

### 1. Micro General Overview

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

|  |   |
|--|---|
| <b>Sterilisation Temperature Range</b> | From <b>100</b> to <b>138</b> ( °C )  |
| <b>Sterilisation Pressure Range</b>    | From <b>20</b> to <b>240</b> ( kPa )<br>From <b>0.2</b> to <b>2.4</b> ( bar ) |

### 2. Specifications




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

|                        |  |
|------------------------|--|
| <b>Effluent Supply</b> | <ul style="list-style-type: none"> <li>• <b>ø3/4"</b> BSP connection</li> <li>• Not pressurised</li> </ul>   |
| <b>Electricity</b>     | <b>13A</b> power supply from <b>220V</b> to <b>240V</b>  |
| <b>Water Supply</b>    | <ul style="list-style-type: none"> <li>• Via <b>washing machine inlet hose</b> with <b>ø3/4"</b> compression fittings</li> <li>• Cold water ( preferably softened ) up to 20L/min</li> <li>• &lt;50ppm total dissolved solids ( TDS )</li> </ul> |
| <b>Drainage</b>        | Dedicated drain ( ø35mm, 60°C waste to drain )<br>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   |
|--|---------------|--|
|  | <b>Width</b>  | <b>529</b> ( mm )  |
|  | <b>Height</b> | Between <b>896</b> and <b>1013</b> depending on options ( mm ) |
|  | <b>Depth</b>  | Between <b>819</b> and <b>839</b> ( mm )                       |
| <b>Clearance Space</b>   |               | <b>500</b> ( mm )  |
| <b>Dry Weight</b>  |               | Between <b>100</b> and <b>130</b> depending on options ( kg )  |

|   |                    | Water Softener  |
|---|--------------------|---|
|    | <b>Unit Width</b>  | <b>250</b> ( mm )   |
|   | <b>Unit Height</b> | <b>500</b> ( mm )   |
|  | <b>Unit Depth</b>  | <b>440</b> ( mm )   |
| <b>Installation Location</b>  |                    | <b>Adjacent to drain AND adjacent to autoclave</b>  |
| <b>Water Input Via</b>  |                    | <b>Washing machine inlet hose</b> with <b>Ø 3/4"</b> compression fittings                 |
| <b>Minimum Water Input Pressure</b>   |                    | <b>1.5</b> ( bar )  |
| <b>Maximum Water Input Pressure</b>   |                    | <b>6</b> ( bar )  |
| <b>Water Output Via</b>   |                    | <b>Washing machine inlet hose</b> with <b>Ø 3/4"</b> compression fittings                 |
| <b>Drain Connection</b>   |                    | <b>Via 2 hoses ( Ø 1/2" &amp; Ø 3/8" )</b> inserted into a floor drain or standpipe drain |
| <b>Additional Requirements</b>  |                    | <b>Water input via a 3-valve bypass system</b> with <b>Ø 3/4"</b> 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"> <li>• Stainless steel tanks</li> <li>• 5.7" colour touch screen controller with USB port                             <ul style="list-style-type: none"> <li>• Fully programmable via password protection                                     <ul style="list-style-type: none"> <li>• Temperature controlled   <ul style="list-style-type: none"> <li>• Pressure displays</li> <li>• Pressure gauge</li> <li>• Safety valve</li> </ul> </li> <li>• Continuous stage monitoring</li> </ul> </li> <li>• Level controlled 25 litre holding tank</li> <li>• Level controlled 9 litre sterilisation tank                                     <ul style="list-style-type: none"> <li>• Electric heating – direct immersion   <ul style="list-style-type: none"> <li>• Emergency stop</li> <li>• Drain Cooling</li> </ul> </li> </ul> </li> </ul> </li> <li>• Optional Containment Level 3 / BioSafety Level 3 compliance</li> </ul> |

## 5. Control Systems

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

## 6. Interfaces

| Interfaces   |
|--|
| 1 x Powerlink 24VDC<br>1 x Ethernet 10/100Mbit/s<br>2 x USB 2.0 ports<br>1 x Powerlink port ( currently spare )<br>1 x RS232 serial port |

## 7. I/O Hardware

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

## 9. Applicable Standards

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

## 10. Performance Tests

|                          |   |
|--------------------------|---|
| <b>Performance Tests</b> | <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> |
|--------------------------|---|

## 11. Calibration (Optional Extra)

|                    |  |
|--------------------|--|
| <b>Calibration</b> | <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)

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

## 13. Safety

|               |  |
|---------------|--|
| <b>Safety</b> | <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.



# WolfLabs

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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.