

Centrifugal pumps of metal for dirty fluids

Technical data

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

Product features

- Centrifugal pump,
1- to 2-stage models
- Open impellers
- Immersion depths
of up to 550 mm
- Operation against dead head
is possible
- Special models for hydrocyclones



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.

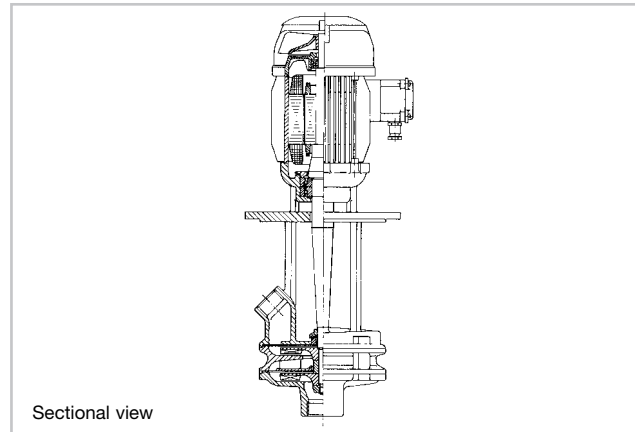
The pumps may only be used within the range indicated in the table, as otherwise the motor would be overloaded.

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 / free cutting steel |
| Antifriction bearings | radial deep-groove ball bearings with permanent lubrication; angular-contact ball bearing (BEGP) |



Electrical design

The drive motors meet VDE regulations as well as European motor standards (DIN EN 60034-1) 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 motors can be adapted to all customary mains values on request.

| | Standard | Options |
|---------------------------------------|--|--|
| Degree of protection (DIN EN 60034-5) | IP 54 | IP 55 |
| Insulation class | F.B | |
| Ambient temperature (DIN EN 60034-1) | max. 40 °C | 50 °C and higher |
| Site altitude (DIN EN 60034-1) | < 1000 m above sea level | on request |
| Electrical parameters | < 4 kW: 230/400 V, 50 Hz 255/440 V, 60 Hz > 4 kW: Δ 400 V, 50 Hz Δ 440 V, 60 Hz | on request |
| Mains operation | three-phase | |
| Number of poles | 2 poles | |
| Terminal box | | |
| - layout (DIN EN 12157) | layout 1 | layout 2, 3 or 4 |
| - material | plastic / light-weight metal | |
| - cable entry (DIN EN 50 262) | M32x1.5; M25x1.5 on models for hydrocyclone systems | |
| | | industrial plug in connector |
| 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

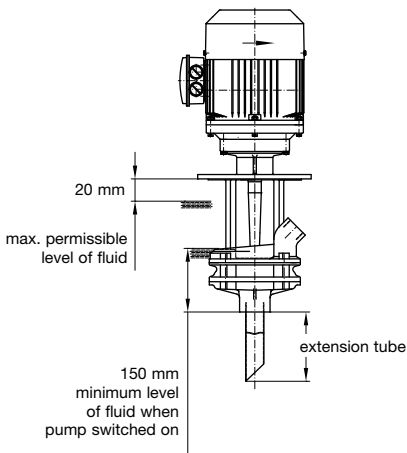
The unit is installed in a vertical position. The maximum permissible level of fluid is 20 mm beneath the mounting flange (cf. following drawing).

Before startup, fill the pump with fluid for pumping. There is only limited support for short-term operation without such fluid during the feeding operation.

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.

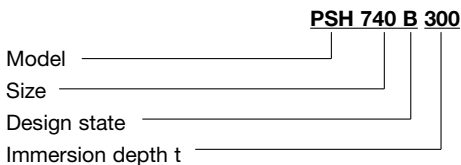
Option



Model with extension tube

if immersion depth deviates from standard.

Order example



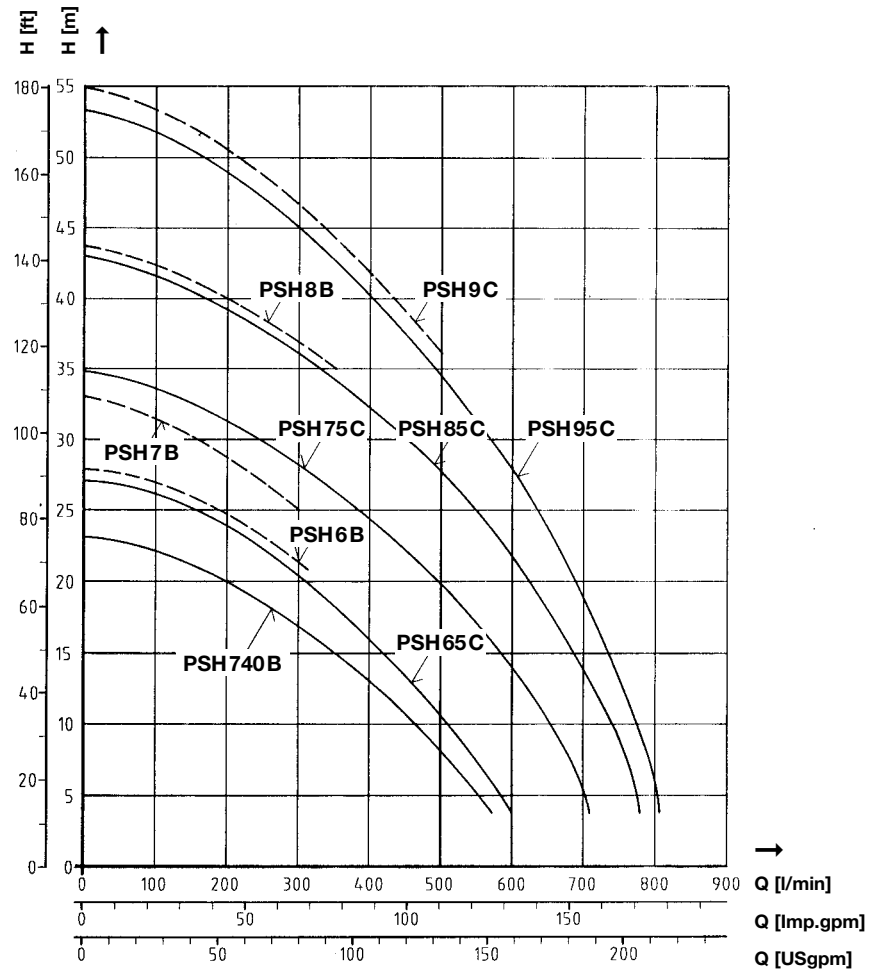
Please indicate electrical parameters, e.g. 230/400 V, 50 Hz.

When ordering spare parts, always indicate the 10-place serial number (see motor rating plate).

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.

Characteristics

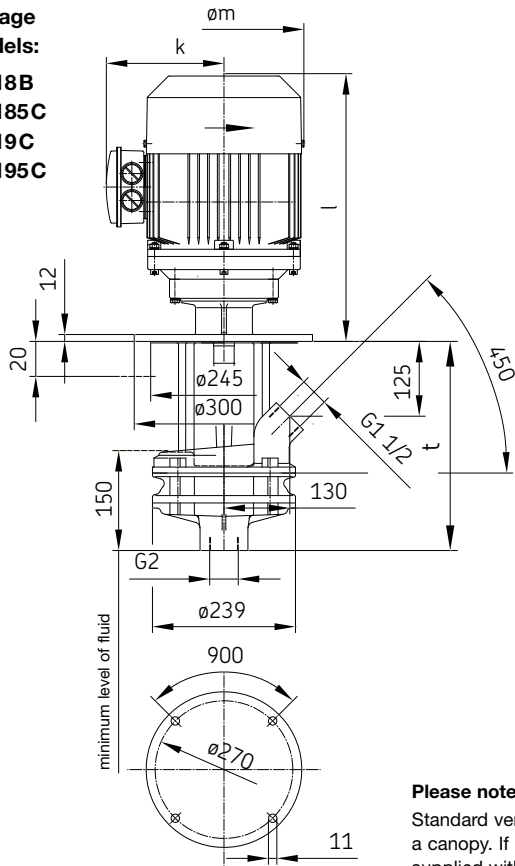


Models for hydrocyclones

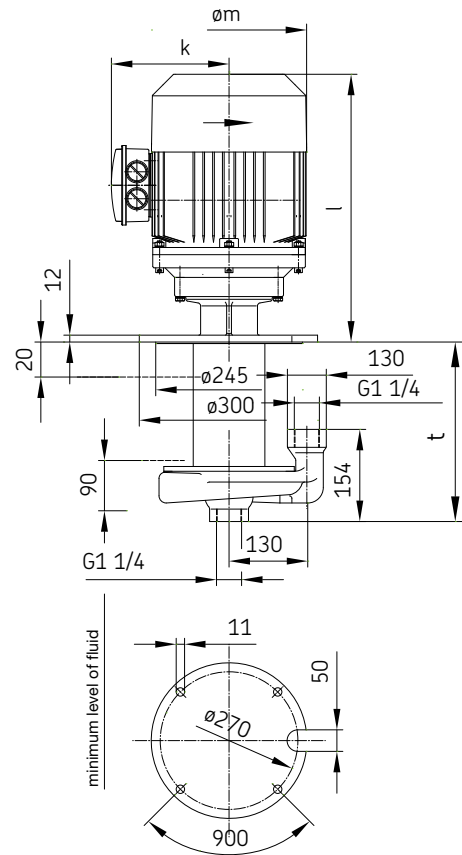
| Model | Delivery head H [m] at delivery rate Q [l/min] | | | | | |
|---------|--|-----|-----|-----|----|----|
| | 20 | 21 | 22 | 23 | 24 | 25 |
| PSH630B | 75 | | | | | |
| PSH640B | 110 | 55 | | | | |
| PSH650B | 150 | 95 | 45 | | | |
| PSH660B | 210 | 150 | 100 | 50 | | |
| PSH670B | 300 | 245 | 185 | 130 | 80 | 30 |

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

**2-stage
Models:**
PSH8B
PSH85C
PSH9C
PSH95C



**1-stage
Models:**
PSH6B
PSH65C
PSH7B
PSH75C
PSH740B
PSH630B
to
PSH670B



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.

| Dimensions and Weights | | | | | | Electrical Data at 50 Hz | | | |
|------------------------|------------------------|-------------|----------------------|--------|--------|---------------------------------------|------------------|------------------------------|-------------------|
| Model | Immersion depth t [mm] | Weight [kg] | $\varnothing m$ [mm] | k [mm] | l [mm] | Rated voltage $\Delta/Y \pm 10\%$ [V] | Rated power [kW] | Rated current Δ/Y [A] | Rated speed [rpm] |
| PSH6B | 300 / 550 | 49 / 62.5 | 176 | 149 | 362 | 230 / 400 | 3 | 10.7 / 6.2 | 2840 |
| PSH65C | 300 / 550 | 52 / 65.5 | 260 | 182 | 488 | Δ 400 | 5.5 | 11.5 | 2910 |
| PSH7B | 300 / 550 | 49 / 62.5 | 176 | 149 | 362 | 230 / 400 | 3 | 10.7 / 6.2 | 2840 |
| PSH75C | 300 / 550 | 72 / 85.5 | 260 | 182 | 488 | Δ 400 | 5.5 | 11.5 | 2910 |
| PSH740B | 300 / 550 | 49 / 62.5 | 176 | 149 | 362 | 230 / 400 | 3 | 10.7 / 6.2 | 2840 |
| PSH8B | 350 | 66 | 196 | 155 | 412 | 230 / 400 | 4 | 13.5 / 7.8 | 2860 |
| PSH85C | 350 | 83 | 260 | 182 | 488 | Δ 400 | 7.5 | 14.5 | 2920 |
| PSH9C | 350 | 84 | 260 | 182 | 488 | Δ 400 | 7.5 | 14.5 | 2920 |
| PSH95C | 350 | 87 | 260 | 182 | 526 | Δ 400 | 9.5 | 18 | 2920 |
| PSH630B | 300 | 43 | 176 | 149 | 337 | 230 / 400 | 1.5 | 5.7 / 3.3 | 2850 |
| PSH640B | 300 | | 176 | 149 | 337 | 230 / 400 | 1.5 | 5.7 / 3.3 | 2850 |
| PSH650B | 300 | | 176 | 149 | 362 | 230 / 400 | 2.2 | 8 / 4.6 | 2850 |
| PSH660B | 300 | | 176 | 149 | 362 | 230 / 400 | 2.2 | 8 / 4.6 | 2850 |
| PSH670B | 300 | 44 | 176 | 149 | 362 | 230 / 400 | 3 | 10.7 / 6.2 | 2840 |

This brochure was presented by:

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