PS/PSL Centrifugal pumps

Technical Data

- Delivery rate
  Q_{max} = 1250 l/min
- Delivery head
  H_{max} = 110 m
- Delivery temperature
  T = 0°C to +80°C
- Kinematic viscosity
  ν_{max} = 30 mm^2/s

Quality Management
DIN EN ISO 9001:2008

Environmental Management
DIN EN ISO 14001

Health and Safety Management
OHSAS 18001

www.spandaupumpen.com

Spandau pumpen®

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Niederlassung Frankfurt/Oder
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Bereitschaft: 0160 71 81 584 E-Mail: frankfurt@vogel-gruppe.de

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Bereitschaft: 0171 22 65 930 E-Mail: genshagen@vogel-gruppe.de

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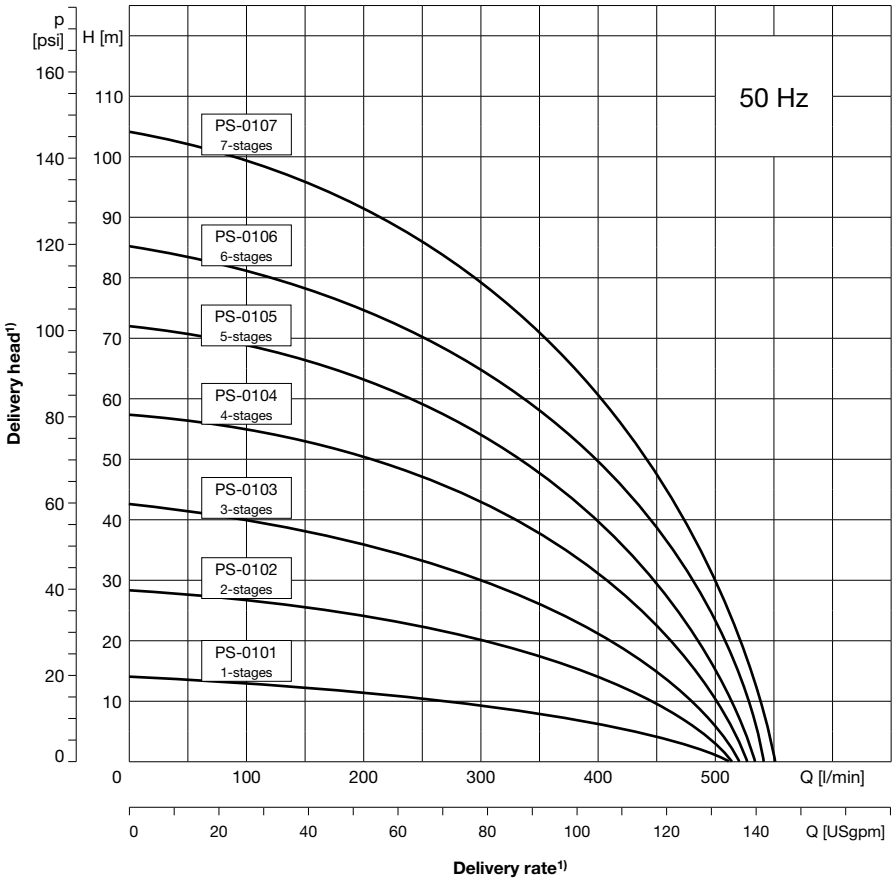
Tel.: +49 160 7181581 . E-Mail: leipzig@vogel-gruppe.de

Niederlassung Schöneiche
August-Borsig-Ring 15, 15566 Schöneiche Tel: 030 6501 380 - 0
Bereitschaft: 0160 71 81 590 E-Mail: schoeneiche@vogel-gruppe.de

Industrie-Hydraulik Vogel & Partner GmbH .
Laugkfeld 21 . 01968 Senftenberg, Tel.: 03573 1480-0
info@vogel-gruppe.de . www.vogel-gruppe.de

PS 01 – Immersion pumps, sealless

50 Hz, closed impellers



Features

- Vertical multistage coolant pump
- For delivery of clean, polluted and viscous types of fluids
- Installation direcly into the reservoir
- Pressure port is located above the reservoir plate and designed with internal thread G2

PS/PSL

Technical Data

Delivery rate Q_{max}	1250 l/min
Delivery head H_{max}	105 m
Immersion depth t_{max}	670 mm
Kinematic viscosity	max. 30 mm^2/s
Delivery temperature	0 °C to +80 °C
Grain size	max. Ø4 mm
Contamination	max. 8,2 kg/m^3
Direction of rotation	clockwise (as viewed looking down on the motor's venti-lation side)
Fluids delivered	Emulsions, cooling and cutting oils, Water with rust-proofing additives, heat carrier oil

Mechanical design

Component	Material
Flange	EN-GJL-200
Shaft	1.0762
Impeller	EN-GJL-200
Intermediate chamber	EN-GJL-200
Bearings	Deep groove ball bearing with covering disk
Bushing	Sintered iron
Pumps bottom	EN-GJL-200

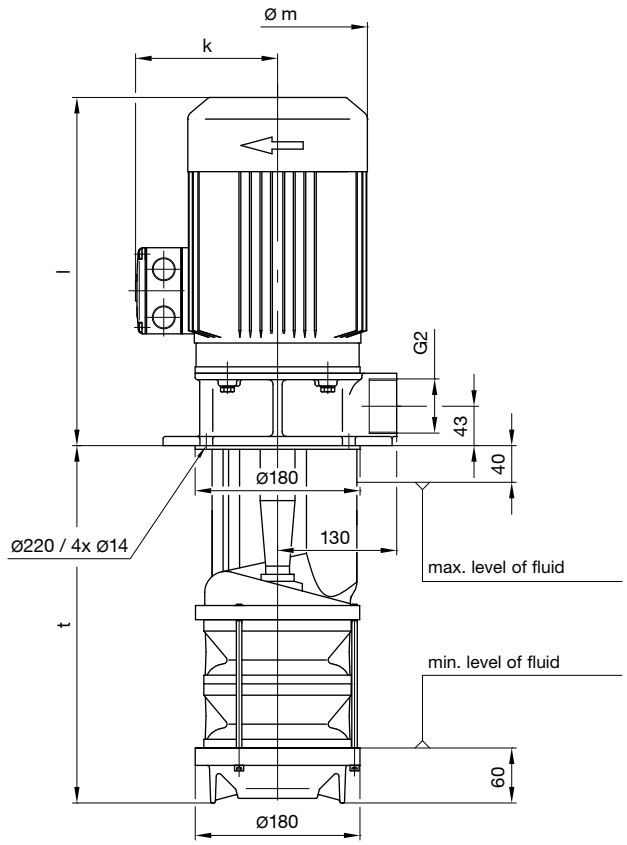
Variations

Component	Material
Mechanical seal	NBR
Extension tube	1.0308

[1] Data for viscosity of ~1 mm^2/s at a density of ~1 kg/dm^3. Minimum volumetric flow: 5 to 10 % of nominal delivery rate.

PS 01 – Immersion pumps, sealless

50 Hz, closed impellers

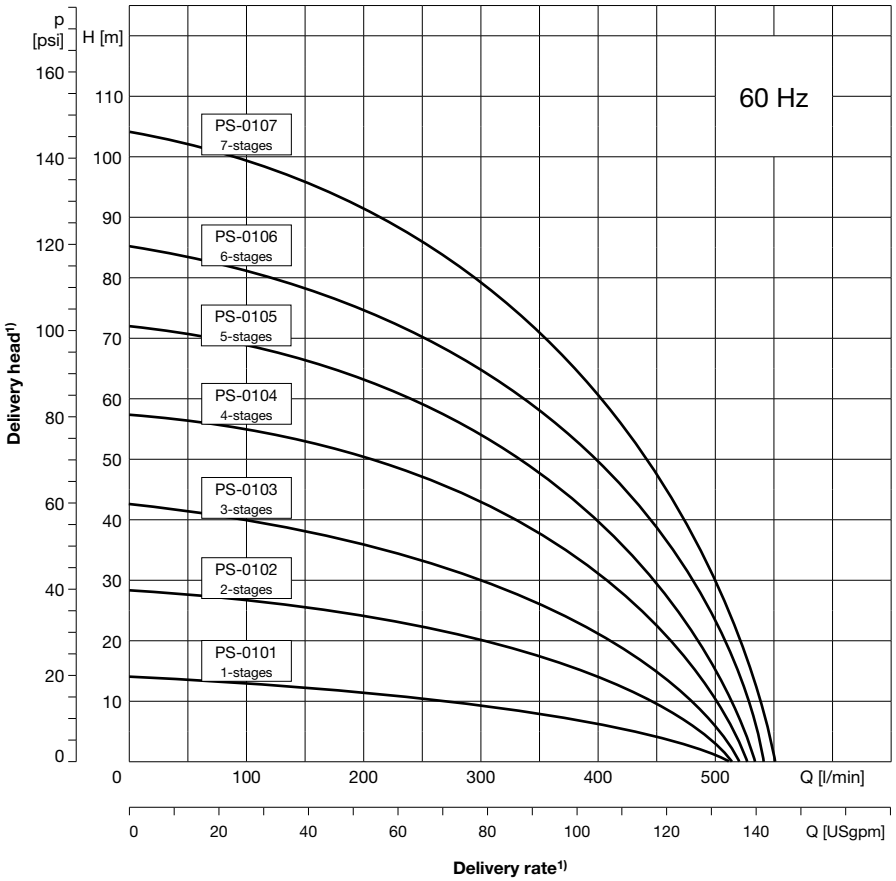


Electrical data, dimensions and weights at 50 Hz

Type of pump			Immersion depth t [mm]	Rated motor values					Dimensions [mm]			Weight [kg]	Sonic pressure [dBA]	Pressure port (DIN ISO 228)
Series	Frame size	Stages		Voltage Δ/Y U [V]	Motor index	Output P_N [kW]	Current Δ/Y I_N [A]	Speed n_N [min^{-1}]	Øm	k	l			
PS PSL	01	01	250	230/400	H	1,1	4,07/2,35	2730	140	114	286	36	62-64	G2
			320									38		
			450									40		
			550									42		
		02	320		K	2,2	7,15/4,13	2840	176	149	360	44	65-77	
			390									46		
			520									48		
			620									50		
		03	390		L	3,0	10,0/5,75	2885	196	155	380	51	68-74	
			460									53		
			590									55		
		04	460		M	4,0	13,0/7,5	2880	196	155	400	59	69-75	
			530									61		
			660									63		
		05	530	Δ 400	N	5,5	Δ 11,2	2900	257	182	484	85	68-75	
			600									87		
		06	600									91	69-75	
		07	670		O	7,5	Δ 14,5	2900	257	182	484	105	72-75	

PS 01 – Immersion pumps, sealless

60 Hz, closed impellers



Features

- Vertical multistage coolant pump
- For delivery of clean, polluted and viscous types of fluids
- Installation direcly into the reservoir
- Pressure port is located above the reservoir plate and designed with internal thread G2

PS/PSL

Technical Data

Delivery rate Q_{max}	1250 l/min
Delivery head H_{max}	105 m
Immersion depth t_{max}	670 mm
Kinematic viscosity	max. 30 mm^2/s
Delivery temperature	0 °C to +80 °C
Grain size	max. Ø4 mm
Contamination	max. 8,2 kg/m^3
Direction of rotation	clockwise (as viewed looking down on the motor's venti-lation side)
Fluids delivered	Emulsions, cooling and cutting oils, Water with rust-proofing additives, heat carrier oil

Mechanical design

Component	Material
Flange	EN-GJL-200
Shaft	1.0762
Impeller	EN-GJL-200
Intermediate chamber	EN-GJL-200
Bearings	Deep groove ball bearing with covering disk
Bushing	Sintered iron
Pumps bottom	EN-GJL-200

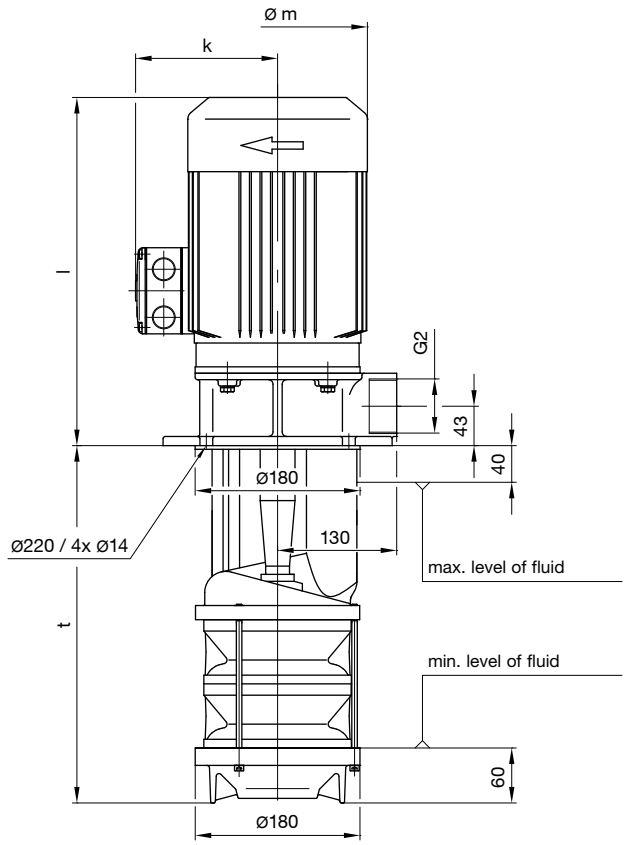
Variations

Component	Material
Mechanical seal	NBR
Extension tube	1.0308

[1)] Data for viscosity of ~1 mm^2/s at a density of ~1 kg/dm^3. Minimum volumetric flow: 5 to 10 % of nominal delivery rate.

PS 01 – Immersion pumps, sealless

60 Hz, closed impellers

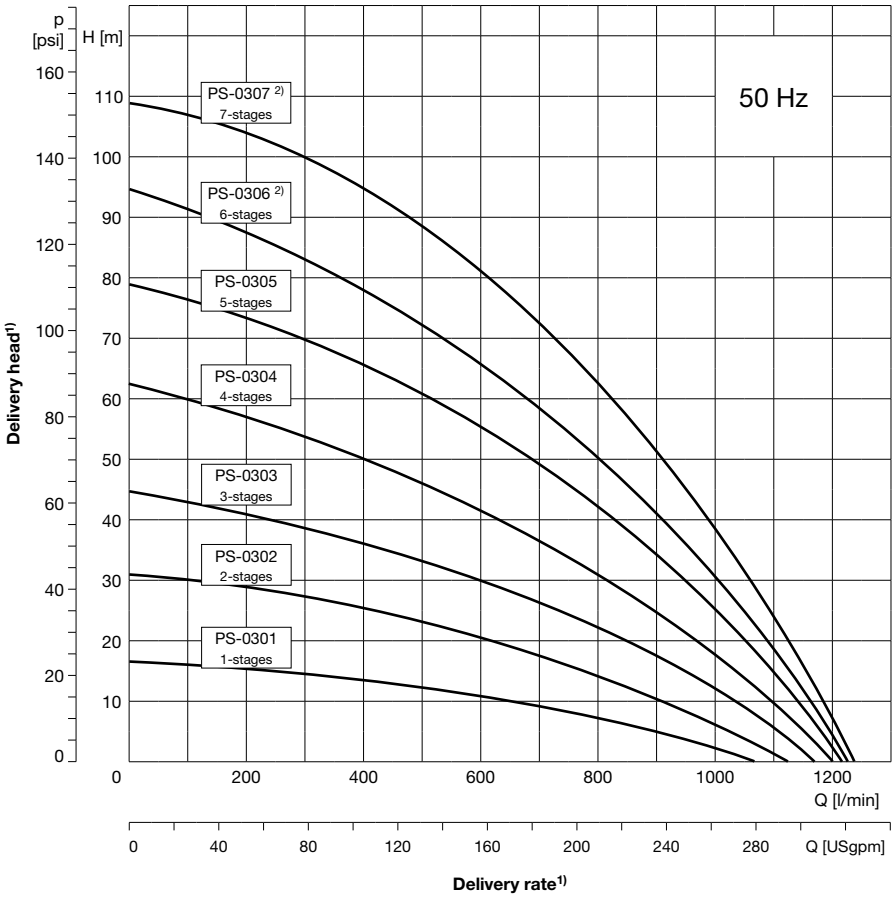


Electrical data, dimensions and weights at 60 Hz

Type of pump			Immersion depth t [mm]	Rated motor values					Dimensions [mm]			Weight [kg]	Sonic pressure [dBA]	Pressure port (DIN ISO 228)
Series	Frame size	Stages		Voltage Δ/Y U [V]	Motor index	Output P_N [kW]	Current Δ/Y I_N [A]	Speed n_N [min^{-1}]	Øm	k	l			
PS PSL	01	01	250	265/460	H	1,26	4,07/2,35	3368	140	114	286	36	62-64	G2
			320									38		
			450									40		
			550									42		
		02	320		K	2,6	7,5/4,3	3400	176	149	360	44	65-77	
			390									46		
			520									48		
			620									50		
		03	390		L	3,6	10,1/5,82	3500	196	155	380	51	68-74	
			460									53		
			590									55		
		04	460		M	4,5	12,7/7,3	3480	196	155	400	59	69-75	
			530									61		
			660									63		
		05	530	Δ 460	N	6,2	Δ 11,2	3480	257	182	484	85	68-75	
			600									87		
		06	600									91	69-75	
		07	670		O	8,6	Δ 14,5	3480	257	182	484	105	72-75	

PS 03 – Immersion pumps, sealless

50 Hz, closed impellers



Features

- Vertical multistage coolant pump
- For delivery of clean, polluted and viscous types of fluids
- Installation direcly into the reservoir
- Pressure port is located above the reservoir plate and designed with internal thread G2

Technical Data

Delivery rate Q_{max}	1250 l/min
Delivery head H_{max}	105 m
Immersion depth t_{max}	670 mm
Kinematic viscosity	max. 30 mm^2/s
Delivery temperature	0 °C to +80 °C
Grain size	max. Ø4 mm
Contamination	max. 8,2 kg/m^3
Direction of rotation	clockwise (as viewed looking down on the motor's venti-lation side)
Fluids delivered	Emulsions, cooling and cutting oils, Water with rust-proofing additives, heat carrier oil

Mechanical design

Component	Material
Flange	EN-GJL-200
Shaft	1.0762
Impeller	EN-GJL-200
Intermediate chamber	EN-GJL-200
Bearings	Deep groove ball bearing with covering disk
Bushing	Sintered iron
Pumps bottom	EN-GJL-200

Variations

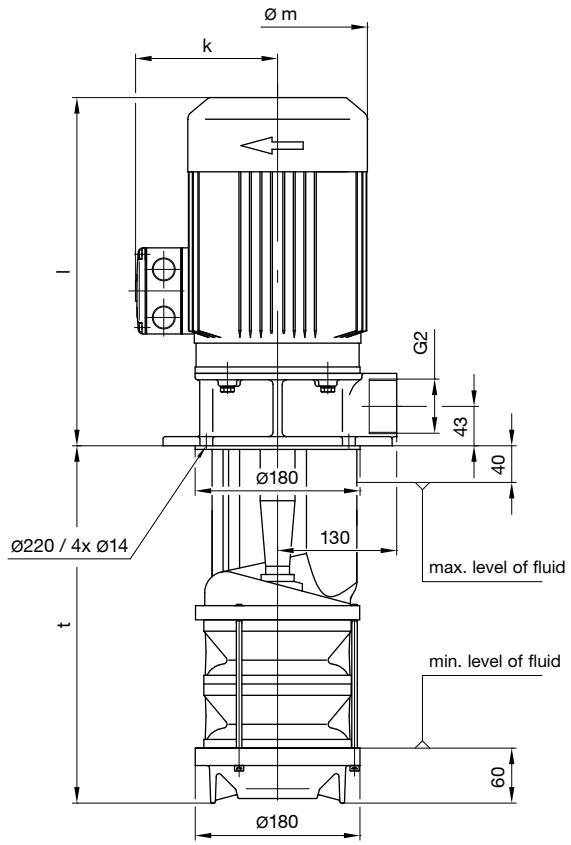
Component	Material
Mechanical seal	NBR
Extension tube	1.0308

[1] Data for viscosity of ~1 mm^2/s at a density of ~1 kg/dm^3. Minimum volumetric flow: 5 to 10 % of nominal delivery rate.

[2] Frame sizes PS/PSL 0306 and 0307 available on request.

PS 03 – Immersion pumps, sealless

50 Hz, closed impellers



Electrical data, dimensions and weights at 50 Hz

Type of pump			Immersion depth t [mm]	Rated motor values					Dimensions [mm]			Weight [kg]	Sonic pressure [dBA]	Pressure port (DIN ISO 228)
Series	Frame size	Stages		Voltage Δ/Y U [V]	Motor index	Output P_N [kW]	Current Δ/Y I_N [A]	Speed n_N [min^{-1}]	Øm	k	l			
PS PSL	03	01	250	230/400	K	2,2	7,15/4,13	2840	176	149	360	38	63-65	G2
			320									40		
			450									42		
			550									44		
		02	320		M	4,0	13,0/7,5	2840	196	155	380	47	67-75	
			390									49		
			520									51		
			620									53		
		03	390	Δ 400	N	5,5	Δ 11,2	2900	257	182	484	73	70-77	
			460									75		
			590									77		
		04	460		O	7,5	Δ 14,5	2900	257	182	484	86	70-78	
			530									88		
		05	05		Y	9,5	Δ 17,5	2920	257	182	522	102	73-79	
			530									104		
		06*	06*		P	11	Δ 21	2920	257	182	522	120	75-79	
		07*	600		Q	15	Δ 29	2900	257	182	566	136	75-80	

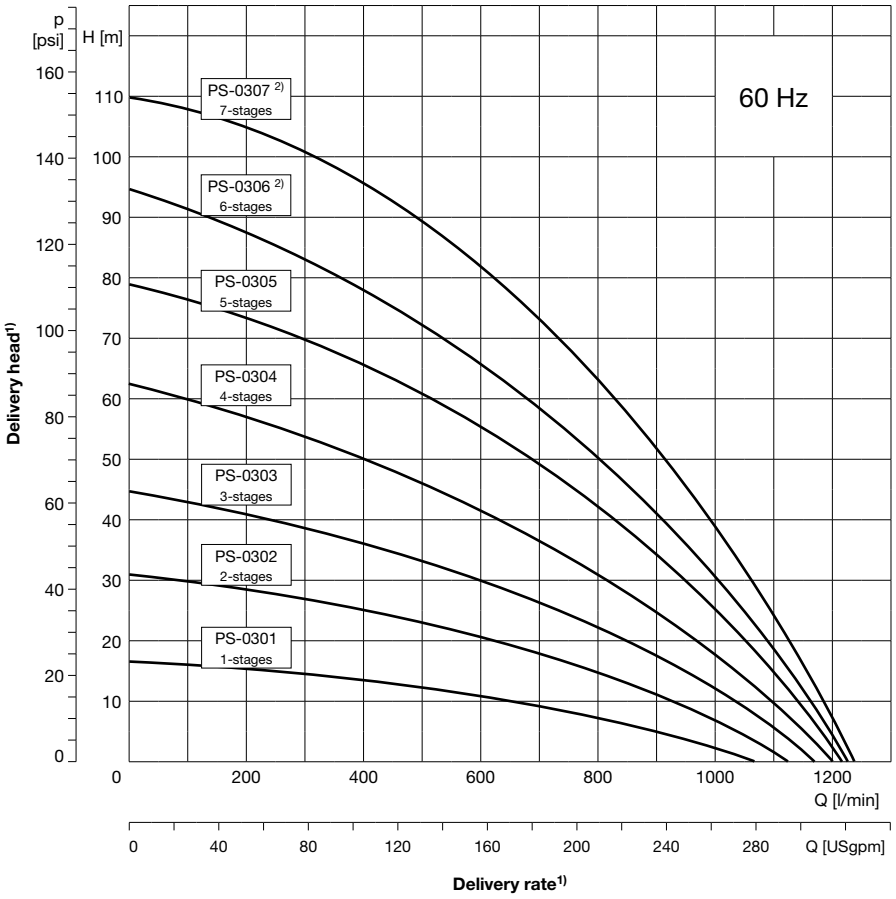
* Frame sizes PS/PSL 0306 and 0307 available on request.

PS 03 – Immersion pumps, sealless

60 Hz, closed impellers

Features

- Vertical multistage coolant pump
- For delivery of clean, polluted and viscous types of fluids
- Installation direcly into the reservoir
- Pressure port is located above the reservoir plate and designed with internal thread G2



Technical Data

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Component	Material
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Shaft	1.0762
Impeller	EN-GJL-200
Intermediate chamber	EN-GJL-200
Bearings	Deep groove ball bearing with covering disk
Bushing	Sintered iron
Pumps bottom	EN-GJL-200

Variations

Component	Material
Mechanical seal	NBR
Extension tube	1.0308

[1] Data for viscosity of ~1 mm^2/s at a density of ~1 kg/dm^3. Minimum volumetric flow: 5 to 10 % of nominal delivery rate.
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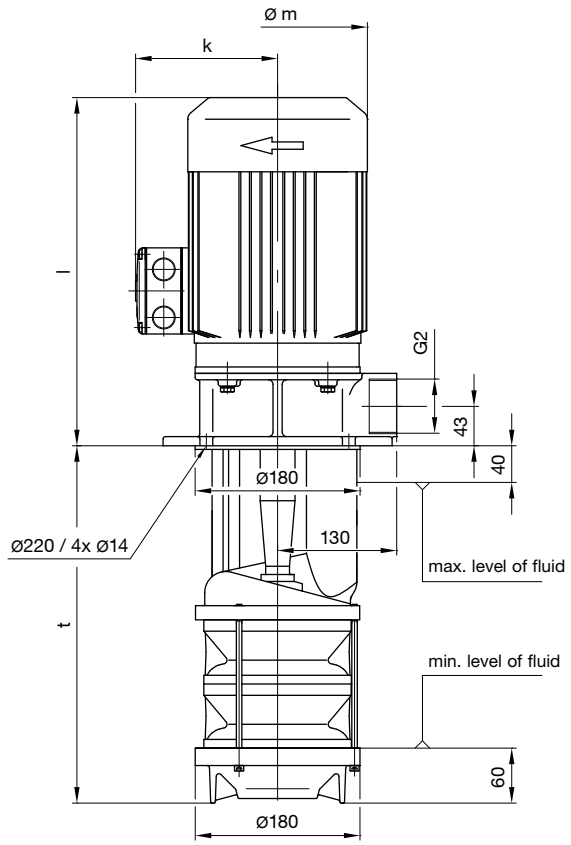
PS 03 – Immersion pumps, sealless

60 Hz, closed impellers



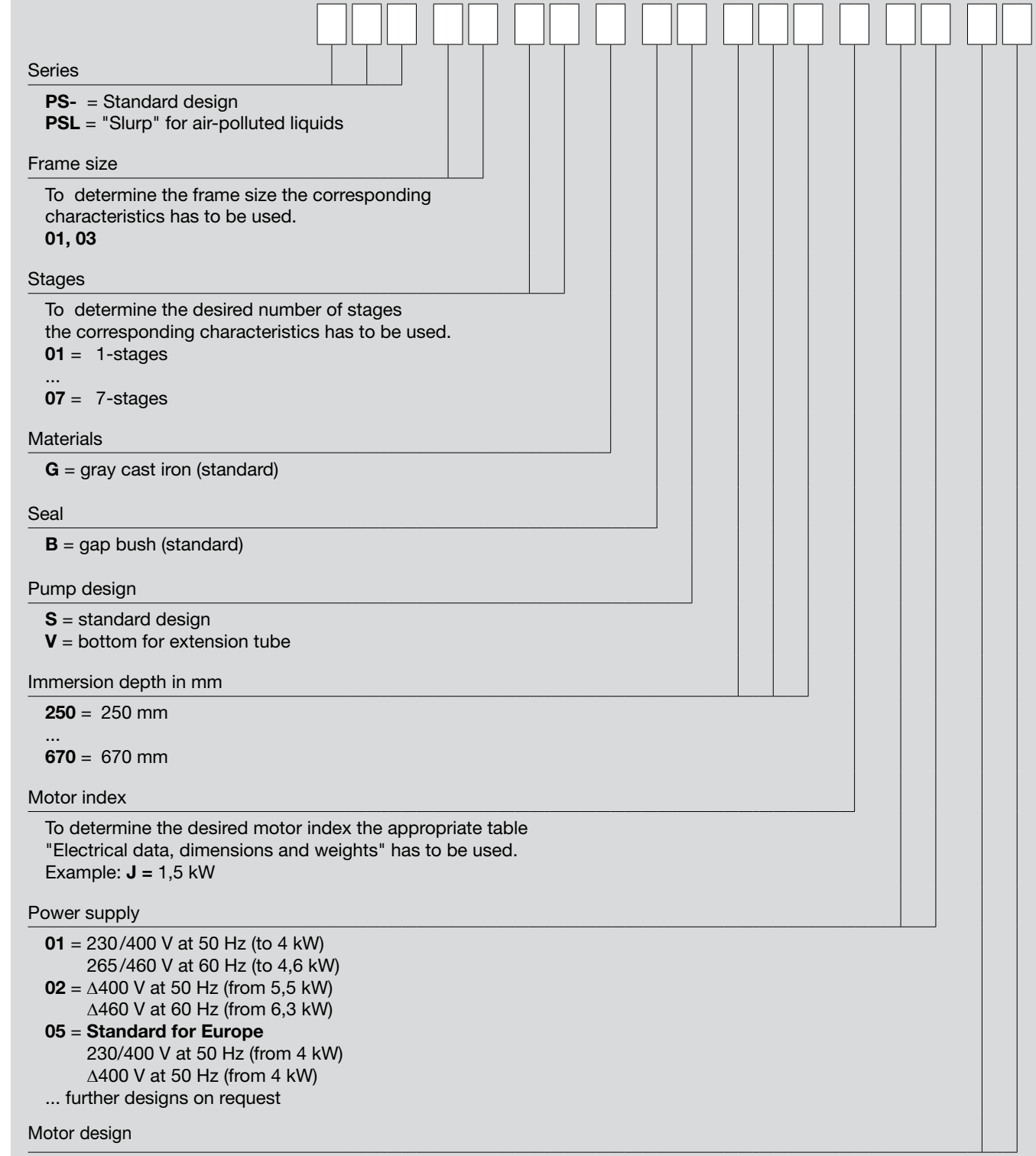
Electrical data, dimensions and weights at 60 Hz

Type of pump			Immersion depth t [mm]	Rated motor values					Dimensions [mm]			Weight [kg]	Sonic pressure [dBA]	Pressure port (DIN ISO 228)
Series	Frame size	Stages		Voltage Δ/Y U [V]	Motor index	Output P_N [kW]	Current Δ/Y I_N [A]	Speed n_N [min^{-1}]	Øm	k	l			
PS PSL	03	01	250	265/460	K	2,6	7,5/4,3	3400	176	149	360	38	63-65	G2
			320									40		
			450									42		
			550									44		
		02	320		M	4,5	12,7/7,3	3480	196	155	380	47	67-75	
			390									49		
			520									51		
			620									53		
		03	390	Δ 460	N	6,2	Δ 11,2	3480	257	182	484	73	70-77	
			460									75		
			590									77		
		04	460		O	8,6	Δ 14,5	3480	257	182	484	86	70-78	
			530									88		
		05	05		Y	11,0	Δ 17,5	3504	257	182	522	102	73-79	
			530									104		
		06*	06*		P	12,5	Δ 21	3500	257	182	522	120	75-79	
		07*	600		Q	17	Δ 29	3480	257	182	566	136	75-80	

* Frame sizes PS/PSL 0306 and 0307 available on request.

PS/PSL – Immersion pumps, sealless

Order key



Series

PS- = Standard design
PSL = "Slurp" for air-polluted liquids

Frame size

To determine the frame size the corresponding characteristics has to be used.
01, 03

Stages

To determine the desired number of stages the corresponding characteristics has to be used.
01 = 1-stages
...
07 = 7-stages

Materials

G = gray cast iron (standard)

Seal

B = gap bush (standard)

Pump design

S = standard design
V = bottom for extension tube

Immersion depth in mm

250 = 250 mm
...
670 = 670 mm

Motor index

To determine the desired motor index the appropriate table "Electrical data, dimensions and weights" has to be used.
Example: **J =** 1,5 kW

Power supply

01 = 230/400 V at 50 Hz (to 4 kW)
265/460 V at 60 Hz (to 4,6 kW)
02 = Δ400 V at 50 Hz (from 5,5 kW)
Δ460 V at 60 Hz (from 6,3 kW)
05 = **Standard for Europe**
230/400 V at 50 Hz (from 4 kW)
Δ400 V at 50 Hz (from 4 kW)
... further designs on request

Motor design

BA = standard (insulation class F, IP 54, 2-pole, IE2)
... further designs on request

Order example: PS-0104GBS460M01BA
Series: **PS**, Frame size: **01**, **04**-stages, Material: **G** grey cast iron, Seal: **B** gap bush, Pump design: **S** standard design, Immersion depth: **460** mm, Motor index: **M** 4,0 kW, Power supply: **01** 230/400 V 50 Hz, 265/460 V 60 Hz, Motor design: **BA** standard (IE2)

Notes

SKF Lubrication Systems Germany GmbH
Product department Spandau Pumps

Motzener Strasse 35/37 · 12277 Berlin · Germany
PF 970444 · 12704 Berlin · Germany
Tel. +49 (0)30 72002-0 · Fax +49 (0)30 72002-261
SpandauPumpen@skf.com
www.spandaupumpen.com

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