PSR Centrifugal pumps

Technical data

- Delivery rate
  Q_{max} = 180 l/min
- Delivery head
  H_{max} = 255 m
- Temperature range
  T = -10°C to +80°C
- Kinematic viscosity
  ν_{max} = 20 mm^2/s

Quality Management
DIN EN ISO 9001:2008

Environmental Management
DIN EN ISO 14001

Health and Safety Management
OHSAS 18001

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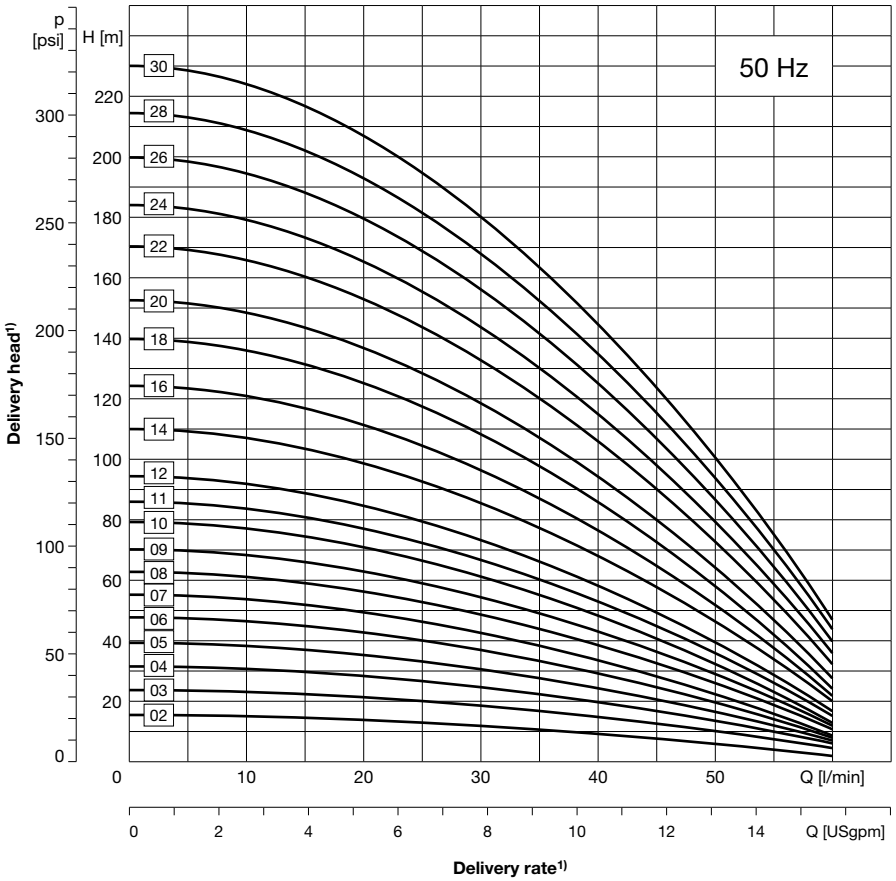
Spandau pumpen®

PSR 02 – Immersion pumps, sealless

50 Hz, closed impellers



Features

- Vertical multistage coolant pump
- Connector dimensions as per DIN EN 12157
- For delivery of slightly contaminated types of fluids
- Installation direcly into the reservoir
- Pressure port is located above the reservoir plate and designed with internal thread G1 1/4

Technical Data

Delivery rate Q_{max}	60 l/min
Delivery head H_{max}	230 m
Immersion depth t_{max}	739 mm
Kinematic viscosity	max. 20 mm^2/s
Delivery temperature	-10 °C to +80 °C
Grain size	max. Ø2 mm
Contamination	max. 50 g/m^3
Direction of rotation	clockwise (as viewed looking down on the motor's ventilation side)
Fluids delivered	Emulsions, cooling and cutting oils, cleaning liquids, water, mild acids

Mechanical design

Component	Material
Flange	EN-GJL-200
Shaft	Stainless steel 1.4122
Gap bush (H_{max} < 150 m)	POM
Mechanical seal (H_{max} > 150 m)	WC, carbon, FKM, stainless steel 1.4571
Impeller	Stainless steel 1.4301
Intermediate chamber	Stainless steel 1.4301
Tension anchor	Stainless steel 1.4057
Bushing	Stainless steel 1.4301
Pumps bottom	EN-GJL-200
Elastomers	FPM

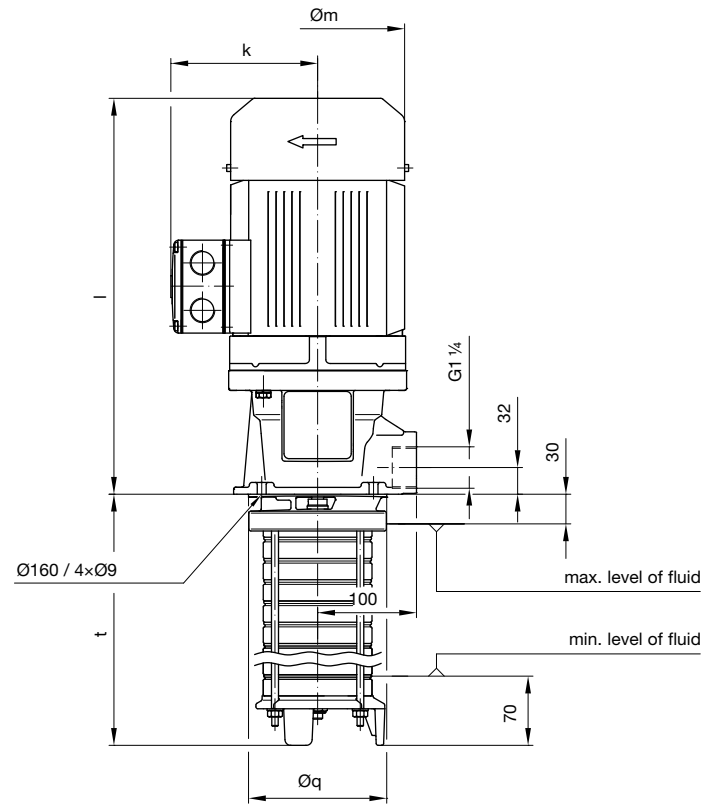
Variations

Component	Material
Flange	with chemical surface sealing or coated with paint
Bottom for extension tube	Stainless steel 1.4301
Intake strainer	Stainless steel 1.4301
Pumps bottom	Stainless steel 1.4308

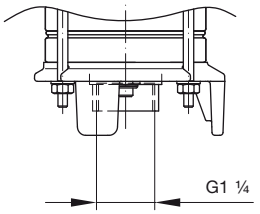
1) Data for viscosity of ~1 mm^2/s at a density of ~1 kg/dm^3. Minimum volumetric flow: 5 to 10 % of nominal delivery rate.

PSR 02 – Immersion pumps, sealless

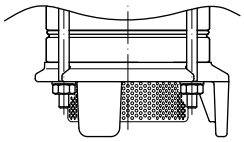
50 Hz, closed impellers



Variation "V"
with bottom for extension tube



Variation "C"
with intake strainer



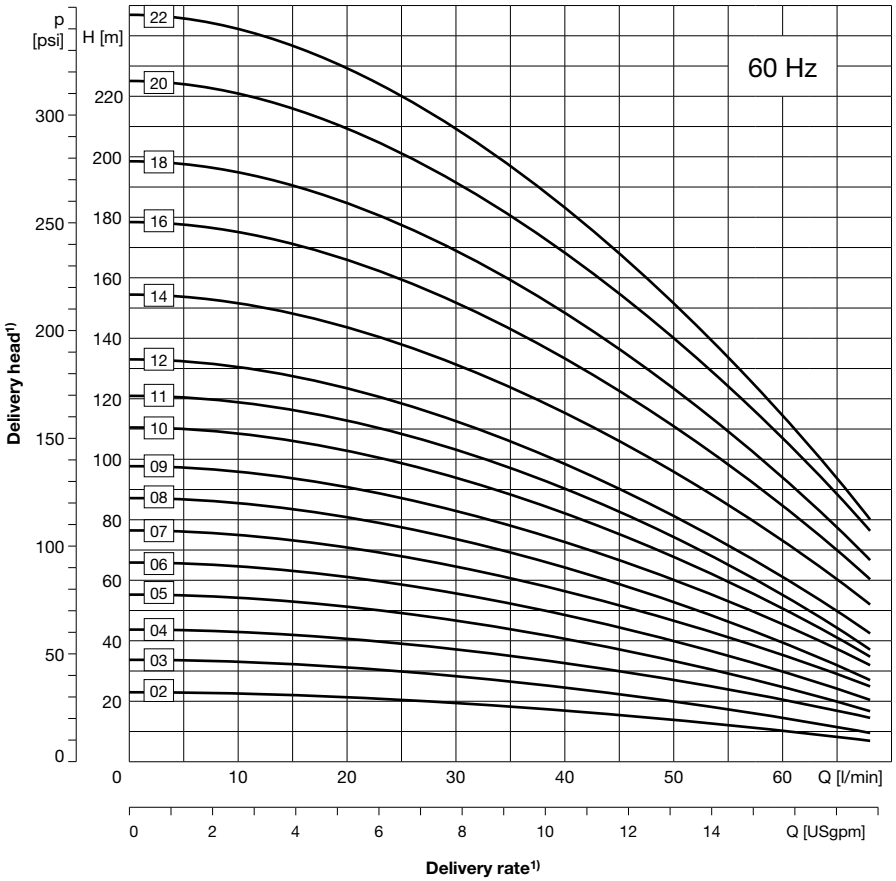
PSR

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	Øq			
PSR	02	02	137	230/400	E	0,37	1,57/0,91	2902	140	114	223	140	13,1	58	G1¼
		03	158										13,4		
		04	180										13,7		
		05	201										14,0		
		06	223		F	0,55	2,06/1,19	2836	140	114	223	140	14,4	58	
		07	244										14,8		
		08	266										15,1		
		09	287		G	0,63	2,56/1,48	2870	140	114	223	140	15,3	58	
		10	309										15,7		
		11	330		H	1,1	4,07/2,35	2730	140	114	223	140	16,0	58	
		12	352										16,3		
		14	395										16,6		
		16	438		J	1,5	4,95/2,86	2850	176	149	406	140	28,2	60	
		18	481										28,5		
		20	524										28,8		
		22	567		K	2,2	7,15/4,13	2840	176	149	406	140	35,4	60	
		24	610										36,2		
		26	653										36,8		
		28	696										37,3		
		30	739		L	3,0	10,0/5,75	2885	196	155	427	140	37,7	67	

PSR 02 – Immersion pumps, sealless

60 Hz, closed impellers



Features

- Vertical multistage coolant pump
- Connector dimensions as per DIN EN 12157
- For delivery of slightly contaminated types of fluids
- Installation direcly into the reservoir
- Pressure port is located above the reservoir plate and designed with internal thread G1 1/4

Technical Data

Delivery rate Q_{max}	68 l/min
Delivery head H_{max}	245 m
Immersion depth t_{max}	567 mm
Kinematic viscosity	max. 20 mm^2/s
Delivery temperature	-10 °C to +80 °C
Grain size	max. Ø2 mm
Contamination	max. 50 g/m^3
Direction of rotation	clockwise (as viewed looking down on the motor's ventilation side)
Fluids delivered	Emulsions, cooling and cutting oils, cleaning liquids, water, mild acids

Mechanical design

Component	Material
Flange	EN-GJL-200
Shaft	Stainless steel 1.4122
Gap bush (H_{max} < 150 m)	POM
Mechanical seal (H_{max} > 150 m)	WC, carbon, FKM, stainless steel 1.4571
Impeller	Stainless steel 1.4301
Intermediate chamber	Stainless steel 1.4301
Tension anchor	Stainless steel 1.4057
Bushing	Stainless steel 1.4301
Pumps bottom	EN-GJL-200
Elastomers	FPM

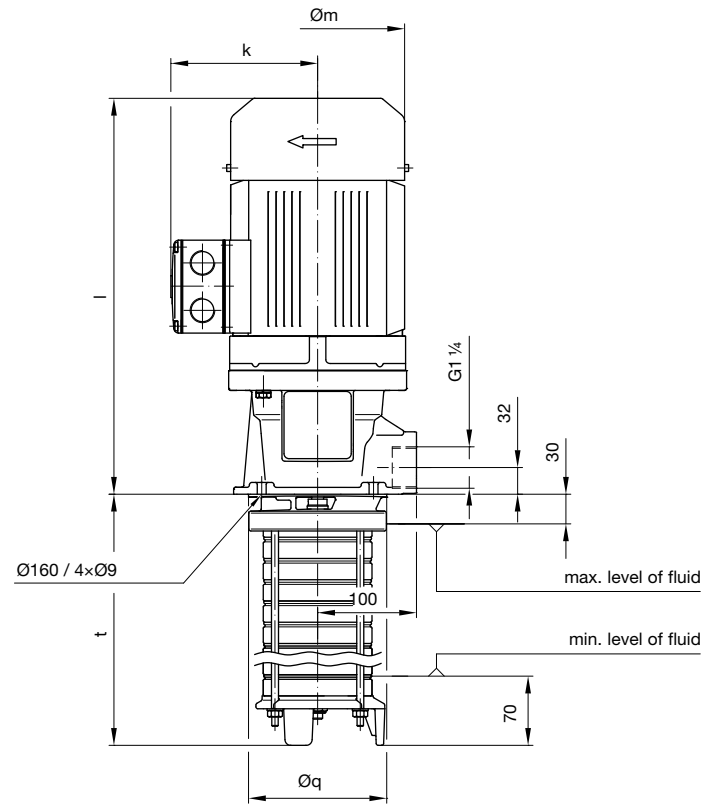
Variations

Component	Material
Flange	with chemical surface sealing or coated with paint
Bottom for extension tube	Stainless steel 1.4301
Intake strainer	Stainless steel 1.4301
Pumps bottom	Stainless steel 1.4308

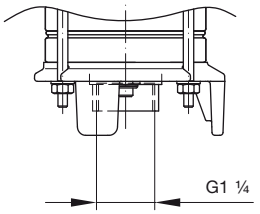
1) Data for viscosity of ~1 mm^2/s at a density of ~1 kg/dm^3. Minimum volumetric flow: 5 to 10 % of nominal delivery rate.

PSR 02 – Immersion pumps, sealless

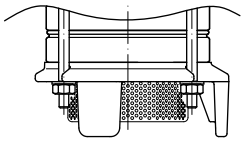
60 Hz, closed impellers



Variation "V"
with bottom for extension tube



Variation "C"
with intake strainer

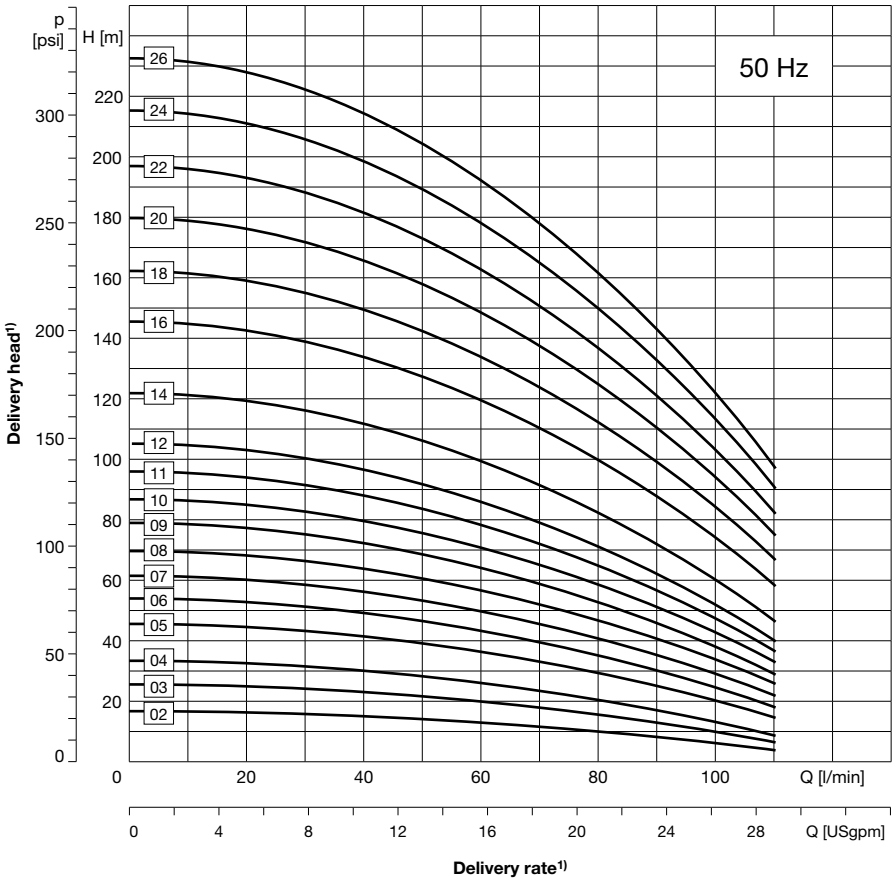


Electrical data, dimensions and weights at 60 Hz

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	Øq			
PSR	02	02	137	265/460	E	0,42	1,57/0,91	3502	140	114	223	140	13,1	60	G1¼
		03	158										13,4		
		04	180		F	0,62	2,06/1,19	3446	140	114	223	140	13,7	60	
		05	201		G	0,73	2,56/1,48	3410	140	114	223	140	14,0	60	
		06	223										14,4		
		07	244		H	1,26	4,07/2,35	3368	140	114	223	140	14,8	60	
		08	266										15,1		
		09	287										15,5		
		10	309		J	1,8	5,0/2,9	3460	176	149	406	140	27,1	64	
		11	330										27,4		
		12	352										27,7		
		14	395		K	2,6	7,5/4,3	3400	176	149	406	140	34,3	64	
		16	438										34,9		
		18	481										35,1		
		20	524		L	3,6	10,1/5,82	3500	196	155	427	140	37,7	70	
		22	567										38,3		

PSR 04 – Immersion pumps, sealless

50 Hz, closed impellers



Features

- Vertical multistage coolant pump
- Connector dimensions as per DIN EN 12157
- For delivery of slightly contaminated types of fluids
- Installation direcly into the reservoir
- Pressure port is located above the reservoir plate and designed with internal thread G1 1/4

Technical Data

Delivery rate Q_{max}	110 l/min
Delivery head H_{max}	232 m
Immersion depth t_{max}	653 mm
Kinematic viscosity	max. 20 mm^2/s
Delivery temperature	-10 °C to +80 °C
Grain size	max. Ø2 mm
Contamination	max. 50 g/m^3
Direction of rotation	clockwise (as viewed looking down on the motor's ventilation side)
Fluids delivered	Emulsions, cooling and cutting oils, cleaning liquids, water, mild acids

Mechanical design

Component	Material
Flange	EN-GJL-200
Shaft	Stainless steel 1.4122
Gap bush (H_{max} < 150 m)	POM
Mechanical seal (H_{max} > 150 m)	WC, carbon, FKM, stainless steel 1.4571
Impeller	Stainless steel 1.4301
Intermediate chamber	Stainless steel 1.4301
Tension anchor	Stainless steel 1.4057
Bushing	Stainless steel 1.4301
Pumps bottom	EN-GJL-200
Elastomers	FPM

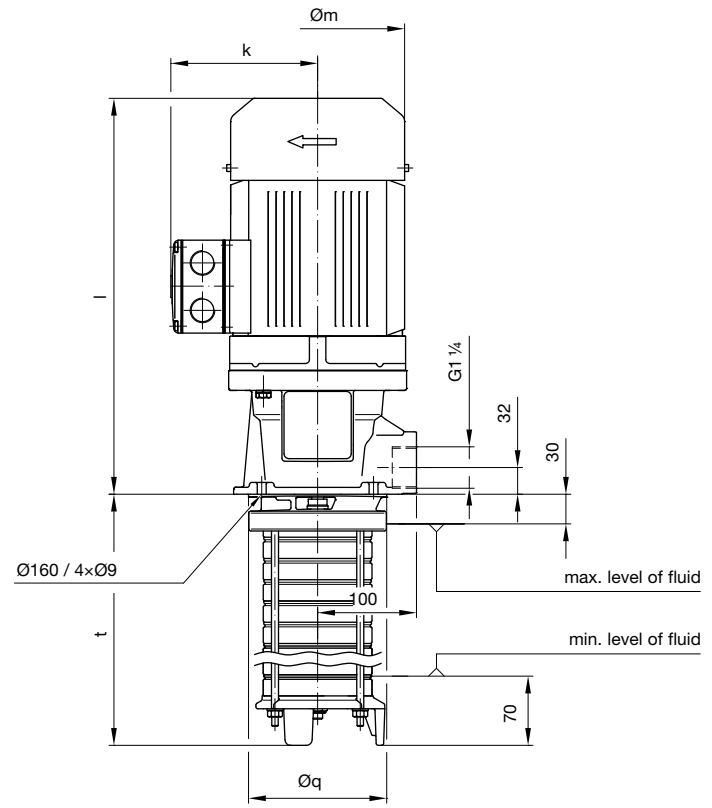
Variations

Component	Material
Flange	with chemical surface sealing or coated with paint
Bottom for extension tube	Stainless steel 1.4301
Intake strainer	Stainless steel 1.4301
Pumps bottom	Stainless steel 1.4308

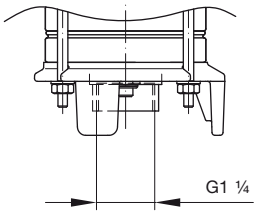
1) Data for viscosity of ~1 mm^2/s at a density of ~1 kg/dm^3. Minimum volumetric flow: 5 to 10 % of nominal delivery rate.

PSR 04 – Immersion pumps, sealless

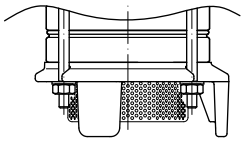
50 Hz, closed impellers



Variation "V"
with bottom for extension tube



Variation "C"
with intake strainer

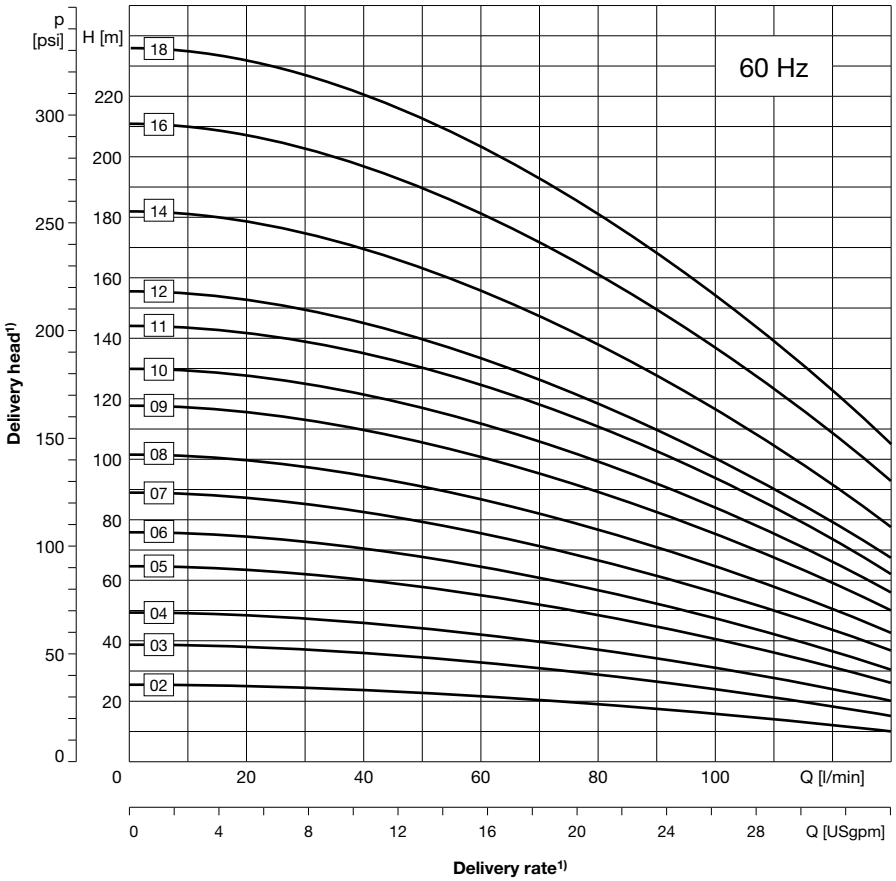


Electrical data, dimensions and weights at 50 Hz

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	Øq			
PSR	04	02	137	230/400	E	0,37	1,57/0,91	2902	140	114	223	140	13,1	58	G1¼
		03	158		F	0,55	2,06/1,19	2836	140	114	223	140	13,4	58	
		04	180										13,7		
		05	201		G	0,63	2,56/1,48	2870	140	114	223	140	14,0	58	
		06	223		H	1,1	4,07/2,35	2730	140	114	223	140	14,7	58	
		07	244										15,0		
		08	266		J	1,5	4,95/2,86	2850	176	149	406	140	15,3	60	
		09	287										28,5		
		10	309										28,8		
		11	330		K	2,2	7,15/4,13	2840	176	149	406	140	32,7	60	
		12	352										33,0		
		14	395										33,6		
		16	438		L	3,0	10,0/5,75	2885	196	155	427	140	36,2	67	
		18	481										36,8		
		20	524										37,4		
		22	567		M	4,0	13,0/7,5	2880	196	155	447	140	44,0	69	
		24	610										44,6		
		26	653										45,2		

PSR 04 – Immersion pumps, sealless

60 Hz, closed impellers



Features

- Vertical multistage coolant pump
- Connector dimensions as per DIN EN 12157
- For delivery of slightly contaminated types of fluids
- Installation direcly into the reservoir
- Pressure port is located above the reservoir plate and designed with internal thread G1 1/4

Technical Data

Delivery rate Q_{max}	130 l/min
Delivery head H_{max}	238 m
Immersion depth t_{max}	481 mm
Kinematic viscosity	max. 20 mm^2/s
Delivery temperature	-10 °C to +80 °C
Grain size	max. Ø2 mm
Contamination	max. 50 g/m^3
Direction of rotation	clockwise (as viewed looking down on the motor's ventilation side)
Fluids delivered	Emulsions, cooling and cutting oils, cleaning liquids, water, mild acids

Mechanical design

Component	Material
Flange	EN-GJL-200
Shaft	Stainless steel 1.4122
Gap bush (H_{max} < 150 m)	POM
Mechanical seal (H_{max} > 150 m)	WC, carbon, FKM, stainless steel 1.4571
Impeller	Stainless steel 1.4301
Intermediate chamber	Stainless steel 1.4301
Tension anchor	Stainless steel 1.4057
Bushing	Stainless steel 1.4301
Pumps bottom	EN-GJL-200
Elastomers	FPM

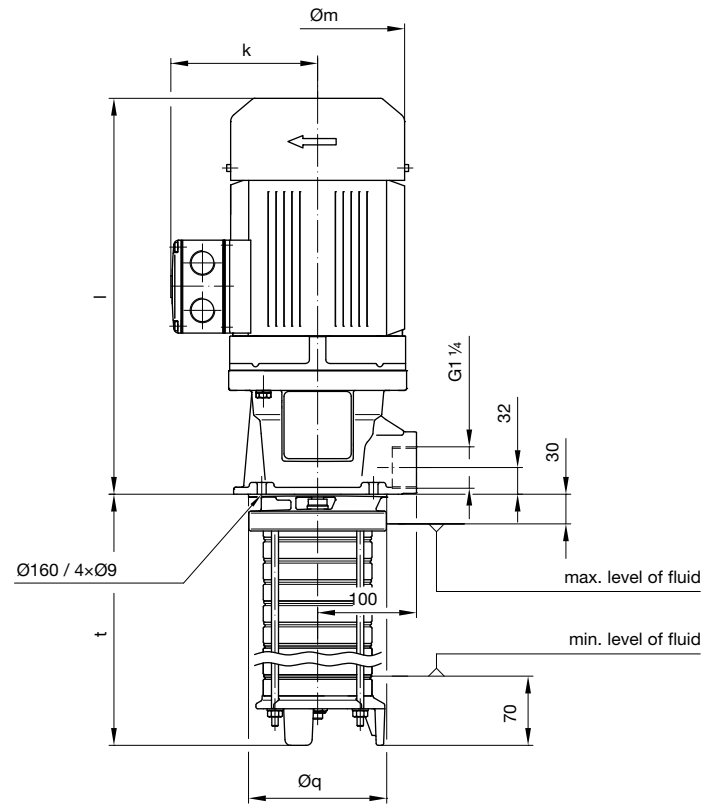
Variations

Component	Material
Flange	with chemical surface sealing or coated with paint
Bottom for extension tube	Stainless steel 1.4301
Intake strainer	Stainless steel 1.4301
Pumps bottom	Stainless steel 1.4308

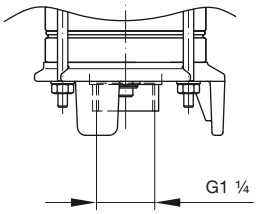
1) Data for viscosity of ~1 mm^2/s at a density of ~1 kg/dm^3. Minimum volumetric flow: 5 to 10 % of nominal delivery rate.

PSR 04 – Immersion pumps, sealless

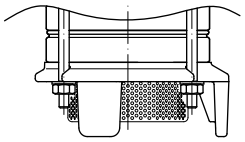
60 Hz, closed impellers



Variation "V"
with bottom for extension tube



Variation "C"
with intake strainer

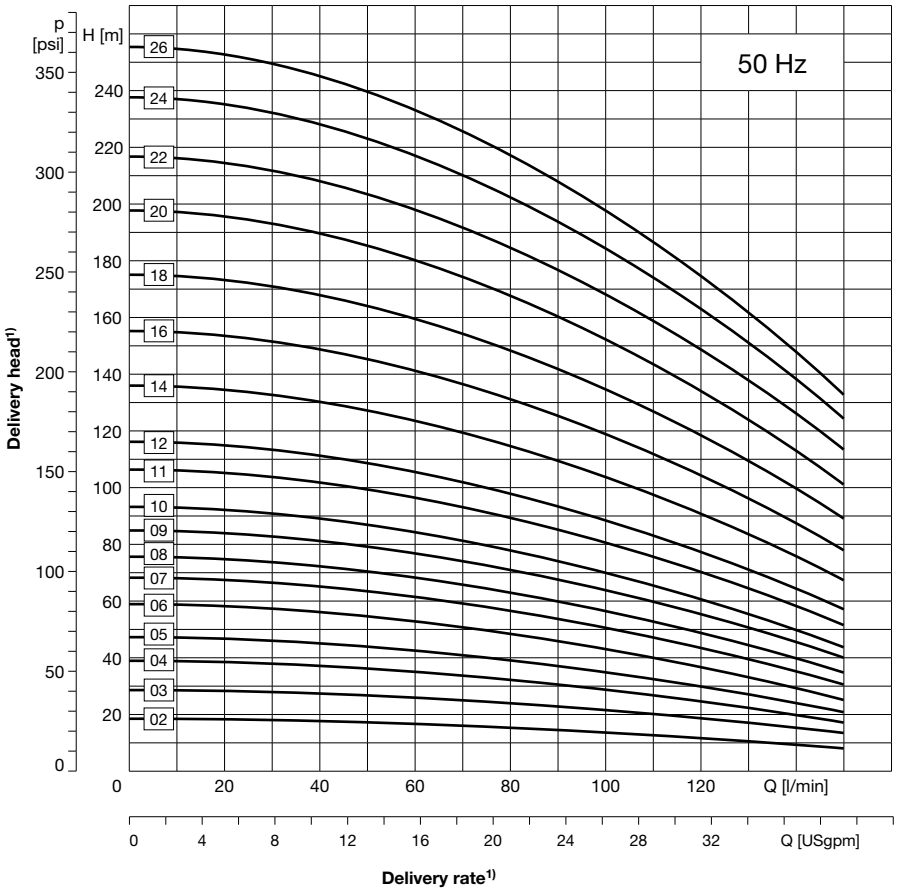


Electrical data, dimensions and weights at 60 Hz

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	Øq			
PSR	04	02	137	265/460	F	0,62	2,06/1,19	3446	140	114	223	140	13,1	60	G1¼
		03	158		G	0,73	2,56/1,48	3410	140	114	223	140	13,4	60	
		04	180		H	1,26	4,07/2,35	3368	140	114	223	140	14,1	60	
		05	201		J	1,8	5,0/2,9	3460	176	149	406	140	26,6	64	
		06	223										26,9		
		07	244		K	2,6	7,5/4,3	3400	176	149	406	140	30,8	64	
		08	266										31,1		
		09	287		L	3,6	10,1/5,82	3500	196	155	427	140	33,8	70	
		10	309										34,1		
		11	330										34,4		
		12	352		M	4,5	12,7/7,3	3480	196	155	447	140	41,0	72	
		14	395										41,6		
		16	438	Δ 460	N	6,2	Δ 11,5	3490	257	182	530	140	54,2	72	
		18	481										54,8		

PSR 06 – Immersion pumps, sealless

50 Hz, closed impellers



Features

- Vertical multistage coolant pump
- Connector dimensions as per DIN EN 12157
- For delivery of slightly contaminated types of fluids
- Installation direcly into the reservoir
- Pressure port is located above the reservoir plate and designed with internal thread G1 1/4

Technical Data

Delivery rate Q_{max}	150 l/min
Delivery head H_{max}	255 m
Immersion depth t_{max}	747 mm
Kinematic viscosity	max. 20 mm^2/s
Delivery temperature	-10 °C to +80 °C
Grain size	max. Ø2 mm
Contamination	max. 50 g/m^3
Direction of rotation	clockwise (as viewed looking down on the motor's ventilation side)
Fluids delivered	Emulsions, cooling and cutting oils, cleaning liquids, water, mild acids

Mechanical design

Component	Material
Flange	EN-GJL-200
Shaft	Stainless steel 1.4122
Gap bush (H_{max} < 150 m)	POM
Mechanical seal (H_{max} > 150 m)	WC, carbon, FKM, stainless steel 1.4571
Impeller	Stainless steel 1.4301
Intermediate chamber	Stainless steel 1.4301
Tension anchor	Stainless steel 1.4057
Bushing	Stainless steel 1.4301
Pumps bottom	EN-GJL-200
Elastomers	FPM

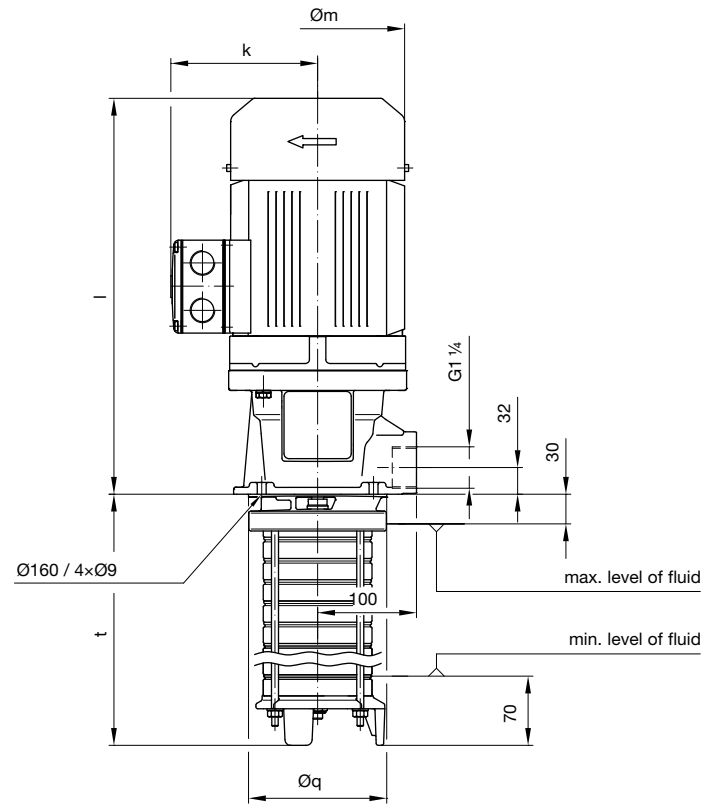
Variations

Component	Material
Flange	with chemical surface sealing or coated with paint
Bottom for extension tube	Stainless steel 1.4301
Intake strainer	Stainless steel 1.4301
Pumps bottom	Stainless steel 1.4308

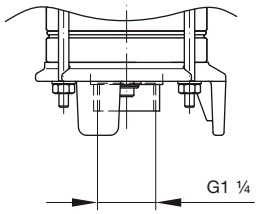
1) Data for viscosity of ~1 mm^2/s at a density of ~1 kg/dm^3. Minimum volumetric flow: 5 to 10 % of nominal delivery rate.

PSR 06 – Immersion pumps, sealless

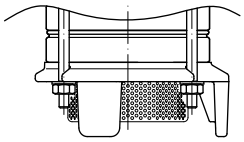
50 Hz, closed impellers



Variation "V"
with bottom for extension tube



Variation "C"
with intake strainer

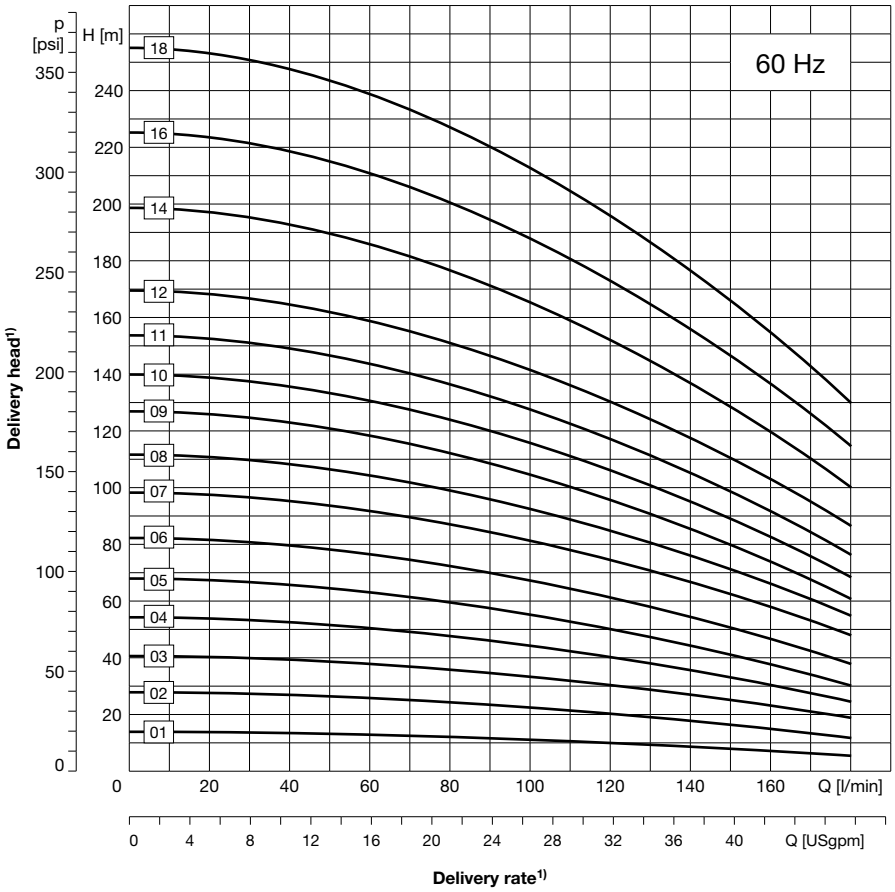


Electrical data, dimensions and weights at 50 Hz

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	Øq			
PSR	06	02	147	230/400	F	0,55	2,06/1,19	2836	140	114	223	140	13,2	58	G1¼
		03	172		G	0,63	2,56/1,48	2807	140	114	223	140	13,6	58	
		04	197		H	1,1	4,07/2,35	2730	140	114	223	140	13,9	58	
		05	222										14,3		
		06	247		J	1,5	4,95/2,86	2850	176	149	396	140	26,8	60	
		07	272										27,1		
		08	297		K	2,2	7,15/4,13	2840	176	149	406	140	28,5	60	
		09	322										28,8		
		10	347										29,2		
		11	372		L	3,0	10,0/5,75	2885	196	155	427	140	32,2	67	
		12	397										32,5		
		14	447										33,1		
		16	497		M	4,0	13,0/7,5	2880	196	155	447	140	35,1	69	
		18	547										35,8		
		20	597	Δ 400	N	5,5	11,2	2900	257	182	530	140	47,8	71	
		22	647										48,5		
		24	697										49,2		
		26	747										50,0		

PSR 06 – Immersion pumps, sealless

60 Hz, closed impellers



Features

- Vertical multistage coolant pump
- Connector dimensions as per DIN EN 12157
- For delivery of slightly contaminated types of fluids
- Installation direcly into the reservoir
- Pressure port is located above the reservoir plate and designed with internal thread G1 1/4

Technical Data

Delivery rate Q_{max}	180 l/min
Delivery head H_{max}	255 m
Immersion depth t_{max}	547 mm
Kinematic viscosity	max. 20 mm^2/s
Delivery temperature	-10 °C to +80 °C
Grain size	max. Ø2 mm
Contamination	max. 50 g/m^3
Direction of rotation	clockwise (as viewed looking down on the motor's ventilation side)
Fluids delivered	Emulsions, cooling and cutting oils, cleaning liquids, water, mild acids

Mechanical design

Component	Material
Flange	EN-GJL-200
Shaft	Stainless steel 1.4122
Gap bush (H_{max} < 150 m)	POM
Mechanical seal (H_{max} > 150 m)	WC, carbon, FKM, stainless steel 1.4571
Impeller	Stainless steel 1.4301
Intermediate chamber	Stainless steel 1.4301
Tension anchor	Stainless steel 1.4057
Bushing	Stainless steel 1.4301
Pumps bottom	EN-GJL-200
Elastomers	FPM

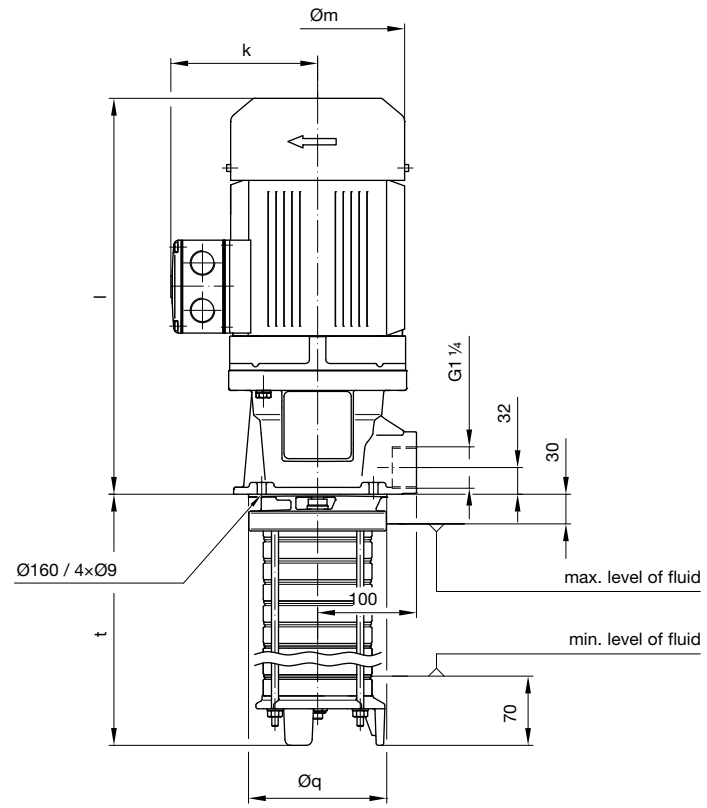
Variations

Component	Material
Flange	with chemical surface sealing or coated with paint
Bottom for extension tube	Stainless steel 1.4301
Intake strainer	Stainless steel 1.4301
Pumps bottom	Stainless steel 1.4308

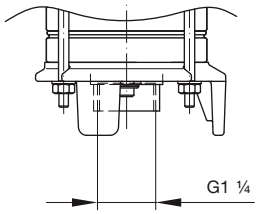
1) Data for viscosity of ~1 mm^2/s at a density of ~1 kg/dm^3. Minimum volumetric flow: 5 to 10 % of nominal delivery rate.

PSR 06 – Immersion pumps, sealless

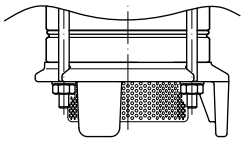
60 Hz, closed impellers



Variation "V"
with bottom for extension tube



Variation "C"
with intake strainer

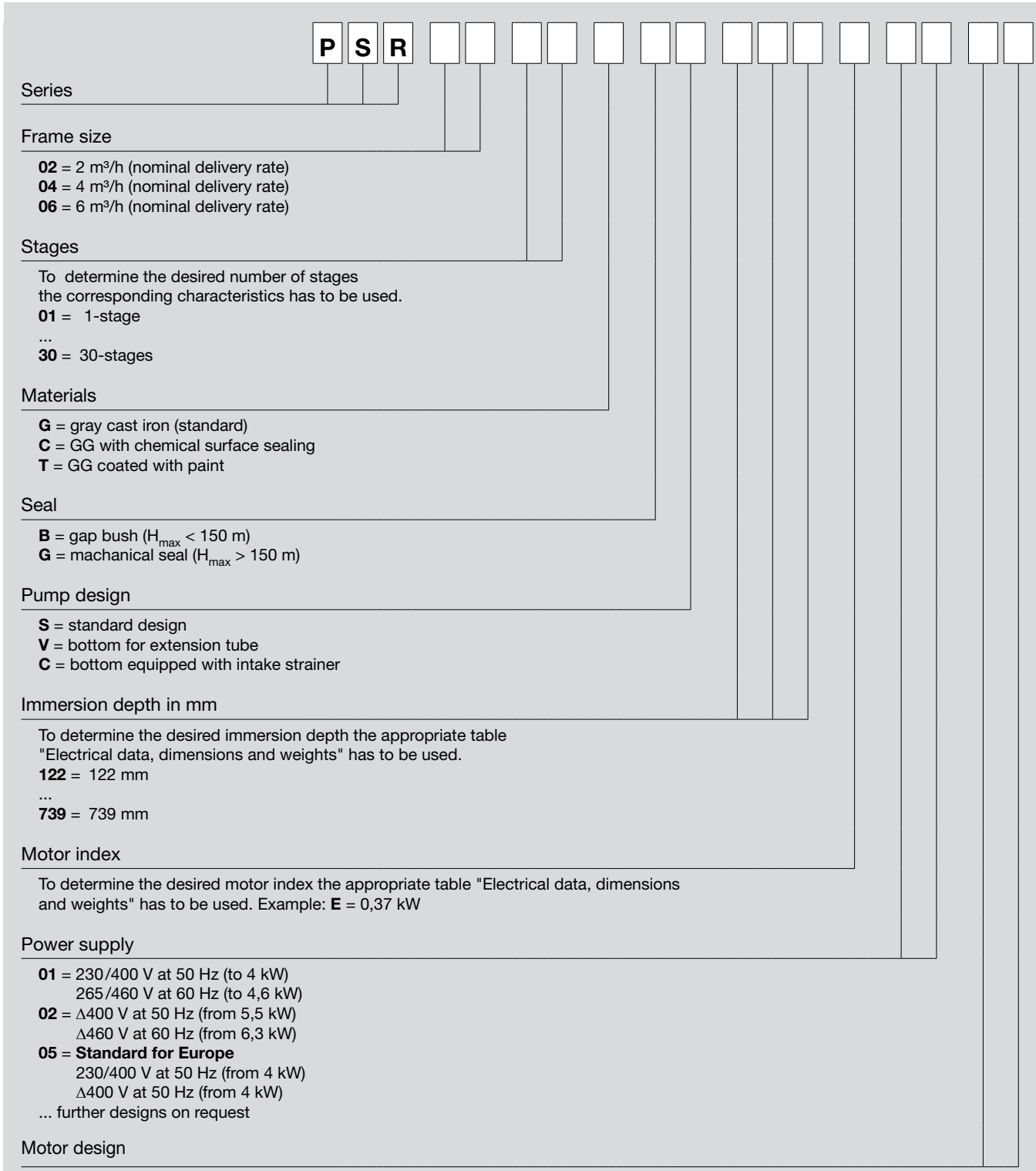


Electrical data, dimensions and weights at 60 Hz

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	Øq			
PSR	06	01	122	265/460	F	0,62	2,06/1,19	3446	140	114	223	140	13,2	60	G1¼
		02	147		G	0,73	2,56/1,48	3410	140	114	223	140	13,7	60	
		03	172		H	1,26	4,07/2,35	3368	140	114	223	140	14,1	60	
		04	197		J	1,75	4,95/2,86	3465	176	149	396	140	26,2	64	
		05	222		K	2,55	7,15/4,13	3460	176	149	406	140	27,5	64	
		06	247										27,9		
		07	272		L	3,45	10,0/5,75	3505	196	155	427	140	30,7	70	
		08	297										31,1		
		09	322		M	4,6	13,0/7,5	3495	196	155	447	140	33,2	72	
		10	347										33,6		
		11	372										34,0		
		12	397	Δ 460	N	6,2	11,5	3490	257	182	530	140	46,0	72	
		14	447										46,8		
		16	497		O	8,6	14,5	3490	257	182	530	140	52,0	72	
		18	547										52,8		

PSR – Immersion pumps, sealless

Order key



Order example: PSR0218GBS481J01BA
Series: **PSR**, Frame size: **02**, **18**-stages, Material: **G** grey cast iron, Seal: **B** gap bush, Pump design: **S** standard design, Immersion depth: **481** mm, Motor index: **J** 1,5 kW, Power supply: **01** 230/400 V 50 Hz; 265/460 V 60Hz, Motor design: **BA** standard form 0,75 kW

Notes

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This brochure was presented by:

1-6065-EN 08/2019 Subject to change without notice.