

# 4SR

## 4" submersible pumps



### PERFORMANCE RANGE

- Flow rate up to **375 l/min** (22.5 m<sup>3</sup>/h)
- Head up to **405 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **150 g/m<sup>3</sup>**
- **100 m** immersion limit
- Installation:
  - vertical
  - horizontal, with the following limits:
    - 4SR1 - 4SR1.5 - 4SR2 - 4SR4 up to **27 stages**
    - 4SR6 - 4SR8 - 4SR10 - 4SR12 - 4SR15 up to **17 stages**
- Starts/hour: 20 at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

#### ELECTRIC MOTOR

- Single-phase 230 V - 50 Hz
- Three-phase 400 V - 50 Hz

Length of power cable:

- **1.5 m** for powers from 0.37 to 1.5 kW (3 kW 4SR-FK)
- **2.5 m** for powers from 2.2 to 5.5 kW (from 4 kW to 7.5 kW 4SR-FK)
- **3.5 m** for power from 7.5 kW 4SR-PD

➡ The **4SR-PD** single-phase versions come with a capacitor included in the packaging.

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS



AN30



IPOMTECT - 168

### INSTALLATION AND USE

Suitable for use with clean water with a sand content of no more than **150 g/m<sup>3</sup>**. As a result of their high efficiency and reliability, they are suitable for use in domestic, civil and industrial applications such as for the distribution of water in combination with pressure sets, for irrigation, for washing plants and for pressure boosting in fire-fighting sets, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent Pending n° PCT/EP2009/059855 (cable cover)
- Patent Pending n° PCT/IB2009/051491 (for single-phase 4SR-PD up to 0.75 kW; three-phase up to 1.1 kW).

### OPTIONALS AVAILABLE ON REQUEST

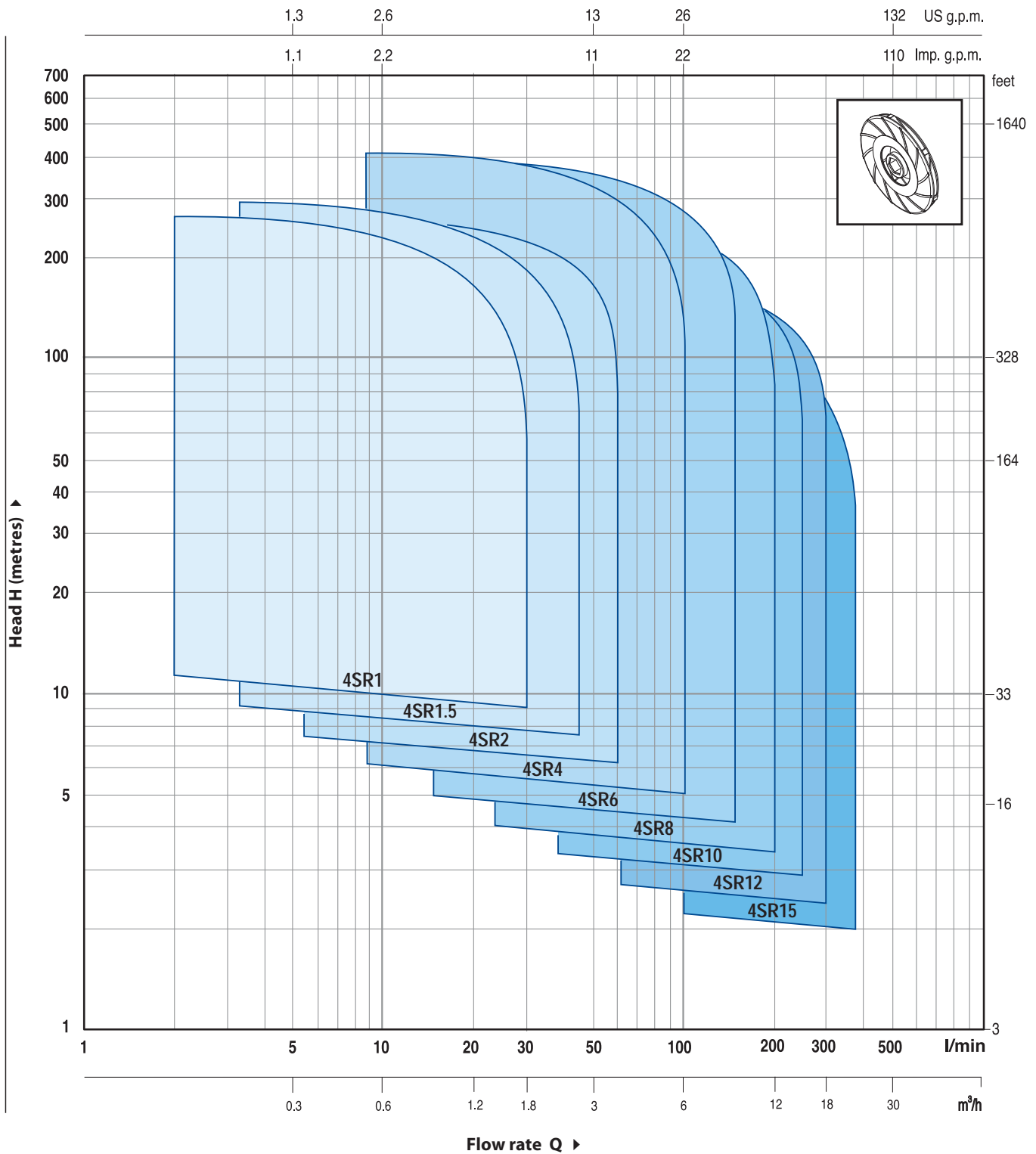
- Other voltages or 60 Hz frequency

### GUARANTEE

2 years subject to terms and conditions

**PERFORMANCE RANGE**

**50 Hz n= 2900 1/min**



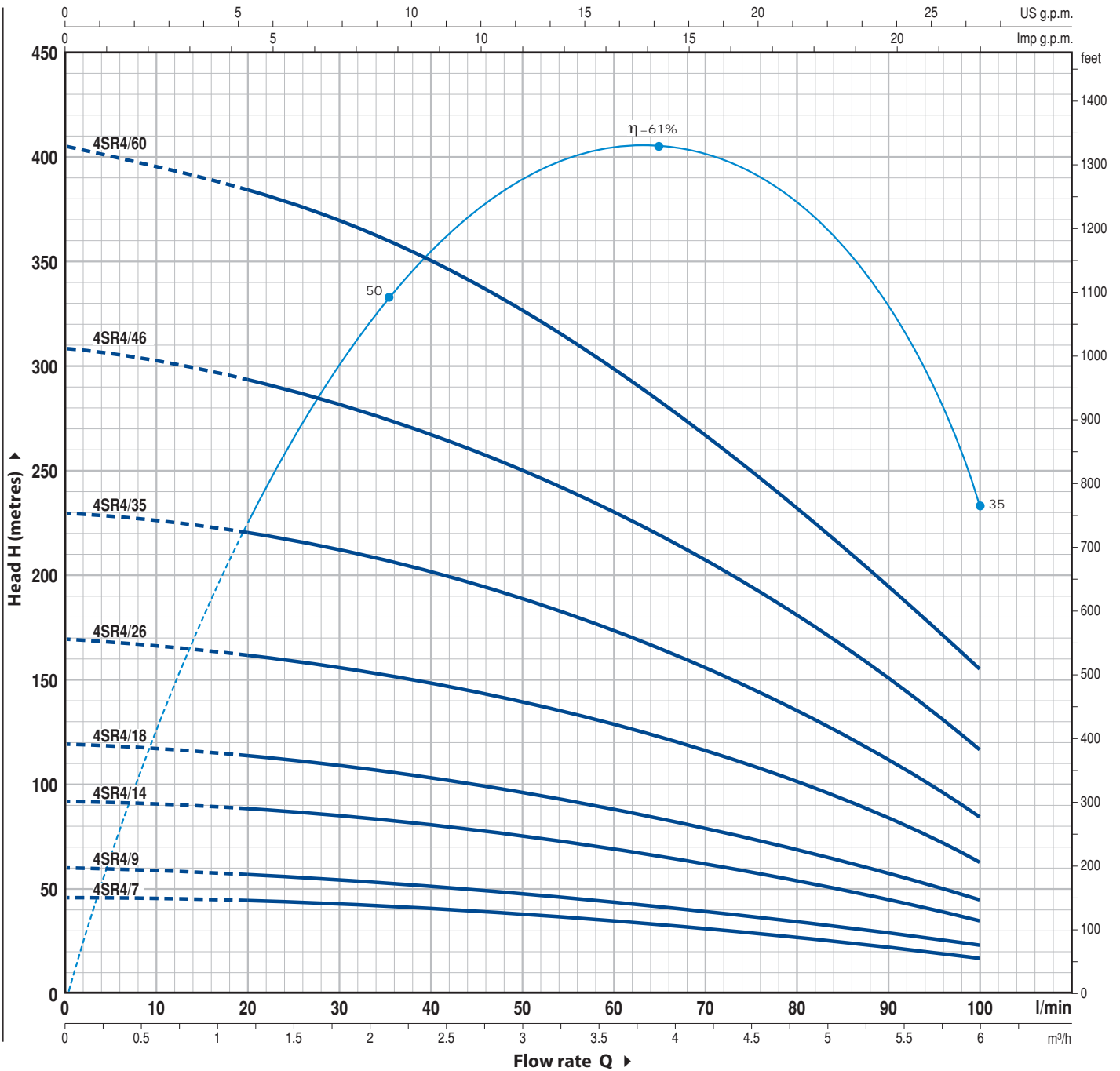
**DESCRIPTION**

**4 SR 1 m / 13 - PD or FK or HYD**

- Borehole diameter in inches \_\_\_\_\_
- Series \_\_\_\_\_
- Flow rate in m³/h at the point of highest efficiency \_\_\_\_\_
- Single-phase motor \_\_\_\_\_
- Number of stages \_\_\_\_\_
- PD:** pump with "PEDROLLO" motor \_\_\_\_\_
- FK:** pump with "FRANKLIN" motor \_\_\_\_\_
- HYD:** pump without motor \_\_\_\_\_

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 1/min

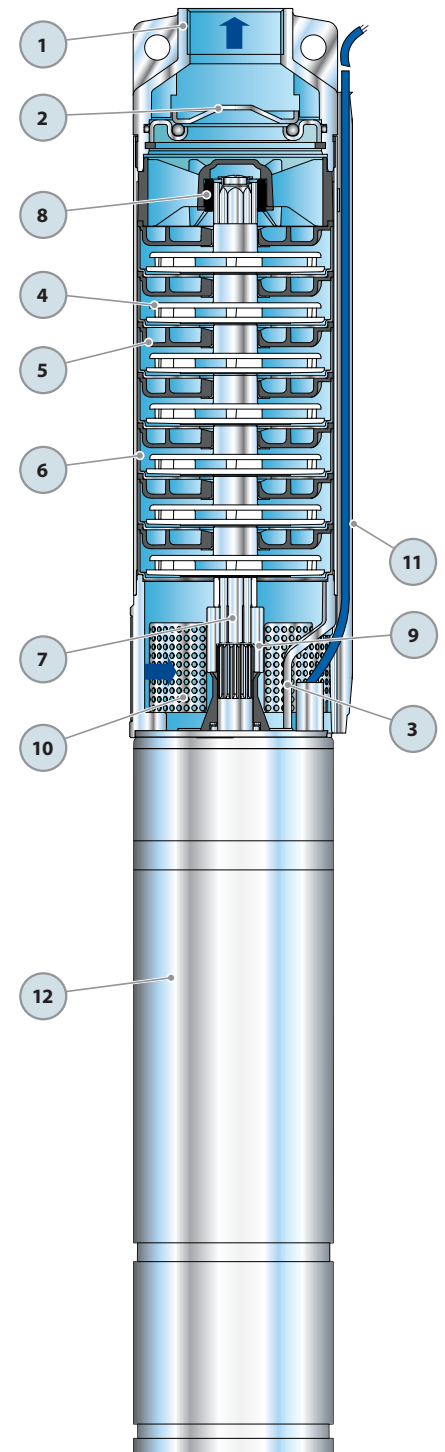


MODEL		POWER		Q	H metres									
Single-phase	Three-phase	kW	HP		0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
				l/min	0	20	30	40	50	60	70	80	90	100
4SR4m/7	4SR4/7	0.55	0.75	46	44	42	40	38	35	32	28	23	17	
4SR4m/9	4SR4/9	0.75	1	60	56	55	52	49	45	40	35	29	23	
4SR4m/14	4SR4/14	1.1	1.5	92	88	85	81	76	70	63	55	45	35	
4SR4m/18	4SR4/18	1.5	2	120	112	109	104	98	90	81	70	58	45	
4SR4m/26	4SR4/26	2.2	3	170	162	157	150	141	130	116	101	84	63	
-	4SR4/35	3	4	230	220	211	202	190	175	157	137	113	85	
-	4SR4/46	4	5.5	308	293	280	269	249	230	205	181	151	117	
-	4SR4/60	5.5	7.5	405	385	370	350	325	300	270	235	195	155	

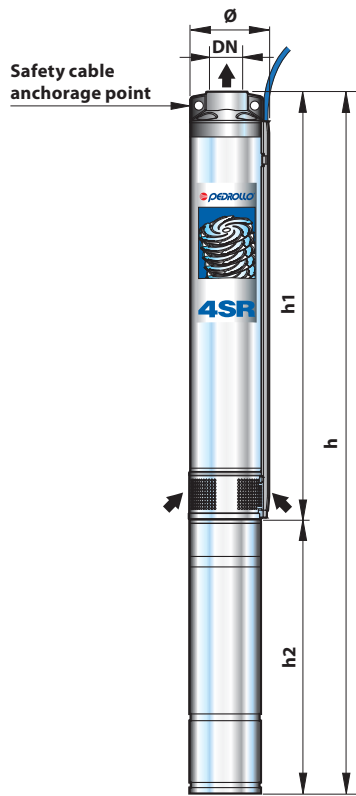
Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 App. A.

POS. COMPONENT	CONSTRUCTION CHARACTERISTICS
1 DELIVERY BODY	Precision cast stainless steel AISI 304, complete with threaded delivery port in compliance with ISO 228/1
2 NON-RETURN VALVE	Stainless steel AISI 304
3 MOTOR BRACKET	Stainless steel AISI 304, in compliance with NEMA standards
4 IMPELLER	Lexan 141-R
5 DIFFUSER	Noryl GFN2V
6 STAGE CASING	Stainless steel AISI 304
7 PUMP SHAFT	Stainless steel AISI 304
8 PUMP BEARINGS	Special-technopolymer housing with stainless steel AISI 316, chrome oxide coated, sand resistant shaft bushing
9 DRIVE COUPLING	Stainless steel AISI 316L up to 2.2 kW; stainless steel AISI 304 for higher powers
10 FILTER	Stainless steel AISI 304
11 CABLE COVER	Stainless steel AISI 304
12 MOTOR 4"	4PD = "PEDROLLO" 4FK = "FRANKLIN"



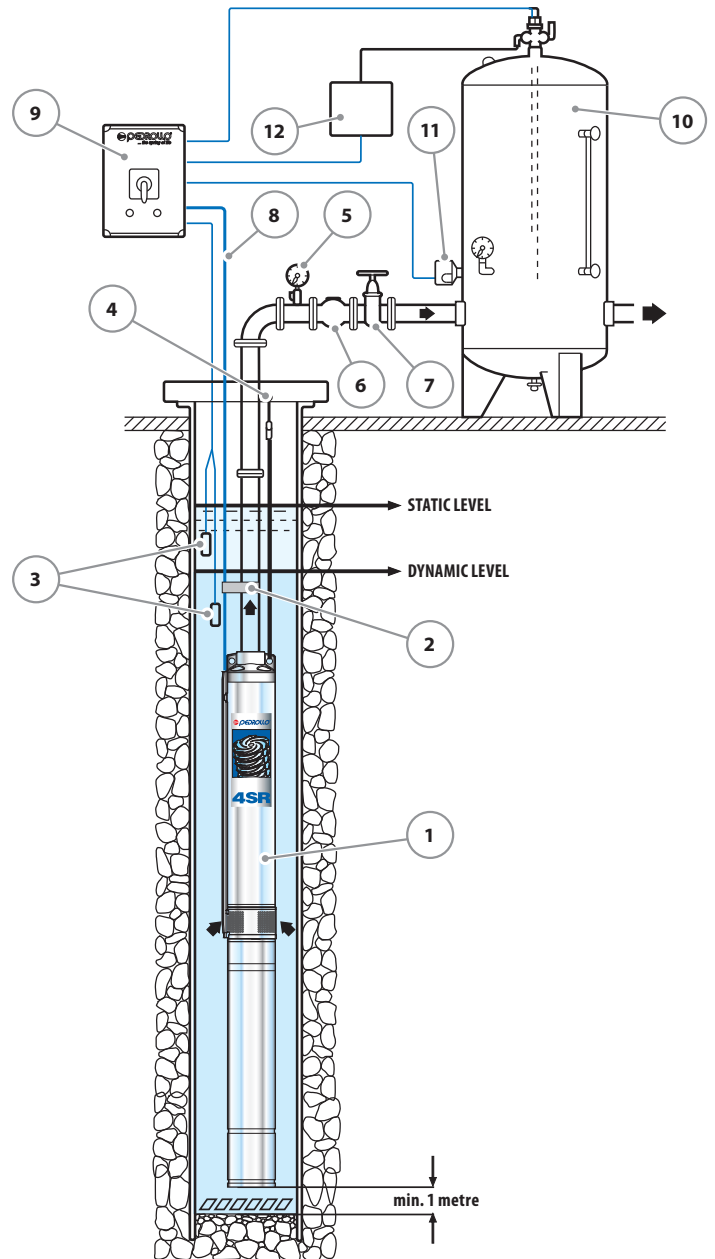
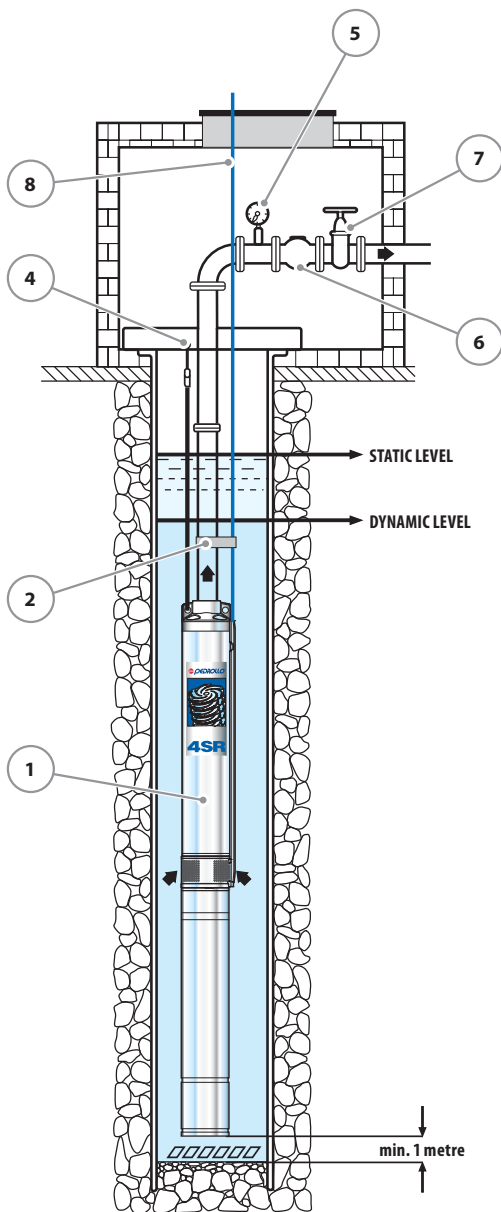
### DIMENSIONS AND WEIGHT



MODEL	PORT DN	DIMENSIONS mm			kg	
		Ø	h1	h2		h
Single-phase						
4SR1m/13 - PD	1 1/4"	98	400	304	704	11.8
4SR1m/18 - PD			517	329	846	14.5
4SR1m/25 - PD			646	354	1000	17.0
4SR1m/35 - PD			856	434	1290	21.6
4SR1m/45 - PD			1065	467	1532	25.5
4SR1.5m/8 - PD			308	304	612	10.9
4SR1.5m/13 - PD			400	329	729	14.5
4SR1.5m/17 - PD			499	354	853	15.5
4SR1.5m/25 - PD			646	434	1080	20.0
4SR1.5m/32 - PD			800	467	1267	24.3
4SR1.5m/46 - PD			1134	565	1699	31.9
4SR2m/7 - PD			290	304	594	10.7
4SR2m/10 - PD			345	329	674	12.5
4SR2m/13 - PD			400	354	754	14.4
4SR2m/20 - PD			554	434	988	18.3
4SR2m/27 - PD			683	467	1150	21.4
4SR2m/39 - PD			929	565	1494	29.2
4SR4m/7 - PD			2"	98	314	329
4SR4m/9 - PD	358	354			712	13.7
4SR4m/14 - PD	468	434			902	17.2
4SR4m/18 - PD	580	467			1047	19.9
4SR4m/26 - PD	756	565			1321	25.5
4SR6m/4 - PD	281	329			610	12.8
4SR6m/6 - PD	341	354			695	13.4
4SR6m/9 - PD	431	434			865	16.6
4SR6m/13 - PD	576	467			1043	19.5
4SR6m/17 - PD	695	565			1260	25.5
4SR8m/4 - PD	281	354			635	12.8
4SR8m/7 - PD	371	434			805	16.1
4SR8m/9 - PD	431	467			898	18.2
4SR8m/13 - PD	576	565			1141	24.1
4SR10m/5 - PD	416	434			850	17.0
4SR10m/7 - PD	518	467			985	18.8
4SR10m/10 - PD	709	565			1274	25.0
4SR12m/4 - PD	365	434			799	16.5
4SR12m/6 - PD	467	467	934	17.7		
4SR12m/9 - PD	658	565	1223	25.0		
4SR15m/5 - PD	421	467	888	18.6		
4SR15m/7 - PD	525	565	1090	24.0		

MODEL	PORT DN	DIMENSIONS mm			kg			
		Ø	h1	h2		h		
Three-phase								
4SR1/13 - PD	1 1/4"	98	400	304	704	13.7		
4SR1/18 - PD			517	304	821	14.4		
4SR1/25 - PD			646	329	975	17.1		
4SR1/35 - PD			856	354	1210	19.9		
4SR1/45 - PD			1065	428	1493	23.0		
4SR1.5/8 - PD			308	304	612	10.8		
4SR1.5/13 - PD			400	304	704	11.7		
4SR1.5/17 - PD			499	329	828	14.3		
4SR1.5/25 - PD			646	354	1000	17.8		
4SR1.5/32 - PD			800	428	1228	24.3		
4SR1.5/46 - PD			1134	467	1601	27.7		
4SR2/7 - PD			290	304	594	10.5		
4SR2/10 - PD			345	304	649	11.3		
4SR2/13 - PD			400	329	729	13.3		
4SR2/20 - PD			554	354	908	16.7		
4SR2/27 - PD			683	428	1111	19.9		
4SR2/39 - PD			929	467	1396	25.0		
4SR4/7 - PD			314	304	618	12.2		
4SR4/9 - PD			358	329	687	12.5		
4SR4/14 - PD			468	354	822	15.8		
4SR4/18 - PD			580	428	1008	17.6		
4SR4/26 - PD			756	467	1223	21.4		
4SR4/35 - PD			978	522	1500	26.1		
4SR4/46 - PD			1295	587	1882	34.3		
4SR4/60 - PD			1652	687	2339	45.1		
4SR6/4 - PD			2"	98	281	304	585	10.8
4SR6/6 - PD					341	329	670	13.1
4SR6/9 - PD					431	354	785	14.9
4SR6/13 - PD					576	428	1004	17.2
4SR6/17 - PD					695	467	1162	20.3
4SR6/23 - PD	900	522			1422	24.6		
4SR6/31 - PD	1164	587			1751	32.0		
4SR6/42 - PD	1519	687			2206	40.7		
4SR6/56 - PD	2063	768			2831	51.7		
4SR8/4 - PD	281	329			610	12.6		
4SR8/7 - PD	371	354			725	13.7		
4SR8/9 - PD	431	428			859	16.0		
4SR8/13 - PD	576	467			1043	19.2		
4SR8/17 - PD	695	522			1217	24.0		
4SR8/23 - PD	900	587			1487	27.6		
4SR8/31 - PD	1164	687			1851	36.6		
4SR8/42 - PD	1519	768			2287	44.6		
4SR10/5 - PD	416	354			770	15.3		
4SR10/7 - PD	518	428	946	16.9				
4SR10/10 - PD	709	467	1176	21.4				
4SR10/15 - PD	1001	522	1523	25.6				
4SR10/20 - PD	1256	587	1843	33.4				
4SR10/26 - PD	1599	687	2286	41.4				
4SR10/35 - PD	2095	768	2863	49.4				
4SR12/4 - PD	365	354	719	13.5				
4SR12/6 - PD	467	428	895	17.7				
4SR12/9 - PD	658	467	1125	21.1				
4SR12/12 - PD	810	522	1332	24.4				
4SR12/16 - PD	1052	587	1639	28.9				
4SR12/22 - PD	1358	687	2045	37.5				
4SR12/29 - PD	1752	768	2520	46.5				
4SR15/5 - PD	421	428	849	16.1				
4SR15/7 - PD	525	467	992	18.8				
4SR15/10 - PD	719	522	1241	24.5				
4SR15/13 - PD	874	587	1461	27.3				
4SR15/18 - PD	1172	687	1859	36.3				
4SR15/24 - PD	1521	768	2289	43.7				

## INSTALLATION EXAMPLE



### COMPONENTS

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>1) Submersible pump</li> <li>2) Power cable clamps</li> <li>3) Level probes; prevent dry running</li> <li>4) Pump anchorage</li> <li>5) Pressure gauge</li> <li>6) Non-return valve</li> <li>7) Gate valve; for flow rate regulation</li> </ul> | <ul style="list-style-type: none"> <li>8) Power cable</li> <li>9) Control box</li> <li>10) Pressure vessel</li> <li>11) Pressure switch</li> <li>12) Electro valve/electro-compressor</li> </ul> |
|--|--|

➔ The 4SR series pumps should be installed in boreholes of at least 4" (100 mm) in diameter. The pump should be lowered into the borehole, by means of the delivery pipe, to such a depth (min. 50 cm and at least one metre from the bottom) that it is completely immersed during operation when the level of water in the borehole may reduce. It is good practice to secure the pump by attaching a stainless steel cable to the anchorage points present on the delivery body.