Bio Sink & Autoclave Combo Technical Data

Issue Number 003 Issue Date 05/11/21

1. Sink & Autoclave Combo General Overview

The Sink & Autoclave Combo consist of 1no. Effluent Decontamination System (EDS) sink capable of processing up to 250 litres per day and 1no. 63 litre top loading Autoclave.

Sterilisation Temperature Range	From 100 to 138 (°C)
Sterilisation	From 20 to 240 (kPa)
Pressure Range	From 0.2 to 2.4 (bar)

2. Specifications

Autoclave	Autoclave contains the functional elements of an Astell AMA440 (manual fill) Autoclave.
Sink EDS	 Processing rate: 250 Litres per 24 hours Holding tank capacity: 25L Electrical heating element

3. Required Services

Electricity	2 x 13A power supplies from 220V to 240V
Water Supply	 Cold water (preferably softened) up to 20L/min <50ppm Total Dissolved Solids (TDS). pH neutral
Drainage	Dedicated drain (ø35mm, 60°C waste to drain)



A typical Sink & Autoclave Combo

4. Technical Overview

Sink Technical Details	Autoclave Technical Details
Stainless steel basin and tanks Automatic water tap 5.7" colour touch screen controller with USB port Fully programmable via password protection Temperature controlled Pressure displays Pressure gauge Safety valve Continuous stage monitoring Level controlled 25 litre holding tank Level controlled 9 litre sterilisation tank Electric heating – direct immersion Emergency stop (linked to both devices) Drain Cooling Optional automatic soap dispenser Optional Containment Level 3 / BioSafety Level 3 compliance Biowell for validation	Top loading, easy opening door design In-chamber heating 5.7" colour touch screen controller with USB port USB connection 5 standard cycles: Instruments / Glassware / Waste / Fluids / Fluid Waste Fully programmable via password protection Temperature controlled Pressure displays Pressure gauge Safety valve Continuous stage monitoring Emergency stop (linked to both devices) Optional Containment Level 3 / BioSafety Level 3 compliance

5. Cooling Locks

Autoclave Cooling Locks In accordance with H.S.E. PM73 preventing opening of the autoclave above 80°C (f	or fluid & discard cycles)
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6. Control Systems

Controller	2 x VGA (640 x 480) colour TFT + analogue resistive touchscreen
Processor	2 x Intel E620T 333Mhz
Memory	2 x 256MB DDRAM, 32KB FRAM
Physical Memory	2 x 2GB eMMC Flash Memory
Real Time Clock	2 x Gold Foil capacitor (1000 hours)
Program Storage	Software stored internally, Configuration data and cycles stored on a permanently attached USB stick



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7. Interfaces

Sink	Autoclave
1 x Powerlink 24VDC 1 x Ethernet 10/100Mbit/s 2 x USB 2.0 ports 1 x Powerlink port (currently spare) 1 x RS232 serial port	1 x Powerlink 24VDC 1 x X2X communication interface 1 x Ethernet 10/100Mbit/s 2 x USB 2.0 ports 1 x Powerlink port (currently spare) 1 x RS232 serial port

8. I/O Hardware

Sink	Autoclave
X209300 - Communication card	X209300 - Communication card
X209371 – Digital Input card, 12 Inputs	X208971 – Digital Input card, 8 Inputs
2 x X208332 – Digital Output card, 8 Outputs	X208322 – Digital Output card, 8 Outputs
X204622 – Analogue Pressure Input module 4 inputs 4-20mA	X202622 – Analogue Pressure Input module 2 inputs 4-20mA
X204222 – Analogue Temperature Input module 4 inputs PT100	X202222 – Analogue Temperature Input module 2 inputs

9. Applicable Standards

Applicable Standards	 PED 2014/68/EU; ISO 17025:2017 (UKAS); ISO9001:2015 ASME U Certified Pressure Vessels National Board Registered 	
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10. Performance Tests

Performance Tests	All electrical equipment is Safety Tested in accordance with the Low Voltage Directive. All Astell autoclaves are fully tested
Ferformance lests	and calibrated before dispatch in line with our Quality Management System procedures ISO9001-2015

11. IQ/OQ Documentation Details (Optional Extra)

IQ Documentation	Details of calibration equipment; PED (Pressure Equipment Directive) Compliance; Declaration of Conformity; FAT (Factory Acceptance Test); Drawing Schedule; ISO 9001:2015 Certification; Pressure vessel specification; Door safety checks.
OQ Documentation	Chamber temperature distribution (per cycle); Automatic control test (per cycle)
Note	The above outlines our standard IQ/OQ Documentation package. If other documents are required, please contact us with details of your specific requirements

12. Safety

Safety	All Astell equipment is manufactured to the highest standards and in full compliance with the Pressure Equipment Directive – i.e. 2014/68/EU and the ASMEU Pressure Vessel Certification Program. Whilst all units have the necessary safety features to minimise user risk, and help ensure long term reliability. It is recommended that at least 50cm is allowed on both sides and the rear of the autoclave to allow easy access for servicing and maintenance. Astell cannot be held responsible for any failed cycles that could occur as a result of non-validation of loads.
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Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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Please contact us if this literature doesn't answer all your questions.