

Astell's Double Door SQUARE autoclaves have a door at each end of the chamber, so loads go in on one side and come out on the other. This supports controlled transfer between separate areas, making the range ideal for high-containment facilities handling dangerous pathogens and for clean rooms. Each steam sterilizer is built to order, with options for vacuum air removal, drying and faster liquid cooling.

Features include:

- Chamber capacities from 250 to 3,000 litres
- Vertically sliding doors (based on SQUARE, 250 – 980 litres; manual doors up to 720 litres) or automatic sideways-sliding doors (based on SQUARE MAX, 250 – 3,000 litres)
- Usually inset into a wall, with an optional secondary display beside the second door
- SPF bacteriological seal for Containment Level 3 installations
- Choice of steam source: integral steam generator or direct steam
- 316 stainless steel electropolished chamber
- Fully programmable 5.7" colour touchscreen controller: 5 pre-programmed cycles (up to 50 available), five password levels and USB data download



RANGE CLASSIFICATION



Maximum Capacity, Maximum Adaptability

Cuboid rather than cylindrical chambers give the biggest possible sterilization volume for their external size. The range can be fitted with a huge array of options for increased processing speeds, enhanced containment and pass-through abilities.



Pass-Through

Fitted with a door on either side of the sterilization chamber and usually inset into a wall, these units provide an access port between sterile and hazardous areas, sterilizing everything that passes through.

SPECIFICATIONS

Every Double Door SQUARE autoclave is built to order. Chamber design is variable, so sizes from 250 to 980 litres can be built with vertically or sideways-sliding doors.

MODEL SERIES	DOOR	VACUUM	CHAMBER CAPACITY
AND250 – AND980	Automatic, vertically sliding	No	250 – 980 litres
AVD250 – AVD980	Automatic, vertically sliding	Yes	250 – 980 litres
MND250 – MND720	Manual, vertically sliding	No	250 – 720 litres
MVD250 – MVD720	Manual, vertically sliding	Yes	250 – 720 litres
SND250 – SND3000	Automatic, sideways sliding	No	250 – 3,000 litres
SVD250 – SVD3000	Automatic, sideways sliding	Yes	250 – 3,000 litres

Reading the model code: A = automatic / M = manual vertically sliding door, S = sideways-sliding door; V = vacuum / N = no vacuum; D = double door; number = chamber capacity in litres; G = integral steam generator / D = direct steam. Example: SVD875G.

Specifying a pass-through autoclave: consider item dimensions, baskets or trays, door interlocking, cycle-dependent door release, transfer direction and throughput.

Containment: an SPF bacteriological seal is required for Containment Level 3 (BSL-3) installations and can be specified for other wall-mounted installations. CL3 applications may also require exhaust filtration and effluent retention or treatment. Interfaces with Class III biological safety cabinets or gloveboxes can be discussed.

Astell's current PED certification covers steam autoclaves up to 3,000 litres; vessels are built to PED and ASME U. Larger chambers are subject to engineering review.

HIGH POWER OPTIONS

Selecting these options may alter the power supply requirements.

Steam source: integral steam generator or direct steam. Choose an integral steam generator (G models: 24, 48 or 72 kW, Astell Ref: 24KWSG, 48KWSG or 72KWSG), which improves cycle times and includes automatic water filling (a mains water supply is required), or an external direct steam supply (D models), such as a stand-alone steam generator.

Advanced vacuum option. Vacuum air removal is essential for porous loads (e.g. wrapped instruments and fabrics) and other cycles where air could be trapped within the load. AVC001 is Astell's advanced pulsar vacuum which, used with a heated jacket and a suitable steam supply, enables the dry output of all loads. Astell Ref: AVC001

External jacket option. Adds an additional layer to the outside of the chamber. It can be heated to enhance drying at the end of the cycle, or flooded with water during cooling for faster cooling times. Astell Ref: AAQ302 (AAQ302C for cooling)

ADDITIONAL OPTIONS

Integral data printer	AAR130	Category III (BSL-3) compliance	AVQ006
Load Sensed Process Timing	AAR014	SPF bacteriological seal (required for CL3)	AVQ007
FDA 21 CFR part 11 controller software	CFR021	Secondary display beside second door	–
Remote maintenance/diagnosis	RDM101	Morrison discard container (300 x 300 x 300 mm)	AAQ300
Ethernet interface	AAR122	Additional shelf	AAQ801
IQ/OQ documentation	IQ/OQ	Water softener	AAW002
Internal convection (fan) cooling	AAP102	Blowdown vessel	AAB001
Advanced water cooling	–	Loading systems	AAQ600/2
Cooling jacket	AAQ302C	Nelldorn glassware dryer	–
Heated jacket	AAQ302	Stainless steel fascia panelwork	–
Air ballast (requires compressed air)	AVC004	Stainless steel pipework (primary)	AAS001
Integral air compressor (req. for vacuum units)	AAQ503	Stainless steel pipework (full)	SPL422
Drain cooling	AAN420		

STANDARD SAFETY FEATURES

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

INSTALLATION REQUIREMENTS

Power requirements

415 V, 3 phase, with neutral and earth. Requirements vary with the model, steam source and options selected. Please contact us for exact power requirements.

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 (54 mm diameter) capable of withstanding temperatures up to 100 °C.