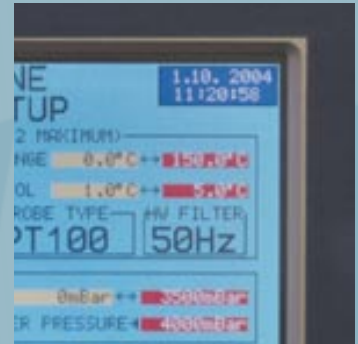




THE **AUTOCLAVE** RANGE



PIONEERS IN STERILIZATION TECHNOLOGY

Featuring the NEW 'LogiColor' Full Colour Touch Screen Controller

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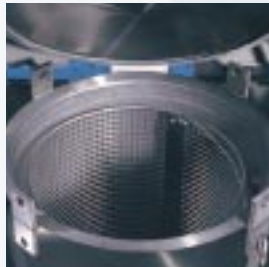
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New Swiftlock Compact Autoclaves



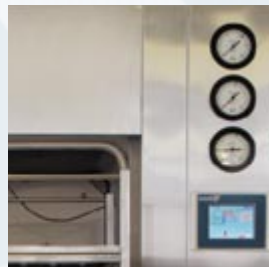
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New Swiftlock Compact Autoclaves

Astell's range of **New Swiftlock Compact Autoclaves** offers guaranteed precision and versatility in sterilization. All units (23, 40, and 60L) are suitable for a wide range of autoclaving applications and provide remarkable flexibility and unrivalled convenience in today's quality conscious laboratory.

All sizes are available as front-loading benchtop machines, whilst the 60L model is also available as a top-loading unit.

Two different versions of these autoclaves are available :

1. Classic Version

This is the ideal model for all standard traditional laboratory sterilization procedures. Water fill is manual; during the cycle condensate leaves the vessel via a silicone tube that can be connected to a heat resistant bottle.

These units feature a four program controller as standard; the programs can be set to accommodate all common laboratory sterilization requirements (e.g. Media, Discard, Glassware etc). Time and temperature can be easily adjusted by the operator, as can a variety of other parameters (see Control System details overleaf).

2. Autofill Version

Astell's automatic water fill/recirculation system, together with extremely versatile programming capability, provide exceptional sophistication in a small autoclave. The integral reservoir, once filled, provides sufficient water for up to 20 cycles; moreover, the same container also acts as a collection vessel for both condensate and water (which is returned from the autoclave chamber following the sterilization process). Thus the system is completely self-contained, and connection to a drain or waste container is unnecessary.

This version has a four program control system; all programs can be set either for fluid loads (e.g. media, mixed/fluid discard) or non-fluid loads (e.g. glassware, instruments). Once again, time and temperature can be easily adjusted by the operator, as can a number of standard and/or optional parameters (see Control System details overleaf). A pulsed-heat drying system, which is adjustable in 5 minute steps, is available when running a non-fluid cycle.



Advantages of the New Swiftlock Compact Autoclaves

All Models:

4 Program Micro-Controller

For user flexibility, to suit all applications

Ultra Quick New Swiftlock Door Mechanism

To enable easy access both before and after the cycle

Temperature Range 100°C-138°C (0.2 – 2.4 bar)

Fully programmable temperature control allowing all sterilization requirements to be met

316L Stainless Steel Pressure Vessels

All autoclaves are built to the highest quality and conform to PED5500 PED EN/97/23/EC

Conformance with National and International Standards

To ensure safety and peace of mind for any user

Designed for Maximum Chamber Capacity

e.g. The AMB230 (40 litre) unit will accommodate eleven 1 litre Duran bottles.

Autofill Version

Automatic Water Fill

No installation is required: the units can be positioned almost anywhere in the laboratory

Water Recycling as Standard

The Autofill benchtop range can run for up to twenty cycles before the water tank needs replenishing

Integral Drying System

For added convenience

New Swiftlock Compact Autoclaves

Control System

All models feature the unique "SECURE+" four program microprocessor controller, which ensures repeatable, safe and accurate sterilization time after time. In addition to Time and Temperature, operator adjustable/selectable parameters include Freesteam Time, Delayed Start and Load Sensed Process Timing (optional for both versions).

A clear 16 Character, 2 line LCD display gives an easy-to-read, stage by stage report on cycle progress, and provides operator warnings with easily understood text messages. The touch-button 'click-action' keyboard has a wipe-clean surface and clear symbols to minimize operator error. PIN code access to the supervisor mode allows restricted access of cycle parameters.

Construction

Astell Autoclaves are designed and manufactured for reliability, long life and ease of use. Production is monitored throughout all stages and every unit is rigorously tested before leaving the factory. The 316L stainless steel pressure vessels are manufactured to the very highest standards (including PED97/23EC), in order to conform with national and international regulations. An Independent Manufacturing Inspection Certificate can be provided on request.



Safety

Recognising that safety is of prime importance, Astell has incorporated a wide range of standard risk-reducing features on these models to ensure safe operation in the most demanding situations. These include:

- Low water detection in chamber
- Overheat protection
- Audible & visual alarms, including *Cycle Fault*, *Cycle Interruption*, *Sterilize Failure*, *Water Low* and *Door Unlocked*

New Swiftlock Compact Autoclaves

Installation

A single phase power requirement and integral reservoir and/or condensate bottle ensure that no special installation requirements are generally necessary for these models. The reservoir bottle on the Autofill Version provides sufficient water (without refill) for up to 20 consecutive cycles, whilst the manual filling of the vessel on the Classic Version is a simple procedure that only takes a matter of minutes.

For information on connection to 'non-standard' power supplies, please contact Astell's Sales Office.

Accessories

A wide selection of baskets, containers, load support plates and shelving systems are available for all machines giving optimum capacity for numerous applications.

Capacity

Despite being compact, and therefore suitable for smaller laboratories and confined spaces, these autoclaves have been designed and constructed to maximize usable space within the chamber. The following table indicates the bottle capacity of the Compact range. (N.B. This is based on typical *Duran* type bottles).

	AMB420 AMB220	AMB430 AMB230	AMB440 AMB240	AMA440 AMA240
500ML	8	14	21	24
1000ML	-	11	15	14
2000ML	-	3	4	6*

*AMA240/AMA440 will hold 8 x 2000ml bottles if baskets are not used.

SPECIFICATIONS AND ORDERING DETAILS

Reference Classic/Autofill	Top or Front Loading	Volume Litres	Power Supply	Chamber dia x depth mm	Overall Dims wxdxh mm
AMB420/AMB220	Front	23	1Ø-13A	250 x 430	540 x 670 x 415
AMB430/AMB230	Front	40	1Ø-13A	350 x 400	670 x 720 x 570
AMB440/AMB240	Front	60	1Ø-13A	350 x 600	670 x 950 x 570
AMA440/AMA240	Top	60	1Ø-13A	350 x 570	530 x 700 x 1200

NB. AMA240/AMA440 is mounted on casters as standard

ACCESSORIES

Swiftlock Compact Autoclaves		For use with
AAN348	Discard Container	AMB220/AMB420
AAN346	Discard Container	AMB230/AMB430(accepts 2) AMB240/AMB440(accepts 3)
AAN340	Half Depth S/Steel Basket	AMA240/AMA440
AAN342	Half Depth Morrison Container	AMA240/AMA440
AAN074	Load Support Plate	AMA240/AMA440
AAN020	Three Position Shelf Rack (2 shelves*)	AMB220/AMB420
AAN022	Spare Shelf for AAN020	AMB220/AMB420
AAN530	Five Position Shelf Rack (3 shelves*)	AMB230/AMB430
AAN532	Spare Shelf for AAN530	AMB230/AMB430
AAN040	Five Position Shelf Rack (3 shelves*)	AMB240/AMB440
AAN043	Spare Shelf for AAN040	AMB240/AMB440
AAN308	Spare Condensate Bottle for Classic Range	AMB420/30/40 + AMA440

* Number of shelves includes base shelf

FOR ALL OPTIONS SEE PAGES 11-13

New Swiftlock Autoclaves 90-330 Litres

Astell offers a range of front and top loading microprocessor controlled Autoclaves, in volumes from 90-330 litres. All models are designed to maximise efficiency, provide user safety, and ensure ease of operation in the modern quality laboratory or sterilization facility.

Construction

Astell Autoclaves are manufactured for ease of use, reliability and long life. Production is carefully monitored throughout all stages, and every machine is rigorously tested before leaving the factory. The design of Astell's 316L Stainless Steel pressure vessel is certified by Lloyds (or equivalent) and manufactured to PED97/23EC to conform to national and international standards. All vessels are hydraulically tested (a copy of the certificate can be supplied on request).

The super quick open/close Swiftlock closure system combines with the user-friendly control system to ensure simple operation for all applications, whilst a comprehensive range of safety features ensures safety and peace of mind for the user.



Advantages of New Swiftlock Autoclaves:

Front and Top Loading Models

In sizes to suit all Laboratories and Sterilization Facilities

SECURE+ Microcomputer Control

Allows simple control and complete user flexibility

Ultra Quick New Swiftlock Door Mechanism

To enable easy access both before and after the cycle

Temperature Range 100°C-138°C (0.2 – 2.4 bar)

Fully programmable temperature control allowing all sterilization requirements to be met

PIN Restricted User Programming

For extra security allowing authorized access only

316L Stainless Steel Pressure Vessels

Manufactured to the highest standards to give long lasting quality.

Conformance with National and International Standards

To ensure safety and peace of mind

Integral Cooling Locks

For the safe sterilization of liquids

Wide Variety of Options and Accessories

Providing optimum performance in the most demanding situations



New Swiftlock Autoclaves 90-330 Litres

Control System

The unique SECURE+ Micro-Computer controls the autoclave ensuring repeatable, safe and accurate sterilization time after time. A large LCD display gives an easy to read stage by stage report on cycle progress. Programs are factory set before delivery but re-programming by the user is extremely simple. Access to re-programming is PIN protected via the membrane touch pad and features simple question and answer stages.

Standard Selectable Parameters include:

- Delayed Start
- Timed Freesteaming Period (on non-vacuum units)
- Sterilization Time
- Sterilization Temperature
- Holdwarm On/Off
- Special Safety Valve Test Cycle
- Cooling Lock Release Temperature
- Profiled Overshoot Boost

Optional Selectable Parameters include:

- Assisted Air Cooling
- Load Sensed Process Timing
- Advanced Water Cooling
- Pulsar Free Steaming (on non-vacuum units)
- Pulsed Pre-Vacuum/Vacuum Drying (Front Loading Units Only)
- Air Ballast

New

Vacuum Swiftlocks are now available with the new

'LogiColor' Colour Touch Screen Controller.

Please see full details on page 8, and also ordering details covered in OPTIONS, pages 11-13.



Accessories

A wide selection of baskets, containers, load support plates and shelving systems are available for all machines giving optimum capacity for numerous applications.

ACCESSORIES		
90-330 Litre Autoclaves (dimensions in mm)		
AAN036	S/Steel Wire Basket (400 dia x 400h)	Top Loading Models
AAN042	S/Steel Wire Basket (400 dia x 230h)	Top Loading Models
AAN044	S/Steel Wire Basket (400 dia x 210h)	Top Loading Models
AAN048	Container with Perforated Base (380 dia x 400h)	Top Loading Models
AAN056	Morrison Container (390 dia x 500h)	Top Loading Models
AAN058	Morrison Container (390 dia x 355h)	Top Loading Models
AAN300	Rectangular Morrison (290 x 330 x 280)	Front Loading Models
AAN002	S/Steel Load Support Plate	Top Loading Models
AAN080	Container Tray (279 x 279 x 127)	Front Loading Models
AAN316	Additional Shelf Kit (2 Pos) 120 Litre	Front Loading Models
AAN317	Additional Shelf Kit (2 pos) 150 Litre	Front Loading Models
AAN318	Additional Shelf Kit (3 Pos) 230 Litre	Front Loading Models
AAN319	Additional Shelf Kit (3 Pos) 275 Litre	Front Loading Models
AAN320	Additional Shelf Kit (3 Pos) 330 Litre	Front Loading Models

FOR ALL OPTIONS SEE PAGES 11-13



MORRISON DISCARD CONTAINER



WIRE BASKET

New Swiftlock Autoclaves 90-330 Litres

Technical Specifications

TOP LOADING									
Reference	Electric (heaters in chamber) or direct steam	Power Supply Phase ø Amps/Phase kW Total	Volume Litres	Chamber Diameter mm	Useable Chamber Depth mm	Loading Height mm	Overall Width mm	Overall Depth mm	Overall Height Including Controller
AMA250	ELECTRIC	1/3Ø-30/15A 7/10kW	90L	456	448	775	660	840	1055
AMA252	STEAM	1Ø-2A (STEAM)	90L	456	448	775	660	840	1055
AMA260	ELECTRIC	1/3Ø-30/15A 7/10kW	110L	456	600	912	660	840	1190
AMA262	STEAM	1Ø-2A (STEAM)	110L	456	600	912	660	840	1190
AMA270	ELECTRIC	1/3Ø-30/15A7/10kW	130L	456	680	992	660	840	1270
AMA272	STEAM	1Ø-2A (STEAM)	130L	456	680	992	660	840	1270
FRONT LOADING (without vacuum option)									
Reference	Electric (heaters in chamber) or direct steam	Power Supply Phase ø Amps/Phase kW Total	Volume Litres	Chamber Diameter mm	Chamber Depth mm	Loading Height mm	Overall Width mm	Overall Depth mm	Overall Height Including Controller
ASB260	ELECTRIC	1/3Ø-30/15A 7/10kW	120L	450	635	710	685	1070	1460
ASB262	STEAM	1Ø-2A (STEAM)	120L	450	635	710	685	1070	1460
ASB270	ELECTRIC	1/3Ø-30/15A 7/10kW	150L	450	865	710	685	1300	1460
ASB272	STEAM	1Ø-2A (STEAM)	150L	450	865	710	685	1300	1460
ASB280	ELECTRIC	3Ø-20A/12kW	230L	600	735	730	900	1357	1590
ASB282	STEAM	1Ø-2A (STEAM)	230L	600	735	730	900	1357	1590
ASB290	ELECTRIC	3Ø-25A/16kW	275L	600	885	730	900	1357	1590
ASB292	STEAM	1Ø-2A (STEAM)	275L	600	885	730	900	1357	1590
ASB300	ELECTRIC	3Ø-25A 16kW	330L	600	1085	730	900	1557	1590
ASB302	STEAM	1Ø-2A (STEAM)	330L	600	1085	730	900	1557	1590
FRONT LOADING (with vacuum option)									
Reference	Electric (steam generator) or direct steam	Power Supply Phase ø Amps/Phase kW Total	Volume Litres	Chamber Diameter mm	Chamber Depth mm	Loading Height mm	Overall Width mm	Overall Depth mm	Overall Height Including Controller
ASB260+AVC002	ELECTRIC	3Ø-25A 18kW	120L	450	635	710	685	1300	1900*
ASB262+AVC002	STEAM	3Ø-6A 4kW	120L	450	635	710	685	1300	1460
ASB270+AVC002	ELECTRIC	3Ø-25A 18kW	150L	450	865	710	685	1300	1900*
ASB272+AVC002	STEAM	3Ø-6A 4kW	150L	450	865	710	685	1300	1460
ASB280+AVC002	ELECTRIC	3Ø-38A 28kW	230L	600	735	730	900	1557	1590
ASB282+AVC002	STEAM	3Ø-6A 4kW	230L	600	735	730	900	1557	1590
ASB290+AVC002	ELECTRIC	3Ø-38A 28kW	275L	600	885	730	900	1557	1590
ASB292+AVC002	STEAM	3Ø-6A 4kW	275L	600	885	730	900	1557	1590
ASB300+AVC002	ELECTRIC	3Ø-38A 28kW	330L	600	1085	730	900	1557	1590
ASB302+AVC002	STEAM	3Ø-6A 4kW	330L	600	1085	730	900	1557	1590

* Steam generator is mounted on top of the unit as standard. Rear mounted versions are available. Please contact the sales office.

Installation

ELECTRICALLY HEATED MODELS (in-vessel or steam generator)

Power: 3-Phase 380-440 volts (Phase-Phase), 50 or 60 Hz. 10kW models may be operated at 7kW from a Single Phase 30 Amp 200-240 Volt supply. For use on 3-Phase Power Supplies of 200-240volts (Phase-Phase) please specify option AAN110 at time of order.

NB. A Neutral Line and Protective Earth are required for all electrically heated units.

Water: A cold water supply of 2 to 6 bar minimum, 4 L/min is required for the Autofill or Water Cooling (including Deluge Cooling) options. Max Temp. 25°C, Max flow rate 20L/Min.

DIRECT STEAM HEATED MODELS

Power: Single-phase supply of 200-240V 50/60 Hz. A Protective Earth plus Neutral is required. For use on 110 volt + 10% 50/60 Hz supplies specify option AAN110 at time of order.

Steam: A supply of DRY SATURATED steam at 4 Bar is required for Direct Steam Heated models.

ALL MODELS

Drainage: Free-venting, non-manifolded drain (35mm dia) capable of withstanding temperatures up to 100°C.

FOR ALL OPTIONS SEE PAGES 11-13

Square Section Sterilizers

Astell offers a comprehensive range of Square and Rectangular Section Sterilizers in standard volumes from 125 to 490 litres. Astell can also custom-design and manufacture bespoke units in alternative sizes to suit the customers precise requirements.



**Square and Rectangular models are available with either an automatic or manually operated door. The manual door version has the advantage of reduced width, where narrow doorways etc could be a consideration.*

Construction

The 316L Stainless Steel pressure vessels are manufactured in accordance with ENPED97/23EC and can also be produced in accordance with a variety of other national and international standards. Manufacturing processes are rigorously monitored throughout all stages, and units undergo stringent testing procedures before despatch. All Astell sterilizers are fitted with a comprehensive range of safety features to conform with necessary regulations and provide peace of mind for the user.

In order to maximise space, and for ease of loading/unloading, pneumatically powered automatic sliding doors, or manual sliding doors*, are fitted as standard: both single and double door versions are available. Units in all sizes are provided with panels in Stainless Steel, although 'through-wall' versions and units with special paneling can be supplied in accordance with customer requirements. All models can also be supplied in stripped down form if required for ease of installation.

The modular dimensions of the standard Astell chamber ensure maximum space utilisation for all sterilization purposes. The units accept most standard sterilization containers.

A range of shelving and loading systems is available. All units are supplied complete with base rails. Additional shelf runners and shelves are available to precise requirements.

Advantages of Astell Square Section Sterilizers

Square/Rectangular Chamber
Ensuring maximum space utilisation

New 'LogiColor' Colour Touch Screen Controller

Fully Interlocked Sliding Door
For easy loading/unloading

Single and Double Door Units
To suit all applications

Sectional Cooling Jacket as Standard
Fluid machines only, to ensure optimum performance at all times

Steam Heated Full and Partial Jackets Available
Essential for fabric and instruments that require a drying cycle

Optional Vacuum/Air Ballast
Ensuring the unit is suitable for a variety of applications



MANUAL DOOR VERSION

Square Section Sterilizers



Astell's range of Square and Rectangular Section Sterilizers all feature the new LogiColor Colour Touch Screen Controller



The New LogiColor control system is an advance in sterilization control technology, bringing together years of unrivalled experience, to produce a user friendly, fully automatic control system, to meet and exceed the expectations of even the most demanding laboratories and centres of sterilization.

The controller consists of a wipe clean colour touch screen measuring 188mm x 88mm and is based on an industrial PLC controller, combined with a number of analogue and digital input/output modules.

Controller Hardware	Summary of Controller features
Display	188mm x 88mm Colour QVGA touch screen
Input	Touch Screen
Program storage	Flash Card
Real time clock	Battery Backed
Memory	64MB DRAM/256KB SRAM
Serial Interface	RS232
A/D / Pressure	12 bit
A/D / Temperature	16 bit
Digital inputs	32
Digital outputs	32
Analogue inputs	4

Controller Software

The controller software is written in Automation Basic and has been developed by Astell for the precision control of autoclaves. The code is split into well-defined blocks, each of which performs a specific function and has been written in high level language to allow maximum clarity.

The advantages of the 'LogiColor' Touch Screen Control System:

Full Colour Touch Screen

Password Protected Security System

Multiple Access Levels

Simple Cycle Selection

RS232 Interface / Port

Allowing connection to other peripheral devices such as a printer

Operator Interface

Enables continual monitoring

Individual analogue channels are displayed

Temperature / Pressure etc



NEW LogiColor Full Colour Touch Screen Controller



Square Section Sterilizers



Accessories

A wide selection of baskets, containers and shelving systems are available for all machines giving optimum capacity for numerous applications.

ACCESSORIES		
Square Section Sterilizers		
AAQ300	Discard Containers 300 x 300 x 300mm	All Models
AAQ801	Additional Shelf Runner and Shelf	125 & 216 Litre Models
AAQ802	Additional Shelf Runner and Shelf	300 & 350 Litre Models
AAQ804	Additional Shelf Runner and Shelf	490 Litre Models
AAQ600	Loading System Single Shelf	125 Litre Models
AAQ602	Loading System Multiple Shelf	125 Litre Models
AAQ604	Loading System Single Shelf	216 Litre Models
AAQ606	Loading System Multiple Shelf	216 Litre Models
AAQ608	Loading System Single Shelf	300 Litre Models
AAQ700	Loading System Multiple Shelf	300 Litre Models
AAQ702	Loading System Single Shelf	350 Litre Models
AAQ704	Loading System Multiple Shelf	350 Litre Models
AAQ706	Loading System Single Shelf	490 Litre Models
AAQ708	Loading System Multiple Shelf	490 Litre Models

FOR ALL OPTIONS SEE PAGES 11-13

Square Section Sterilizers

Reference	Vacuum	Door(s)	Heating Type	Power Supply Phase ø Amps/ Phase kW Total	Capacity Litres	Internal Chamber Dims. WxHxD mm	Overall Dims. WxHxD mm
SINGLE DOOR UNITS - AUTOMATICALLY OPERATED UPWARDS SLIDING DOORS							
AVS125G	Yes	Automatic	Steam Generator	3ø Neutral-38A 28 kW	125	500 x 500 x 500	1100 x 2000 x 1300
AVS125D	Yes	Automatic	Direct Steam	3ø Neutral -6A 4kW	125	500 x 500 x 500	1100 x 2000 x 1300
AVS216G	Yes	Automatic	Steam Generator	3ø Neutral -38A 28 kW	216	600 x 600 x 600	1100 x 2000 x 1400
AVS216D	Yes	Automatic	Direct Steam	3ø Neutral -6A 4kW	216	600 x 600 x 600	1100 x 2000 x 1400
AVS300G	Yes	Automatic	Steam Generator	3ø Neutral -38A 28 kW	300	700 x 700 x 620	1250 x 2000 x 1400
AVS300D	Yes	Automatic	Direct Steam	3ø Neutral -6A 4kW	300	700 x 700 x 620	1250 x 2000 x 1400
AVS350G	Yes	Automatic	Steam Generator	3ø Neutral -70A 50kW	350	700 x 700 x 725	1250 x 2000 x 1400
AVS350D	Yes	Automatic	Direct Steam	3ø Neutral -6A 4kW	350	700 x 700 x 725	1250 x 2000 x 1400
AVS490G	Yes	Automatic	Steam Generator	3ø Neutral -70A 50 kW	490	700 x 700 x 1000	1500 x 2000 x 1700*
AVS490D	Yes	Automatic	Direct Steam	3ø Neutral -6A 4kW	490	700 x 700 x 1000	1250 x 2000 x 1700
SINGLE DOOR UNITS - MANUALLY OPERATED UPWARDS SLIDING DOORS							
MVS125D	Yes	Manual	Direct Steam	3ø Neutral -6A 4 kW	125	500 x 500 x 500	780 x 1750 x 1200
MVS125G	Yes	Manual	Steam Generator	3ø Neutral -38A 28 kW	125	500 x 500 x 500	780 x 1750 x 1200
MVS216D	Yes	Manual	Direct Steam	3ø Neutral -6A 4 kW	216	600 x 600 x 600	880 x 1750 x 1300
MVS216G	Yes	Manual	Steam Generator	3ø Neutral -38A 28 kW	216	600 x 600 x 600	880 x 1750 x 1300
MVS360D	Yes	Manual	Direct Steam	3ø Neutral -6A 4 kW	360	600 x 600 x 1000	880 x 1750 x 1700
MVS360G	Yes	Manual	Steam Generator	3ø Neutral -38A 28 kW	360	600 x 600 x 1000	880 x 1750 x 1700
MNS125E	No	Manual	Electric in Vessel	3ø Neutral -25A 16 kW	125	500 x 500 x 500	780 x 1750 x 1200
MNS125D	No	Manual	Direct Steam	240V N 5A	125	500 x 500 x 500	780 x 1750 x 1200
MNS216E	No	Manual	Electric in Vessel	3ø Neutral -25A 16 kW	216	600 x 600 x 600	880 x 1750 x 1300
MNS216D	No	Manual	Direct Steam	240V N 5A	216	600 x 600 x 600	880 x 1750 x 1300
MNS360E	No	Manual	Electric in Vessel	3ø Neutral -25A 16 kW	360	600 x 600 x 1000	880 x 1750 x 1700
MNS360D	No	Manual	Direct Steam	240V N 5A	360	600 x 600 x 1000	880 x 1750 x 1700
DOUBLE DOOR UNITS – AUTOMATICALLY OPERATED UPWARDS SLIDING DOORS							
AVD216G	Yes	Automatic	Steam Generator	3ø Neutral -38A 28 kW	216	600 x 600 x 600	1100 x 2000 x 1000
AVD216D	Yes	Automatic	Direct Steam	3ø Neutral -6A 4kW	216	600 x 600 x 600	1100 x 2000 x 1000
AVD300G	Yes	Automatic	Steam Generator	3ø Neutral -38A 28 kW	300	700 x 700 x 620	1500 x 2000 x 950
AVD300D	Yes	Automatic	Direct Steam	3ø Neutral -6A 4kW	300	700 x 700 x 620	1500 x 2000 x 950
AVD350G	Yes	Automatic	Steam Generator	3ø Neutral -70A 50kW	350	700 x 700 x 725	1500 x 2000 x 1050
AVD350D	Yes	Automatic	Direct Steam	3ø Neutral -6A 4kW	350	700 x 700 x 725	1250 x 2000 x 1050
AVD490G	Yes	Automatic	Steam Generator	3ø Neutral -70A 50 kW	490	700 x 700 x 1000	1500 x 2000 x 1300*
AVD490D	Yes	Automatic	Direct Steam	3ø Neutral -6A 4kW	490	700 x 700 x 1000	1250 x 2000 x 1300
SINGLE DOOR UNIT – SIDEWAYS CLOSURE							
SVS675E	Yes	Automatic	Electric in Vessel	3ø Neutral -70A 50 kW	675	700 x 965 x 1000	2000 x 2000 x 1500
SVS675D	Yes	Automatic	Direct Steam	3ø Neutral -6A 4kW	675	700 x 965 x 1000	2000 x 2000 x 1500

*These models can be supplied with steam generator as separate unit, which will alter dimensions. Please contact sales office for further information.

Installation

ALL MODELS – i.e. in-vessel heating, steam generator or direct steam:

Power: 3 Phase 380-440 volts (Phase-Phase), 50 or 60Hz. For use on 3-Phase Power Supplies of 200-240 volts (Phase-Phase) please specify option AAN110 at time of order.

NB. A Neutral Line and Protective Earth are required for all electrically heated units.

Water: A cold water supply of 2 to 6-bar is required. Max Temp. 25°C, Max flow rate 20L/Min

Compressed Air: If you do not have available on-line compressed air (dry, oil-free, 6 Bar) then Air Compressor option (AAQ500) must be specified at time of order.

Drainage: Free-venting, non-manifolded drain (54mm dia) capable of withstanding temperatures up to 100°C.

DIRECT STEAM HEATED MODELS

Steam: A supply of DRY steam saturated at 4.00 bar is required for direct steam models.

For details of Installation, Commissioning and Validation please contact our Service Department.

IN ADDITION TO THE SIZES LISTED ASTELL IS ABLE TO SUPPLY STERILIZERS TO YOUR PRECISE REQUIREMENTS.

FOR ALL OPTIONS SEE PAGES 11-13

Options (for all models)

Data Printers

Integral Data Printer

The Integral Data Printer is essential where a traceable cycle record is required, it records temperature and elapsed time for each cycle, together with cycle stage messages and time of cycle. The printer employs a long life ink ribbon system which provides fade resistant printouts.

CT: AAR130 SW: AAR100 SQ: AAQ100

External Data Printer Dual Colour

This printer is mounted in a freestanding case, and prints on plain paper rolls in 2 colours. The printer may be sited up to 15 metres from the machine. Warnings and other alarm states are printed in red.

CT: Not Available SW: AAR102 SQ APQ102

Secure Print Freestanding Data Printer

A benchtop data printer designed to give an independent printer verification of the sterilization function with adjustable and automatic printing start and stop, chamber temperature and time is displayed with a dual speed papersave feature.

AAR600- Temperature, AAR602- Temperature and Pressure, AAR604- 2x Temperature (Chamber and Load), 1x Pressure
Chart Recorders For use with all Astell autoclaves

Circular Chart Recorders

These are high performance microprocessor based recorders with an alphanumeric display to provide more information and easier operation. The recorders are available with 1, 2 or 3 pens, recording accuracy is 1% of Span. Single pen recorders register chamber temperature, two pen recorders register chamber temperature and load temperature via two wandering probes. Three pen chart recorders also measure chamber pressure.
AAR020 Single Pen AAR021 Two Pen AAR024 Three Pen

Strip Chart Recorders

These are microprocessor controlled strip chart recorders available with 1, 2 or 3 pens. Recording accuracy is 1% of Span through the use of accurate stepper motors. The recorder incorporates a high definition alphanumeric display, indicating temperature and pressure (where applicable). The following models are available: The Single Pen AAR022 records chamber temperature only, whilst the Two Pen AAR023 records chamber temperature plus load temperature. There are two versions of the Three Pen Recorders: The AAR090 registers chamber temperature plus load temperature (via two probes), whilst the AAR091 registers chamber temperature, chamber pressure and load temperature.
AAR022: Single Pen AAR023: Two Pen
AAR090: Three Pen AAR091: Three Pen

Datalogger

AutoSCRIBE Sterilization Datalogger

A wall mounted Datalogger with LCD display and keyboard which allows maximisation of storage capacity by only recording during the operation cycle. An RS232 outlet port is connected to either a desktop printer or to a PC for downloading using the

software supplied (windows 95/98). Standard units supplied with two thermocouples for load/ chamber temperatures. Additional Thermocouples are available (max 4).
CT: AAR500 SW: AAR500 SQ: AAR500

Cooling Options

Advanced Water Cooling

This can only be fitted to machines that have been connected to a mains water supply. A series of cooling coils or a non-pressurised jacket is fitted to the outside of the autoclave chamber. At the end of the cycle these coils are circulated with cold water, resulting in a rapid decrease of temperature.
CT: Not Available, SW: Front Loading AAP100: 120L, AAP130: 150L, AAP200: 230L, AAP240: 275L, AAP300: 330L, Top Loading: AAP080: 90L, AAP101:110L, AAP125: 130L, SQ Not Available.

NB Please note that all Square Section Sterilizers are fitted as standard with water cooling via a (partial) jacket.

Assisted Air Cooling

Powerful fans are built within the cabinet outside the chamber, these circulate ambient air over the external chamber walls, and result in an appreciable reduction in cycle times.
CT: AAP007, SW: AAP006, SQ: Not Applicable

Internal Circulation Fan Cooling

Fans are sited within the chamber itself, which create turbulence reducing cooling time greatly. Internal fan cooling in conjunction with an external cooling system is one of the most efficient ways of cooling the chamber.
CT: Not Available, SW: AAP102, SQ: AJA102

Deluge Cooling

A super-quick internal spray-cooling system for use only in conjunction with sealed fluid loads (e.g. bottled media). This option can result in up to a 50% reduction in cooling time for specialised fluid applications.
CT: Not Available, SW: ADA100, SQ: AJA100

Drying Options

Partially Heated Jacket:

All basic Square Section Astell autoclaves are fitted with a partial jacket which provides a built in external water cooling system. The optional heated version in conjunction with the vacuum improves temperature distribution during sterilization and enhances the drying performance, removing any moisture or condensation from the chamber walls.
CT: Not Available, SW: Not Available, SQ: AAQ101(100L), AAQ201 (200L), AAQ301 (300L), AAQ351 (350L), AAQ401 (490L).

Full Heated Jacketed.

This option provides a full pressurised jacket around the chamber and further enhances the drying performance of the sterilizer. In conjunction with the vacuum option this is the most effective way of drying loads and is essential for fabric loads and wrapped instruments.
CT: Not Available, SW: AJP100 (ASB260), AJP130 (ASB270),

Options (for all models)

AJP 200 (ASB280), AJP240 (ASB290), AJP300 (ASB300)
SQ:AAQ102(100L), AAQ202 (200L), AAQ302 (300L), AAQ352
(350L), AAQ402 (490L).

Vacuum System

A pre vacuum and steam pulsing system is the most efficient means of removing air from problematic loads, or other loads with multiple air pockets such as pipette tips, glassware, fabrics and some instruments. Many of these loads will also benefit from the post vacuum drying system.

CT: Not Available, SW:AVC002, SQ:AVQ002

Other Options

Multi Program Controller

The optional 8 program controller allows storage of up to eight programs providing speed and versatility during operation. Additional features include a digital pressure display and a "menu" that allows the user to display and cross check all programs at the press of a button. If an optional integral Dataprinter is also fitted then this menu may be printed out.

CT: Not Available (4 Program Controller fitted as standard)
SW: AAP800, SQ: AAQ800

'LogiColor' Touch Screen Controller

Full colour, touch screen controller. Supplied as standard with Square Section units. Can be an additional option for Front Loading Swiftlock Vacuum models. For a full description - please see page 8.

CT: Not Available, SW: AAP020 Vac Models Only,
SQ: Standard

Load Sensed Process Timing

This option allows the cycle timing to be controlled via the temperature achieved in the centre of the load. A wandering probe situated within the chamber is inserted into the load, or a load simulator, and initiates the sterilization period once the probe reaches the sterilization temperature. A Selectable 'profiled overshoot boost' feature speeds up the cycle and minimises over-processing of media loads.

CT: AAR014, SW: AAN014, SQ: AAQ014

RS232 Interface

This allows cycle progress to be monitored on an external computer equipped with suitable software (Computer not supplied). Windows itself provides a suitable interface, and any spreadsheet may be used to view the data.

CT: AAR120, SW: AAR120, SQ: AAQ120

Ethernet Interface

Ethernet connectivity for a variety of applications.

AA122 (All models use the same product code)

Pulsar® Freesteaming^{PAT}

Selected via the Secure controller, this feature assists with air removal from 'difficult' loads. The cyclical opening and closing of the vent valve greatly increases turbulence at the Freesteaming stage.

CT: Not available, SW: AAN009, SQ: Not Available

Automatic Mains Supply Waterfill

The Autofill option automatically maintains adequate water level within the chamber. This is a fully automatic system incorporating an internal reservoir tank which accepts mains cold water at 2-6 bar pressure. The water inlet is controlled by level switching and includes an air gap to comply fully with EC water regulations.

The unit is readily connected to the water supply via a 1.5m flexible hose (supplied). All units supplied with the Vacuum Option or Deluge cooling have Waterfill supplied as standard

CT: Not Available, SW: AAP019, SQ: Not Available

Air Ballast

This option, which is available in conjunction with Vacuum, provides a controlled replacement of steam with compressed air during the cooling phase. This effectively prevents the 'boiling over' of bottled fluids that is frequently associated with assisted cooling systems.

CT: Not Available, SW: AVC004, SQ: AVQ004

Blow Down Tank

Required on models with Steam Generators, where there is not the facility to accept Blow Down of up to 6bar. This option allows the operator to blow, at high pressure, the contents of the Steam Generator into this specially designed tank. The regular action of blow-down reduces the build up of limescale and other particulate matter, elongating the life span of the generator and it's heaters.

CT: Not Available, SW: SPL285, SQ: SPL285

Option for Category III Compliance

Steam enters the chamber through the drain which is sealed during the cycle ensuring all condensate is sterilized. A Bacterial retentive filter fitted into the exhaust line ensures that nothing leaves the chamber without being sterilized. The positioning of the filter ensures that it is sterilized during every cycle.

CT: Not Available, SW: AVC005, SQ: AVQ005

Integral Air Compressor

A supply of compressed air is necessary to operate the sliding door mechanism on Astell Square Section powered door Sterilizers. This option is therefore essential in situations where such a supply is not available

CT: Not Available, SW: Not Available, SQ: AAQ500

Exhaust Heat Exchange System

An option to significantly reduce the temperature of the exhaust/waste in situations where heat resistant drains are not present. N.B This option requires a mains water supply

CT: Not Required, SW: AVC100, SQ: Not Required

SPF Seal

A bacteriological seal mounted on a special flange to enable a double doored unit to be installed between a sterile and a non sterile area. The SPF seal/flange is fitted against the dividing wall and prevents bacterial migration between the areas

CT: Not Applicable, SW: AVC007, SQ: AVQ007

Options (for all models)

	Compact Autoclaves (CT)	Swiftlock 90-330 Autoclaves (SW)	Square Section Sterilizers (SQ)
Integral Data Printer	AAR130	AAR100	AAQ100
External Data Printer Dual Colour	Not Available	AAR102	APQ102
SECURE+ Print Freestanding Data Printer	AAR600 AAR602 AAR604	AAR600 AAR602 AAR604	AAR600 AAR602 AAR604
AutoSCRIBE DataLogger	AAR500	AAR500	AAR500
Load Sensed Process Timing	AAR014	AAN014	AAQ014
RS232 Interface	AAR120	AAR120	AAQ120
Ethernet Interface	AAR122	AAR122	AAR122
Multi Program Controller	4 Programs Standard	AAP800	AAQ800
'LogiColor' Colour Touch Screen Controller	Not Available	AAP020 <small>Vac models only</small>	Standard
Pulsar Freesteaming	Not Available	AAN009	Not Applicable
Automatic Waterfill (mains supply)	Please Enquire	AAP019	Standard
Internal Circulation Fan Cooling	Not Available	AAP102	AJA102
Advanced Water Cooling	Not Available	AAP100-AAP300	Standard
Deluge Cooling	Not Available	ADA100	AJA100
Assisted Air Cooling	AAP007	AAP006	N/A
Non-Recirculation system	AAR034 <small>Autofill models only</small>	Not Available	Not Available
Air Ballast	Not Available	AVC004	AVQ004
Vacuum	Not Available	AVC002 (FL Only)	AVQ002
Cat III Compliance	Not Available	AVC005	AVQ005
Partial Heated Jacket	Not Available	Not Available	AAQ101-AAQ401
Full Heated Jacket	Not Available	AJP100-AJP300	AAQ102-AAQ402
Integral Air Compressor	Not Available	Not Required	AAQ500
Blow Down Tank	Not Available	SPL285	SPL285
Exhaust Heat Exchange System	Not Required	AVC100	Not Required
SPF Seal	Not Applicable	AVC007	AVQ007

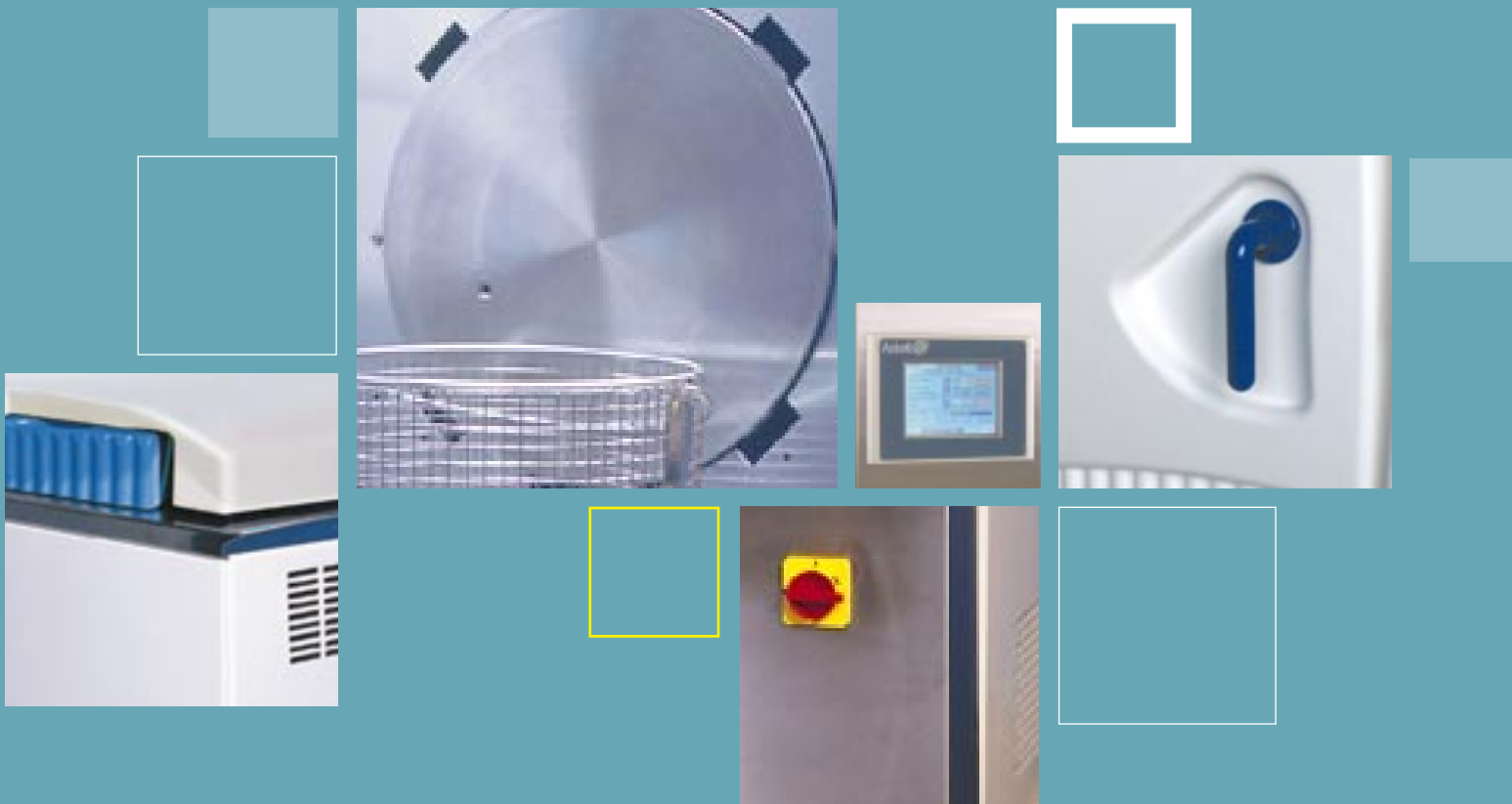
	Load Sensed Process Timing	Vacuum Pulsing	Vacuum & Heated Jacket	Assisted Cooling	Assisted Cooling & Air Ballast
Media	◆	✗	✗	◆ (3)	◆
Mixed Discard	◆	◆	✗	✗	✗
Fluid Discard	◆	✗	✗	◆	◆
Glassware	✗	◆	✗	✗	✗
Unwrapped Instruments	✗	◆	◆ (1)	✗	✗
Wrapped Instruments	✗	✓	◆ (1)	✗	✗
Fabrics	✗	✓	✓ (2)	✗	✗

(1) Vacuum & Heated Jacket will give improved load drying

(2) Vacuum & Heated Jacket required to ensure drying of Fabric Loads

(3) To prevent excessive cycle time

✓ Essential ◆ Recommended ✗ Not Needed



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