

SQUARE ECO Autoclave Range

125, 216, 250, 360 litre models

Fitted with heaters in chamber as standard

The SQUARE ECO range has been designed to bridge the gap between circular chamber autoclaves and the more complex square chamber autoclaves that Astell offer. The SQUARE ECO range still contains all the features you would expect from an Astell autoclave, including colour touchscreen, multiple programs for sterilizing and our delayed start/media holdwarm features, but this cost effective range has been designed with simplicity and economy in mind.

The ECO range is manufactured using high quality materials and includes all the safety features you would expect to find on any of our smaller units, with a manual door.

SQUARE ECO models are supplied with 'heaters in chamber'.

Features include:

- Media holdwarm and delayed start facility
- 5.7" colour touchscreen controller
- External pressure gauge
- Range of options and accessories (see overleaf for details)
- Assisted air cooling
- Autofill/Autodrain
- Over pressure/temperature protection
- Validation port



Specifications

Model no.	Steam source	Volume (litres)	Power supply	Chamber dimensions W x H x D (mm)	Overall dimensions W x H x D (mm)
MNS125E	Heaters in Chamber	125	415V, 3 Phase, Neutral & Earth, 16kW	500 x 500 x 500	780 x 1750 x 1000
MNS216E		216		600 x 600 x 600	880 x 1850 x 1100
MNS250E		250		500 x 500 x 1000	880 x 1850 x 1750

Only suitable for fluid loads

Model no.	Steam source	Volume (litres)	Power supply	Chamber dimensions W x H x D (mm)	Overall dimensions W x H x D (mm)
MNS360E	Heaters in Chamber	360	415V, 3 Phase, Neutral & Earth, 16kW	600 x 600 x 1000	880 x 1850 x 1700

(Power consumption/dimensions may vary with the addition of certain options)

Bottle capacity

Below is a table identifying the total number of Duran bottles it is possible to fit in to each SQUARE ECO autoclave using the standard base shelf. The number in brackets indicates quantity of extra bottles with the addition of a centre shelf (optional extra).

Model no.	500ml	1000ml	2000ml
MNS125E	25 (30)	20	9
MNS216E	42 (42)	30	16
MNS250E	60 (60)	40	21
MNS360E	66 (66)	50 (50)	21

Advanced options (Selection of this option alters the power supply requirements listed in the Specifications table)



Simple Vacuum Option

The AVC002 vacuum utilises the standard heaters in the base of the chamber with simple pre-vacuum air removal and post vacuum cooling to effectively sterilize porous type loads and 'difficult' discard loads, but without any drying capability. Astell Ref: AVC002.

Additional options

Load Sensed Process Timing	Ref: AAR014	Category III (BSL-3) compliance	Ref: AVQ006
Pulsar Freesteaming	Ref: AAN009	Drain Cooling	Ref: AAN420
Integral data printer	Ref: AAR130	Discard container (W:300 x H:300 x D:300mm)	Ref: AAQ300
Remote maintenance/diagnosis	Ref: RDM101	Loading system 1 x external trolley + 1 x internal truck	Ref: AAQ600
Ethernet interface	Ref: AAR122	Water softener	Ref: AAW002
IQ/OQ documentation	Ref: IQ/OQ	Stainless steel fascia panelwork	Ref: SSFPW
Castors option	Ref: AAC006		

Standard safety features

All SQUARE ECO range autoclaves are fitted with the following built-in safety features as standard:

- Over temperature protection, a cooling lock, a safety valve test program and emergency stop button
- The door mechanism is safety linked meaning a cycle cannot start until the door is properly closed; or opened until the pressure and temperature within the chamber is at a safe level
- The door seal is steam and vacuum resistant, and will seal effectively without trapping or entrapment of 'foreign' material
- Doors are thermally insulated to prevent the surface temperature presenting a potential hazard to operators

Installation requirements

Power requirements:

The power requirements for the standard machines are listed in the Specifications table, however these can vary depending on the options selected. For details on the exact power requirements on these options please contact us. *N.B. A Neutral line and protective Earth are required for all electrically heated units.*

Water and drainage requirements:

A cold water supply of 2-6 Bar minimum, 4 litres/min is required. Max temperature 25°C, Max flow rate 20 litres/min. Requirements vary for RO/de-ionised/hard water. Drainage: Free venting, non-manifolded drain (54mm diameter) capable of withstanding temperatures up to 100°C.



Touchscreen controller



Manual door



Pressure gauge



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SQUARE MAX Autoclave Range

600 – 1400 litre models

Fitted with steam generator/direct steam

Astell's SQUARE MAX range offers the choice of five different chamber sizes ranging from 600 to 1400 litres and various heating, loading and door options. The SQUARE MAX range is highly customisable and by choosing from the many options available it is possible to sterilize almost anything (subject to configuration).

Features include:

- 5.7" colour touchscreen controller
- 5 standard chamber sizes available
- Choice of two heating methods: Direct steam or steam generator
- Single or double doors (pass through)
- Automatic sideways opening door operation
- Full range of options and accessories (see overleaf for details)
- Custom built units available to meet your exact requirements



Specifications

Models listed below are a representative selection. Please contact us for the full range of available sizes and options.

Model no.	Volume (litres)	Doors	Steam generator	Direct steam	Chamber dimensions W x H x D (mm)	Overall dimensions W x H x D (mm)
SVS600	600	1 or 2	48kW	4kW	600 x 1000 x 1000	2000 x 2000 x 1500
SVS875	875	1 or 2	72kW	4kW	700 x 1000 x 1250	2000 x 2000 x 1750
SVS1050	1050	1 or 2	72kW	4kW	700 x 1000 x 1500	2000 x 2000 x 2000
SVS1200	1200	1 or 2	72kW	4kW	600 x 1000 x 2000	2000 x 2000 x 2500
SVS1400	1400	1 or 2	72kW	4kW	700 x 1000 x 2000	2000 x 2000 x 2500

(Overall dimensions are based on single door models. May vary with the configuration and addition of certain options)

Standard safety features

All SQUARE MAX range autoclaves are fitted with the following built-in safety features as standard:

- Over temperature protection, a cooling lock, a safety valve test program and emergency stop button
- The door mechanism is safety linked meaning a cycle cannot start until the door is properly closed; or opened until the pressure and temperature within the chamber is at a safe level
- The door seal is steam and vacuum resistant, and will seal effectively without trapping or entrapment of 'foreign' material
- Doors are thermally insulated to prevent the surface temperature presenting a potential hazard to operators
- Water conservation re-circulation system minimising water usage



SQUARE MAX fitted with optional stainless steel panels

Advanced options (Selection of these options alters the power supply requirements listed in the Specifications table)



Integral Steam Generator Option

The heaters in chamber are replaced with a 48kW/72kW integral steam generator. This option helps to improve cycle times by increasing the efficiency of steam production and also includes automatic water filling as standard, removing the requirement of manually filling the machine with water between sterilization cycles (a mains water supply is therefore required for this option). Astell Ref: 48KWSG or 72KWSG.



Advanced Vacuum Option

A vacuum option is essential for porous type loads (e.g. wrapped instruments and fabrics) or other cycles where air pockets could easily become trapped within the load. The AVC001 option is Astell's advanced pulsar vacuum, which when used in conjunction with the integral steam generator and a heated jacket enables the dry output of all loads. Astell Ref: AVC001.



External Jacket Option

Requiring a steam generator or direct steam option. The external jacket option effectively adds an additional layer to the outside of the autoclave chamber. This can then be independently heated by the steam generator to enhance the drying process at the end of the cycle, or it can be flooded with water during cooling to aid faster cooling times. Astell Ref: AJP100 or AJP152.

Additional options

Integral data printer	Ref: AAR130	Drain Cooling	Ref: AAN420
Load Sensed Process Timing	Ref: AAR014	Category III (BSL-3) compliance	Ref: AVQ006
Remote maintenance/diagnosis	Ref: RDM101	Morrison discard container (W:300 x H:300 x D:300mm)	Ref: AAQ300
Ethernet interface	Ref: AAR122	Additional shelf	Ref: AAQ801
IQ/OQ documentation	Ref: IQ/OQ	Water softeners	Ref: AAW002
Internal convection cooling	Ref: AAP102	Blow down vessel	Ref: SPL285
Deluge cooling	Ref: ADA100	Loading systems	Ref: AAQ600/2
Air ballast (requires compressed air)	Ref: AVC004	Stainless steel pipework (primary)	Ref: SPL430
Integral air compressor (Req. for Vacuum units)	Ref: AAQ503	Stainless steel pipework (full)	Ref: SPL422
SPF seal (for double door machines only)	Ref: AVQ007		

Installation requirements

Power requirements:

The power requirements for the standard machines listed in the Specifications table are 415V, 3 Phase, with Neutral and Earth. Requirements can vary depending on the configuration and options selected. For additional details of exact power requirements please contact us.

Water and drainage requirements:

A cold water supply of 2-6 Bar minimum, 4 litres/min is required. Max temperature 25°C, Max flow rate 20 litres/min. Requirements vary for RO/de-ionised/hard water. Drainage: Free venting, non-manifolded drain (54mm diameter) capable of withstanding temperatures up to 100°C.



Touchscreen controller



Stainless steel pipework (optional)



Pressure gauge



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