

### Construction

Submersible borehole pumps for 6" wells (DN 150 mm), 8" (DN 200 mm) and 10" (DN 250 mm), with stages in cast iron or in bronze, on request.

**Impellers:** - mixed flow impellers.

**Connection:** - screwed connection ISO 228 for 6SDS;  
- flange with counter-flange for welding for 8SDS and 10SDS

Delivery casing with built-in non-return valve.

### Applications

For water supply.  
For civil and industrial applications.  
For fire fighting applications.  
For irrigation.

### Operating conditions

Liquid temperature up to a 25 °C.  
Max. sand quantity into the water: 150 g/m<sup>3</sup> (300 g/m<sup>3</sup> high percentage of solids and sand).  
Continuous duty.

### Rewindable motor CS, CS-R series

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).  
With water wetted winding in rewindable execution.  
Sized for connection to the pumps according to NEMA Standards.  
Standard voltages:  
- three-phase 400 V; 400/690 V.  
Voltage tolerance : +6% / -10%.

In order to limit both current and torque at each starting, for rated motor powers equal to or higher than 7.5kW, one of the following types of starting is necessary: star/delta, soft starter, stator impedance or autotransformer.

### Operating conditions motor

Motor	Max. Liquid temperature	Cooling: minimum flow velocity	Max. starts per hour	Motor P2
6CS-R	30 °C	0,1 m/s	15	4÷11 kW
		0,2 m/s	15	13÷15 kW
	25 °C	0,2 m/s	15	18,5 kW
		0,2 m/s	13	22÷30 kW
	40 °C	0,1 m/s	13	37 kW
		0,3 m/s	6	45 kW
8CS-R	25 °C	0,3 m/s	10	30÷45 kW
			8	51÷75 kW
			6	92 kW
10CS	25 °C	0,50 m/s	10	all types

Insulation class E for 6-8" motors, PVC coated wire for 10" motors.

Motor suitable operation with frequency converter.  
Protection IP 68.

### Special features on request

- Other voltages.
- 60 Hz frequency.
- Other temperatures.
- Encapsulated motor **FK series**.

### Designation

B 10 SDS 190 / 6

Bronze construction (on request)

Ø of the well in inches \_\_\_\_\_

Series \_\_\_\_\_

Stage identification \_\_\_\_\_

Number of stages \_\_\_\_\_

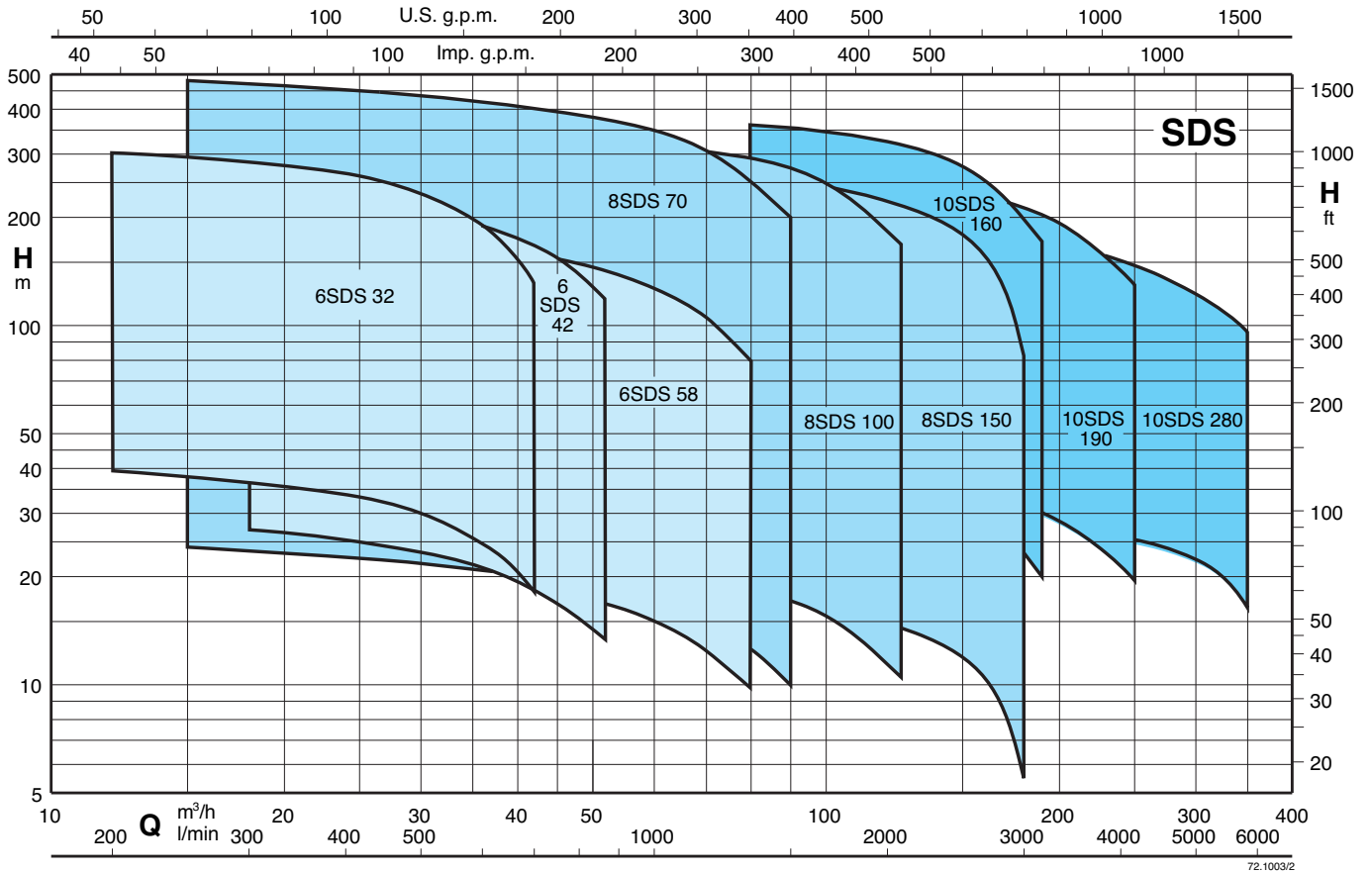
### Materials

Components	Part Nr.	6, 8, 10SDS	B-6, B-8, B-10SDS
Stage casing	25.02	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
Diffuser	26.00		
Impeller	28.00		
Wear ring		Rubber (Bronze for 10SDS 190-280)	
Shaft	64.00	Steel AISI F51duplex	
Shaft sleeve	64.08	Brass with chromate surface treatment (only for 10SDS)	
Delivery casing	12.01	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
Suction lantern	32.02		
Bearing bush	12.03-12.30	Rubber	
Strainer	15.50	Cr-Ni steel AISI 304	
Screws		Cr-Ni steel AISI 304	

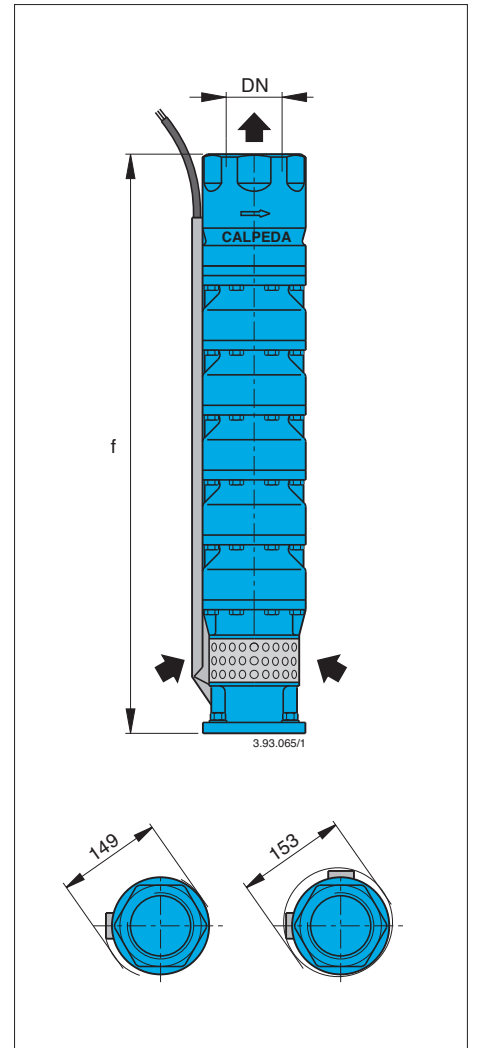
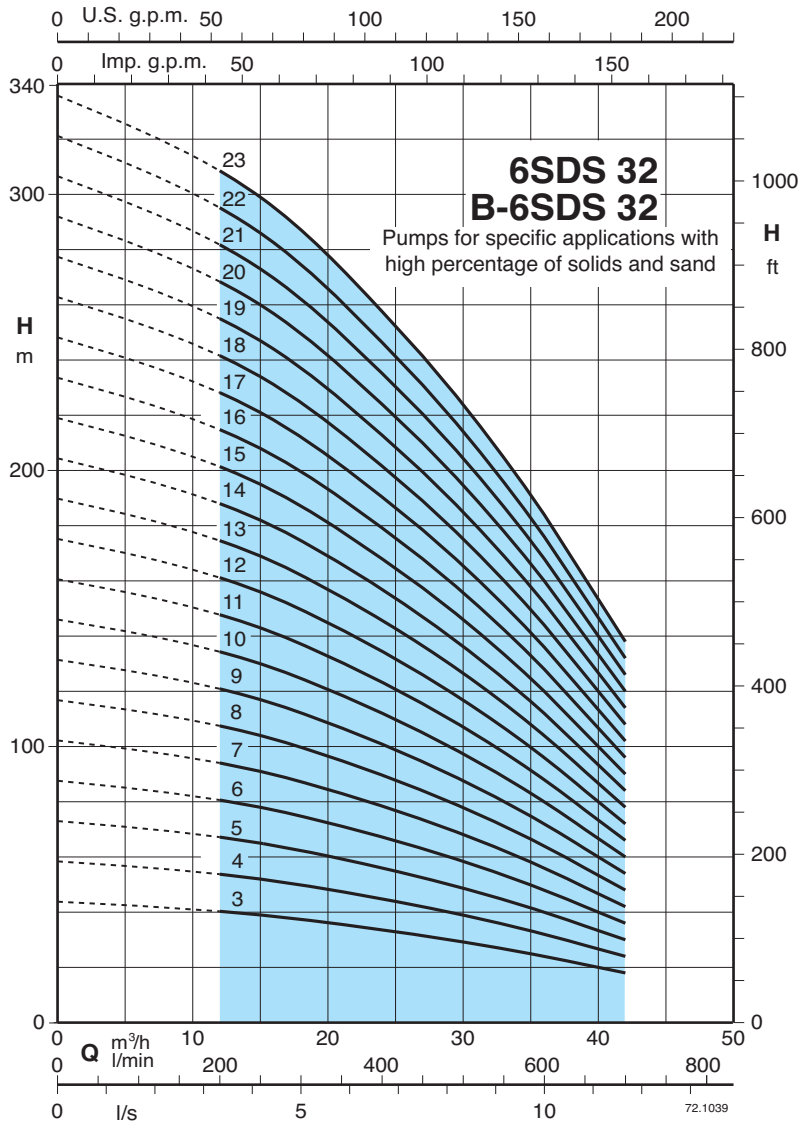
### CS, CS-R Motor

Components	CS-R 6", 8", CS 10" standard	I-CS-R 6", 8", I-CS 10" AISI 316
External frame	AISI 304 (AISI 316Ti for 10")	Cr-Ni-Mo steel AISI 316 Ti
Motor flange	Cast iron GJL 200 EN 1561	Cr-Ni-Mo steel AISI 316
Shaft end	Steel AISI 431 (AISI 329 for 10")	AISI 316 (AISI 630 from 30 to 93kW) (AISI 429 for 10")
Thrust bearing	Oscillating pads	Oscillating pads
Bushings	Graphite (Bronze for 8" motor)	Graphite (Bronze for 8" motor)

Coverage chart  $n \approx 2900$  rpm



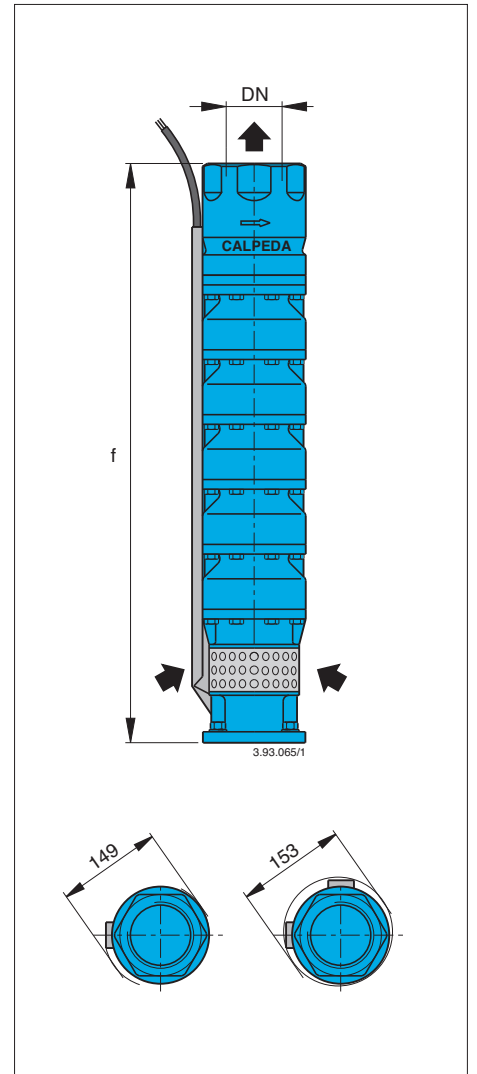
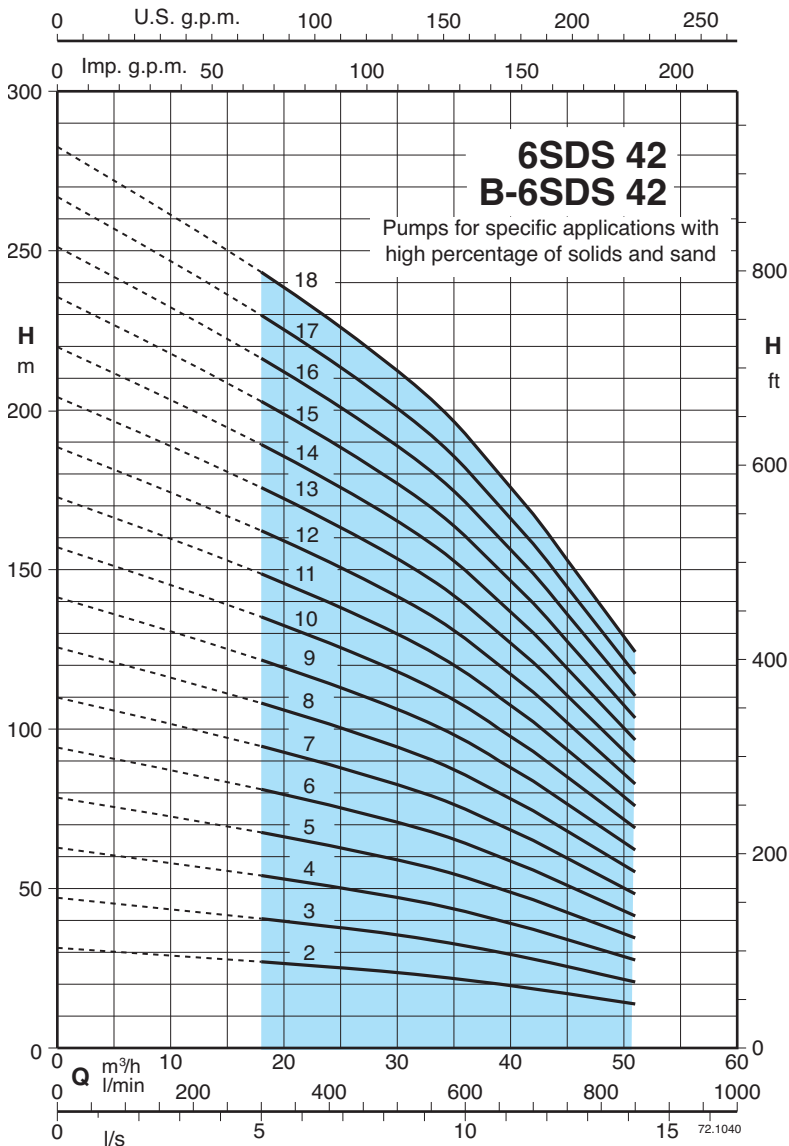
### Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3 ~	P <sub>2</sub>		Q	n ≈ 2900 rpm											
	kW	HP		H (m)											
				12	18	21	24	27	30	33	36	39	42		
6SDS 32/3 - B-6SDS 32/3	4	5,5	39	37	35,5	33,5	31,5	30	26,5	24	21	18			
6SDS 32/4 - B-6SDS 32/4	5,5	7,5	52	49	47	45	42	39,5	35,5	32	28	24			
6SDS 32/5 - B-6SDS 32/5	7,5	10	65	61,5	59	56	52,5	49,5	44,5	40	35	30			
6SDS 32/6 - B-6SDS 32/6	7,5	10	78	74	71	67	63	59,5	53,5	48	42	36			
6SDS 32/7 - B-6SDS 32/7	9,2	12,5	92	86	82,5	78,5	73,5	69	62	56	49	42			
6SDS 32/8 - B-6SDS 32/8	11	15	105	98,5	94,5	89,5	84	79	71	64	56	48			
6SDS 32/9 - B-6SDS 32/9	13 (15)	17,5 (20)	118	111	106	101	94,5	89	80	72	63	54			
6SDS 32/10 - B-6SDS 32/10	13 (15)	17,5 (20)	131	123	118	112	105	99	89	80	70	60			
6SDS 32/11 - B-6SDS 32/11	15	20	144	135	130	123	115	109	98	88	77	66			
6SDS 32/12 - B-6SDS 32/12	15	20	157	147	141	134	126	119	107	96	84	72			
6SDS 32/13 - B-6SDS 32/13	18,5	25	170	160	153	145	136	129	116	104	91	78			
6SDS 32/14 - B-6SDS 32/14	18,5	25	183	172	165	157	147	138	124	112	98	84			
6SDS 32/15 - B-6SDS 32/15	22	30	196	184	177	168	157	148	133	120	105	90			
6SDS 32/16 - B-6SDS 32/16	22	30	209	197	189	179	168	158	142	128	112	96			
6SDS 32/17 - B-6SDS 32/17	22	30	223	209	200	190	178	168	151	136	119	102			
6SDS 32/18 - B-6SDS 32/18	26 (30)	35 (40)	236	221	212	201	189	178	160	144	126	108			
6SDS 32/19 - B-6SDS 32/19	26 (30)	35 (40)	246	234	224	213	199	188	169	152	133	114			
6SDS 32/20 - B-6SDS 32/20	26 (30)	35 (40)	262	246	236	224	210	198	178	160	140	120			
6SDS 32/21 - B-6SDS 32/21	26 (30)	35 (40)	275	258	248	235	220	208	187	168	147	126			
6SDS 32/22 - B-6SDS 32/22	30	40	288	270	259	246	231	218	196	176	154	132			
6SDS 32/23 - B-6SDS 32/23	30	40	301	283	271	257	241	228	205	184	161	138			

DN	f	6SDS	B-6SDS
	mm	kg	kg
G 3 ISO 228	686	30,5	35,5
	788	35,6	41,6
	890	41	49
	992	46	55
	1094	52,3	62,3
	1196	57	68
	1298	62,5	74,5
	1400	68,5	81,5
	1502	72,5	86,5
	1604	77,5	93,5
	1706	84	101
	1808	89	108
	1910	94,2	112
	2012	100	119
	2114	105	125
	2216	111	132
2318	116	139	
2420	122	145	
2522	127	151	
2624	132	157	
2726	137	164	

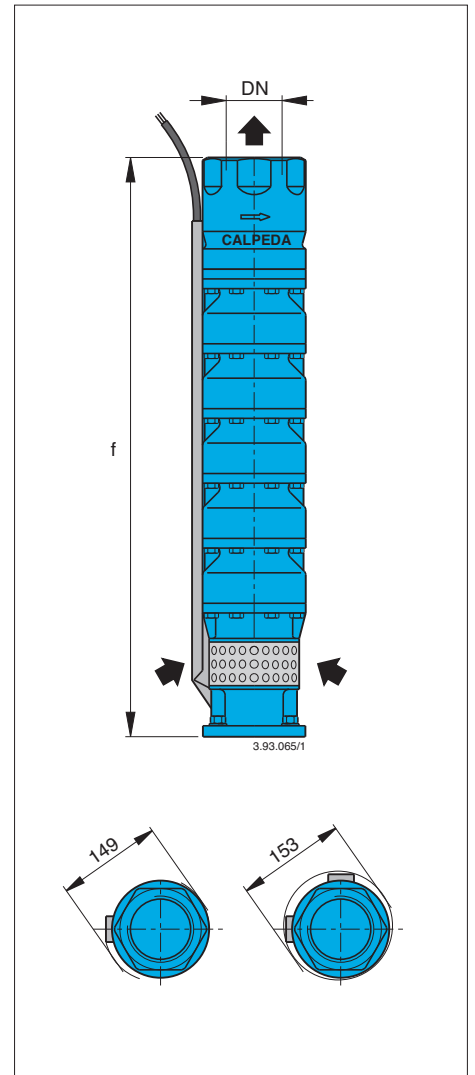
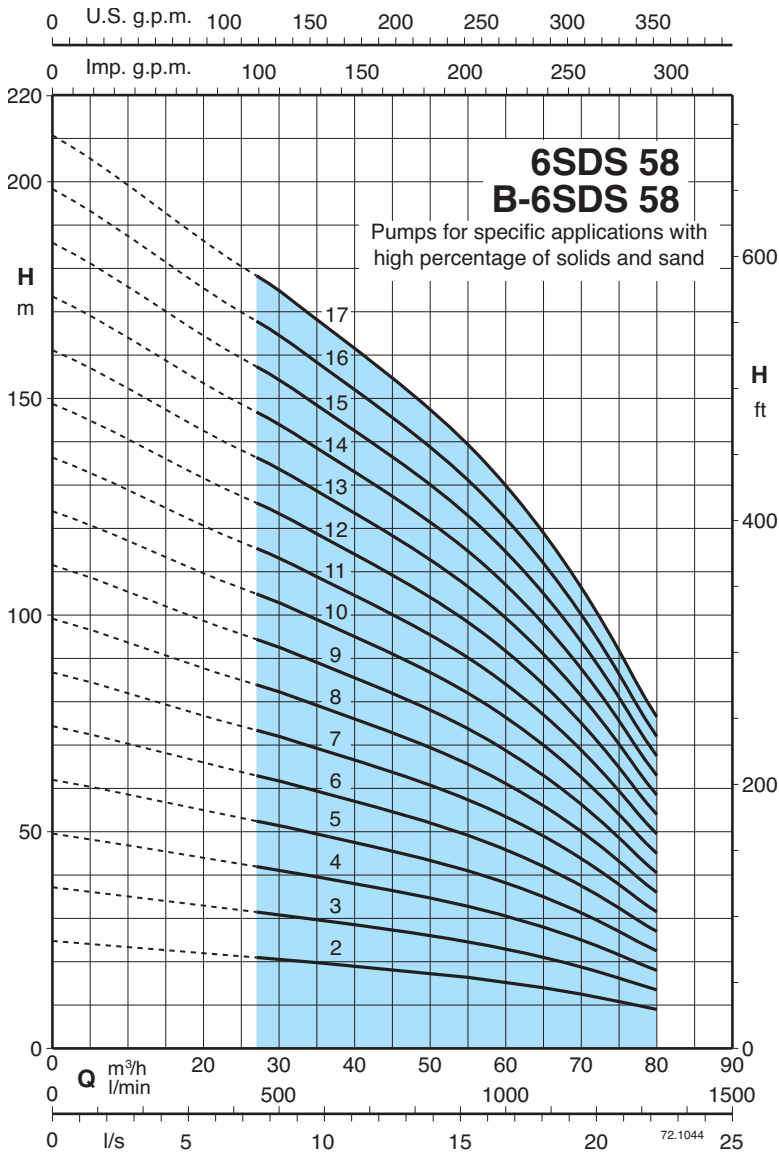
### Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3 ~	P <sub>2</sub>		Q	n ≈ 2900 rpm																				
				H																				
				m³/h	18	24	30	33	36	39	42	45	48	51										
	kW	HP	l/min	300	400	500	550	600	650	700	750	800	850											
6SDS 42/2 - B-6SDS 42/2	4	5,5		27	25,5	23,5	22,5	21,5	20	18,5	17	15,5	14											
6SDS 42/3 - B-6SDS 42/3	5,5	7,5		40	38	35,5	34	32	30	28	25,5	23	21											
6SDS 42/4 - B-6SDS 42/4	7,5	10		53,5	51	47	45	43	40	37	34	31	27,5											
6SDS 42/5 - B-6SDS 42/5	9,2	12,5		67	63,5	59	56,5	53,5	50	46,5	42,5	38,5	34,5											
6SDS 42/6 - B-6SDS 42/6	11	15		80,5	76	71	68	64	60	56	51	46	41,5											
6SDS 42/7 - B-6SDS 42/7	13 (15)	17,5 (20)		94	89	82,5	79	75	70	65	59,5	54	48											
6SDS 42/8 - B-6SDS 42/8	15	20		107	101	94,5	90,5	85,5	80	74,5	68	61,5	55											
6SDS 42/9 - B-6SDS 42/9	15	20		120	114	106	102	96	90	84	76,5	69	62											
6SDS 42/10 - B-6SDS 42/10	18,5	25		134	127	118	113	107	100	93	85	77	69											
6SDS 42/11 - B-6SDS 42/11	18,5	25		147	140	130	124	118	110	102	93,5	85	76											
6SDS 42/12 - B-6SDS 42/12	22	30		161	152	141	135	128	120	111	102	92,5	83											
6SDS 42/13 - B-6SDS 42/13	22	30		174	165	153	147	139	130	121	110	100	90											
6SDS 42/14 - B-6SDS 42/14	26 (30)	35 (40)		187	178	165	158	150	140	130	119	108	96,5											
6SDS 42/15 - B-6SDS 42/15	26 (30)	35 (40)		201	190	177	169	160	150	139	127	115	103											
6SDS 42/16 - B-6SDS 42/16	30	40		214	203	189	181	171	160	149	136	123	110											
6SDS 42/17 - B-6SDS 42/17	30	40		228	216	200	192	182	170	158	144	131	117											
6SDS 42/18 - B-6SDS 42/18	30	40		241	228	212	203	192	180	167	153	138	124											

DN	f	6SDS	B-6SDS
	mm	kg	kg
G 3 ISO 228	584	25,5	29,5
	686	31,6	36,6
	788	36	42
	890	40,3	48,3
	992	47	59
	1094	50,5	65,5
	1196	55,5	66,5
	1298	62,5	74,5
	1400	69	81
	1502	74	86
	1604	79,2	94,2
	1706	83,2	99,2
	1808	91,4	106
	1910	96,4	113
	2012	101	119
2114	106	126	
2216	111	132	

## Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



3 ~	P <sub>2</sub>		Q	n ≈ 2900 rpm											
	kW	HP		H											
				m³/h	27	35	40	45	50	55	60	65	70	75	80
6SDS 58/2 - B-6SDS 58/2	4	5,5	l/min	450	583	666	750	833	916	1000	1083	1166	1250	1333	
6SDS 58/3 - B-6SDS 58/3	5,5	7,5	H m	21	20	19	18	17	16,5	15,5	14	12,5	11	9	
6SDS 58/4 - B-6SDS 58/4	7,5	10		32	30	28,5	27	26	24,5	23	21	18,5	16	13,5	
6SDS 58/5 - B-6SDS 58/5	9,2	12,5		42,5	39,5	38	36	34,5	33	31	28	25	21,5	18	
6SDS 58/6 - B-6SDS 58/6	11	15		53	49,5	47,5	45	43	41	38,5	35	31	27	22,5	
6SDS 58/7 - B-6SDS 58/7	13 (15)	17,5 (20)		63,5	59,5	57	54	51,5	49	46	42	37	32,5	27	
6SDS 58/8 - B-6SDS 58/8	15	20		74	69,5	66,5	63	60	57,5	54	49	43,5	38	31,5	
6SDS 58/9 - B-6SDS 58/9	18,5	25		85	79	76	72	69	66	62	56	49,5	43	36	
6SDS 58/10 - B-6SDS 58/10	18,5	25		95,5	89	85,5	81	77,5	74	69,5	63	56	49	40,5	
6SDS 58/11 - B-6SDS 58/11	22	30		106	99	95	90	86	82	77	70	62	54	45	
6SDS 58/12 - B-6SDS 58/12	22	30		117	109	104	99	94,5	90	85	77	68	59,5	49,5	
6SDS 58/13 - B-6SDS 58/13	26 (30)	35 (40)		127	119	114	108	103	100	94,5	86,5	76,5	66,5	55,5	
6SDS 58/14 - B-6SDS 58/14	26 (30)	35 (40)		138	129	123	117	112	107	100	91	80,5	70	58,5	
6SDS 58/15 - B-6SDS 58/15	30	40		148	139	133	126	120	115	108	98	87	75,5	63	
6SDS 58/16 - B-6SDS 58/16	30	40		159	148	142	135	129	123	115	105	93	81	67,5	
6SDS 58/17 - B-6SDS 58/17	30	40		170	158	152	144	138	131	123	112	99	86,5	72	
					180	168	162	153	146	139	131	119	105	92	76,5

DN	f	6SDS	B-6SDS
	mm	kg	kg
G 4 ISO 228	584	26,5	29,5
	686	31,6	36,6
	788	37	43
	890	43,3	50,3
	992	48	57
	1094	53,5	63,5
	1196	59,5	70,5
	1298	65	77
	1400	71	84
	1502	76,2	90,2
	1604	82,2	97,2
	1706	87,4	104
	1808	93,4	111
1910	99,4	118	
2012	104	124	
2114	110	131	

P<sub>2</sub> Rated motor power output

(...) FK motor rated power output

H Total head in m

Tolerances according to UNI EN ISO 9906:2012

### Cables connection kit

It allows connection of electric cables with junction submerged in water.

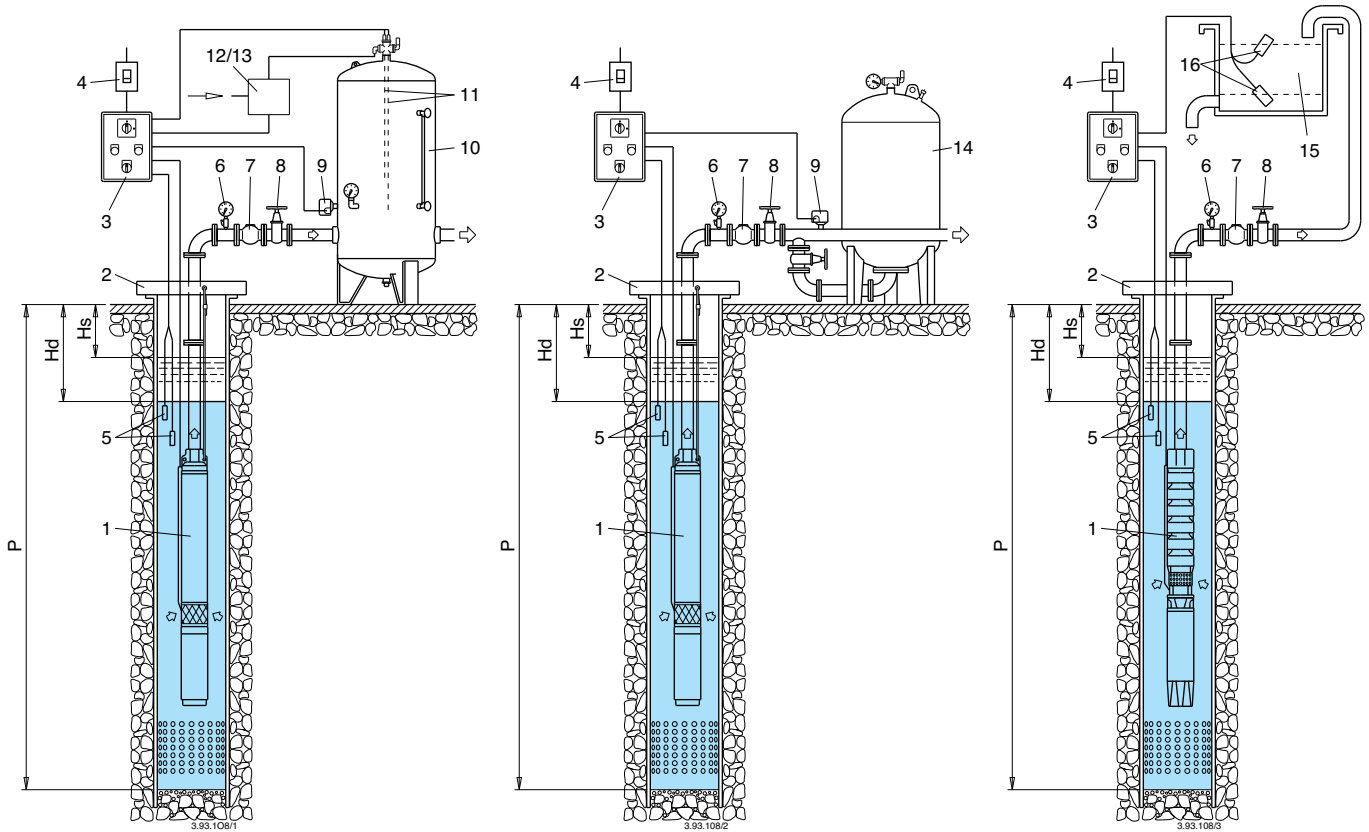
The kit includes:

- 4 connectors
- 4 shrink-sheaths for protection of individual wires
- 1 shrink-sheath for protection of the 4-pole wire.

The sheath shrinks with heating (flame or drier) which causes resin outlet granting connection waterproofing.



### Installation examples



- 1 Submersible pump
- 2 Pump support system
- 3 Electric control board
- 4 Circuit breaker
- 5 Minimum level probes
- 6 Pressure gauge
- 7 Check valve
- 8 Throttle gate valve
- 9 Pressure switch
- 10 Pressure tank
- 11 Probes for air entry control
- 12 Electric valve
- 13 Compressor
- 14 Membrane tank
- 15 Storage tank
- 16 Start-stop probes

Hs Static level  
 Hd Dynamic level  
 P Tubewell depth