Immersion Pumps PSH
sealless

Centrifugal pumps
of metal
for dirty fluids

Technical data
- Delivery rate
  \( Q_{\text{max}} = 800 \text{ l/min} \)
- Delivery head
  \( H_{\text{max}} = 55 \text{ m} \)
- Temperature range
  \(-30 ^\circ \text{C to } +80 ^\circ \text{C}\)

Product features
- Centrifugal pump, 1- to 2-stage models
- Open impellers
- Immersion depths of up to 550 mm
- Capable of running dry for short periods of time
- Operation against dead head is possible
- Special models for hydrocyclones

Quality Management
DIN EN ISO 9001:2000
Environmental Management
DIN EN ISO 14001

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Main applications
- Degreasing facilities
- Filtration systems
- Hydrocyclone systems
- Machine tools
- Processing plants (e.g. for waste water)
- Recycling systems
- Washing/cleaning installations
- etc.

Fluids
- Emulsions, also with chemical additives
- Oils
- Lubricants
- Water with rustproofing additives
- Heat-transfer oils
- etc.

The percentage of contamination by volume can be relatively high, an example being the dirty-water side of filtration systems.

Temperature range: –30 °C to +80 °C (other temperatures on request).

Models for hydrocyclones
The drives of several models comprising this group were specially modified so that these pumps can also be put to efficient use in hydrocyclone installations – with delivery heads ranging from 20 to 25 m.

The pumps may only be used within the range indicated in the table, as otherwise the motor would be overloaded.

Design features
- Sealless
- Free-floating pump shaft, supported only by motor bearing
- Open impellers
- Relatively large air gap in the pump chamber
- 1- to 2-stage models
- Immersion depths of up to 550 mm

Mechanical design
Component | Material
--- | ---
Motor housing | aluminum / cast iron
Pump support | cast iron
Pump bottom | cast iron
Intermediate chamber | cast iron
Impeller | cast iron
Shaft | ETG
Antifriction bearings | radial deep-groove ball bearings with 1 side plate (Z) with permanent lubrication; angular-contact ball bearing (BEGP)

Optional material: stainless steel

Electrical design
The drive motors meet VDE regulations as well as European motor standards (DIN EN 60034-1/11.95) while also satisfying the requirements for a CE mark.

Designs in conformity with non-European regulations, e.g. Canadian Standards Association (CSA), Underwriters Laboratories INC. (UL) or special requirements, e.g. the USA or Japan, are possible. Moreover, we also produce models for special operating conditions (e.g. exposure to high humidity or dust).

The regular models have motor windings designed for continuous operation and connection to a mains voltage of 230/400 V (> 4 kW: mains voltage ∆ 400 V) ±10%, 50 Hz in accordance with IEC 38/5.87. The motors can be adapted to all customary mains values on request.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection (DIN EN 60034-5/4.88)</td>
<td>IP 54</td>
</tr>
<tr>
<td>Insulation class</td>
<td>F.B</td>
</tr>
<tr>
<td>Ambient temperature (DIN EN 60034-1/11.95)</td>
<td>max. 40 °C</td>
</tr>
<tr>
<td>Relative humidity (DIN 50015)</td>
<td>max. 92%</td>
</tr>
<tr>
<td>Site altitude (DIN EN 60034-1/11.95)</td>
<td>&lt; 1000 m above sea level</td>
</tr>
<tr>
<td>Electrical parameters</td>
<td>&lt; 4 kW: 230/400 V, 50 Hz 255/440 V, 60 Hz &gt; 4 kW: ∆ 400 V, 50 Hz ∆ 440 V, 60 Hz ∆ 460 V, 60 Hz</td>
</tr>
</tbody>
</table>

Mains operation three-phase

Number of poles 2 poles

Terminal box
- layout (DIN EN 12 157)
- material plastic
- cable entry M32x1.5; M25x1.5 on models for hydrocyclone systems

Protective surface coating synthetic-resin lacquer; color: RAL 9005 (deep-black, dull) special coatings available on request

Special protection integrated thermistor-type motor protection: fan cowl with canopy
Installation and operation
The unit is installed in a vertical position. The maximum permissible level of fluid is 20 mm beneath the mounting flange (cf. following drawing).
Brief dry runs are permissible.
Operation against dead head is possible.
Direction of rotation: to the left (counterclockwise) as viewed from above looking down on the ventilation side of the motor.

Option

Model with extension tube if immersion depth deviates from standard.

Order example

PSH 740 B 300
Model
Size
Design state
Immersion depth t

Please indicate electrical parameters, e.g. 230/400 V, 50 Hz.
When ordering spare parts, always indicate the 10-place serial number (see motor rating plate).

Characteristics

Models for hydrocyclones

<table>
<thead>
<tr>
<th>Model</th>
<th>Delivery head H [m] at delivery rate Q [l/min]</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSH630B</td>
<td>75 21 22 23 24 25</td>
</tr>
<tr>
<td>PSH640B</td>
<td>110 55</td>
</tr>
<tr>
<td>PSH650B</td>
<td>150 95 45</td>
</tr>
<tr>
<td>PSH660B</td>
<td>210 150 100 50</td>
</tr>
<tr>
<td>PSH670B</td>
<td>300 245 185 130 80 30</td>
</tr>
</tbody>
</table>

The data apply to fluids with a viscosity of 1 mm²/s at a density of 1 kg/dm³

Please note:
All equipment may only be installed and/or assembled by qualified personnel.
Observe existing safety regulations. To avoid errors please consult our operating instructions.
### Dimensions and Weights

<table>
<thead>
<tr>
<th>Model</th>
<th>Immersion depth t [mm]</th>
<th>Weight [kg]</th>
<th>ø d [mm]</th>
<th>b [mm]</th>
<th>h [mm]</th>
<th>Rated voltage Δ/Y ±10% [V]</th>
<th>Rated power [kW]</th>
<th>Rated current Δ/Y [A]</th>
<th>Rated speed [rpm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSH6B</td>
<td>300 / 550</td>
<td>49 / 62.5</td>
<td>176</td>
<td>149</td>
<td>362</td>
<td>230 / 400</td>
<td>3</td>
<td>10.7 / 6.2</td>
<td>2840</td>
</tr>
<tr>
<td>PSH65B</td>
<td>300 / 550</td>
<td>52 / 65.5</td>
<td>260</td>
<td>198</td>
<td>406</td>
<td>230 / 400</td>
<td>5.5</td>
<td>11</td>
<td>2880</td>
</tr>
<tr>
<td>PSH7B</td>
<td>300 / 550</td>
<td>49 / 62.5</td>
<td>176</td>
<td>149</td>
<td>362</td>
<td>230 / 400</td>
<td>3</td>
<td>10.7 / 6.2</td>
<td>2840</td>
</tr>
<tr>
<td>PSH75B</td>
<td>300 / 550</td>
<td>72 / 85.5</td>
<td>260</td>
<td>198</td>
<td>448</td>
<td>230 / 400</td>
<td>5.5</td>
<td>11</td>
<td>2880</td>
</tr>
<tr>
<td>PSH740B</td>
<td>300 / 550</td>
<td>49 / 62.5</td>
<td>176</td>
<td>149</td>
<td>362</td>
<td>230 / 400</td>
<td>3</td>
<td>10.7 / 6.2</td>
<td>2840</td>
</tr>
<tr>
<td>PSH6B</td>
<td>350</td>
<td>66</td>
<td>196</td>
<td>155</td>
<td>412</td>
<td>230 / 400</td>
<td>4</td>
<td>13.5 / 7.8</td>
<td>2860</td>
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<tr>
<td>PSH85B</td>
<td>350</td>
<td>83</td>
<td>260</td>
<td>198</td>
<td>461</td>
<td>230 / 400</td>
<td>7.5</td>
<td>14.6</td>
<td>2890</td>
</tr>
<tr>
<td>PSH9B</td>
<td>350</td>
<td>84</td>
<td>260</td>
<td>198</td>
<td>461</td>
<td>230 / 400</td>
<td>7.5</td>
<td>14.6</td>
<td>2890</td>
</tr>
<tr>
<td>PSH95B</td>
<td>350</td>
<td>84</td>
<td>260</td>
<td>198</td>
<td>499</td>
<td>230 / 400</td>
<td>8.6</td>
<td>16.5</td>
<td>2900</td>
</tr>
<tr>
<td>PSH8B</td>
<td>350</td>
<td>84</td>
<td>260</td>
<td>198</td>
<td>461</td>
<td>230 / 400</td>
<td>7.5</td>
<td>14.6</td>
<td>2890</td>
</tr>
<tr>
<td>PSH9B</td>
<td>350</td>
<td>84</td>
<td>260</td>
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<td>2900</td>
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<tr>
<td>PSH95B</td>
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<td>16.5</td>
<td>2900</td>
</tr>
</tbody>
</table>

### Electrical Data at 50 Hz

- **PSH6B**: 2840 rpm
- **PSH65B**: 2880 rpm
- **PSH7B**: 2840 rpm
- **PSH75B**: 2880 rpm
- **PSH740B**: 2840 rpm
- **PSH85B**: 2890 rpm
- **PSH95B**: 2900 rpm
- **PSH8B**: 2890 rpm
- **PSH9B**: 2890 rpm
- **PSH95B**: 2900 rpm

Please note:

Standard ventilated motors come without a canopy. If necessary, the motors can be supplied with a protection cap at extra charge. Dimension “h” is then increased by about 30 mm.