PERFORMANCE

Bredel 10, Bredel 15 and Bredel 20 hose pumps

**FEATURES AND BENEFITS**

- Sealless, valveless pumping principle for reliable, low maintenance metering, dosing and transfer
- Flow rates up to 820 L/hr (3.6 USGPM) and pressures up to 12bar (174 psi)
- Dry running and self-priming, with up to 9.5 meters (30 foot) suction lift capability
- Robust design for aggressive chemicals or abrasives
- Compact direct coupled design to maximise gearbox life
- Simple hose change decreases cost of ownership, downtime and need for parts inventory

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**PERFORMANCE**

<table>
<thead>
<tr>
<th>Required motor power kW (hp)</th>
<th>Bredel 10</th>
<th>Product temperature C (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump speed rpm</td>
<td>Capacity L/h</td>
<td>Capacity USGPM</td>
</tr>
<tr>
<td>15</td>
<td>20</td>
<td>0.09</td>
</tr>
<tr>
<td>30</td>
<td>40</td>
<td>0.12</td>
</tr>
<tr>
<td>60</td>
<td>80</td>
<td>0.14</td>
</tr>
<tr>
<td>90</td>
<td>120</td>
<td>0.16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required motor power kW (hp)</th>
<th>Bredel 15</th>
<th>Product temperature C (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump speed rpm</td>
<td>Capacity L/h</td>
<td>Capacity USGPM</td>
</tr>
<tr>
<td>15</td>
<td>75</td>
<td>0.33</td>
</tr>
<tr>
<td>30</td>
<td>150</td>
<td>0.40</td>
</tr>
<tr>
<td>45</td>
<td>225</td>
<td>0.45</td>
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<tr>
<td>60</td>
<td>300</td>
<td>0.50</td>
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<tr>
<td>75</td>
<td>375</td>
<td>0.55</td>
</tr>
<tr>
<td>90</td>
<td>450</td>
<td>0.60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required motor power kW (hp)</th>
<th>Bredel 20</th>
<th>Product temperature C (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump speed rpm</td>
<td>Capacity L/h</td>
<td>Capacity USGPM</td>
</tr>
<tr>
<td>15</td>
<td>90</td>
<td>0.40</td>
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<tr>
<td>30</td>
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<tr>
<td>60</td>
<td>360</td>
<td>0.55</td>
</tr>
<tr>
<td>75</td>
<td>450</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Note: The area of continuous operation diminishes with increased product temperatures. For product temperatures >40C, the area of continuous operation reduces to the corresponding red temperature line.

1. Flow required indicates pump speed
2. Calculated discharge pressure
3. Net motor power required
4. Product temperature
5. Calculated discharge pressure
6. Maximum recommended pump speed

*Maximum 2 hours operation followed by minimum 1 hour stop*
The information contained in this document is believed to be correct at the time of publication, but Watson-Marlow Bredel BV accepts no liability for any error it contains, and reserves the right to alter specifications without prior notice. All mentioned values in this document are values under controlled circumstances at our test bed. Actual flow rates achieved may vary because of changes in temperature, viscosity, inlet and discharge pressures and/or system configuration. APEX, DuCoNite®, Bioprene® and Bredel are registered trademarks.

**TECHNICAL SPECIFICATIONS**

- **Type**
  - Bredel 10 (mm): 337, 311, 171, 62, 116
  - Bredel 10 (inches): 13.3, 12.2, 6.7, 4.6
  - Bredel 15 (mm): 427, 431, 230, 63, 195
  - Bredel 15 (inches): 16.8, 17.0
  - Bredel 20 (mm): 427, 431, 230, 63, 195
  - Bredel 20 (inches): 16.8, 17.0

- **Operating speeds**
  - Bredel 10: up to 82rpm continuous, up to 110rpm intermittent
  - Bredel 15: up to 75rpm continuous, up to 110rpm intermittent
  - Bredel 20: up to 67rpm continuous, up to 90rpm intermittent

- **Flow range**
  - Bredel 10: up to 145 L/hr (0.63 USGPM)
  - Bredel 15: up to 525 L/hr (2.32 USGPM)
  - Bredel 20: up to 820 L/hr (3.62 USGPM)

- **Capacity**
  - Bredel 10: 0.022 L/rev (0.006 G/rev)
  - Bredel 15: 0.083 L/rev (0.022 G/rev)
  - Bredel 20: 0.152 L/rev (0.040 G/rev)

- **Minimum starting torque**
  - Bredel 10: 47Nm (416 inch-lbs)
  - Bredel 15: 60Nm (531 inch-lbs)
  - Bredel 20: 85Nm (752 inch-lbs)

- **Hose lubricant required**
  - Bredel 10: 0.25 litres (0.07 USG)
  - Bredel 15: 0.5 litres (0.1 USG)
  - Bredel 20: 0.5 litres (0.1 USG)

- **Pumphead weight**
  - Bredel 10: 12.2kg (26.89lbs)
  - Bredel 15: 18.5kg (40.79lbs)
  - Bredel 20: 18.5kg (40.79lbs)

- **Max discharge pressure NR, NBR, F-NBR**
  - Bredel 10: 12bar (174psi)
  - Bredel 15: 12bar (174psi)
  - Bredel 20: 10bar (145psi)

- **Max discharge pressure EPDM, CSM**
  - Bredel 10: 10bar (145psi)
  - Bredel 15: 10bar (145psi)
  - Bredel 20: 10bar (145psi)

- **Common features**
  - Suction pressure: 9.5m (31.2ft) lift to 200 kPa (2bar) (29psi)
  - Product temperature range: -10C up to 80C (14F up to 176F)
  - Ambient temperature range*: -20C up to 45C (-4F up to 113F)

*Allowable ambient temperature is based on pump capabilities and may be further limited by gearbox ambient capabilities.

**MATERIALS OF CONSTRUCTION**

- **Type**
  - Bredel 10
  - Bredel 15
  - Bredel 20

- **Pump housing**
  - Cast iron

- **Rotor with integral shoes**
  - Cast iron

- **Cover**
  - Cast iron

- **Brackets**
  - AISI 316

- **Support frame**
  - Galvanised steel or AISI 316

- **Fasteners**
  - AISI 316

- **Hose clamps**
  - AISI 316

- **Coupling bush**
  - Alloy steel

- **Seals**
  - EPDM

- **Options**
  - Available hose materials: NR Endurance, NBR, EPDM, CSM, NBR for food, F-NBR
  - Available rotors: Low pressure (0-6bar / 0-88 psi), Medium pressure (0-8bar / 0-115 psi), High pressure (0-12bar / 0-174 psi)
  - Available port configurations: Ports left (position 1), right (position 2), up (position 3) and down (position 4), Standard configuration position 2
  - Integrated FI for stand alone speed control: Factory programmable from 12-80 Hz
  - Revolution counter: For maintenance and/or metering
  - High level float switch: Max. 2A, 230 V AC/DC, max. 40VA

- **Insert combinations**
  - Hose nipple: AISI 316, PTFE, PVDF
  - Threaded nipple: AISI 316 BSP, AISI 316 NPT, PP NPT, PVC NPT, AISI 316 DIN 11851
  - Threaded nipple and flange (+nut) assembly: AISI 316 BSP nipple and Flange DIN threaded AISI 316, AISI 316 BSP nipple and Flange ASA threaded AISI 316
  - Flange and bracket assembly: Flange DIN AISI 316 + PP insert, Flange ASA AISI 316 + PP insert, Flange DIN AISI 316 + AISI 316 insert, Flange ASA AISI 316 + AISI 316 insert