

SPO

5" multistage submersible pumps
50 Hz



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Applications

The SPO pump is designed for water supply and pressure boosting in:

- private homes and
- week-end cottages

The wide product range covers all possible installations, such as:

- traditional 5" or 6" wells
- shallow wells
- rainwater collection in tanks
- boosting of public water and
- emptying of garden ponds.

Base plate version

The SPO pump with base plate is ideally suitable for installation in combination with rainwater collection systems.

The pump can be fitted with a flexible hose, filter and floating ball ensuring that water is drawn from a specific level in the tank in order to avoid possible impurities floating at the water surface.

The pump also enables dry installation outside the well or tank as the motor is cooled by the pumped liquid.

Type key

Example	SPO	3	-	75	X
Type range					
Nominal flow rate [m ³ /h]					
Max. head [m]					
- = With strainer A = With strainer and float switch B = Base plate C = Base plate with float switch					

Operating conditions

Liquid temperature: 0°C to +40°C.

Maximum installation depth: 20 m below water level.

Maximum system pressure: 10 bar.

- The pump must not run dry.
- The pump must not operate against a closed discharge valve.
- The pump should be used for clean water only.

Construction

The Grundfos SPO pump is a 5" submersible pump with inlet suction strainer placed at the bottom of the pump.

The motor is placed in the top, inside the pump sleeve, and thus cooled by the pumped liquid.

All hydraulic parts are in stainless steel.

The pump is fitted with a double mechanical shaft seal and an oil chamber to prevent water to enter the motor.

Compared to traditional submersible pumps, the inlet at the suction strainer at the bottom of the pump enables the pump to draw water from a low level in the installation.

The SPO pump is also available in a version with base plate and fitted with an Rp 1 ¼ inlet connection.

Single phase versions are fitted with a built-in capacitor and can be supplied with an adjustable float switch.

Materials, SPO with strainer

Pos.	Description	Materials	DIN W.-Nr.	AISI
4	Impeller	Stainless steel	1.4301	304
6	Chamber	Stainless steel	1.4305	304
7	Shaft with rotor	Stainless steel	1.4301	303
10	Stator			
16	Shaft seal	NBR/SiC/SiC		
16a	Shaft seal	Ceramic		
23	Capacitor (1~ only)			
28	O-ring	NBR		
38	Cable	H07RN		
42	Spacer for strainer	Composite		
77	Sleve	Stainless steel	1.4301	304
79	Suction strainer	Stainless steel	1.4301	304
83	Float switch			
84	Cable gland	NBR		
92	Base	Stainless steel	1.4301	304
105	Oil chamber	Composite		
115	Oil			
216	Cable clamping plate	Composite		
307	Ring (threaded)	Composite		
308	Ring (spherical)	Composite		
310	Eye bolt	Stainless steel	1.4301	304

Sectional drawing

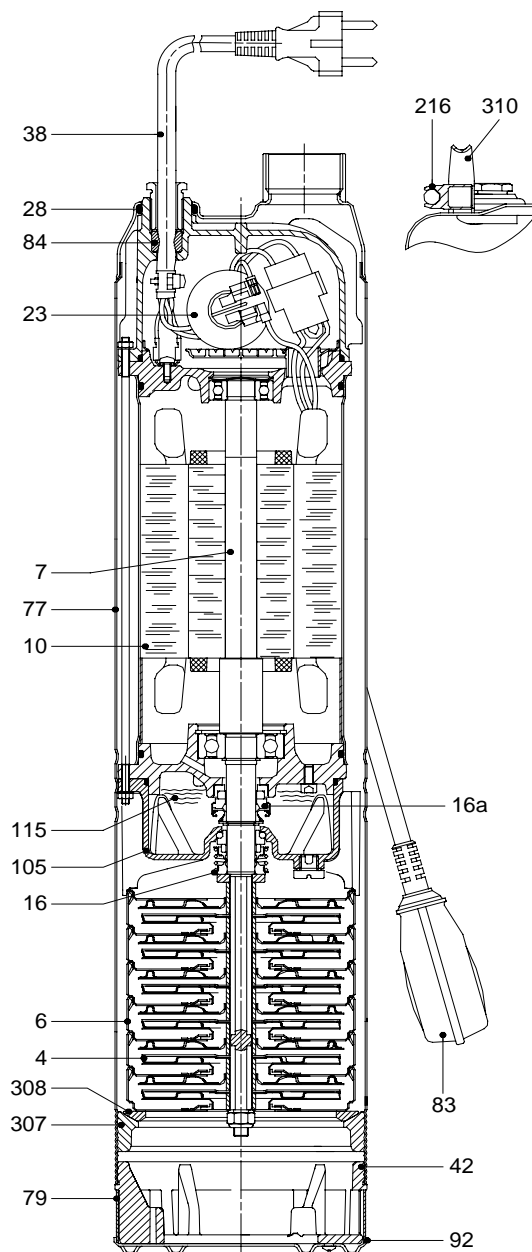


Fig. 1 SPO with strainer

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Materials, SPO with base plate

Pos.	Description	Materials	DIN W.-Nr.	AISI
4	Impeller	Stainless steel	1.4301	304
6	Chamber	Stainless steel	1.4305	304
7	Shaft with rotor	Stainless steel	1.4301	303
10	Stator			
16	Shaft seal	NBR/SiC/SiC		
16a	Shaft seal	Ceramic		
23	Capacitor (1~ only)			
26	Priming plug			
27	Drain plug			
28	O-ring	NBR		
38	Cable	H07RN		
77	Sleeve	Stainless steel	1.4301	304
84	Cable gland	NBR		
105	Oil sump	Composite		
115	Oil			
141	O-ring	NBR		
216	Cable clamping plate			
253	Base plate	Stainless steel	1.4305	304
307	Ring (threaded)	Composite		
308	Ring (spherical)	Composite		
310	Eye bolt	Stainless steel	1.4305	304

Sectional drawing

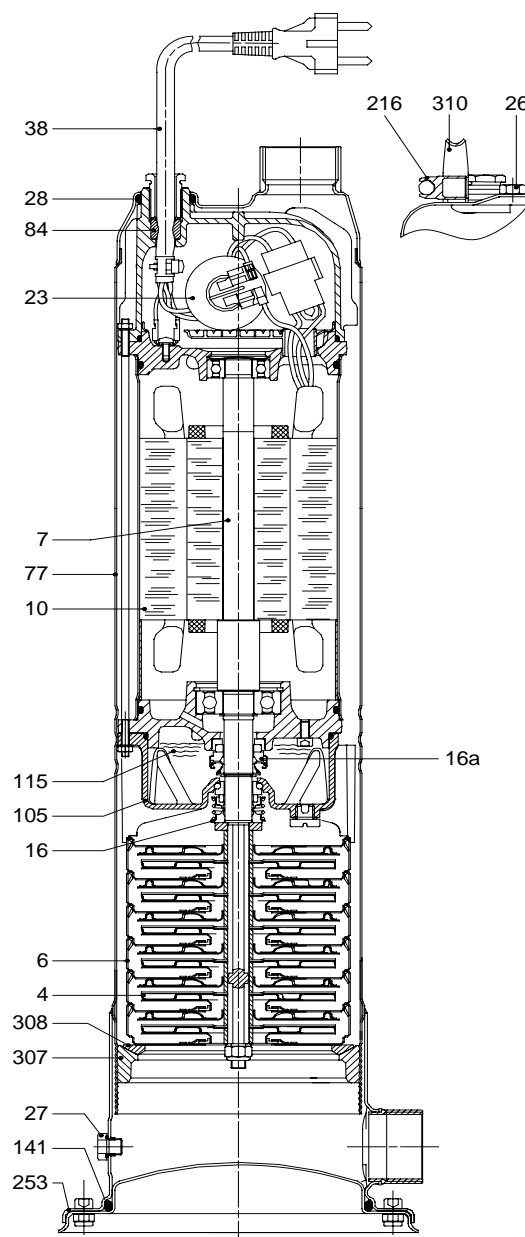


Fig. 2 SPO with baseplate

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Product range

SPO with strainer inlet, 1 x 220-240 V $\pm 6\%$, 50 Hz

Pump type	Motor output (P2)		$I_{1/1}$	Float switch		Cable length [m]	Cable plug	Gross weight [kg]	Shipping vol. [m ³]	Product numbers
	[kW]	[hp]		[A]	Incl.					
SPO 3-40	0.75	1.00	4.8		x	20	Schuko	16.8	0.047	96587112
SPO 3-50	0.75	1.00	5.9		x	20	Schuko	16.9		96587113
SPO 3-65	1	1.36	7.3		x	20	Schuko	18.7		96587114
SPO 3-75	1.2	1.60	9.6		x	20	Schuko	20.9		96587115
SPO 5-45	0.75	1.00	5.8		x	20	Schuko	17.2		96587117
SPO 5-55	1	1.36	7.0		x	20	Schuko	19		96587118
SPO 5-70	1.2	1.60	9.1		x	20	Schuko	21.2		96587119
SPO 3-40 A	0.75	1.00	4.8	x		20	Schuko	17.1		96587131
SPO 3-50 A	0.75	1.00	5.9	x		20	Schuko	17.2		96587132
SPO 3-65 A	1	1.36	7.3	x		20	Schuko	19	96587133	
SPO 3-75 A	1.2	1.60	9.6	x		20	Schuko	21.2	96587134	
SPO 5-45 A	0.75	1.00	5.8	x		20	Schuko	17.5	96587135	
SPO 5-55 A	1	1.36	7.0	x		20	Schuko	19.3	96587136	
SPO 5-70 A	1.2	1.60	9.1	x		20	Schuko	21.5	96587137	

SPO with strainer inlet, 3 x 380-415 V $\pm 6\%$, 50 Hz

Pump type	Motor output (P2)		$I_{1/1}$	Float switch		Cable length [m]	Cable plug	Gross weight [kg]	Shipping vol. [m ³]	Product numbers
	[kW]	[hp]		[A]	Incl.					
SPO 3-40	0.75	1.00	2.0		x	20	Excl. plug	16.8	0.047	96587138
SPO 3-50	0.75	1.00	2.3		x	20	Excl. plug	16.9		96587139
SPO 3-65	1	1.36	3.0		x	20	Excl. plug	18.7		96587150
SPO 3-75	1.2	1.60	3.7		x	20	Excl. plug	20.9		96587151
SPO 5-45	0.75	1.00	2.3		x	20	Excl. plug	17.2		96587153
SPO 5-55	1	1.36	2.9		x	20	Excl. plug	19		96587154
SPO 5-70	1.2	1.60	3.6		x	20	Excl. plug	21.2		96587155

SPO with base plate, 1 x 220-240 V \pm 6%, 50 Hz

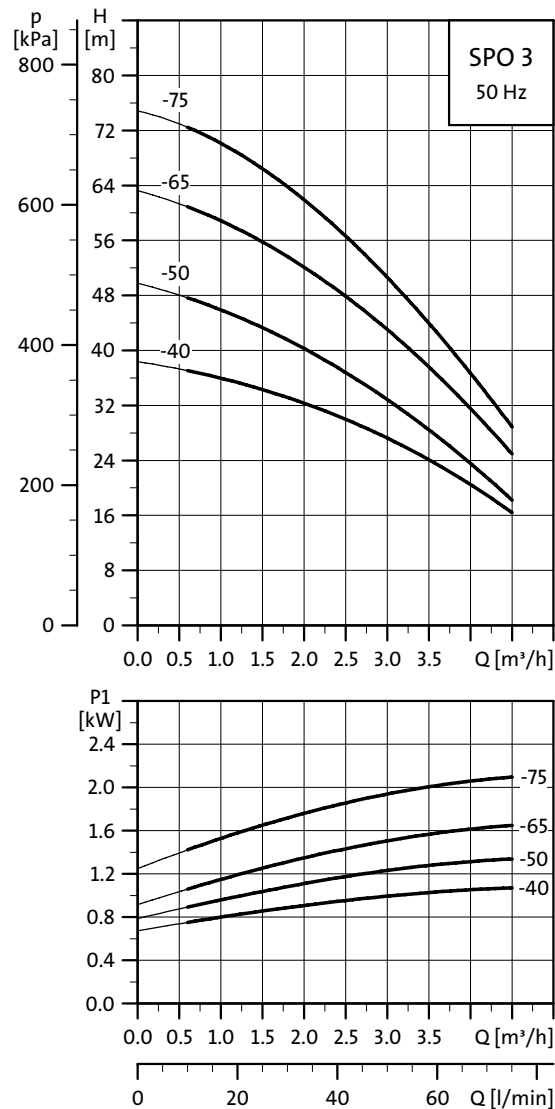
Pump type	Motor output (P2)		I _{1/1}	Float switch		Cable length [m]	Cable plug	Gross weight [kg]	Shipping vol. [m ³]	Product numbers
	[kW]	[hp]		[A]	Incl.					
SPO 3-50 B	0.75	1.00	5.9		x	4	Excl. plug	16.4	0.047	96587223
SPO 3-65 B	1	1.36	7.3		x	4	Excl. plug	18.2		96587227
SPO 5-55 B	1	1.36	7.0		x	4	Excl. plug	18.5		96587229
SPO 5-70 B	1.2	1.60	9.1		x	4	Excl. plug	20.7		96587230
SPO 3-50 B	0.75	1.00	5.9		x	20	Schuko	18.2	0.047	96587250
SPO 3-65 B	1	1.36	7.3		x	20	Schuko	20.0		96587251
SPO 5-55 B	1	1.36	7.0		x	20	Schuko	20.3		96587253
SPO 5-70 B	1.2	1.60	9.1		x	20	Schuko	22.5		96587254
SPO 3-50 C	0.75	1.00	5.9	x		4	Excl. plug	16.7	0.047	96587246
SPO 3-65 C	1	1.36	7.3	x		4	Excl. plug	18.5		96587247
SPO 5-55 C	1	1.36	7.0	x		4	Excl. plug	18.8		96587248
SPO 5-70 C	1.2	1.60	9.1	x		4	Excl. plug	21		96587249
SPO 3-50 C	0.75	1.00	5.9	x		20	Schuko	18.5	0.047	96587259
SPO 3-65 C	1	1.36	7.3	x		20	Schuko	20.3		96587261
SPO 5-55 C	1	1.36	7.0	x		20	Schuko	20.6		96587263
SPO 5-70 C	1.2	1.60	9.1	x		20	Schuko	22.8		96587265

SPO with base plate, 3 x 380-415 V \pm 6%, 50 Hz

Pump type	Motor output (P2)		I _{1/1}	Float switch		Cable length [m]	Cable plug	Gross weight [kg]	Shipping vol. [m ³]	Product numbers
	[kW]	[hp]		[A]	Incl.					
SPO 3-50 B	0.75	1.00	2.3		x	4	Excl. plug	16.4	0.047	96587273
SPO 3-65 B	1	1.36	3.0		x	4	Excl. plug	18.2		96587278
SPO 5-55 B	1	1.36	2.9		x	4	Excl. plug	18.5		96587279
SPO 5-70 B	1.2	1.60	3.6		x	4	Excl. plug	20.7		96587280

SPO 3 with strainer

Performance curves



Performance table

Pump type	Flow rate									
	[l/min]	8.3	16.7	25	33.3	41.7	50	58.3	66.7	75
	[m³/h]	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
	Head [m]									
SPO 3-40		37	36	34	32	30	27	24	20	16
SPO 3-40 A										
SPO 3-50		48	46	43	40	37	33	28	24	18
SPO 3-50 A										
SPO 3-65		61	59	56	52	48	43	37	32	25
SPO 3-65 A										
SPO 3-75		73	70	66	62	57	51	44	37	29
SPO 3-75 A										

Dimensions and weights

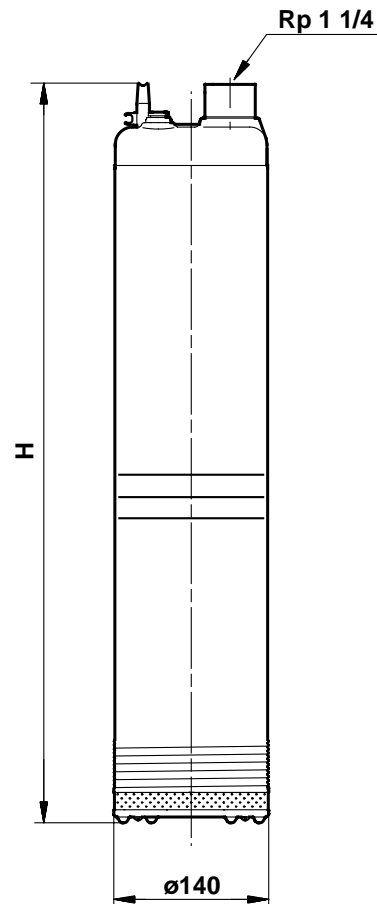


Fig. 1 SPO 3 with strainer

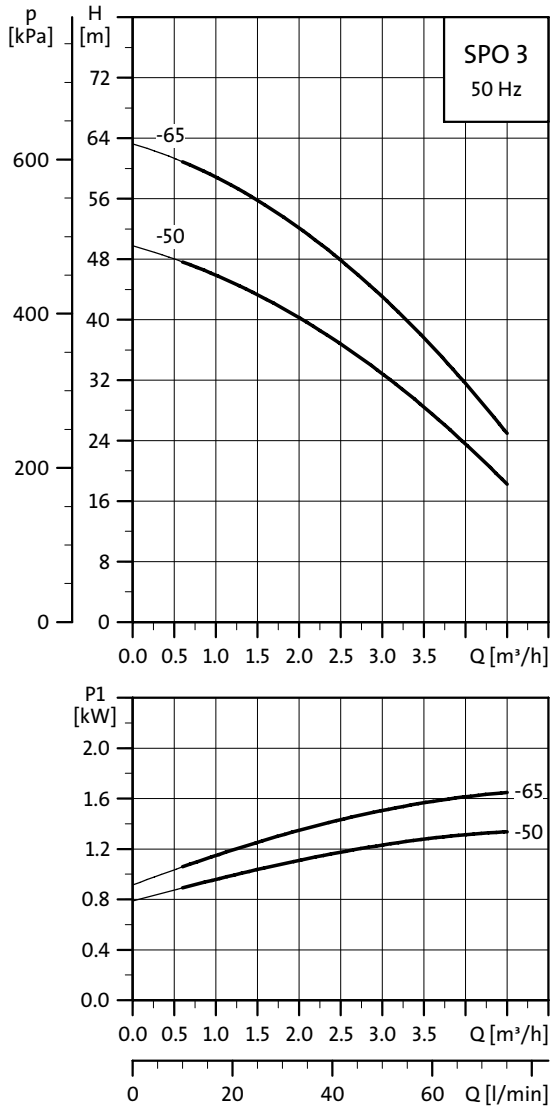
Pump type	Dimension H [mm]	Net weight [kg]
SPO 3-40	546	15.6
SPO 3-40 A	546	15.9
SPO 3-50	546	15.7
SPO 3-50 A	546	16.0
SPO 3-65	606	17.6
SPO 3-65 A	606	17.9
SPO 3-75	626	19.8
SPO 3-75 A	626	20.1

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SPO 3 with base plate

Performance curves



Performance table

Pump type	Flow rate									
	[l/min]	8.3	16.7	25	33.3	41.7	50	58.3	66.7	75
	[m³/h]	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
	Head [m]									
SPO 3-50 B	48	46	43	40	37	33	28	24	18	
SPO 3-50 C										
SPO 3-65 B	61	59	56	52	48	43	37	32	25	
SPO 3-65 C										

Dimensions and weights

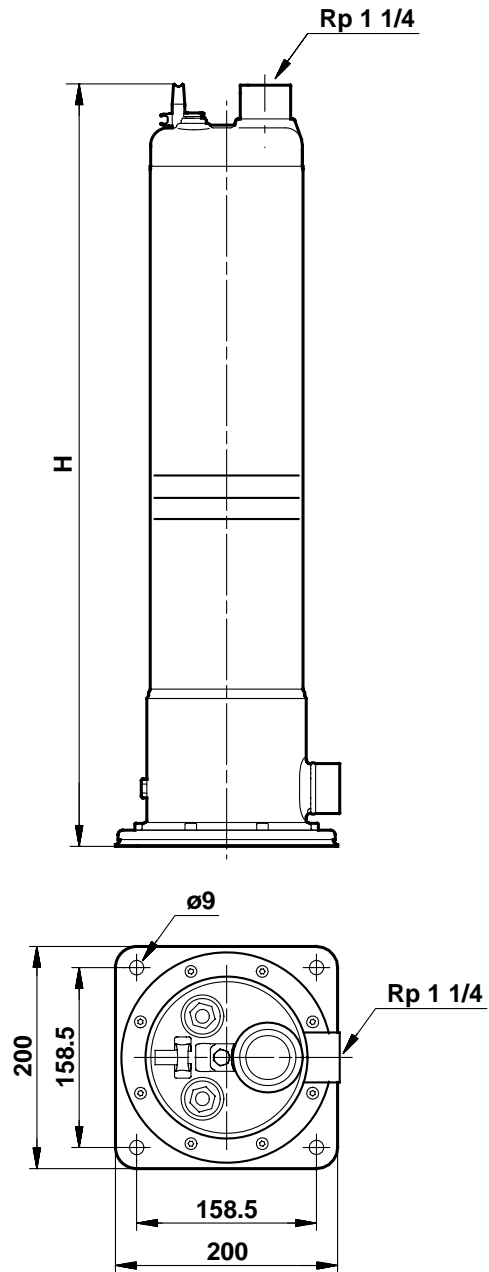
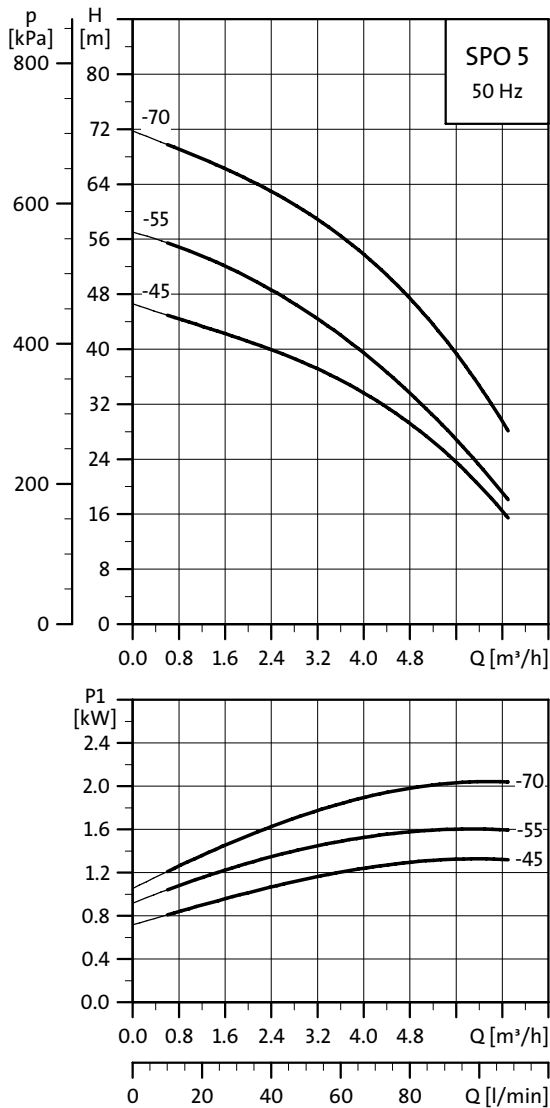


Fig. 2 SPO 3 with baseplate

Pump type	Dimension H [mm]	Net weight [kg]
SPO 3-50 B	578	15.2
SPO 3-50 C	578	15.5
SPO 3-65 B	638	17.1
SPO 3-65 C	638	17.4

SPO 5 with strainer

Performance curves



Performance table

Pump type	Flow rate						
	[l/min]	16.7	33	50	67	83	100
	[m³/h]	1.0	2.0	3.0	4.0	5.0	6.0
Pump type	Head [m]						
	SPO 5-45	44	41	38	33	28	20
SPO 5-45 A							
SPO 5-55	54	50	46	39	32	23	
SPO 5-55 A							
SPO 5-70	68	65	60	54	46	35	
SPO 5-70 A							

Dimensions and weights

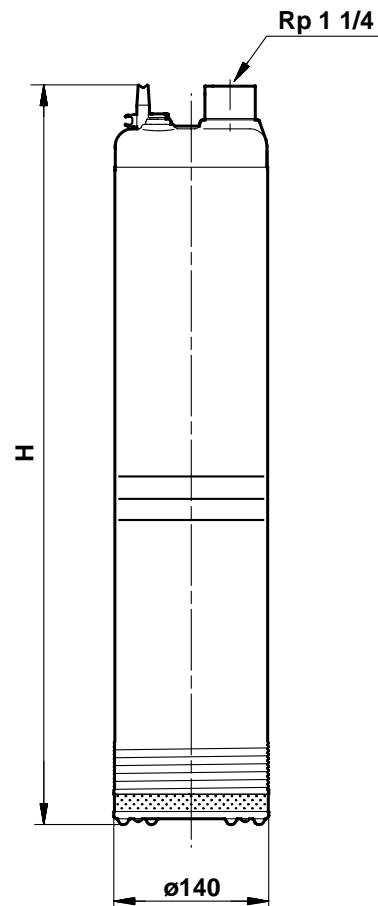


Fig. 3 SPO 5 with strainer

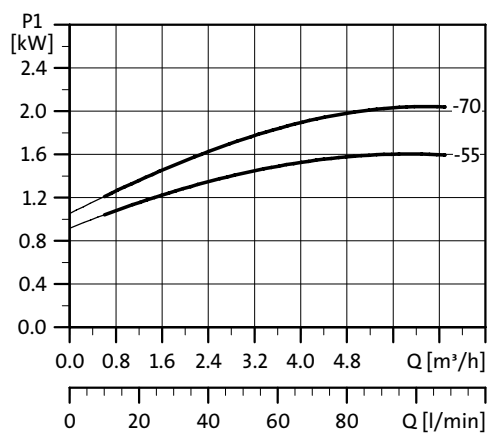
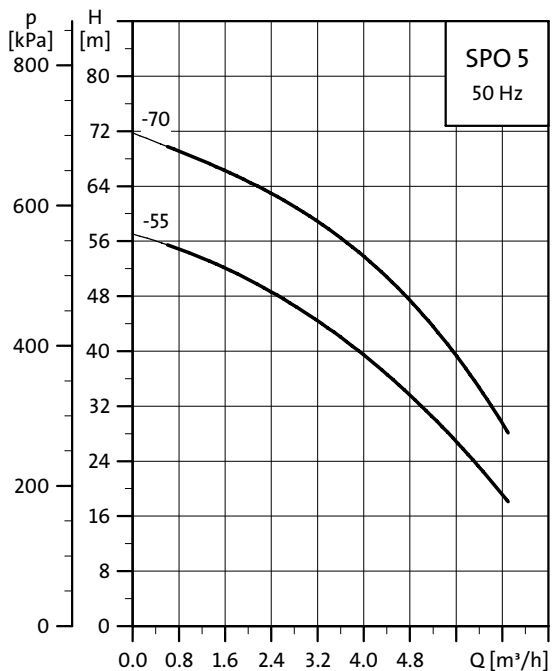
Pump type	Dimension H [mm]	Net weight [kg]
SPO 5-45	546	16.1
SPO 5-45 A	546	16.4
SPO 5-55	606	17.9
SPO 5-55 A	606	18.2
SPO 5-70	626	20.1
SPO 5-70 A	626	20.4

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SPO 5 with base plate

Performance curves

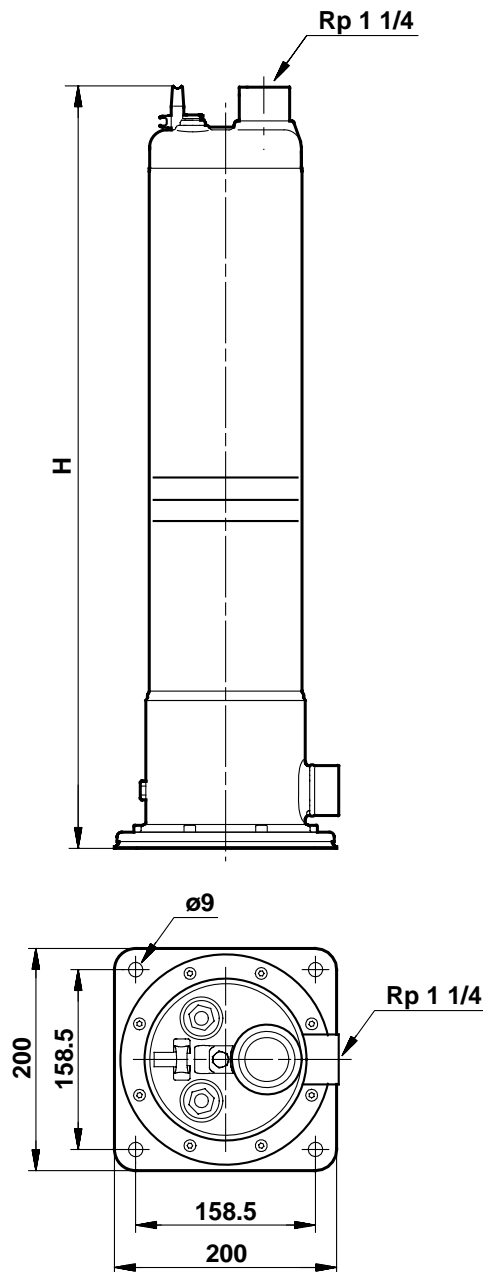


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Performance table

Pump type	Flow rate						
	[l/min]	16.7	33	50	67	83	100
	[m³/h]	1.0	2.0	3.0	4.0	5.0	6.0
Pump type	Head [m]						
	SPO 5-55 B	54	50	46	39	32	23
SPO 5-55 C							
SPO 5-70 B	68	65	60	54	46	35	
SPO 5-70 C							

Dimensions and weights



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Fig. 4 SPO 5 with base plate

Pump type	Dimension H [mm]	Net weight [kg]
SPO 5-55 B	638	17.4
SPO 5-55 C	638	17.7
SPO 5-70 B	658	19.6
SPO 5-70 C	658	19.9

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Subject to alterations.