

## *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
- Capable of running dry for  
short periods of time
- 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

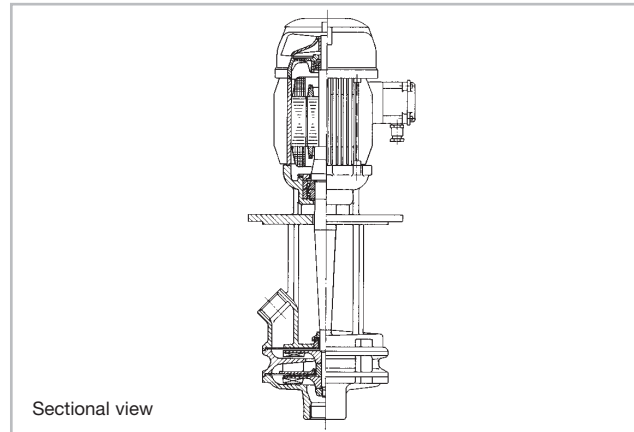
### Mechanical design

Component	Material
Motor housing	aluminum / cast iron
Pump support	cast iron
Pump bottom	cast iron
Intermediate chamber	cast iron
Impeller	cast iron
Shaft	ETG
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 Δ 400 V) ± 10%, 50 Hz in accordance with IEC 38/5.87. The motors can be adapted to all customary mains values on request.

	Standard	Options
Degree of protection (DIN EN 60034-5/4.88)	IP 54	IP 55
Insulation class	F.B	
Ambient temperature (DIN EN 60034-1/11.95)	max. 40 °C	50 °C and higher
Relative humidity (DIN 50015)	max. 92 %	95 % and higher
Site altitude (DIN EN 60034-1/11.95)	< 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 Δ 460 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 50262)	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



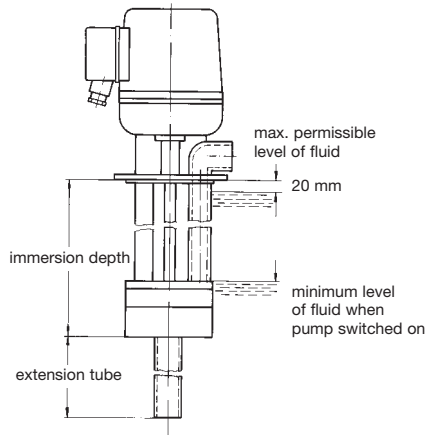
**Installation and operation**

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

Brief dry runs are permissible.  
Operation against dead head is possible.

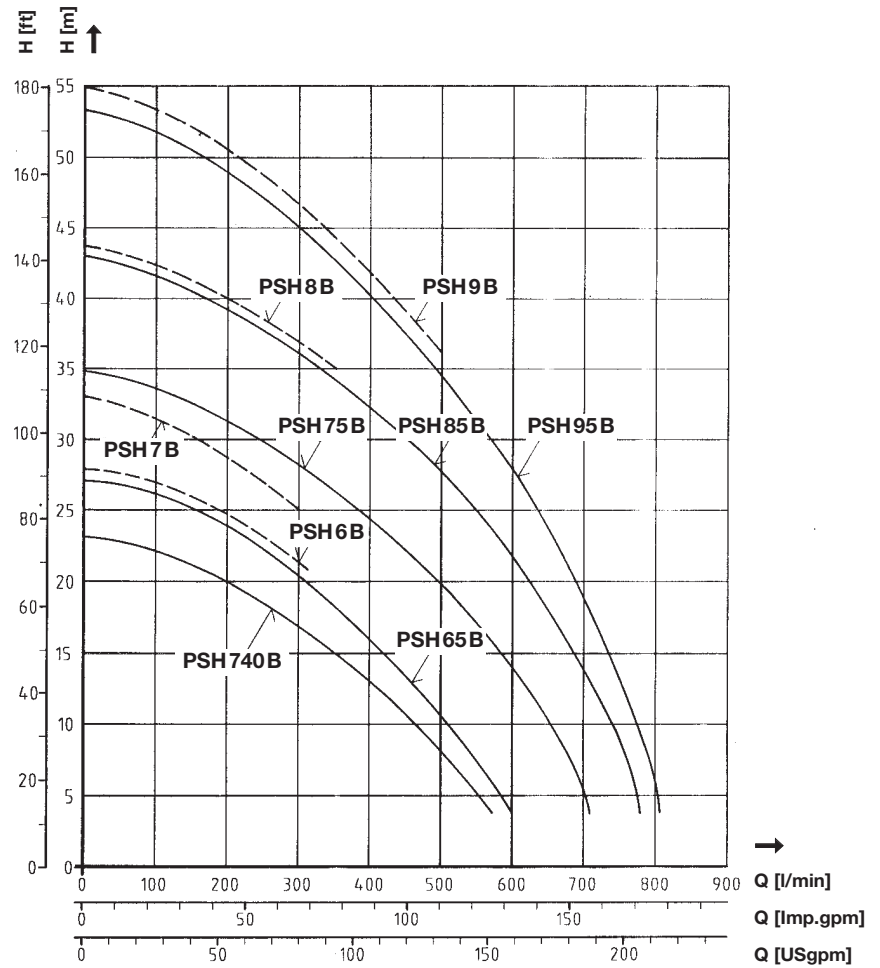
Direction of rotation: to the left (counterclockwise) as viewed from above looking down on the ventilation side of the motor.

**Option**



**Model with extension tube**  
if immersion depth deviates from standard.

**Characteristics**



**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).

**Models for hydrocyclones**

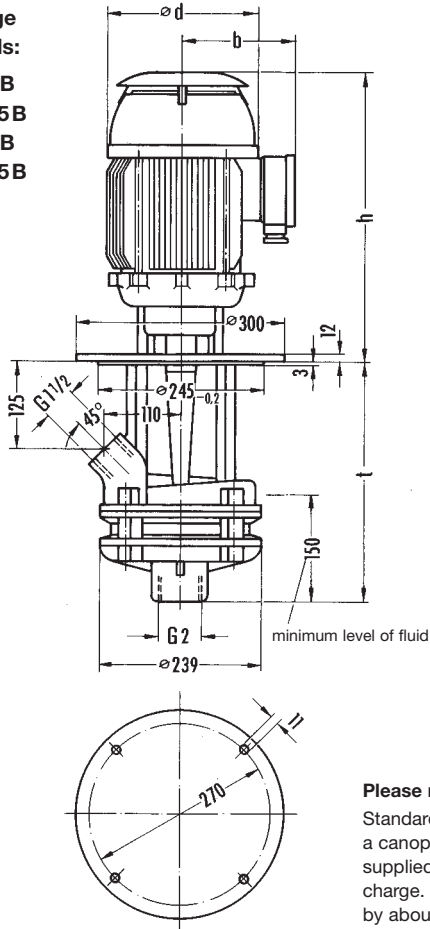
Model	Delivery head H [m] at delivery rate Q [l/min]					
	20	21	22	23	24	25
PSH630B	75					
PSH640B	110	55				
PSH650B	150	95	45			
PSH660B	210	150	100	50		
PSH670B	300	245	185	130	80	30

The data apply to fluids with a viscosity of 1 mm<sup>2</sup>/s at a density of 1 kg/dm<sup>3</sup>

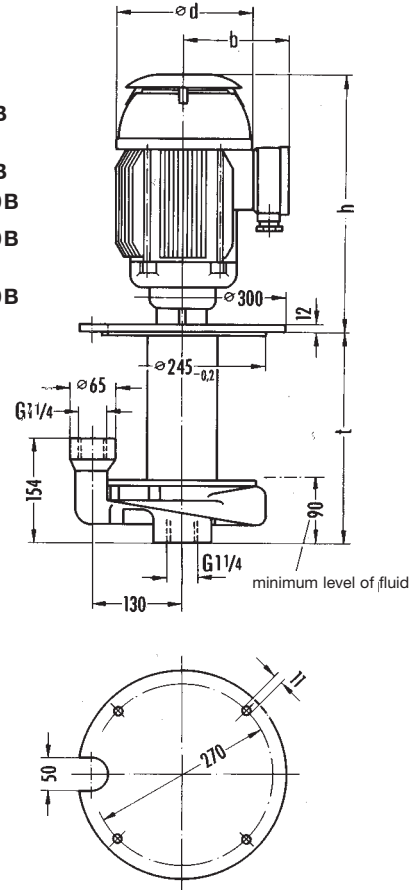
**Please note:**

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

**2-stage  
Models:**  
PSH8B  
PSH85B  
PSH9B  
PSH95B



**1-stage  
Models:**  
PSH6B  
PSH65B  
PSH7B  
PSH75B  
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]	ø d [mm]	b [mm]	h [mm]	Rated voltage Δ/Y ±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
PSH65B	300 / 550	52 / 65.5	260	198	448	Δ 400	5.5	11	2880
PSH7B	300 / 550	49 / 62.5	176	149	362	230 / 400	3	10.7 / 6.2	2840
PSH75B	300 / 550	72 / 85.5	260	198	448	Δ 400	5.5	11	2880
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
PSH85B	350	83	260	198	461	Δ 400	7.5	14.6	2890
PSH9B	350	84	260	198	461	Δ 400	7.5	14.6	2890
PSH95B	350	84	260	198	499	Δ 400	8.6	16.5	2900
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



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