**Pumps - Fixed Displacement**

**Axial Piston**

**F1**

- Intermittent pressures up to 400 bar
- High power capability
- High shaft speed
- Low weight
- Bi-directional
- Volumetric efficiency 98%
- Also SAE-B available sizes 25 up to 61

<table>
<thead>
<tr>
<th>Frame size F1</th>
<th>25</th>
<th>41</th>
<th>51</th>
<th>61</th>
<th>81</th>
<th>101</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displacement (cm³/rev)</td>
<td>25.6</td>
<td>40.9</td>
<td>51.1</td>
<td>59.5</td>
<td>81.6</td>
<td>102.9</td>
</tr>
<tr>
<td>Max cont pressure (bar)</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td>Max operating speed* (rpm)</td>
<td>2700</td>
<td>2700</td>
<td>2700</td>
<td>2700</td>
<td>2300</td>
<td>2300</td>
</tr>
<tr>
<td>Max operating speed** (rpm)</td>
<td>2600</td>
<td>2400</td>
<td>2200</td>
<td>2200</td>
<td>2000</td>
<td>1800</td>
</tr>
<tr>
<td>Input torque at 350 bar (Nm)</td>
<td>142</td>
<td>227</td>
<td>284</td>
<td>331</td>
<td>453</td>
<td>572</td>
</tr>
<tr>
<td>Max cont input power (kW)</td>
<td>31</td>
<td>46</td>
<td>52</td>
<td>61</td>
<td>76</td>
<td>86</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
<td>12.5</td>
<td>12.5</td>
</tr>
</tbody>
</table>

* Unloaded pump (BPV)  ** In service 350 bar

**F2**

- Twin Flow / Dual displacement
- High power capability
- High shaft speed
- Easy to install
- Smart System Solutions
- Proven reliability

<table>
<thead>
<tr>
<th>Frame size F2</th>
<th>42/42</th>
<th>55/28</th>
<th>53/53</th>
<th>70/35</th>
<th>70/70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displacement (cm³/rev)</td>
<td>43/41</td>
<td>54/52</td>
<td>55/28</td>
<td>69/36</td>
<td>68/68</td>
</tr>
<tr>
<td>Max cont pressure (bar)</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>300</td>
</tr>
<tr>
<td>Max operating speed* (rpm)</td>
<td>2550</td>
<td>2550</td>
<td>2550</td>
<td>2550</td>
<td>2550</td>
</tr>
<tr>
<td>Max operating speed** (rpm)</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1650</td>
</tr>
<tr>
<td>Input torque at 350 bar (Nm)</td>
<td>467</td>
<td>461</td>
<td>589</td>
<td>583</td>
<td>648</td>
</tr>
<tr>
<td>Max cont input power (kW)</td>
<td>88</td>
<td>88</td>
<td>110</td>
<td>110</td>
<td>112</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>19</td>
<td>19</td>
<td>19</td>
<td>19</td>
<td>19</td>
</tr>
</tbody>
</table>

* Unloaded pump (BPV)  ** In service 350 bar

**T1**

- Pressures up to 350 bar
- Shaft speed up to 2300 rpm
- High overall efficiency
- Bi-directional
- Proven reliability

<table>
<thead>
<tr>
<th>Frame size T1</th>
<th>51</th>
<th>81</th>
<th>121</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displacement (cm³/rev)</td>
<td>50.0</td>
<td>81.5</td>
<td>118.5</td>
</tr>
<tr>
<td>Max cont pressure (bar)</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Max operating speed* (rpm)</td>
<td>2300</td>
<td>2300</td>
<td>2300</td>
</tr>
<tr>
<td>Max operating speed** (rpm)</td>
<td>2100</td>
<td>2000</td>
<td>1600</td>
</tr>
<tr>
<td>Input torque at 200 bar (Nm)</td>
<td>158</td>
<td>258</td>
<td>375</td>
</tr>
<tr>
<td>Max cont input power (kW)</td>
<td>27</td>
<td>54</td>
<td>71</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>7.2</td>
<td>8.5</td>
<td>12.5</td>
</tr>
</tbody>
</table>

* Unloaded pump (BPV)  ** In service 350 bar
Pumps - Fixed Displacement

Axial Piston

F11

- Pressures up to 480 bar
- Very high power capability
- High overall efficiency
- Good resistance to vibrations and temperature shocks
- Proven reliability
- Easy to service
- CETOP, ISO and SAE versions available

<table>
<thead>
<tr>
<th>Frame size F11</th>
<th>05</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displacement (cm³/rev)</td>
<td>4.9</td>
<td>9.8</td>
<td>12.5</td>
<td>14.3</td>
<td>19.0</td>
</tr>
<tr>
<td>Max cont pressure (bar)</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td>Max operating speed (rpm)</td>
<td>4600</td>
<td>4200</td>
<td>4000</td>
<td>3900</td>
<td>3500</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>5</td>
<td>7.5</td>
<td>8.2</td>
<td>8.3</td>
<td>11</td>
</tr>
</tbody>
</table>

F12

- Pressures up to 480 bar
- Very high power capability
- High overall efficiency
- Small envelope size
- ISO, SAE and cartridge versions available
- Proven reliability
- Easy to service

<table>
<thead>
<tr>
<th>Frame size F12</th>
<th>30</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>90</th>
<th>110</th>
<th>125</th>
<th>150</th>
<th>250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displacement (cm³/rev)</td>
<td>30.0</td>
<td>40.0</td>
<td>59.8</td>
<td>80.4</td>
<td>93.0</td>
<td>110.1</td>
<td>125</td>
<td>150.0</td>
<td>242.0</td>
</tr>
<tr>
<td>Max cont pressure (bar)</td>
<td>420</td>
<td>420</td>
<td>420</td>
<td>420</td>
<td>350</td>
<td>420</td>
<td>420</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td>Max operating speed (rpm)</td>
<td>3150</td>
<td>2870</td>
<td>2500</td>
<td>2300</td>
<td>2300</td>
<td>2200</td>
<td>2100</td>
<td>1700</td>
<td>1500</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>12</td>
<td>16.5</td>
<td>21</td>
<td>26</td>
<td>26</td>
<td>36</td>
<td>36</td>
<td>70</td>
<td>77</td>
</tr>
</tbody>
</table>

Boost Unit

BLA

The boost unit provides filtration and make-up fluid to replace pump and motor volumetric losses, while maintaining sufficient pump inlet pressure to avoid cavitation. The semi-closed system could be built with a smaller and lighter reservoir at the same time as, the pump speed is possible to increase. The Boost Units BLA are available in two different sizes:

BLA 4 for flow 25–160 litres per minute,
BLA 6 for flow 150–400 litres per minute.