

1. Micro General Overview

The AstellBio Micro EDS consists of 1no. Effluent Decontamination System (EDS) capable of processing up to 250 litres per day

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

2. Specifications

Micro EDS	<ul style="list-style-type: none"> • Processing rate: 250 Litres per 24 hours • Holding tank capacity: 25L • Electrical heating element
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3. Required Services

Effluent Supply	<ul style="list-style-type: none"> • $\varnothing 3/4"$ BSP connection • Not pressurised
Electricity	13A power supply from 220V to 240V
Water Supply	<ul style="list-style-type: none"> • Via washing machine inlet hose with $\varnothing 3/4"$ compression fittings • Cold water (preferably softened) up to 20L/min • <50ppm total dissolved solids (TDS)
Drainage	Dedicated drain ($\varnothing 35\text{mm}$, 60°C waste to drain) Level with floor height

Is your water quality outside the specification given above? AstellBio can supply an external water softener to reduce the hardness and pH of your mains water to acceptable levels. Please see the table to the right for an overview of the water softener's installation requirements.

4. Dimensions

		Dimensions
	Width	529 (mm)
	Height	Between 896 and 1013 depending on options (mm)
	Depth	Between 819 and 839 (mm)
Clearance Space		500 (mm)
Dry Weight		Between 100 and 130 depending on options (kg)

		Water Softener
	Unit Width	250 (mm)
	Unit Height	500 (mm)
	Unit Depth	440 (mm)
Installation Location		Adjacent to drain AND adjacent to autoclave
Water Input Via		Washing machine inlet hose with $\varnothing 3/4"$ compression fittings
Minimum Water Input Pressure		1.5 (bar)
Maximum Water Input Pressure		6 (bar)
Water Output Via		Washing machine inlet hose with $\varnothing 3/4"$ compression fittings
Drain Connection		Via 2 hoses ($\varnothing 1/2"$ & $\varnothing 3/8"$) inserted into a floor drain or standpipe drain
Additional Requirements		Water input via a 3-valve bypass system with $\varnothing 3/4"$ compression fittings

It is recommended that a gap of 500mm is left around the unit for maintenance and utilities access.



A typical Micro

4. Technical Overview

Micro Technical Details
<ul style="list-style-type: none"> • Stainless steel tanks • 5.7" colour touch screen controller with USB port <ul style="list-style-type: none"> • Fully programmable via password protection <ul style="list-style-type: none"> • Temperature controlled <ul style="list-style-type: none"> • Pressure displays • Pressure gauge • Safety valve • Continuous stage monitoring • Level controlled 25 litre holding tank • Level controlled 9 litre sterilisation tank <ul style="list-style-type: none"> • Electric heating – direct immersion <ul style="list-style-type: none"> • Emergency stop • Drain Cooling • Optional Containment Level 3 / BioSafety Level 3 compliance

5. Control Systems

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

6. Interfaces

Interfaces
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

7. I/O Hardware

I/O Hardware
X209300 - Communication card X209371 – Digital Input card, 12 Inputs 2 x X208332 – Digital Output card, 8 Outputs X204622 – Analogue Pressure Input module 4 inputs 4-20mA X204222 – Analogue Temperature Input module 4 inputs PT100

9. Applicable Standards

Applicable Standards	<ul style="list-style-type: none"> • ISO 17025:2017 (UKAS); ISO9001:2015 • PED 2014/68/EU and/or ASME U stamped and National Board Registered Pressure Vessels
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10. Performance Tests

Performance Tests	<p>All electrical equipment is Safety Tested in accordance with the Low Voltage Directive. All Astell autoclaves are fully tested and calibrated before dispatch in line with the requirements of our Quality Management System procedures ISO9001-2015. Certification is available on request.</p>
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11. Calibration (Optional Extra)

Calibration	<p>All AstellBio devices are fully tested and calibrated before despatch in line with our Quality Management System procedures ISO9001-2015. If you require traceable calibration, Astell can provide UKAS certified calibration when building and testing your unit - ask your sales representative for more information.</p>
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12. IQ/OQ Documentation Details (Optional Extra)

IQ Documentation	<p>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.</p>
OQ Documentation	<p>Chamber temperature distribution (per cycle); Automatic control test (per cycle)</p>
Note	<p>The above outlines our standard IQ/OQ Documentation package. If other documents are required, please contact us with details of your specific requirements</p>

13. Safety

Safety	<p>All AstellBio equipment is manufactured to the highest standards and in full compliance with the Pressure Equipment Directive – i.e. 2014/68/EU and/or 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 device 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.</p>
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All information is accurate on data of issue. In line with continuous advancements in design and manufacturing, AstellBio reserve the right to modify product specifications. E&OE.