Flexible impeller pumps
Flexible impeller pumps are suitable for pumping clean, troubled, or high-viscose liquids. One of the main benefits is its dry self-priming capacity. The pumps give a constant, non-pulsating output, which can be reversed easily by changing the direction of rotation. Its simple construction makes cleaning and inspection of the pump very easy. The rubber impeller is self-lubricating and rotates in the pump casing without any axial and radial play.
Flexible impeller pumps are suitable for pumping clean, troubled- or high-viscose liquids. One of the main benefits is its dry self-priming capacity. The pumps give a constant, non-pulsating output, which can be reversed easily by changing the direction of rotation. Its simple construction makes cleaning and inspection of the pump very easy. The rubber impeller is self-lubricating and rotates in the pump casing without any axial and radial play.

### Applications

- **Beverage industry**
  - Wine, syrup, grape
  - Beer, wort, yeast
  - Milk, cream, yoghurt, whey
  - Fruit and vegetable juices, concentrates, vinegar

- **Food industry**
  - Vinegar, mayonnaise, mustard, jelly, jam, fruit jelly, chocolate, honey, sugar solution, ice cream

- **Cleaning liquids, waste water**

- **Waste water treatment**
  - Slurries
  - Sewage
  - Ninatrium hydroxide

- **Chemical industry**
  - Acids, alkalis
  - Paste, resin
  - Solvents, detergents
  - Varnish, glue, cooling agent
  - Salt solutions, etc.

### Properties

- The pump casing is easy to disassemble, which facilitates cleaning or replacement of parts.
- The impeller is made of neoprene. This material is odour- and tasteless and is acid-proof.
- Delivery head is determined by the impeller material. The pumps can be supplied with standard or high-pressure impellers. Standard impellers are suitable for delivery heads up to 30 mwh, high-pressure impellers up to 45 mwh.
- All pump types can be mounted in horizontal as well as in vertical positions.

### Construction

- The pump casing is made of rolled and forged non-porous stainless steel (AISI 304 or AISI 316). All parts that come into contact with the pumped liquid are made of the same material as the pump casing.
- The pump casings are provided with threaded connections according to DIN 11851 for standard, but Tri Clover clamps, DN-, IDF-, SPV-thread and other special threads are also available. The bronze versions are provided with internal thread according to DIN 259, so several types of thread connections can be fitted into it.
- The standard impeller is made of neoprene.

### Operating principle

The operating principle is based on the resiliency of the flexible vanes of the impeller. The pump casing in which the impeller rotates, has a narrowing on one side. The rubber vanes are bent which reduces the space between the vanes. When the vanes have passed the narrowing they spread, thus enlarging again the suction space between the vanes. The created vacuum in the space between the vanes is drawn into the suction port. Subsequently between the vanes of the impeller the liquid passes through the pump casing. When the vanes reach the narrowing again they bend which reduces the space between them again. The resulting pressure discharges the liquid from between the vanes.
Applications of flexible impeller pumps are:

**Beverage industry**
- Wine, spirits, liquors
- Beer, wort, yeast
- Milk, cream, yoghurt, whey
- Fruit and vegetable juices, concentrates, vinegar

**Food industry**
- Vinegar, mayonnaise, mustard, jelly jam, fruit jelly, chocolate, honey, sugar solution, ice cream
- Cleaning liquids, waste water

**Waste water treatment**
- Slurries
- Sewage
- Natrium hydroxide

**Chemical industry**
- Acids, alkalis
- Pastes, inks
- Solvents, detergents
- Varnish, glue, cooling agent
- Salt solutions, etc.

**Construction**

- The pump casing is made of rolled and forged, non-porous stainless steel (AISI 304 of AISI 316). All surfaces are high-finish ground and galvanically polished. All pump types are also available in bronze.
- The pump casing is fixed by means of clamps or by means of nuts. This makes it very easy to disassemble for cleaning or parts replacement.
- The pump casings are provided with threaded connections according to DIN 11851 for standard, but Tri Clover clamps, DN-, IDF-, SPV-thread and other special threads are also available. The bronze versions are provided with internal thread according to DIN 259, so several types of thread connections can be fitted into it.
- The standard impeller is made of neoprene. This material is odour- and tasteless and is acid-proof. The rubber vanes are vulcanised on the hub directly. The impeller is also available in materials like NBR and EPDM. Other materials are available on request.
- The shaft is sealed by means of a mechanical seal according to DIN 24960 or by means of a V-sealing ring with shaft sleeve.
Curves and dimensions

<table>
<thead>
<tr>
<th>Type</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>H</th>
<th>K</th>
<th>M</th>
<th>P</th>
<th>S</th>
<th>W</th>
<th>D</th>
<th>L</th>
<th>T</th>
<th>U</th>
<th>connections DIN 11851</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP 2</td>
<td>35</td>
<td>80</td>
<td>8</td>
<td>10</td>
<td>60</td>
<td>60</td>
<td>240</td>
<td>154</td>
<td>73</td>
<td>9.5</td>
<td>54</td>
<td>19</td>
<td>40</td>
<td>21.5</td>
<td>6</td>
<td>NW25</td>
<td></td>
</tr>
<tr>
<td>IP 3</td>
<td>35</td>
<td>80</td>
<td>8</td>
<td>10</td>
<td>60</td>
<td>60</td>
<td>250</td>
<td>168</td>
<td>60</td>
<td>9.5</td>
<td>54</td>
<td>19</td>
<td>40</td>
<td>21.5</td>
<td>6</td>
<td>NW25</td>
<td></td>
</tr>
<tr>
<td>IP 10</td>
<td>55</td>
<td>90</td>
<td>10</td>
<td>10</td>
<td>70</td>
<td>90</td>
<td>352</td>
<td>207</td>
<td>80</td>
<td>9.5</td>
<td>60</td>
<td>24</td>
<td>50</td>
<td>26.9</td>
<td>8</td>
<td>NW40</td>
<td></td>
</tr>
<tr>
<td>IP 15</td>
<td>55</td>
<td>90</td>
<td>10</td>
<td>10</td>
<td>70</td>
<td>90</td>
<td>375</td>
<td>221</td>
<td>80</td>
<td>9.5</td>
<td>60</td>
<td>24</td>
<td>50</td>
<td>26.9</td>
<td>8</td>
<td>NW40</td>
<td></td>
</tr>
<tr>
<td>IP 20</td>
<td>70</td>
<td>110</td>
<td>15</td>
<td>15</td>
<td>80</td>
<td>100</td>
<td>440</td>
<td>285</td>
<td>92</td>
<td>13.5</td>
<td>90</td>
<td>38</td>
<td>60</td>
<td>41.3</td>
<td>10</td>
<td>NW50</td>
<td></td>
</tr>
<tr>
<td>IP 30</td>
<td>70</td>
<td>110</td>
<td>15</td>
<td>15</td>
<td>80</td>
<td>100</td>
<td>454</td>
<td>292</td>
<td>98</td>
<td>13.5</td>
<td>90</td>
<td>38</td>
<td>60</td>
<td>41.3</td>
<td>10</td>
<td>NW50</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>H</th>
<th>K</th>
<th>M</th>
<th>P</th>
<th>S</th>
<th>W</th>
<th>D</th>
<th>L</th>
<th>T</th>
<th>U</th>
<th>connections DIN 11851</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP 1</td>
<td>252</td>
<td>200</td>
<td>220</td>
<td>210</td>
<td>71</td>
<td>135</td>
<td>135</td>
<td>(R1/2&quot;)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP 2</td>
<td>380</td>
<td>210</td>
<td>230</td>
<td>80</td>
<td>250</td>
<td>80</td>
<td>56</td>
<td>165</td>
<td>120</td>
<td>DN25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP 3</td>
<td>400</td>
<td>210</td>
<td>230</td>
<td>90</td>
<td>300</td>
<td>80</td>
<td>60</td>
<td>165</td>
<td>120</td>
<td>DN25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP 10</td>
<td>485</td>
<td>225</td>
<td>250</td>
<td>95</td>
<td>300</td>
<td>90</td>
<td>78</td>
<td>182</td>
<td>126</td>
<td>DN40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP 15</td>
<td>550</td>
<td>265</td>
<td>305</td>
<td>105</td>
<td>300</td>
<td>112</td>
<td>78</td>
<td>218</td>
<td>168</td>
<td>DN40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP 20</td>
<td>620</td>
<td>295</td>
<td>305</td>
<td>130</td>
<td>400</td>
<td>140</td>
<td>92</td>
<td>218</td>
<td>168</td>
<td>DN50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP 30</td>
<td>700</td>
<td>315</td>
<td>370</td>
<td>140</td>
<td>500</td>
<td>140</td>
<td>96</td>
<td>260</td>
<td>192</td>
<td>DN50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Flexible impeller pump

- **Type**: IP
- **Material**: Stainless steel/neoprene
- **Capacity**: Max 30 m³/h
- **Delivery head**: Max 45m
- **Viscosity**: Max 10000 cP

Available accessories:

- ON/OFF switch
- 1- or 3-phase AC electric motor
- Speed controlled motor
- Two-speed motor
- Dry-run protection

More detailed information on these pump types is available and will be sent to you on request.

Pomac Pumps produces and supplies a complete range of stainless steel centrifugal and positive displacement pumps for the international market. These pumps are used in food and drug industries as well as in pharmaceutical and chemical industries. The Pomac organisation is characterised by a high degree of customer focussing, flexibility, good service and fast deliveries. Pomac guarantees high quality and reliability in every detail!