphic LCD display with LED backlight
Connections	8-pin connection for oxygen and temperature
Outputs	Watertight USB connection (slave, bidirectional)
Compliance	IP 67 / GLP

Description	Pk	Cat. No.
Handheld DO meter OX 4110 H, pHenomenal®, with optical oxygen sensor	1 SET	**664-0177**

Description	Pk	Cat. No.
Accessories		
pHenomenal® storage/measuring vessel	1	**662-1248**
pHenomenal® extension stick, aluminium, 1,5 m	1	**662-1224**
pHenomenal® communication kit (CD-ROM, USB cable, manual)	1	**662-1225**
pHenomenal® field case	1	**662-1168**

Oxygen meter, handheld, waterproof, HI 9146
Hanna

A microprocessor-controlled precision instrument with membrane covered polarographic sensor.

- Displays measurements of dissolved oxygen in ppm or % saturation

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- HOLD enables readings to be frozen on the LCD screen
- Calibration and automatic temperature compensation from 0 to +50 °C
- Manual compensation for altitude (0 to 4 km) and salinity (0 to 80 g/l)
- Powered by 3 batteries (with low charge indicator)

Ordering information: HI 9146-04 supplied with HI 76407/4F sensor with 4 m cable and protective cap, 2× spare membranes, electrolyte solution HI 7041S (30 ml), 3 batteries and carrying case.

Model	HI 9146
DO - concentration (mg/l)	0,00 - 45,00
DO - resolution (mg/l)	0,01
DO - accuracy	2 ±1,5%
DO - % saturation	0,0 - 300
Temperature range (°C)	0,0...+50,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,5
Display	Backlit LCD
W×D×H (mm)	196×80×60
Weight (kg)	0,5
Compliance	IP 67

Description	Pk	Cat. No.
Handheld dissolved oxygen meter HI 9146-04, 4 m cable	1	**664-0096**
Handheld dissolved oxygen meter HI 9146-10, 10 m cable	1	**664-0093**

Description	Connection	For	Pk	Cat. No.
Accessories				
DO probe HI 76407/4F, with protective sleeve	4 m cable	Field applications	1	**664-0054**

IP54

Oxygen meter, handheld, FiveGo™ FG4
Mettler-Toledo

FiveGo FG4 dissolved oxygen meters have been designed for users that value ease-of-operation and flexibility. These meters are suitable for a variety of applications in various markets, such as food & beverage, agriculture, industry and water/environmental.

- Ergonomic and compact design
- Large, well organised display that can simultaneously show readings, temperature, endpoint criteria and various helpful icons
- Storage capacity for up to 30 measurements
- %, ppm and mg/l measuring units
- Automatic endpoint recognition, corrections for salinity and barometric pressure
- Kit & Field kit versions include a low maintenance and robust galvanic dissolved oxygen sensor

FiveGo™ FG4-Basic, meter only, includes dissolved oxygen meter (no electrode), electrode clip, wrist strap, operating manual, "Quick guide", declaration of conformity, test certificate and 4× batteries.

FiveGo™ FG4-Kit supplied with instrument and accessories as for FG4 Basic, but with LE621 sensor, NTC 30 kΩ temperature sensor, IP 54 connection caps.

FiveGo™ FG4-Field Kit supplied with instrument and accessories as for FG4 Kit, but also with carry bag including 4 sample bottles.

Model	FG4
DO - resolution (mg/l)	0,1 (1%)
DO - accuracy	±1%
DO - calibration	Max. 2 points, 100% and 0%
DO - % saturation	0,00 - 199,9%; 200 - 400%
DO - barometric pressure range	375 - 825 mmHg / 500 - 1100 mbar / 500 - 1100 hPa
Salinity - range	0,0 - 50,0 ppt
Temperature range (°C)	0,0...+50,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,3
Temperature compensation	Automatic and manual
Operating temperature	0...+40 °C (80% RH)
Data logging - capacity	30 measurements
Display	LCD
Connections	BNC, Cinch/RCA (NTC 30 kOhm)
Batteries	4 AAA batteries 1,5 V
W×D×H (mm)	82×36×169
Weight (kg)	0,180 (without batteries)
Compliance	IP 54

Description	Pk	Cat. No.
FiveGo™ DO FG4-Basic	1	**664-0044**
FiveGo™ DO FG4-Kit	1	**664-0045**
FiveGo™ DO FG4-Field Kit	1	**664-0046**

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Description	Concentration	Temp. (°C)	Material	Connection	Ø×L (mm)	Pk	Cat. No.
Dissolved oxygen probes							
Dissolved oxygen probe LE611, galvanic	0 - 200%, 0 - 20 mg/l	0...+50	PVC	BNC, 1 m cable	12×120	1	**664-0047**
Accessories							
Hygienic food compact case for meters with 1 - 2 electrodes, reserve batteries, sample bottles, buffer liquid and small accessories						1	**662-1463**
Electrode clip FiveGo™						1	**662-2791**

IP67

Oxygen meter, handheld, SevenGo pro™ SG6
Mettler-Toledo

Field case

Professional, portable single-channel instrument for measuring dissolved oxygen. Outstanding ease of use paired with IP 67 protection for tough environments.

- Automatic or manual air pressure compensation with integrated barometer
- Data storage for 200 GLP data points
- Infrared interface for transmitting data to a computer or a printer
- Intuitive menu and large backlit display
- 4×1,5 V batteries (AAA) or 1,3 V battery with NiMH cells

SG6-Basic, meter only, includes dissolved oxygen meter (no electrode), complete with batteries, wrist strap, operating instructions, test certificate and declaration of conformity.

SG6-ELK Electrode kit includes dissolved oxygen meter with InLab® 605 oxygen sensor IP 67 rated (1,8 m fixed cable), complete with batteries, wrist strap, SevenGo clip, operating instructions, test certificate and declaration of conformity.

SG6-FK2 Field kit includes the same items as SG6-ELK plus field compact case, rubber holster, field electrode arm and calibration bottles.

Model	SG6
DO - concentration (mg/l)	0,00 - 99,00
DO - accuracy	±0,5%
DO - calibration	Max. 2 points, 100% and 0%
DO - % saturation	0,0 - 600
DO - barometric pressure range	500 - 1100 mbar
Temperature range (°C)	0,0...+60,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,1
Data logging - capacity	200
Display	Backlit LCD
Connections	BNC, Cinch/RCA (NTC 22 kOhm)
Outputs	IR to printer or PC via RS232 or USB adapter
W×D×H (mm)	220×90×45
Weight (kg)	0,325 (without battery)
Compliance	IP 67, GLP

Description	Pk	Cat. No.
Handheld oxygen meter SevenGo pro™ SG6-Basic	1	**662-1427**
Handheld oxygen meter SevenGo pro™ SG6-ELK	1	**664-1000**
Handheld oxygen meter SevenGo pro™ SG6-FK2	1	**664-1001**

Description	Concentration	Temp. (°C)	Material	Connection	Ø×L (mm)	Pk	Cat. No.
Dissolved oxygen probes							
Dissolved oxygen probe InLab® 605, IP 67	0 - 200%, 0 - 20 mg/l	0...+60	PPS	BNC/RCA (Cinch), 1,8 m cable	12×120	1	**664-1004**
Accessories							
Hygienic food compact case for meters with 1 - 2 electrodes, reserve batteries, sample bottles, buffer liquid and small accessories						1	**662-1463**
Infrared USB adapter						1	**662-2750**
Infrared RS232 adapter						1	**662-2751**

Oxygen meters, handheld, SevenGo pro™ / Duo pro™ OptiOx™ (SG9 / SG98)

Mettler-Toledo

SevenGo Duo pro™ OptiOx™ SG98

Field case

Ergonomic and user friendly instruments ideal for special analyses, particularly in the environmental, chemical and food and beverage industry. The SG9 is a robust, single channel meter for measuring dissolved oxygen based on RDO® technology. The professional, dual channel multiparameter SG98 instrument also covers the important parameters pH, ions and ORP.

- Intuitive, user friendly operation using menu guidance in 10 languages and backlit display
- Fast data transmission thanks to wireless IR communication interface
- Modern data management for 500 GLP data records with date/time, sensor ID and serial number, user and sample ID
- Manual or automatic air pressure compensation for reliable results
- Optical oxygen sensor based on RDO® technology; reliable "Intelligent Sensor Management" (ISM®)

Ordering information: Supplied with Electrode Kit or Field Kit.

Electrode Kit with SG9 includes InLab® OptiOx™ probe (IP 67, 1,8 m cable); Electrode Kit with SG98 also includes InLab® Expert Pro ISM®.

Field Kit with SG9 includes InLab® OptiOx™ probe (IP 67, 1,8 m or 5 m cable), compact field case, rubber holster and OptiOx™ protective guard; Field Kit with SG98 also includes InLab® Expert Pro ISM®.

Model	SG9	SG98
DO - concentration (mg/l)	0,00 - 50,00	
DO - resolution (mg/l)	0,01	
DO - accuracy	±0,1 mg/l (0 - 8) ±0,2 mg/l (8 - 20) ±10% (20 - 50)	
DO - % saturation	0 - 500%	
Temperature range (°C)	DO: 0...+50 °C	DO: 0...+50 °C pH: –5...+130 °C
Temperature accuracy (°C)	DO: ±0,1	DO: ±0,1 / pH: ±0,2
Data logging - capacity	500 measurements	
Connections	IR to printer or PC via RS232 or USB	
Outputs	DO probe: Mini LTW (IP 67)	DO probe: Mini LTW Other sensors: BNC (<1012 Ohm); RCA (Cinch) (all IP 67)
Power supply	4×1,5 V AA batteries or 1,3 V NiMH accumulators	
W×D×H (mm)	90×45×220	
Weight (kg)	0,368	
Compliance	GLP / IP 67	
ISE - accuracy	-	±0,5%
ISE - range		$1{,}00^{-9}$ - $9{,}99^{+9}$
ISE - units		mg/l, mmol/l, mol/l
mV - accuracy	-	±0,1
mV - range		±1999
pH - accuracy		±0,002
pH - range		–2,000...+19,999

Description	Pk	Cat. No.
SevenGo pro™ OptiOx™ SG9		
Handheld, optical DO meter SevenGo pro™ OptiOx™ SG9-ELK (Electrode Kit)	1	**664-0069**
Handheld, optical DO meter SevenGo pro™ OptiOx™ SG9-FK2 (Field Kit), 1,8 m cable	1	**664-0070**
Handheld, optical DO meter SevenGo pro™ OptiOx™ SG9-FK5 (Field Kit), 5 m cable	1	**664-0071**
SevenGo Duo pro™ OptiOx™ SG98		
Handheld, optical DO meter SevenGo Duo pro™ OptiOx™ SG98-ELK (Electrode Kit)	1	**665-0237**
Handheld, optical DO meter SevenGo Duo pro™ OptiOx™ SG98-FK2 (Field Kit), 1,8 m cable	1	**665-0238**
Handheld, optical DO meter SevenGo Duo pro™ OptiOx™ SG98-FK5 (Field Kit), 5 m cable	1	**665-0239**

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Description	Material	Temp. (°C)	Concentration	Ø×L (mm)	Connection	Pk	Cat. No.
Dissolved oxygen probes, InLab® OptiOx™							
Optical DO probe InLab® OptiOx™, with temperature sensor, IP 67	PC / ABS	0...+50	0 - 50 mg/l (0 - 500%)	16×65	Mini LTW, 1,8 m fixed cable	1	**664-0075**
Optical DO probe InLab® OptiOx™, with temperature sensor, IP 67	PC / ABS	0...+50	0 - 50 mg/l (0 - 500%)	16×65	Mini LTW, 5 m fixed cable	1	**664-0076**
Optical DO probe InLab® OptiOx™, with temperature sensor, IP 67	PC / ABS	0...+50	0 - 50 mg/l (0 - 500%)	16×65	Mini LTW, 10 m fixed cable	1	**664-0077**
Accessories							
Replacement cap for InLab® OptiOx™ sensor						1	**664-0078**
OptiOx™ calibration tube						1	**664-0072**
OptiOx™ protective guard						1	**664-0073**
OptiOx™ BOD adapter						1	**664-0074**
Hygienic food compact case for meters with 1 - 2 electrodes, reserve batteries, sample bottles, buffer liquid and small accessories						1	**662-1463**

Oxygen meters, handheld, Oxi 3205 / 3210 / 3310
WTW

Oxi 3310

Set Oxi 3310

Waterproof handheld meters designed for unlimited outside use.

- Large display allowing excellent readability, even under bad lighting conditions
- Robust housing and sealed silicone keypad with protection class IP 66/67
- Up to 2500 hour continuous operation time with one battery set

Oxi 3205/3210: Comfortable and versatile

For challenging measurements in the field and on the plant, e.g. water/wastewater analysis, chemical/pharmaceutical industry, etc.

- Backlit graphic display
- Menu-controlled operation
- Large data memory (date, time and ID numbers for measurements)
- Four user selectable languages available (English, German, French, Spanish)

The Oxi 3205 is the same as Oxi 3210 without memory but including simplified functions.

Oxi 3310 / 3310 IDS: Communicative and professional

For professional field measurements requiring documentation and data transfer. The Oxi 3310 IDS models enable digital measuring of optical DO. The optical DO sensor FDO® 925 is not only recommended for BOD measuring, but also for field and process applications.

Same specifications as Oxi 3210, with:

- Extended memory for 5000 GLP-compliant data sets
- Time-controlled datalogger with adjustable intervals for long-term monitoring
- Waterproof mini USB interface to a PC

Ordering information: All oxygen meters are available in sets including sensors and accessories.

Model	Oxi 3205	Oxi 3210	Oxi 3310	Oxi 3310 IDS
DO - concentration (mg/l)	0,00 - 19,99 / 0 - 90			
DO - accuracy	±0,5% of measured value			
DO - % saturation	0,0 - 199,9 / 0 - 600			
DO - barometric pressure range	0 - 199,9 / 0 - 1250 mmHg			
Temperature range (°C)	–5,0…+105,0			
Temperature accuracy (°C)	±0,1			
Data logging - capacity	-	200 manual	200 manual / 500 automatic	
Data logging - log function		Manual	Manual / Time-controlled	
Display	Backlit graphic LCD			
Outputs	-		USB	
Power supply	4×1,5 V AA or 4×1,2 V NiMH			
Weight (kg)	0,6			
Compliance	IP 66/67	IP 66/67, GLP		

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Description	Pk	Cat. No.
Oxi 3205		
Oxi 3205 (instrument only with CD-ROM and batteries)	1	**664-0525**
Oxi 3205 Set CellOx® 325 (instrument in field case with CellOx® 325 DO probe with 1,5 m cable, cleaning solution, electrolyte, 3 spare membrane heads, stand, beaker, CD-ROM and batteries)	1	**664-0526**
Oxi 3205 Set CellOx® 325-3 (instrument in field case with CellOx® 325-3 DO probe with 3 m cable, cleaning solution, electrolyte, 3 spare membrane heads, stand, beaker, CD-ROM and batteries)	1	**664-0527**
Oxi 3205 Set DurOx® 325-3 (instrument in field case with DurOx® 325-3 DO probe with 3 m cable, cleaning solution, electrolyte, 1 spare membrane head, stand, beaker, CD-ROM and batteries)	1	**664-0528**
Oxi 3210		
Oxi 3210 (instrument only with CD-ROM and batteries)	1	**664-0529**
Oxi 3210 Set CellOx® 325 (instrument in field case with CellOx® 325 DO probe with 1,5 m cable, cleaning solution, electrolyte, 3 spare membrane heads, stand, beaker, CD-ROM and batteries)	1	**664-0530**
Oxi 3210 Set CellOx® 325-3 (instrument in field case with CellOx® 325-3 DO probe with 3 m cable, cleaning solution, electrolyte, 3 spare membrane heads, stand, beaker, CD-ROM and batteries)	1	**664-0531**
Oxi 3210 Set DurOx® 325-3 (instrument in field case with DurOx® 325-3 DO probe with 3 m cable, cleaning solution, electrolyte, 1 spare membrane head, stand, beaker, CD-ROM and batteries)	1	**664-0532**
Oxi 3310		
Oxi 3310 (instrument only with CD-ROM, batteries, software and USB cable)	1	**664-0533**
Oxi 3310 Set CellOx® 325 (instrument in field case with CellOx® 325 DO probe with 1,5 m cable, cleaning solution, electrolyte, 3 spare membrane heads, stand, beaker, CD-ROM, batteries, software and USB cable)	1	**664-0534**
Oxi 3310 Set CellOx® 325-3 (instrument in field case with CellOx® 325-3 DO probe with 3 m cable, cleaning solution, electrolyte, 3 spare membrane heads, stand, beaker, CD-ROM, batteries, software and USB cable)	1	**664-0535**
Oxi 3310 IDS		
Oxi 3310 IDS (instrument only with CD-ROM, batteries, software and USB cable), for use with digital IDS DO sensors	1	**664-0180**
Oxi 3310 IDS Set 1 (instrument with FDO® 925 DO probe with 1,5 m cable, carrying case, stand, beaker, batteries, CD-ROM and USB cable)	1	**664-0140**
Oxi 3310 IDS Set 2 (instrument with FDO® 925 DO probe with 3 m cable, carrying case, stand, beaker, batteries, CD-ROM and USB cable)	1	**664-0181**
Oxi 3310 IDS Set 5 (instrument with FDO® 925 DO probe with 1,5 m cable, Beverage Kit (containing panel with meter holder, flow through vessel, tube, tube adapter, meter armour SM Pro), batteries, CD-ROM and USB cable)	1	**664-0084**

Description	Connection	Pk	Cat. No.
Dissolved oxygen probes			
CellOx® 325 with OxiCal®-SL calibration vessel	1,5 m cable	1	**715-2917**
CellOx® 325-3 with OxiCal®-SL calibration vessel	3 m cable	1	**664-0511**
CellOx® 325-6 with OxiCal®-SL calibration vessel	6 m cable	1	**662-0391**
CellOx® 325-10 with OxiCal®-SL calibration vessel	10 m cable	1	**662-0392**
DurOx® 325-3 with OxiCal®-D calibration vessel	3 m cable	1	**664-0512**
DurOx® 325-6 with OxiCal®-D calibration vessel	6 m cable	1	**662-0284**
Accessories			
Protection cap for DurOx®		1	**664-0513**
Maintenance kit for CellOx®		1	**664-0514**
Exchange membrane heads WP90/3 for DO sensors except Stirrox® G and DurOx® 325		3	**715-2953**
Stirrer RZ 300 for CellOx® 325 sensors		1	**715-2991**
Cable, 1 m, with S7/DIN plug		1	**662-1425**
Protective housing SM PRO for ProfiLine/MultiLine		1	**662-1278**

Oxygen meter, handheld, Portavo 904

Knick

This portable, intuitive meter is suitable for daily oxygen measurements. The versatile functionality and robustness makes it the perfect choice for both laboratory and process applications. Waterproof according to IP 66/IP 67.

- Reinforced plastic enclosure for rough industrial applications
- Integrated cover protects the display and serves as lab stand
- Clear glass display is easy to read, even after years of use
- Micro USB port for data connection to PC and power supply
- With digital Memosens input, which allows signals to be digitized and transferred inductively i.e. via a non-contact connection
- Integrated sensor quiver (protective container for sensor) prevents sensor dry-out and damages

Ordering information: Supplied with Paraly 112 PC software. Li-ion accumulator is available. Please note that the instrument is supplied without electrode.

Model	Portavo® 904
DO - concentration (mg/l)	0 - 20
DO - calibration	Automatic calibration in air (100 % RH); Zero calibration
DO - % saturation	0 - 200
Temperature range (°C)	–20...+150
Data logging - capacity	5000 values
Display	LCD, 3 lines

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Connections	1 x M8 socket, 4 pins, for Memosens lab cable 1 x M12 socket for Memosens sensors 2 x 4-mm socket for separate temperature detector
Outputs	Micro USB-B
Power supply	4 alkaline AA batteries (1000 hours operating time), Li-ion accumulator or 4 NiMH rechargeable batteries
W×D×H (mm)	132×30×156
Weight (kg)	0,5
Compliance	IP 66/IP 67

Description	Pk	Cat. No.
Handheld oxygen meter, Portavo 904, without electrode	1	**665-0291**

Description	Temp. (°C)	Concentration	Connection	For	Pk	Cat. No.
Dissolved oxygen electrodes						
SE 315 MS, oxygen probe, digital, with NTC 22 kOhm temperature sensor, plug head, without cable	–5...+45	0,01 - 60 mg/l	Memosens	Water, wastewater	1	**664-0165**
Accessories						
Memosens cable, M8, for connection of meter with Memosens sensors, 1,5 m					1	**662-1666**
Robust field case (for meter, sensor, various small parts and user manual)					1	**662-1599**

Oxygen meter, handheld, 550A
YSI

The YSI 550A DO features a waterproof IP 67, impact-resistant case and innovative field-replaceable DO electrode modules. The instrument provides simultaneous readings of oxygen and temperature using proven polarographic technology for oxygen and highly accurate thermistors. Dissolved oxygen readings are automatically compensated for temperature.

- Measurements are fast and easy with one-hand operation
- Easy-to-use backlit LCD, built-in calibration chamber
- Low-battery indicator, direct salinity, and altitude compensation
- Screw-on cap membranes make membrane changes easy; they are also faster responding and require far less flow dependence
- Over 2000 hour battery life

Ordering information: Supplied with DO probe and cable, and DO cap membrane kit.

Model	550A
DO - concentration (mg/l)	0 - 50
DO - resolution (mg/l)	0,01 / 0,1 (selectable)
DO - accuracy	0 to 20 mg/l: ±0,3 mg/L or 2% of reading, whichever is greater 20 to 50 mg/l: ±6% of reading
DO - % saturation	0 - 500
Salinity - range	0 - 70 ppt
Temperature range (°C)	–5...+45
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,3
Display	Backlit LCD
Power supply	4×1,5 V battery
Weight (kg)	0,910
Compliance	IP 67
W×H (mm)	119×229

Description	Pk	Cat. No.
Handheld DO meter 550A with 12 ft cable	1	**665-0078**
Handheld DO meter 550A with 12 ft cable and carry case	1	**665-0079**
Handheld DO meter 550A with 25 ft cable	1	**665-0080**
Handheld DO meter 550A with 25 ft cable and carry case	1	**665-0081**
Handheld DO meter 550A with 50 ft cable	1	**665-0082**
Handheld DO meter 550A with 50 ft cable and carry case	1	**665-0083**
Handheld DO meter 550A with 100 ft cable	1	**665-0076**
Handheld DO meter 550A with 100 ft cable and carry case	1	**665-0077**

Description	Pk	Cat. No.
Accessories		
Membrane kit 1,25 mm	6	**665-0093**
Replacement DO module	1	**664-0133**

Oxygen meter, handheld, optical, ProODO™
YSI

664-0036

664-0025

Handheld oxygen meter featuring luminescent optical DO technology and using 'smart' digital sensor technology which stores calibration data within the sensor (probe designed to fit in standard 300 ml BOD bottles). This allows probes to be placed on any ProODO instrument without re-calibration.

- Easy to read graphic, backlit display and keypad for use in any lighting condition (multiple language interface: English, German, French, Spanish, Italian, Norwegian and Portuguese)
- Truly fieldworthy, impact resistant, IP 67 waterproof case and connectors; moulded rubber protective sleeve for extra durability and grip
- USB connection allows interaction with powerful desktop Data Manager software
- Fast calibration, hardly any maintenance required, no electrodes to clean or solutions to change
- User-replaceable cables in lengths of 1 to 100 m; cable management kit included with 4 m and longer cables

Three year instrument warranty, two year cable and probe warranty.

Ordering information: Instrument supplied with batteries, communications saddle, USB cable and Data Manager software. Probe, cables and other accessories available separately.

Model	ProODO
DO - concentration (mg/l)	0 - 50
DO - resolution (mg/l)	0,01 or 0,1 (auto-scaling)
DO - accuracy	0 - 20 ±0,1 or ±1% of reading, whichever is greater; 20 - 50 ±15% of the reading
DO - calibration	1 or 2 point with a zero % value
DO - barometric pressure range	375 - 825 mm Hg
DO - salinity factor (ppt)	0 - 70; manual (automatically compensates for manual input value)
Temperature range (°C)	–5...+70
Temperature resolution (°C)	0,01
Temperature accuracy (°C)	±0,2
Data logging - capacity	5000 data sets (sensor data, date, time, site and user-defined information)
Display	Graphic, backlit display
Connections	USB 2.0
W×D×H (mm)	83×23×216
Weight (kg)	0,475 (with batteries)
Compliance	GLP, IP 67, RoHS, WEEE

Description	Pk	Cat. No.
Handheld optical oxygen meter, ProODO	1	**664-0036**

Description	Connection	Pk	Cat. No.
Accessories			
Small tripod for flat surface		1	**665-0069**
Ultra clamp (C-clamp mounting)		1	**665-0095**
Cable management kit		1	**664-0040**
Belt clip		1	**664-0000**
Hard-sided carrying case		1	**664-0024**
Soft-sided carrying case		1	**664-0025**
Cable weight, 140 g, attached to stainless steel probe guard		1	**664-0026**
Replacement ODO probe cap kit		1	**664-0037**
Probes			
DO/temperature probe	1 m cable	1	**664-0027**
DO/temperature probe	4 m cable (including cable management kit)	1	**664-0032**
DO/temperature probe	10 m cable (including cable management kit)	1	**664-0028**

Dissolved oxygen probe, ProOBOD
YSI

The ProOBOD self-stirring optical BOD probe is designed for use with the YSI ProODO instrument.

- Extremely quiet operation
- No warm up time required
- Self-stirring to provide representative sample and increase response times
- Smart sensor retains calibration in the probe
- Probe body tapered to fit into a standard 300 ml BOD bottle

Ordering information: Supplied with optical sensor cap and power supply.

Type	Concentration	Temp. (°C)	Connection	Pk	Cat. No.
ProOBOD optical, self-stirring	0 - 50 mg/l	–5...+500	2 m cable	1	**664-0080**

Oxygen meter, bench, pHenomenal® OX 4100 L

This user friendly, instrument with articulated electrode stand and IP 43 rated housing provides high resolution and accuracy for precise measurements. With USB output for connection to a computer. GLP compliant.

- Large LCD graphic display with continuous LED backlight showing both DO and temperature values simultaneously
- Data logging function selectable between 1 minute and 1 hour
- Memory capacity of 5000 data sets
- Automatic power shut-off: Adjustable from 10 min to 24 h
- Advanced self-test and diagnostics (electrode efficiency diagnostic, drift control); calibration symbol shows when re-calibration is required
- Choice of mains supply or 4× 'AA' batteries for over 1000 operating hours

Ordering information: Ready-to-use oxygen OX 4100 L set includes instrument, galvanic oxygen probe OXY 11-3 with built-in temperature sensor, 3 m cable and articulated stand, maintenance kit and instruction manual (22 languages) on CD ROM.

Model	OX 4100 L
DO - concentration (mg/l)	0,00 - 20,00 / 0 - 90,0 (according to the sensor)
DO - resolution (mg/l)	0,01 / 0,1%
DO - accuracy	±0,5% (between +5 and +30 °C)
DO - calibration	Water saturated air
DO - % saturation	0,0 - 200,0 / 0 - 600 (according to the sensor)
DO - barometric pressure range	6 - 1100 mbar (automatic)
DO - salinity compensation (g/l)	Manual input
DO - salinity factor (ppt)	0,0 - 35
Temperature range (°C)	0,0...+50,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,2
Temperature compensation	0 to +50 °C (automatic)
Data logging - capacity	5000 data sets
Data logging - log function	Selectable between 1 minute and 1 hour
Display	Graphic LCD display with LED backlight
Connections	8-pin connection for oxygen and temperature
Outputs	Watertight (IP 43) USB connection (slave, bidirectional)
Compliance	IP 43 / GLP

Description	Pk	Cat. No.
Bench DO meter OX 4100 L, pHenomenal®	1 SET	**664-0175**

Description	Material	Connection	Pk	Cat. No.
Dissolved oxygen probe, pHenomenal®				
pHenomenal® OXY11-3, galvanic	Epoxy	3 m cable, 8-pin	1	**664-0042**

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Description	Material	Connection	Pk	Cat. No.
Accessories				
pHenomenal® electrode storage tube			1	**662-1167**
pHenomenal® storage/measuring vessel			1	**662-1248**
pHenomenal® communication kit (CD-ROM, USB cable, manual)			1	**662-1225**
pHenomenal® dissolved oxygen maintenance kit			1	**664-0049**
pHenomenal® electrode stand, holds up to 4 electrodes + 1 temperature sensor			1	**662-1169**

Oxygen meter, bench, 9500
Jenway

Fully specified dissolved oxygen meter from Jenway that includes full support for the B.O.D 5-day test protocol. Remote monitoring and data collection are facilitated by the provision of both analogue and digital outputs and in the event of power removal all user-defined parameters are retained.

- Choice of display modes; % air saturation or % oxygen or concentration in mg/l
- Calibration data status display
- Comprehensive data logging options
- GLP functions: Calibration reminder interval (1 to 999 hours); alarm outputs (open collector and audible); security code protected user data
- Power supply: Battery eliminator

Ordering information: Supplied with DO probe with ATC, electrode holder, UK power supply, spare membranes and KCl solution.

Model	9500
DO - concentration (mg/l)	0 - 199% / 0 - 25,0% / 0,00 - 19,99 mg/l
DO - resolution (mg/l)	1% / 0,1% / 0,01 mg/l
DO - accuracy	±2% within 10 °C of calibration temperature
Temperature range (°C)	–10,0...+60,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,5
Temperature compensation	0 to +60 °C
Data logging - capacity	250 reading memory results plus 20 B.O.D. tests (up to 10 samples per test)
Display	Backlit 1/8 VGA monochrome LCD
Outputs	Analogue 1 mV per digit, RS232 serial and IrDA printer interface, alarm
W×D×H (mm)	210×250×55
Weight (kg)	0,850
Compliance	GLP

Description	Pk	Cat. No.
Bench dissolved oxygen meter 9500	1	**664-0006**

Description	Pk	Cat. No.
Accessories		
IrDA/Serial printer incl. roll of thermal paper, serial connection lead, power supply and 3 power connection leads	1	**664-0108**
Interface cable kit	1 KIT	**664-0109**
Dust cover	1	**664-0111**

Oxygen meter, bench, inoLab® Oxi 7310
WTW

High quality instruments with advanced measuring technology, offering new functions including automatic AutoRead, CMC (Continuous Measurement Control) and QSC (Quality Sensor Control) making measurements more convenient and reliable than ever.

The 7310 series is designed for all applications in laboratories where documentation supporting AQA (Analytical Quality Assurance) and GLP (Good Laboratory Practice) is required.

- AutoRead function ensures repeatable results
- USB interface for fast data transfer; complete data transfer in .csv format
- Data output via optional integrated printer
- Easy to read, graphic display, intuitive user interface and keypad with tactile feedback
- Data optimisation with the CMC (Continuous Measurement Control) function

Ordering information: Supplied with universal power supply, stand, CD-ROM including software and USB cable. The application sets also include sensors.

Model	Oxi 7310
DO - concentration (mg/l)	0,00 - 20,00 / 0 - 90
DO - accuracy	±0,5%

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DO - % saturation	0,0 - 200,0 / 0 - 600 (±0,5%)
DO - barometric pressure range	0 - 200,0 hPa / 0 - 1250 hPa
Temperature range (°C)	–5,0...+10,0
Temperature accuracy (°C)	±0,1
Data logging - capacity	500 manually / 5000 automatic
Display	Backlit, graphic LCD
Connections	Mini USB
Power supply	Universal power supply, 4×1,5 V AA or 4×1,2 V NiMH-rechargeable battery

Description	Pk	Cat. No.
inoLab® Oxi 7310, instrument alone	1	664-0085
inoLab® Oxi 7310 P, instrument with integrated printer	1	664-0086
inoLab® Oxi 7310 Set 1, instrument with galvanic DO sensor CellOx® 325, polishing stripe, electrolyte, cleaning solution, replacement caps	1	664-0087
inoLab® Oxi 7310 P Set 1, instrument with galvanic DO sensor CellOx® 325, polishing stripe, electrolyte, cleaning solution, replacement caps and integrated printer	1	664-0088
inoLab® Oxi 7310 Set 4, instrument with galvanic DO sensor StirrOx G, polishing stripe, electrolyte, cleaning solution, replacement caps	1	664-0089
inoLab® Oxi 7310 P Set 4, instrument with galvanic DO sensor StirrOx G, polishing stripe, electrolyte, cleaning solution, replacement caps and integrated printer	1	664-0090

Description	Connection	Pk	Cat. No.
Dissolved oxygen probe, StirrOx® G			
Dissolved oxygen probe StirrOx® G		1	664-0510
Dissolved oxygen probes			
CellOx® 325 with OxiCal®-SL calibration vessel	1,5 m cable	1	715-2917

Dissolved oxygen probe, StirrOx® G

WTW

Self-stirring oxygen probe for simultaneous stirring and measurement.

- Single-handed operation for rapid series measurements
- Constant approach flow for high reproducibility
- Extremely low self-consumption of oxygen
- Temperature compensation
- Membrane leakage monitoring

Ordering information: Inclusive calibration vessel OxiCal®-ST.

Type	Pk	Cat. No.
StirrOx® G, self-strirring, incl. calibration vessel OxiCal®-ST	1	664-0510

Description	Pk	Cat. No.
Accessories		
StirrOx-G Maintenance kit (incl. cleaning solution, abrasive foil, 3× exchange membrane heads and electrolyte)	1	662-0403
WP3-ST, exchange membrane heads for StirrOx® G	3	662-0409
Karlsruhe bottles, incl. 60 mm ground stoppers suitable for BOD determination	1	715-3254

Multi-parameter meter (pH/conductivity/DO), handheld, pHenomenal® MU 6100 H

This user friendly portable instrument with robust IP 67 rated housing provides high resolution and accuracy for precise measurements of pH, mV, conductivity and oxygen in field applications (Can only be used to measure any 2 of these at the same time). With waterproof USB output for connection to a computer. GLP compliant.

- Large LCD graphic display with continuous LED backlight showing the measured parameter and the temperature value simultaneously
- Data logging function selectable between 1 minute and 1 hour
- 5000 data set memory capacity with automatic storing; additional 200 point memory for manual storage
- Automatic power shut-off: Adjustable from 10 min to 24 h
- Automatic buffer recognition of DIN and NIST buffers (1,68 / 4,00 / 6,86 / 9,18 / 12,54)
- Three additional technical buffers at 25 °C (4,00 / 7,00 / 10,00) in memory
- Advanced self-test and diagnostics (electrode efficiency diagnostic, drift control); calibration symbol shows when recalibration is required
- Energy saving: 4× 'AA' batteries for over 1000 operating hours

Ordering information: Ready-to-use set **MU 6100 H S1** includes multi-parameter meter in robust plastic case, gel epoxy pH electrode 111 with built-in temperature sensor (1 m cable), starter kit (two pH buffers, one plastic beaker), conductivity probe CO 21 with built-in temperature sensor (1,5 m cable), stand and instruction manual (22 languages) on CD ROM.

Ready-to-use set **MU 6100 H S2** includes multi-parameter meter in robust plastic case, gel epoxy pH electrode 111 with built-in temperature sensor (1 m cable), starter kit (two pH buffers, one plastic beaker), conductivity probe CO 21 with built-in temperature sensor (1,5 m cable), galvanic oxygen probe OXY 11-3 with built-in temperature sensor (3 m cable), maintenance kit, stand and instruction manual (22 languages) on CD ROM.

Model	MU 6100 H
pH - range	–2,000...+20,000
pH - resolution	0,1 / 0,01 / 0,001 (selectable)
pH - accuracy	±0,005 + 1 digit
pH - calibration	Up to 5 points
Automatic buffer recognition	BDH Prolabo® TITRINORM® buffers at 25 °C: 4,00/6,98/9,94 NIST/DIN 19266 (1,68/4,00/6,86/9,18/12,54) Technical buffers at 25 °C: 4,00/7,00/10,00
mV - range	±1200,0 / ±2500
mV - resolution	0,1 / 1
mV - accuracy	±0,3 / ±1
Conductivity - range	0,001 µS/cm - 1000 mS/cm
Conductivity - resolution	0,1 µS/cm
Conductivity - accuracy	±0,5% of measured value
Conductivity - cell constant (cm^{-1})	Depending on probe
Conductivity - calibration	1 point
Resistivity - range	1 Ω/cm - 999 MΩ/cm
Resistivity - accuracy	±0,5% of measured value
Salinity - range	0,00 - 70 ppt
TDS - range	0,1 mg/l - 199,9 g/l
TDS - resolution	0,1 mg/l / 1 mg/l / 0,01 g/l
DO - concentration (mg/l)	0,00 - 20,00; 0,0 - 90,0
DO - resolution (mg/l)	0,1%; 0,01 (depending on sensor)
DO - % saturation	0,0 - 200,0; 0 - 600 (depending on sensor)
DO - accuracy	±0,5% of value (between 5...30 °C)
DO - calibration	Water saturated air
Temperature range (°C)	Auto: –5,0...+105,0; Manual: –25...+130
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,2
Temperature compensation	Automatic/manual
Data logging - capacity	5000 data sets
Data logging - log function	Selectable between 1 second and 1 hour
Display	LCD graphical display with LED backlight
Connections	BNC for pH / banana for temperature / 8-pin for conductivity and DO
Outputs	Waterproof USB connection (slave, bidirectional)
Power supply	4 × AA batteries
Compliance	IP 67 / GLP
Battery Life	1000 hours

Description	Pk	Cat. No.
Handheld pH/mV/conductivity/DO meter pHenomenal® MU 6100 H, Set 1	1 SET	**665-0311**
Handheld pH/mV/conductivity/DO meter pHenomenal® MU 6100 H, Set 2	1 SET	**665-0312**

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Description	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Diaphr.	Connection	Pk	Cat. No.
Conductivity cell, pHenomenal®								
pHenomenal® CO11, 2-pole graphite, integrated NTC 30	0...+80	Epoxy		15,3×120		8 pin, 1,5 m cable	1	**663-0147**
Dissolved oxygen probe, pHenomenal®								
pHenomenal® OXY11-3, galvanic		Epoxy				3 m cable, 8-pin	1	**664-0042**
pH electrode, pHenomenal®								
pHenomenal® 111 pH electrode, 3 in 1, with temperature sensor		Epoxy	Gel	12×120	Ceramic	BNC, 1 m cable	1	**662-1157**
Accessories								
pHenomenal® electrode storage tube							1	**662-1167**
pHenomenal® storage/measuring vessel							1	**662-1248**
pHenomenal® extension stick, aluminium, 1,5 m							1	**662-1224**
pHenomenal® communication kit (CD-ROM, USB cable, manual)							1	**662-1225**
pHenomenal® dissolved oxygen maintenance kit							1	**664-0049**
pHenomenal® field case							1	**662-1168**
pHenomenal® electrode stand, holds up to 4 electrodes + 1 temperature sensor							1	**662-1169**
Conductivity standard, KCl 0,01 mol/l; 1413 mS/cm							100 ml	**83607.180**
Conductivity standard, KCl 0,1 mol/l; 12 800 µS/cm							500 ml	**83608.260**
Electrolyte KCl 3 mol/l							100 ml	**83605.180**
Electrolyte KCl 3 mol/l + AgCl							500 ml	**83606.260**
Cleaning solution pepsin/hydrochloric acid							100 ml	**83603.180**
Buffer solutions in bottles								
Buffer solution AVS TITRINORM®, ready to use, pH 4							100 ml	**32095.184**
Buffer solution pH 10 (boric acid/sodium hydroxide/potassium chloride) AVS TITRINORM®							100 ml	**32040.185**
Buffer solution AVS TITRINORM®, ready to use, pH 7							100 ml	**32096.187**

Multi-parameter testers (pH/conductivity/TDS), waterproof, Combo-Series, HI 98129 / HI 98130

Hanna

Waterproof, pocket testers for high accuracy pH, conductivity/TDS and temperature measurements.

- Large, easy to read, dual level LCD and one handed push button operation
- Remaining battery life indication and automatic shut off
- Automatic Temperature Compensation (ATC) for pH and conductivity/TDS readings
- Replaceable pH electrode cartridge with extendable cloth junction and conductivity/TDS graphite electrode that resists contamination by salts and other substances

Ordering information: Supplied complete with HI 73127 pH electrode, protective cap, electrode removal tool and batteries.

Model	HI 98129	HI 98130
pH - range	0,00...+14,00	
pH - resolution	0,01	
pH - accuracy	±0,05	
pH - calibration	Automatic, 1 or 2 points, with 2 sets of memorised buffers (pH 4,01 / 7,01 / 10,01 or 4,01 / 6,86 / 9,18)	
Conductivity - range	0 - 3999 µS/cm	0,00 - 20,00 mS/cm
Conductivity - resolution	1 µS/cm	0,01 mS/cm
Conductivity - accuracy	±2%	
Conductivity - calibration	Automatic, 1-point	
TDS - range	0 - 2000 ppm	0,00 - 10,00 ppt
TDS - resolution	1 ppm	0,01 ppt
TDS - accuracy	±2%	
TDS - calibration	Automatic, 1-point	
TDS - conversion factor	Adjustable, 0,45 - 1,00	
Temperature range (°C)	0,0...+60,0	
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	±0,5	
Temperature compensation	Automatic with ß adjustable from 0,0 to 2,4%/°C	
W×D×H (mm)	40×26×163	
Weight (kg)	0,100	

Description	Pk	Cat. No.
Combo HI 98129	1	**665-0000**
Combo HI 98130	1	**665-0001**

Description	Pk	Cat. No.
Accessories		
Spare pH electrode HI 73127	1	**662-4188**
Replacement batteries, 1,5 V	12	**662-3028**

Multi-parameter meters (pH/conductivity/TDS/°C), handheld, HI 991300 / HI 991301
Hanna

High-precision instruments used to measure several parameters simultaneously (pH, conductivity, TDS and temperature).

- Automatic pH calibration to 1 or 2 points with 2 sets of predefined buffers
- Option to adjust the TDS factor from 0,45 to 1,00 (0,50 by default) and the temperature coefficient from 0,0 to 2,4% for better reproducibility of results
- Multi-parameter probe (pH, conductivity, TDS and temperature) with integral amplifier for protection from interference by transient noise

Ordering information: HI 991300 and HI 991301 supplied with HI 1288 probe for pH/conductivity/TDS/°C and 1 m cable, 3×1,5 V AAA batteries and carrying case.

Model	HI 991300	HI 991301
pH - range	0,00...+14,00	
pH - resolution	0,01	
pH - accuracy	±0,01	
pH - calibration	Automatic to 1 or 2 points with 2 sets of predefined buffers	
Conductivity - range	0 - 3999 µS/cm	0,00 - 20,00 mS/cm
Conductivity - resolution	1 µS/cm	0,01 mS/cm
Conductivity - accuracy	±2%	
TDS - range	0 - 2000 ppm	0,00 - 10,00 ppt
TDS - resolution	1 ppm	0,01 ppt
TDS - accuracy	±2%	
TDS - calibration	Automatic to 1 point at 1382 ppm	Automatic to 1 point at 6,44 ppt
Temperature range (°C)	0,0...+60,0	
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	±0,5	
Temperature calibration	Automatic from 0...+60,0 °C (pH) Automatic from 0...+60,0 °C with temperature coefficient adjustable from 0,0 to 2,4% (conductivity/TDS)	
W×D×H (mm)	143×80×38	
Weight (kg)	0,32	
Compliance	IP 67 / GLP	

Description	Pk	Cat. No.
Multiparameter meter (pH/conductivity/TDS/°C) HI 991300	1	**663-5021**
Multiparameter meter (pH/conductivity/TDS/°C) HI 991301	1	**663-5022**

Description	Temp. (°C)	Material	Electrolyte	Diaphr.	Connection	For	Pk	Cat. No.
pH electrodes								
Preamplified pH/EC electrode HI 1288, with temperature sensor	0...+60	PVC	Gel	Cloth	DIN, 1,2 m cable	General purpose, water treatment, agriculture, boilers and cooling towers	1	**662-4146**

Multi-parameter meters (pH/conductivity/TDS), handheld, HI 9811-5/HI 9812-5/HI 9813-5
Hanna

HI 9811-5

These waterproof meters are designed for taking pH, conductivity (EC), TDS and temperature measurements. All three models are ideal for hydroponics, greenhouses, farming and ground water applications. They are also designed to withstand harsh environments such as fertilizer solutions.

- On-screen tutorial messages for calibration
- Switch parameters at the touch of a button, no probe changes required when switching the measured parameter
- Automatic temperature compensation for pH and conductivity
- Simple calibration; buttons located on the front panel makes calibration quick and simple, even for non-technical users
- BEPS (Battery Error Prevention System) alerts the user in the event that low battery power could adversely affect readings
- Fast response probe with internal temperature sensor included

Ordering information: All models are supplied with HI 1285-5 multiparameter probe with 1 m cable, pH 7.01 calibration solution sachet (HI 70007), 1382 ppm (mg/l) calibration solution sachet (HI 70032), 1413 µS/cm calibration solution sachet (HI 70031), 2 electrode cleaning solution sachets (HI 700661), battery, instructions and rugged carrying case.

Model	HI 9811-5	HI 9812-5	HI 9813-5
pH - range	0,0 - 14,0		
pH - resolution	0,1		

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pH - accuracy	±0,1		
Conductivity - range	0 - 6000 µS/cm	0 - 1990 µS/cm	0,00 - 4,00 mS/cm
Conductivity - resolution	10 µS/cm		0,01 mS/cm
Conductivity - accuracy	±2% F.S.		
TDS - range	0 - 3000 mg/l (ppm)	0 - 1990 mg/l (ppm)	0 - 1999 mg/l (ppm)
TDS - resolution	10 mg/l		1 mg/l
TDS - accuracy	±2% F.S.		
TDS - conversion factor	0,5 mg/l = 1 µS/cm		0,56 - 0,78 ppm = 1 µS/cm (according to TDS 442 curve)
Temperature range (°C)	0...60		
Temperature resolution (°C)	0,1		
Temperature accuracy (°C)	±0,5		
Temperature compensation	Automatic, 0 - 50 °C with ß = 2%/°C (EC/TDS only)		
Connections	8-pin DIN connector		
Power supply	9 V / approximately 150 hours of continuous use		
W×D×H (mm)	75×45×165		
Weight (kg)	0,23		
Calibration	Manual at 1 point (all parameters except temperature)		

Description	Pk	Cat. No.
Handheld pH/conductivity/TDS meter HI 9811-5, with electrode and accessories	1	**663-5060**
Handheld pH/conductivity/TDS meter HI 9812-5, with electrode and accessories	1	**665-0176**
Handheld pH/conductivity/TDS meter HI 9813-5, with electrode and accessories	1	**665-1005**

Multi-parameter meter, portable, Edge™
Hanna

This thin, lightweight tablet is designed to measure pH, conductivity (EC/TDS/NaCl/°C) and dissolved oxygen through advanced digital electrodes (only one electrode (parameter) can be connected at any time). The meter is portable and can be placed on a bench or mounted to a wall using the cradle with built-in power connection. The device can also be charged from a car cigarette lighter (adapter is required, not included), allowing even more mobility. When fully charged, the battery runtime is between 10 and 12 hours.

Standard mode:

- Digital electrodes are autorecognised (sensor type, calibration data and serial number); easy to plug-in 3,5 mm connector
- CAL-CHECK® function warns users if the electrode they are using is not clean or if buffers are contaminated during calibration
- Large, easy to read LCD display with wide 150° viewing angle; capacitive touch keypad with scrolling function
- One standard USB for exporting data with a flash drive, one micro USB port for connecting to a computer and for charging when the cradle is not available
- Storage of up to 1000 log records of data, including readings, GLP data, date and time
- Equipped with a benchtop cradle with an adjustable swivel electrode holder to charge and hold the meter securely in place at the optimium viewing angle
- pH buffers: 1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45 and two custom buffers (standard mode); 4.01, 6.86, 7.01, 9.18, 10.01 (basic mode)

Basic mode: Simplified screen and features, ideal for routine measurements.

Ordering information: The meter is suitable for measuring pH, mV, conductivity as well as disolved oxygen when used with the correct electrode. The available kits are supplied with one specific electrode for measuring one of the parameters. In order to measure all parameters you only need to order additional electrodes which can be connected to the meter.

pH meter set HI 2020-02 includes meter, benchtop docking station with electrode holder, wall mount cradle, USB cable, HI 11310 glass body refillable pH electrode with temperature sensor, two sachets each of pH 4, 7, 10, cleaning and storage solution, power adapter and instruction manual.

EC meter set HI 2030-02 includes meter, benchtop docking station with electrode holder, wall mount cradle, USB cable, HI 763100 conductivity probe, three sachets of 1413 µS/cm conductivity standard, three sachets of 12880 µS/cm conductivity standard, power adapter and instruction manual.

DO meter set HI 2040-02 includes benchtop docking station with electrode holder, wall mount cradle, USB cable, HI 764080 Dissolved Oxygen electrode, HI 7041S Refill electrolyte solution, two DO membrane caps, two DO membrane cap o-rings, power adapter and instruction manual.

Model	Edge™
pH - range	–2,00...+16,00 (basic mode); –2,000...+16,000 (standard mode)
pH - resolution	0,01/0,001
pH - accuracy	±0,01 (basic mode); ±0,002 (standard mode)
pH - calibration	3-point (basic mode); 5-point (standard mode)
mV - range	±1000 (standard mode)
mV - resolution	0,1
mV - accuracy	±0,1
Conductivity - range	0,00 - 29,99 µS/cm; 30,0 - 299,9 µS/cm; 300 - 2999 µS/cm; 30,0 - 200,0 mS/cm; up to 500,0 mS/cm (absolute EC)*
Conductivity - resolution	0,01 µS/cm; 0,1 µS/cm; 1 µS/cm; 0,01 mS/cm; 0,1 mS/cm
Conductivity - accuracy	±1% of reading ±(0,5 µS or 1 digit, whichever is greater)
Conductivity - calibration	1 point offset calibration (0,00 µS/cm in air); 1 point slope calibration in EC standard 84 µS/cm, 1413 µS/cm, 5,00 mS/cm, 12,88 mS/cm, 80,0 mS/cm and 118,8 mS/cm
Salinity - range	0,0 - 400,0 % NaCl; 0,01 - 42,00 PSU; 0,0 - 80,0 g/l

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Salinity - resolution	0,1 % NaCl; 0,01 PSU; 0,01 g/l
Salinity - accuracy	±1% of reading
TDS - range	0,00 - 14,99 mg/l (ppm); 15,0 - 149,9 mg/l; 150 - 1499 mg/l; 1,50 - 14,99 g/l; 15,0 - 100,0 g/l; up to 400,0 g/l (absolute TDS)*, with 0,80 conversion factor
TDS - resolution	0,01 ppm; 0,1 ppm; 1 ppm; 0,01 g/l; 0,1 g/l (0,8 TDS factor)
TDS - accuracy	±1% of reading ±(0,03 ppm or 1 digit, whichever is greater)
TDS - conversion factor	0,40 - 0,80
DO - concentration (mg/l)	0,00 - 45,00
DO - resolution (mg/l)	0,01
DO - % saturation	0,0 - 300,0
DO - accuracy	±1,5% of reading ±1 digit
DO - calibration	1-point slope calibration with probe in water saturated air (100%); 1-point offset calibration in HI 7040 solution (0%)
Temperature range (°C)	–20...+120
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,5
Temperature compensation	Automatic: –20...+120 °C; 0,0 - 50,0 °C (with DO electrode)
Data logging - capacity	1000 data sets
Connections	1 × USB, 1 × mciro USB, 3,5 mm plug-in connection for electrodes
Power supply	5 VDC adapter (included)
W×D×H (mm)	140×12,7×202
Weight (kg)	0,25
Compliance	GLP

Description	Pk	Cat. No.
pH/mV set HI 2020-02, including meter, pH electrode, docking station, cradle and other accessories	1 KIT	**665-1002**
Conductivity/EC set HI 2030-02, including meter, conductivity probe, docking station, cradle and other accessories	1 KIT	**665-1003**
DO set HI 2040-02, including meter, DO electrode, docking station, cradle and other accessories	1 KIT	**665-1004**

Description	Material	Electrolyte	Diaphr.	Connection	For	Pk	Cat. No.
pH electrodes, digital, Edge™							
pH electrode HI 10430, with double junction, refillable	Glass	Refillable	Single ceramic	easyPlug 3,5 mm	Paints, solvents, strong acids, bases, high conductivity samples	1	**662-1660**
pH electrode HI 10530, with single junction, conical tip and temperature sensor, refillable	Glass	Refillable	Triple ceramic	easyPlug 3,5 mm	Fats, creams, soil samples	1	**662-1661**
pH electrode HI 11310, with double junction and temperature sensor, refillable	Glass	Refillable	Single ceramic	easyPlug 3,5 mm	Laboratory, general purposes	1	**662-1662**
pH electrode HI 11311, with double junction, temperature sensor and matching pin**, refillable	Glass	Refillable	Single ceramic	easyPlug 3,5 mm	Laboratory, general purposes	1	**662-1663**
pH electrode HI 12300, gel, with double junction and temperature sensor	Plastic	Gel	-	easyPlug 3,5 mm	Field applications	1	**662-1664**
pH electrode HI 12301, gel, with double junction, temperature sensor and matching pin**	Plastic	Gel	-	easyPlug 3,5 mm	Field applications	1	**662-1665**
Conductivity electrode, Edge™							
Conductivity electrode HI 763100, 4-ring, with temperature sensor	Platinum			easyPlug 3,5 mm	General purposes	1	**663-1000**
Dissolved oxygen electrode, Edge™							
DO electrode HI 764080, polarographic, with temperature sensor	-			easyPlug 3,5 mm	General purposes, food, dairy	1	**664-1007**

* with temperature compensation function disabled
** Electrodes with built-in CAL-CHECK® tell the user if the electrode needs cleaning or is damaged as well as identifying if the buffers are contaminated.

Multi-parameter meters, handheld, SevenGo Duo™ / Duo pro™ (SG23 / SG78)

Mettler-Toledo

SG78

Field case

Portable dual channel meters for the simultaneous determination of pH, mV, rel. mV, ion (SG78), conductivity, TDS (total dissolved solids), salinity or specific resistance.

SevenGo Duo™ - pH/conductivity meter (IP 67) for routine use

- High contrast display with large digits, rugged watertight housing (IP 67)
- Automatic adjustment of cell constant
- 3-point pH calibration with selection from four pre-defined and one user-defined buffer group
- Data memory for 99 data records
- Automatic end point detection, automatic buffer recognition and temperature compensation

SevenGo Duo pro™ - pH/ion/conductivity meter (IP 67) to meet the highest requirements

- Intuitive, user friendly operation, backlit display, rugged watertight housing (IP 67)
- Automatic adjustment of cell constant
- Either linear or segmented 5-point pH calibration with selection from seven pre-defined and one user-defined buffer group
- Five pre-defined conductivity standards
- 500 GLP data records with date/time, sensor ID and serial number, user and sample ID

Ordering information: Instrument only versions include the meter without electrodes, with batteries, wrist strap, operating instructions, test certificate and declaration of conformity.

Electrode kit versions include all items as the instrument only version plus InLab® Expert-Pro-ISM-IP67 and InLab® 738-ISM (both IP 67 and 1,8 m fixed cable).

Field kit versions include all items as the Electrode kit version plus field compact case, rubber holster, 2 SevenGo clips, buffer sachets pH (2 each: 4,00, 7,00), conductivity standard sachets (2 each; 1413 µS/cm, 12,88 mS/cm) and calibration bottles.

Model	SG23	SG78
pH - range	0,00...+14,00	–2,000...+19,999
pH - resolution	0,01	0,1 / 0,01 / 0,001
pH - accuracy	±0,01	±0,002
pH - calibration	Max. 3 points, 4 pre-defined buffer groups	Max. 5 points, 7 pre-defined buffer groups
mV - range	±1999	
mV - resolution	1	0,1
mV - accuracy	±1	±0,1
Conductivity - range	0,01 µS/cm - 500 mS/cm	0,01 µS/cm - 1000 mS/cm
Conductivity - resolution	0,01 / 1	
Conductivity - accuracy	±0,5%	
Resistivity - range	0,00 - 100,00 MΩ/cm	
Salinity - range	0,00 - 80,00 ppt	
TDS - range	0,01 mg/l - 300 g/l	0,01 mg/l - 600 g/l
TDS - resolution	0,01 / 1	
TDS - accuracy	±0,5%	
Temperature range (°C)	–5,0...+105,0	pH/mV: ATC: –5,0...+105,0; MTC: –30...+130 Cond: –5,0...+105,0
Temperature resolution (°C)	pH/mV: 0,1 Cond: 0,1	
Temperature accuracy (°C)	pH/mV: ±0,5 Cond: ±0,2	pH/mV: ±0,2 Cond: ±0,1
Temperature compensation	Automatic or manual	
Data logging - capacity	99 data records	500 data records
Display	High contrast LCD	Backlit, dot matrix LCD
Connections	pH: BNC/RCA (NTC 30 kOhm) Cond: LTW 7-pin	
Outputs	-	IR to printer or PC via RS232 or USB adapter
Power supply	4 AA batteries 1,5 V or NiMH accumulator 1,3 V	
W×D×H (mm)	90×45×220	
Weight (kg)	0,357 (without batteries)	0,325 (without batteries)
Compliance	GLP / IP 67	

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Description	Pk	Cat. No.
Handheld pH/conductivity meter SevenGo Duo™ SG23, instrument only	1	**665-0200**
Handheld pH/conductivity meter SevenGo Duo™ SG23, instrument with Electrode Kit	1	**665-0191**
Handheld pH/conductivity meter SevenGo Duo™ SG23, instrument with Field Kit, 2 m cable	1	**665-0192**
Handheld pH/ion/conductivity meter SevenGo Duo pro™ SG78, instrument only	1	**665-0201**
Handheld pH/ion/conductivity meter SevenGo Duo pro™ SG78, instrument with Electrode Kit	1	**665-0195**
Handheld pH/ion/conductivity meter SevenGo Duo pro™ SG78, instrument with Field Kit, 2 m cable	1	**665-0196**

Description	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Diaphr.	Connection	For	Pk	Cat. No.
pH electrodes, InLab® ISM®									
InLab® Expert Pro ISM®	0...+100	PEEK	XEROLYT® polymer	12×120	Open junction	1,2 m cable, BNC/RCA (Cinch)	Wastewater, highly saline solutions; gels, soaps and shampoos; proteinaceous media; beverages; suspended solids, oily samples	1	**662-1153**
Accessories									
InLab® 738-ISM®	0...+100	Epoxy / Graphite		12×120		Fixed cable (1,8 m), LTW		1	**663-0000**
SevenGo™ compact field case (empty)								1	**662-1233**
Infrared USB adapter								1	**662-2750**
Infrared RS232 adapter								1	**662-2751**

Multi-parameter meter (pH/ion/oxygen), handheld, SevenGo Duo pro™ SG68

Mettler-Toledo

Portable dual channel meter for the simultaneous determination of pH, mV or ion concentrations and dissolved oxygen.

- Rugged watertight housing, backlit display and intuitive menu
- Up to 5-point pH calibration with a choice of 7 predefined and one user-defined buffer set
- Data storage for 500 GLP data records with time/date, sensor ID and SN, and user and sample IDs
- Infrared interface for data transmission to a printer or PC
- Enhanced reliability thanks to comprehensive support for intelligent sensor management (ISM®) sensors

Ordering information: SG68-ELK Electrode Kit includes dual-channel pH/ion/dissolved oxygen meter with InLab® Expert-Pro-ISM-IP67 and InLab® 605-ISM (both IP 67 and 1,8 m fixed cable) complete with batteries, wrist strap, operating instructions, test certificate and declaration of conformity.

SG68-FK2 Field Kit includes the same items as SG68-ELK, plus field compact case, rubber holster, 2 SevenGo clips, buffer sachets pH (two each: 4,00, 7,00) and calibration bottles.

Model	SG68
pH - range	–2,000...+19,999
pH - resolution	0,001
pH - accuracy	±0,002
pH - calibration	Max. 5 points, 7 pre-defined buffer groups
mV - range	±1999
mV - resolution	0,1
mV - accuracy	±0,1
ISE - range	$1{,}00\times10^{-9}$ - $9{,}99\times10^{+9}$ / 0,000 - 9999 ppm / 0,000 - 999,9%
ISE - accuracy	±0,5%
ISE - units	%, ppm, mg/l, mmol/l
DO - concentration (mg/l)	0,00 - 99,00 (0,0 - 600%)
DO - resolution (mg/l)	0,01 (0,1 / 1%)
DO - accuracy	±0,5%
Temperature range (°C)	0,0...+60,0
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,1
Data logging - capacity	500 data records
Outputs	IR to printer or PC via RS232 or USB
Power supply	4 AA batteries 1,5 V or NiMH accumulator 1,3 V
W×D×H (mm)	220×90×45
Weight (kg)	0,368 (without battery)
Compliance	IP 67 / GLP

Description	Pk	Cat. No.
Handheld pH/ion/oxygen meter SevenGo Duo pro™ SG68-B (Instrument only)	1	**665-0267**
Handheld pH/ion/oxygen meter SevenGo Duo pro™ SG68-ELK (Electrode Kit)	1	**665-0193**
Handheld pH/ion/oxygen meter SevenGo Duo pro™ SG68-FK2 (Field Kit with 2 m cable)	1	**665-0194**
Handheld pH/ion/oxygen meter SevenGo Duo pro™ SG68-FK5 (Field Kit with 5 m cable)	1	**665-0268**

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Description	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Diaphr.	Connection	For	Pk	Cat. No.
Dissolved oxygen probes, ISM®									
InLab® 605-ISM®, IP 67, with NTC 22 kΩ	0...+60	PPS		12×120		BNC/RCA (cinch), 2 m cable	SevenGo Duo pro™ SG68	1	**664-0041**
pH electrodes, InLab® ISM®									
InLab® Expert Pro ISM®	0...+100	PEEK	XEROLYT® polymer	12×120	Open junction	1,2 m cable, BNC/RCA (Cinch)	Wastewater, highly saline solutions; gels, soaps and shampoos; proteinaceous media; beverages; suspended solids, oily samples	1	**662-1153**
Accessories									
Hygienic food compact case for meters with 1 - 2 electrodes, reserve batteries, sample bottles, buffer liquid and small accessories								1	**662-1463**

Multi-parameter meters, handheld, Portavo® 907
Knick

These versatile, portable instruments can measure pH, ORP, conductivity and dissolved oxygen (optical). Thanks to their robustness and the large selection of suitable sensors they are the perfectly suitable for both laboratory and process applications. Waterproof according to IP 66/IP 67.

- Reinforced plastic enclosure for rough industrial applications
- Integrated cover protects the display and serves as lab stand
- High resolution colour TFT display is transreflective and allowing the display to be read in bright sunlight
- Data log function can store up to 10 000 values
- With digital Memosens input, which allows signals to be digitised and transferred inductively i.e. via a non contact connection
- Integrated sensor quiver (protective container for sensor) prevents sensor dry-out and damages
- Optical oxygen measurements possible

Portavo® 907 Set includes the Portavo® 907 multi-parameter-meter and the digital probe SE 340 for optical oxygen measurements, with M12 8-pin plug according to DIN EN 50262.

Ordering information: Supplied with manual, 4× AA batteries, carrying strap, factory certificate, micro USB port for PC connection, USB cable (1,5 m) and Paraly® 112 PC software. All instruments, except for the set, are delivered without an electrode, which needs to be ordered separately.

Model	Portavo® 907 pH	Portavo® 907 COND	Portavo® 907 OXY
pH - range	–2...16		
pH - accuracy	< ±0,01		
mV - range	± 1300; ± 2000	± 2000	
mV - accuracy	< 0,1% of value + 0,3		
Conductivity - range	depending on Memosens electrode	4-electrode: 0,1 µS...1000 mS (0,05...500 mS/cm with electrode SE 204) 2-electrode: 0,1 µS...200 mS (0,01...200 µS/cm with electrode SE 202)	depending on Memosens electrode
Conductivity - resolution	0,001 µS/cm (c < 0,05 cm^{-1}) 0,01 µS/cm (c = 0,05...0,2 cm^{-1}) 0,1 µS/cm (c = 0,2...0,8 cm^{-1}) 0,1 µS/cm (c > 0,8 cm^{-1})		
Conductivity - accuracy	depending on Memosens electrode	< 0,5% of value + 0,4 µS	depending on Memosens electrode
Resistivity - range	00,00 - 99,99 MΩ cm		
Salinity - range	0,0 - 45,0 g/kg (0...30 °C)		
TDS - range	0 - 1999 mg/l (10...40 °C)		
DO - concentration (mg/l)	0,00...0,99; 1,00...20,00		
DO - % saturation	0,000...200,0		
DO - accuracy	depending on Memosens electrode		
Temperature range (°C)	NTC 30: –20...+120 Pt1000: –40...+250 Memosens: –50...+250	NTC 30: –20...120 Pt1000: –40...+250 Memosens: –50...+250	
Temperature accuracy (°C)	< 0,5 K		
Data logging - capacity	10 000 values		
Display	LCD, coloured		
Connections	1 x analogue pH input (DIN 19262; 13/4 mm) 1 x M8 socket, 4 pins, for Memosens lab cable 2 x 4-mm socket for separate temperature detector	1 x multi contact for 2-/4-electrode sensors (analgoue) 1 x M8 socket, 4 pins, for Memosens lab cable 2 x 4-mm socket for separate temperature detector	1 x M8 socket, 4 pins, for Memosens lab cable 1 x M12 socket, 8 pins for Memosens and optical oxygen sensors 2 x 4-mm socket for separate temperature detector
Outputs	Micro USB ports		
Power supply	4 alkaline AA batteries, Li-ion accumulator (loading via USB) available		
W×D×H (mm)	127×30×155		
Weight (kg)	0,5		
Compliance	IP 66/IP 67		

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Description	Pk	Cat. No.
Portavo® 907 pH, without electrode, with analogue pH and digital Memosens input	1	**665-0286**
Portavo® 907 COND, without electrode, with analogue conductivity and digital Memosens input	1	**665-0287**
Portavo® 907 OXY, without electrode, with digital Memosens input, for optical oxygen measurements	1	**664-0138**
Portavo® 907 Set, with digital Memosens input and optical dissolved oxygen sensor SE340, with 1 m cable	1	**664-0139**

Description	Temp. (°C)	Material	Ø×L (mm)	Diaphr.	Connection	For	Pk	Cat. No.
pH electrodes								
SE 101 N, combination pH/Pt1000 electrode	–5...+80	Plastic	12×120	Fibre	DIN	Laboratory purposes, industrial production, processing systems	1	**665-0292**
SE 101 NMS, combination pH/NTC-30k electrode, plug head, without Memosens cable	–5...+80	Epoxy	12×120	Ceramic	Memosens	Field measurements	1	**662-1667**
SE 102 N, combination pH/Pt1000 electrode	–5...+100	Glass	12×110	Ceramic	DIN	Laboratory purposes, industrial production, processing systems	1	**662-3534**
SE 102 NMS, combination pH/NTC-30k electrode, plug head, without Memosens cable	–5...+100	Glass	12×110	Ceramic	Memosens	Field measurements	1	**662-1668**
SE 104 N, pH puncture electrode, pH 2 -13	–5...+100	Plastic	12×99	Hole junction	DIN	Semi-solid substances	1	**662-3535**
Conductivity electrodes								
SE 202, 2-electrode, with integrated temperature probe, incl. flow cell	–5...+100	Stainless steel	12×120		8-pin	Low conductivity solutions	1	**665-0295**
SE 204, 4-electrode, with integrated temperature probe	–5...+100	Epoxy	15,3×120		8-pin	Natural waters, aqueous solutions, salinity determination	1	**665-0297**
ZU 6985, 4-electrode conductivity sensor, with Pt 1000 temperature probe	–20...+100	Glass	16×110		Via adapter	Laboratory applications	1	**663-2111**
Dissolved oxygen electrodes								
SE 315 MS, oxygen probe, digital, with NTC 22 kOhm temperature sensor, plug head, without cable	–5...+45	Polysulfone (PSU)	12×120		Memosens	Water, wastewater	1	**664-0165**
SE 340, optical oxygen probe, digital, with NTC 22 kOhm temperature sensor	0...+50	POM	12×140		M12, 8-pin, 1,5 m cable	Water, wastewater	1	**665-0302**
Temperature probes								
Pt1000 temperature probe, –10...+100 °C, Monel 2.4360, accuracy class A, acc. DIN IEC 751							1	**662-3532**
Accessories								
Memosens cable, M8, for connection of meter with Memosens sensors, 1,5 m							1	**662-1666**
Robust field case (for meter, sensor, various small parts and user manual)							1	**662-1599**
pH buffer set CaliMat, 4,00/7,00/9,00, ready-to-use; 250 ml each							1 SET	**662-1826**
Replacement flow cell for 2-electrode conductivity sensor SE 202							1	**665-0299**
KPG® tube for 4-electrode conductivity sensor ZU 6985, incl. O-ring							1	**665-0298**
Adapter for connecting conductivity sensors with 2 banana plugs with instrument							1	**665-0300**
Adapter for connecting 4 electrode sensor ZU 6985 with instrument							1	**665-0301**
Conductivity standard, 12,88 mS/cm ±1 %, one ampoule for producing 1000 ml 0,1 mol/l NaCl solution							1	**663-2112**

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Multi-parameter meter, handheld, for ATEX areas, Portavo® 904

Knick

This explosion-proof multi-parameter meter has been specially designed for employment in potentially explosive areas. It is suitable for daily routine pH, ORP, conductivity and oxygen measurements. Waterproof according to IP 66/IP 67.

- Portable analyser with ATEX approval for zone 1, sensor for zone 0
- Integrated cover protects the display and serves as lab stand
- With digital Memosens input, which allows signals to be digitised and transferred inductively i.e. via a non contact connection
- With data log for up to 5000 values
- Integrated sensor quiver (protective container for sensor) prevents sensor dry-out and damage
- Clear glass display is easy to read, even after years of use

Ordering information: Supplied with manual, 4× AA batteries, carrying strap, factory certificate, micro USB port for PC connection, USB cable (1,5 m) and Paraly 112 PC software. All relevant certification is supplied with the meter or can be obtained on the Knick website.

Model	Portavo® 904 ATEX
pH - range	–2,000...+16,000
mV - range	± 1999
mV - accuracy	< 0,1% of value + 0,3
Conductivity - range	Depending on Memosens sensor
Conductivity - resolution	0,001 µS/cm (c < 0,05 cm^{-1}) 0,01 µS/cm (c = 0,05...0,2 cm^{-1}) 0,1 µS/cm (c > 0,8 cm^{-1})
Conductivity - accuracy	< 0,5% of value + 0,4 uS
Conductivity - cell constant (cm^{-1})	Automatic or manual
Resistivity - range	00,00 - 99,99 MΩ cm
Salinity - range	0,0 - 45,0 g/kg (0...30 °C)
TDS - range	0 - 1999 mg/l (10...40 °C)
DO - concentration (mg/l)	000 - 20,00
DO - % saturation	000 - 200,0
DO - calibration	Automatic, zero calibration
DO - barometric pressure range	0,0 - 1000 mbar
Temperature range (°C)	–50...+250
Temperature accuracy (°C)	< 0,5 K
Temperature compensation	linear (0...20 %/K)
Data logging - capacity	5000
Display	LCD, 3 lines
Connections	1 x M8 socket, 4 pins, for Memosens lab cable 1 x M12 socket for Memosens sensors 2 x 4-mm socket for separate temperature detector
Outputs	micro USB-B
Power supply	4 alkaline AA batteries (500 hours operating time); ATEX conform
W×D×H (mm)	132×30×156
Weight (kg)	0,5
Compliance	IP 66/67; ATEX conform

Description	Pk	Cat. No.
Handheld multi-parameter meter, for ATEX areas, Portavo® 904	1	**665-0285**

Description	Temp. (°C)	Material	Ø×L (mm)	Diaphr.	Connection	For	Pk	Cat. No.
pH electrodes								
SE 102 NMS, combination pH/NTC-30k electrode, plug head, without Memosens cable	–5...+100	Glass	12×110	Ceramic	Memosens	Field measurements	1	**662-1668**
Dissolved oxygen electrodes								
SE 315 MS, oxygen probe, digital, with NTC 22 kOhm temperature sensor, plug head, without cable	–5...+45	Polysulfone (PSU)	12×120		Memosens	Water, wastewater	1	**664-0165**
pH electrode for ATEX measurements								
ZU 6979, combination pH/Pt1000 electrode, incl. equipotential bonding cable	-	Glass	105	Ceramic	-	Measurements in hazardous area Zone 0	1	**662-3540**

Description	Pk	Cat. No.
Accessories		
Memosens cable, M8, for connection of meter with Memosens sensors, 1,5 m	1	**662-1666**
Robust field case (for meter, sensor, various small parts and user manual)	1	**662-1599**

Multi-parameter meters, handheld, Multi 3410 / 3420 / 3430

WTW

Multi 3410

Multi 3420

Multi 3430

Rugged multi-parameter meters for pH, ORP, DO (with optical sensor FDO®) and conductivity (available as 1, 2 or 3-channel instrument). Ideal for portable field measurements.

- Brilliant high resolution TFT colour display with simultaneous display of 1, 2 or 3 parameters (colour coded)
- Tactile keypad for error-free operation and field proven, waterproof housing (IP 67)
- Continuous Measurement Control (CMC) for measuring in the optimum pH range
- Quality Sensor Control (QSC) benchmarks the current condition of the special IDS pH electrodes
- Digital processing and data transfer (GLP-compliant) via USB or mini USB interface

Ordering information: Available in sets which include sensors and accessories (field case, 4×NiMH rechargeable batteries (1,2 V), USB cable, power pack, CD-ROM).

MultiLine® - general specifications	
Memory	Automatic, 10 000 data sets
Data logger	Manual/time-controlled
Interface	USB host and mini USB
Power supply	Battery charger or 4×1,2 V NiMH rechargeable batteries
Continuous	100 hours
Protection class	IP 67
MultiLine® - pH measurement	
pH	–2,0...+20,0 / –2,00...+20,00 / –2,000...+20,000
mV	±2000 / ±1250,0
Temperature	–5,0...+105,0 °C
AutoRead	Automatic/manual
CMC	Yes
QSC	Yes
Calibration	1-, 2-, 3-, 4-, 5-point; WTW Technical, DIN/NIST, 20 sets of memorised buffers
Calibration memory	Up to 10 calibrations
MultiLine® - DO measurement	
Concentration	0,00 - 20,00 mg/l
Saturation	0,0 - 200,0%
Partial pressure	0 - 400,0 hPa
Temperature	0,0...+50,0 °C
AutoRead	Automatic/manual
Calibration memory	Up to 10 calibrations
Built-in barometric sensor	
MultiLine® - conductivity measurement	
Conductivity	0,0 - 2000 mS/cm
Additionally	0,00 - 19,99 µS/cm, K=0,1 cm^{-1}
Resistivity	0,00 - 20 MΩ.cm
Cell constants	Automatic
Salinity	0,0 - 70,0 ppt
TDS	0 - 1999 mg/l / 0 - 199,9 g/l
Temperature	–5,0...+105,0 °C
AutoRead	Automatic/manual
Reference temperature	20 °C / 25 °C
Temperature compensation	None, nIF, 0,000 - 10,000%/K
Calibration memory	Up to 10 calibrations

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Description	Pk	Cat. No.
Multi 3410 (to be used with one electrode/probe at one time)		
Multi 3410 single channel instrument Set 1 (with pH electrode Sentix® 940)	1	**665-0216**
Multi 3410 single channel instrument Set 4 (with dissolved oxygen probe FDO® 925)	1	**665-0218**
Multi 3410 single channel instrument Set 7 (with conductivity cell TetraCon® 925)	1	**665-0221**
Multi 3410 single channel instrument Set C (with pH electrode Sentix® 940 and conductivity cell TetraCon® 925)	1	**662-1217**
Multi 3420 (to be used with any two electrodes/probes at one time)		
Multi 3420 dual channel instrument Set B (with pH electrode Sentix® 940-3 and dissolved oxygen probe FDO® 925-3)	1	**662-1220**
Multi 3420 dual channel instrument Set C (with pH electrode Sentix® 940 and conductivity cell TetraCon® 925)	1	**665-0226**
Multi 3420 dual channel instrument Set G (with pH electrode Sentix® 940-3, conductivity cell TetraCon® 925-3 and dissolved oxygen probe FDO® 925-3)	1	**665-0228**
Multi 3430 (to be used with any three electrodes/probes at one time)		
Multi 3430 triple channel instrument Set F (with pH electrode Sentix® 940, conductivity cell TetraCon® 925 and dissolved oxygen probe FDO® 925)	1	**665-0199**
Multi 3430 triple channel instrument Set G (with pH electrode Sentix® 940-3, conductivity cell TetraCon® 925-3 and dissolved oxygen probe FDO® 925-3)	1	**665-0234**

Description	Pk	Cat. No.
Accessories		
Protective housing SM PRO for ProfiLine/MultiLine	1	**662-1278**

Additional sets are available on request. For more information please contact your local VWR office.

pH electrodes, IDS
WTW

SenTix® 940

SenTix® 950

SenTix® 980

High quality, enhanced sensor technology combined with most modern measurement electronics.

- **Intelligent**: Electrodes are automatically recognized by the meter, each sensor is exactly identified
- **Digital**: Measurement signals are processed digitally, providing very accurate data
- Measurement integrity benchmarking of the cells by QSC (Quality Sensor Control)
- IDS electrodes store their serial number and their calibration records

Ø×L: 12×120 mm

Ordering information: Various cable lengths available.

Type	pH	Temp. (°C)	Material	Electrolyte	Diaphr.	Ø×L (mm)	Connection	Pk	Cat. No.
Sentix® 940	0,000 - 14,000 (±0,004)	0...+80	Plastic	Gel	Fibre	12×120	1,5 m cable	1	**662-1249**
Sentix® 940-3	0,000 - 14,000 (±0,004)	0...+80	Plastic	Gel	Fibre	12×120	3 m cable	1	**662-1250**
Sentix® 950	0,000 - 14,000 (±0,004)	0...+80	Plastic	3M KCl	Ceramic	12×120	1,5 m cable	1	**662-1253**
Sentix® 980	0,000 - 14,000 (±0,004)	0...+100	Glass	3M KCl	Platinum wire	12×120	1,5 m cable	1	**662-1254**
Sentix® ORP 900	mV: ±1200,0 (±0,2)	0...+100	Glass	3M KCl	Ceramic	12×120	1,5 m cable	1	**662-1255**

IP68

Conductivity cells, IDS
WTW

TetraCon

LR 925

High quality, enhanced sensor technology combined with most modern measurement electronics. For Multi 3410 / 3420 / 3430 meters.

- **Intelligent**: Electrodes are automatically recognized by the meter, each sensor is exactly identified
- **Digital**: Measurement signals are processed digitally, providing very accurate data
- IDS cells store their serial number and their calibration records
- Two different cells covering all applications from pure water to highly conducting solutions

Temperature range: 0...+100 °C

Ordering information: Various cable lengths available.

Type	Conductivity	Cell constant	Temp. (°C)	Material	Ø×L (mm)	Connection	Pk	Cat. No.
TetraCon® 925, 4-cell graphite	10 µS/cm - 2000 mS/cm	0,475 cm^{-1}	0...+100	Epoxy	15,3×120	1,5 m cable	1	**663-0152**
TetraCon® 925-3, 4-cell graphite	10 µS/cm - 2000 mS/cm	0,475 cm^{-1}	0...+100	Epoxy	15,3×120	3 m cable	1	**663-0153**
LR 925/01, 2-cell stainless steel	0,01 - 200 µS/cm	0,100 cm^{-1}	0...+100	Stainless steel	12×120	1,5 m cable	1	**663-0156**
TetraCon® 925-P, 4-cell graphite	10 µS/cm - 2000 mS/cm	0,475 cm^{-1}	0...+100	Epoxy	15,3×120	AS/IDS-x	1	**665-0304**

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Description	Pk	Cat. No.
Connection cables for IDS sensors		
AS/IDS-1,5, connection cable for IDS sensors with waterproof plug head, length 1,5 m	1	**662-1733**
AS/IDS-3, connection cable for IDS sensors with waterproof plug head, length 3 m	1	**662-1734**
AS/IDS-6, connection cable for IDS sensors with waterproof plug head, length 6 m	1	**662-1735**
AS/IDS-10, connection cable for IDS sensors with waterproof plug head, length 10 m	1	**662-1736**
AS/IDS-15, connection cable for IDS sensors with waterproof plug head, length 15 m	1	**662-1737**
AS/IDS-20, connection cable for IDS sensors with waterproof plug head, length 20 m	1	**662-1738**
AS/IDS-25, connection cable for IDS sensors with waterproof plug head, length 25 m	1	**662-1739**
AS/IDS-40, connection cable for IDS sensors with waterproof plug head, length 40 m	1	**662-1740**
AS/IDS-60, connection cable for IDS sensors with waterproof plug head, length 60 m	1	**662-1741**
AS/IDS-100, connection cable for IDS sensors with waterproof plug head, length 100 m	1	**662-1742**

Dissolved oxygen probes, IDS, FDO®

WTW

Optical dissolved oxygen probes for field and laboratory applications. For Multi 3410 / 3420 / 3430 meters.

- Extremely fast and precise
- Factory calibrated cap with built-in data chip
- Proven GLT (Green Light Technology) probe for long operation life
- Slender design (suitable for Winkler bottles)
- Bevelled membrane repels interference that can be caused by air bubbles

Ordering information: Various cable lengths available.

Type	Concentration	Temp. (°C)	Connection	Pk	Cat. No.
FDO® 925	0,00 - 20,00 mg/l	0...+50,0	1,5 m cable	1	**664-0050**
FDO® 925-3	0,00 - 20,00 mg/l	0...+50,0	3 m cable	1	**664-0051**
FDO® 925-P	0,00 - 20,00 mg/l	0...+50,0	AS/IDS-x	1	**665-0303**

Description	Pk	Cat. No.
Accessories		
Replacement cap for IDS dissolved oxygen probe FDO® 925	1	**664-0055**
Connection cables for IDS sensors		
AS/IDS-1,5, connection cable for IDS sensors with waterproof plug head, length 1,5 m	1	**662-1733**
AS/IDS-3, connection cable for IDS sensors with waterproof plug head, length 3 m	1	**662-1734**
AS/IDS-6, connection cable for IDS sensors with waterproof plug head, length 6 m	1	**662-1735**
AS/IDS-10, connection cable for IDS sensors with waterproof plug head, length 10 m	1	**662-1736**
AS/IDS-15, connection cable for IDS sensors with waterproof plug head, length 15 m	1	**662-1737**
AS/IDS-20, connection cable for IDS sensors with waterproof plug head, length 20 m	1	**662-1738**
AS/IDS-25, connection cable for IDS sensors with waterproof plug head, length 25 m	1	**662-1739**
AS/IDS-40, connection cable for IDS sensors with waterproof plug head, length 40 m	1	**662-1740**
AS/IDS-60, connection cable for IDS sensors with waterproof plug head, length 60 m	1	**662-1741**
AS/IDS-100, connection cable for IDS sensors with waterproof plug head, length 100 m	1	**662-1742**

Depth sondes, IDS

WTW

MPP 910 IDS

MPP 930 IDS

These digital depth sensors with built-in barometric pressure and temperature compensation combine dissolved oxygen, pH or ORP and conductivity measurements with accurate depth readings. They can be used with either one, two or three IDS electrodes. The multi-parameter meter Multi 3430 is required for measurements.

- No twisting, no screwing: Only a click is needed for creating a pressure, tension resistant, data proof connection to the MPP IDS
- Optional special cable reel with sliding contacts for simultaneously winding the cable and taking readings; space for cables up to 100 m length
- Depth sondes either have one sensor input for measuring one parameter or three sensor inputs for simultaneously measuring up to three parameters including depth

Delivery information: Sondes are supplied with built-in pressure sensor, guard, weight, and protection caps for sensor inputs and sonde output. Sensors need to be ordered separately.

Delivery information: Kits are supplied with either single-channel or triple-channel sonde, built-in pressure sensor, guard, weight, and protection caps, carrying case and one, two or three sensors.

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Description	Type	Temp. (°C)	Connection	For	Pk	Cat. No.
Depth sondes						
Single channel sonde without sensor	MPP 910 IDS	–5...50	1,5 m connection cable AS IDS/1.5	Depth measurements to 100 m	1	**665-0352**
pH kit, incl. single channel sonde, SensoLyt® 900-P and accessories	MPP 910 pH-Kit	–5...50	1,5 m connection cable AS IDS/1.5	Depth measurements to 100 m	1	**665-0353**
ORP kit, incl. single channel sonde, SensoLyt® ORP 900-P and accessories	MPP 910 ORP-Kit	–5...50	1,5 m connection cable AS IDS/1.5	Depth measurements to 100 m	1	**665-0354**
Conductivity kit, incl. single channel sonde, TetraCon® 925-P and accessories	MPP 910 COND-Kit	–5...50	1,5 m connection cable AS IDS/1.5	Depth measurements to 100 m	1	**665-0355**
Dissolved oxygen kit, incl. single channel sonde, FDO® 925-P and accessories	MPP 910 FDO®-Kit	–5...50	1,5 m connection cable AS IDS/1.5	Depth measurements to 100 m	1	**665-0356**
Triple channel sonde without sensor	MPP 930 IDS	–5...50	1,5 m connection cable AS IDS/1.5	Depth measurements to 100 m	1	**665-0357**
pH/DO/conductivity kit, incl. triple channel sonde, SensoLyt® 900-P, TetraCon® 925 -P, FDO® 925-P and accessories	MPP 930-pH/FDO®/ Cond Kit	–5...50	1,5 m connection cable AS IDS/1.5	Depth measurements to 100 m	1	**665-0358**
pH/conductivity kit, incl. triple channel sonde, SensoLyt® 900-P, TetraCon® 925 -P and accessories	MPP 930-pH/ Cond Kit	–5...50	1,5 m connection cable AS IDS/1.5	Depth measurements to 100 m	1	**665-0359**

Description	Pk	Cat. No.
Digital pH/ORP electrodes, IDS, Sensolyt®		
Combined IDS pH electrode	1	**662-1720**
Combined IDS ORP electrode, range ±1200 mV	1	**662-1721**
Dissolved oxygen probes, IDS, FDO®		
IDS dissolved oxygen probe FDO® 925-P, without cable	1	**665-0303**
Conductivity cells, IDS		
TetraCon® 925-P, 4-cell graphite	1	**665-0304**
Connection cables for IDS sensors		
AS/IDS-1,5, connection cable for IDS sensors with waterproof plug head, length 1,5 m	1	**662-1733**
AS/IDS-3, connection cable for IDS sensors with waterproof plug head, length 3 m	1	**662-1734**
AS/IDS-6, connection cable for IDS sensors with waterproof plug head, length 6 m	1	**662-1735**
AS/IDS-10, connection cable for IDS sensors with waterproof plug head, length 10 m	1	**662-1736**
AS/IDS-15, connection cable for IDS sensors with waterproof plug head, length 15 m	1	**662-1737**
AS/IDS-20, connection cable for IDS sensors with waterproof plug head, length 20 m	1	**662-1738**
AS/IDS-25, connection cable for IDS sensors with waterproof plug head, length 25 m	1	**662-1739**
AS/IDS-40, connection cable for IDS sensors with waterproof plug head, length 40 m	1	**662-1740**
AS/IDS-60, connection cable for IDS sensors with waterproof plug head, length 60 m	1	**662-1741**
AS/IDS-100, connection cable for IDS sensors with waterproof plug head, length 100 m	1	**662-1742**
Accessories		
Cable reel, KT MPP/SK, with sliding contacts for connecting an AS/IDS-x cable	1	**662-1727**
Replacement electrode holder for MPP 910 with titanium bail, included in set	1	**662-1722**
Replacement electrode holder for MPP 930 with titanium bail, included in set	1	**662-1723**
A 925-P, armour for protecting an IDS sensor when guard exists (A 925/K or A 925/S)	1	**662-1724**
A 925-P/K, removable plastic armour for IDS field sensors, including guard	1	**662-1725**
A 925-P/S, removable stainless steel armor for IDS field sensors, including guard	1	**662-1726**
BPI/IDS 900, coded protection cap for IDS sensor input	1	**662-1728**
BPO/IDS 900, protection cap for sonde output	1	**662-1729**

Multi-parameter meters for water quality, handheld, HI 9829

Hanna

This rugged, waterproof meter displays 1 to 12 parameters simultaneously from up to 15 user selectable parameters. Combined with one of the HI 7609829 series probes, this meter can measure water quality parameters such as pH, ORP, conductivity, turbidity, temperature, ions (ammonium, chloride, nitrate), dissolved oxygen concentration, resistivity, TDS, salinity and seawater specific gravity. Ideal for field measurements of lakes, rivers and seas.

FastTracker™: This Tag ID system simplifies periodic monitoring. iButtons® with a unique ID can be installed at various sampling sites. When the matching connector on the meter contacts the location button, measurements are logged and labelled with the alphanumeric user-entered location ID.

- Graphic, backlit display and alpha-numeric keypad: allow full configuration of each parameter measured
- Auto-recognition of all sensors; sensors are field replaceable
- Atmospheric pressure is measured for DO compensation
- User can chose between automatic "Quick calibration" and individual calibration using multiple calibration points
- Logged data can be displayed as graphs
- USB connection allows data transfer to PC

Ordering information: HI 9829-00042 is supplied complete with probe HI 7609829 with 4 m cable, pH/ORP, DO and EC sensors, short protective shield HI 7698295, pH/ORP/EC/DO module, USB cable, PC application software HI 929829, iButton® software support, calibration kit, calibration standard solution (500 ml), rugged carrying case, power adapter and adapter for charging via car lighter.

HI 9829-01042 is supplied complete with probe HI 7609829 with 4 m cable, pH/ORP, DO, EC and turbidity sensors, short protective shield HI 7698295, pH/ORP/EC/DO module, USB cable, PC application software HI 929829, iButton® software support, calibration kit, standard calibration solution (500 ml), calibration solutions 0 FNU (230 ml), 20 FNU (230 ml) and 200 FNU (230 ml), rugged carrying case, power adapter and adapter for charging via car lighter.

Model	HI 9829-00042	HI 9829-01042
pH - range	0,00 - 14,00	
pH - resolution	0,01	
pH - accuracy	±0,02	
mV - range	±600,0 (pH input), ±2000,0 (ORP)	
mV - resolution	0,1	
mV - accuracy	±0,5 (pH), ±1,0 (ORP)	
Conductivity - range	0,000 - 200,000 mS/cm (absolute EC up to 400 mS/cm)	
Conductivity - resolution	manual: 1 µS/cm; 0,001/0,01/0,1/1 mS/cm automatic: 1 µS/cm (0 - 9999 µS/cm); 0,001 mS/cm (0,000 - 9,999 mS/cm); 0,01 mS/cm (10,00 - 99,99 mS/cm); 0,1 mS/cm (100,0 - 400,0 mS/cm)	
Conductivity - accuracy	±1% of reading or ±1 µS/cm (whichever is greater)	
Resistivity - range	0 - 999999 Ω/cm / 0 - 1000,0 kΩ/cm / 0 - 10000 MΩ/cm	
Salinity - range	0,01 PSU	
Salinity - accuracy	±2% of reading or 0,01 PSU (whichever is greater)	
TDS - range	0 - 400000 mg/l or ppm (maximum value depends on TDS factor)	
TDS - resolution	manual: 1 mg/l (ppm); 0,001 g/l (ppt); 0,01g/l (ppt); 0,1 g/l (ppt); 1 g/l (ppt); autorange scales: 1 mg/l (0 - 9999 mg/l), 0,01 g/l (10,00 - 99,99 g/l); 0,1 g/l (100,0 - 400,0 g/l); 0,001 g/l (0,000 - 9,999 g/l)	
TDS - accuracy	±1% of reading or ±1 mg/l	
DO - concentration (mg/l)	0,00 - 50,00	
DO - resolution (mg/l)	0,1%; 0,01	
DO - % saturation	0,0 - 500,0%	
DO - accuracy	0,0 - 300,0%: ±1,5% of reading or ±1,0% (whichever is greater); 300,0 - 500,0%: ±3% of reading; 0,00 - 30,00 mg/l: ±1,5% of reading or 0,10 mg/l (whichever is greater); 30,00 mg/l - 50,00 mg/l: ±3% of reading	
DO - barometric pressure range	450 - 850 mmHg; 17,72 - 33,46 inHg; 600,0 - 1133,2 mbar; 8,702 - 16,436 psi; 0,5921 - 1,1184 atm; 60,00 - 113,32 kPa	
Temperature range (°C)	–5...+55	
Temperature resolution (°C)	0,01	
Temperature accuracy (°C)	±0,15	
Temperature compensation	Automatic (–5...+55)	
Turbidity - range	-	0,0 - 99,9 FNU; 100 - 1000 FNU
Turbidity - resolution		0,1 FNU (0,0 - 99,9 FNU); 1 FNU (100 - 1000 FNU)
Turbidity - accuracy		±0,3 FNU
Data logging - capacity	44.000 records	
Data logging - log function	1 second to 3 hours	
Display	Graphic LCD display with backlight	
Outputs	USB	
Power supply	4 × 1,5 V alkaline C cells, 4 × 1,2 V rechargeable C cells, USB, or 12 V power adapter	
W×D×H (mm)	115×55×221	
Weight (kg)	0,75	
Compliance	IP 67 (meter), IP 68 (sensors)	
Calibration	"Quick calibration" or individual	

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Description	Pk	Cat. No.
Multi-parameter kit HI 9829-00042, incl. meter, probe and accessories	1 KIT	**665-1006**
Multi-parameter/turbidity kit HI 9829-01042, incl. meter, probe and accessories	1	**665-0324**

Multi-parameter meters, handheld, U-50 series

Horiba

These waterproof meters can measure and display up to 11 parameters simulateously with one single probe. Thanks to their rugged design and their field replaceable sensors they are ideal for outdoor use, for example when testing ground or surface water. Their compact size and the hand strap enable one-handed operation.

- Easy to read LCD display with backlight and on-screen icons for battery power, GPS, USB and probe unit connectivity
- Shock resistant cover designed for rough treatment in the field; easily cleanable
- Quick-connect fitting: Cables can easily be connected and disconnected
- 10 000 data sets can be stored and transferred to a PC via the USB output (USB cable not included)
- Auto-calibration, auto-hold, diagnostic functions
- GPS models facilitate environmental surveys of oceans, lakes and rivers

U-53: This model features a high precision field replaceable turbidity sensor with wiper. The sensor conforms to US EPA method 180.1.

U-54: The turbidity sensor of this model conforms to EN ISO 7027.

Ordering information: Meter is supplied with probe unit with 2, 10 or 30 m cable, pH sensor 7112, ORP sensor 7313, reference electrode 7210, DO sensor 7543, turbidity sensor (7800 for U-52; 7801 for U-53; 7802 for U-54), pH4 standard solution (500 ml), pH reference internal solution (50 ml), DO sensor internal solution set, DO membrane space parts set, spanner for DO sensor, cleaning brush, calibration cup, back pack, strap, 4 alkaline batteries, silicone grease and instruction manual. USB cable (incl. software) must be ordered separately.

Parameter	U-51	U-52	U-52G	U-53	U-53G	U-54	U-54G
pH	√	√	√	√	√	√	√
Conductivity	√	√	√	√	√	√	√
Dissolved oxygen	√	√	√	√	√	√	√
Salinity	√	√	√	√	√	√	√
TDS	√	√	√	√	√	√	√
Seawater specific gravity	√	√	√	√	√	√	√
Temperature	√	√	√	√	√	√	√
Turbidity (LED)	-	√	√	-	-	√	√
Turbidity (Tangsten lamp)	-	-	-	√	√	-	-
Water depth	-	-	√	√	√	√*	√*
ORP	√	√	√	√	√	√	√
GPS	-	-	√	-	√	-	√
Max. items displaying simultaneously	10	11	11	11	11	11	11
Turbidity wiper	-	-	-	√	√	-	-

Model	U-51	U-52	U-52G	U-53	U-53G	U-54	U-54G
pH - range	0...14						
pH - resolution	0,01						
pH - accuracy	±0,1						
pH - calibration	Two-point						
mV - range	±2000						
mV - resolution	1						
mV - accuracy	±15						
Conductivity - range	0 - 10 S/m; 0 - 100 mS/cm						
Conductivity - resolution	0,001 mS/cm (0,000 - 0,999 mS/cm); 0,01 mS/cm (1,00 - 9,99 mS/cm); 0,1 mS/cm (10,0 - 99,9 mS/cm); 0,1 mS/m (0,0 - 99,9 mS/m); 0,001 S/m (0,100 - 0,999 S/m); 0,01 S/m (1,00 - 9,99 S/m)						
Conductivity - accuracy	±1% F.S. (Median of two-point calibration)						
Salinity - range	0 - 70 ppt						
Salinity - resolution	0,1 ppt						
Salinity - accuracy	±3 ppt						
TDS - range	0 - 100 g/l						
TDS - resolution	0,1% of F.S.						
TDS - accuracy	±5 g/l						
TDS - conversion factor	0,60 - 0,65						
DO - concentration (mg/l)	0 - 50,0						
DO - resolution (mg/l)	0,01						
DO - accuracy	±0,2 mg/l (0 - 20 mg/l); ±0,5 mg/l (20 - 50 mg/l)						
Temperature range (°C)	–10...+55						
Temperature resolution (°C)	0,01						

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Temperature compensation	Automatic					
Turbidity	-	LED light source and 30° scattering method		Tungsten lamp source and 90° scattering method		LED light source and 90° scattering method
Turbidity - range		0 - 800 NTU		0 - 1000 NTU		
Turbidity - resolution		0,1 NTU (0 - 99,9 NTU); 1 NTU (100 - 800 NTU)		0,01 NTU (0 - 9,99 NTU); 0,1 NTU (10 - 99,9 NTU); 1 NTU (100 - 1000 NTU)		0,01 NTU (0 - 0,99 NTU); 0,1 NTU (1 - 99,9 NTU); 1 NTU (100 - 1000 NTU)
Turbidity - accuracy		±5% of readout or 1 NTU, whichever is greater		±0,5 (0 - 10 NTU); 3% of readout or 1 NTU, whichever is greater (10 - 1000 NTU)		±5% of readout or 1 NTU, whichever is greater
Data logging - capacity	10000					
Display	320×240 liquid crystal display with backlight (black and white)					
Outputs	USB					
Power supply	4 × C batteries (battery life: approx. 70 hours without backlight)			4 × C batteries (battery life: approx. 500 measurements)		4 × C batteries (battery life: approx. 70 hours without backlight)
W×D×H (mm)	115×66×283	115×66×335		115×66×283	115×66×355	115×66×283	115×66×355
Weight (kg)	0,8 (without probe)					

Description	Pk	Cat. No.
U-51		
Multi-parameter meter U-51, 2 m cable	1	**665-0336**
Multi-parameter meter U-51, 10 m cable	1	**665-0337**
U-52		
Multi-parameter meter U-52, 2 m cable	1	**665-0328**
Multi-parameter meter U-52, 10 m cable	1	**665-0329**
Multi-parameter meter U-52, 30 m cable	1	**665-0330**
Multi-parameter meter U-52G, GPS compatible, 10 m cable	1	**665-0326**
Multi-parameter meter U-52G, GPS compatible, 30 m cable	1	**665-0327**
U-53		
Multi-parameter meter U-53, 2 m cable	1	**665-0333**
Multi-parameter meter U-53, 10 m cable	1	**665-0334**
Multi-parameter meter U-53, 30 m cable	1	**665-0335**
Multi-parameter meter U-53G, GPS compatible, 2 m cable	1	**665-0325**
Multi-parameter meter U-53G, GPS compatible, 10 m cable	1	**665-0331**
Multi-parameter meter U-53G, GPS compatible, 30 m cable	1	**665-0332**
U-54		
Multi-parameter meter U-54, 2 m cable	1	**665-0338**
Multi-parameter meter U-54, 10 m cable	1	**665-0339**
Multi-parameter meter U-54, 30 m cable	1	**665-0340**
Multi-parameter meter U-54G, GPS compatible, 2 m cable	1	**665-0341**
Multi-parameter meter U-54G, GPS compatible, 10 m cable	1	**665-0342**
Multi-parameter meter U-54G, GPS compatible, 30 m cable	1	**665-0343**

Description	Pk	Cat. No.
pH/ORP electrodes for U-50 series meters		
pH sensor 7112	1	**664-0184**
pH sensor 7113, ToupH, break resistant	1	**664-0187**
ORP sensor 7313	1	**664-0186**
Dissolved oxygen sensor for U-50 series meters		
DO sensor 7543	1	**664-0193**
Turbidity sensors for U-50 series meters		
Turbidity sensor 7800, for U-52 / U-52G meters	1	**664-0195**
Turbidity sensor 7801, for U-53 / U-53G meters	1	**664-0194**
Turbidity sensor 7802, for U-54 / U-54G meters	1	**664-0198**
Accessories		
Calibration beaker	1	**664-0191**
Probe guard, for measurements in locations where there is a current or where there is a thick layer of sludge	1	**664-0192**
Flow-through cell	1	**664-0190**
Membrane cap for DO sensor	3	**664-0185**
Internal solution for DO sensor, 50 ml	1	**664-0188**
Rubber protection cap for storage of DO sensor	3	**664-0189**
USB cable, incl. data collection software	1	**664-0197**
Carrying case, U-5030	1	**664-0196**

* U-54 and U-54G (2 m cable) can not measure water depth.

Multi-parameter meter, handheld, Professional Plus Quatro

YSI

Professional Plus Quatro

Quatro cable/bulkhead

The Professional Plus is one of the most versatile multi-parameter handheld meters on the market. A combination of up to 11 parameters can be measured on a single bulkhead, including pH, ORP, ammonia, nitrate, chloride, DO, conductivity, salinity, TDS, barometric pressure and temperature, meaning only one cable is required.

The Quatro cable/bulkhead allows the measuring of up to six parameters at one time (e.g. conductivity, temperature, dissolved oxygen, 2 mV readings and barometric pressure) and has a combined weight of 525 g.

The sensors are totally interchangeable and easily replaceable by the user, and there are a variety of cable lengths available (1, 4, 10, 20 and 30 m). The Pro Plus can be used with other bulkheads to measure one, two or three parameters at the same time.

- Rubber, over-moulded IP 67 housing (even without battery cover)
- Rugged cable sensors with military specification, waterproof connectors
- USB connection and Data Manager software with GLP functions
- 5000 data sets memory
- Easy to read graphic, backlit display and keypad, and multiple language interface: English, German, French, Spanish, Italian, Portuguese and Norwegian

Three year instrument warranty, two year cable warranty

Ordering information: The instrument Professional Plus is supplied with Data Manager software, USB cable and USB saddle. Quatro cable and sensors need to be ordered separately.

Model	Professional Plus Quatro
pH - range	0...+14
pH - resolution	0,01
pH - accuracy	±0,2
mV - range	±1999
mV - resolution	0,1
mV - accuracy	±0,02
Conductivity - range	0 - 200 mS/cm (auto range)
Conductivity - resolution	0,001 mS/cm - 0,1 mS/cm (range dependent)
Conductivity - accuracy	±0,5% of reading or 0,001 mS/cm with 4 m cable / ±1% of reading or 0,001 mS/cm with 20 m cable
Salinity - range	0 - 70 ppt
Salinity - resolution	0,01 ppt
Salinity - accuracy	±1,0 of reading or 0,1 ppt, whichever is greater
TDS - range	0 - 100 g/l constant range 0,30 - 1,00 (0,64 default)
TDS - resolution	0,001 / 0,01 / 0,1 g/l
DO - concentration (mg/l)	0 - 50 ppm / 0 - 500%
DO - resolution (mg/l)	1% or 0,1% air saturation (user select) / 0,1 or 0,01 ppm (user select)
DO - accuracy	0 to 200% and 0 to 20 ppm (±2% of reading) / 200 to 500% and 20 to 50 ppm (±6% reading)
DO - barometric pressure range	375 - 825 mmHg (±1,5 from 0 to +50 °C)
Temperature range (°C)	–5...+70
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,2
Data logging - capacity	5000 data sets
Display	Graphic, backlit display
Outputs	USB
W×D×H (mm)	83×56×216
Weight (kg)	0,475 (including batteries)
Compliance	IP 67 / GLP

Description	Pk	Cat. No.
Handeld multi-parameter meter Professional Plus Quatro	1	**665-0202**

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Description	Pk	Cat. No.
Sensors		
pH electrode	1	**665-0211**
ORP electrode	1	**665-0208**
Ammonium ion selective electrode (0 - 200 mg/l, 0 to +30 °C)	1	**665-0212**
Chloride ion selective electrode (0 - 1000 mg/l, 0 to +40 °C)	1	**665-0213**
Nitrate ion selective electrode (0 - 200 mg/l, 0 to +30 °C)	1	**665-0214**
Galvanic DO sensor	1	**665-0209**
Polarographic DO sensor	1	**665-0210**
Quatro cables/bulkhead		
Quatro cable/bulkhead (includes conductivity/temperature sensor), 1 m	1	**665-0203**
Quatro cable/bulkhead (includes conductivity/temperature sensor), 4 m	1	**665-0207**
Quatro cable/bulkhead (includes conductivity/temperature sensor), 10 m	1	**665-0204**
Quatro cable/bulkhead (includes conductivity/temperature sensor), 20 m	1	**665-0205**
Quatro cable/bulkhead (includes conductivity/temperature sensor), 30 m	1	**665-0206**

Description	Pk	Cat. No.
Accessories		
Small tripod for flat surface	1	**665-0069**
Belt clip	1	**664-0000**
Hard-sided carrying case	1	**664-0024**
Soft-sided carrying case	1	**664-0025**
Cable weight, 140 g, attached to stainless steel probe guard	1	**664-0026**
Flow cell for Quatro cable/bulkhead	1	**665-0235**

Multi-parameter meter (pH/conductivity/DO), bench, pHenomenal® MU 6100 L

This user friendly instrument with articulated electrode stand and IP 43 rated housing provides high resolution and accuracy for precise multi-parameter measurements. The meter can either measure pH/mV and conductivity or pH/mV and oxygen simultaneously. With USB output for connection to a computer. GLP compliant.

- Large LCD graphic display with continuous LED backlight shows the measured parameter and the temperature value simultaneously
- Data logging function selectable between 1 minute and 1 hour; memory capacity of 5000 data sets
- Automatic power shut-off: Adjustable from 10 min to 24 h
- Automatic buffer recognition of DIN and NIST buffers (1,68 / 4,00 / 6,86 / 9,18 / 12,54)
- Three additional technical buffers at 25 °C (4,00 / 7,00 / 10,00) in memory
- Advanced self-test and diagnostics (electrode efficiency diagnostic, drift control); calibration symbol shows when recalibration is required
- Choice of mains supply or 4× 'AA' batteries for over 1000 operating hours

Ordering information: Ready to use set **MU 6100 L S1** includes bench multi-parameter meter, pH glass electrode 221 with built-in temperature sensor (1 m cable), conductivity probe CO 11 with built-in temperature sensor (1,5 m cable), articulated stand, two pH buffers, one conductivity standard and one plastic beaker, and instruction manual (22 languages) on CD ROM.

Ready to use set **MU 6100 L S2** includes bench multi-parameter meter, pH glass electrode 221 with built-in temperature sensor (1 m cable), conductivity probe CO 11 with built-in temperature sensor (1,5 m cable), galvanic oxygen probe OX 11-3 with built-in temperature sensor (3 m cable), articulated stand, two pH buffers, one conductivity standard and one plastic beaker, and instruction manual (22 languages) on CD ROM.

Model	MU 6100 L
pH - range	–2,000...+19,999
pH - resolution	0,1 / 0,01 / 0,001 (selectable)
pH - accuracy	±0,1 / ±0,01 / ±0,005
pH - calibration	Up to 5 points
Automatic buffer recognition	BDH Prolabo® TITRINORM® buffers at 25 °C: 4,00/6,98/9,94 NIST/DIN 19266 (1,68/4,00/6,86/9,18/12,54) Technical buffers at 25 °C: 4,00/7,00/10,00
mV - range	±1200,0 / ±2500
mV - resolution	0,1 / 1
mV - accuracy	±0,3 / ±1
Conductivity - range	0,001 µS/cm - 1000 mS/cm
Conductivity - resolution	0,1 µS/cm
Conductivity - accuracy	±0,5% of measured value
Conductivity - cell constant (cm^{-1})	0,001 - 25 (depending on probe)
Conductivity - calibration	1 point
Resistivity - range	1 Ω/cm - 999 MΩ/cm
Resistivity - accuracy	±0,5% of measured value
Salinity - range	0,00 - 70 ppt
TDS - range	0 mg/l - 199,9 g/l
TDS - resolution	0,1 mg/l / 1 mg/l / 0,01 g/l

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DO - concentration (mg/l)	0,00 - 20,00; 0,0 - 90,0
DO - resolution (mg/l)	0,1%; 0,01 (depending on sensor)
DO - % saturation	0,0 - 200,0; 0 - 600 (depending on sensor)
DO - accuracy	±0,5% of value (between 5...30 °C)
DO - calibration	Saturated air
Temperature range (°C)	Auto: –5,0...+105,0; manual: –25...+130
Temperature resolution (°C)	0,1 / 1
Temperature accuracy (°C)	±0,2
Temperature compensation	Automatic/manual
Data logging - capacity	5000 data sets
Data logging - log function	Selectable between 1 second and 1 hour
Display	LCD graphical display with LED backlight
Connections	BNC for pH / banana for temperature / 8-pin for conductivity and DO
Outputs	Waterproof USB connection (slave, bidirectional)
Power supply	Mains supply or 4 × AA batteries
Compliance	IP 43 / GLP

Description	Pk	Cat. No.
Bench top pH/mV/conductivity/DO meter pHenomenal® MU 6100 L, Set 1	1 SET	**665-0309**
Bench top pH/mV/conductivity/DO meter pHenomenal® MU 6100 L, Set 2	1 SET	**665-0310**

Description	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Diaphr.	Connection	Pk	Cat. No.
Conductivity cell, pHenomenal®								
pHenomenal® CO11, 2-pole graphite, integrated NTC 30	0...+80	Epoxy		15,3×120		8 pin, 1,5 m cable	1	**663-0147**
Dissolved oxygen probe, pHenomenal®								
pHenomenal® OXY11-3, galvanic		Epoxy				3 m cable, 8-pin	1	**664-0042**
pH electrode, pHenomenal®								
pHenomenal® 111 pH electrode, 3 in 1, with temperature sensor		Epoxy	Gel	12×120	Ceramic	BNC, 1 m cable	1	**662-1157**
Accessories								
pHenomenal® electrode storage tube							1	**662-1167**
pHenomenal® storage/measuring vessel							1	**662-1248**
pHenomenal® extension stick, aluminium, 1,5 m							1	**662-1224**
pHenomenal® communication kit (CD-ROM, USB cable, manual)							1	**662-1225**
pHenomenal® dissolved oxygen maintenance kit							1	**664-0049**
pHenomenal® field case							1	**662-1168**
pHenomenal® electrode stand, holds up to 4 electrodes + 1 temperature sensor							1	**662-1169**
Conductivity standard, KCl 0,01 mol/l; 1413 mS/cm							100 ml	**83607.180**
Conductivity standard, KCl 0,1 mol/l; 12 800 µS/cm							500 ml	**83608.260**
Electrolyte KCl 3 mol/l							100 ml	**83605.180**
Electrolyte KCl 3 mol/l + AgCl							500 ml	**83606.260**
Cleaning solution pepsin/hydrochloric acid							100 ml	**83603.180**
Buffer solutions in bottles								
Buffer solution AVS TITRINORM®, ready to use, pH 4							100 ml	**32095.184**
Buffer solution pH 10 (boric acid/sodium hydroxide/potassium chloride) AVS TITRINORM®							100 ml	**32040.185**
Buffer solution AVS TITRINORM®, ready to use, pH 7							100 ml	**32096.187**

Multi-parameter meter (pH/conductivity), bench, 3540

Jenway

Ideal for use in all laboratories where pH and conductivity analyses are required.

- Simultaneous display of pH and conductivity
- Two independent channels to prevent interference between probes
- Additional modes for resistivity, salinity, TDS and mV
- Data logger with auto save/print options
- Storage of up to 500 readings (250 for each mode)

Ordering information: Supplied with glass combination pH electrode 662-0343, glass conductivity probe (K=1, 663-0005), electrode stand and holder, ATC probe 662-0338, BNC shorting plug, pH buffers and power supply.

Model	3540
pH - range	–2,000...+20,000
pH - resolution	0,001 / 0,01 / 0,1 selectable
pH - accuracy	±0,003

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pH - calibration	Automatic, 1, 2 or 3-point Auto. buffer recognition: Jenway, NIST, DIN and JIS
mV - range	±1999,9
mV - resolution	0,1
mV - accuracy	±0,2
Conductivity - range	Auto–selected from 0,01 µS to 1999 mS/cm
Conductivity - resolution	0,01 µS to 1 mS
Conductivity - accuracy	±0,5% ±2 digits
Conductivity - cell constant (cm^{-1})	0,010 to 19,999
Conductivity - calibration	Automatic, 1, 2 or 3 points Automatic standard recognition: 10 µS, 84 µS, 1413 µS, 12,88 mS (with manual override)
Temperature range (°C)	–10...+105
Temperature resolution (°C)	0,1
Temperature accuracy (°C)	±0,5
Temperature compensation	ATC and manual, 0...+100 °C
Data logging - capacity	Up to 500 readings (250 for each mode)
Display	Backlit 1/8 VGA LCD
Connections	BNC (pH) and 7–pin DIN (conductivity)
Outputs	Analogue, RS232 and IrDA interface
W×D×H (mm)	210×250×55
Weight (kg)	0,850
Compliance	GLP

Description	Pk	Cat. No.
Bench pH/conductivity meter 3540, UK-plug	1	**662-0331**

Description	Material	Pk	Cat. No.
Conductivity cells			
Conductivity cell with ATC, 4-wire	Glass	1	**663-0005**
ATC electrode			
ATC/temperature probe		1	**662-0338**
pH electrodes			
Combination pH electrode, general purpose	Glass	1	**662-0343**

Multi-parameter meters (pH/ion/conductivity/DO), bench, digital, ProLab 2000 / 4000

SI Analytics

ProLab 2000

ProLab 4000

Wireless transmission of electrode identification data

Advanced technology instruments for high-specification applications in research or process control, capable of measuring a range of parameters (pH, mV, ion concentration, dissolved oxygen, conductivity, TDS, salinity).

- Simultaneous measurement and display of the four parameters on the graphical monitor
- Automatic electrode identification and wireless transmission of identification data to the instrument
- Automatic electronic user identification by means of an electronic badge
- CalClock pH calibration system with monitoring and display of the probe condition

Conform to EU 73/23, EN 61010-1: 2001

Ordering information: Meters only are supplied with cover, universal power supply and S4D straight support stand (solid pedestal weighing 1,5 kg and arms can be rotated in 3 axes).

ProLab 2000 Set supplied with one A 161 1M-ID pH/temperature electrode, one LFOX 1400 ID combination probe for conductivity and dissolved oxygen, calibration solutions (DIN) and conductivity test solutions, cover, universal power supply unit and S4D straight support stand.
ProLab 4000 Set supplied with the same items as ProLab 2000 Set with the exception that the LF413T-ID electrode replaces the LFOX 1400 ID.

Model	ProLab 2000	ProLab 4000
pH - range	–2,000...+20,000 / –2,00...+20,00 / –2,0...+20,0	
pH - accuracy	±0,003 / ±0,01	±0,002 / ±0,01
pH - calibration	Automatic from 1 to 5 points with NIST/DIN buffer sets and techniques	Automatic or manual, from 1 to 5 points with NIST/DIN buffer sets and techniques
mV - range	±1999,9 / ±1999	±2200,0 / ±2200
mV - accuracy	±0,2 / ±1	±0,1 / ±1

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ISE - range	0,000 - 999,99 mg/l		10×10^{-39} - $9{,}9\times10^{39}$ mg/l
ISE - calibration	2 - 5 points		2 - 9 points
ISE - units	mg/l		mg/l, %, ppm, mg/kg, mol/l
Conductivity - range	0,000 µS/cm - 2000 mS/cm		
Conductivity - accuracy	±0,5		
Conductivity - cell constant (cm^{-1})	Fixed: 0,010 Adjustable: 0,090 - 0,110/0,250 - 2,500 Calibrated: 0,450 - 0,500/0,585 - 0,715/0,800 - 1,200		
DO - concentration (mg/l)	0 - 20,00 / 0 - 90,0		-
DO - resolution (mg/l)	0,01 / 0,1		
DO - % saturation	0 - 200,0 / 0 - 600		
DO - accuracy	±0,5 %		
DO - calibration	Fast, in a calibration vessel with air filled saturated with water vapour		
DO - barometric pressure range	0 - 200,0 mbar / 0 - 1250 mbar		
Temperature range (°C)	–10,0...+120,0		–35,0...+150,0
Temperature accuracy (°C)	±0,1		
Data logging - capacity	Manual or automatic (1500 data points, storage intervals adjustable from 5 s to 60 min)		Manual or automatic (10 000 data points, storage intervals adjustable from 1 s to 60 min)
Display	Backlit, graphic (black/white)		Backlit colour graphic (QVGA)
Connections	DIN	BNC	DIN
Outputs	Bi-directional RS232 interface, USB		
W×D×H (mm)	240×280×80		
Weight (kg)	2,5		
Compliance	EU 73/23, EN 61010-1: 2001		

Description	Pk	Cat. No.
ProLab 2000 Set (DIN connection)	1	**663-4013**
ProLab 2000 Set (BNC connection)	1	**665-0179**
ProLab 4000 (DIN connection), meter only	1	**665-0184**
ProLab 4000 Set (DIN connection)	1	**662-1958**

Description	Material	Electrolyte	Temp. (°C)	Ø×L (mm)	Diaphr.	Connection	Pk	Cat. No.
pH combination electrodes with temperature sensor, ScienceLine								
Combination electrode, A 161 1M-DIN-ID, with PT 1000 temperature sensor, Silamid®-reference system, with sensor recognition (ID function)	Glass	KCl 3 mol/l	–5...+100	12×170	Platinum	DIN + 4 mm banana plug, 1 m fixed cable	1	**662-1955**
Conductivity cells with fixed cable and 8-pole plug								
4-pole conductivity cell, LF 413 T-ID, with sensor recognition (ID function), temp. sensor NTC 30 kOhm	Plastic		–5...+80	15,3×120		1,5 m cable with 8 pole plug	1	**663-0248**
Combined 4 pole cond. and galvanic oxygen cell, LFOX 1400 ID, with sensor recognition (ID function), temp. sensor NTC 30 kOhm	Plastic		0...+50	15,3×145		Fixed 3 m cable with 8 pole plug	1	**662-1956**

Multi-parameter meter (pH/mV/conductivity/ion), bench, SevenExcellence™, S470/S475

Mettler-Toledo

S470

Professional, yet intuitive dual channel instrument with touchscreen operation, which can easily handle the most complex applications and meets stringent requirements in regulated markets. Suitable for measuring pH, mV and conductivity.

S475

This triple channel instrument suitable for measuring pH, mV, conductivity and ion concentrations also features methods for incremental ion measurements, guiding the user through the individual steps. It combines touchscreen operation and high measurement performance with a complete security package for safe results and solid compliance.

- Various conductivity modes, units and temperature correction possibilities offers maximum flexibility
- Large colour display and intuitive menu guidance in 10 languages
- Flexible method concept for high reproducibility and security
- Extra security thanks to sophisticated user management and Intelligent Sensor Management (ISM®)
- Integrated interfaces (USB, RS232 and Ethernet) for data exchange
- GLP compliant

Ordering information: All instruments are supplied with uPlace™ electrode holder, semi-transparent cover, operating instructions, installation and quick guide, LabX® direct pH PC software, declaration of conformity and test certificate.
S470 also includes a conductivity expansion unit, a blank expansion unit and a pH/mV expansion unit.
S475 also includes a pH/Ion expansion unit, pH/mV expansion unit and a conductivity expansion unit.

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Model	S470	S475
pH - range	pH: –2...+20 ISFET pH: 0...+14	
pH - resolution	0,001/0,01/0,1	
pH - accuracy	pH: ±0,002 ISFET pH: ±0,05	
mV - range	±2000	
mV - resolution	0,1/1	
mV - accuracy	±0,1	
ISE - range	-	0 - 999999 mg/l, ppm; 0 - 100 mol/l, %; 0 - 100000 mmol/l; –2...20 px
ISE - resolution		0,001 - 1 (0 - 999999 mg/l, ppm; 0 - 100000 mmol/l; –2...20 px), 0,0001 (0 - 100 mol/l, %)
ISE - accuracy		±0,5%
ISE - units		mg/l, ppm, mol/l, %, mmol/l
Conductivity - range	0,001 µS/cm - 2000 ms/cm	
Conductivity - resolution	0,001 - 1 (0,001 - 999999 µS/cm; 0,001 - 2000 mS/cm; 0,1 - 999999 µS/m) 0,0001 - 1 (0,001 - 200 S/m; 0,001 - 200000 mS/m)	
Conductivity - accuracy	±0,5%	
Conductivity - calibration	1-point	
Conductivity - reference temperature (°C)	20/25	
Resistivity - range	0,01 - 100 MΩcm	
Resistivity - accuracy	±0,5%	
Salinity - range	0 - 80 psu, ppt	
Salinity - resolution	0,01 - 0,1	
Salinity - accuracy	±0,5%	
TDS - range	0,001 - 1000 g/l, ppt 0,001 - 999999 mg/l, ppm	
TDS - resolution	0,001 - 1	
TDS - accuracy	±0,5%	
Temperature range (°C)	–30...+130 °C	
Temperature resolution (°C)	0,1	
Temperature accuracy (°C)	±0,1	
Temperature compensation	Linear, non-linear, off, pure-water	
Data logging - capacity	20 000 data points, 250 analyses	
Display	TFT colour display	
Connections	BNC (pH), Mini-DIN (conductivity + temperature), NTC30 kΩ or Pt1000 (external temperature input), Mini-LTW digital sensor input, Mini-DIN stirrer connection	BNC (pH + ion), Mini-DIN (conductivity + temperature), NTC30 kΩ or Pt1000 (external temperature input), Mini-LTW digital sensor input, Mini-DIN stirrer connection
Outputs	USB, RS232, LAN	
W×D×H (mm)	235×188×75	
Weight (kg)	1,12	
Compliance	GLP, USP/EP compliant, ABNT NBR 10547:2006, ICUMSA GS2/3-17 and GS 1/3/4/7/8-13	

Description	Pk	Cat. No.
pH/mV/conductivity meter S470-Basic	1	**662-1487**
pH/mV/conductivity meter S470-Kit, with InLab® Expert Pro-ISM, InLab® 731-ISM, guide to pH and conductivity measurement and calibration sachets	1	**662-1484**
pH/mV/conductivity meter S470-USP/EP kit, with InLab® Pure Pro-ISM, BNC-RCA ISM-cable (2 m), InLab® 741-ISM, guide to pH and conductivity measurement and calibration sachets	1	**662-1485**
pH/mV/conductivity/ion meter S475-Basic	1	**662-1486**

Description	Pk	Cat. No.
Accessories		
Module, pH/Ion expansion unit	1	**662-1468**
Module, pH/mV expansion unit	1	**662-1474**
Module, conductivity expansion unit	1	**662-1469**
Module, blank expansion unit	1	**662-1470**
uMix™ magnetic stirrer, adjustable stir speed	1	**662-1471**
Semi-transparent cover	1	**662-1472**
Protective film for display	2	**662-1473**

Multi-parameter meter (pH/conductivity/DO), bench, inoLab® Multi 9310 IDS

WTW

The inoLab® Multi 9310 is particularly suitable for all laboratories that require complete documentation or want to have the most efficient and error-free measurement processes. For the measurement of any two parameters at a time from pH, conductivity and DO.

Intelligent digital sensors provide sophisticated electrochemistry measuring systems in a single meter. The inolab® Multi 9310 IDS measures pH, ORP, conductivity and dissolved oxygen (optical method).

- Continuous Measurement Control (CMC) for measuring in the optimum pH range
- Digital sensor recognition
- Quality Sensor Control (QSC) benchmarks the current condition of the special IDS pH electrodes
- Digital processing and data transfer (GLP-compliant) via USB interface
- Optional built-in printer for printing of all measurement and calibration results

Ordering information: Supplied with universal power supply, stand, CD-ROM including software and USB cable. The application sets also includes sensors.

inoLab® Multi 9310 IDS - general specifications	
Memory entries	500 (manual) / 5000 (automatic)
Logger	Manual/time-controlled
Measuring channel	1 (universal)
Interface	Mini USB
Display	Backlit, graphic LCD
Printer (optional)	Thermal printer, width 58 mm
Power supply	Universal power supply, 4×1,5 V AA or 4×1,2 V NiMH rechargeable battery
pH measurement	
pH	0,000...+14,000 ±0,004
mV	±1200,0 ±0,2 mV
Temperature	0...+100 °C
QSC	Yes
DO measurement	
Concentration	0,00 - 20,00 mg/l
Saturation	0,0 - 200,0%
Partial pressure	0,0 - 400 hPa
Temperature	0,0...+50,0 °C ±0,2 °C
Conductivity measurement	
Conductivity	10 µS/cm - 2000 mS/cm ±0,5% of value
Resistance	0,5 Ω.cm - 100 MΩ.cm ±0,5% of value
Salinity	0,0 - 70,0 ±0,5% of value
TDS	0 - 1999 mg/l / 0,0 - 199,9 g/l ±0,5% of value
Cell constant	0,475 cm^{-1} ±1,5%
Temperature	0,0...+100,0 °C ±0,2 °C

Description	Pk	Cat. No.
Without printer		
inoLab® Multi 9310, instrument only	1	**665-0247**
inoLab® Multi 9310 Set 1, instrument with digital IDS pH electrode SenTix® 940	1	**665-0249**
inoLab® Multi 9310 Set 2, instrument with digital IDS pH electrode SenTix® 980	1	**665-0251**
inoLab® Multi 9310 Set 3, instrument with 4-electrode, graphite digital conductivity cell IDS TetraCon® 925	1	**665-0253**
inoLab® Multi 9310 Set 4, instrument with optical DO probe IDS FDO® 925	1	**665-0255**
inoLab® Multi 9310 Set C, instrument with digital IDS pH electrode SenTix® 940 and 4-electrode, graphite digital conductivity cell IDS TetraCon® 925	1	**665-0257**
inoLab® Multi 9310 Set K, instrument with digital IDS pH electrode SenTix® 980, 4-electrode, graphite digital conductivity cell IDS TetraCon® 925 and optical DO probe IDS FDO® 925	1	**665-0259**
With integrated printer		
inoLab® Multi 9310 P, instrument with integrated printer	1	**665-0248**
inoLab® Multi 9310 P Set 1, instrument with digital IDS pH electrode SenTix® 940 and integrated printer	1	**665-0250**
inoLab® Multi 9310 P Set 2, instrument with digital IDS pH electrode SenTix® 980 and integrated printer	1	**665-0252**
inoLab® Multi 9310 P Set 3, instrument with 4-electrode, graphite digital conductivity cell IDS TetraCon® 925 and integrated printer	1	**665-0254**
inoLab® Multi 9310 P Set 4, instrument with optical DO probe IDS FDO® 925 and integrated printer	1	**665-0256**
inoLab® Multi 9310 P Set C, instrument with digital IDS pH electrode SenTix® 940, 4-electrode, graphite digital conductivity cell IDS TetraCon® 925 and integrated printer	1	**665-0258**
inoLab® Multi 9310 P Set K, instrument with digital IDS pH electrode SenTix® 980, 4-electrode, graphite digital conductivity cell IDS TetraCon® 925, optical DO probe IDS FDO® 925 and integrated printer	1	**665-0260**

Description	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Conductivity (mS/cm)	Diaphr.	Connection	Pk	Cat. No.
pH electrodes, IDS									
IDS pH electrode Sentix® 940	0...+80	Plastic	Gel	12×120		Fibre	1,5 m cable	1	**662-1249**
IDS pH electrode Sentix® 980	0...+100	Glass	3M KCl	12×120		Platinum wire	1,5 m cable	1	**662-1254**

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Description	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Conductivity (mS/cm)	Diaphr.	Connection	Pk	Cat. No.
Dissolved oxygen probes, IDS, FDO®									
IDS dissolved oxygen probe FDO® 925	0...+50,0	POM, stainless steel		15,3×140			1,5 m cable	1	**664-0050**
Conductivity cells, IDS									
TetraCon® 925, 4-cell graphite	0...+100	Epoxy		15,3×120	10 µS/cm - 2000		1,5 m cable	1	**663-0152**

Multi-parameter meters (pH/conductivity/DO), bench, inoLab® Multi 9420 / 9430 IDS
WTW

The inoLab® Multi 9420 IDS and 9430 IDS are high performance digital two or three channel bench top meters. They allow the simultaneous measurement and documentation of up to two (9420) or three (9430) user-defined parameters. The meters can measure pH, ORP, conductivity and dissolved oxygen (optical measurement).

The intelligent digital IDS sensors automatically store their unique serial number and calibration data. They convert sensitive measuring signals into interference-free data in the sensors, providing superior data integrity. This enables effective evaluation of the sensor quality by means of the Quality Sensor Control (QSC) function.

- Continuous Measurement Control (CMC) for measuring in the optimum pH range
- Digital sensor recognition
- Quality Sensor Control (QSC) benchmarks the current condition of the special IDS pH electrodes
- Automatic digital recording of all sensor data for traceability of all values (GLP-compliant); data transfer via USB interface
- Colour graphic display with CMC, QSC and channel indicator; anti-bacterial keypad

Ordering information: Instrument supplied with universal power supply, stand, operation manual, software and USB cable. The sets also include sensors and buffers.

Model	Multi 9420 IDS (two measuring channels)	Multi 9430 IDS (three measuring channels)
pH - range	0,000 - 14,000	
pH - accuracy	±0,004	
pH - calibration	1- to 5-points	
mV - range	±1200,0	
mV - accuracy	±0,2	
Conductivity - range	10 µS/cm - 2000 mS/cm (with TetraCon® 925 sensor); 0,01 - 200 µS/cm (with LR 925/01 sensor)	
Conductivity - accuracy	± 0,5% of value	
Conductivity - cell constant (cm^{-1})	0,475 cm^{-1} ± 1,5% (with TetraCon® 925 sensor); 0,10 cm^{-1} ± 2% (with LR 925/01 sensor)	
Conductivity - calibration	1-point	
Resistivity - range	5 kOhm - 100 MOhm	
Resistivity - accuracy	± 0,5% of value	
Salinity - range	0,0 - 70,0 (with TetraCon® 925 sensor)	
Salinity - accuracy	± 0,5% of value	
TDS - range	0 - 1999 mg/l; 0,0 - 199,9 g/l (with TetraCon® 925 sensor)	
TDS - accuracy	± 0,5% of value	
DO - concentration (mg/l)	0,00 - 20,00	
DO - % saturation	0,0 - 200,0	
DO - accuracy	± 1,5% at 20 °C in air saturated water	
DO - calibration	1-point	
Temperature range (°C)	0,0...100,0	
Temperature accuracy (°C)	± 0,2	
Temperature compensation	all except ORP	
Data logging - capacity	500 data sets (manual), 10000 data sets (automatic)	
Display	Colour graphic display	
Connections	pH module, ADA S7/IDS (optional)	
Outputs	USB-A, Mini USB-B	
Power supply	Universal	
W×D×H (mm)	280×70×240	
Weight (kg)	2,5	

Description	Pk	Cat. No.
Multi 9420 IDS		
inoLab® Multi 9420 IDS, instrument only	1	**665-0344**
inoLab® Multi 9420 IDS Set B, instrument with digital IDS pH electrode SenTix® 980, buffer 4,7 and 10,01, 3 mol/l KCl, optical IDS DO sensor FDO 925	1	**665-0345**
inoLab® Multi 9420 IDS Set C, instrument with digital IDS pH electrode SenTix® 980, buffer 4,7 and 10,01, 3 mol/l KCl, IDS conductivity cell TetraCon® 925, 0,01 mol/l KCl, conductivity standard	1	**665-0263**
inoLab® Multi 9420 IDS Set E, instrument with digital IDS pH electrode SenTix® 980, buffer 4,7 and 10,01, 3 mol/l KCl, IDS conductivity cell LR 925/01	1	**665-0346**
inoLab® Multi 9420 IDS Set K, instrument with digital IDS pH electrode SenTix® 980, buffer 4,7 and 10,01, 3 mol/l KCl, optical IDS DO sensor FDO 925, IDS cond cell TetraCon® 925, 0,01 mol/l KCl, cond. standard	1	**665-0347**

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Description	Pk	Cat. No.
Multi 9430 IDS		
inoLab® Multi 9430 IDS, instrument only	1	**665-0348**
inoLab® Multi 9430 IDS Set B, instrument with digital IDS pH electrode SenTix® 980, buffer 4,7 and 10,01, 3 mol/l KCl, optical IDS DO sensor FDO 925	1	**665-0349**
inoLab® Multi 9430 IDS Set C, instrument with digital IDS pH electrode SenTix® 980, buffer 4,7 and 10,01, 3 mol/l KCl, IDS conductivity cell TetraCon® 925, 0,01 mol/l KCl, conductivity standard	1	**665-0350**
inoLab® Multi 9430 IDS Set E, instrument with digital IDS pH electrode SenTix® 980, buffer 4,7 and 10,01, 3 mol/l KCl, IDS conductivity cell LR 925/01	1	**665-0351**
inoLab® Multi 9430 IDS Set K, instrument with digital IDS pH electrode SenTix® 980, buffer 4,7 and 10,01, 3 mol/l KCl, optical IDS DO sensor FDO 925, IDS cond cell TetraCon® 925, 0,01 mol/l KCl, cond. standard	1	**665-0264**

Description	Temp. (°C)	Material	Electrolyte	Ø×L (mm)	Diaphr.	Connection	Pk	Cat. No.
pH electrodes, IDS								
IDS pH electrode Sentix® 940	0...+80	Plastic	Gel	12×120	Fibre	1,5 m cable	1	**662-1249**
IDS pH electrode Sentix® 980	0...+100	Glass	3M KCl	12×120	Platinum wire	1,5 m cable	1	**662-1254**
Dissolved oxygen probes, IDS, FDO®								
IDS dissolved oxygen probe FDO® 925	0...+50,0	POM, stainless steel		15,3×140		1,5 m cable	1	**664-0050**
Conductivity cells, IDS								
TetraCon® 925, 4-cell graphite	0...+100	Epoxy		15,3×120		1,5 m cable	1	**663-0152**
LR 925/01, 2-cell stainless steel	0...+100	Stainless steel		12×120		1,5 m cable	1	**663-0156**

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