Berson AmaLine R systems are designed for the wastewater and reclaimed water market with energy efficiency and ease of maintenance in mind.

- By utilising amalgam lamps and a patented inlet reactor configuration, energy efficiency combined with low head loss provides an optimised design for this system.
- The unit is provided with automatic wiping to extend lamp life.
- A single operator can perform all maintenance requirements without the need for additional equipment or support.

**Key Features**

<table>
<thead>
<tr>
<th>Feature</th>
<th>What It Gives You</th>
<th>Benefits For You</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy maintenance</td>
<td>Simple extending support arms to allow for quartz sleeve and wiper blade replacement</td>
<td>Single operator can quickly and easily carry out the maintenance without requiring external lifting equipment</td>
</tr>
<tr>
<td>Improve operator safety with patented lamp connector</td>
<td>Lamp orientation is fixed ensuring easy and safe installation and optimum performance</td>
<td>Simple, quick and safe lamp changes that self-align, allowing for minimum downtime and assurance of optimal system operation, Operator friendly design</td>
</tr>
<tr>
<td></td>
<td>Lamp cannot be removed while chamber is energized</td>
<td>Protects operator from harm during lamp changes</td>
</tr>
<tr>
<td></td>
<td>Lamp connector cannot be removed from pressurised system in the event of a broken sleeve</td>
<td>Protects operator from harm during servicing</td>
</tr>
<tr>
<td>Optimised design</td>
<td>Efficient chamber design using CFD modelling, optimises lamp(s) positioned in chamber</td>
<td>Ensures peak energy efficiency from the optimum distribution of intensity throughout the chamber, providing effective treatment</td>
</tr>
<tr>
<td></td>
<td>Low pressure, high intensity, amalgam lamp technology with variable output ballasts (50 to 100%) provides low energy UV disinfection</td>
<td>Optimised power use for energy savings, low running temperature and greater lamp life</td>
</tr>
<tr>
<td></td>
<td>U shape chamber design, provides effective treatment of low UVT water and easy installation</td>
<td>Provides efficient treatment, and can be integrated easily into existing pipework</td>
</tr>
<tr>
<td>Validations</td>
<td>UVDGM [2006]</td>
<td>Meets the latest USEPA drinking water standards</td>
</tr>
<tr>
<td></td>
<td>NWRI (2012) for reuse</td>
<td>Reuse water certification with high energy efficiency</td>
</tr>
</tbody>
</table>
### UV Chamber

**Material:** Stainless steel 316L / 1.4404  
**Internal finish:** < 0.8 µm Ra, welds as laid  
**External finish:** Brushed to K280  
**Process (mating) connections:** Flange EN 1092-1 PN16  
**Drain connection:** BSP  
**End plate:** Removable end plate  
**Degree of protection:** IP54 equivalent to NEMA 12 but not for outside use  
**Arc tube (lamp):** Low pressure amalgam  
**Arc tube enclosure:** Pure quartz  
**Number of lamps:** 4 (R 100), 12 (R 300)  
**Expected lamp life:** 9000 hours  
**Wiper:** Automatic (electrically operated)  
**UV monitor:** Dry DVGW compliant UV sensor  
**Working fluid temperature:** 5°C to 35°C  
**Hydrostatically pressure tested:** Yes to 15 bar  
**Chamber mounting:** Horizontal only  
**Operating pressure:** 10 bar  
**Seals:** EPDM, AD4 free, EC 1935/2004, FDA 21 CFR 177.2600 approved  

### Cabinet

**Material:** Polyester coated carbon steel RAL 7035  
**Degree of protection:** IP54 NEMA 12 indoor use only  
**Supply voltages (nominal):** 230/400 ± 10% V 3L + N 50/60 Hz  
**Operating temperature range:** 5°C to 40°C  
**Relative humidity:** <95% non-condensing  
**Cooling fans:** Yes  
**Interconnecting cable length:** 10 m cabinet to chamber  
**Variable power:** Stepless (50% reduction in lamp output)  

### Options

- Cabinet material: Stainless steel 304  
- Operation and Maintenance manual and printed Installation and Commissioning manual in Chinese, English, French, German and Spanish  
- Flange options: ANSI 150, JIS, Table ‘E’  
- Temperature sensor  
- NWRI guidelines (2012) validation  
- Cabinet IP rating: Carbon steel air conditioners IP 56, NEMA 4 or stainless steel version IP 56, NEMA 4X. Increases cabinet dimensions  
- Lead length: 20 and 29m

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**Dimensions (mm)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Maximum Power (kW)</th>
<th>Min T (°C)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>DN</th>
<th>K*</th>
<th>L</th>
<th>M**</th>
<th>Chamber (Empty)</th>
<th>Control Cabinet</th>
</tr>
</thead>
<tbody>
<tr>
<td>AmaLine R 100</td>
<td>2.4</td>
<td>65</td>
<td>1710</td>
<td>1590</td>
<td>420</td>
<td>375</td>
<td>1415</td>
<td>1310</td>
<td>150</td>
<td>380</td>
<td>800</td>
<td>1000</td>
<td>105</td>
<td>90</td>
</tr>
<tr>
<td>AmaLine R 300</td>
<td>6.9</td>
<td>65</td>
<td>1805</td>
<td>1590</td>
<td>675</td>
<td>575</td>
<td>1270</td>
<td>1260</td>
<td>250</td>
<td>490</td>
<td>1200</td>
<td>1200</td>
<td>240</td>
<td>130</td>
</tr>
</tbody>
</table>

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**Approvals**

- CE marked, UL 508A  
- FM 29365  
- 4-20 mA passive or active output: UV RED dose, ballast power  
- VFC outputs: System warning, lamp ready, common trip, system available, local or remote mode  
- CUSTOMER COMMUNICATIONS PORT: Base ethernet port: Ethernet IP class 3  
- CUSTOMER INPUTS: Flow meter and transmittance meter  
- Remote stop/start and remote reset  
- CUSTOMER OUTPUTS: System warning, lamp ready, common trip, system available, local or remote mode  

### Customer Communications Port

- Base ethernet port: Ethernet IP class 3  

### OEM Approvals

- CE marked, UL 508A  
- FM 29365  
- 4-20 mA passive or active output: UV RED dose, ballast power  
- VFC outputs: System warning, lamp ready, common trip, system available, local or remote mode  
- CUSTOMER COMMUNICATIONS PORT: Base ethernet port: Ethernet IP class 3  
- CUSTOMER INPUTS: Flow meter and transmittance meter  
- Remote stop/start and remote reset  
- CUSTOMER OUTPUTS: System warning, lamp ready, common trip, system available, local or remote mode  

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