

# ZEALWAY

Curated by

amicus

## Autoclave Information Pack



Distributed by

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**01732 864 864**

# What makes our autoclaves so special?

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## **Portability**

Larger autoclaves need electricity, connection to a water supply and connection to a drain. This means that they tend to be put where these services are sited, rather than where the user wants them. Our 60 and 85 litre capacity autoclaves are on castors so they can be moved around easily, they have their own water supply tank inside, and the condensate and waste water are collected in another internal tank. This means they are self-contained and can be wheeled to wherever they're needed. The 60-litre version is the most versatile as it can be plugged into an ordinary 13-amp socket.

## **Easy to drain**

If you remove the condensate (waste water collecting) tank from the front, you can easily get to the drain valves to drain off the water from the sterilising chamber or internal water tank. This is useful if you need to move the autoclave around to make it a little lighter, or to drain off any muck that can accumulate in the sterilising chamber. The drain valve on many autoclaves is awkward to get to; some don't even have one and you need to use a wet vacuum cleaner to empty it! Also, the pipework between the tanks and drain valves are short, making them much less prone to blocking.

## **Extra large internal water supply tank**

The internal tank is a generous 28 litres, so more cycles can be run between top-ups. This is larger than most of our competitors'.

## **Pump-assisted filling**

Instead of a connection to a tap or water supply for refilling, the autoclave is filled from any convenient water container placed alongside using the built-in feed pipe which is connected to an efficient internal pump. There's also a strainer at the end of the feed pipe to remove any debris which could clog the pipework.

## **USB port as standard**

This is usually an optional extra but standard on the range we offer. With this the user can download all the data collected during the autoclave cycle to ensure the cycle was successful and sterilisation complete. The data is in a simple csv format which can be saved as is or imported into Excel, for example.

## **Data printer as standard**

Again, this is usually an optional extra but standard on our range. This gives the user a live printout and hard copy of the cycle data which can be kept for the user's records. If the printout is lost, it can be reprinted.

# What makes our autoclaves so special?

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## Load temperature probe as standard

This is strongly recommended for use when sterilising liquids so the user can ensure the liquid itself is up to temperature, not just the autoclave chamber. This is normally an optional extra with most autoclaves.

## BSL-3 filtration as standard

This is important if class 3 biohazards are being sterilised. Without the filter there's a risk of these nasties getting into the atmosphere during the autoclaving process.

## Fan assisted cooling as standard

Another common optional extra, a powerful cooling fan blows ambient air over the sterilising chamber during the cooling phase of the autoclaving cycle. This typically reduces the cooling time of liquid loads by 5%.

***The Zealway autoclaves as curated by amicus are sold as a "standard" package with the most commonly required options all included. This makes selection and purchasing much simpler.***

## Easy to use controller

The controller is intuitive with a bright, clear screen and large buttons making it easy to control even when wearing protective gloves. There are prompts on the screen throughout to help the user. The graphic design of the screen mimics the pressure or temperature curve of a typical autoclave cycle so it only takes a quick glance to clearly see what stage the autoclaving cycle is at.

## Easy opening lid

Traditionally autoclaves were closed and locked using hand-nuts which needed to be laboriously tightened individually. Nowadays many modern autoclaves have some sort of "single action" closure system (i.e. a single handle) but these can be notoriously stiff. The Zealway autoclave's door opening slider is very easy to open.

Autoclave lids need to be solidly made to withstand the internal pressures involved. This makes them quite heavy. Many autoclaves use a hydraulic strut to make it easier to open. The Zealway autoclave has the lid cantilevered, making it light to open and close, but without the hydraulic struts which tend to wear out with time.

## 8 – point lid locking

Most autoclaves of this size have 4 locking points or bolts. The Zealway autoclave has 8. As well as offering greater security, with the pressure load being evenly spread across 8 points reduces strain and wear on the lid.

# What makes our autoclaves so special?

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## **Load temperature probe storage in lid**

When the load temperature probe is not in use, it tends to get in the way which is annoying and it can get damaged (usually by the user forgetting that they've left it dangling over the side of the autoclave whilst loading and slamming the lid down on the cable). The Zealway autoclave has a handy storage loop in the lid to stow the probe out of harm's way. Incidentally, should the probe still find itself in harm's way, the cable is heavily armoured to keep it safe.

## **Exhaust speed control**

Most autoclaves simply vent to the atmosphere at the end of the cycle, the vent simply opening or closing. When liquid loads are sterilised, there's a risk of boiling over if the venting and resulting pressure drop is too fast. Zealway autoclaves have 6 levels of exhaust speed to choose from.

## **Lower loading height**

The diameter of the sterilisation chamber is larger than most in this category at 400mm. This means that the chamber is shorter without sacrificing overall capacity, leading to a lower loading height. A basket full of bottles containing liquids can be heavy, making it awkward and potentially hazardous if lifted too high during loading.

## **316L stainless steel chamber**

Although this is not a unique feature, many autoclave chambers (or pressure vessels) are made in lower grade 304L stainless steel. 316L stainless steel ensures a longer service life.

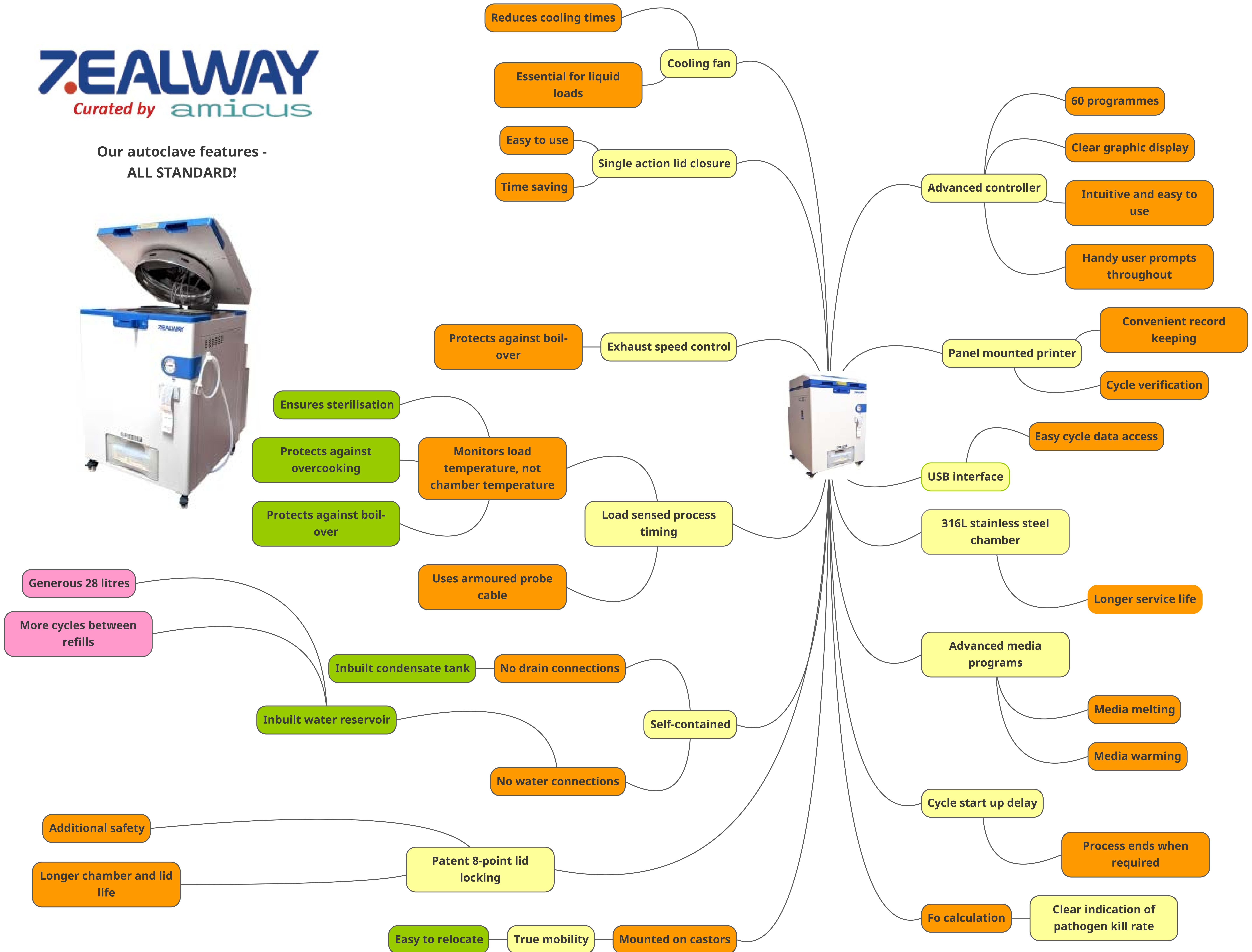
## **Recessed safety valve**

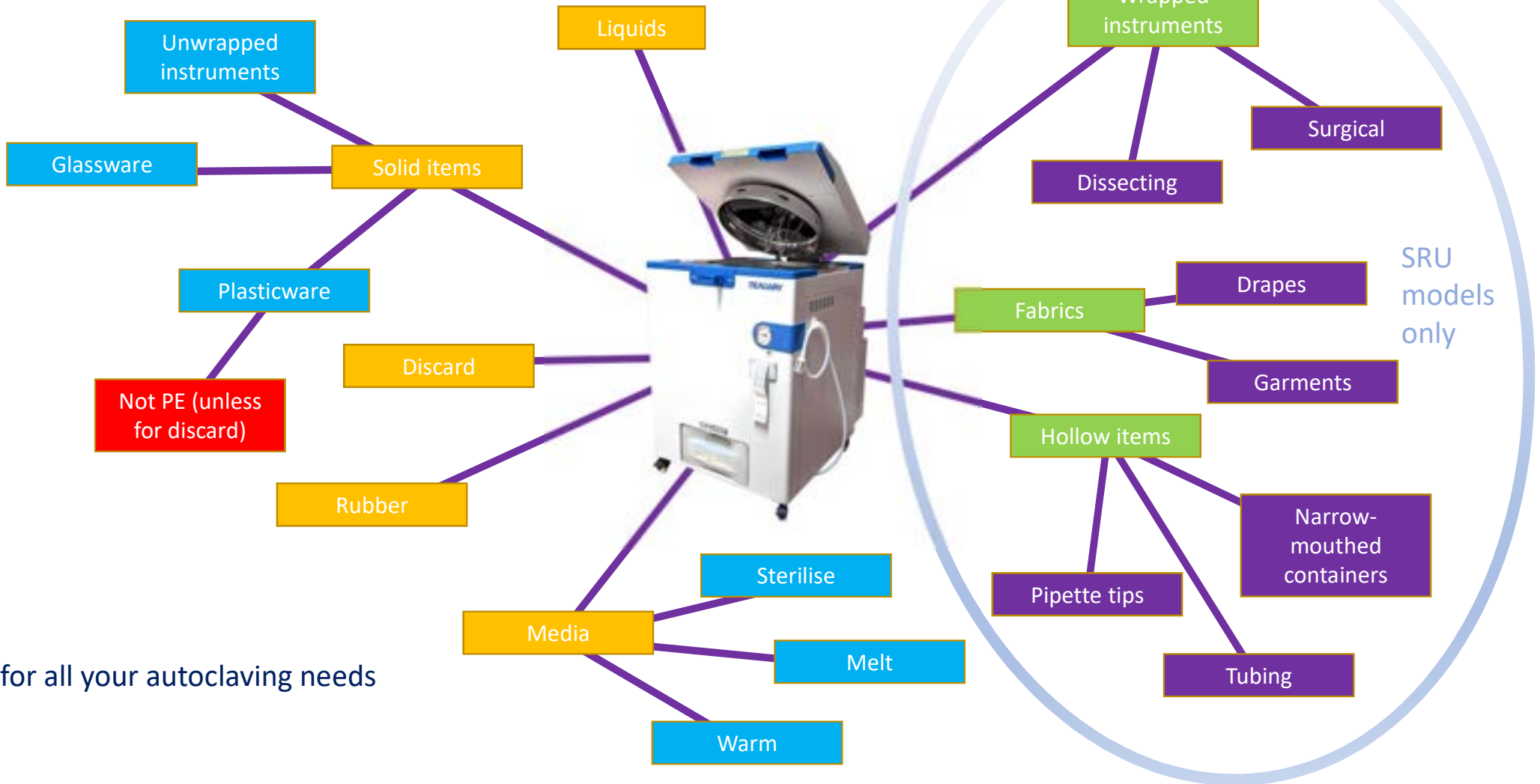
The safety valve at the back of the autoclave is in its own recessed alcove which helps divert any steam safely away from lab personnel.

## **Ideal for microbiology labs and media preparation**

This range of autoclaves has many features required in microbiology labs where culture media such as agar are used. As well as sterilisation as offered by other autoclaves, the Zealway autoclave has a gentle melting feature and warming feature to ensure the media are kept at the perfect pouring temperature. Without these features there runs a risk of over-cooking expensive and more thermally sensitive media.

Our autoclave features - ALL STANDARD!





...for all your autoclaving needs

## **Zealway autoclaves – auto cleaning option**

- Over time, the water in the bottom of the sterilisation chamber gets contaminated.
- Although still sterile, it can become “soupy”, especially if culture media have boiled over into the water.
- This can make the autoclave smelly in time.
- The accumulated “gunk” will coat the heating element in the bottom of the chamber, causing overheating of the element and reducing its service life.
- The gunk can also interfere with the operation of the temperature sensor and water level sensor, causing failed cycles.
- So, it’s important to change the water every so often, but this is rarely done in practice, leading to the problems mentioned above.
- You can set this autoclave to drain the water automatically. This can be done for say, every 20 cycles, or if required, after every cycle.
- This can be done literally at the push of a button.
- Other autoclaves on the market have a manual drain valve, whilst still others offer a drain valve as an option.
- Without a drain valve, it’s a case of using a wet & dry vacuum cleaner or other pump to remove the soiled water (which is why users avoid doing this).

# ZEALWAY

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...the technical stuff

# Features

- 0.2µm Sartorius PTFE filter
- Filter self-sterilisation
- Cooling fan
- Suitable for BSL-3 labs as supplied
- 316L stainless steel chamber
- Complies with ASME, CE, DOHS, MOM and TS
- Panel mounted printer for temperature, time and F0 value.
- Digital pressure sensor
- Load sensed process timing with wandering PT100 probe
- Saturated steam monitoring
- Locking castors
- Auto drying (SRU model only)

## Weights and dimensions:

Model	AMC-GR60-SFU	AMC-GR60-SRU	AMC-GR85-SFU
Capacity	60 litres		85 litres
Chamber dimensions	390mm dia x 505mm deep (working depth 495mm)		390mm dia x 700mm deep (working depth 600mm)
Basket dimensions	370mm dia x 190mm deep		370mm dia x 280mm deep
Basket capacity	2		
Overall dimensions	600x831x980mm (LxWxH)		644x831x980mm (LxWxH)
Weight, dry, empty	111kg		120kg

## Power requirements:

Model	AMC-GR60-SFU	AMC-GR60-SRU	AMC-GR85-SFU
Rated power	2.2kW		4.6kW
Power requirement	220V±10%, 11A, 50/60Hz		220V±10%, 32A, 50/60Hz

# Performance:

Model	AMC-GR60-SFU	AMC-GR60-SRU	AMC-GR85-SFU
Temperature display accuracy	0.1°C		
Working environment	5-40°C, RH ≤85%		
Chamber material	316L		
Sterilisation temperature range	105-138°C		
Sterilisation time range	1-6,000min (100 hrs)		
Melting temperature range	60-115°C		
Melting time range	1-6,000min (100 hrs)		
Warming temperature range	45-79°C		
Warming time range	1-9,999min (approx. 167 hrs)		
Drying time		1-300min (5 hrs)	
Drying temperature		80-160°C	
Cooling lock range	40-99°C for solids, discard, agar 40-80°C for liquids		
Waste water tank	3 litres		
Cooling water tank	6 litres		
Sterilisation programmes	Liquids, Liquids with warming, Rubber, Fast, Discard, Agar, +User defined	Liquids, Liquids with warming, Rubber, Fast, Discard, Agar, Wrapped instruments, Fabrics, +User defined	Liquids, Liquids with warming, Rubber, Fast, Discard, Agar, +User defined
Programme storage	60 programmes		
Exhaust speed control	Fully automatic internal discharge, choice of 6 levels		
Time delay for auto start up	0-15 days		
Pressure gauge range	-0.1 – 0.5MPa		
Safety valve set pressure	0.29MPa		
Controller	“Inspiration” controller with LCD display		
Lid opening	Easy one-hand operation		
Locking device	Patented 8-point locking		

## Reagent bottle capacities:

Model	AMC-GR60-SFU/SRU		AMC-GR85-SFU	
	Bottle capacity	No. of baskets	Total No. of bottles	No. of baskets
250ml	2	36	2	38
500ml	2	24	2	24
1000ml	1	8	2	16
2000ml	1	4	2	8
5000ml	1	1	1	1
10000ml			1	1

## Erlenmeyer flask capacities:

Model	AMC-GR60-SFU/SRU		AMC-GR85-SFU	
	Flask capacity	No. of baskets	Total No. of flasks	No. of baskets
250ml	2	26	2	26
500ml	1	7	2	14
1000ml	1	5	2	10
2000ml	1	2	1	2
5000ml			1	1

## Accessories:

**AMC-GR60-BASKET**

Autoclave Basket, 190mm deep (for 60 litre model)

**AMC-GR85-BASKET**

Autoclave Basket, 280mm deep (for 85 litre model)

## For even more information contact:

**amicus**

Email: [products@amicusappliances.com](mailto:products@amicusappliances.com)

Web: <https://www.amicusappliances.com/>

*Due to our policy of continuing product improvement the above specifications are for guidance only and subject to change without notice.*



## AMC-GWA Series 180 and 280 litre Autoclaves

The AMC-GWA Vacuum + Water Cooling Autoclaves offer cutting-edge sterilisation for demanding environments. Available in 180L and 280L capacities, these autoclaves combine vacuum technology with efficient water cooling to ensure rapid and thorough sterilisation. Ideal for hospitals, laboratories, and pharmaceutical facilities, they guarantee optimal performance and reliability. The advanced control system and robust construction makes them user-friendly and durable. Compliant with international safety and quality standards, they're the perfect solution for users seeking top-tier sterilization technology.

Specifications	AMC-GWA180-SQ	AMC-GWA280-SQ
Capacity	180 litres	280 litres
Dimensions (LxWxH)	796x1485x1612mm	796x1485x1612mm
Chamber dimensions (ØxD)	500x1150mm	600x1175mm
Power	16kW	
Chamber material	S30408	
Sterilisation temperature	115-135°C	
Rated working pressure	0.25MPa	
Pressure gauge range	-0.1 to 0.5MPa	
Safety valve set pressure	0.28MPa	
Sterilisation timer range	1-6,000min	
Drying time	0-300min	
Pulse number	1-99	
Vacuum	<-93kPa	
Controller	Industrial PLC	
Power supply	Three-phase, five-wire system (380V, 50/60Hz)	
Water Source Requirements	Tap Water: 0.15 - 0.3MPa Softened Water: 0 - 0.3MPa (no lower limit for conductivity)	
Drainage	Direct sewage outlet required	
Compliance	EN285; GB8599; 2014/68/EU	

### Advanced features:

- 7-inch touchscreen display
- Automatic door system
- Pre-vacuum and vacuum drying
- Separate steam generator
- Water cooled chamber
- Adjustable exhaust speed
- Drainage temperature control
- Automatic and dynamic process control

# Zealway Autoclaves

## Designed with the user in mind

### Autoclaving where you need it

The GR60 and its bigger brother the GR85 are mobile and self-contained, so whether you need it as a back-up autoclave, a little extra processing capacity or for a particular job, they can be where you need them, when you want them.

### Ready when you are

If you're ready for an immediate start in the lab first thing, the cycle delay feature can be programmed for up to 15 days, so you have your sterilised cool load, or media at the perfect temperature, ready and waiting for you.

### Safety built in

Although the lid is easy to open with one hand, it's secured at 8 points evenly round the circumference which is more than is usual for this size of autoclave. The lid also has an electric double interlock. Naturally these autoclaves also have all the necessary safety features and more, as expected from a quality product.

### With "Inspiration" built-in

The "Inspiration" controller combines clarity of information throughout with large digital displays and intuitive flow chart indicator. Combined clear touch controls, three levels of user security and capacity for up to 60 programs including user-defined, "Inspiration" makes these autoclaves so easy to operate.

### More cycles for less hassle

If you go for the self-contained auto water fill option, you get a generous 28 litre water feed tank which will go longer between top-ups.

### Perfect for microbiology

Not only offering safe and reliable media sterilisation with a load-sensing PT100 thermometer, these autoclaves offer programs for melting and holding media at pouring temperature.

### versatile too!

Options are available for wrapped instrument and fabric cycles, as well as the usual glassware and discard cycles.



### Full documentary support

We can offer you all you need including IQ/OQ/PQ documentation as needed.

### More Features for your money

- 316L stainless steel as standard
- Digital Pressure Sensor in addition to Armoured PT100 Thermometer Probe included as standard
- Printer as standard
- 2 year warranty as standard
- All included as standard on our model at no extra cost

SEE DATA SHEET FOR MORE DETAILS

For more info visit: [amicusmicuslab.co.uk/autoclaves](http://amicusmicuslab.co.uk/autoclaves)

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appliances

## Quality Autoclaves Require Quality Components

ZEALWAY sources certified engineering-grade stainless steel, as well as parts and accessories, only from reliable suppliers. Some of the brands are listed below.



### Schneider Electric

World-leading energy technologies provider.



### Philips

Leading health technology company.



### ABB

Superior supplier of digital technologies.



### Siemens

Leading power generation system supplier.