SD

Submersible borehole pumps for 4” and 6” wells

The electropumps 4SD, 4SDF, 6SDN series comply with the European Regulation no. 547/2012 in force starting from 01.01.2013. ***6SD series cannot be sold in the EU.***

Materials

	Components	Part Nr.	4SD, 4SDF	6SD, 6SDN
Pump	External jacket	14.02	Cr-Ni steel AISI 304	
	Stage casing (4SDF)	25.02	Cr-Ni steel AISI 304	-
	Stage casing (4,6SD)	25.02	Polycarbonate (Lexan 141 R)	GFN2V* (NORYL®)
	Diffuser	26.00		
	Impeller	28.00	GFN2V* (NORYL®)* for 4SDF	
	Wear ring		Cr-Ni steel AISI 304	
	Shaft	64.00	Cr steel AISI 430 F	
	Delivery casing	12.01	Cr-Ni steel AISI 304	Bronze G-Cu Sn 10 EN 1982
	Suction lantern	32.02		
	Bearing bush	12.03-12.30	Thermoplastic	Rubber
	Strainer	15.50	Cr-Ni steel AISI 430	
	Screws		Cr-Ni steel AISI 304	

* Trademark of General Electric

	Components	4CS	6CS
Motor	External frame	Cr-Ni steel AISI 304	
	Shaft	Cr-Ni-Mo steel AISI 316 (shaft end)	Cr steel AISI 420 Hardened and tempered
	Thrust bearing	Oil wetted ball type	Oscillation pads
	Bearing bush	Oil wetted ball type	Graphite

Construction

Submersible borehole pumps for 4” wells (DN 100 mm), and 6” (DN 150 mm), with external jacket in stainless steel AISI 304 and stages in polycarbonate for 4SD pumps and in noryl for 4SDF, 6SD, 6SDN pumps.

Impellers

radial floating impellers	4SDF 16, 22, 36, 46, 54
radial impellers	4SD 31, - 6SDN 12, 16, 21
mixed flow impellers	4SD 10,15 - 6SD 18, 19, 20

Connection: screwed connection ISO 228.
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 35 °C for 4” motors
- up to a 25 °C for 6-8-10” motors.

Max. sand quantity into the water: 150 g/m^3.
Continuous duty.

Rewindable motor CS series

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).
Sized for connection to the pumps according to NEMA Standards.
Standard voltages:
- single-phase 230 V up to 2,2 kW for 4” motors.
- three-phase 230 V; 400 V, for 4” motors.
- three-phase 400 V; 400/690 V, for 6” motors.

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.

Motor	Max. Liquid temperature	Cooling : minimum flow velocity	Max. starts per hour
4”	35 °C	0,08 m/s	20
6”	25 °C	0,20 m/s for 4 ÷ 15 kW 0,50 m/s for 18,5 ÷ 30 kW	15

Insulation class F for 4” motors, PVC coated wire for 6” motors.
Protection IP 68.

Cable

Motor 230V - 50Hz - 1~	Section	Length
4CS 0,37 ÷ 1,5 kW	3x1,5 + 1G1,5 mm²	2 m
4CS 2,2 kW	3x2 + 1G2 mm²	2 m
Motor 400V - 50Hz - 3 ~	**Section**	**Length**
4CS 0,37 ÷ 1,5 kW	3x1,5 + 1G1,5 mm²	2 m
4CS 2,2 ÷ 5,5 kW	3x1,5 + 1G1,5 mm²	3 m
6CS 4 ÷ 30 kW	4G6 mm²	3,5 m

Special features on request

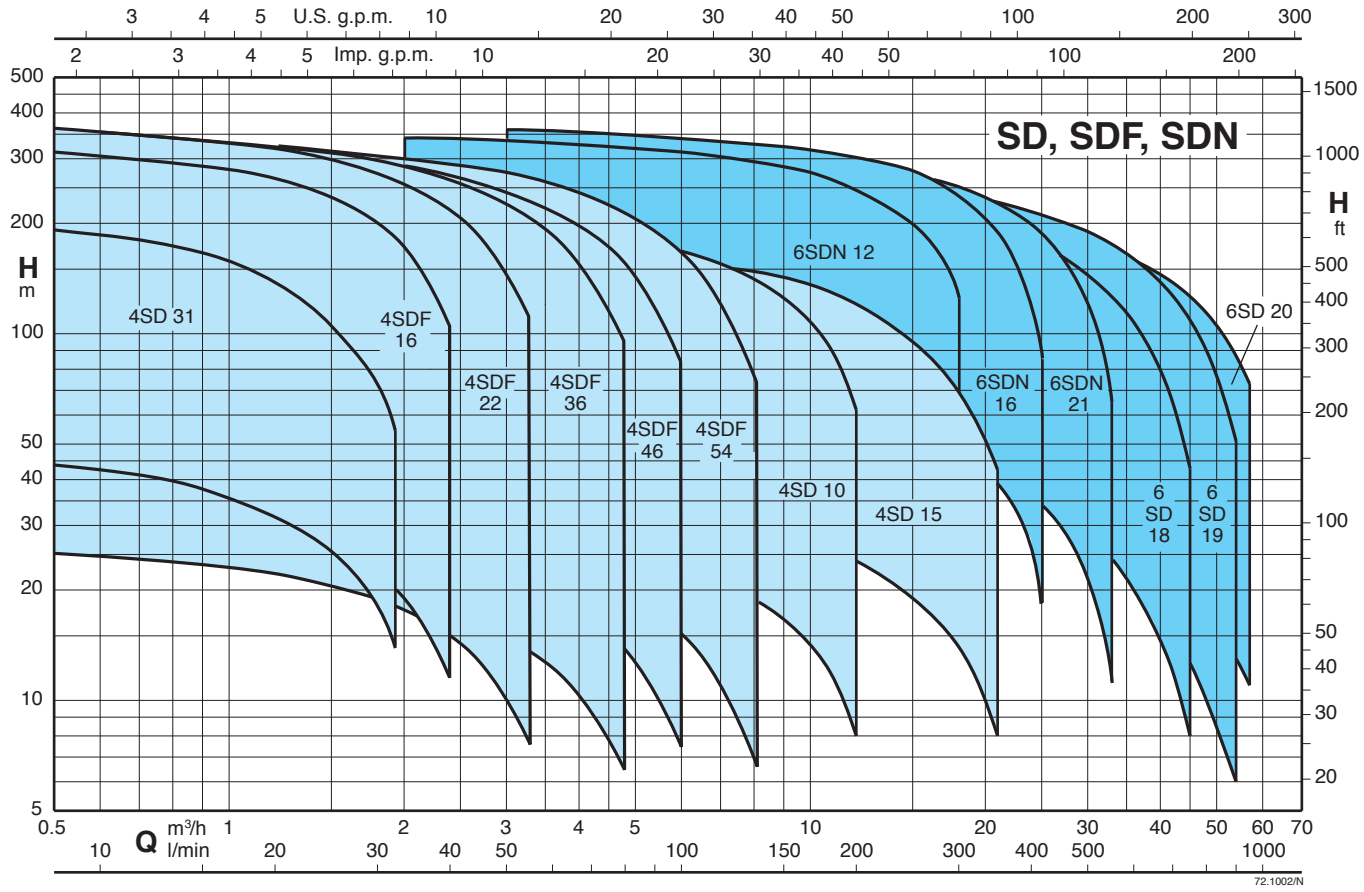
- Other voltages. - 60 Hz frequency.
- Other temperatures.
- Motor suitable operation with frequency converter (standard feature for FK).
- Encapsulated motor **FK series** (for characteristic see pag. 377).

Designation

4 SD M 31 / 26

- Ø of the well in inches
- Series
- Single-phase motor (up to max. 2,2 kW)
- Stage identification
- Number of stages

Coverage chart n ≈ 2900 rpm



Regulation (EU) No 547/2012

- The benchmark for most efficient water pumps is MEI ≥ 0,70.
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.

4SD, 4SDF

Submersible borehole pumps for 4”

calpeda®

Performance n ≈ 2900 rpm

3~ 400 V (380-415) 50 Hz		1~	* 230V Capacitor		P1	P2		Q	n ≈ 2900 1/min																		
								m³/h	0,15	0,3	0,6	0,9	1,2	1,5	1,8	2,1	2,4	2,7	3	3,3	3,6	4,2	4,8	5,4	6
	A		A	450 Vc µF	kW	kW	HP	l/min	2,5	5	10	15	20	25	30	35	40	45	50	55	60	70	80	90	100
4SD 31/11EC	1,2	4SDM 31/11EC	3,2	16	0,62	0,37	0,5		45,6	43,8	39,3	33,8	28	20,9	14												
4SD 31/17EC	1,2	4SDM 31/17EC	3,2	16	0,7	0,37	0,5		67,7	64,5	57,3	49,4	40,9	31	20,2												
4SD 31/26EC	1,5	4SDM 31/26EC	4	25	0,89	0,55	0,75		104	98,9	87,9	75,2	61,2	45,7	28,1												
4SD 31/35EC	2	4SDM 31/35EC	5,6	35	1,22	0,75	1		131	124	109	92,6	73,8	53,1	30,8												
4SD 31/54EC	2,9	4SDM 31/54EC	8,4	40	1,82	1,1	1,5		203	193	170	144	116	86	52,9												
4SDF 16/6EC	1,2	4SDFM 16/6EC	3,2	16	0,62	0,37	0,5			35,1	33,6	31,5	28,6	25,1	21	16,3	11,1										
4SDF 16/9EC	1,2	4SDFM 16/9EC	3,2	16	0,7	0,37	0,5			52,7	50,4	47,2	42,9	37,6	31,4	24,4	16,6										
4SDF 16/14EC	1,5	4SDFM 16/14EC	4	25	0,89	0,55	0,75			82	78,5	73,4	66,8	58,5	48,9	38	25,8										
4SDF 16/19EC	2	4SDFM 16/19EC	5,6	35	1,22	0,75	1			111	106	100	90,6	79,5	66,4	51,5	35,1										
4SDF 16/27EC	2,9	4SDFM 16/27EC	8,4	40	1,82	1,1	1,5			158	151	142	129	113	94,3	73,2	49,8										
4SDF 16/37EC	4,2	4SDFM 16/37EC	11,2	60	2,33	1,5	2			217	207	194	176	155	129	100	68,3										
4SDF 16/55EC	5,5	4SDFM 16/55EC	14,7	70	3,27	2,2	3			322	308	288	262	230	192	149	102										
4SDF 22/4EC	1,2	4SDFM 22/4EC	3,2	16	0,62	0,37	0,5			25,8	25,2	24,3	23,1	21,6	19,8	17,8	15,5	13	10,3	7,4							
4SDF 22/7EC	1,2	4SDFM 22/7EC	3,2	16	0,7	0,37	0,5			45,1	44	42,5	40,4	37,8	34,7	31,2	27,1	22,8	18	13							
4SDF 22/10EC	1,5	4SDFM 22/10EC	4	25	0,89	0,55	0,75			64,4	62,9	60,7	57,7	54	49,6	44,5	38,8	32,5	25,8	18,5							
4SDF 22/14EC	2	4SDFM 22/14EC	5,6	35	1,22	0,75	1			90,2	88,1	84,9	80,8	75,6	69,5	62,3	54,3	45,5	36,1	25,9							
4SDF 22/21EC	2,9	4SDFM 22/21EC	8,4	40	1,82	1,1	1,5	H		135	132	127	121	113	104	93,5	81,4	68,3	54,1	38,9							
4SDF 22/28EC	4,2	4SDFM 22/28EC	11,2	60	2,33	1,5	2	m		180	176	170	162	151	139	125	109	91,1	72,2	51,9							
4SDF 22/42EC	5,5	4SDFM 22/42EC	14,7	70	3,27	2,2	3			271	264	255	242	227	208	187	163	137	108	77,8							
4SDF 22/57EC	7,4					3	4			367	359	346	329	308	283	254	221	185	147	106							
4SDF 36/4EC	1,2	4SDFM 36/4EC	3,2	16	0,62	0,37	0,5				22,8	22,3	21,8	21,3	20,5	19,7	18,8	17,9	16,8	15,6	14,1	10,7	6,6				
4SDF 36/6EC	1,2	4SDFM 36/6EC	3,2	16	0,7	0,37	0,5				34,2	33,5	32,7	31,9	30,7	29,6	28,3	26,9	25,2	23,4	21,2	16	9,9				
4SDF 36/8EC	1,5	4SDFM 36/8EC	4	25	0,89	0,55	0,75				45,6	44,7	43,6	42,5	40,9	39,4	37,7	35,9	33,6	31,2	28,2	21,3	13,2				
4SDF 36/11EC	2	4SDFM 36/11EC	5,6	35	1,22	0,75	1				62,7	61,4	59,9	58,4	56,3	54,2	51,8	49,3	46,2	42,9	38,8	29,4	18,1				
4SDF 36/17EC	2,9	4SDFM 36/17EC	8,4	40	1,82	1,1	1,5				96,9	95	92,6	90,3	87	83,8	80,1	76,2	71,4	66,2	60	45,4	28				
4SDF 36/23EC	4,2	4SDFM 36/23EC	11,2	60	2,33	1,5	2				131	128	125	122	118	113	108	103	96,6	89,6	81,2	61,4	37,8				
4SDF 36/29EC	5,5	4SDFM 36/29EC	14,7	70	3,27	2,2	3				165	162	158	154	148	143	137	130	122	113	102	77,4	47,7				
4SDF 36/34EC	5,5	4SDFM 36/34EC	14,7	70	3,27	2,2	3				194	190	185	180	174	168	160	152	143	132	120	90,7	55,9				
4SDF 36/45EC	7,4					3	4				256	251	245	239	230	222	212	202	189	175	159	120	74				
4SDF 36/58EC	9,4					4	5,5				331	324	316	308	297	286	273	260	244	226	205	155	95,4				
4SDF 46/5EC	1,2	4SDFM 46/5EC	3,2	16	0,7	0,37	0,5					27,8	27,1	26,4	25,6	25	23,9	22,9	21,9	20,7	19,6	17	14,2	11,1	7,6		
4SDF 46/7EC	1,5	4SDFM 46/7EC	4	25	0,89	0,55	0,75					38,9	37,9	36,9	35,9	35	33,5	32	30,6	29	27,4	23,8	19,9	15,5	10,7		
4SDF 46/10EC	2	4SDFM 46/10EC	5,6	35	1,22	0,75	1					55,5	54,2	52,7	51,3	50	47,8	45,8	43,7	41,5	39,1	34	28,4	22,2	15,3		
4SDF 46/15EC	2,9	4SDFM 46/15EC	8,4	40	1,82	1,1	1,5					83,3	81,3	79,1	76,9	75	71,7	68,7	65,6	62,2	58,7	51	42,6	33,3	22,9		
4SDF 46/21EC	4,2	4SDFM 46/21EC	11,2	60	2,33	1,5	2					117	114	111	108	105	100	96,2	91,9	87,1	82,2	71,4	59,6	46,6	32,1		
4SDF 46/31EC	5,5	4SDFM 46/31EC	14,7	70	3,27	2,2	3					172	168	163	159	155	148	142	136	129	121	105	88	68,8	47,4		
4SDF 46/42EC	7,4					3	4					233	228	221	215	210	201	192	184	174	164	143	119	93,2	64,2		
4SDF 46/55EC	9,4					4	5,5					305	298	290	282	275	263	252	241	228	215	187	156	122	84,1		

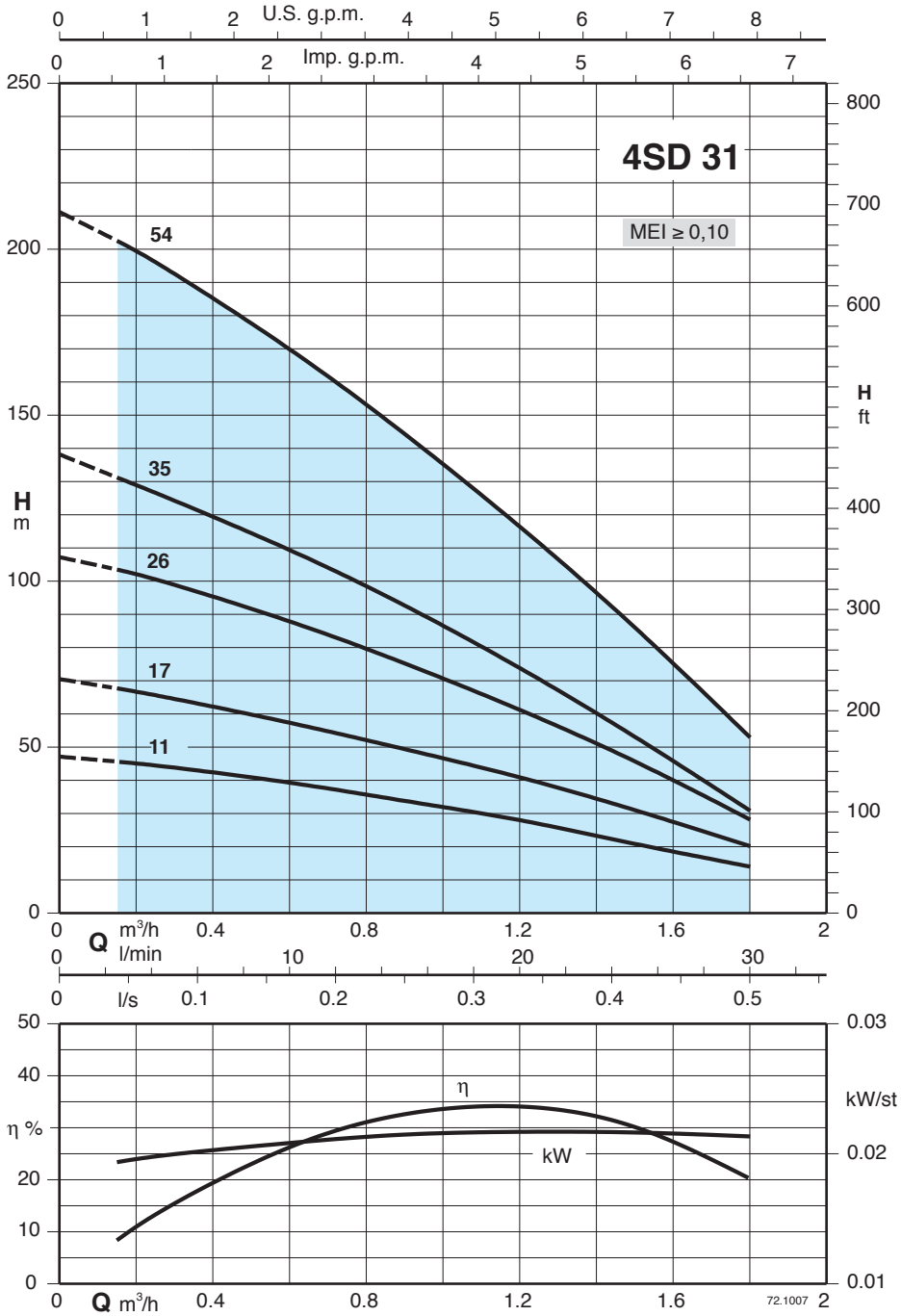
3~ 400 V (380-415) 50 Hz		1~	* 230V Capacitor		P1	P2		Q	n ≈ 2900 1/min																		
								m³/h	1,2	1,5	1,8	2,4	3	3,6	4,8	6	7,2	8,1	8,4	9,6	10,8	12	15	18	21
	A		A	450 Vc µF	kW	kW	HP	l/min	20	25	30	40	50	60	80	100	120	135	140	160	180	200	250	300	350
4SDF 54/5EC	1,5	4SDFM 54/5EC	4	25	0,89	0,55	0,75		29,1	28,5	28	26,8	25,6	24,2	20,9	16,8	11,6	6,6									
4SDF 54/7EC	2	4SDFM 54/7EC	5,6	35	1,22	0,75	1		40,7	39,8	39,2	37,6	35,8	33,8	29,3	23,5	16,3	9,3									
4SDF 54/10EC	2,9	4SDFM 54/10EC	8,4	40	1,82	1,1	1,5		64	62,6	61,6	59,1	56,3	53,2	46	36,9	25,6	14,6									
4SDF 54/14EC	4,2	4SDFM 54/14EC	11,2	60	2,33	1,5	2		87,3	85,4	84,1	80,5	76,7	72,5	62,7	50,3	34,8	19,9									
4SDF 54/21EC	5,5	4SDFM 54/21EC	14,7	70	3,27	2,2	3		128	125	123	118	113	106	92	73,7	51,1	29,2									
4SDF 54/29EC	7,4					3	4		175	171	168	161	153	145	125	101	69,7	39,9									
4SDF 54/38EC	9,4					4	5,5		233	228	224	215	205	193	167	134	92,9	53,1									
4SDF 54/53EC	13					5,5	7,5		320	313	308	295	281	266	230	184	128	73,1									
4SD 10/4EC	2	4SDM 10/4EC	5,6	35	1,22	0,75	1			27	26,5	26	26	25	24	23	20	18,5	18	17	12	8					
4SD 10/6EC	2,9	4SDM 10/6EC	8,4	40	1,82	1,1	1,5			40	40	39	39	38	36	34	31	28	27	25	18	12					
4SD 10/8EC	4,2	4SDM 10/8EC	11,2	60	2,33	1,5	2			54	53,5	53	52	51	48	45	41	37	36	34	25	16					
4SD 10/12EC	5,5	4SDM 10/12EC	14,7	70	3,27	2,2	3			81	80	79	78	76	72	67	61	56	54	51	37	25					
4SD 10/17EC	7,4					3	4	H		114	113	112	111	108	102	95	87	79	76	72	52	35					
4SD 10/20EC	9,4					4	5,5	m		134	133	132	130	127	120	112	102	93	90	75	61	41					
4SD 10/22EC	9,4					4	5,5			148	147	145	143	139	132	123	112	102	99	94	67	45					
4SD 10/24EC	9,4					4	5,5			162	160	158	156	152	144	134	122	112	108	102	74	50					
4SD 10/27EC	13					5,5	7,5			182	180	178	176	171	162	151	138	126	122	103	83	56					
4SD 10/30EC	13					5,5	7,5			202	200	198	195	190	180	168	153	140	135	114	92	62					
4SD 15/6EC	4,2	4SDM 15/6EC	11,2	50	2,33	1,5	2						33	33	32	31	30	29	29	28	26	24	19	14	8		
4SD 15/9EC	5,5	4SDM 15/9EC	14,7	70	3,27	2,2	3						50	49	48	47	45	43	43	42	38	36	29	21	13		
4SD 15/12EC	7,4					3	4						67	66	64	62	59	57	57	56	51	48	38	28	17		
4SD 15/15EC	9,4					4	5,5						84	83	81	78	74	71	71	69	64	59	48	35	21		
4SD 15/17EC	9,4					4	5,5						95	94	92	88	84	81	81	79	72	67	54	40	24		
4SD 15/23EC	13					5,5	7,5						129	127	124	120	114	109	109	107	98	91	74	54	32		
4SD 15/30E	18,8					7,5	10[1]						168	166	162	156	149	142	142	140	128	119	97	70	42		

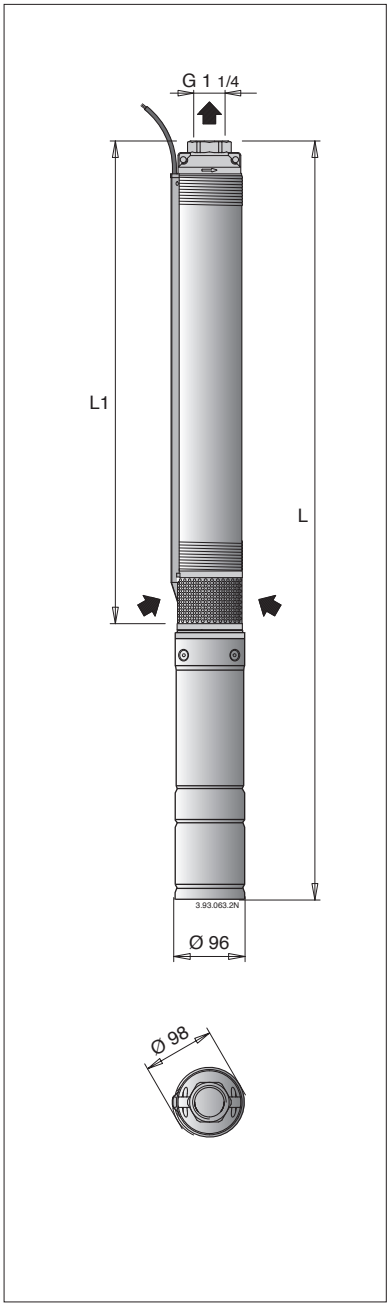
P1 Max. power input P2 Rated motor power output [1] Motor Franklin * Only for single-phase motor 230 V - 50 Hz (on request) Tolerances according to UNI EN ISO 9906:2012

4SD 31

Submersible borehole pumps for 4” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





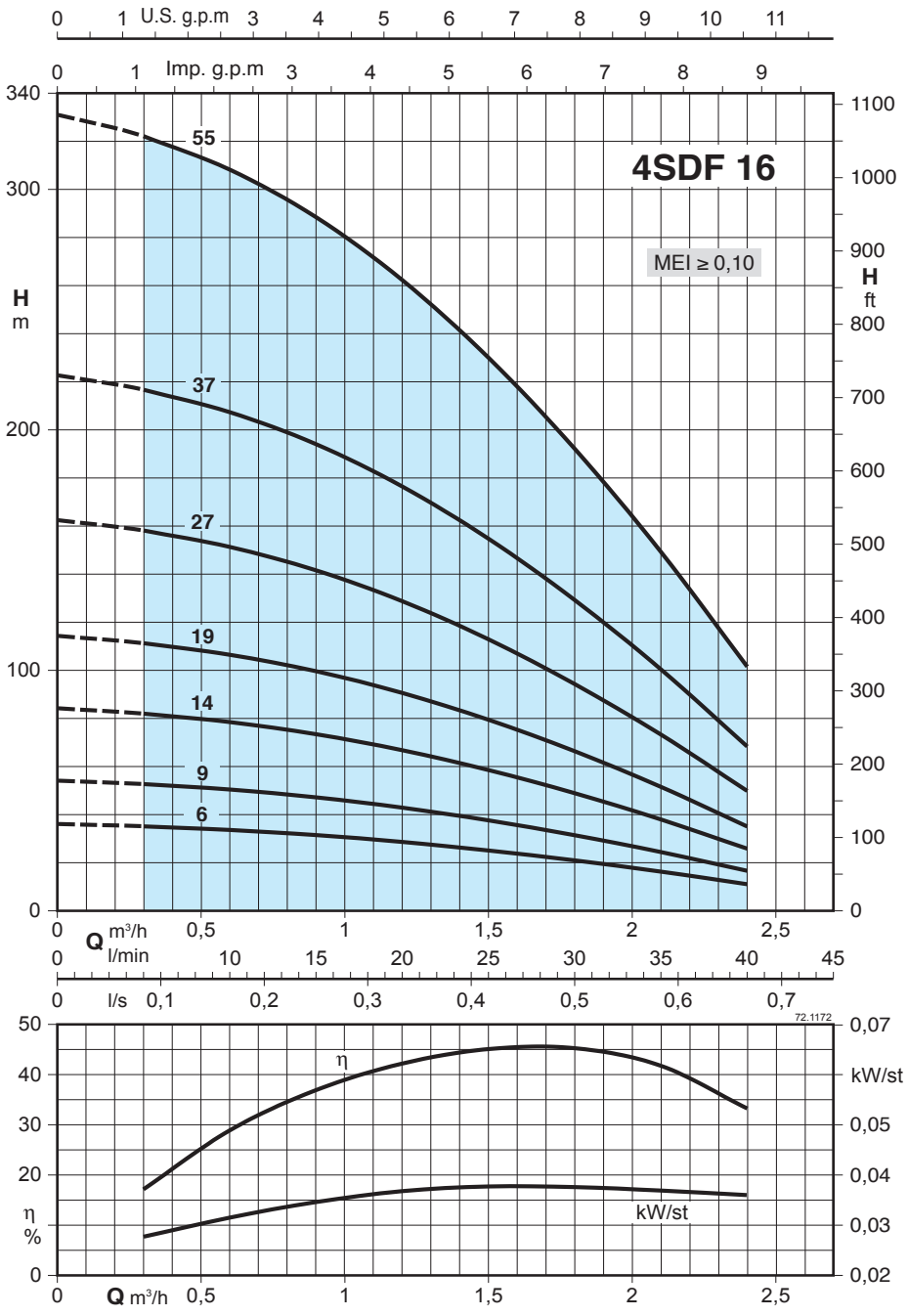
3~ 400 V (380-415) 50 Hz A	1~ 230V * A	µF 450 Vc	P1 kW	P2 kW	P2 HP	Q m³/h / l/min	n ≈ 2900 rpm: 0 / 0	0,15 / 2,5	0,3 / 5	0,6 / 10	0,9 / 15	1,2 / 20	1,5 / 25	1,8 / 30		
4SD 31/11EC	1,2	4SDM 31/11EC	3,2	16	0,62	0,37	0,5		47	45,6	43,8	39,3	33,8	28	20,9	14		
4SD 31/17EC	1.2	4SDM 31/17EC	3,2	16	0,7	0,37	0,5		70,5	67,7	64,5	57,3	49,4	40,9	31	20,2		
4SD 31/26EC	1.5	4SDM 31/26EC	4	25	0,89	0,55	0,75		107	104	98,9	87,9	75,2	61,2	45,7	28,1		
4SD 31/35EC	2	4SDM 31/35EC	5,6	35	1,22	0,75	1		138	131	124	109	92,6	73,8	53,1	30,8		
4SD 31/54EC	2.9	4SDM 31/54EC	8,4	40	1,82	1,1	1,5	H m	211	203	193	170	144	116	86	52,9		

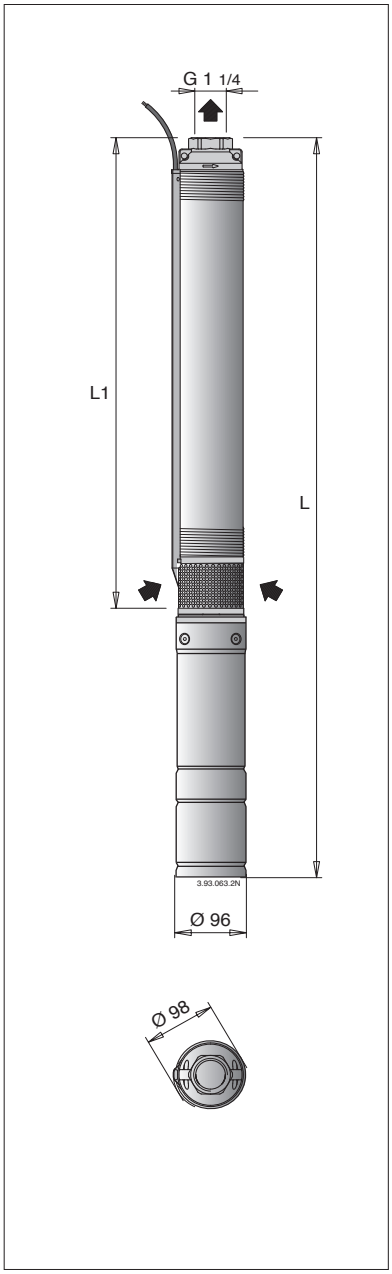
L1 mm	4SD L mm	4SD kg	4SDM L mm	4SDM kg
402	729	12	729	11,6
520	847	13	847	12,6
698	1045	13,5	1060	15,7
875	1237	15,8	1277	18,3
1295	1697	20	1742	23,3

P1 Max. power input P2 Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request) Tolerances according to UNI EN ISO 9906:2012

4SDF 16 Submersible borehole pumps for 4” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





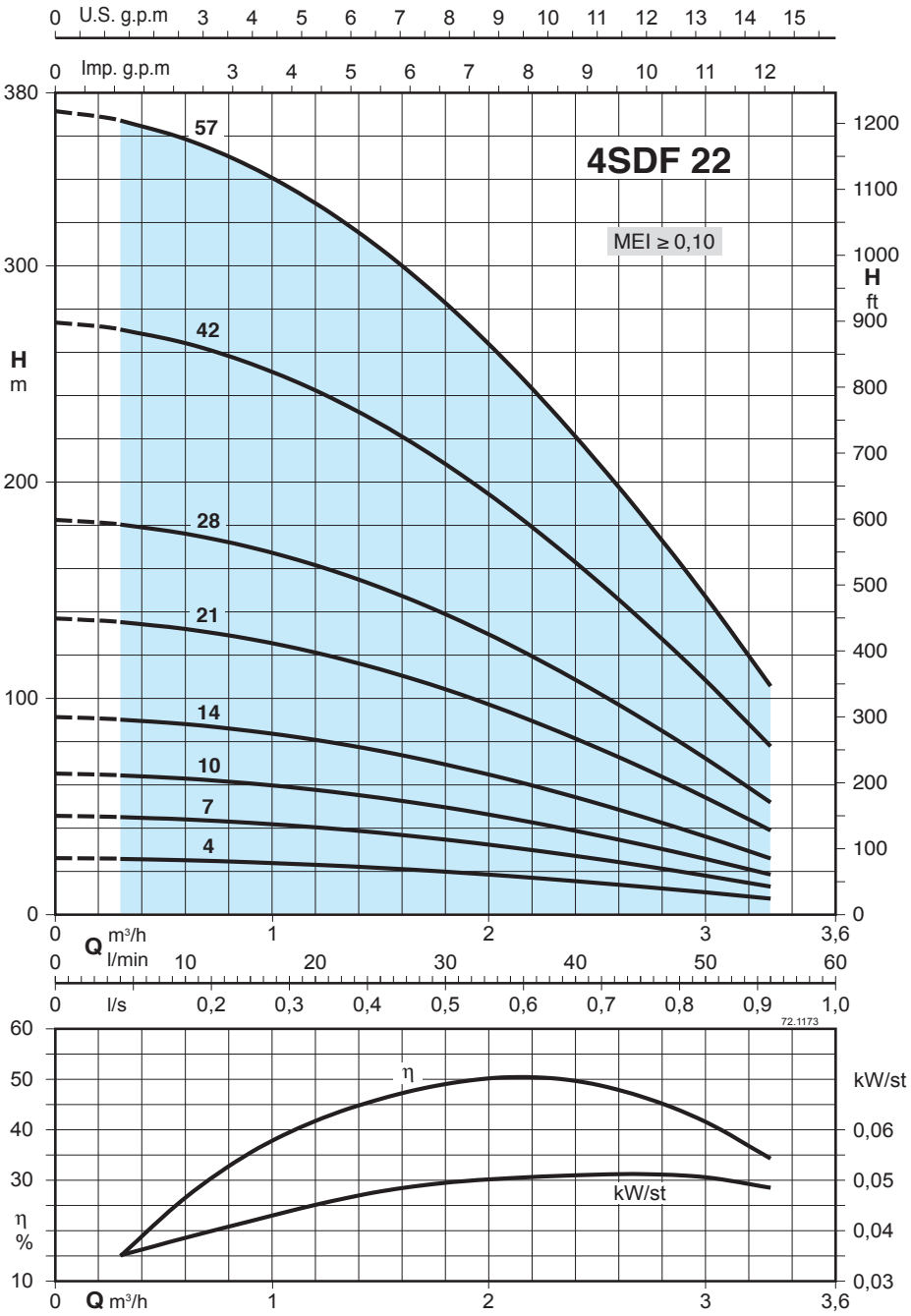
3~ 400 V (380-415) 50 Hz		1~ 230V * 450 Vc			P1	P2	Q	n ≈ 2900 rpm									
	A		A	µF	kW	kW	HP	m³/h	0	0,3	0,6	0,9	1,2	1,5	1,8	2,1	2,4
								l/min	0	5	10	15	20	25	30	35	40
4SDF 16/6EC	1,2	4SDFM 16/6EC	3,2	16	0,62	0,37	0,5		36,1	35,1	33,6	31,5	28,6	25,1	21	16,3	11,1
4SDF 16/9EC	1,2	4SDFM 16/9EC	3,2	16	0,7	0,37	0,5		54,2	52,7	50,4	47,2	42,9	37,6	31,4	24,4	16,6
4SDF 16/14EC	1,5	4SDFM 16/14EC	4	25	0,89	0,55	0,75		84,3	82	78,5	73,4	66,8	58,5	48,9	38	25,8
4SDF 16/19EC	2	4SDFM 16/19EC	5,6	35	1,22	0,75	1	H m	114	111	106	100	90,6	79,5	66,4	51,5	35,1
4SDF 16/27EC	2,9	4SDFM 16/27EC	8,4	40	1,82	1,1	1,5		163	158	151	142	129	113	94,3	73,2	49,8
4SDF 16/37EC	4,2	4SDFM 16/37EC	11,2	60	2,33	1,5	2		223	217	207	194	176	155	129	100	68,3
4SDF 16/55EC	5,5	4SDFM 16/55EC	14,7	70	3,27	2,2	3		331	322	308	288	262	230	192	149	102

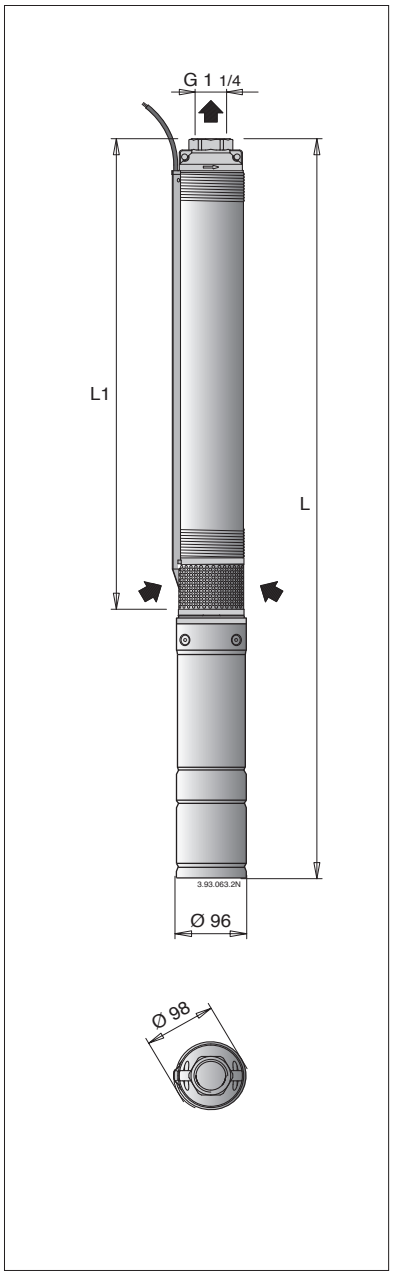
L1	4SDF		4SDFM	
mm	L mm	kg	L mm	kg
305	632	11	632	11,1
365	692	11,5	692	11,6
465	812	13,4	827	12,7
565	927	15,6	967	14,8
725	1127	18	1172	17,4
915	1362	21,7	1382	22,8
1325	1727	24,6	1842	30,6

P1 Max. power input P2 Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request) Tolerances according to UNI EN ISO 9906:2012

4SDF 22 Submersible borehole pumps for 4” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





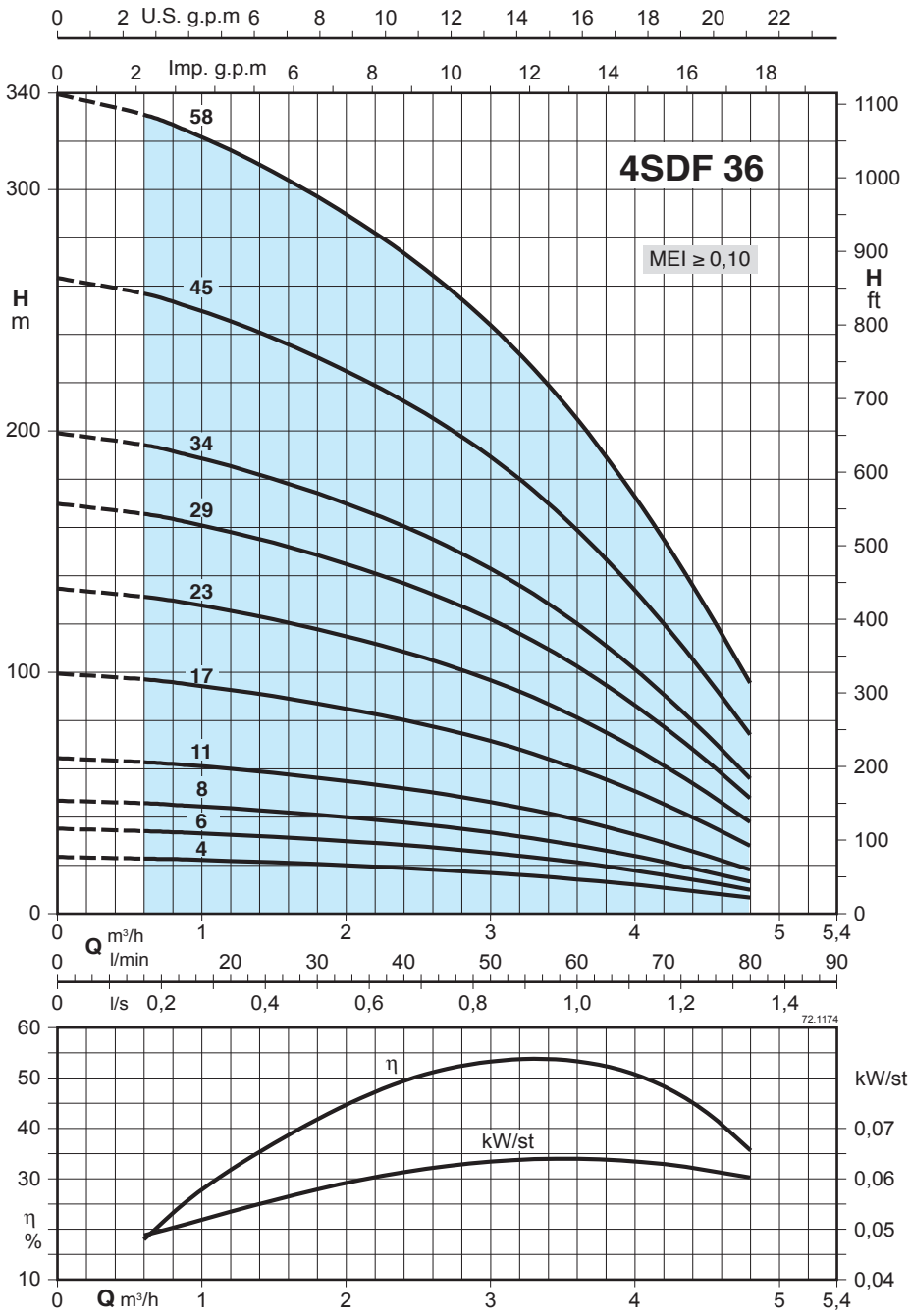
3~ 400 V (380-415) 50 Hz		1~ 230V *			P1	P2		Q	n ≈ 2900 rpm										
					450 Vc			m³/h	0	0,3	0,6	0,9	1,2	1,5	1,8	2,4	3	3,3
	A		A	µF	kW	kW	HP	l/min	0	5	10	15	20	25	30	40	50	55
4SDF 22/4EC	1,2	4SDFM 22/4EC	3,2	16	0,62	0,37	0,5		26,1	25,8	25,2	24,3	23,1	21,6	19,8	15,5	10,3	7,4
4SDF 22/7EC	1,2	4SDFM 22/7EC	3,2	16	0,7	0,37	0,5		45,6	45,1	44	42,5	40,4	37,8	34,7	27,1	18	13
4SDF 22/10EC	1,5	4SDFM 22/10EC	4	25	0,89	0,55	0,75		65,2	64,4	62,9	60,7	57,7	54	49,6	38,8	25,8	18,5
4SDF 22/14EC	2	4SDFM 22/14EC	5,6	35	1,22	0,75	1		91,2	90,2	88,1	84,9	80,8	75,6	69,5	54,3	36,1	25,9
4SDF 22/21EC	2,9	4SDFM 22/21EC	8,4	40	1,82	1,1	1,5	H m	137	135	132	127	121	113	104	81,4	54,1	38,9
4SDF 22/28EC	4,2	4SDFM 22/28EC	11,2	60	2,33	1,5	2		182	180	176	170	162	151	139	109	72,2	51,9
4SDF 22/42EC	5,5	4SDFM 22/42EC	14,7	70	3,27	2,2	3		274	271	264	255	242	227	208	163	108	77,8
4SDF 22/57EC	7,4					3	4		371	367	359	346	329	308	283	221	147	106

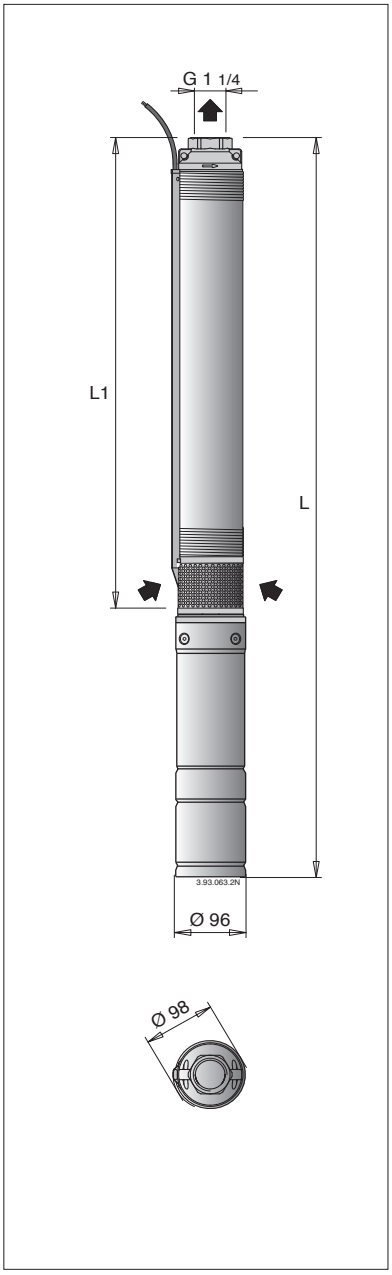
L1	4SDF		4SDFM	
	L		L	
mm	mm	kg	mm	kg
265	592	10,6	592	10,6
325	652	11,2	652	11,1
385	732	10,7	747	13,4
465	827	12,2	867	15,4
605	1007	14,7	1052	18,5
745	1192	17,4	1212	20,9
1015	1417	28,4	1532	25,8
1365	1846	33		

P1 Max. power input P2 Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request) Tolerances according to UNI EN ISO 9906:2012

4SDF 36 Submersible borehole pumps for 4” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





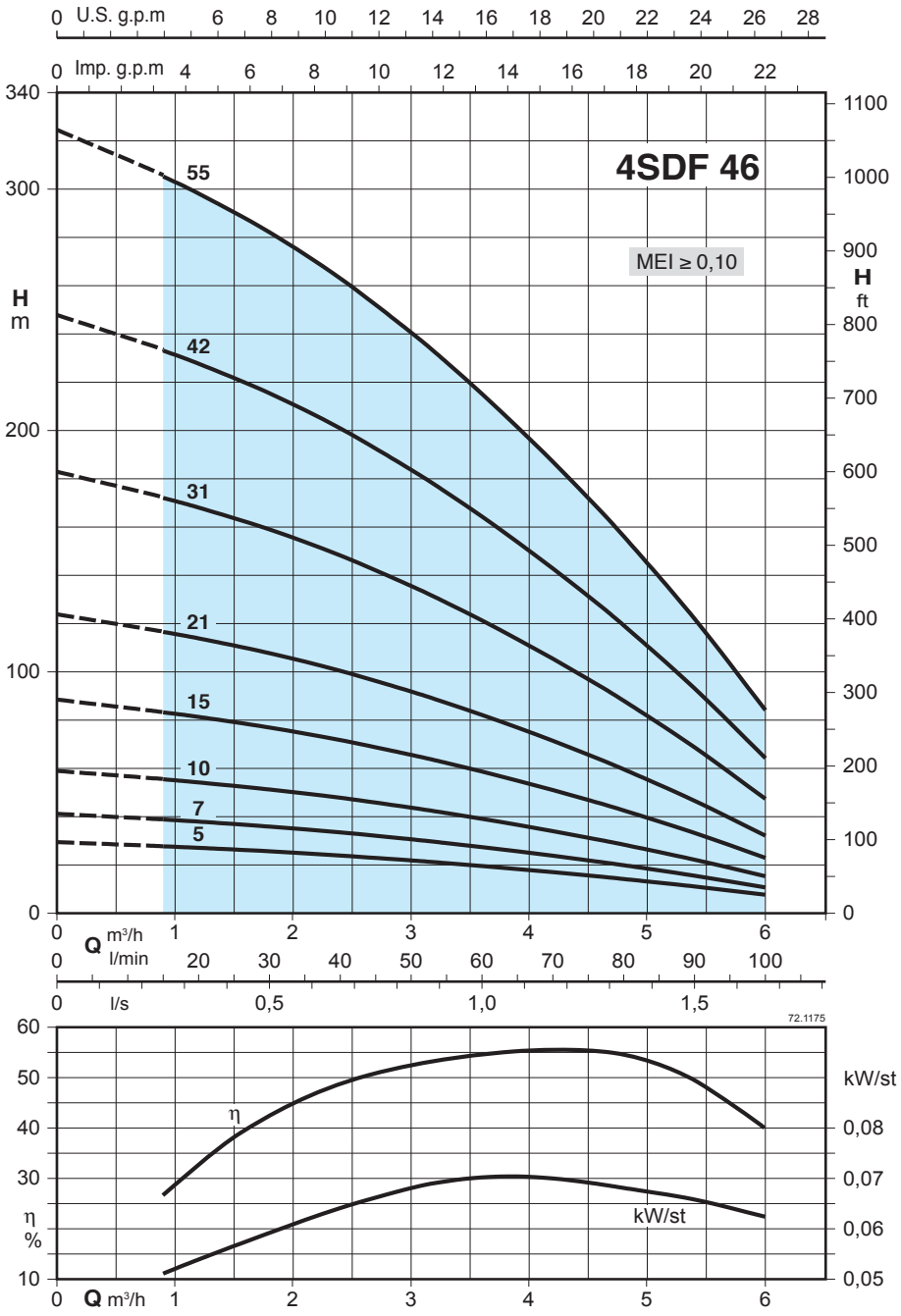
3~	400 V (380-415) 50 Hz	1~	230V *		P1	P2		Q	n ≈ 2900 rpm									
				450 Vc				m³/h	0	0,6	1,2	1,8	2,4	3	3,6	4,2	4,8
	A		A	µF	kW	kW	HP	l/min	0	10	20	30	40	50	60	70	80
4SDF 36/4EC	1,2	4SDFM 36/4EC	3,2	16	0,62	0,37	0,5		23,4	22,8	21,8	20,5	18,8	16,8	14,1	10,7	6,6
4SDF 36/6EC	1,2	4SDFM 36/6EC	3,2	16	0,7	0,37	0,5		35,1	34,2	32,7	30,7	28,3	25,2	21,2	16	9,9
4SDF 36/8EC	1,5	4SDFM 36/8EC	4	25	0,89	0,55	0,75		46,8	45,6	43,6	40,9	37,7	33,6	28,2	21,3	13,2
4SDF 36/11EC	2	4SDFM 36/11EC	5,6	35	1,22	0,75	1	H m	64,3	62,7	59,9	56,3	51,8	46,2	38,8	29,4	18,1
4SDF 36/17EC	2,9	4SDFM 36/17EC	8,4	40	1,82	1,1	1,5		99,4	96,9	92,6	87	80,1	71,4	60	45,4	28
4SDF 36/23EC	4,2	4SDFM 36/23EC	11,2	60	2,33	1,5	2		134	131	125	118	108	96,6	81,2	61,4	37,8
4SDF 36/29EC	5,5	4SDFM 36/29EC	14,7	70	3,27	2,2	3		170	165	158	148	137	122	102	77,4	47,7
4SDF 36/34EC	5,5	4SDFM 36/34EC	14,7	70	3,27	2,2	3		199	194	185	174	160	143	120	90,7	55,9
4SDF 36/45EC	7,4					3	4		263	256	245	230	212	189	159	120	74
4SDF 36/58EC	9,4					4	5,5		339	331	316	297	273	244	205	155	95,4

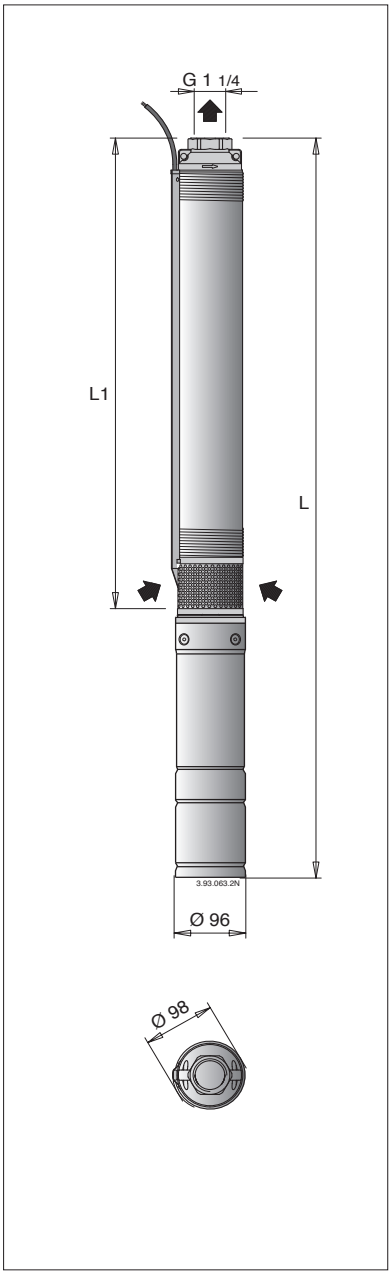
L1	4SDF		4SDFM	
	L	kg	L	kg
mm	mm		mm	
306	633	10,7	633	10,6
366	693	11,1	693	11
426	773	10,6	788	13,3
517	879	12,2	919	15,4
699	1101	14,7	1146	18,5
880	1327	17,5	1347	21
1063	1465	27,3	1580	24,7
1213	1694	28,7	1730	26,1
1590	2136	28,4		
1981	2627	34,3		

P1 Max. power input P2 Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request) Tolerances according to UNI EN ISO 9906:2012

4SDF 46 Submersible borehole pumps for 4” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





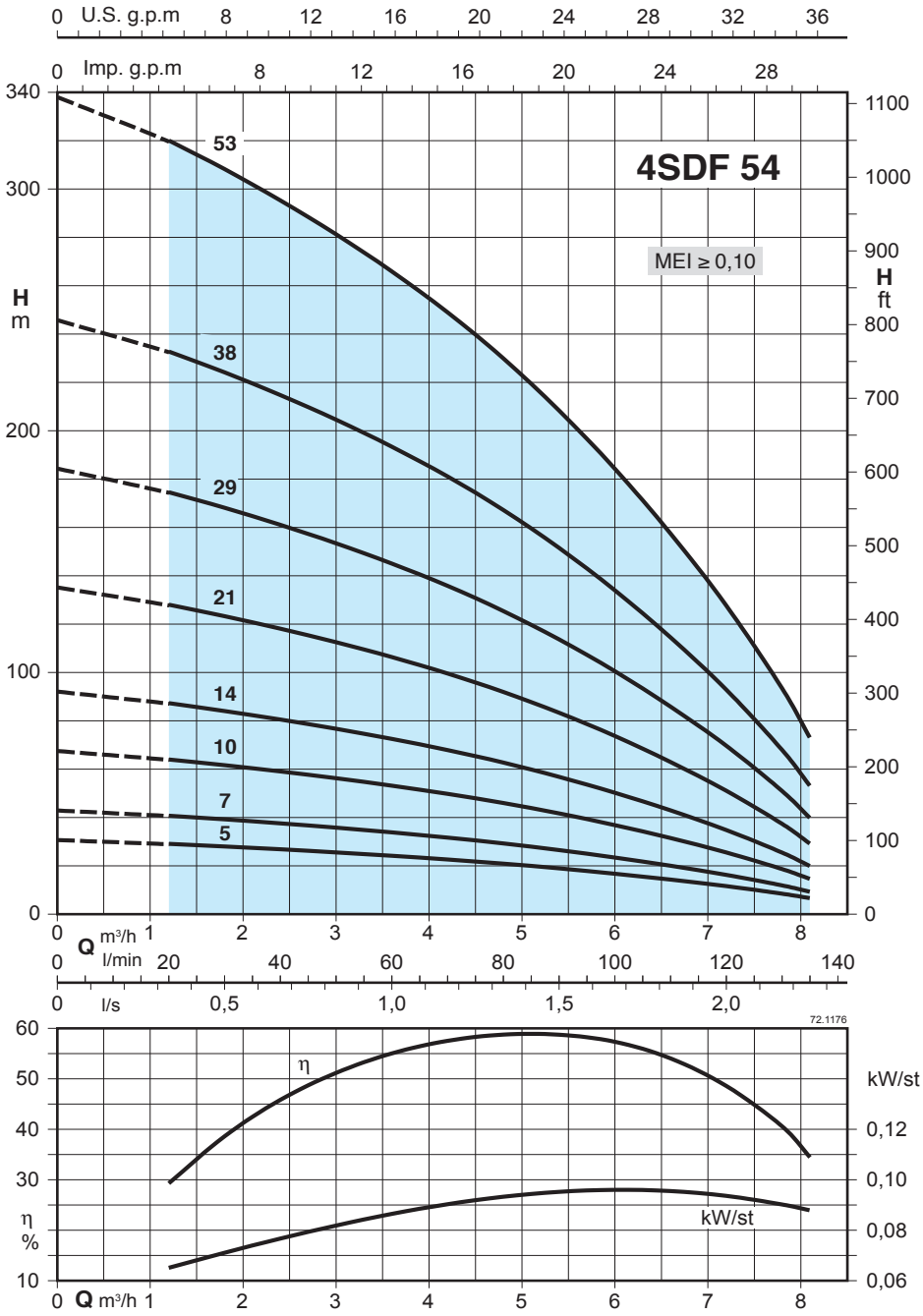
3~ 400 V (380-415) 50 Hz		1~ 230V *			P1	P2		Q	n ≈ 2900 rpm										
				450 Vc				m³/h	0	0,9	1,2	1,8	2,4	3	3,6	4,2	4,8	6
	A		A	µF	kW	kW	HP	l/min	0	15	20	30	40	50	60	70	80	100
4SDF 46/5EC	1,2	4SDFM 46/5EC	3,2	16	0,7	0,37	0,5	H m	29,4	27,8	27,1	25,6	23,9	21,9	19,6	17	14,2	7,6
4SDF 46/7EC	1,5	4SDFM 46/7EC	4	25	0,89	0,55	0,75		41,2	38,9	37,9	35,9	33,5	30,6	27,4	23,8	19,9	10,7
4SDF 46/10EC	2	4SDFM 46/10EC	5,6	35	1,22	0,75	1		58,9	55,5	54,2	51,3	47,8	43,7	39,1	34	28,4	15,3
4SDF 46/15EC	2,9	4SDFM 46/15EC	8,4	40	1,82	1,1	1,5		88,3	83,3	81,3	76,9	71,7	65,6	58,7	51	42,6	22,9
4SDF 46/21EC	4,2	4SDFM 46/21EC	11,2	60	2,33	1,5	2		124	117	114	108	100	91,9	82,2	71,4	59,6	32,1
4SDF 46/31EC	5,5	4SDFM 46/31EC	14,7	70	3,27	2,2	3		183	172	168	159	148	136	121	105	88	47,4
4SDF 46/42EC	7,4					3	4		247	233	228	215	201	184	164	143	119	64,2
4SDF 46/55EC	9,4					4	5,5		324	305	298	282	263	241	215	187	156	84,1

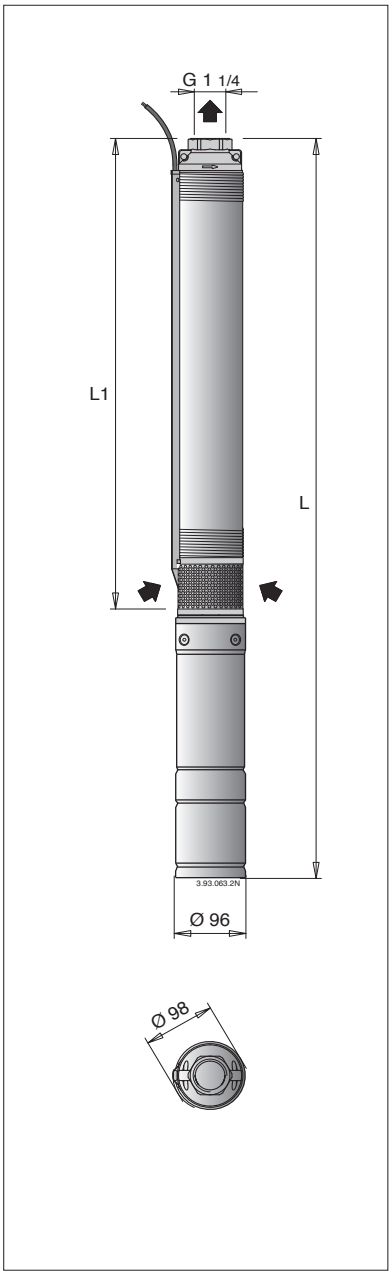
L1	4SDF		4SDFM	
mm	L mm	kg	L mm	kg
315	642	10,9	642	10,8
370	717	10,4	732	13,1
450	812	11,8	852	15
585	987	14	1032	17,8
740	1187	16,7	1207	20,2
1005	1407	27,2	1522	24,6
1340	1821	31,5		
1685	2231	38,6		

P1 Max. power input P2 Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request) Tolerances according to UNI EN ISO 9906:2012

4SDF 54 Submersible borehole pumps for 4” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





3~ 400 V (380-415) 50 Hz		1~ 230V *			P1	P2	Q	n ≈ 2900 rpm									
				450 Vc			m³/h	0	1,2	1,8	2,4	3	3,6	4,8	6	7,2	8,1
	A		A	µF	kW	kW	HP	l/min	0	20	30	40	50	60	80	100	120	135
4SDF 54/5EC	1,5	4SDFM 54/5EC	4	25	0,89	0,55	0,75	H m	30,8	29,1	28	26,8	25,6	24,2	20,9	16,8	11,6	6,6
4SDF 54/7EC	2	4SDFM 54/7EC	5,6	35	1,22	0,75	1		43,1	40,7	39,2	37,6	35,8	33,8	29,3	23,5	16,3	9,3
4SDF 54/10EC	2,9	4SDFM 54/10EC	8,4	40	1,82	1,1	1,5		67,7	64	61,6	59,1	56,3	53,2	46	36,9	25,6	14,6
4SDF 54/14EC	4,2	4SDFM 54/14EC	11,2	60	2,33	1,5	2		92,3	87,3	84,1	80,5	76,7	72,5	62,7	50,3	34,8	19,9
4SDF 54/21EC	5,5	4SDFM 54/21EC	14,7	70	3,27	2,2	3		135	128	123	118	113	106	92	73,7	51,1	29,2
4SDF 54/29EC	7,4					3	4		185	175	168	161	153	145	125	101	69,7	39,9
4SDF 54/38EC	9,4					4	5,5		246	233	224	215	205	193	167	134	92,9	53,1
4SDF 54/53EC	13					5,5	7,5		338	320	308	295	281	266	230	184	128	73,1

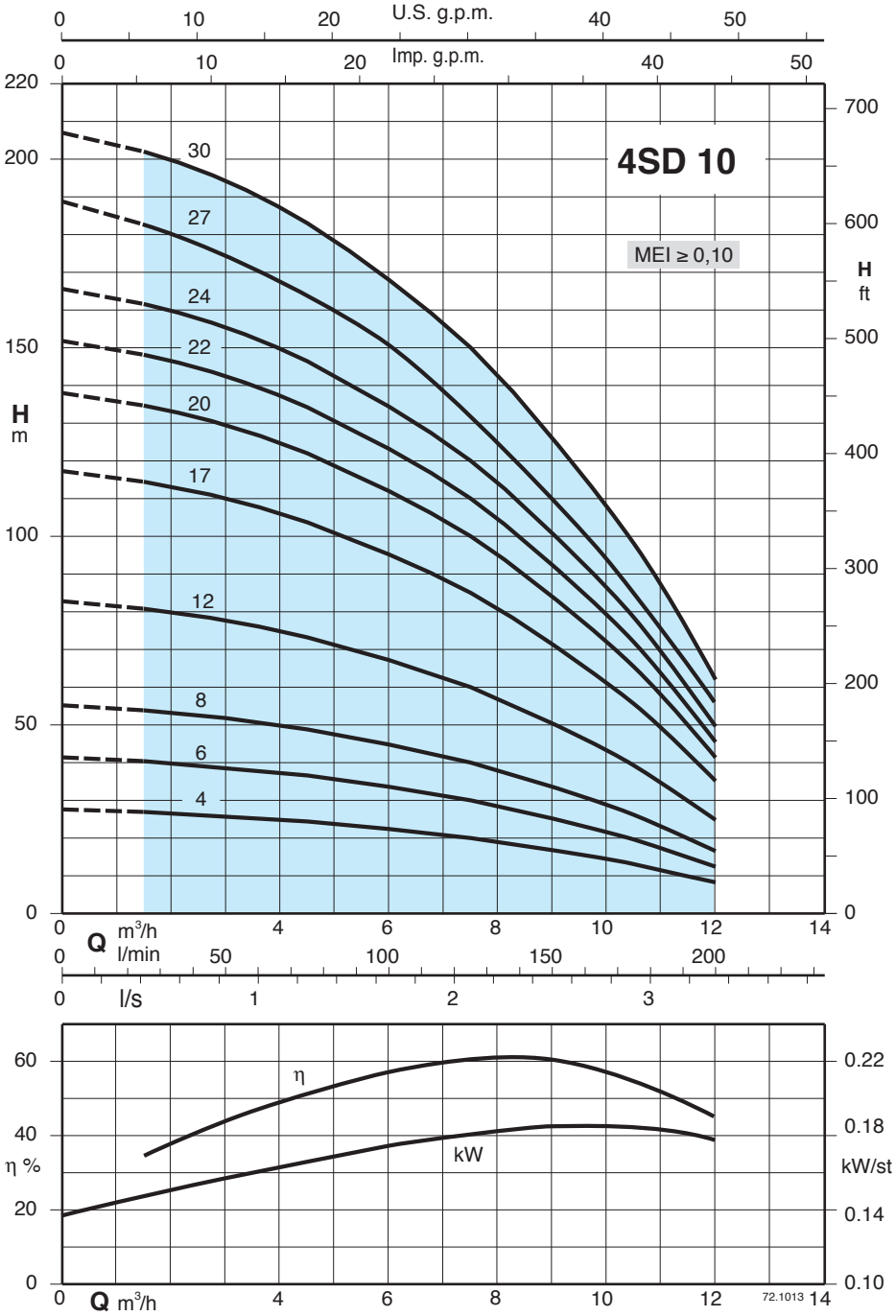
L1	4SDF		4SDFM	
	L		L	
mm	mm	kg	mm	kg
340	687	9,9	702	12,6
400	762	11,2	802	14,4
490	892	13	937	16,8
610	1057	15,4	1077	18,9
820	1222	25,4	1337	22,8
1060	1541	28,8		
1380	1926	35,6		
1830	2476	41,8		

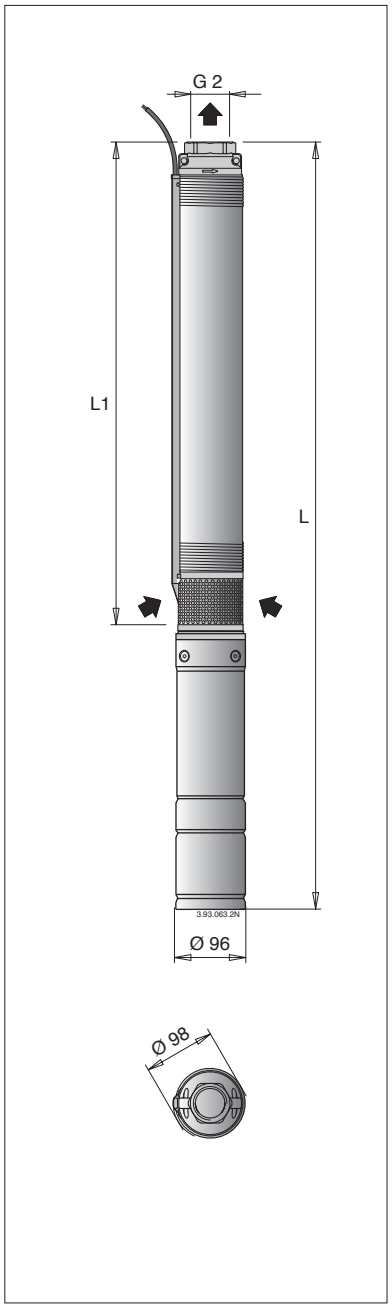
P1 Max. power input P2 Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request) Tolerances according to UNI EN ISO 9906:2012

4SD 10

Submersible borehole pumps for 4” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





3~ 400 V (380-415) 50 Hz		1~ 230V *			P1	P2		Q	n ≈ 2900 rpm											
				450 Vc				m³/h	1,5	2,4	3	3,6	4,8	6	7,2	8,4	9,6	10,8	12
	A		A	µF	kW	kW	HP	l/min	25	40	50	60	80	100	120	140	160	180	200
4SD 10/4EC	2	4SDM 10/4EC	5,6	35	1,22	0,75	1		27	26	26	25	24	23	20	18	15	12	8
4SD 10/6EC	2.9	4SDM 10/6EC	8,4	40	1,82	1,1	1,5		40	39	39	38	36	34	31	27	23	18	12
4SD 10/8EC	4,2	4SDM 10/8EC	11,2	60	2,33	1,5	2		54	53	52	51	48	45	41	36	30	25	16
4SD 10/12EC	5,5	4SDM 10/12EC	14,7	70	3,27	2,2	3	H m	81	79	78	76	72	67	61	54	46	37	25
4SD 10/17EC	7,4					3	4		114	112	111	108	102	95	87	76	65	52	35
4SD 10/20EC	9,4					4	5,5		134	132	130	127	120	112	102	90	76	61	41
4SD 10/22EC	9,4					4	5,5		148	145	143	139	132	123	112	99	84	67	45
4SD 10/24EC	9,4					4	5,5		162	158	156	152	144	134	122	108	91	74	50
4SD 10/27EC	13					5,5	7,5		182	178	176	171	162	151	138	122	103	83	56
4SD 10/30EC	13					5,5	7,5		202	198	195	190	180	168	153	135	114	92	62

L1	4SD		4SDM	
	L	kg	L	kg
mm	mm		mm	
409	771	11,6	811	14,1
515	917	13,4	962	16,7
621	1068	15,7	1088	18,6
833	1235	25,9	1350	22,7
1098	1579	28		
1312	1858	36		
1418	1964	36,8		
1524	2070	37,6		
1683	2329	41,1		
1842	2488	42,1		

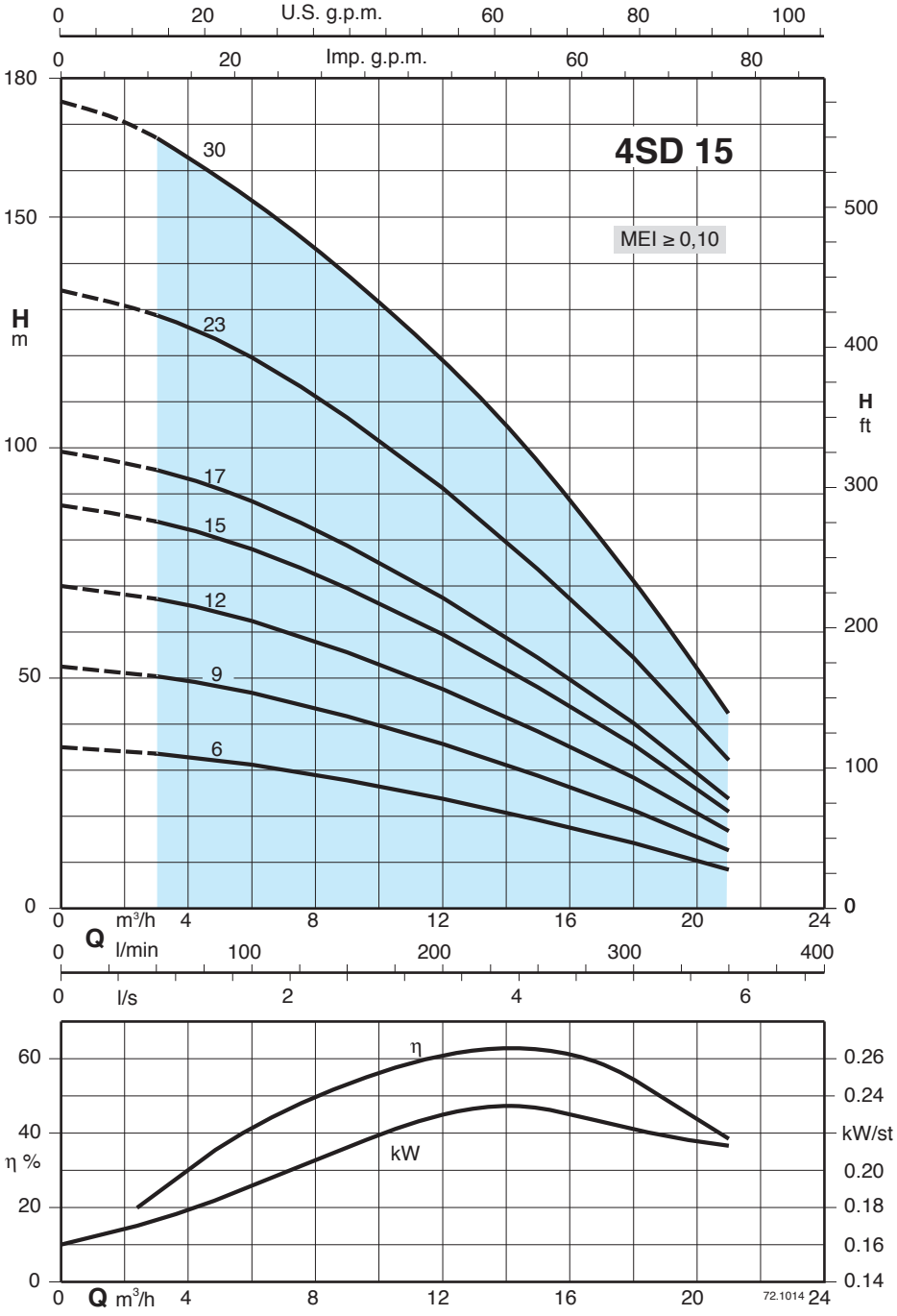
P1 Max. power input P2 Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request) Tolerances according to UNI EN ISO 9906:2012

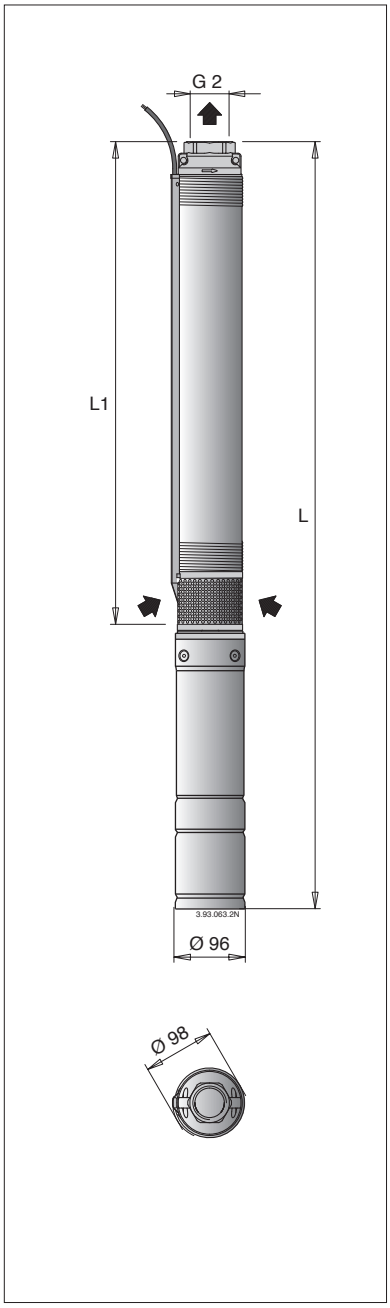
4SD 15

Submersible borehole pumps for 4” wells

calpeda®

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





3~ 400 V (380-415) 50 Hz		1~ 230V *			P1	P2		Q	n ≈ 2900 rpm												
				450 Vc				m³/h	3	3,6	4,8	6	7,2	8,4	9,6	10,8	12	15	18	21
	A		A	µF	kW	kW	HP	l/min	50	60	80	100	120	140	160	180	200	250	300	350
4SD 15/6EC	4,2	4SDM 15/6EC	11,2	60	2,33	1,5	2		33	33	32	31	30	29	28	26	24	19	14	8
4SD 15/9EC	5,5	4SDM 15/9EC	14,7	70	3,27	2,2	3		50	49	48	47	45	43	42	38	36	29	21	13
4SD 15/12EC	7,4					3	4		67	66	64	62	59	57	56	51	48	38	28	17
4SD 15/15EC	9,4					4	5,5	H m	84	83	81	78	74	71	69	64	59	48	35	21
4SD 15/17EC	9,4					4	5,5		95	94	92	88	84	81	79	72	67	54	40	24
4SD 15/23EC	13					5,5	7,5		129	127	124	120	114	109	107	98	91	74	54	32
4SD 15/30E	18,8					7,5[1]	10[1]		168	166	162	156	149	142	140	128	119	97	70	42

L1	4SD		4SDM	
	L		L	
mm	mm	kg	mm	kg
755	1202	15,6	1222	18,5
988	1390	33	1505	30,2
1299	1780	34,3		
1601	2147	40,6		
1756	2302	41,4		
2291	2937	49,4		
2836	3610	62		

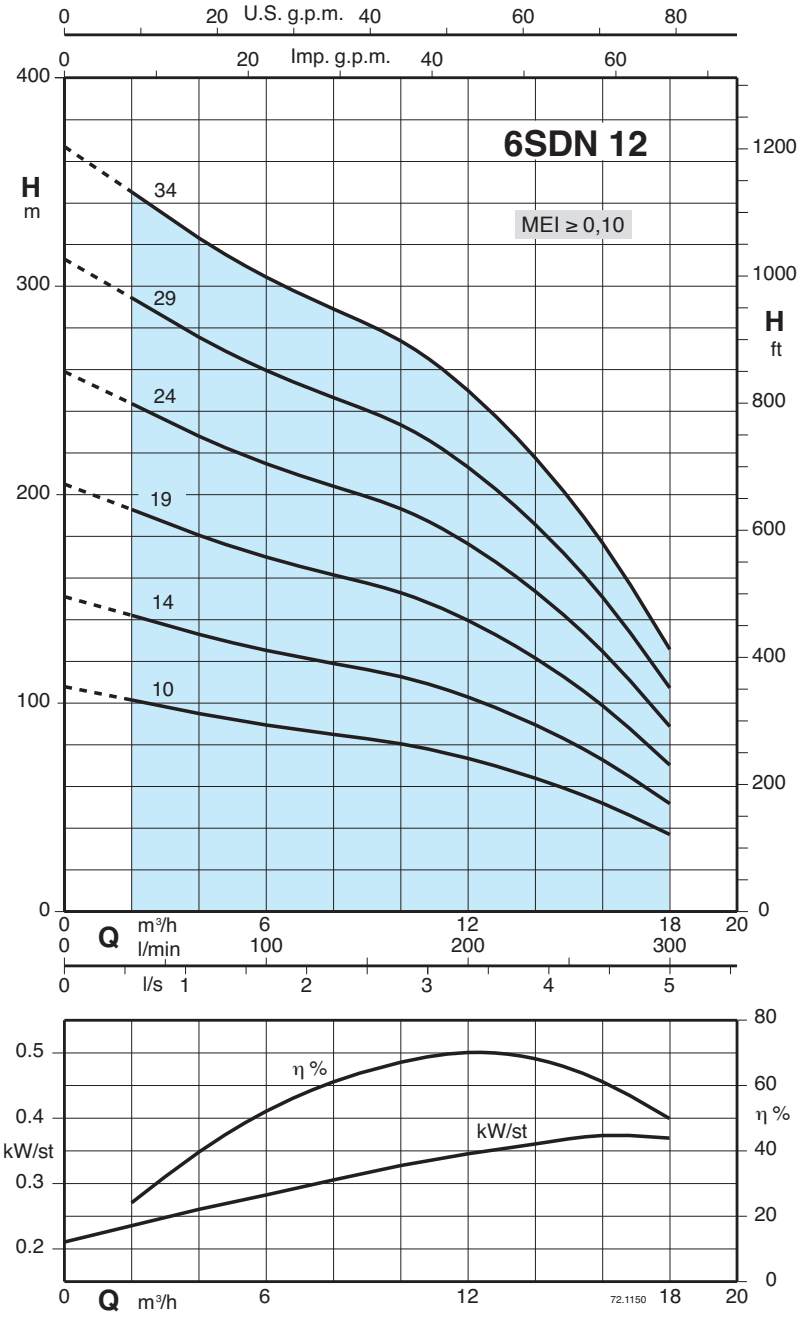
P1 Max. power input P2 Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request) Tolerances according to UNI EN ISO 9906:2012

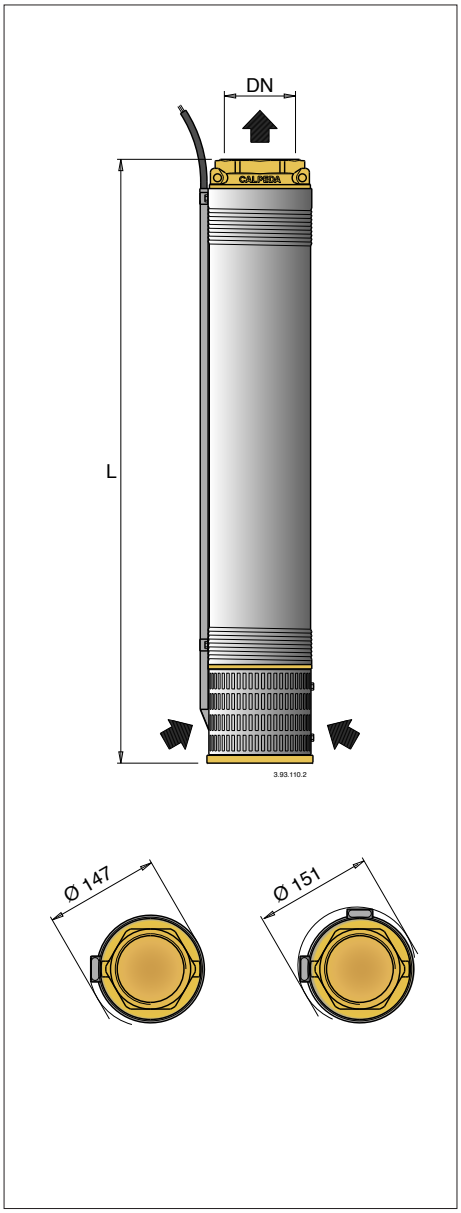
1) Franklin motor

6SDN 12

Submersible borehole pumps for 6” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





3 ~	P2		Q	n ≈ 2900 rpm											
			m³/h	2	4	6	8	10	12	14	16	18			
	kW	HP	l/min	33,3	66,6	100	133,3	166,6	200	233	266	300			
6SDN 12/10	4	5,5	H m	102	95	89,5	85	80,5	73,5	64	52	37			
6SDN 12/14	5,5	7,5		142	133	125	119	113	103	89,5	73	52			
6SDN 12/19	7,5	10		193	181	170	162	153	140	122	99	70,5			
6SDN 12/24	9,2	12,5		244	231	215	204	193	176	154	125	89			
6SDN 12/29	11	15		294	276	260	247	233	213	186	151	107			
6SDN 12/34	13 (15)	17,5 (20)		345	323	304	289	274	250	218	177	126			

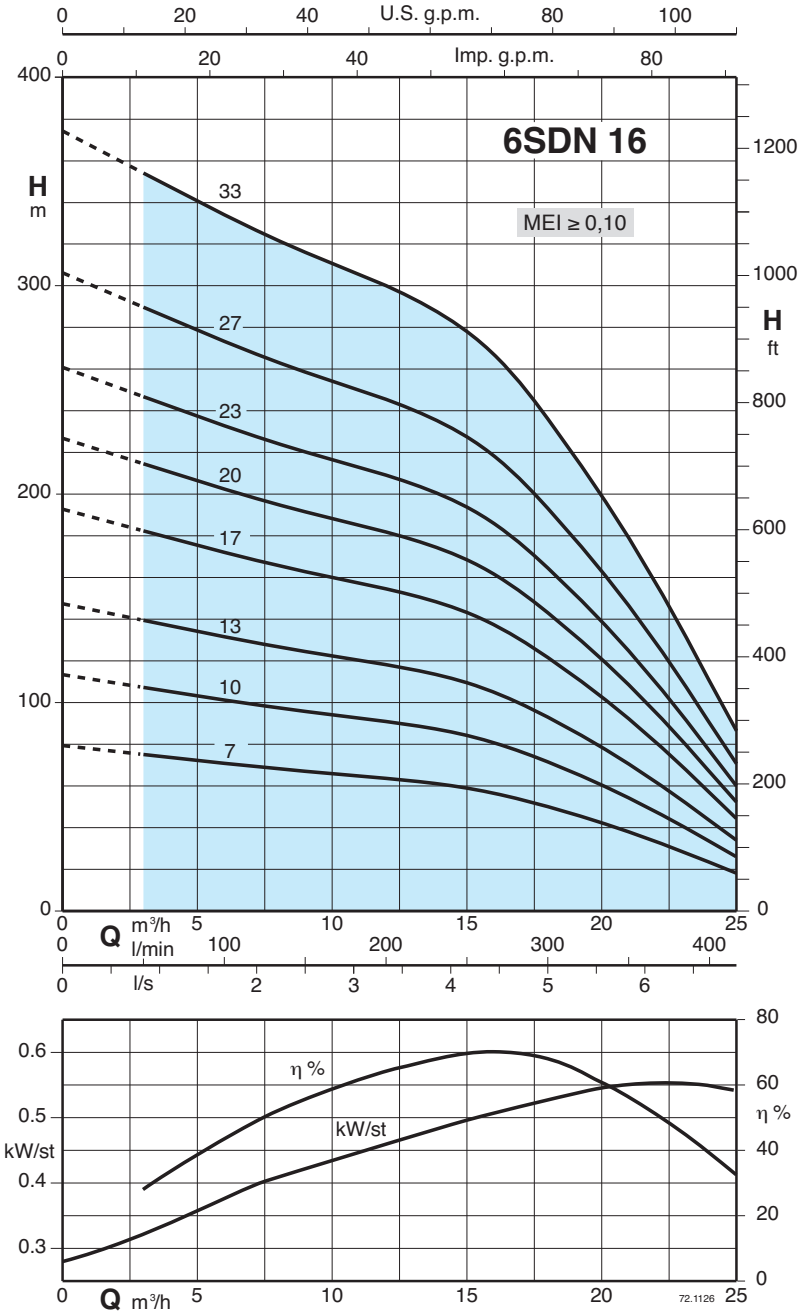
DN	L	
	mm	kg
G 3 ISO 228	715	15,5
	870	17,5
	1060	20
	1320	23
	1510	25,7
	1705	28,5

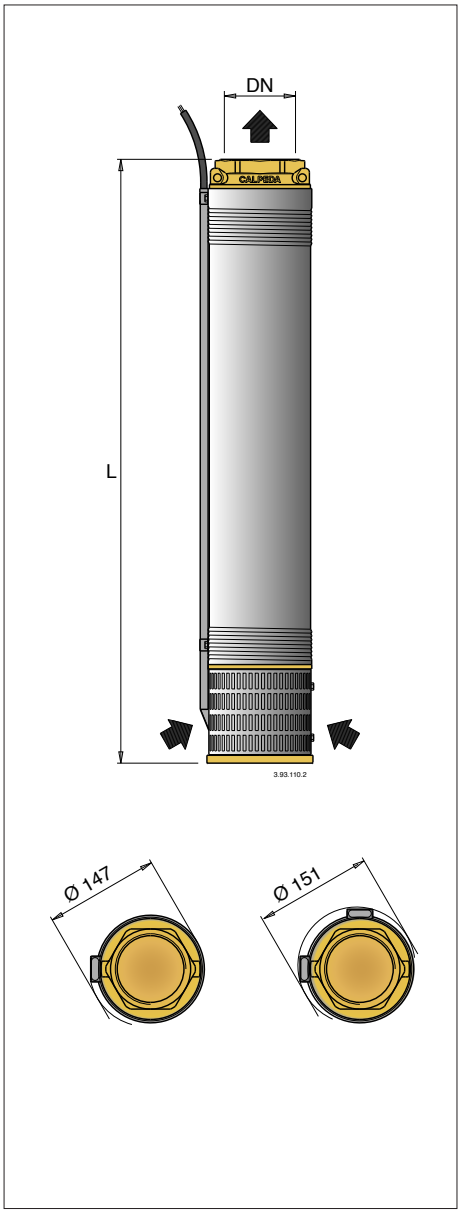
P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

6SDN 16

Submersible borehole pumps for 6” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





3 ~	P2		Q	n ≈ 2900 rpm											
			m³/h	3	6	9	12	15	18	21	25				
	kW	HP	l/min	50	100	150	200	250	300	350	416,6				
6SDN 16/7	4	5,5	H m	75	71	67	63,5	59	50	38	18,5				
6SDN 16/10	5,5	7,5		107	101	96	91	84	71,5	54,5	26				
6SDN 16/13	7,5	10		139	132	124	118	110	93	70,5	34				
6SDN 16/17	9,2	12,5		182	172	163	155	143	122	92,5	44,5				
6SDN 16/20	11	15		215	202	192	182	168	143	109	52,5				
6SDN 16/23	13 (15)	17,5 (20)		247	233	220	209	194	165	125	60				
6SDN 16/27	15	20		290	273	259	245	227	193	147	71				
6SDN 16/33	18,5	25		354	334	316	300	278	236	179	86,5				

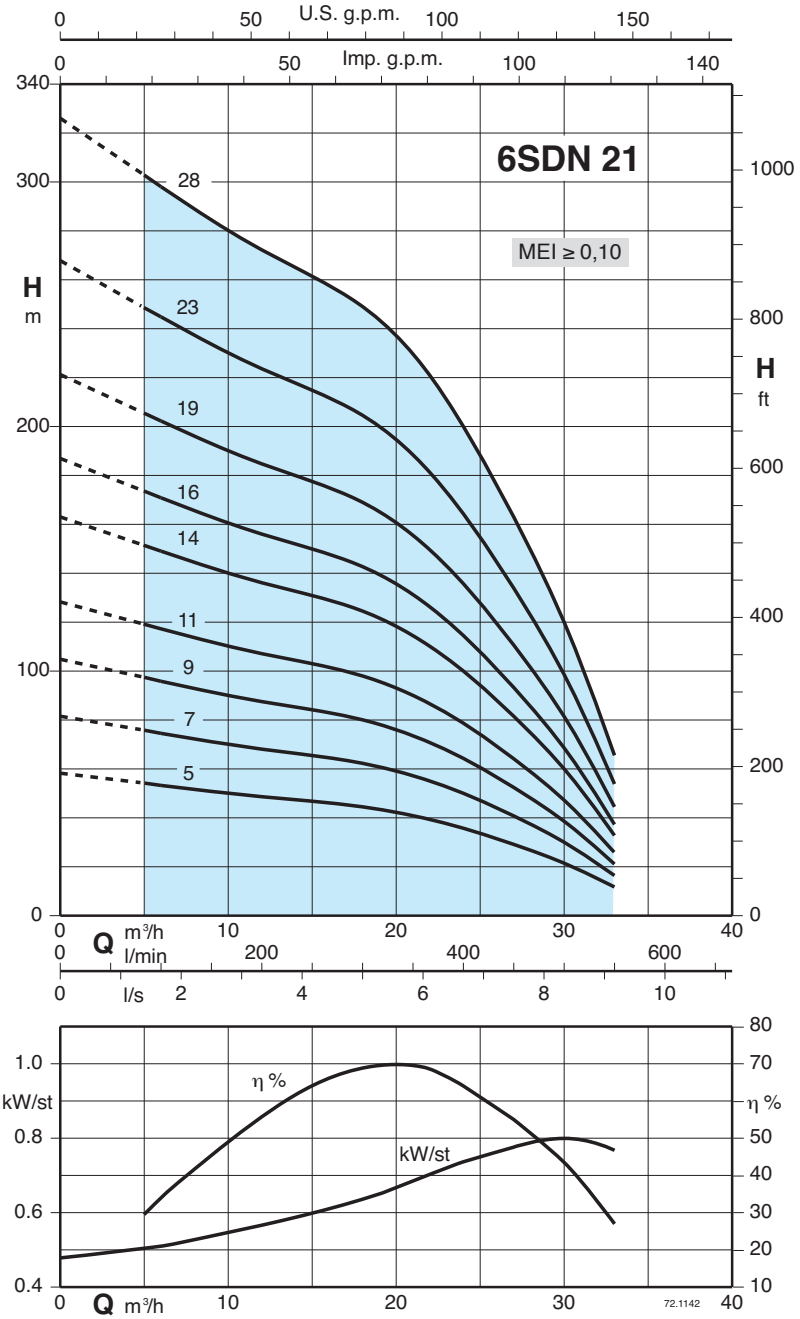
DN	L	
	mm	kg
G 3 ISO 228	600	14
	715	15,5
	830	17
	985	19
	1100	20,5
	1285	22,5
	1435	24,6
	1665	28

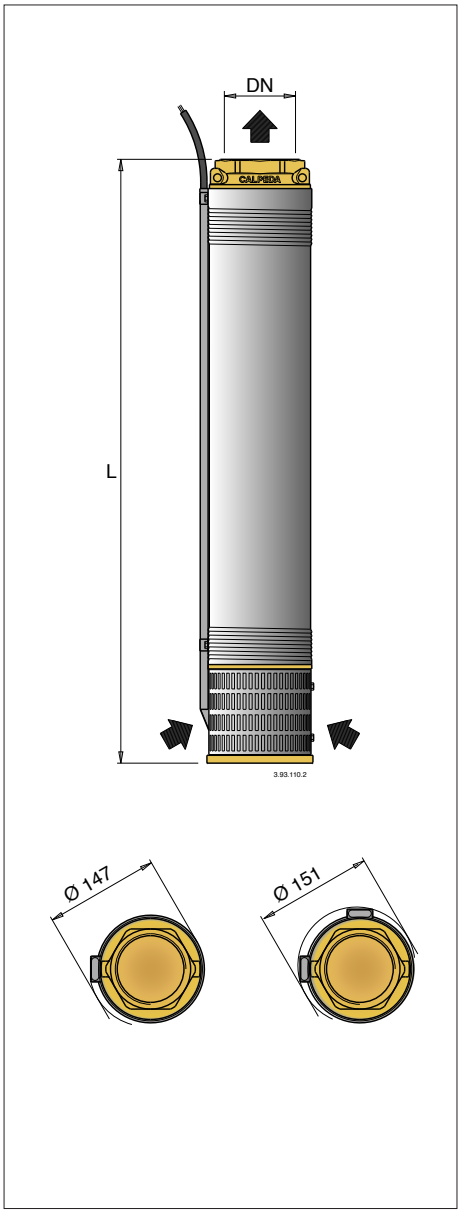
P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

6SDN 21

Submersible borehole pumps for 6” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





3 ~	P2		Q	n ≈ 2900 rpm											
			m³/h	5	9	12	15	18	21	24	27	30	33		
	kW	HP	l/min	83,3	150	200	250	300	350	400	450	500	550		
6SDN 21/5	4	5,5	H m	54	51	48,5	46,5	45	41,5	36	29	21,5	11,5		
6SDN 21/7	5,5	7,5		75,5	71,5	68	65	62,5	58	50	41	30	16		
6SDN 21/9	7,5	10		97	92	87,5	83,5	80,5	74,5	64,5	53	38,5	21		
6SDN 21/11	9,2	12,5		119	112	107	102	99	91	79	64	47	25,5		
6SDN 21/14	11	15		151	143	136	130	125	116	100	81,5	60	32,5		
6SDN 21/16	13 (15)	17,5 (20)		173	163	155	149	143	132	114	93	69	37		
6SDN 21/19	15	20		205	194	185	176	170	157	136	111	81,5	44		
6SDN 21/23	18,5	25		249	235	224	213	206	190	164	134	99	53		
6SDN 21/28	22	30		303	286	272	260	251	231	200	163	120	64,5		

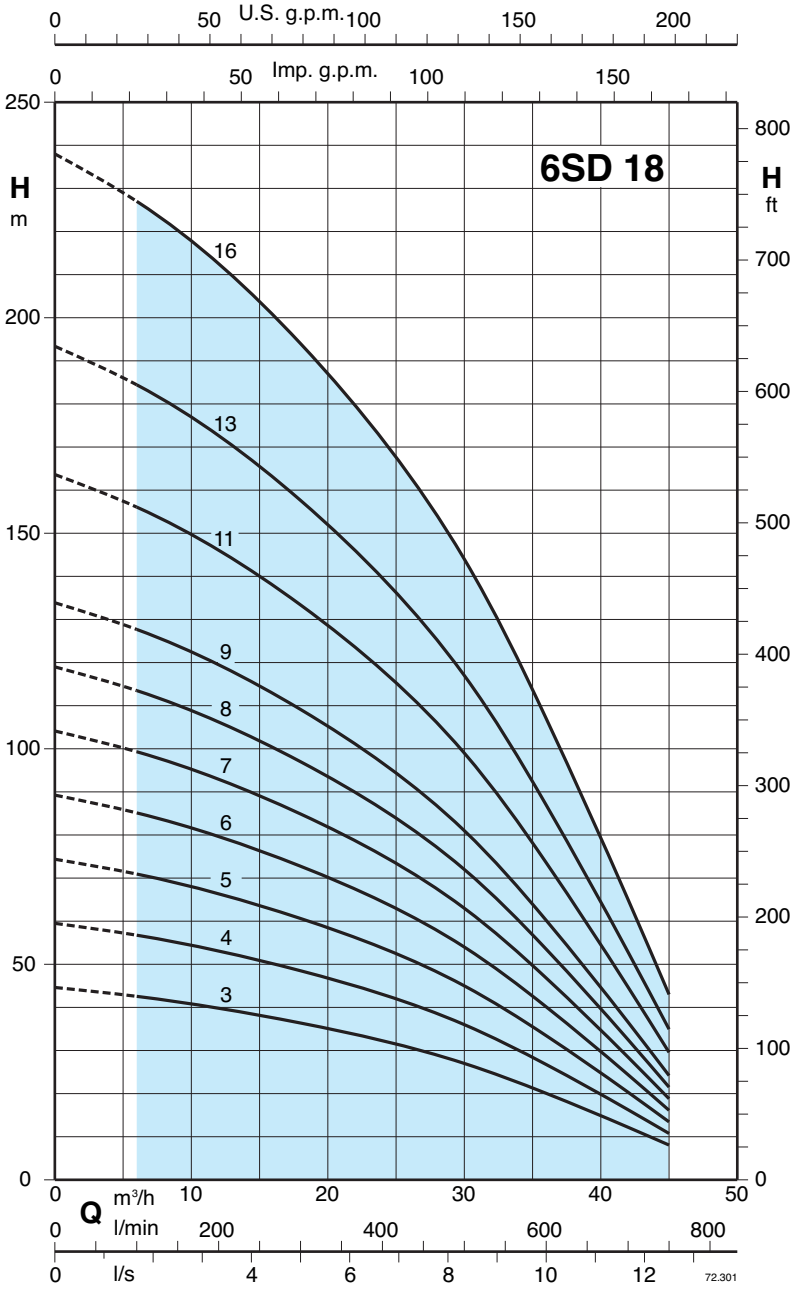
DN	L	
	mm	kg
G 3 ISO 228	565	13,3
	660	14,5
	755	15,7
	850	16,9
	990	18,7
	1085	19,9
	1225	21,7
	1480	24,5
	1710	27,5

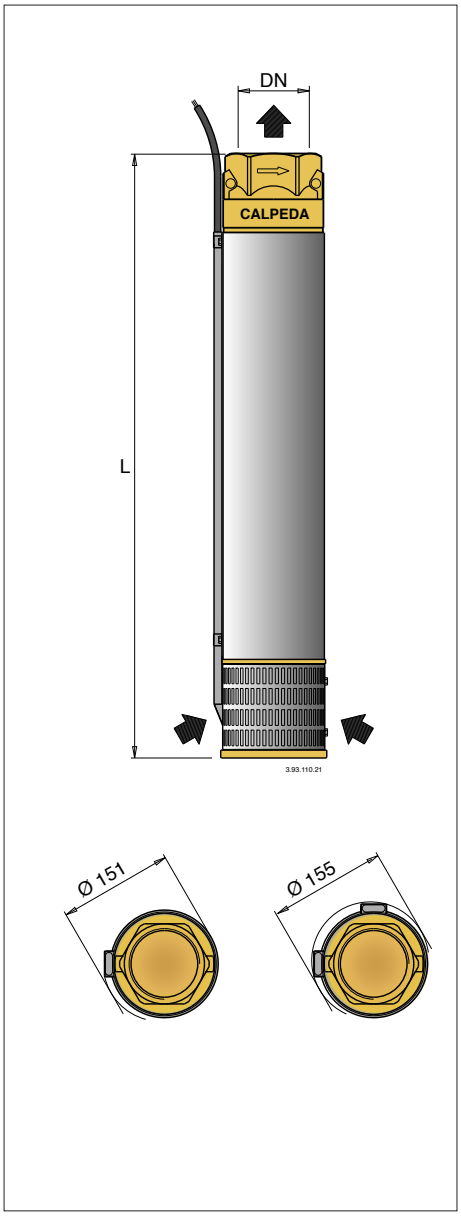
P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

6SD 18

Submersible borehole pumps for 6” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





3 ~	P2		Q	n ≈ 2900 rpm											
			m³/h	6	12	18	24	30	36	42	45				
	kW	HP	l/min	100	200	300	400	500	600	700	750				
6SD 18/3	4	5,5		42	39	36	32	27	20	12	8				
6SD 18/4	5,5	7,5		56	53	48	43	36	27	16	11				
6SD 18/5	7,5	10		70	66	60	53	45	34	21	13				
6SD 18/6	9,2	12,5		85	79	72	64	54	40	25	16				
6SD 18/7	9,2	12,5	H	100	93	84	75	63	46	28	19				
6SD 18/8	11	15	m	113	105	96	86	72	54	32	21				
6SD 18/9	13 (15)	17,5 (20)		127	119	108	96	81	60	37	24				
6SD 18/11	15	20		156	145	132	118	99	74	45	30				
6SD 18/13	18,5	25		184	172	157	139	117	87	52	35				
6SD 18/16	22	30		227	213	194	172	144	107	65	43				

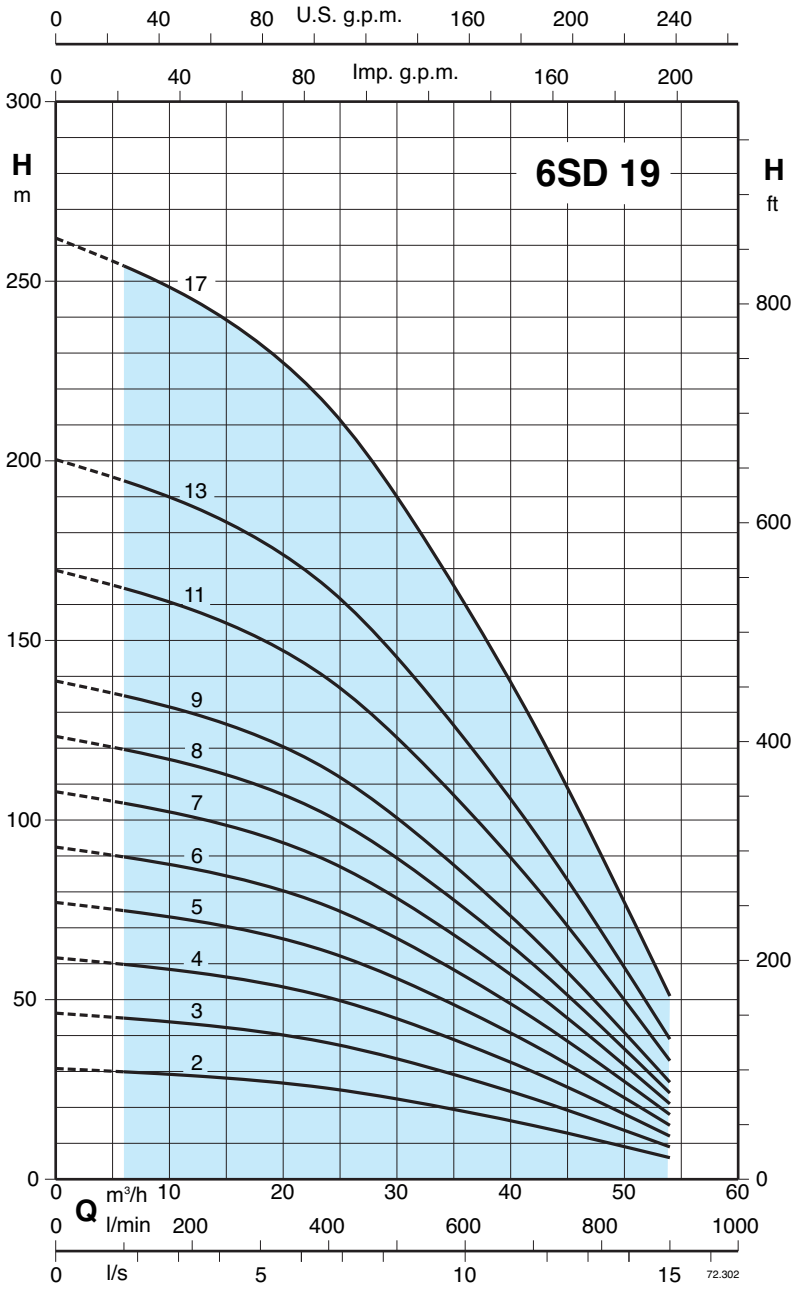
DN	L	
	mm	kg
G 3 ISO 228	647	20,5
	756	23
	865	25
	974	27
	1083	29,5
	1192	32
	1301	34,5
	1519	39,5
	1737	43
	2064	50,2

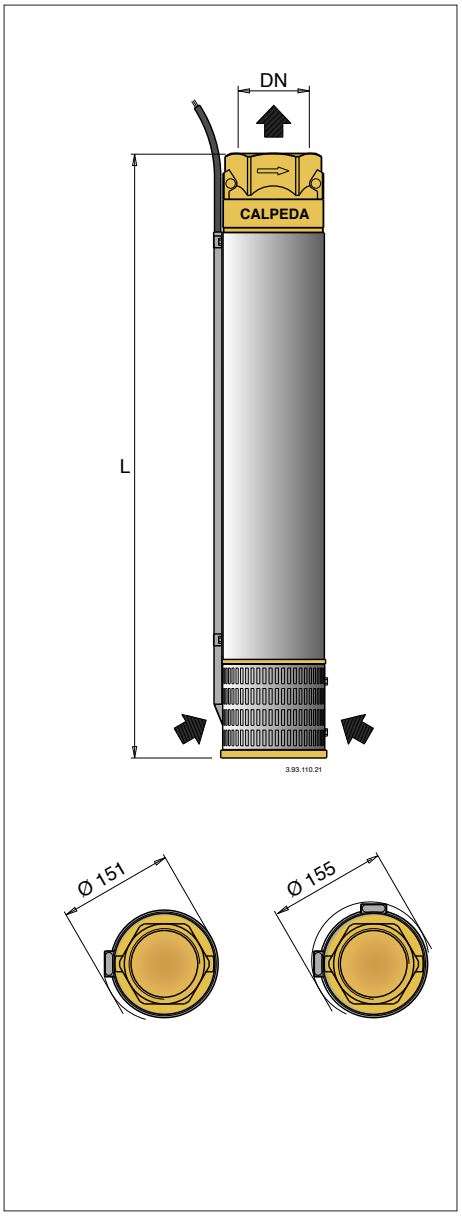
P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

6SD 19

Submersible borehole pumps for 6” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





3 ~	P2		Q	n ≈ 2900 rpm												
			m³/h	6	12	18	24	30	36	42	48	54				
	kW	HP	l/min	100	200	300	400	500	600	700	800	900				
6SD 19/2	4	5,5		30	29	27	25	22	19	15	10	6				
6SD 19/3	5,5	7,5		45	43	41	38	33	29	23	15	9				
6SD 19/4	7,5	10		60	57	55	50	45	38	30	21	12				
6SD 19/5	9,2	12,5		75	72	69	63	56	47	38	26	15				
6SD 19/6	11	15		90	86	82	75	67	56	45	31	18				
6SD 19/7	13 (15)	17,5 (20)	H	105	100	96	88	79	66	53	37	21				
6SD 19/8	15	20	m	120	115	110	101	89	75	60	42	24				
6SD 19/9	15	20		135	130	123	114	100	85	68	47	27				
6SD 19/11	18,5	25		165	158	151	139	123	104	83	58	33				
6SD 19/13	22	30		195	188	179	164	145	122	98	69	39				
6SD 19/17	30	40		255	245	234	215	190	160	127	90	51				

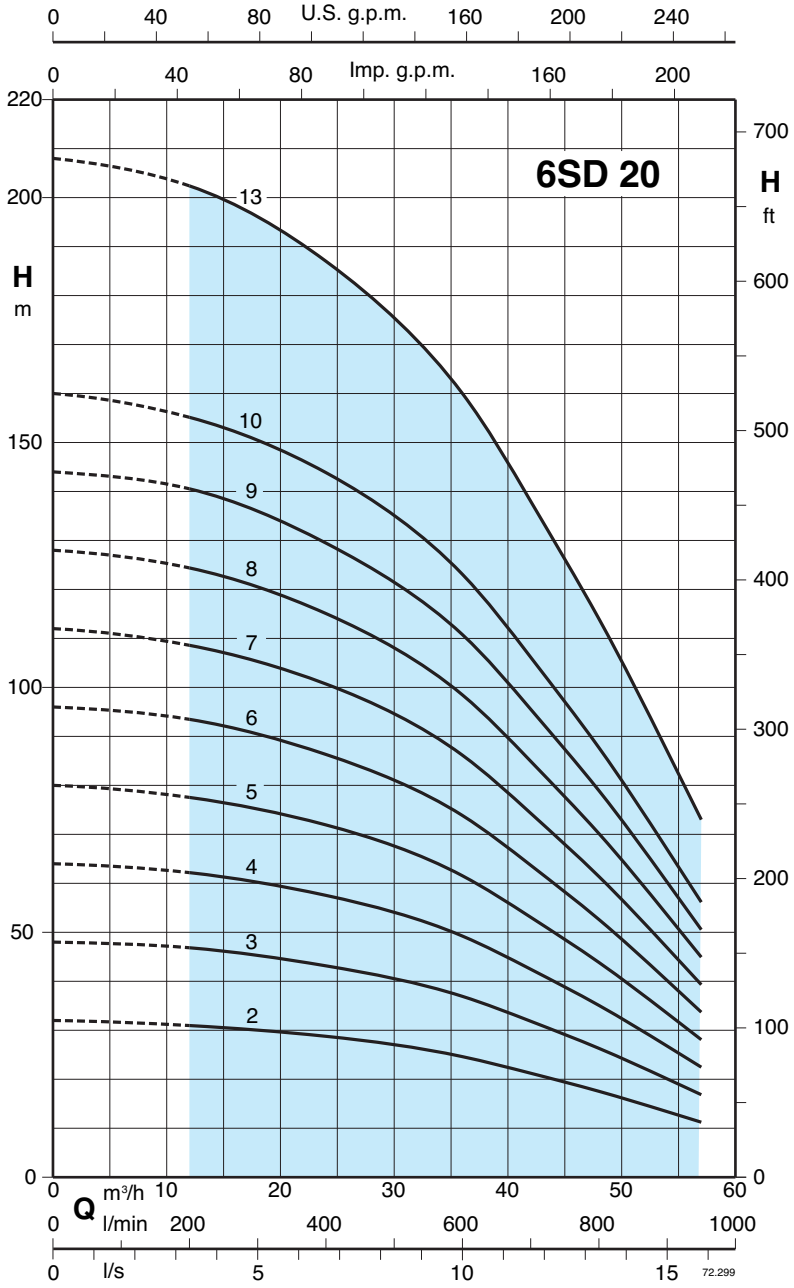
DN	L	
	mm	kg
G 3 ISO 228	538	18
	647	20,5
	756	23
	865	25
	974	27
	1083	29,5
	1192	32
	1301	34,5
	1519	39,5
	1737	43
	2173	53

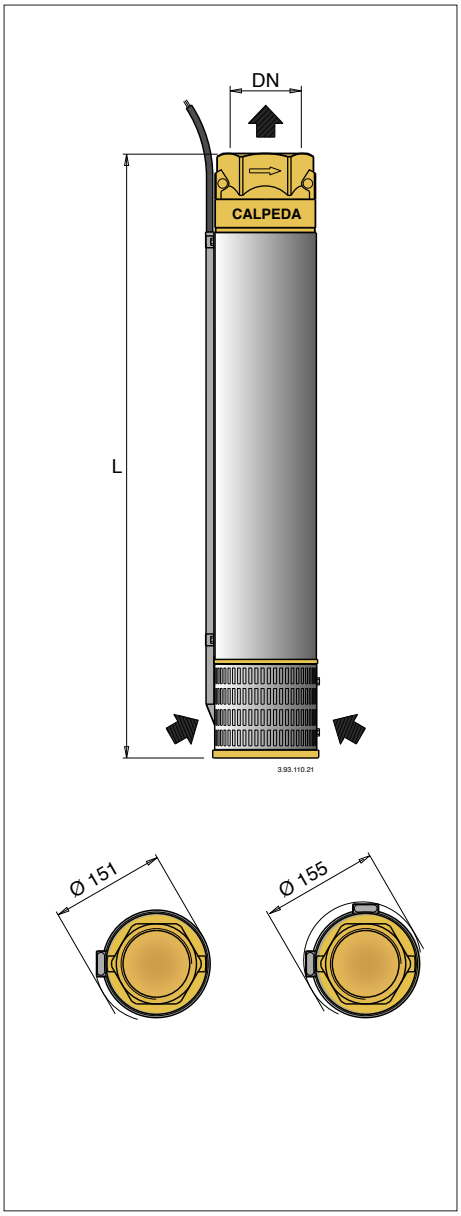
P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

6SD 20

Submersible borehole pumps for 6” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





3 ~	P2		Q	n ≈ 2900 rpm												
			m³/h	12	18	24	30	36	42	48	54	57				
	kW	HP	l/min	200	300	400	500	600	700	800	900	950				
6SD 20/2	5,5	7,5		31	30	29	28	24	21	17	13	11				
6SD 20/3	7,5	10		46	45	44	42	37	32	26	20	17				
6SD 20/4	9,2	12,5		62	60	58	55	49	42	35	26	22				
6SD 20/5	11	15		77	76	73	68	61	53	44	33	28				
6SD 20/6	13 (15)	17,5 (20)	H	93	91	87	83	73	63	53	40	34				
6SD 20/7	15	20	m	108	106	102	96	86	74	61	47	39				
6SD 20/8	18,5	25		124	120	115	110	99	85	70	53	45				
6SD 20/9	18,5	25		140	136	130	124	111	96	79	60	51				
6SD 20/10	22	30		155	151	144	138	123	106	88	67	56				
6SD 20/13	30	40		202	196	188	179	160	138	114	87	73				

DN	L1	
	mm	kg
G 3 ISO 228	538	18
	647	20,5
	756	23
	865	25
	974	27
	1083	29,5
	1192	32
	1301	34,5
	1410	36,2
	1737	44,4

P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

SDX

Submersible borehole pumps for 6” and 8” wells

The electropumps 6SDX, 6SDXL series comply with the European Regulation no. 547/2012 in force starting from 01.01.2013.

Materiales

Components	6SDX	6SDXL	8SDX	8SDXL
External jacket Suction lantern	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316L	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316
Upper cover	Cr-Ni-Mo steel AISI 316		-	-
Delivery casing	Cr-Ni-Mo steel AISI 316L		Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316
Strainer Valve set	Cr-Ni-Mo steel AISI 316		Cr-Ni-Mo steel AISI 316	
O-ring valve	NBR			
Shaft	Cr-Ni-Mo steel AISI 316		Cr-Ni-Mo steel AISI 329	
Coupling set	Cr-Ni-Mo steel AISI 316/329			
Diffuser Stage casing	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316L	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316
Impeller	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316L	Cr-Ni-Mo steel AISI 316	
Wear ring	Teflon (PTFE)			
Bearing bush	NBR			
Cable guard Screws	Cr-Ni-Mo steel AISI 316			

CS Motor

Components	CS 6”, 8”, 10” standard	I-CS 6”, 8”, 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	Hardened and tempered AISI 420 (AISI 329 for 10”)	Cr-Ni-Mo steel AISI 329
Thrust bearing	Oscillating pads	Oscillating pads
Bushings	Graphite (Bronze for 8” motor of 51-59-66 kW)	Graphite

Construction

Submersible borehole pumps for 6” wells (DN 150 mm) and 8” (DN 200 mm).

6,8SDX: with external jacket and stages in stainless steel AISI 304.

6,8SDXL: with external jacket and stages in stainless steel AISI 316.

Impellers

Radial impellers	Mixed flow impellers
6SDX(L) 13-18-27	6SDX(L) 30-46-65 8SDX(L) 78-97

Connection: Screwed connection ISO 228

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 25 °C.
Max. sand quantity into the water: 100 g/m^3.
Continuous duty.

Rewindable motor CS 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.

Motor	Max. Liquid temperature	Cooling : minimum flow velocity	Max. starts per hour
4”	35 °C	0,08 m/s	20
6”	25 °C	0,20 m/s for 4 ÷ 15 kW 0,50 m/s for 18,5 ÷ 30 kW	15
8”	25 °C	0,20 m/s for 30 ÷ 51 kW 0,50 m/s for 55 ÷ 75 kW	15
10”	25 °C	0,50 m/s	10

Insulation class F for 4” motors, PVC coated wire for 6-8-10” motors.
Protection IP 68.

Cable

Motor 400V - 50Hz - 3 ~	Section	Length
4CS 2,2 ÷ 3 kW	3x1,5 + 1G1,5 mm²	3 m
6CS 4 ÷ 30 kW	4G6 mm²	3,5 m
8CS 30 ÷ 59 kW 8CS 66 - 92 kW	3 x (1x16) mm² 3 x (1x25) mm²	4 m 4 m
10CS 110 kW	4G35 mm²	6 m

Special features on request

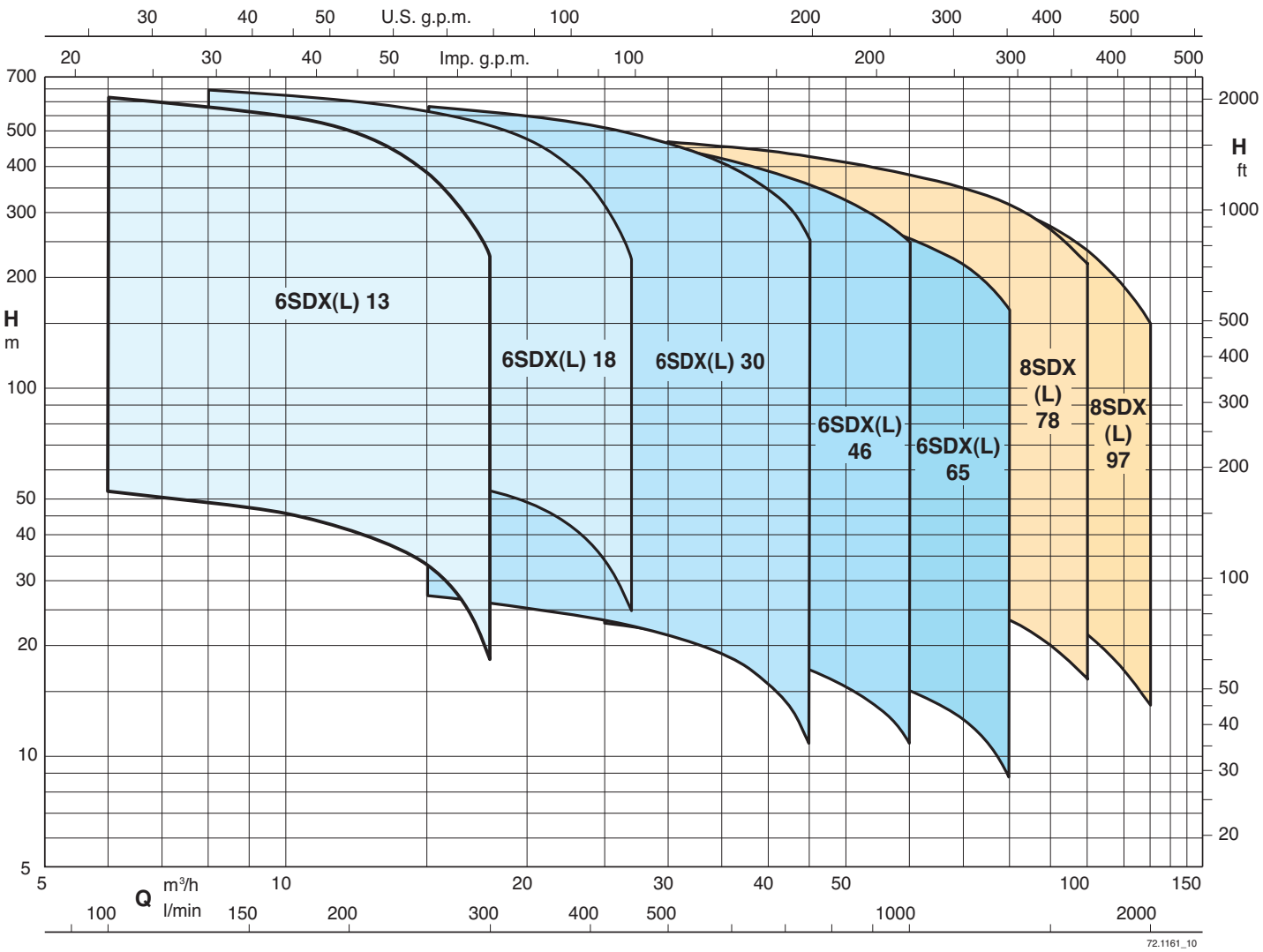
- Other voltages.
- 60 Hz frequency.
- Other temperatures.
- Motor suitable operation with frequency converter (standard feature for FK).
- Encapsulated motor **FK series** (for characteristic see pag. 377).

Designation

6 SDX L 13 / 17

- Ø of the well in inches
- Series
- Cr-Ni-Mo steel AISI 316 construction
- Stage identification
- Number of stages

Coverage chart n ≈ 2900 rpm



Regulation (EU) No 547/2012

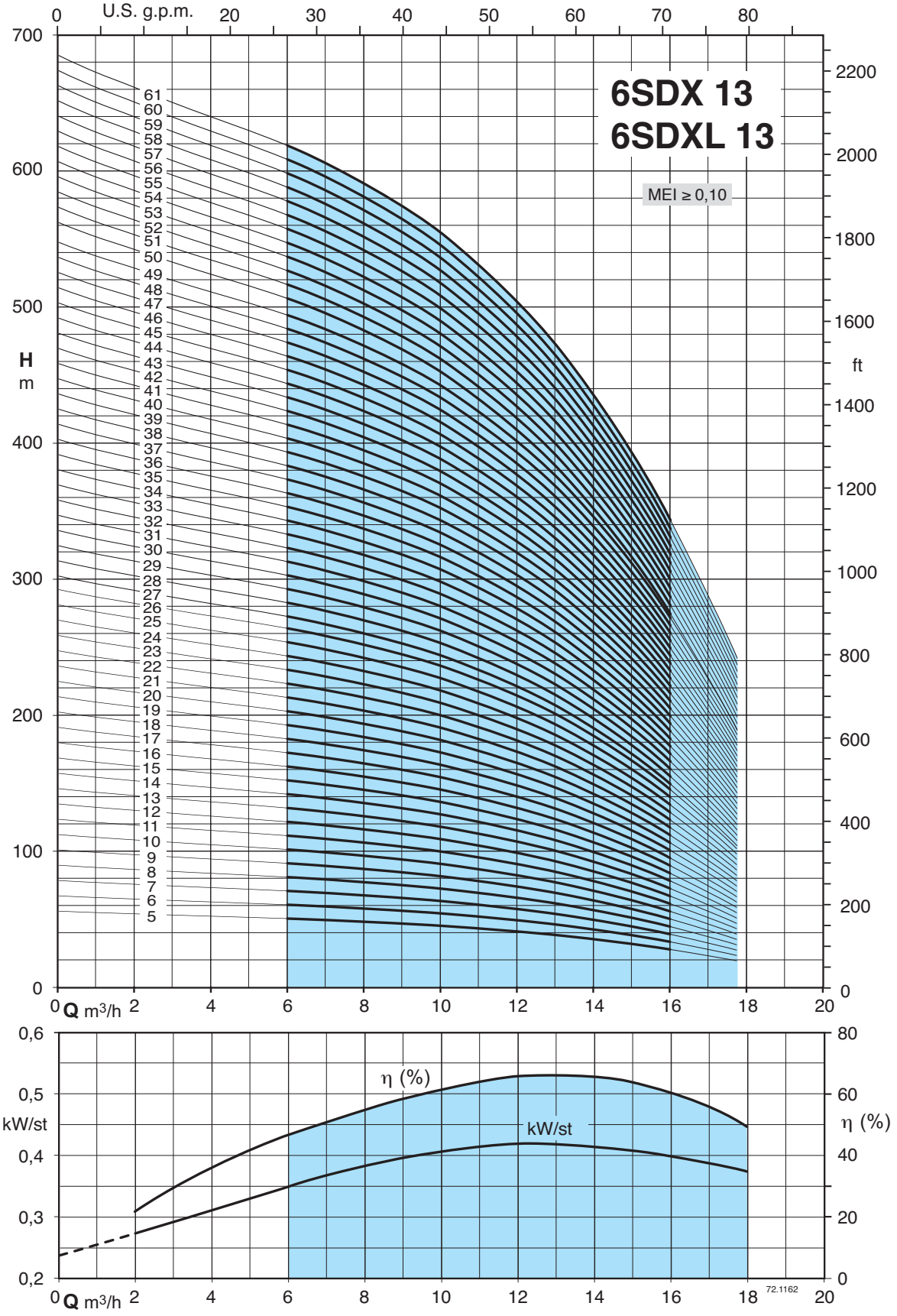
- The benchmark for most efficient water pumps is MEI ≥ 0,70.
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.

6SDX 13

Submersible borehole pumps for 6” wells

calpeda®

Characteristic curves



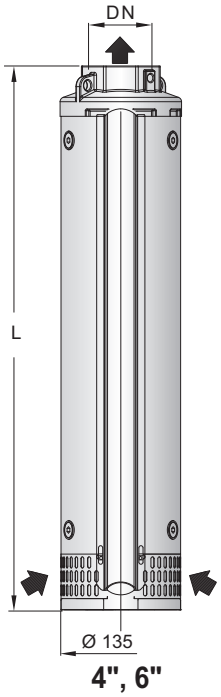
6SDX 13

Submersible borehole pumps for 6” wells

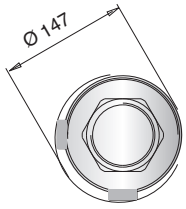
calpeda®

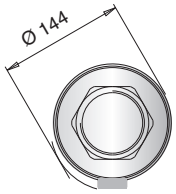
Performance n ≈ 2900 rpm, dimensions and weights

3 ~	P2		Q	n ≈ 2900 rpm									DN	Motore		L	
			m³/h	0	6	8	10	12	15	18	-	-		CS	FK		
	kW	HP	l/min	0	100	133	167	200	250	300	-	-		mm	mm	mm	kg
6SDX (L) 13/5	2,2	3		56,1	50,7	48,4	45,4	41,4	31,3	18,6	-	-		96 4"	95,5 4"	414	11,5
6SDX (L) 13/6	3	4		67,3	60,8	58,1	54,5	49,7	37,5	22,3						444	12,3
6SDX (L) 13/7	3	4		78,5	71,0	67,8	63,6	58,0	43,8	26,0						474	13
6SDX (L) 13/8	4	5,5		89,7	81,1	77,5	72,7	66,3	50,0	29,7						501	14
6SDX (L) 13/9	5,5	7,5		101	91,2	87,2	81,8	74,6	56,3	33,4						531	14,5
6SDX (L) 13/10	5,5	7,5		112	101	96,9	90,9	82,9	62,5	37,1						561	15
6SDX (L) 13/11	5,5	7,5		123	112	107	100	91,2	68,8	40,8						591	16
6SDX (L) 13/12	5,5	7,5		135	122	116	109	99,5	75,0	44,6						621	16,8
6SDX (L) 13/13	5,5	7,5		146	132	126	118	108	81,3	48,3						651	17,5
6SDX (L) 13/14	7,5	10		157	142	136	127	116	87,5	52,0						681	18,5
6SDX (L) 13/15	7,5	10		168	152	145	136	124	93,8	55,7						711	19
6SDX (L) 13/16	7,5	10		179	162	155	145	133	100	59,4						741	19,8
6SDX (L) 13/17	7,5	10		191	172	165	155	141	106	63,1						771	20,5
6SDX (L) 13/18	9,2	12,5		202	183	174	164	149	113	66,8						801	21,3
6SDX (L) 13/19	9,2	12,5		213	193	184	173	158	119	70,5						831	22
6SDX (L) 13/20	9,2	12,5		224	203	194	182	166	125	74,3						861	23
6SDX (L) 13/21	9,2	12,5		236	213	203	191	174	131	78,0						891	23,5
6SDX (L) 13/22	9,2	12,5		247	223	213	200	182	138	81,7						921	24
6SDX (L) 13/23	11	15		258	233	223	209	191	144	85,4						951	25
6SDX (L) 13/24	11	15		269	243	233	218	199	150	89,1						981	25,5
6SDX (L) 13/25	11	15		280	253	242	227	207	156	92,8						1011	26,5
6SDX (L) 13/26	11	15		292	264	252	236	216	163	96,5						1041	27
6SDX (L) 13/27	13 (15)	17,5 (20)		303	274	262	245	224	169	100						1071	29
6SDX (L) 13/28	13 (15)	17,5 (20)		314	284	271	255	232	175	104						1101	29
6SDX (L) 13/29	13 (15)	17,5 (20)		325	294	281	264	240	181	108						1131	30,5
6SDX (L) 13/30	13 (15)	17,5 (20)		336	304	291	273	249	188	111						1161	30,8
6SDX (L) 13/31	13 (15)	17,5 (20)		348	314	300	282	257	194	115						1191	31
6SDX (L) 13/32	15	20	**H**	359	324	310	291	265	200	119			Rp			1221	31,5
6SDX (L) 13/33	15	20	m	370	335	320	300	274	206	123			2”1/2			1251	32,5
6SDX (L) 13/34	15	20		381	345	329	309	282	213	126				145 6"	137 6"	1281	33,5
6SDX (L) 13/35	15	20		392	355	339	318	290	219	130						1311	34
6SDX (L) 13/36	15	20		404	365	349	327	298	225	134						1341	34,5
6SDX (L) 13/37	18,5	25		415	375	358	336	307	231	137						1371	35,3
6SDX (L) 13/38	18,5	25		426	385	368	345	315	238	141						1401	36
6SDX (L) 13/39	18,5	25		437	395	378	354	323	244	145						1431	37,3
6SDX (L) 13/40	18,5	25		449	406	388	364	332	250	149						1461	38,5
6SDX (L) 13/41	18,5	25		460	416	397	373	340	256	152						1491	38,8
6SDX (L) 13/42	18,5	25		471	426	407	382	348	263	156						1521	39
6SDX (L) 13/43	18,5	25		482	436	417	391	356	269	160						1551	39,8
6SDX (L) 13/44	18,5	25		493	446	426	400	365	275	163						1581	40,5
6SDX (L) 13/45	22	30		505	456	436	409	373	281	167						1611	41,3
6SDX (L) 13/46	22	30		516	466	446	418	381	288	171						1641	42
6SDX (L) 13/47	22	30		527	477	455	427	390	294	175						1671	43
6SDX (L) 13/48	22	30		538	487	465	436	398	300	178						1700	44
6SDX (L) 13/49	22	30		549	497	475	445	406	306	182						1731	45
6SDX (L) 13/50	22	30		561	507	484	454	414	313	186						1761	46
6SDX (L) 13/51	22	30		572	517	494	464	423	319	189						1791	47
6SDX (L) 13/52	22	30		583	527	504	473	431	325	193						1821	48
6SDX (L) 13/53	26 (30)	35 (40)		594	537	513	482	439	331	197						1851	48,8
6SDX (L) 13/54	26 (30)	35 (40)		606	547	523	491	448	338	201						1881	49,7
6SDX (L) 13/55	26 (30)	35 (40)		617	558	533	500	456	344	204						1911	50,5
6SDX (L) 13/56	26 (30)	35 (40)		628	568	543	509	464	350	208						1941	51,3
6SDX (L) 13/57	26 (30)	35 (40)		639	578	552	518	472	356	212						1971	52,2
6SDX (L) 13/58	26 (30)	35 (40)		650	588	562	527	481	363	215						2000	53
6SDX (L) 13/59	26 (30)	35 (40)		662	598	572	536	489	369	219						2030	54
6SDX (L) 13/60	26 (30)	35 (40)		673	608	581	545	497	375	223						2060	55
6SDX (L) 13/61	26 (30)	35 (40)		684	618	591	554	506	381	227						2090	56



4", 6"





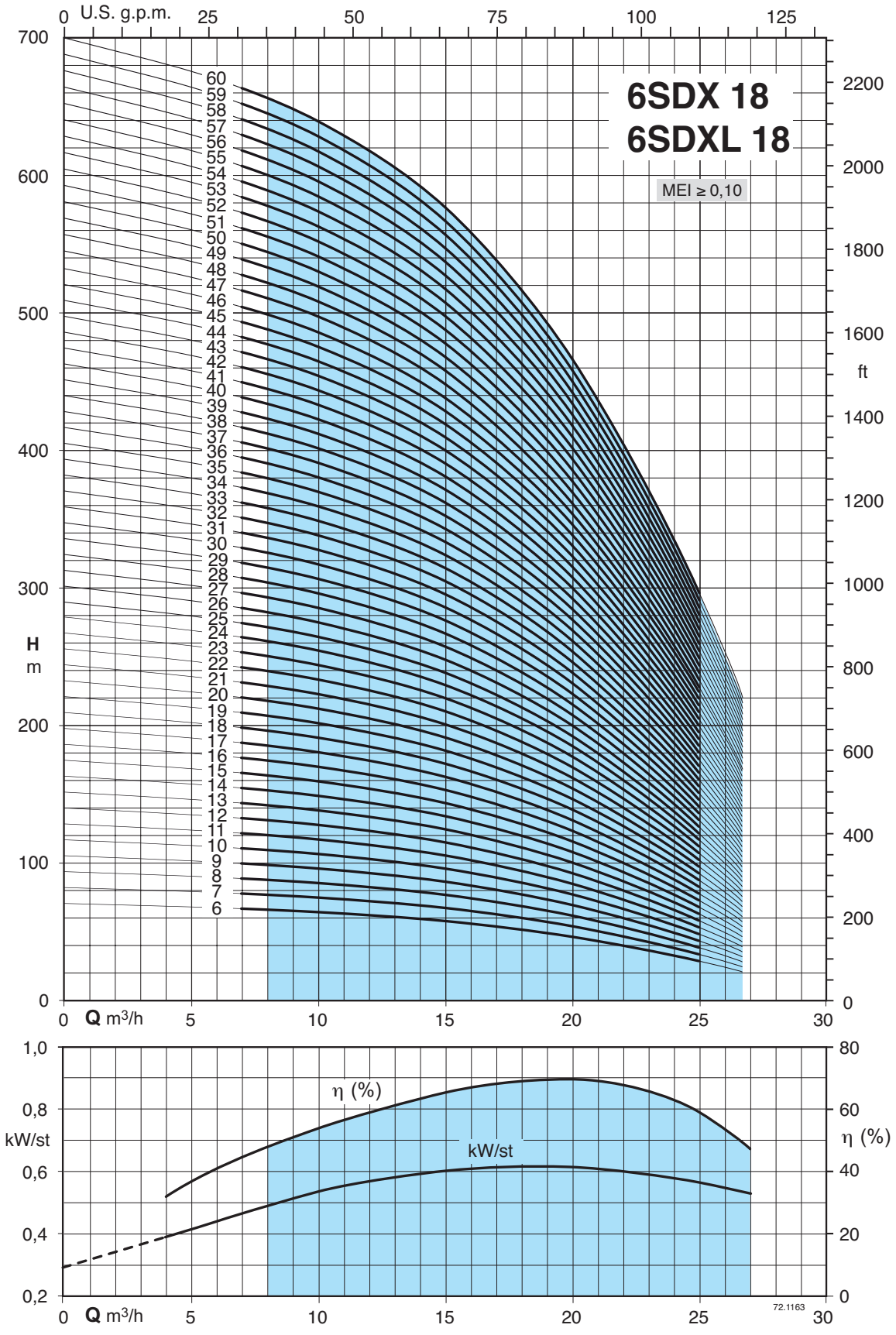
Reinforced with special collar from 6SDX(L) 13/50

P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

6SDX 18

Submersible borehole pumps for 6” wells

Characteristic curves



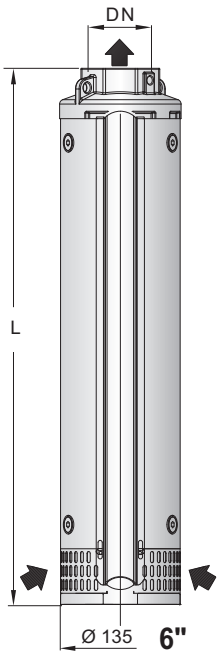
6SDX 18

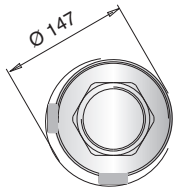
Submersible borehole pumps for 6” wells

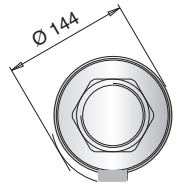
Performance n ≈ 2900 rpm, dimensions and weights

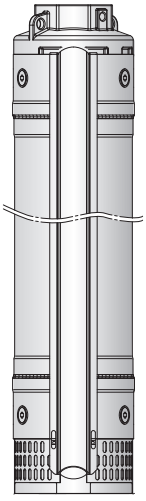
3 ~	P2		Q	n ≈ 2900 rpm								
			m³/h	0	8	10	12	15	18	21	24	27
	kW	HP	l/min	0	133	167	200	250	300	350	400	450
6SDX (L) 18/6	4	5,5		70	66,4	64	62	57,6	51,6	43,2	32,9	20,5
6SDX (L) 18/7	5,5	7,5		81,7	77,5	74,7	72,3	67,2	60,2	50,4	38,4	23,9
6SDX (L) 18/8	5,5	7,5		93,3	88,5	85,3	82,7	76,8	68,8	57,6	43,9	27,4
6SDX (L) 18/9	5,5	7,5		105	99,6	96	93	86,4	77,4	64,8	49,4	30,8
6SDX (L) 18/10	7,5	10		117	111	107	103	96	86	72,0	54,9	34,2
6SDX (L) 18/11	7,5	10		128	122	117	114	106	94,6	79,2	60,4	37,6
6SDX (L) 18/12	7,5	10		140	133	128	124	115	103	86,4	65,8	41,0
6SDX (L) 18/13	9,2	12,5		152	144	139	134	125	112	93,6	71,3	44,5
6SDX (L) 18/14	9,2	12,5		163	155	149	145	134	120	101	76,8	47,9
6SDX (L) 18/15	9,2	12,5		175	166	160	155	144	129	108	82,3	51,3
6SDX (L) 18/16	11	15		187	177	171	165	154	138	115	87,8	54,7
6SDX (L) 18/17	11	15		198	188	181	176	163	146	122	93,3	58,1
6SDX (L) 18/18	11	15		210	199	192	186	173	155	130	98,8	61,6
6SDX (L) 18/19	13 (15)	17,5 (20)		222	210	203	196	182	163	137	104	65,0
6SDX (L) 18/20	13 (15)	17,5 (20)		233	221	213	207	192	172	144	110	68,4
6SDX (L) 18/21	13 (15)	17,5 (20)		245	232	224	217	202	181	151	115	71,8
6SDX (L) 18/22	15	20		257	243	235	227	211	189	158	121	75,2
6SDX (L) 18/23	15	20		268	254	245	238	221	198	166	126	78,7
6SDX (L) 18/24	15	20		280	266	256	248	230	206	173	132	82,1
6SDX (L) 18/25	18,5	25		292	277	267	258	240	215	180	137	85,5
6SDX (L) 18/26	18,5	25		303	288	277	269	250	224	187	143	88,9
6SDX (L) 18/27	18,5	25		315	299	288	279	259	232	194	148	92,3
6SDX (L) 18/28	18,5	25		327	310	299	289	269	241	202	154	95,8
6SDX (L) 18/29	18,5	25		338	321	309	300	278	249	209	159	99,2
6SDX (L) 18/30	18,5	25		350	332	320	310	288	258	216	165	103
6SDX (L) 18/31	22	30		362	343	331	320	298	267	223	170	106
6SDX (L) 18/32	22	30		373	354	342	331	307	275	230	176	109
6SDX (L) 18/33	22	30	**H**	385	365	352	341	317	284	238	181	113
6SDX (L) 18/34	22	30	m	397	376	363	351	326	292	245	187	116
6SDX (L) 18/35	22	30		408	387	373	362	336	301	252	192	120
6SDX (L) 18/36	22	30		420	398	384	372	346	310	259	198	123
6SDX (L) 18/37	26 (30)	35 (40)		432	409	395	382	355	318	266	203	127
6SDX (L) 18/38	26 (30)	35 (40)		443	420	405	393	365	327	274	209	130
6SDX (L) 18/39	26 (30)	35 (40)		455	432	416	403	374	335	281	214	133
6SDX (L) 18/40	26 (30)	35 (40)		467	443	427	413	384	344	288	220	137
6SDX (L) 18/41	26 (30)	35 (40)		478	454	437	424	394	353	295	225	140
6SDX (L) 18/42	26 (30)	35 (40)		490	465	448	434	403	361	302	230	144
6SDX (L) 18/43	30	40		502	476	459	444	413	370	310	236	147
6SDX (L) 18/44	30	40		513	487	469	455	422	378	317	241	151
6SDX (L) 18/45	30	40		525	498	480	465	432	387	324	247	154
6SDX (L) 18/46	30	40		537	509	491	475	442	396	331	252	157
6SDX (L) 18/47	30	40		548	520	501	486	451	404	338	258	161
6SDX (L) 18/48	30	40		560	531	512	496	461	413	346	263	164
6SDX (L) 18/49	30	40		572	542	523	506	470	421	353	269	168
6SDX (L) 18/50	(37)	(50)		583	553	533	517	480	430	360	274	171
6SDX (L) 18/51	(37)	(50)		595	564	544	527	490	439	367	280	174
6SDX (L) 18/52	(37)	(50)		607	575	555	537	499	447	374	285	178
6SDX (L) 18/53	(37)	(50)		618	586	565	548	509	456	382	291	181
6SDX (L) 18/54	(37)	(50)		630	598	576	558	518	464	389	296	185
6SDX (L) 18/55	(37)	(50)		642	609	587	568	528	473	396	302	188
6SDX (L) 18/56	(37)	(50)		653	620	597	579	538	482	403	307	192
6SDX (L) 18/57	(37)	(50)		665	631	608	589	547	490	410	313	195
6SDX (L) 18/58	(37)	(50)		677	642	619	599	557	499	418	318	198
6SDX (L) 18/59	(37)	(50)		688	653	629	610	566	507	425	324	202
6SDX (L) 18/60	(37)	(50)		700	664	640	620	576	516	432	329	205

DN	Motore		L	kg
	CS	FK		
	mm	mm	mm	
Rp 2”1/2	145 6"	137 6"	494	12,5
			532	13,5
			569	14,3
			607	15
			644	16
			682	17
			719	17,5
			757	18,5
			794	19,3
			832	20
			869	21
			907	22
			944	22,5
			982	23,5
			1019	24
			1057	25
			1094	26
			1132	26,5
			1169	27,5
			1207	28,3
			1244	29
			1282	31
			1319	31
			1356	31,5
			1394	32,5
			1431	33,3
			1469	34
			1506	35
			1544	35,7
			1581	36,3
			1619	37
			1656	38,4
			1694	39,8
			1731	40
			1769	40,5
			1806	41,8
			1844	43
			1881	44
			1919	45
			1956	46
			1993	47
			2031	47,5
			2068	48
			2106	50
	-		2143	51
			2181	52
			2218	53
			2256	54
			2293	55
			2331	56
			2368	57
			2406	58
			2443	59
			2481	60
			2518	61









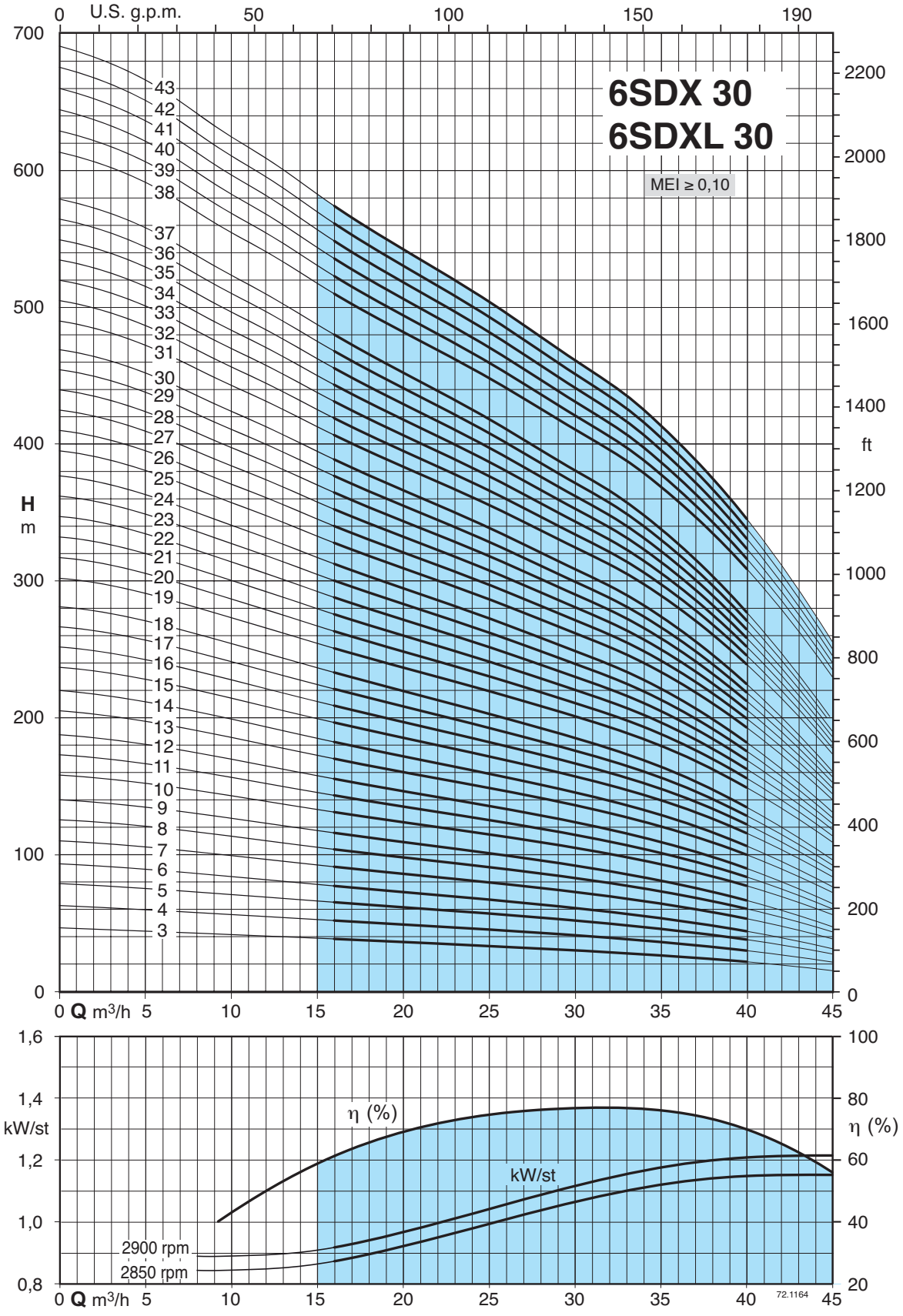
Reinforced with special collar from 6SDX(L) 18/47

P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

6SDX 30

Submersible borehole pumps for 6” wells

Characteristic curves



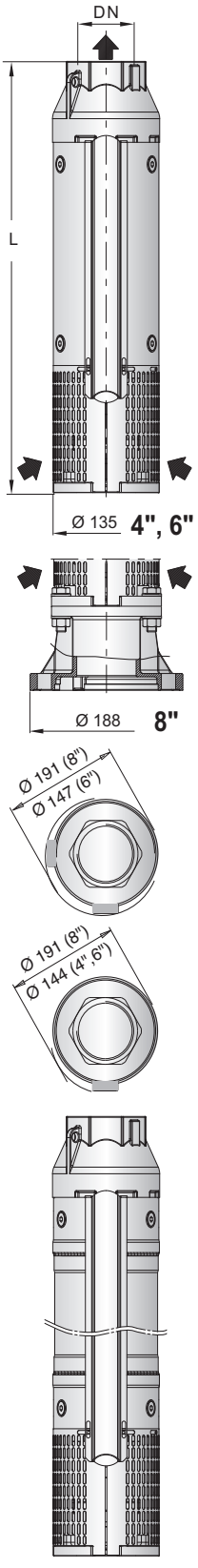
6SDX 30

Submersible borehole pumps for 6” wells

Performance n ≈ 2900 rpm, dimensions and weights

3 ~	P2		Q	n ≈ 2900 rpm								
			m³/h	0	15	20	25	30	35	40	45	-
	kW	HP	l/min	0	250	333	416	500	583	666	750	-
6SDX (L) 30/3	4	5,5		46,3	38,9	36	33,3	30,2	26,7	21,7	15,3	-
6SDX (L) 30/4	5,5	7,5		62,5	52,6	48,8	45,2	41,1	36,5	30	21,4	
6SDX (L) 30/5	7,5	10		78,6	66,2	61,5	56,9	51,8	46,1	38	27,4	
6SDX (L) 30/6	7,5	10		93,1	78,4	72,6	67,1	61	54	44,1	31,2	
6SDX (L) 30/7	9,2	12,5		110	92,6	86	79,7	72,6	64,6	53,3	38,4	
6SDX (L) 30/8	11	15		125	106	98,1	90,9	82,7	73,6	60,5	43,5	
6SDX (L) 30/9	11	15		140	118	109	101	91,8	81,4	66,6	47,3	
6SDX (L) 30/10	13 (15)	17,5 (20)		158	133	124	115	105	93,5	77,3	56,1	
6SDX (L) 30/11	15	20		173	146	135	125	114	102	83,8	60,4	
6SDX (L) 30/12	15	20		188	158	147	136	123	110	90	64,4	
6SDX (L) 30/13	18,5	25		205	173	161	149	136	121	100	72,4	
6SDX (L) 30/14	18,5	25		220	185	172	159	145	129	106	76,7	
6SDX (L) 30/15	22	30		237	200	185	172	157	140	116	84	
6SDX (L) 30/16	22	30		252	212	197	183	166	148	122	88,3	
6SDX (L) 30/17	22	30		267	224	208	193	176	156	129	92,5	
6SDX (L) 30/18	22	30		281	237	220	203	185	164	135	96,5	
6SDX (L) 30/19	26 (30)	35 (40)		302	255	237	220	201	180	149	109	
6SDX (L) 30/20	26 (30)	35 (40)	**H**	317	267	249	231	210	188	156	114	
6SDX (L) 30/21	26 (30)	35 (40)	m	332	280	260	241	220	197	163	118	
6SDX (L) 30/22	30	40		347	293	272	252	230	205	169	123	
6SDX (L) 30/23	30	40		362	305	283	263	239	213	176	127	
6SDX (L) 30/24	30	40		377	317	295	273	249	221	182	131	
6SDX (L) 30/25	37	50		395	333	309	287	261	233	193	140	
6SDX (L) 30/26	37	50		410	345	321	297	271	242	200	144	
6SDX (L) 30/27	37	50		425	358	332	308	280	250	206	149	
6SDX (L) 30/28	37	50		440	370	344	318	290	258	212	153	
6SDX (L) 30/29	37	50		454	383	355	329	299	266	219	157	
6SDX (L) 30/30	37	50		469	395	366	339	308	274	225	161	
6SDX (L) 30/31	45	60		490	413	384	356	324	289	239	174	
6SDX (L) 30/32	45	60		505	425	395	366	334	298	246	178	
6SDX (L) 30/33	45	60		520	438	407	377	343	306	252	182	
6SDX (L) 30/34	45	60		535	450	418	387	353	314	259	186	
6SDX (L) 30/35	45	60		549	463	429	398	362	322	265	190	
6SDX (L) 30/36	45	60		564	475	441	408	371	330	271	194	
6SDX (L) 30/37	45	60		579	487	452	418	380	338	277	198	
6SDX (L) 30/38	51 (55)	70 (75)		613	517	482	448	410	369	309	229	
6SDX (L) 30/39	51 (55)	70 (75)		628	530	494	459	420	378	316	234	
6SDX (L) 30/40	51 (55)	70 (75)		644	543	506	471	430	387	323	240	
6SDX (L) 30/41	51 (55)	70 (75)		659	557	518	482	440	396	330	245	
6SDX (L) 30/42	55	75		675	569	530	493	450	404	338	250	
6SDX (L) 30/43	55	75		690	582	542	504	460	413	345	255	

DN	Motore		L	kg
	CS	FK		
	mm	mm	mm	kg
Rp 3”	145 6"	137 6"	620	14,7
			705	16,8
			790	18,9
			876	21
			961,5	23,1
			1047	25,4
			1132	27,3
			1218	29,4
			1303	31,5
			1389	33,6
			1474	35,7
			1560	37,8
			1645	39,9
			1730	42
			1816	44,1
			1901	46,1
			1987	48,2
			2072	50,3
			2157	52,4
			2243	54,5
			2328	56,6
			2414	58,7
	191 8"		2499	60,8
			2584	62,9
			2670	65
			2755	67,2
			2840	69,2
			2926	71,3
			3011	75,2
			3096	78,3
			3182	80,4
			3267	82,5
			3352	84,6
			3438	87,9
			3523	90
		196 8"	3709	92,3
			3794	94,5
			3879	96,6
			3965	97,6
			4050	98,7
			4135	99,8



Reinforced with special collar from 6SDX(L) 30/36

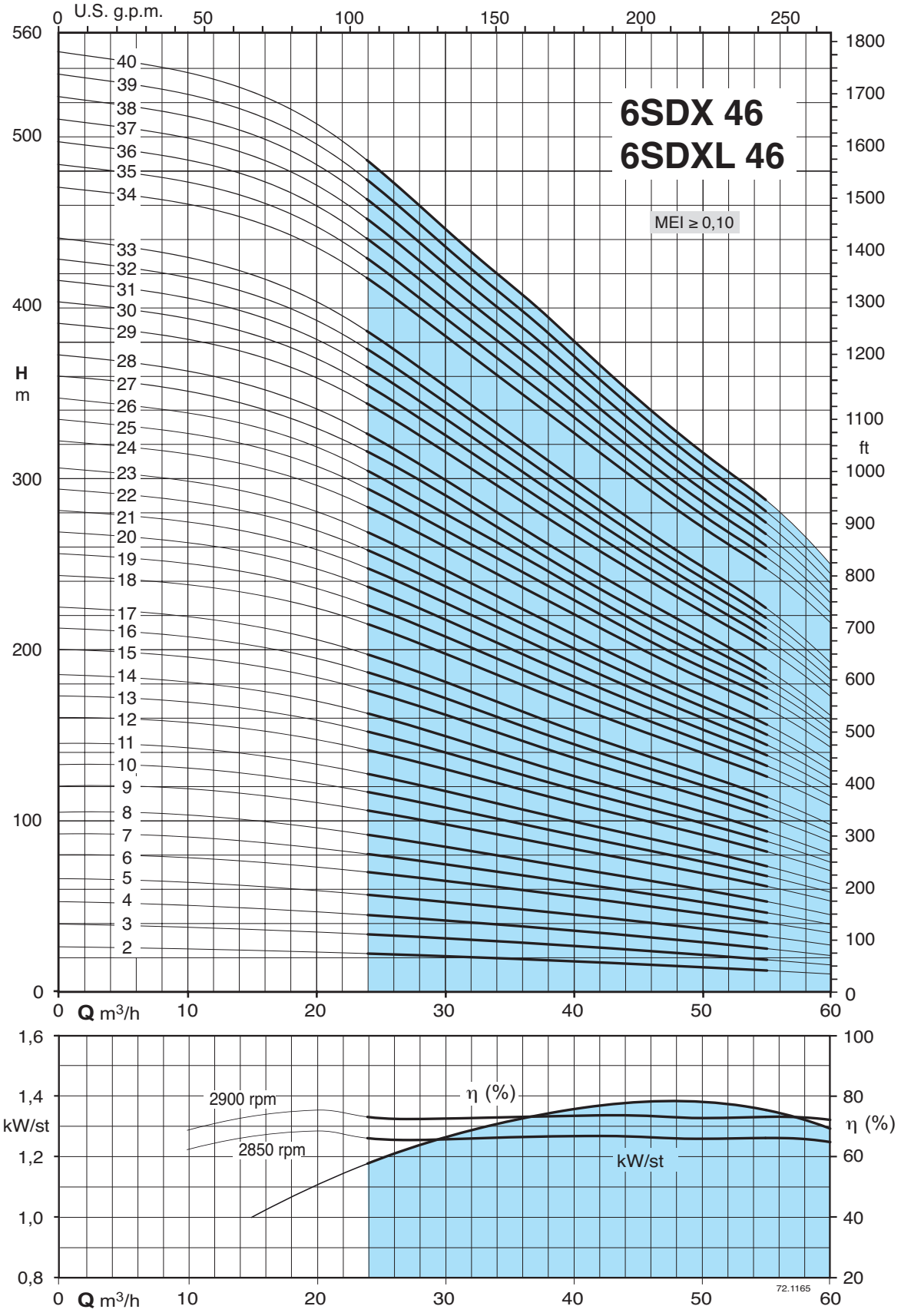
P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

6SDX 46

Submersible borehole pumps for 6” wells

calpeda®

Characteristic curves



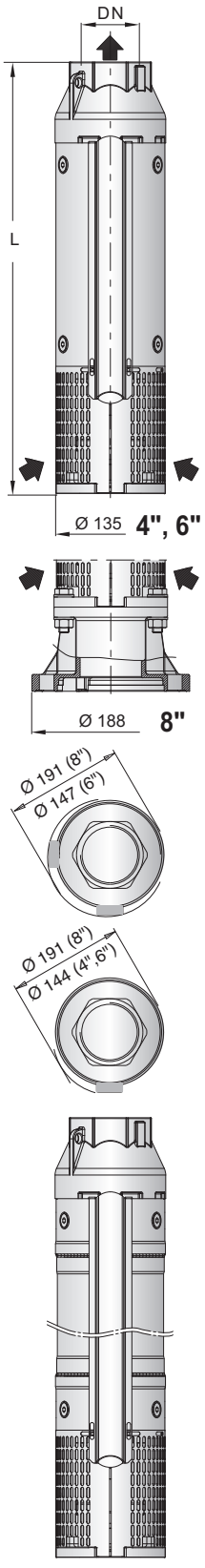
6SDX 46

Submersible borehole pumps for 6” wells

Performance n ≈ 2900 rpm, dimensions and weights

3 ~	P2		Q	n ≈ 2900 rpm										
			m³/h	0	25	30	35	40	45	50	55	60	-	-
	kW	HP	l/min	0	416	500	583	666	750	833	916	1000	-	-
6SDX (L) 46/2	3	4		26,4	22,6	20,9	19,3	17,8	16,6	15,1	13,4	11,3	-	-
6SDX (L) 46/3	4	5,5		39,4	33,8	31,2	28,8	26,6	24,7	22,5	19,9	16,8		
6SDX (L) 46/4	5,5	7,5		52,5	45	41,5	38,3	35,5	32,9	29,9	26,5	22,3		
6SDX (L) 46/5	7,5	10		66,1	56,8	52,3	48,3	44,7	41,5	37,8	33,6	28,4		
6SDX (L) 46/6	9,2	12,5		80,7	70	65,2	60,4	55,5	50,3	46	41,6	35,7		
6SDX (L) 46/7	9,2	12,5		93,1	80,4	74,8	69,3	63,5	57,6	52,7	47,5	40,5		
6SDX (L) 46/8	11	15		106	91,6	85,1	78,9	72,2	65,5	59,9	54	46		
6SDX (L) 46/9	13 (15)	17,5 (20)		121	105	98,2	91	83,7	75,9	69,5	62,9	54,1		
6SDX (L) 46/10	13 (15)	17,5 (20)		134	116	108	100	91,9	83,3	76,2	68,9	59		
6SDX (L) 46/11	15	20		146	126	118	109	99,9	90,5	82,8	74,7	63,7		
6SDX (L) 46/12	18,5	25		161	140	130	12	111	101	92	83,3	71,4		
6SDX (L) 46/13	18,5	25		174	150	140	130	119	108	98,7	89,2	76,3		
6SDX (L) 46/14	18,5	25		186	161	149	139	127	115	105	95	81		
6SDX (L) 46/15	22	30		201	174	162	150	138	125	114	103	88,4		
6SDX (L) 46/16	22	30		213	184	171	159	146	132	121	109	93,2		
6SDX (L) 46/17	22	30		225	195	181	168	154	139	127	115	97,8		
6SDX (L) 46/18	26 (30)	35 (40)		244	212	198	183	169	153	140	127	109		
6SDX (L) 46/19	26 (30)	35 (40)	**H**	257	223	208	192	177	160	147	133	114		
6SDX (L) 46/20	30	40	m	269	234	218	208	185	168	154	139	119		
6SDX (L) 46/21	30	40		282	244	227	211	193	175	160	145	124		
6SDX (L) 46/22	30	40		294	255	237	220	202	183	167	151	129		
6SDX (L) 46/23	30	40		307	265	247	229	209	190	174	157	134		
6SDX (L) 46/24	37	50		322	280	260	241	222	201	184	166	143		
6SDX (L) 46/25	37	50		335	290	270	250	230	208	191	172	147		
6SDX (L) 46/26	37	50		347	301	280	259	238	216	197	178	152		
6SDX (L) 46/27	37	50		360	311	289	268	246	223	204	184	157		
6SDX (L) 46/28	37	50		372	321	299	277	254	230	210	190	162		
6SDX (L) 46/29	45	60		390	339	315	292	268	243	223	201	173		
6SDX (L) 46/30	45	60		403	349	325	301	276	251	229	207	178		
6SDX (L) 46/31	45	60		415	360	334	310	284	258	236	213	183		
6SDX (L) 46/32	45	60		427	370	344	319	292	265	243	219	187		
6SDX (L) 46/33	45	60		440	380	353	328	300	272	249	225	192		
6SDX (L) 46/34	51 (55)	70 (75)		469	411	383	355	328	298	272	248	216		
6SDX (L) 46/35	51 (55)	70 (75)		482	422	394	365	337	306	279	255	221		
6SDX (L) 46/36	51 (55)	70 (75)		496	434	404	374	346	314	287	261	227		
6SDX (L) 46/37	51 (55)	70 (75)		509	445	415	384	355	322	294	268	233		
6SDX (L) 46/38	55	75		522	456	425	394	364	330	302	275	238		
6SDX (L) 46/39	55	75		535	467	436	403	372	338	309	281	244		
6SDX (L) 46/40	55	75		548	479	446	413	381	346	316	288	249		

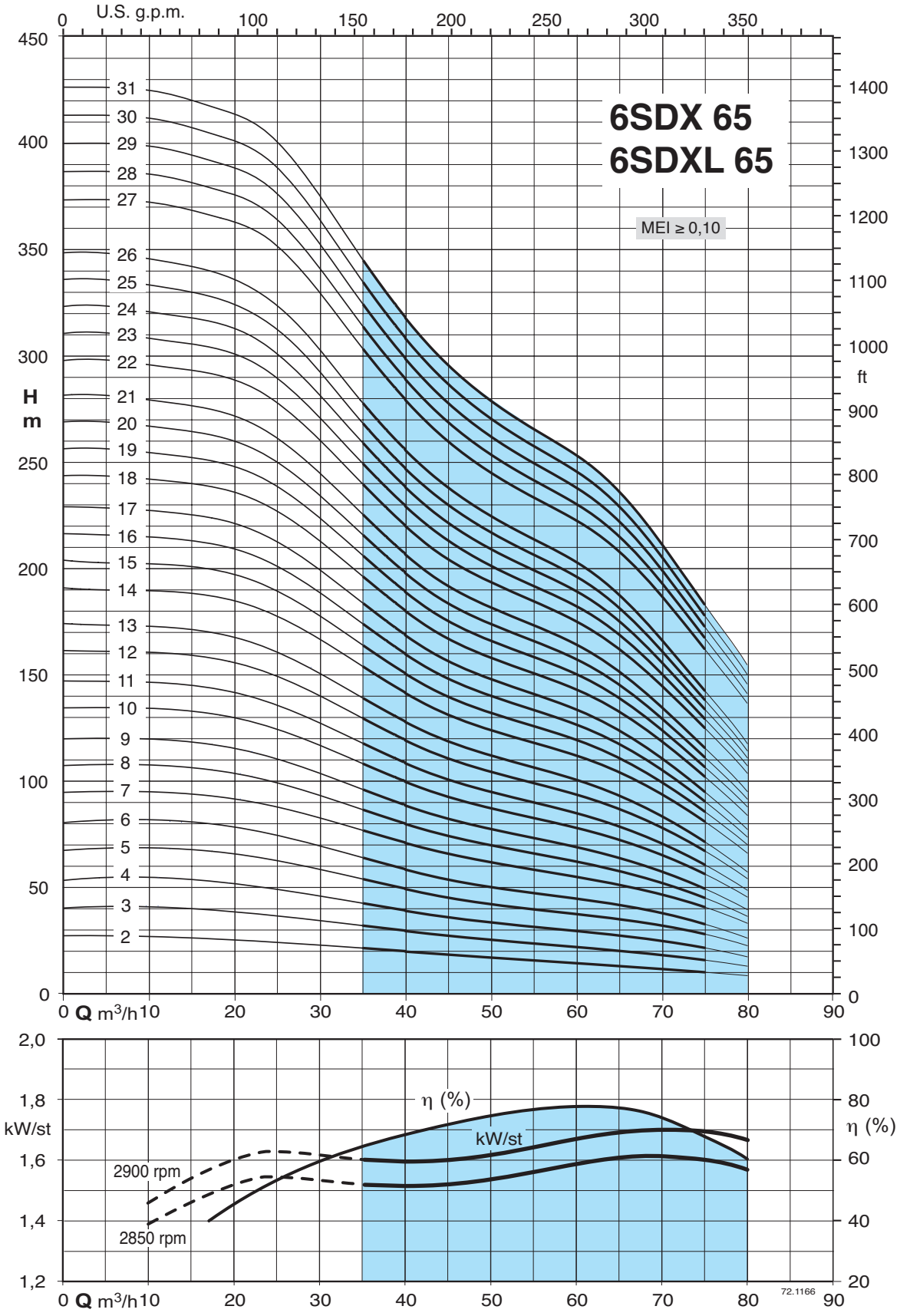
DN	Motore CS mm	Motore FK mm	L mm	kg
	96 - 4"	96 - 4"	594	13,5
			705	16,2
			819	18,8
			933	21,4
			1047	24,0
			1161	26,6
			1275	29,2
			1389	31,8
			1503	34,4
			1617	37,0
	145 6"		1730	39,6
			1844	42,2
			1958	44,8
		137 6"	2072	47,4
			2186	50,1
			2300	52,7
			2414	55,3
Rp 3”			2527	57,9
			2641	60,5
			2755	63,1
			2869	65,7
			2983	68,3
			3096	70,9
			3210	73,5
			3324	76,1
			3438	79,3
			3552	82,0
			3665	87,4
			3779	90,0
	191 8"		3893	92,6
			4007	95,2
			4121	97,8
		196 8"	4335	101
			4449	103
			4562	106
			4676	109
			4790	111
			4904	114
			5018	117



Reinforced with special collar from 6SDX(L) 46/27

P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

Characteristic curves



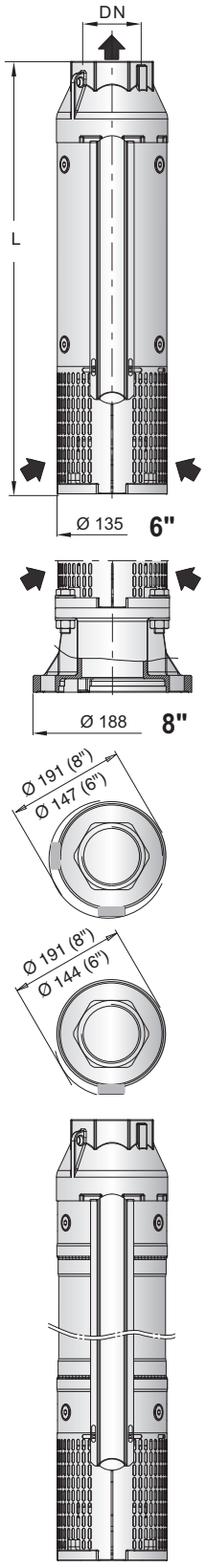
6SDX 65

Submersible borehole pumps for 6” wells

Performance n ≈ 2900 rpm, dimensions and weights

3 ~	P2		Q	n ≈ 2900 rpm											DN	Motore		L	
			m³/h	0	35	40	45	50	55	60	65	70	75	80		CS	FK		
	kW	HP	l/min	0	583	666	750	833	916	1000	1083	1166	1250	1333		mm	mm	mm	kg
6SDX (L) 65/2	4	5,5		26,8	21,1	19	17,3	16,5	15,7	14,9	13,9	12,4	10,5	8,2				592	13,6
6SDX (L) 65/3	5,5	7,5		40,4	31,8	28,8	26,2	24,9	23,7	22,5	21	18,9	16	12,6				705	16,2
6SDX (L) 65/4	7,5	10		54	42,5	38,4	35	33,2	31,6	30,1	28	25,2	21,4	16,9				819	18,8
6SDX (L) 65/5	9,2	12,5		68	53,8	48,7	44,3	41,9	40,1	38,2	35,6	32,2	27,5	22				933	21,4
6SDX (L) 65/6	11	15		81,2	64	57,9	52,7	50	47,7	45,3	42,3	38,1	32,3	25,7				1047	24,0
6SDX (L) 65/7	13 (15)	17,5 (20)		94,9	76,2	70,1	65,2	61,7	58,6	55,7	52,1	46,1	39,7	33,4				1161	26,7
6SDX (L) 65/8	15	20		108	86	79,1	73,5	69,7	66,1	62,8	58,5	51,6	44,3	37				1275	29,3
6SDX (L) 65/9	15	20		120	95,5	87,8	81,5	77,4	73,4	69,6	64,6	56,8	48,6	40,2				1389	31,9
6SDX (L) 65/10	18,5	25		134	108	99	91,9	87,2	82,7	78,5	73,2	64,6	55,5	46,3				1503	34,5
6SDX (L) 65/11	18,5	25		147	117	108	100	95	90	85,4	79,4	69,8	59,9	49,6				1617	37,1
6SDX (L) 65/12	22	30		161	129	118	110	104	99,1	94,1	87,6	77,3	66,3	55,3				1730	39,7
6SDX (L) 65/13	22	30		174	138	127	118	112	106	101	93,8	82,5	70,8	58,6				1844	42,4
6SDX (L) 65/14	26 (30)	35 (40)		190	153	141	131	124	118	112	105	93	80,2	67,7				1958	44,9
6SDX (L) 65/15	26 (30)	35 (40)	**H**	203	163	150	140	132	126	119	111	98,7	85	71,5				2072	47,5
6SDX (L) 65/16	30	40	m	216	173	159	148	140	133	126	118	104	89,7	75,2				2186	50,2
6SDX (L) 65/17	30	40		229	183	168	156	148	141	133	124	110	94,3	78,8				2300	52,8
6SDX (L) 65/18	37	50		243	195	180	167	158	150	143	133	118	101	85,2				2414	55,4
6SDX (L) 65/19	37	50		256	205	189	175	166	158	150	140	123	106	88,9				2527	58,0
6SDX (L) 65/20	37	50		269	215	198	184	174	165	157	146	129	111	92,4				2641	60,7
6SDX (L) 65/21	37	50		281	225	206	192	182	173	164	152	134	115	95,7				2755	63,3
6SDX (L) 65/22	45	60		298	239	220	204	194	184	175	163	144	124	104				2869	68,7
6SDX (L) 65/23	45	60		310	249	229	213	202	191	182	170	150	129	108				2983	71,3
6SDX (L) 65/24	45	60		323	259	238	221	209	199	189	176	155	133	111				3096	73,9
6SDX (L) 65/25	45	60		336	268	247	229	217	206	196	182	161	138	115				3210	76,5
6SDX (L) 65/26	45	60		348	278	255	237	225	213	202	188	166	142	118				3324	79,1
6SDX (L) 65/27	51 (55)	70 (75)		373	303	279	259	245	233	222	208	186	162	137				3538	82,6
6SDX (L) 65/28	51 (55)	70 (75)		386	313	288	268	253	241	229	216	193	167	142				3652	85,3
6SDX (L) 65/29	51 (55)	70 (75)		399	324	298	277	262	249	237	223	199	172	146				3765	87,9
6SDX (L) 65/30	55	75		413	334	308	286	270	258	245	230	205	177	151				3879	90,5
6SDX (L) 65/31	55	75		426	345	317	295	279	265	252	237	211	183	155				3993	93,2

DN	CS mm	FK mm
Rp 3”	145 6"	137 6"
	191 8"	196 8"



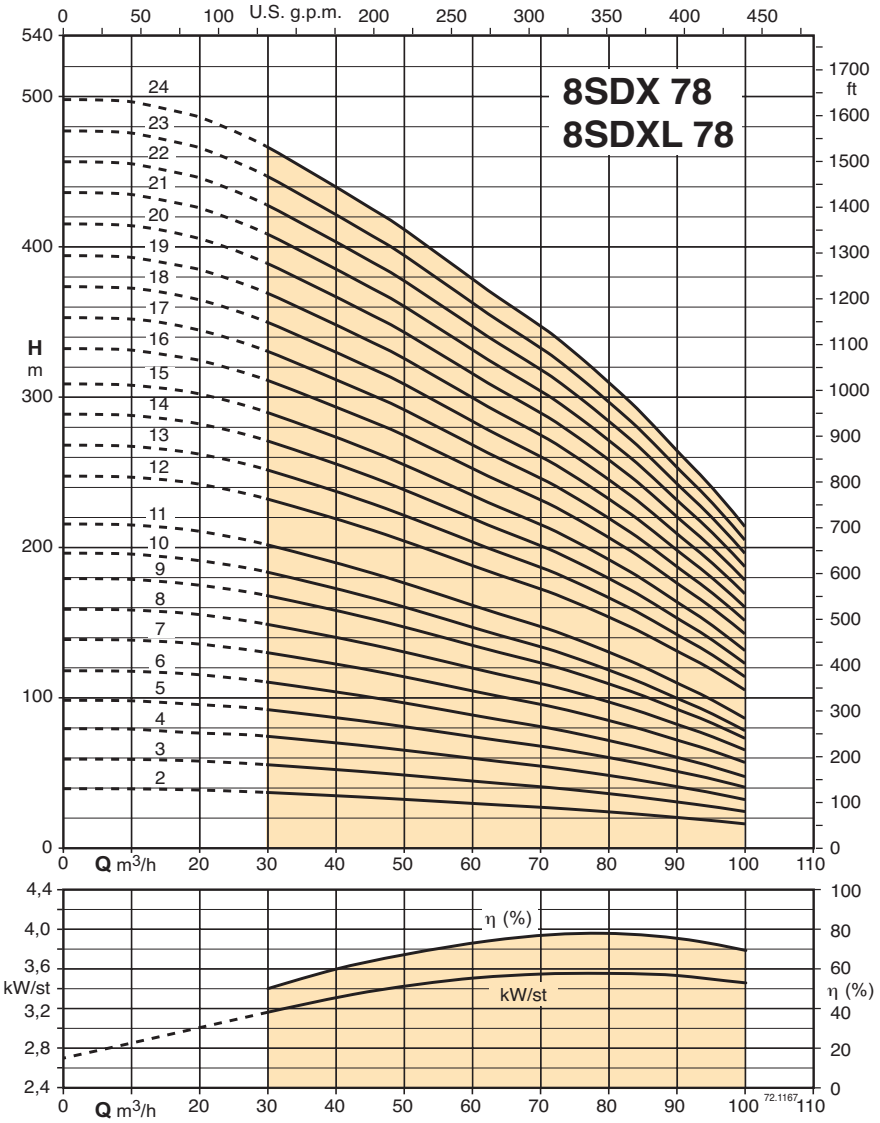
Reinforced with special collar from 6SDX(L) 65/27

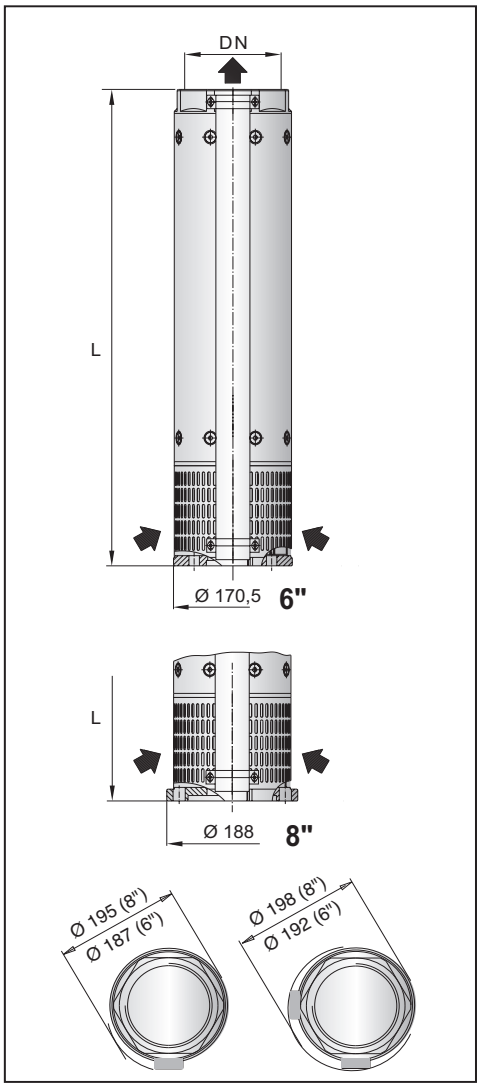
P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

8SDX 78

Submersible borehole pumps for 8” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





3 ~	P2		Q	n ≈ 2900 rpm									
			m³/h	0	30	40	50	60	70	80	90	100	
	kW	HP	l/min	0	500	666	833	1000	1166	1333	1500	1666	
8SDX 78/2 - 8SDXL 78/2	7,5	10		39,9	37,1	34,9	32,6	29,7	27,1	24,3	20,4	16,3	
8SDX 78/3 - 8SDXL 78/3	11	15		59,8	55,7	52,3	48,9	44,6	40,7	36,4	30,6	24,4	
8SDX 78/4 - 8SDXL 78/4	15	20		79,7	74,3	69,7	65,1	59,4	54,3	48,6	40,9	32,6	
8SDX 78/5 - 8SDXL 78/5	18,5	25		99,6	92,9	87,1	81,4	74,3	67,9	60,7	51,1	40,7	
8SDX 78/6 - 8SDXL 78/6	22	30		120	111	105	97,7	89,1	81,4	72,9	61,3	48,9	
8SDX 78/7 - 8SDXL 78/7	26 (30)	35 (40)		140	130	122	114	104	95	85	71,5	57	
8SDX 78/8 - 8SDXL 78/8	30	40		156	146	138	128	117	107	94,5	80	63,3	
8SDX 78/9 - 8SDXL 78/9	37	50		176	164	155	144	132	120	106	90	71,2	
8SDX 78/10 - 8SDXL 78/10	37	50		195	183	173	160	147	134	118	100	79,1	
8SDX 78/11 - 8SDXL 78/11	45	60		215	201	190	176	162	147	130	110	87	
8SDX 78/12 - 8SDXL 78/12	45	60		248	232	218	203	187	171	154	130	105	
8SDX 78/13 - 8SDXL 78/13	51 (55)	70 (75)	H	268	251	237	220	203	185	166	141	114	
8SDX 78/14 - 8SDXL 78/14	51 (55)	70 (75)	m	289	271	255	237	218	200	179	152	122	
8SDX 78/15 - 8SDXL 78/15	55	75		310	290	273	254	234	214	192	163	131	
8SDX 78/16 - 8SDXL 78/16	59 (75)	80 (100)		332	312	293	274	252	232	206	176	143	
8SDX 78/17 - 8SDXL 78/17	66 (75)	90 (100)		353	332	311	292	268	247	219	187	152	
8SDX 78/18 - 8SDXL 78/18	66 (75)	90 (100)		374	351	329	309	284	261	232	198	161	
8SDX 78/19 - 8SDXL 78/19	75	100		394	371	348	326	299	276	245	209	170	
8SDX 78/20 - 8SDXL 78/20	75	100		415	390	366	343	315	290	258	220	179	
8SDX 78/21 - 8SDXL 78/21	75	100		436	409	385	361	331	304	271	231	187	
8SDX 78/22 - 8SDXL 78/22	92	125		457	428	403	378	347	318	284	242	196	
8SDX 78/23 - 8SDXL 78/23	92	125		478	448	422	395	363	333	297	253	205	
8SDX 78/24 - 8SDXL 78/24	92	125		499	467	440	412	379	347	310	264	214	

DN	Motor CS mm	Motor FK mm	L mm	8SDXL kg
Rp 5”	145 6”	137 6”	644	31,5
			770	36,5
			896	41,5
			1022	46,5
			1148	51
			1274	56
			1400	61
	191 8”		1526	66
			1652	71
			1778	76
			1909	82
		196 8”	2035	87
			2161	92
			2287	97
			2413	101,5
			2539	106,5
			2665	111,5
			2791	116,5
			2917	121
			3043	126
			3169	131
			3295	136
			3421	141

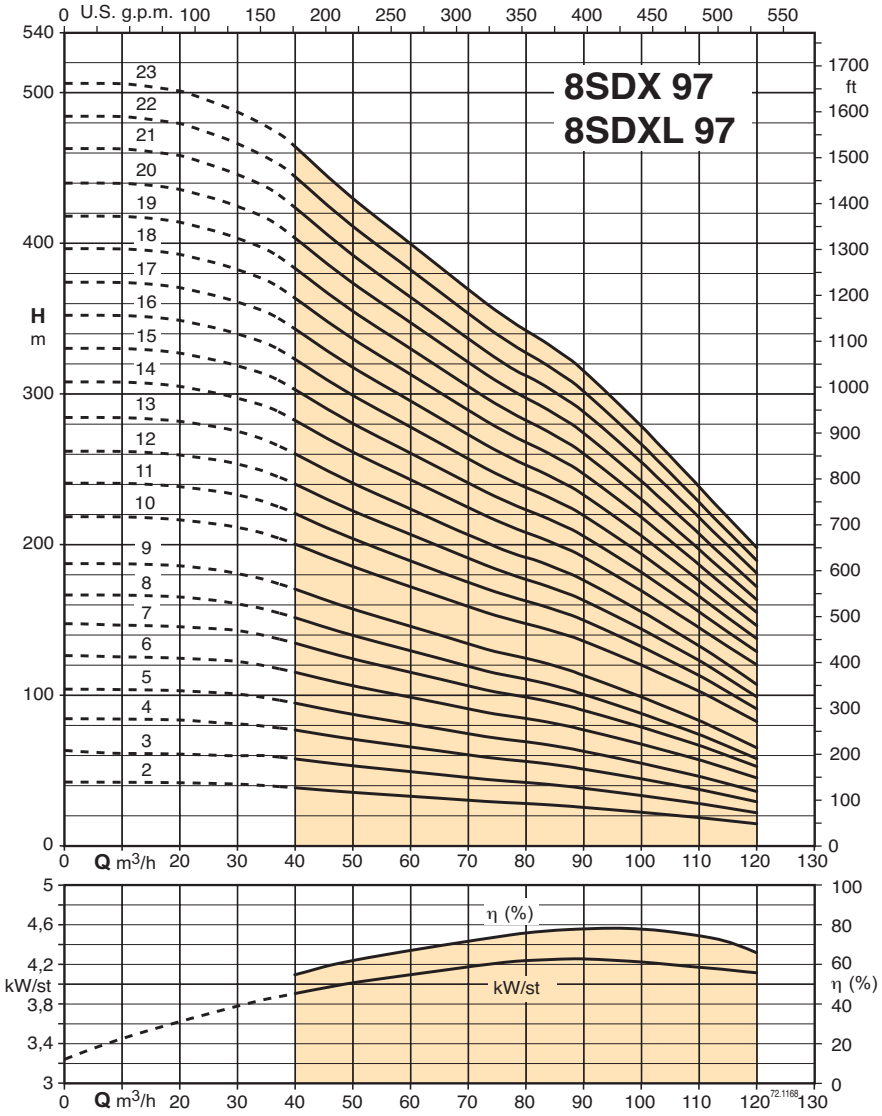
P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

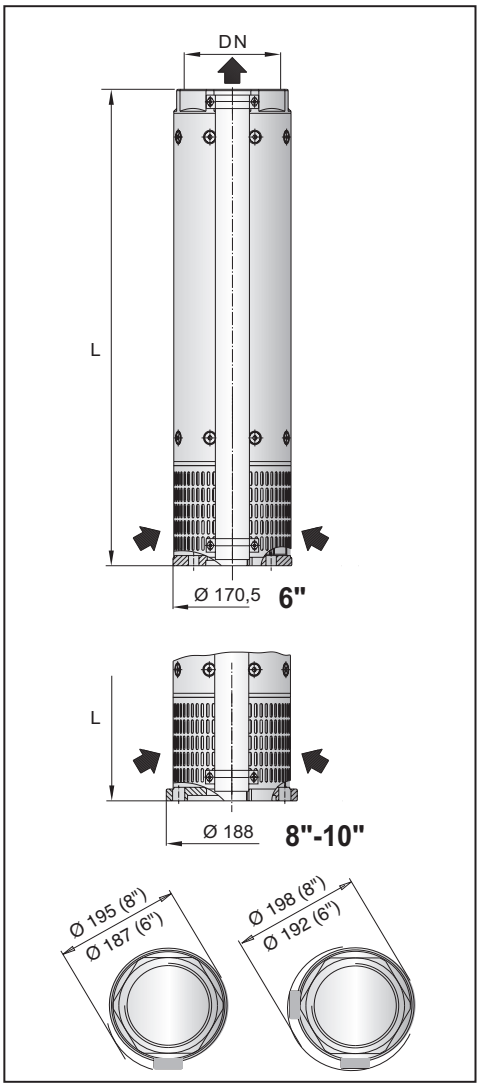
8SDX 97

Submersible borehole pumps for 8” wells

calpeda®

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





3 ~	P2		Q	n ≈ 2900 rpm									
			m³/h	0	40	50	60	70	80	90	100	110	120
	kW	HP	l/min	0	666	833	1000	1166	1333	1500	1666	1833	2000
8SDX 97/2 - 8SDXL 97/2	9,2	12,5		41,2	38,6	35,2	32,2	29,8	27,8	24,8	21,8	18,6	14,8
8SDX 97/3 - 8SDXL 97/3	13 (15)	17,5 (20)		61,8	57,9	52,8	48,3	44,7	41,7	37,2	32,7	27,9	22,2
8SDX 97/4 - 8SDXL 97/4	18,5	25		82,4	77,2	70,4	64,4	59,6	55,6	49,6	43,6	37,2	29,6
8SDX 97/5 - 8SDXL 97/5	22	30		103	96,5	88	80,5	74,5	69,5	62	54,5	46,5	37
8SDX 97/6 - 8SDXL 97/6	26 (30)	35 (40)		125	113	105	96,7	89	82,7	75	66,3	55	44
8SDX 97/7 - 8SDXL 97/7	30	40		146	132	123	113	104	96,4	87,5	77,4	64,2	51,3
8SDX 97/8 - 8SDXL 97/8	37	50		167	151	140	129	119	110	100	88,4	73,3	58,7
8SDX 97/9 - 8SDXL 97/9	37	50		188	170	158	145	134	124	113	99,5	82,5	66
8SDX 97/10 - 8SDXL 97/10	45	60		219	200	185	172	158	147	135	119	102	83,1
8SDX 97/11 - 8SDXL 97/11	51 (55)	70 (75)		241	220	204	189	174	162	149	131	112	91,4
8SDX 97/12 - 8SDXL 97/12	51 (55)	70 (75)		263	240	222	206	190	176	162	143	122	99,7
8SDX 97/13 - 8SDXL 97/13	55	75	H	285	260	241	223	206	191	176	155	132	108
8SDX 97/14 - 8SDXL 97/14	59 (75)	80 (100)	m	309	281	262	242	224	208	191	169	144	120
8SDX 97/15 - 8SDXL 97/15	66 (75)	90 (100)		331	302	279	261	240	222	205	182	156	129
8SDX 97/16 - 8SDXL 97/16	75	100		353	322	298	278	256	237	219	194	166	138
8SDX 97/17 - 8SDXL 97/17	75	100		375	342	317	295	272	251	233	206	176	147
8SDX 97/18 - 8SDXL 97/18	92	125		397	362	335	313	288	266	246	218	187	155
8SDX 97/19 - 8SDXL 97/19	92	125		419	382	354	330	304	281	260	230	197	164
8SDX 97/20 - 8SDXL 97/20	92	125		440	403	374	348	322	298	274	244	209	173
8SDX 97/21 - 8SDXL 97/21	92	125		462	424	393	365	338	313	288	257	219	182
8SDX 97/22 - 8SDXL 97/22	110	150		484	444	411	383	354	328	301	269	230	190
8SDX 97/23 - 8SDXL 97/23	110	150		507	464	430	400	370	343	315	281	240	199

DN	Motor CS mm	Motor FK mm	L mm	8SDXL kg
Rp 5”	145 6"	137 6"	644	31,5
			770	36,5
			896	41,5
			1022	46
			1148	51
			1274	56
	191 8"		1400	61
			1526	66
			1657	72
		196 8"	1783	77
			1909	82
			2035	87
			2161	92
			2287	97
			2413	102
			2539	106,5
			2665	111,5
			2791	116,5
			2917	121
			3043	126
	240 10"		3169	131
			3295	136

P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

SDS

Submersible borehole pumps for 6”,8” and 10” wells

6SDS series cannot be sold in the EU.

Materials

Components	Part Nr.	6, 8, 10SDS	B-6, B-8, B-10SDS
Stage casing Diffuser Impeller	25.02 26.00 28.00	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
Wear ring		Rubber (Bronze for 10SDS 190-280)	
Shaft	64.00	6SDS e 8SDS: Steel AISI F51duplex 10SDS Cr steel AISI 420	Cr-Ni-Mo steel AISI 316
Shaft sleeve	64.08	Brass with chromate surface treatment (only for 10SDS)	
Delivery casing Suction lantern	12.01 32.02	Cast iron GJL 200 EN 1561	Bronze G-Cu Sn 10 EN 1982
Bearing bush	12.03-12.30	Rubber	
Strainer	15.50	Cr-Ni steel AISI 304	
Screws		Cr-Ni steel AISI 304	

CS Motor

Components	CS 6”, 8”, 10” standard	I-CS 6”, 8”, 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	Hardened and tempered AISI 420 (AISI 329 for 10”)	Cr-Ni-Mo steel AISI 329
Thrust bearing	Oscillating pads	Oscillating pads
Bushings	Graphite (Bronze for 8” motor of 51-59-66 kW)	Graphite

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/m³.
Continuous duty.

6”, 8”, 10” rewindable motor CS 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.

Motor	Max. Liquid temperature	Cooling : minimum flow velocity	Max. starts per hour
6”	25 °C	0,20 m/s for 4 ÷ 15 kW 0,50 m/s for 18,5 ÷ 30 kW	15
8”	25 °C	0,20 m/s for 30 ÷ 51 kW 0,50 m/s for 55 ÷ 92 kW	15
10”	25 °C	0,50 m/s	10

Insulation PVC coated wire for 6-8-10” motors.
Protection IP 68.

Cable

Motor 400V - 50Hz - 3 ~	Section	Length
6CS 4 ÷ 30 kW	4G6 mm²	3,5 m
8CS 30 ÷ 59 kW	3 x (1x16) mm²	4 m
8CS 66 - 92 kW	3 x (1x25) mm²	4 m
10CS 110-130 kW	4G35 mm²	6 m

Motor 400/690V - 50Hz - 3 ~ Y/Δ	Section	Length
10CS 150 kW	3x25 + 4G25 mm²	6 m
10CS 185 kW	3x35 + 4G35 mm²	6 m

Special features on request

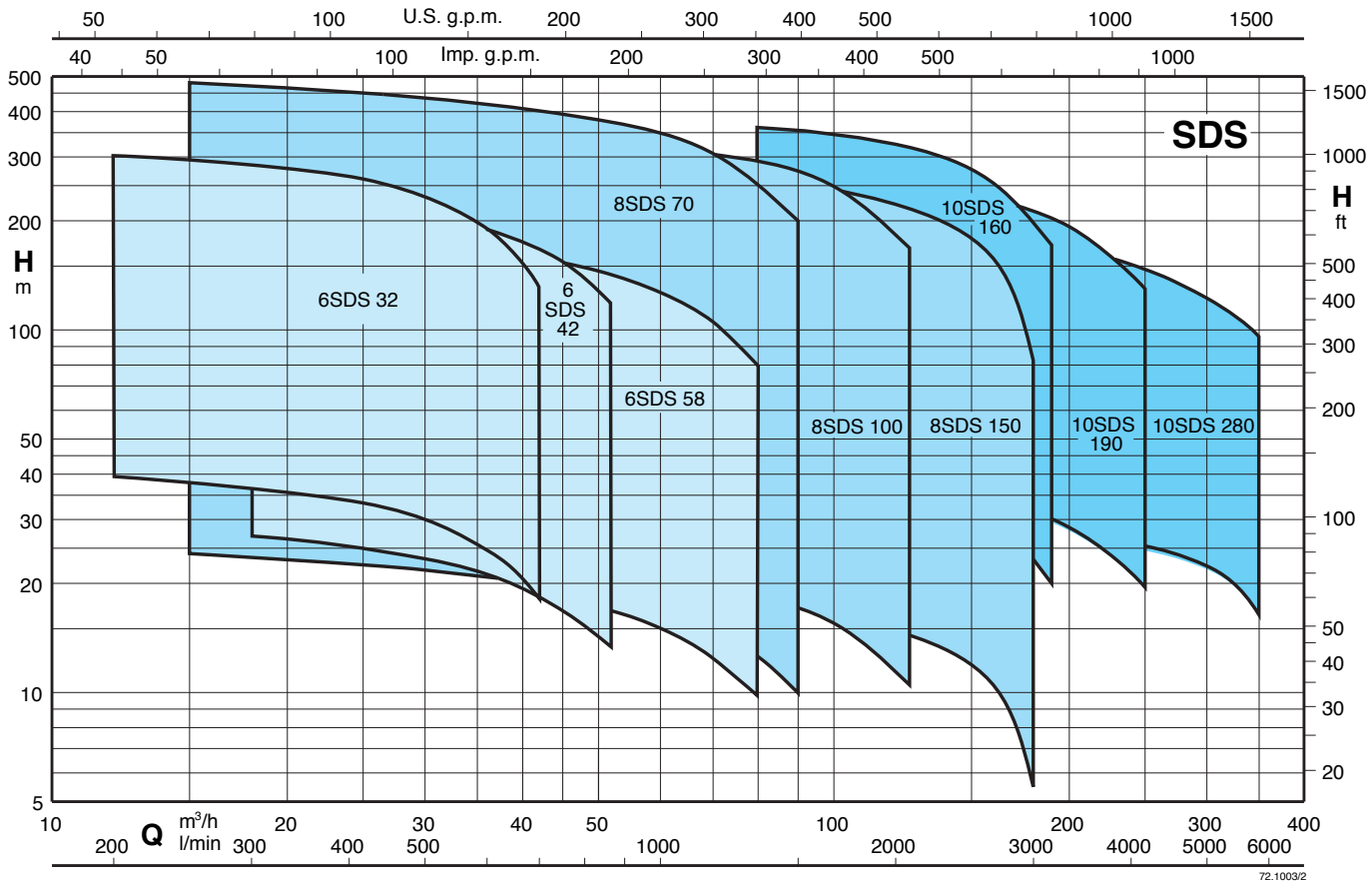
- Other voltages.
- 60 Hz frequency.
- Other temperatures.
- Motor suitable operation with frequency converter (standard feature for FK).
- Encapsulated motor **FK series** (for characteristic see pag. 377).

Designazione

B 10 SDS 190 / 6

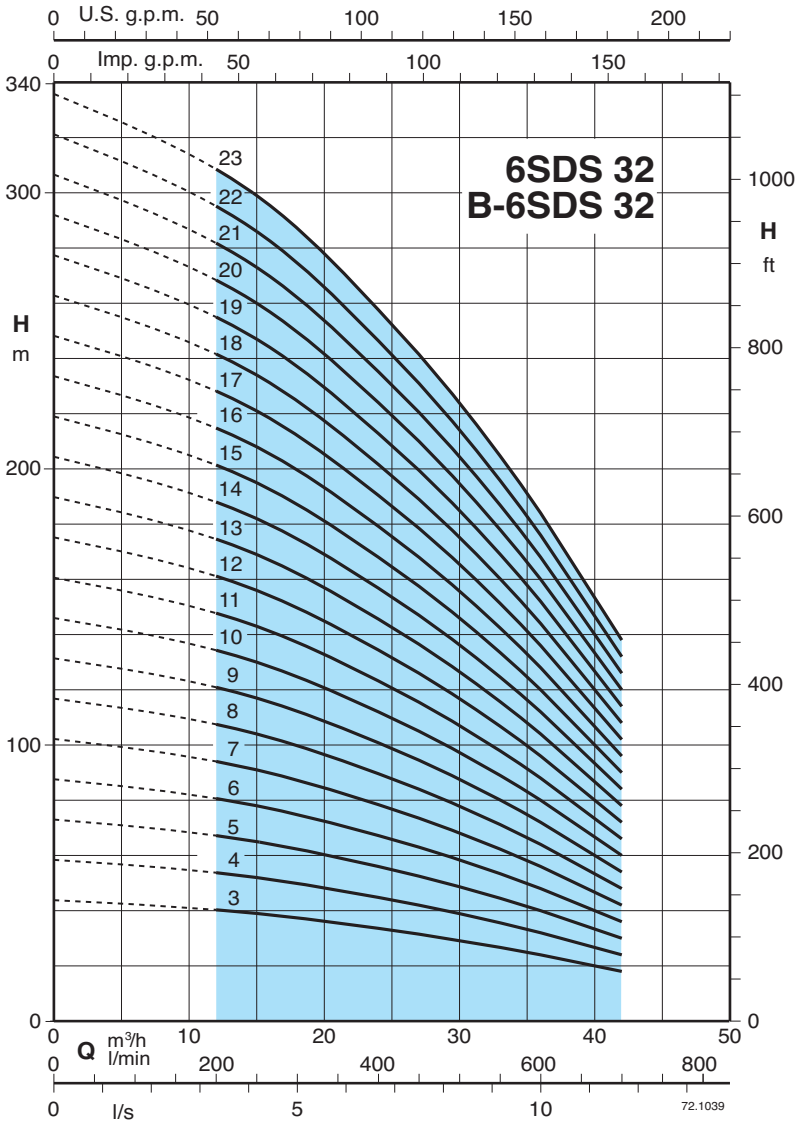
- Bronze construction (on request)
- Ø of the well in inches
- Series
- Stage identification
- Number of stages

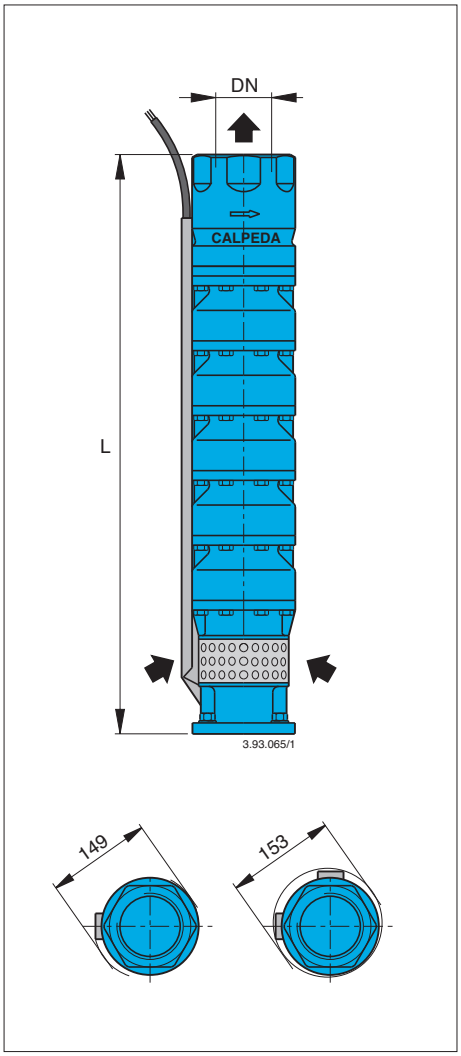
Coverage chart n ≈ 2900 rpm



6SDS 32 Submersible borehole pumps for 6” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





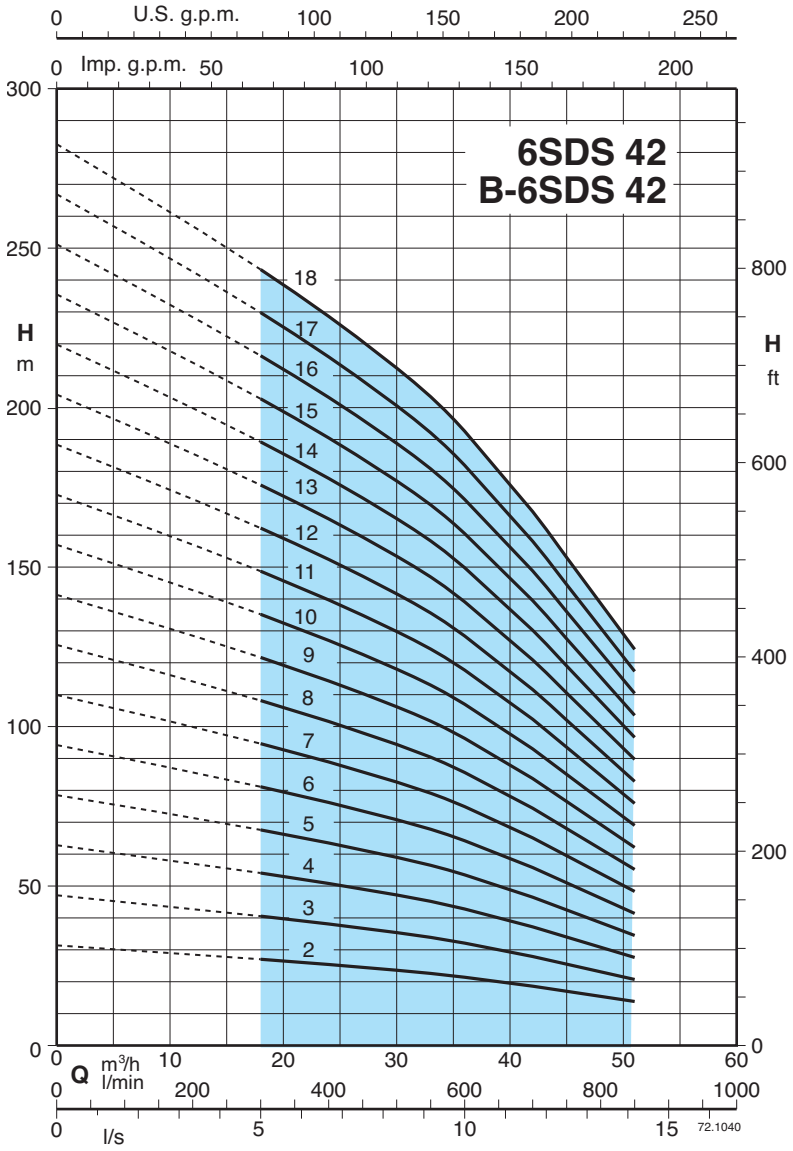
3 ~	P2		Q	n ≈ 2900 rpm										
			m³/h	12	18	21	24	27	30	33	36	39	42	
	kW	HP	l/min	200	300	350	400	450	500	550	600	650	700	
6SDS 32/3 - B-6SDS 32/3	4	5,5		39	37	35,5	33,5	31,5	30	26,5	24	21	18	
6SDS 32/4 - B-6SDS 32/4	5,5	7,5		52	49	47	45	42	39,5	35,5	32	28	24	
6SDS 32/5 - B-6SDS 32/5	7,5	10		65	61,5	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	H	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	m	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	

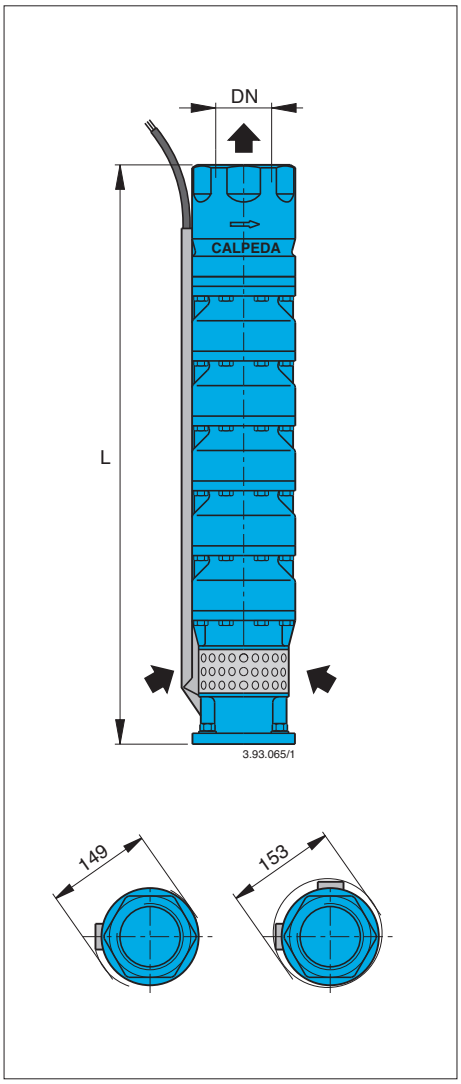
DN	L	6SDS	B-6SDS
	mm	kg	kg
G 3 ISO 228	686	30,5	35,5
	788	35,6	41,6
	890	41	49
	992	46	55
	1094	52,3	62,3
	1196	57	68
	1298	62,5	74,5
	1400	68,5	81,5
	1502	72,5	86,5
	1604	77,5	93,5
	1706	84	101
	1808	89	108
	1910	94,2	112
	2012	100	119
	2114	105	125
	2216	111	132
	2318	116	139
	2420	122	145
	2522	127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

P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

6SDS 42 Submersible borehole pumps for 6” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





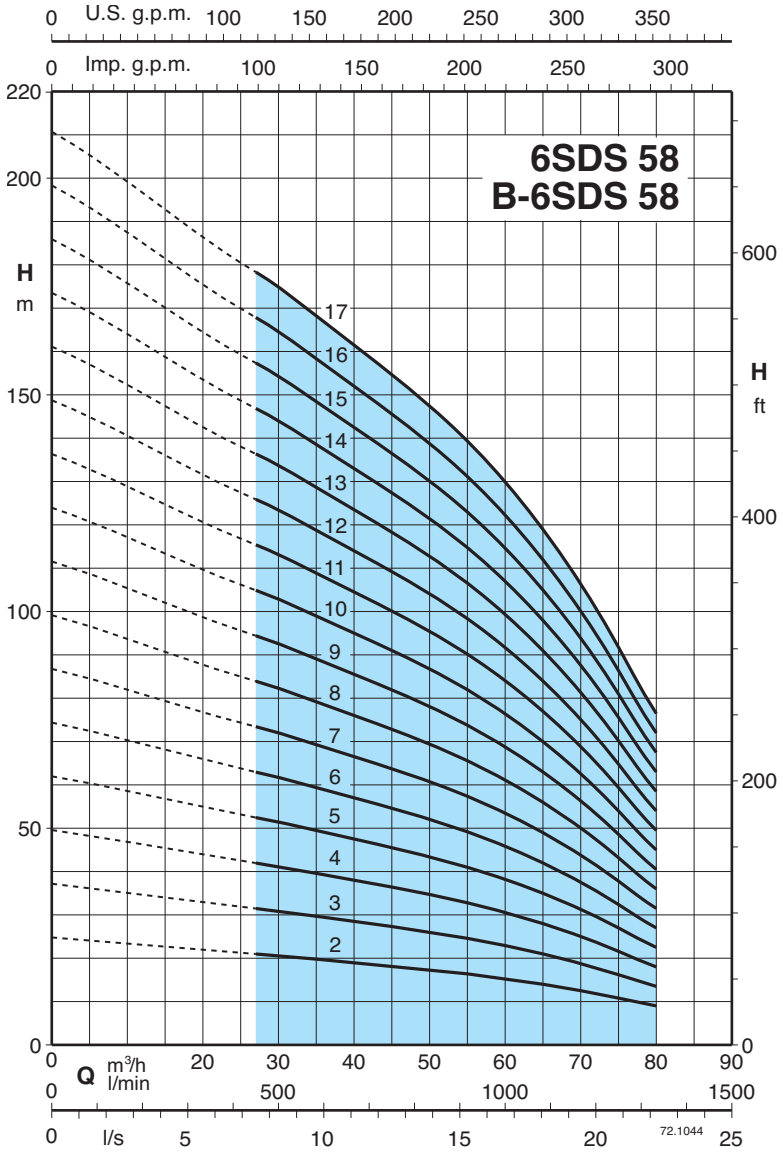
3 ~	P2		Q	n ≈ 2900 rpm										
			m³/h	18	24	30	33	36	39	42	45	48	51	
	kW	HP	l/min	300	400	500	550	600	650	700	750	800	850	
6SDS 42/2 - B-6SDS 42/2	4	5,5		27	25,5	23,5	22,5	21,5	20	18,5	17	15,5	14	
6SDS 42/3 - B-6SDS 42/3	5,5	7,5		40	38	35,5	34	32	30	28	25,5	23	21	
6SDS 42/4 - B-6SDS 42/4	7,5	10		53,5	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	H	134	127	118	113	107	100	93	85	77	69	
6SDS 42/11 - B-6SDS 42/11	18,5	25	m	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	

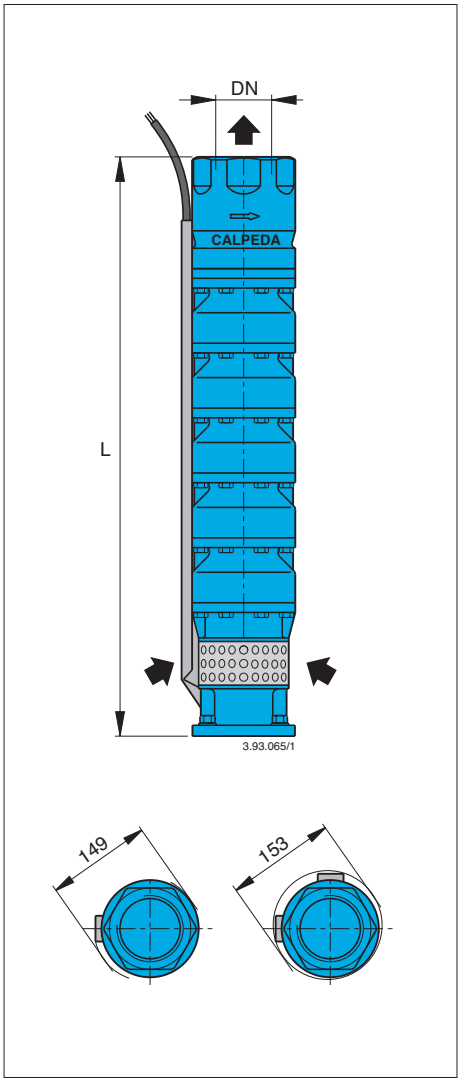
DN	L	6SDS	B-6SDS
	mm	kg	kg
G 3 ISO 228	584	25,5	29,5
	686	31,6	36,6
	788	36	42
	890	40,3	48,3
	992	47	59
	1094	50,5	65,5
	1196	55,5	66,5
	1298	62,5	74,5
	1400	69	81
	1502	74	86
	1604	79,2	94,2
	1706	83,2	99,2
	1808	91,4	106
	1910	96,4	113
	2012	101	119
	2114	106	126
	2216	111	132

P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

6SDS 58 Submersible borehole pumps for 6” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights





3 ~	P2		Q	n ≈ 2900 rpm										
			m³/h	27	35	40	45	50	55	60	65	70	75	80
	kW	HP	l/min	450	583	666	750	833	916	1000	1083	1166	1250	1333
6SDS 58/2 - B-6SDS 58/2	4	5,5		21	20	19	18	17	16,5	15,5	14	12,5	11	9
6SDS 58/3 - B-6SDS 58/3	5,5	7,5		32	30	28,5	27	26	24,5	23	21	18,5	16	13,5
6SDS 58/4 - B-6SDS 58/4	7,5	10		42,5	39,5	38	36	34,5	33	31	28	25	21,5	18
6SDS 58/5 - B-6SDS 58/5	9,2	12,5		53	49,5	47,5	45	43	41	38,5	35	31	27	22,5
6SDS 58/6 - B-6SDS 58/6	11	15		63,5	59,5	57	54	51,5	49	46	42	37	32,5	27
6SDS 58/7 - B-6SDS 58/7	13 (15)	17,5 (20)		74	59,5	66,5	63	60	57,5	54	49	43,5	38	31,5
6SDS 58/8 - B-6SDS 58/8	15	20		85	79	76	72	69	66	62	56	49,5	43	36
6SDS 58/9 - B-6SDS 58/9	18,5	25	H	95,5	89	85,5	81	77,5	74	69,5	63	56	49	40,5
6SDS 58/10 - B-6SDS 58/10	18,5	25	m	106	99	95	90	86	82	77	70	62	54	45
6SDS 58/11 - B-6SDS 58/11	22	30		117	109	104	99	94,5	90	85	77	68	59,5	49,5
6SDS 58/12 - B-6SDS 58/12	22	30		127	119	114	108	103	100	94,5	86,5	76,5	66,5	55,5
6SDS 58/13 - B-6SDS 58/13	26 (30)	35 (40)		138	129	123	117	112	107	100	91	80,5	70	58,5
6SDS 58/14 - B-6SDS 58/14	26 (30)	35 (40)		148	139	133	126	120	115	108	98	87	75,5	63
6SDS 58/15 - B-6SDS 58/15	30	40		159	148	142	135	129	123	115	105	93	81	67,5
6SDS 58/16 - B-6SDS 58/16	30	40		170	158	152	144	138	131	123	112	99	86,5	72
6SDS 58/17 - B-6SDS 58/17	30	40		180	168	162	153	146	139	131	119	105	92	76,5

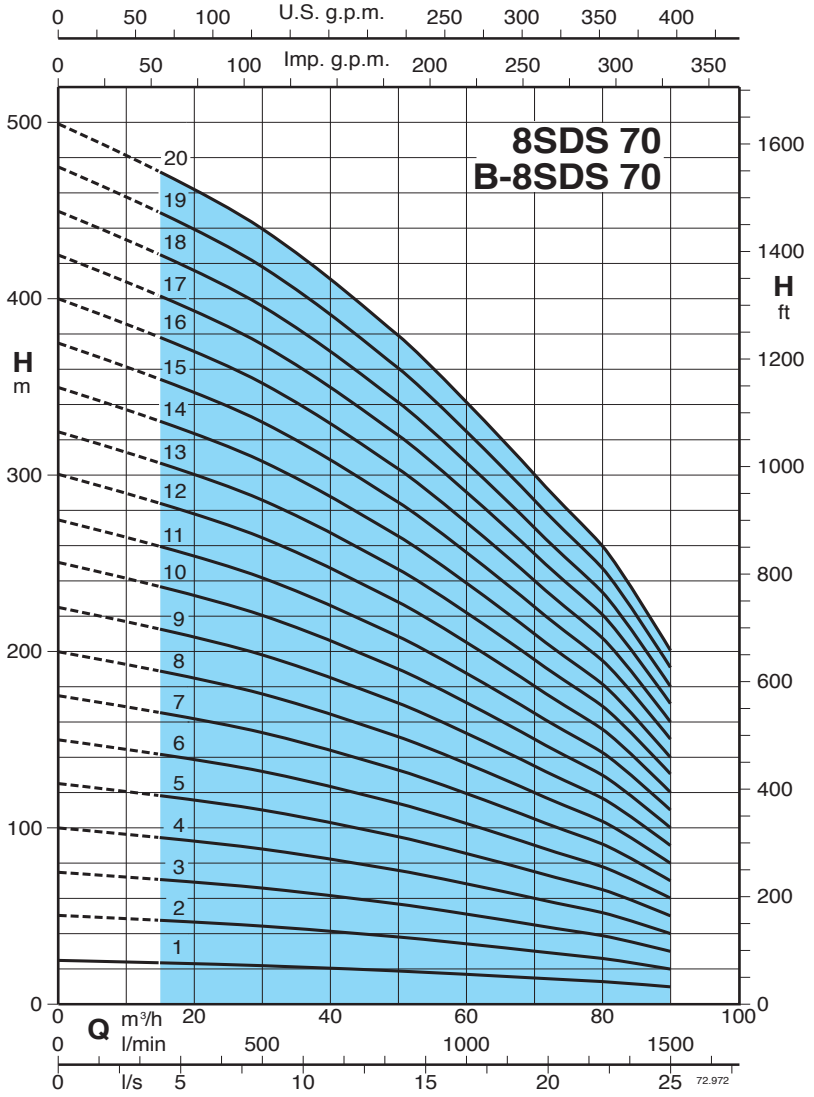
DN	L	6SDS	B-6SDS
	mm	kg	kg
G 4 ISO 228	584	26,5	29,5
	686	31,6	36,6
	788	37	43
	890	43,3	50,3
	992	48	57
	1094	53,5	63,5
	1196	59,5	70,5
	1298	65	77
	1400	71	84
	1502	76,2	90,2
	1604	82,2	97,2
	1706	87,4	104
	1808	93,4	111
	1910	99,4	118
	2012	104	124
	2114	110	131

P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

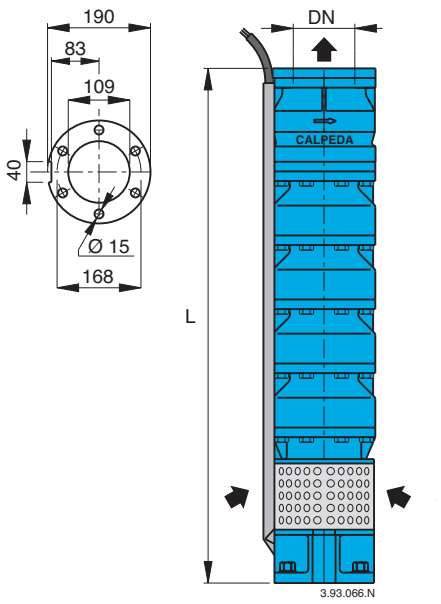
8SDS 70

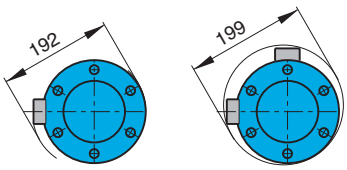
Submersible borehole pumps for 8” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights



Counter-flange for welding.





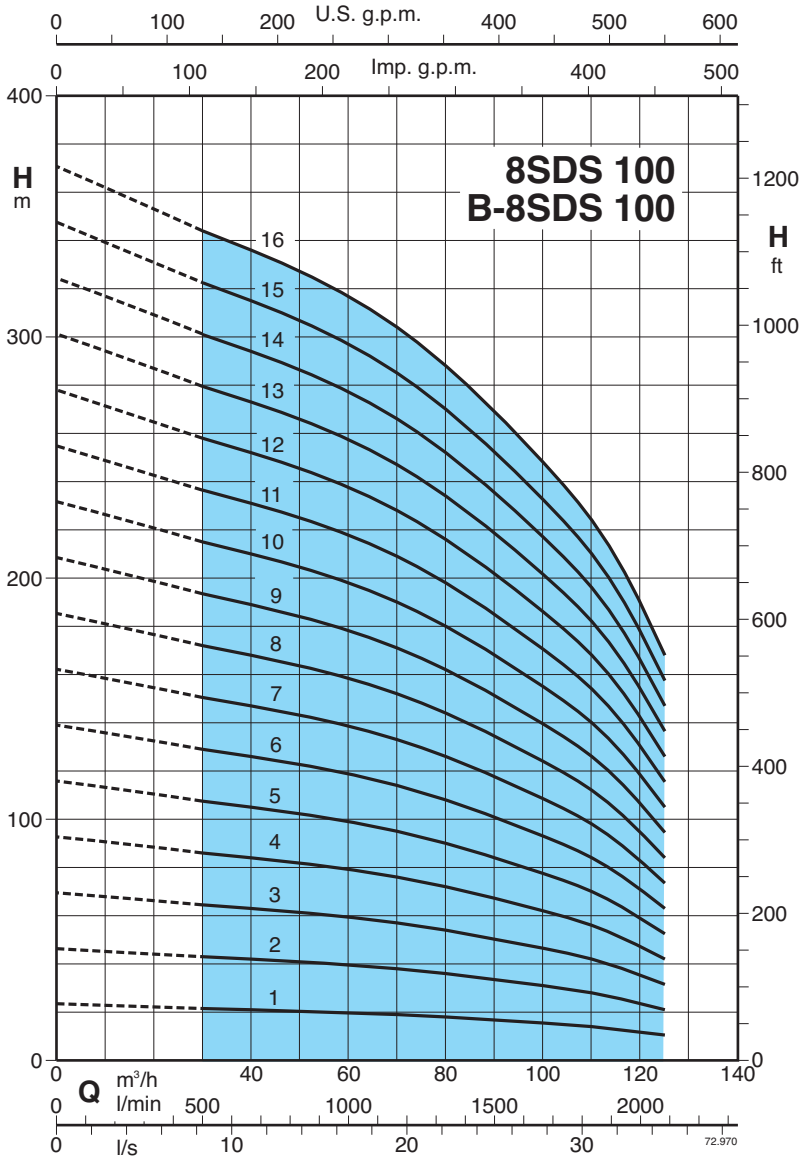
3 ~	P2		Q	n ≈ 2900 rpm									
			m³/h	15	20	30	40	50	60	70	80	90	
	kW	HP	l/min	250	333	500	666	833	1000	1166	1333	1500	
8SDS 70/1 - B-8SDS 70/1	5,5	7,5		23,5	23	22	20,5	19	17	15	13	10	
8SDS 70/2 - B-8SDS 70/2	9,2	12,5		47	46	44	41	38	34	30	26	20	
8SDS 70/3 - B-8SDS 70/3	15	20		70,5	69	66	61,5	57	51	45	39	30	
8SDS 70/4 - B-8SDS 70/4	18,5	25		94	92	88	82	76	68	60	52	40	
8SDS 70/5 - B-8SDS 70/5	22	30		118	115	110	102	95	85	75	65	50	
8SDS 70/6 - B-8SDS 70/6	26 (30)	35 (40)		141	138	132	123	114	102	90	78	60	
8SDS 70/7 - B-8SDS 70/7	30	40		165	161	154	143	133	119	105	91	70	
8SDS 70/8 - B-8SDS 70/8	37	50		188	184	176	164	152	136	120	104	80	
8SDS 70/9 - B-8SDS 70/9	45	60		212	207	198	184	171	153	135	117	90	
8SDS 70/10 - B-8SDS 70/10	45	60		235	230	220	205	190	170	150	130	100	
8SDS 70/11 - B-8SDS 70/11	51 (55)	70 (75)	H m	259	253	242	225	209	187	165	143	110	
8SDS 70/12 - B-8SDS 70/12	55	75		282	276	264	246	228	204	180	156	120	
8SDS 70/13 - B-8SDS 70/13	59 (75)	80 (100)		306	299	286	266	247	221	195	169	130	
8SDS 70/14 - B-8SDS 70/14	59 (75)	80 (100)		329	322	308	287	266	238	210	182	140	
8SDS 70/15 - B-8SDS 70/15	66 (75)	90 (100)		353	345	330	307	285	255	225	195	150	
8SDS 70/16 - B-8SDS 70/16	75	100		376	368	352	328	304	272	240	208	160	
8SDS 70/17 - B-8SDS 70/17	75	100		400	391	374	348	323	289	255	221	170	
8SDS 70/18 - B-8SDS 70/18	92	125		423	414	396	369	342	306	270	234	180	
8SDS 70/19 - B-8SDS 70/19	92	125		447	437	418	389	361	323	285	247	190	
8SDS 70/20 - B-8SDS 70/20	92	125		470	460	440	410	380	340	300	260	200	

DN	Motor CS mm	Motor FK mm	L mm	8SDS kg	B-8SDS kg
100	145 6”	137 6”	602	38	43
			734	49	55,5
			866	60	68
			998	71,5	80,5
			1130	82,5	93
			1262	93,5	106
			1394	105	118
	191 8”		1526	116	131
			1658	127	143
			1790	138	156
		196 8”	1922	149	168
			2054	160	181
			2186	171	194
			2318	182	206
			2450	193	219
			2582	205	231
			2714	216	244
			2846	227	256
			2978	238	269
			3110	249	281

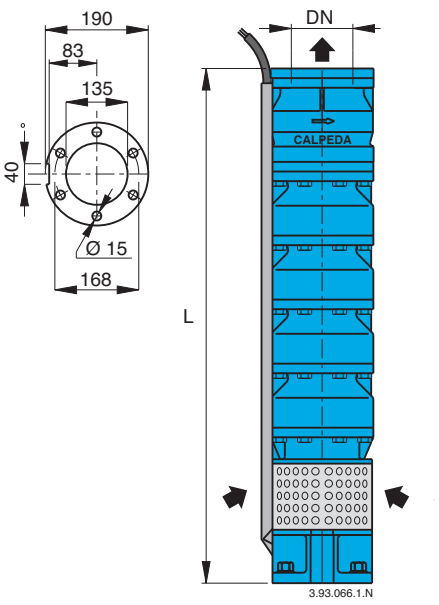
P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

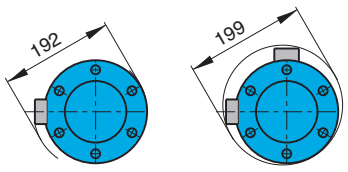
8SDS 100 Submersible borehole pumps for 8” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights



Counter-flange for welding.





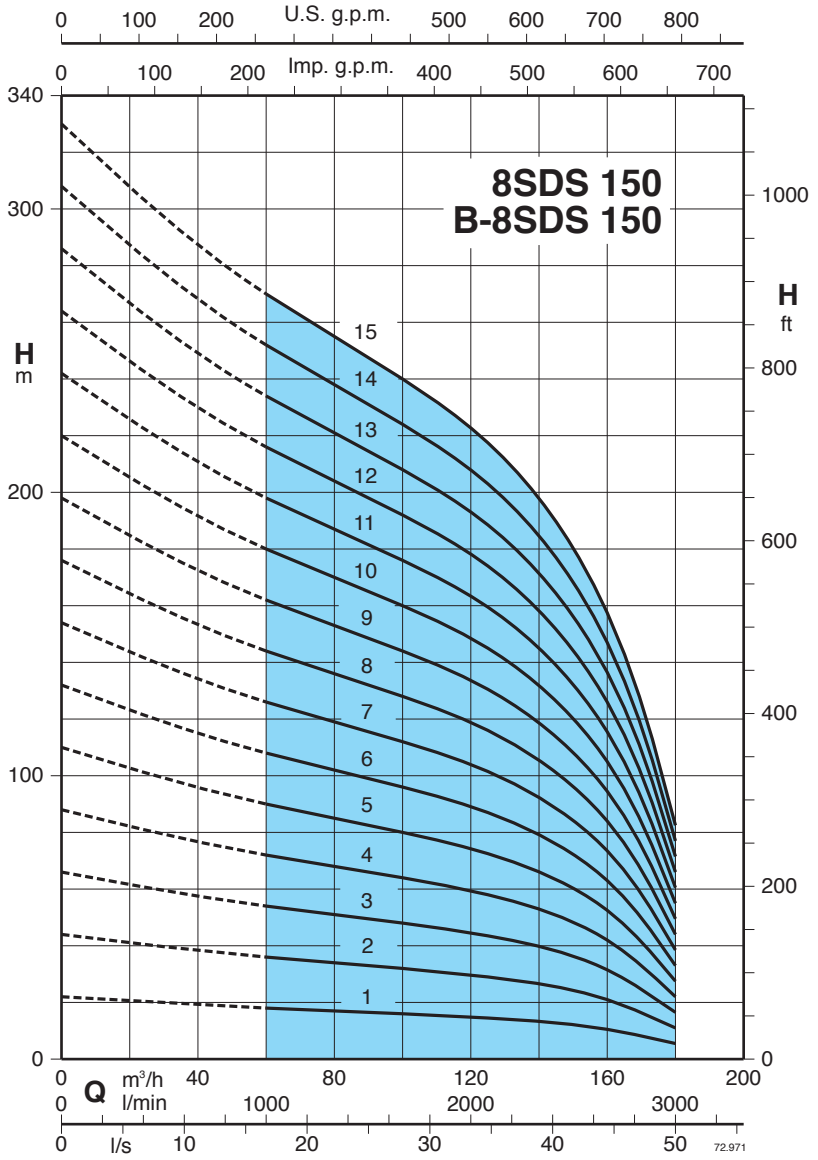
3 ~	P2		Q	n ≈ 2900 rpm										
			m³/h	30	40	50	60	70	80	90	100	110	125
	kW	HP	l/min	500	666	833	1000	1166	1333	1500	1666	1833	2083
8SDS 100/1 - B-8SDS 100/1	5,5	7,5		21,5	21	20,5	20	19	18	17	15,5	14	10,5
8SDS 100/2 - B-8SDS 100/2	11	15		43	42	41	40	38	36	34	31	28	21
8SDS 100/3 - B-8SDS 100/3	18,5	25		64,5	63	61,5	60	57	54	51	46,5	42	31,5
8SDS 100/4 - B-8SDS 100/4	22	30		86	84	82	80	76	72	68	62	56	42
8SDS 100/5 - B-8SDS 100/5	30	40		107	105	102	100	95	90	85	77,5	70	52,5
8SDS 100/6 - B-8SDS 100/6	37	50		129	126	123	120	114	108	102	93	84	63
8SDS 100/7 - B-8SDS 100/7	45	60		150	147	143	140	133	126	119	108	98	73,5
8SDS 100/8 - B-8SDS 100/8	45	60		172	168	164	160	152	144	136	124	112	84
8SDS 100/9 - B-8SDS 100/9	51 (55)	70 (75)	H m	193	189	184	180	171	162	153	139	126	94,5
8SDS 100/10 - B-8SDS 100/10	55	75		215	210	205	200	190	180	170	155	140	105
8SDS 100/11 - B-8SDS 100/11	66 (75)	90 (100)		236	231	225	220	209	198	187	170	154	115
8SDS 100/12 - B-8SDS 100/12	66 (75)	90 (100)		258	252	246	240	228	216	204	186	168	126
8SDS 100/13 - B-8SDS 100/13	75	100		279	273	266	260	247	234	221	201	182	136
8SDS 100/14 - B-8SDS 100/14	92	125		301	294	287	280	266	252	238	217	196	147
8SDS 100/15 - B-8SDS 100/15	92	125		322	315	307	300	285	270	255	232	210	157
8SDS 100/16 - B-8SDS 100/16	92	125		344	336	328	320	304	288	272	248	224	168

DN	Motor CS mm	Motor FK mm	L mm	8SDS kg	B-8SDS kg
125	145 6”	137 6”	602	38	43
			734	49	55
			866	59	67
			998	70	79
			1130	81	91
	191 8”		1262	92	103
			1394	102	115
			1526	113	128
		196 8”	1658	124	140
			1790	135	152
			1922	145	164
			2054	156	176
			2186	167	188
			2318	177	200
			2450	188	212
			2582	199	224

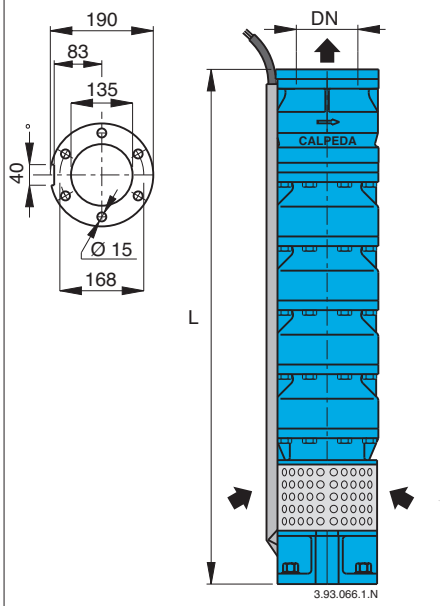
P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

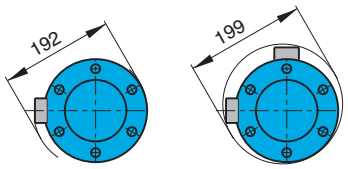
8SDS 150 Submersible borehole pumps for 8” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights



Counter-flange for welding.





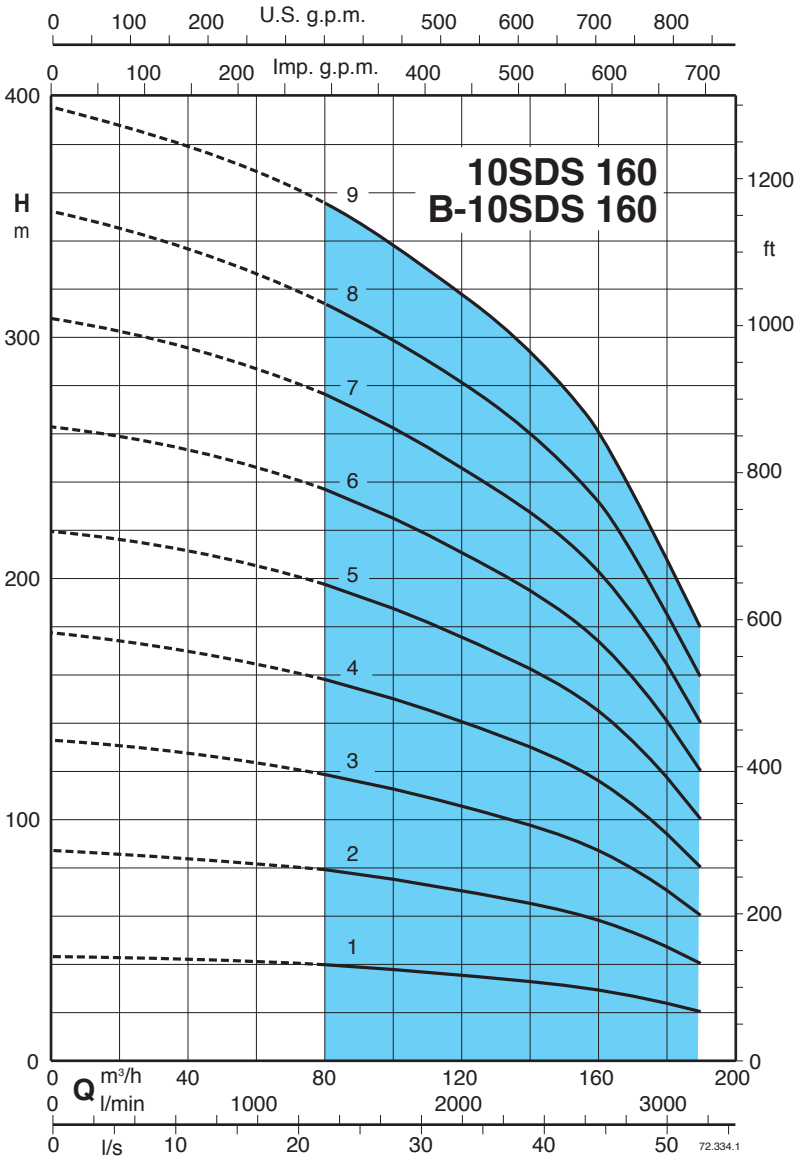
3 ~	P2		Q	n ≈ 2900 rpm											DN	Motor		L	8SDS	B-8SDS
			m³/h	60	70	80	90	100	110	125	140	150	160	180		CS mm	FK mm	mm	kg	kg
	kW	HP	l/min	1000	1166	1333	1500	1666	1833	2083	2333	2500	2666	3000						
8SDS 150/1 - B-8SDS 150/1	7,5	10		18	17,5	17	16,5	16	15,5	14,5	13	11,5	10,5	5,5				602	38	43
8SDS 150/2 - B-8SDS 150/2	15	20		36	35	34	33	32	31	29	26	23	21	11				734	49	55,5
8SDS 150/3 - B-8SDS 150/3	22	30		54	52,5	51	49,5	48	46,5	43,5	39	34,5	31,5	16,5		145 6”		866	60	68
8SDS 150/4 - B-8SDS 150/4	30	40		72	70	68	66	64	62	58	52	46	42	22			137 6”	998	71,5	80,5
8SDS 150/5 - B-8SDS 150/5	37	50		90	87,5	85	82,5	80	77,5	72,5	65	57,5	52,5	27,5				1130	82,5	93
8SDS 150/6 - B-8SDS 150/6	45	60		108	105	102	99	96	93	87	78	69	63	33				1262	93,5	106
8SDS 150/7 - B-8SDS 150/7	51 (55)	70 (75)	H	126	122	119	115	112	108	101	91	80,5	73,5	38,5				1394	105	118
8SDS 150/8 - B-8SDS 150/8	59 (75)	80 (100)		144	140	136	132	128	124	116	104	92	84	44				1526	116	131
8SDS 150/9 - B-8SDS 150/9	66 (75)	90 (100)	m	162	157	153	148	144	139	130	117	103	94,5	49,5	125	191 8”		1658	127	143
8SDS 150/10 - B-8SDS 150/10	75	100		180	175	170	165	160	155	145	130	115	105	55				1790	138	156
8SDS 150/11 - B-8SDS 150/11	92	125		198	192	187	181	176	170	159	143	126	115	60,5			196 8”	1922	149	168
8SDS 150/12 - B-8SDS 150/12	92	125		216	210	204	198	192	186	174	156	138	126	66				2054	160	181
8SDS 150/13 - B-8SDS 150/13	110	150		234	227	221	214	208	201	188	169	149	136	71,5				2186	171	194
8SDS 150/14 - B-8SDS 150/14	110	150		252	245	238	231	224	217	203	182	161	147	77		240 10”		2318	182	206
8SDS 150/15 - B-8SDS 150/15	110	150		270	262	255	247	240	232	217	195	172	157	82,5				2450	193	219

P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

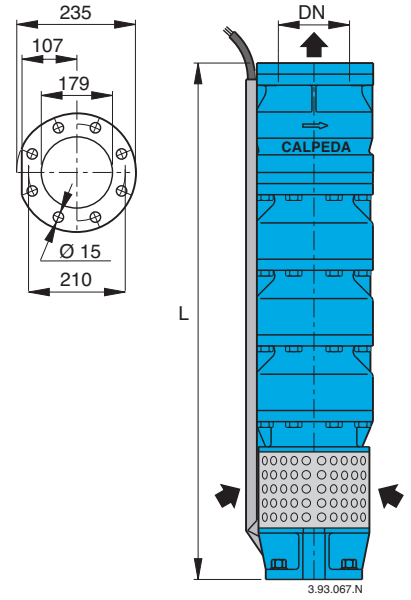
10SDS 160

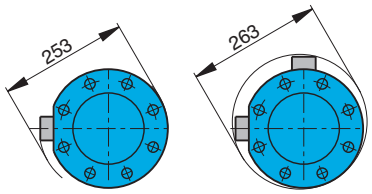
Submersible borehole pumps for 10” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights



Counter-flange for welding.





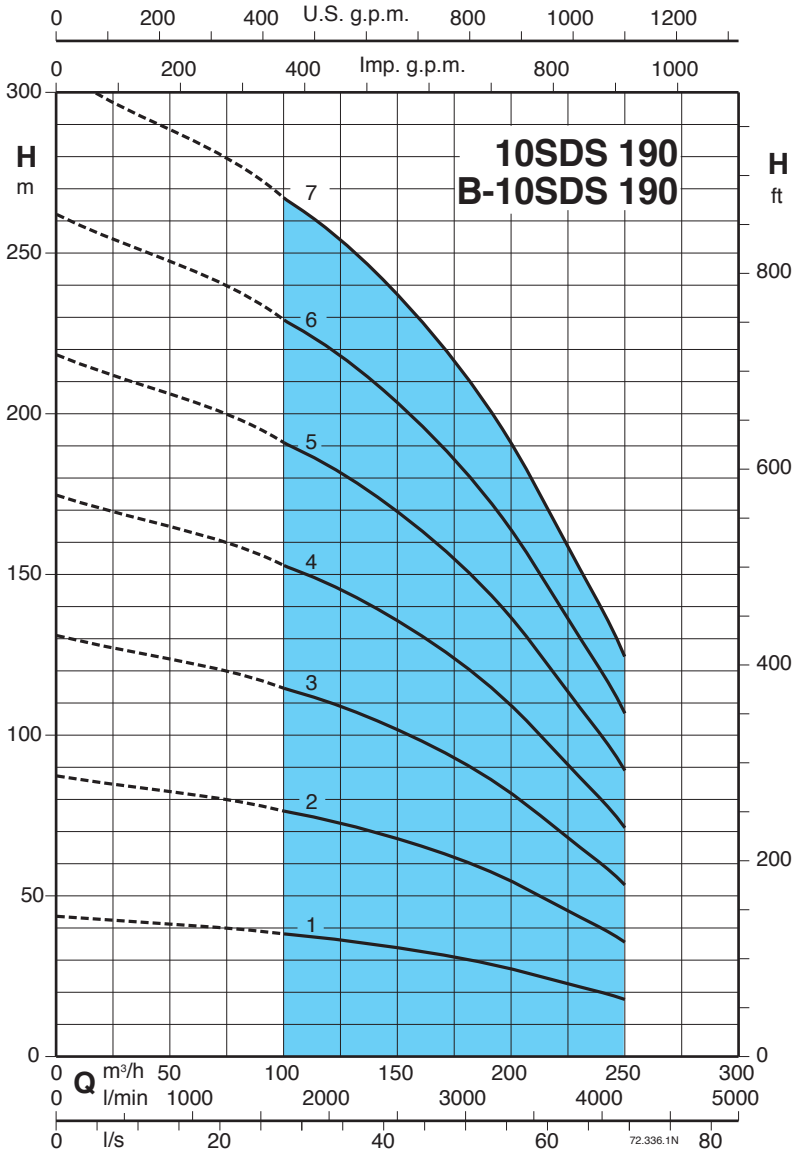
3 ~	P2		Q	n ≈ 2900 rpm											DN	Motor		L	10SDS	B-10SDS
			m³/h	80	90	100	110	125	140	150	160	170	180	190		CS mm	FK mm	mm	kg	kg
	kW	HP	l/min	1333	1500	1666	1833	2083	2333	2500	2666	2833	3000	3166						
10SDS 160/1 - B-10SDS 160/1	18,5	25		39,5	38	37,5	36	34,5	32,5	31	29	26,5	22	20		145-6”	137 6”	865	77	87
10SDS 160/2 - B-10SDS 160/2	37	50		78,5	76,5	74,5	72,5	69	65	62	58,5	53,5	44	40				1035	103	114
10SDS 160/3 - B-10SDS 160/3	55	75		118	114	112	108	104	98	92,5	87,5	80	66,5	60		191 8”		1205	126	141
10SDS 160/4 - B-10SDS 160/4	75	100		157	153	149	145	138	130	123	117	107	88,5	80				1375	150	169
10SDS 160/5 - B-10SDS 160/5	92	125	H	196	191	186	181	173	163	154	146	134	111	100	175		196 8”	1545	173	195
10SDS 160/6 - B-10SDS 160/6	110	150	m	236	229	224	217	207	195	185	175	160	133	120				1715	197	222
10SDS 160/7 - B-10SDS 160/7	130	175		275	267	261	253	242	228	216	204	187	155	140		240 10”		1885	220	249
10SDS 160/8 - B-10SDS 160/8	150	200		314	305	298	289	276	260	246	233	213	177	160				2055	244	276
10SDS 160/9 - B-10SDS 160/9	185	250		356	342	338	324	311	293	279	261	239	198	180			-	2225	268	303

P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

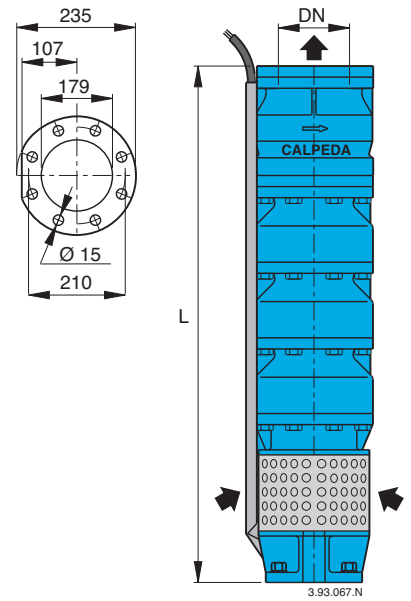
10SDS 190

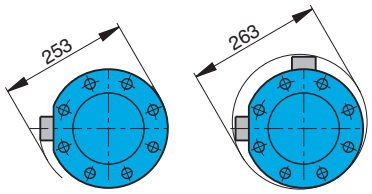
Submersible borehole pumps for 10” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights



Counter-flange for welding.





3 ~	P2		Q	n ≈ 2900 rpm										
			m³/h	100	120	140	160	180	200	220	230	240	250
	kW	HP	l/min	1666	2000	2333	2666	3000	3333	3666	3833	4000	4166
10SDS 190/1 - B-10SDS 190/1	22	30	H m	38	37	35	33	30	27	24	22	20	18
10SDS 190/2 - B-10SDS 190/2	45	60		76	73	70	66	61	55	47	44	40	36
10SDS 190/3 - B-10SDS 190/3	66 (75)	90 (100)		115	110	105	98	91	82	71	65	59	53
10SDS 190/4 - B-10SDS 190/4	92	125		153	147	140	131	121	109	95	87	79	71
10SDS 190/5 - B-10SDS 190/5	110	150		191	183	175	164	152	137	119	109	99	89
10SDS 190/6 - B-10SDS 190/6	130	175		229	220	210	197	182	164	142	131	119	107
10SDS 190/7 - B-10SDS 190/7	185	250		267	257	244	230	212	191	166	152	139	125

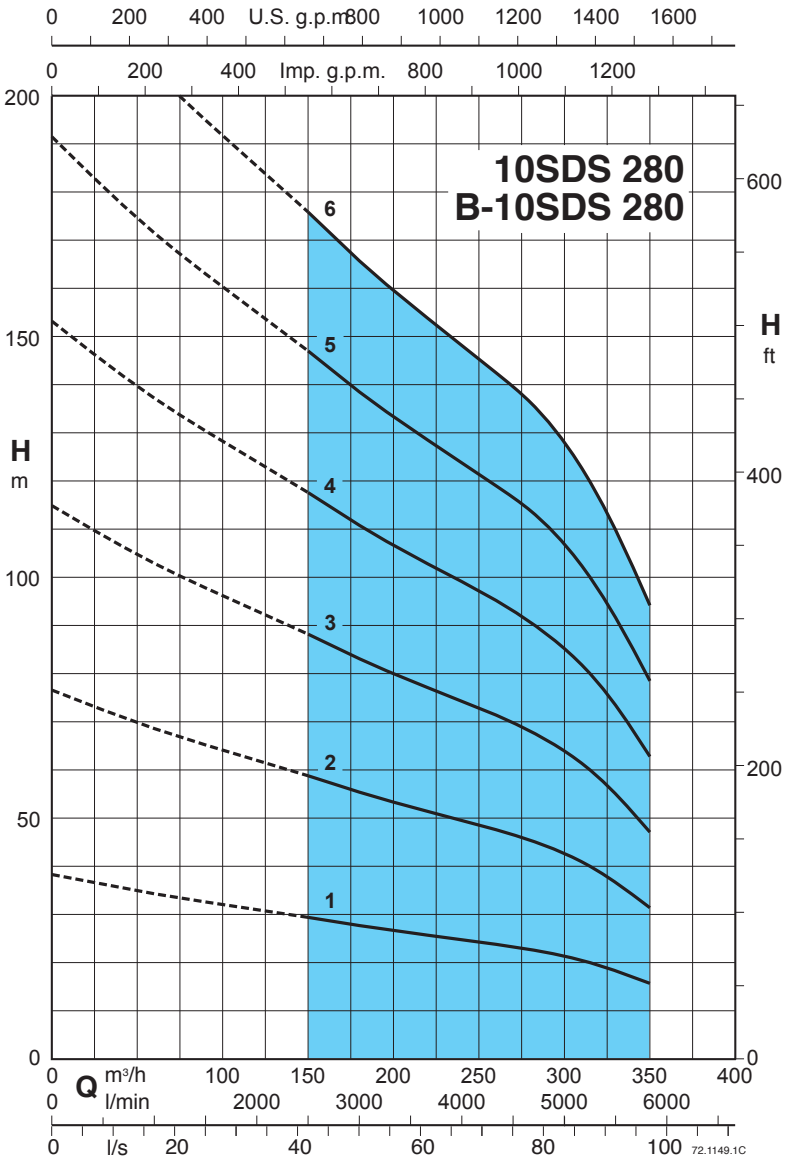
DN	Motor CS mm	Motor FK mm	L mm	10SDS kg	B-10SDS kg
175	145-6”	137 6”	865	78	88
	191 8”		1035	102	115
		196 8”	1205	127	143
			1375	151	170
	240 10”		1545	175	198
			1715	199	225
		-	1885	223	252

P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

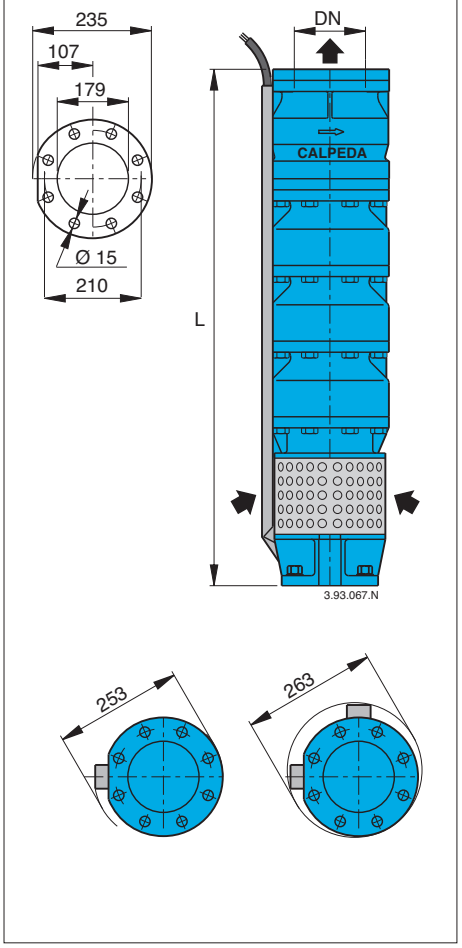
10SDS 280

Submersible borehole pumps for 10” wells

Characteristic curves, performance n ≈ 2900 rpm, dimensions and weights



Counter-flange for welding.



3 ~	P2		Q	n ≈ 2900 rpm										
			m³/h	150	180	200	220	240	260	280	300	315	350
	kW	HP	l/min	2500	3000	3333	3666	4000	4333	4666	5000	5250	5833
10SDS 280/1 - B-10SDS 280/1	26 (30)	35 (40)	H m	29	28	27	26	25	24	23	21	20	16
10SDS 280/2 - B-10SDS 280/2	55	75		59	55	53	51	50	48	46	42	40	31
10SDS 280/3 - B-10SDS 280/3	75	100		88	83	80	77	75	71	69	64	60	47
10SDS 280/4 - B-10SDS 280/4	110	150		118	111	106	103	100	95	92	85	80	63
10SDS 280/5 - B-10SDS 280/5	130	175		147	139	133	129	125	119	115	106	100	79
10SDS 280/6 - B-10SDS 280/6	150	200		176	167	160	155	150	143	138	127	120	95

DN	Motor CS mm	Motor FK mm	L mm	10SDS kg	B-10SDS kg
175	145-6”	137-6”	865	78	88
	191 8”	196 8”	1035	103	116
			1205	127	143
	240 10”		1375	151	170
			1545	175	198
			1715	199	226

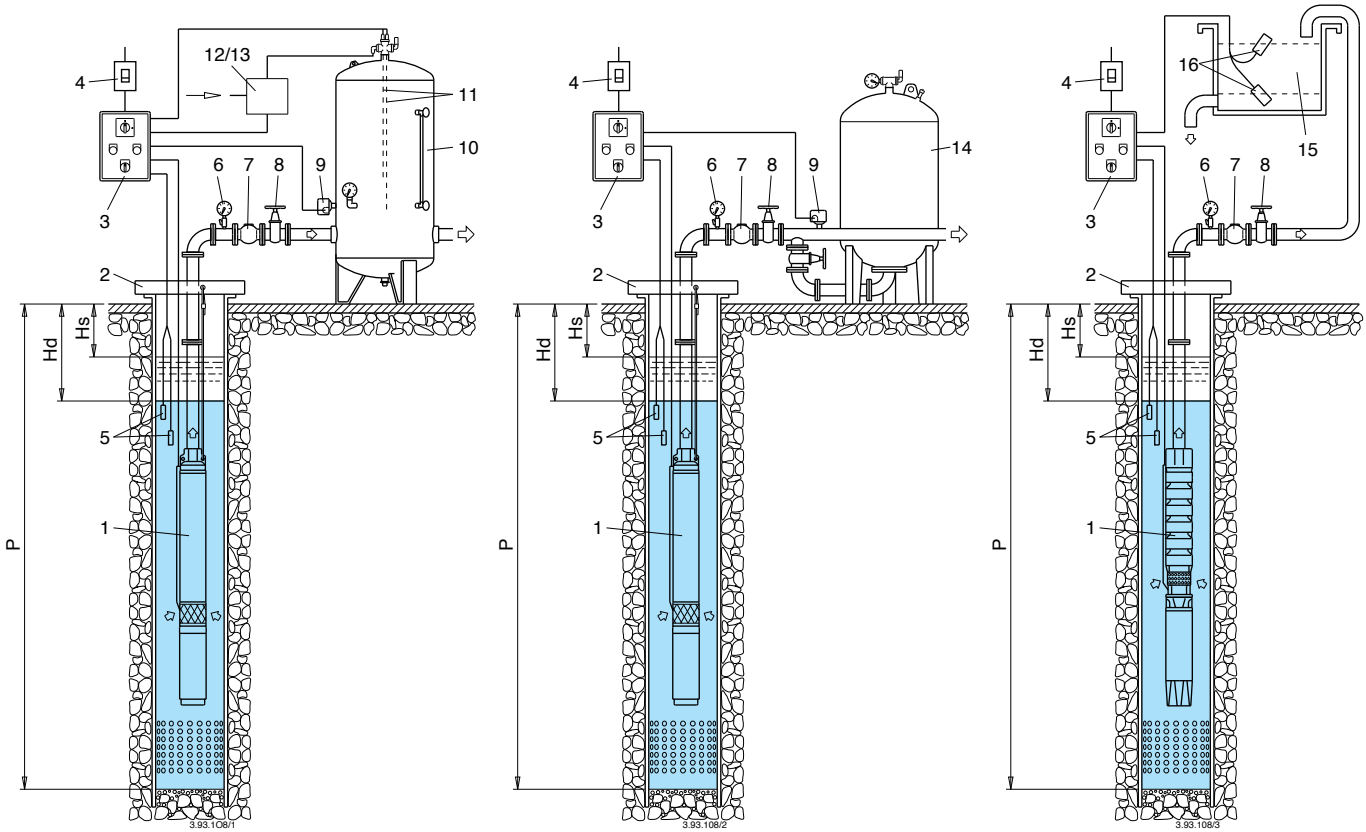
P2 Rated motor power output (...) FK motor rated power output **H** Total head in m Tolerances according to UNI EN ISO 9906:2012

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

CS, FK

Submersible motors

The Calpeda 4", 6", 8" and 10" submersible motors are built using advanced technology and components of superior quality that they ensure good mechanical strength and excellent electrical reliability.
The good performances are guaranteed thanks to strict tests of all the different components during the various production phases.

Rewindable motor CS series

The **CS** 6/8/10" motors are in a water bath with the wire being coated with polyvinyl chloride, while the **CS** 4" motors have a special food grade dielectric fluid that gives a better lubricant effect, increasing the life of all moving parts and the copper wires.
The special design of all our motors allows easy access to the various components, simplifying maintenance and repair.
All the **CS** motors can be rewound and they are NEMA STANDARD.

CS: Standard construction.
I-CS: AISI 316 construction.

Encapsulated motor FK series

The **FK** motors, manufactured to ISO 9001 standards feature an hermetically sealed stator, where the self healing stator resin prevents motor burn out.
They are designed for high electrical efficiency, low cost, and non contaminating water-filled design.
Water lubricated thrust and radial bearings allow a maintenance free operation. A special diaphragm ensures pressure compensation inside the motor.
For facilitating the connection, removable "Water Bloc" lead connector is used and for increasing the performance in sand the FK 6/8" have a sand fighter with SiC-Mechanical Seal.

FK: Standard construction.
I-FK: AISI 316 construction.

kW	4" 1 ~		4" 3 ~			6" 3 ~				8" 3 ~				10" 3 ~		kW
	CS	FK	CS	FK	I-FK 316	CS	I-CS 316	FK	I-FK 316	CS	I-CS 316	FK	I-FK 316	CS	I-CS 316	
0,37	●	●	●	●	●											0,37
0,55	●	●	●	●	●											0,55
0,75	●	●	●	●	●											0,75
1,1	●	●	●	●	●											1,1
1,5	●	●	●	●	●											1,5
2,2	●	●	●	●	●											2,2
3			●	●	●											3
4			●	●	●	●	●	●	●							4
5,5			●	●	●	●	●	●	●							5,5
7,5				●	●	●	●	●	●							7,5
9,2						●	●	●	●							9,2
11						●	●	●	●							11
13						●	●									13
15						●	●	●	●							15
18,5						●	●	●	●							18,5
22						●	●	●	●							22
26						●	●									26
30						●	●	●	●	●	●	●	●			30
37							●	●		●	●	●	●			37
45								●	●	●	●	●	●			45
51-52										●	●					51-52
55										●	●	●	●			55
59-60										●	●					59-60
66-67										●	●					66-67
75										●	●	●	●			75
82-85											●			●	●	82-85
92-93										●	●	●	●			92-93
110												●	●	●	●	110
130												●	●	●	●	130
150												●	●	●	●	150
185														●	●	185

4.93.325

● Rewindable motor CS series ● Encapsulated motor FK series

CS, FK Submersible motors

calpeda®

Rewindable motor CS series

Operating conditions

Motor	Max. Liquid temperature	Cooling minimum flow velocity	Max. starts per hour
4”	35 °C	0,08 m/s	20
6”	25 °C	0,20 m/s for 4 ÷ 15 kW 0,50 m/s for 18,5 ÷ 30 kW	15
8”	25 °C	0,20 m/s for 30 ÷ 51 kW 0,50 m/s for 55 ÷ 92 kW	15
10”	25 °C	0,50 m/s	10

Continuous duty.

Operation data

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).
Sized for connection to the pumps according to NEMA Standards.
Standard voltages:
- single-phase 230 V - up to 2,2 kW for 4” motors.
- three-phase 230 V; 400 V for 4” motors.
- three-phase 400 V; 400/690 V for 6-8-10” motors.

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.

Insulation class F for 4” motors, PVC coated wire for 6”-8”-10” motors.
Protection IP 68.

Cable

Motor 230V - 50Hz - 1~	Section	Length
4CS 0,37 ÷ 1,5 kW	3x1,5 + 1G1,5 mm²	2 m
4CS 2,2 kW	3x2 + 1G2 mm²	2 m

Motor 400V - 50Hz - 3 ~	Section	Length
4CS 0,37 ÷ 1,5 kW	3x1,5 + 1G1,5 mm²	2 m
4CS 2,2 ÷ 5,5 kW	3x1,5 + 1G1,5 mm²	3 m
6CS 4 ÷ 30 kW	4G6 mm²	3,5 m
I-6CS 4 ÷ 13 kW	4G2,5 mm²	4 m
I-6CS 15 - 22 kW	4G4 mm²	4 m
I-6CS 26 - 37 kW	4G6 mm²	4 m
8CS 30 ÷ 59 kW	3 x (1x16) mm²	4 m
8CS 66 - 92 kW	3 x (1x25) mm²	4 m
I-8CS 30 ÷ 45 kW	4G10 mm²	4 m
I-8CS 52 ÷ 93 kW	4G16 mm²	4 m
10CS 85 kW	4G25 mm²	6 m
10CS 110-130 kW	4G35 mm²	6 m

Motor 400/690V - 50Hz - 3 ~ Y/Δ	Section	Length
10CS 150 kW	3x25 + 4G25 mm²	6 m
10CS 185 kW	3x35 + 4G35 mm²	6 m

Materiales

Components	4” standard	4” AISI 304
External frame	Cr-Ni steel AISI 304	Cr-Ni steel AISI 304
Motor flange	Brass or Cast iron	Cr-Ni-Mo steel AISI 316L
Shaft end	Cr-Ni-Mo steel AISI 316	Cr-Ni-Mo steel AISI 316
Thrust bearing	Oil wetted	Oil wetted
Components	**6”, 8”, 10” standard**	**6”, 8”, 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	Hardened and tempered AISI 420 (AISI 329 for 10”)	Cr-Ni-Mo steel AISI 329
Thrust bearing	Oscillating pads	Oscillating pads
Bushings	Graphite (Bronze for 8” motor of 51-59-66 kW)	Graphite

Special features on request

- Other voltage. - Frequency 60 Hz.
- Motor suitable operation with frequency converter (only for 6”,8”,10”).
- Higher liquid temperature.

Encapsulated motor FK series

Operating conditions

Motor	Max. Liquid temperature	Cooling minimum flow velocity	Max. starts per hour
4”	30 °C	0,08 m/s	20
6”	30 °C for 4 ÷ 30 kW 50 °C for 37 ÷ 45 kW	0,16 m/s	20
8”	30 °C	0,16 m/s	20

Continuous duty.

Operation data

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).
Sized for connection to the pumps according to NEMA Standards.
Standard voltages:
- single-phase 230 V - up to 2,2 kW for 4” motors.
- three-phase 230 V; 400 V for 4” motors.
- three-phase 400 V; 400/690 V for 6-8” motors.

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.

Insulation class B for 4” motors, class F for 6”-8” motors.
Protection IP 68.
Motor suitable operation with frequency converter.

Cable

Motor 230V - 50Hz - 1~	Section	Length
4FK 0,37 ÷ 2,2 kW	3x1,5 + 1G1,5 mm²	1,5 m

Motor 400V - 50Hz - 3 ~	Section	Length
4FK 0,37 ÷ 1,5 kW	3x1,5 + 1G1,5 mm²	1,5 m
4FK 2,2 ÷ 5,5 kW	3x1,5 + 1G1,5 mm²	2,5 m
6FK 4 ÷ 22 kW	4 G 4 mm²	4 m
6FK 30 - 45 kW	3x8,4 + 1G8,4 mm²	4 m
8FK 30 ÷ 45 kW	3 x (1x8,4) mm²	8 m
8FK 55 ÷ 93 kW	3 x (1x16) mm²	8 m
8FK 110 ÷ 150 kW	3 x (1x35) mm²	8 m

Motor 230V - 50Hz - 1~	Section	Length
I-4FK 0,37 ÷ 2,2 kW	3x1,5 + 1G1,5 mm²	1,5 m

Motor 400V - 50Hz - 3 ~	Section	Length
I-4FK 0,37 ÷ 1,5 kW	3x1,5 + 1G1,5 mm²	1,5 m
I-4FK 2,2 ÷ 5,5 kW	3x1,5 + 1G1,5 mm²	2,5 m
I-6FK 4 ÷ 22 kW	4 G 4 mm²	4 m
I-6FK 30 - 45 kW	3x8,4 + 1G8,4 mm²	4 m
I-8FK 30 ÷ 45 kW	3 x (1x8,4) mm²	8 m
I-8FK 55 ÷ 93 kW	3 x (1x16) mm²	8 m
I-8FK 110 ÷ 150 kW	3 x (1x35) mm²	8 m

Materiales

Components	4” standard	4” AISI 316
External frame	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316Ti
Motor flange	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316L
Shaft end	Cr-Ni steel AISI 303	Cr-Ni-Mo steel AISI 329
Thrust bearing	Oscillating pads	Oscillating pads
Components	**6”, 8” standard**	**6”, 8” AISI 316**
External frame	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316 Ti
Supports	Cast iron GJL 200 EN 1561	Cr-Ni-Mo steel AISI 316
Shaft end	Cr-Ni steel AISI 304 (AISI 303 for 8”)	Cr-Ni-Mo steel AISI 316 (AISI 630 for 8”)
Thrust bearing	Oscillating pads	Oscillating pads

Special features on request

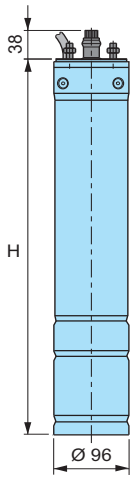
- Other voltage.
- Frequency 60 Hz.
- Higher liquid temperature.

Performance, dimensions and weights

4" CS - 1 ~

Type	PN kW	PN HP	IN 230 V A	Power factor cos φ 4/4	Power factor cos φ 3/4	Power factor cos φ 2/4	Efficiency η % 4/4	Efficiency η % 3/4	Efficiency η % 2/4	R.P.M.	Direct start IA/IN	Direct start CA/CN	Capacitor 450 Vc μF	Axial thrust N	H mm	Weight kg
4CS 0,37M	0,37	0,5	3.2	0.96	0.93	0.85	53	46	29	≈ 2850	3.8	0.78	16	1500	327	7,6
4CS 0,55M	0,55	0,75	4.0	0.99	0.97	0.89	62	54	35		4.6	0.80	25		362	9,4
4CS 0,75M	0,75	1	5.6	0.98	0.99	0.99	62	55	36		4.2	0.81	35		402	10,7
4CS 1,1M	1,1	1,5	8.4	0.97	0.93	0.83	61	55	36		4.2	0.81	40		447	12,4
4CS 1,5M	1,5	2	11.2	0.99	0.97	0.89	64	59	39		3.9	0.75	60		467	13,5
4CS 2,2M	2,2	3	14.7	0.96	0.93	0.80	67	64	44		4.2	0.51	70		517	15,7

Connection 4" NEMA



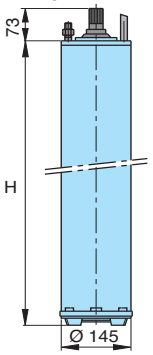
4" CS - 3 ~

Type	PN kW	PN HP	IN 400 V A	Power factor cos φ 4/4	Power factor cos φ 3/4	Power factor cos φ 2/4	Efficiency η % 4/4	Efficiency η % 3/4	Efficiency η % 2/4	R.P.M.	Direct start IA/IN	Direct start CA/CN	Axial thrust N	H mm	Weight kg
4CS 0,37T	0,37	0,5	1.2	0.72	0.64	0.47	63	58	44	≈ 2850	5.6	4.2	1500	327	7,7
4CS 0,55T	0,55	0,75	1.5	0.79	0.71	0.53	68	66	52		6.1	4.10		347	8,7
4CS 0,75T	0,75	1	2.0	0.77	0.69	0.48	74	71	58		5.7	4.02		362	9,9
4CS 1,1T	1,1	1,5	2.9	0.78	0.69	0.48	75	73	60		5.7	3.95		402	10,8
4CS 1,5T	1,5	2	4.2	0.73	0.64	0.44	72	70	55		5.9	4.58		447	12,6
4CS 2,2T	2,2	3	5.5	0.81	0.71	0.47	72	73	62		4.9	2.2		402	11,7
4CS 3T	3	4	7,4	0,81	0,72	0,56	73,5	73,5	69		5,7	2,16	4500	481	14,9
4CS 4T	4	5,5	9,4	0,82	0,74	0,60	74,5	75	71		6,3	2,19		546	18,2
4CS 5,5T	5,5	7,5	13	0,81	0,72	0,57	76	76	71		7,8	3,44		646	23

6" CS

Type	PN kW	PN HP	IN 400 V A	Power factor cos φ 4/4	Power factor cos φ 3/4	Power factor cos φ 2/4	Efficiency η % 4/4	Efficiency η % 3/4	Efficiency η % 2/4	R.P.M.	Direct start IA/IN	Direct start CA/CN	Axial thrust N	H mm	Weight kg
6CS 4	4	5,5	11	0,78	0,71	0,61	70	67	60	≈ 2850	4,9	2	20000	530	40
6CS 5,5	5,5	7,5	13,5	0,83	0,79	0,69	72	70	66		4	1,45		530	40
6CS 7,5	7,5	10	18	0,83	0,79	0,69	72	70	66		4,1	1,5		580	45
6CS 9,2	9,2	12,5	21	0,83	0,78	0,68	75	74	70		5	1,7		630	50
6CS 11	11	15	25,5	0,82	0,76	0,65	76	76	74	≈ 2900	5,4	2		680	55
6CS 13	13	17,5	29,5	0,79	0,72	0,59	81	81	79		6,2	2,5		780	65
6CS 15	15	20	33	0,81	0,74	0,62	81	82	80		5,6	2,2		780	65
6CS 18,5	18,5	25	40	0,82	0,76	0,63	82	82	81		5,6	2,2		830	70
6CS 22	22	30	48,5	0,80	0,72	0,60	83	82	79		6	2,7		930	80
6CS 26	26	35	58	0,80	0,75	0,64	82	83	80		5,8	2,3		1030	90
6CS 30	30	40	63	0,83	0,76	0,64	83	84	82		5,6	2,1		1130	100

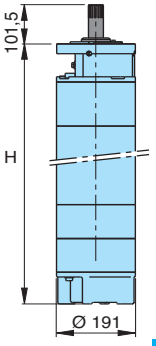
Connection 6" NEMA



8" CS

Type	PN kW	PN HP	IN 400 V A	Power factor cos φ 4/4	Power factor cos φ 3/4	Power factor cos φ 2/4	Efficiency η % 4/4	Efficiency η % 3/4	Efficiency η % 2/4	R.P.M.	Direct start IA/IN	Direct start CA/CN	Axial thrust N	H mm	Weight kg
8CS 30	30	40	61	0,82	0,74	0,62	85	85	84	≈ 2900	5,3	1,4	30000	1056	141
8CS 37	37	50	74	0,85	0,82	0,72	84	85	83		5,1	1,25		1156	161
8CS 45	45	60	91	0,82	0,77	0,67	87	87	85		5,8	1,7		1236	177
8CS 51	51	70	108	0,78	0,70	0,58	88	89	86		8	2		1376	205
8CS 55	55	75	114	0,80	0,72	0,60	88	89	87		7,6	1,91		1376	205
8CS 59	59	80	121	0,82	0,74	0,62	87	89	87		7,2	1,8		1376	205
8CS 66	66	90	136	0,80	0,73	0,63	88	86	84		7,8	2		1576	245
8CS 75	75	100	147	0,83	0,75	0,65	87	88	86		7,3	1,8		1576	245
8CS 92	92	125	186	0,83	0,78	0,66	88	89	87		7,5	1,89		1735	277

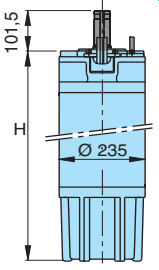
Connection 8" NEMA



10" CS

Type	PN kW	PN HP	IN 400 V A	Power factor cos φ 4/4	Power factor cos φ 3/4	Power factor cos φ 2/4	Efficiency η % 4/4	Efficiency η % 3/4	Efficiency η % 2/4	R.P.M.	Direct start IA/IN	Direct start CA/CN	Axial thrust N	H mm	Weight kg
10CS 85	85	115	174	0,85	0,81	0,72	85	85	83	≈ 2900	4,7	1,1	60000	1419	280
10CS 110	110	150	232	0,82	0,76	0,65	86	86	84		5	1,3		1529	315
10CS 130	130	175	256	0,86	0,82	0,74	88	88	87		5,3	1,3		1656	362
10CS 150	150	200	298	0,85	0,81	0,73	87	88	86		5,3	1,3		1769	413
10CS 185	185	250	384	0,81	0,75	0,64	88	88	86		5,6	1,7		1919	449

Connection 8" NEMA



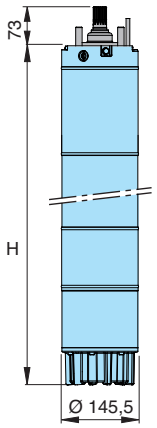
PN Rated power output IN Rated current $\frac{I_A}{I_N}$ Starting current / Nominal current $\frac{C_A}{C_N}$ Starting torque/Nominal torque

Performance, dimensions and weights

I-6CS

Type	PN kW	PN HP	IN 400 V A	Power factor cos φ 4/4	3/4	2/4	Efficiency η % 4/4	3/4	2/4	R.P.M.	Direct start IA/IN	CA/CN	Axial thrust N	H mm	Weight kg
I-6CS 4	4	5,5	10,6	0,73	0,65	0,53	76	73	68		4,81	1,32		712	48
I-6CS 5,5	5,5	7,5	13,3	0,81	0,74	0,62	76	76	72		3,83	0,95		712	48
I-6CS 7,5	7,5	10	17,7	0,82	0,76	0,65	77	78	75		3,56	0,87		732	50
I-6CS 9,2	9,2	12,5	21,4	0,82	0,76	0,64	78	79	78		3,64	0,94		762	53
I-6CS 11	11	15	25,2	0,83	0,76	0,65	79	80	77		3,89	0,97	15500	792	56
I-6CS 13	13	17,5	29,6	0,81	0,74	0,61	80	80	78	≈ 2900	4,22	1,18		842	61
I-6CS 15	15	20	33,1	0,83	0,77	0,65	81	81	79		4,47	1,22		887	66
I-6CS 18,5	18,5	25	42,0	0,80	0,74	0,61	81	81	78		4,33	1,38		932	70
I-6CS 22	22	30	49,0	0,80	0,73	0,61	82	82	80		4,71	1,41		1022	79
I-6CS 26	26	35	56,7	0,83	0,74	0,61	83	83	81		5,01	1,57		1127	90
I-6CS 30	30	40	66,4	0,80	0,73	0,60	83	83	80		5,23	1,53	27500	1227	100
I-6CS 37	37	50	81,9	0,80	0,72	0,60	83	83	80		5,29	1,77		1307	107

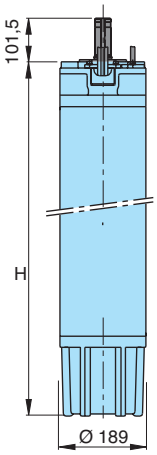
Connection 6" NEMA



I-8CS

Type	PN kW	PN HP	IN 400 V A	Power factor cos φ 4/4	3/4	2/4	Efficiency η % 4/4	3/4	2/4	R.P.M.	Direct start IA/IN	CA/CN	Axial thrust N	H mm	Weight kg
I-8CS 30	30	40	60	0,89	0,86	0,80	84	85	84		5,3	1,42		1140	140
I-8CS 37	37	50	76	0,86	0,82	0,74	85	85	84		5,26	1,44		1140	140
I-8CS 45	45	60	90	0,86	0,82	0,74	86	87	85		5,78	1,63		1230	156
I-8CS 52	52	70	103	0,87	0,84	0,76	86	87	86		5,9	1,82		1340	179
I-8CS 55	55	75	110	0,86	0,82	0,72	86	87	86		6	1,88	45000	1340	179
I-8CS 60	60	80	116	0,88	0,84	0,77	87	88	87	≈ 2900	6,25	1,81		1470	198
I-8CS 67	67	90	133	0,86	0,82	0,74	87	88	87		5,99	1,63		1470	198
I-8CS 75	75	100	148	0,87	0,83	0,74	87	87	86		6,36	1,92		1560	215
I-8CS 83	83	113	160	0,88	0,84	0,77	88	88	88		6,73	1,99		1560	247
I-8CS 92	92	125	183	0,86	0,81	0,71	88	88	87		6,97	2,05		1740	247

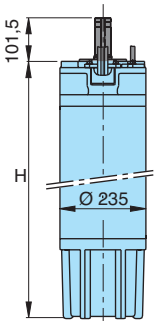
Connection 8" NEMA



I-10CS

Type	PN kW	PN HP	IN 400 V A	Power factor cos φ 4/4	3/4	2/4	Efficiency η % 4/4	3/4	2/4	R.P.M.	Direct start IA/IN	CA/CN	Axial thrust N	H mm	Weight kg
I-10CS 85	85	115	174	0,85	0,81	0,72	85	85	83		4,7	1,13		1419	280
I-10CS 110	110	150	232	0,82	0,76	0,65	86	86	84		5	1,3		1529	315
I-10CS 130	130	175	256	0,86	0,82	0,74	88	88	87	≈ 2900	5,25	1,3	60000	1656	362
I-10CS 150	150	200	298	0,85	0,81	0,73	87	88	86		5,33	1,3		1769	413
I-10CS 185	185	250	384	0,81	0,75	0,64	88	88	86		5,6	1,69		1919	449

Connection 8" NEMA



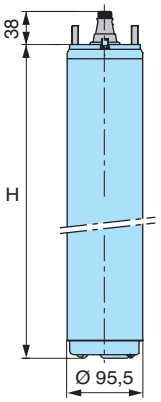
PN Rated power output IN Rated current IA/IN Starting current / Nominal current CA/CN Starting torque/Nominal torque

Performance, dimensions and weights

4FK - 1 ~

Type	PN		IN 230 V	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Capac. 450 Vc	Axial thrust	H	Weight
	kW	HP	A	4/4	3/4	2/4	4/4	3/4	2/4		$\frac{I_A}{I_N}$	$\frac{C_A}{C_N}$	μF	N	mm	kg
4FK 0,37M	0,37	0,5	3,3	0,91	0,85	0,78	54	46	35	2860	3,8	0,94	16		228	8
4FK 0,55M	0,55	0,75	4,3	0,94	0,91	0,86	63	57	45	2850	4,1	0,86	20		253	9,2
4FK 0,75M	0,75	1	5,7	0,98	0,96	0,92	59	52	41	2845	4	1	35	3000	282	10,4
4FK 1,1M	1,1	1,5	8,4	0,92	0,86	0,77	63	56	43	2845	4	0,84	40		307	11,8
4FK 1,5M	1,5	2	10,7	0,95	0,90	0,82	66	59	48	2830	3,9	0,76	50		339	12,9
4FK 2,2M	2,2	3	14,7	0,97	0,93	0,86	68	62	51	2840	4,2	0,74	70	4000	437	17,3

Connection 4" NEMA



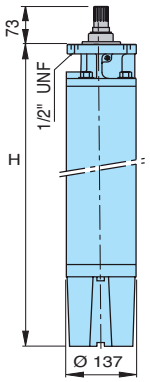
I-4FK, 4FK - 3 ~

Type	PN		IN 400 V	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Axial thrust	H	Weight
	kW	HP	A	4/4	3/4	2/4	4/4	3/4	2/4		$\frac{I_A}{I_N}$	$\frac{C_A}{C_N}$	N	mm	kg
I-4FK, 4FK 0,37T	0,37	0,5	1,1	0,74	0,66	0,55	66	63	54	2855	4,92	2,5		214	7,2
I-4FK, 4FK 0,55T	0,55	0,75	1,6	0,74	0,65	0,53	68	63	55	2845	4,63	2,31		228	7,7
I-4FK, 4FK 0,75T	0,75	1	2	0,77	0,68	0,55	70	68	61	2865	3,5	2,69		248	8,7
I-4FK, 4FK 1,1T	1,1	1,5	2,8	0,78	0,69	0,57	74	72	66	2850	5,71	3,09	3000	283	10,2
I-4FK, 4FK 1,5T	1,5	2	3,9	0,78	0,68	0,55	73	71	65	2855	5,31	2,82		307	11,2
I-4FK, 4FK 2,2T	2,2	3	5,5	0,77	0,66	0,52	75	74	69	2845	5,42	2,99		339	12,6
I-4FK, 4FK 3T	3	4	7,5	0,77	0,67	0,53	76	76	70	2845	5,6	3,17		394	15
I-4FK, 4FK 3,7T	3,7	5	9	0,78	0,69	0,54	78	77	73	2840	5,81	3,32		520	19,1
I-4FK, 4FK 4T	4	5,5	9,9	0,77	0,67	0,52	78	77	72	2840	5,76	3,28	6500	543	20
I-4FK, 4FK 5,5T	5,5	7,5	12,6	0,81	0,73	0,59	79	79	75	2865	6,13	3,09		653	26,6
I-4FK, 4FK 7,5T	7,5	10	17,1	0,81	0,72	0,58	79	79	75	2855	5,81	2,91		731	30,6

I-6FK, 6FK - 3 ~

Type	PN		IN 400 V	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Axial thrust	H	Weight
	kW	HP	A	4/4	3/4	2/4	4/4	3/4	2/4		$\frac{I_A}{I_N}$	$\frac{C_A}{C_N}$	N	mm	kg
I-6FK, 6FK 4	4	5,5	9,3	0,82	0,74	0,62	78	77	74	2860	4,6	1,5		581	37,5
I-6FK, 6FK 5,5	5,5	7,5	12,5	0,82	0,75	0,63	79	78	74	2870	5,1	1,9		615	41,1
I-6FK, 6FK 7,5	7,5	10	16	0,86	0,81	0,70	79	78	75	2860	5,2	1,9		646	45,2
I-6FK, 6FK 9,2	9,2	12,5	20,7	0,80	0,72	0,58	81	81	78	2870	5,4	2,2		679	47,5
I-6FK, 6FK 11	11	15	23,3	0,85	0,79	0,68	81	81	78	2860	5,5	2,1	15500	711	50,9
I-6FK, 6FK 15	15	20	31,3	0,85	0,80	0,70	81	81	79	2860	5,4	2,1		776	56,7
I-6FK, 6FK 18,5	18,5	25	38,5	0,85	0,79	0,68	82	82	80	2850	6	2,5		842	63,3
I-6FK, 6FK 22	22	30	45,3	0,86	0,81	0,71	83	83	81	2860	5,9	2,4		907	69,3
I-6FK, 6FK 30	30	40	63,5	0,84	0,79	0,67	83	83	80	2860	6,2	2,6		1037	83,9
I-6FK, 6FK 37	37	50	79	0,85	0,80	0,70	81	81	78	2875	5,2	2,3	27500	1421	138
I-6FK, 6FK 45	45	60	95,2	0,84	0,80	0,70	82	82	80	2875	5,3	2,2		1574	152

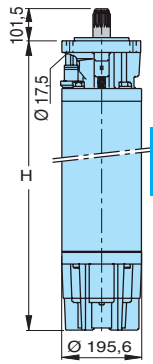
Connection 6" NEMA



I-8FK, 8FK - 3 ~

Type	PN		IN 400 V	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Axial thrust	H	Weight
	kW	HP	A	4/4	3/4	2/4	4/4	3/4	2/4		$\frac{I_A}{I_N}$	$\frac{C_A}{C_N}$	N	mm	kg
I-8FK, 8FK 30	30	40	61	0,84	0,78	0,68	86	86	83	2900	6,85	2,6		909	116
I-8FK, 8FK 37	37	50	74	0,86	0,81	0,71	87	87	84	2920	7,2	2,4		986	131
I-8FK, 8FK 45	45	60	89	0,85	0,81	0,71	87	87	85	2920	7,25	2,7		1062	145
I-8FK, 8FK 55	55	75	108	0,87	0,82	0,72	88	87	85	2920	8	3,1		1204	175
I-8FK, 8FK 75	75	100	145	0,87	0,82	0,72	87	87	85	2925	8	2,3	45000	1395	213
I-8FK, 8FK 92	92	125	190	0,83	0,78	0,68	87	86	84	2930	7	1,9		1747	291
I-8FK, 8FK 110	110	150	222	0,84	0,80	0,70	88	87	85	2930	7,2	2,1		1976	334
I-8FK, 8FK 130	130	175	252	0,87	0,84	0,79	88	87	86	2920	6,9	2,2		2179	380
I-8FK, 8FK 150	150	200	284	0,88	0,86	0,79	88	88	86	2920	6,54	2,1		2408	429

Connection 8" NEMA



PN Rated power output IN Rated current $\frac{I_A}{I_N}$ Starting current / Nominal current $\frac{C_A}{C_N}$ Starting torque/Nominal torque

Maximum length of electric cables

In A	230 Volt - 50 Hz - 1 ~				
	1 four-wires cable 4 x ....mm²				
	1,5	2,5	4	6	10
	cables max m				
2	142	235			
4	71	118	189		
6	47	78	126	189	
8	35	59	94	142	231
10	28	47	76	113	185
12	24	39	63	95	154
14	20	34	54	81	132
16	18	29	47	71	115
18		26	42	63	103
20		24	38	57	92
25			30	45	74
30			25	38	62

Voltage drop 3%.
Maximum ambient temperature + 30 °C.

Direct-starting

In A	230 Volt - 50 Hz - 3 ~												
	1 four-wires cable 4 x ....mm²								4 cables 1 x ....mm²				
	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150
	cables max m												
2	164	272											
4	82	136	218										
6	55	91	145	218									
8	41	68	109	164	267								
10	33	54	87	131	213								
12	27	45	73	109	178								
14	23	39	62	94	152	239							
16	20	34	55	82	133	209							
18		30	48	73	118	186							
20		27	44	65	107	167	257						
25			35	52	85	134	206						
30			29	44	71	111	171	233					
35				37	61	95	147	200					
40				33	53	83	129	175	227				
45					47	74	114	155	202				
50					43	67	103	140	181	249			
60						56	86	116	151	207			
70						48	73	100	130	178	230		
80							64	87	113	155	201	241	
90							57	78	101	138	179	214	
100							51	70	91	124	161	193	224
110								64	82	113	146	175	203
120								58	76	104	134	161	186
130									70	96	124	148	172
140									65	89	115	138	160
150									60	83	107	128	149
160									57	78	101	120	140
170									53	73	95	113	132
180									50	69	89	107	124
190									48	65	85	101	118
200									45	62	81	96	112
220										57	73	88	102
240										52	67	80	93
260											62	74	86
280											58	69	80
300											54	64	75

In A	400 Volt - 50 Hz - 3 ~														
	1 four-wires cable 4 x ....mm²								4 cables 1 x ....mm²						
	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185	240
	cables max m														
2	285	473													
4	143	236	379												
6	95	158	253												
8	71	118	190	285											
10	57	95	152	228											
12	48	79	126	190	309										
14	41	68	108	163	265										
16	36	59	95	142	232										
18		53	84	127	206	323									
20		47	76	114	185	290									
25			61	91	148	232	358								
30			51	76	124	194	298								
35				65	106	166	256	347							
40				57	93	145	224	304							
45					82	129	199	270							
50					74	116	179	243	316						
60						97	149	203	263						
70						83	128	174	225	309					
80							112	152	197	270					
90							99	135	175	240	311				
100							89	122	158	216	280				
110								110	143	197	255	305			
120								101	132	180	233	279			
130									121	166	216	258	299		
140									113	155	200	239	278		
150									105	144	187	223	259	302	
160									99	135	175	209	243	283	
170									93	127	165	197	229	267	
180									88	120	156	186	216	252	297
190									83	114	147	176	205	239	281
200									79	108	140	168	195	227	267
220										98	127	152	177	206	243
240										90	117	140	162	189	223
260											108	129	150	174	206
280											100	120	139	162	191
300											93	112	130	151	178

Maximum length of electric cables

Star-delta starting

In A	230 Volt - 50 Hz - 3 ~ Y/Δ												
	2 four-wires cables 4 x ....mm²								7 cables 1 x ....mm²				
	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150
	cables max m												
30	19	31	50	76	123	193							
35		27	43	65	105	165							
40		24	38	57	92	144							
45		21	34	50	82	128	198						
50			30	45	74	116	178						
60				38	62	96	148	201					
70				32	53	83	127	173	224				
80					46	72	111	151	196				
90					41	64	99	134	174				
100						58	89	121	157	215			
110						53	81	110	143	196			
120						48	74	101	131	179			
130						44	68	93	121	166	214		
140							64	86	112	154	199		
150							59	81	105	143	186		
160							56	76	98	134	174	208	
170							52	71	92	127	164	196	
180								67	87	120	155	185	
190								64	83	113	147	175	204
200									78	108	139	167	194
220										98	127	152	176
240										90	116	139	161
260										83	107	128	149
280										77	100	119	138
300										72	93	111	129

In A	400 Volt - 50 Hz - 3 ~ Y/Δ												
	2 four-wires cables 4 x ....mm²								7 cables 1 x ....mm²				
	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150
	cables max m												
30	33	55	88	131	214	335							
35		47	75	113	183	287							
40		41	66	99	160	251							
45			58	88	143	223	344						
50			53	79	128	201	310						
60				66	107	167	258	350					
70				56	92	144	221	300					
80					80	126	193	263	341				
90					71	112	172	234	303				
100					64	100	155	210	273	374			
110					58	91	141	191	248	340			
120						84	129	175	228	312			
130						77	119	162	210	288	373		
140							111	150	195	267	346		
150							103	140	182	249	323		
160							97	131	171	234	303	362	
170								124	161	220	285	341	
180								117	152	208	269	322	
190								111	144	197	255	305	354
200									137	187	242	290	337
220										170	220	264	306
240										156	202	242	280
260											186	223	259
280											173	207	240
300											162	193	224

- Against short-circuits and overloads to the electric pumps system we advise to follow the usually applied normative.
- To avoid a possible dry working of the electric pump in is better to install a level control.
- In order to avoid overheatings, tension grops above 3%, we advise to use suitable starting motors systems.
- All the cable wave to respect the usually applied normative and to present excellent insullation characteristics.

The tables show the maximum length of the cable depending on the current absorbed by the motor and the cross section area of the cable, at different voltages. The maximum voltage drop equal to 3%, cable temperature of 80°C, water installation similar to air installation at a temperature of 30°C.

Choice of electric cable by calculation

For dimensioning the phase cross section area for the submersible motor need the following information:

- V: Rated voltage (V)
- I: Motor current (A)
- L: Length of cable (km)
- cos φ: power factor
- Ambient temperature (°C)

The choice of the minimum cross section area of the phase conductor is determined by the rated motor current and the values reported in Table 1.

Table 1

Type of cable*	Cable cross section mm²	Maximum cable current		Resistance	Reactance
		1 line A	2 lines A	R at 80°C ohm/km	X at 60Hz ohm/km
four-wires cable	1.5	18	15	15.1	0,142
four-wires cable	2.5	24	20	9.08	0,131
four-wires cable	4	32	27	5.63	0,121
four-wires cable	6	41	35	3.73	0,115
four-wires cable	10	57	48	2.27	0,103
four-wires cable	16	76	65	1.43	0,098
four-wires cable	25	96	82	0.91	0,097
four-wires cable	35	119	101	0.65	0,094
single-wire cable	50	167	142	0.473	0,121
single-wire cable	70	216	184	0.328	0,116
single-wire cable	95	264	224	0.236	0,118
single-wire cable	120	308	262	0.188	0,113
single-wire cable	150	356	303	0.153	0,112
single-wire cable	185	409	348	0.123	0,109
single-wire cable	240	485	412	0.094	0,110

* Up to 35 mm² sections four-wire cable are used, from 50 mm² single core cables are recommended as well.Tab.1

The maximum current of the cables listed in Table 1 are for ambient temperature of 30 ° C.
When the temperature is different, the maximum current of the cables should be corrected by a factor given in Table 2.

Table 2

Ambient Temperature °C	10	15	20	25	30	35	40	45	50	55	60
Correction factor	1,22	1,17	1,12	1,06	1	0,94	0,87	0,79	0,71	0,61	0,5

The cross section area of the phase conductor is choosen by checking the voltage drop along the line , through the following equation:

$$DU\% = 1{,}73 * I * L * (R * \cos\varphi + X * \text{sen}\,\varphi)/(V * 1000)$$

DU% the voltage drop should not be greater than 3%
R, X = cable resistance and reactance in ohms/km (indicated in Table 1)
$\text{sen}\varphi = \sqrt{1-\cos\varphi}$

In case of star / delta starting the rated current of the motor should be divided by 1.73.

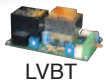
Determination of minimal sections of the protective conductor PE.

Table 3

Phase cross section area S mm²	PE cross section area SPE mm²
S ≤ 16	S
16 < S ≤ 25	16
S > 25	S/2

Electric control panels

M COMP Control panel for 1 single-phase submersible pump



LVBT

Type	Protector max **A**	Capacitor **450Vc**	Motor 230V - 1~ **kW**	Dimensions HxBxP mm
M COMP 4-16	4,5	16 µF	0,37	220x210x110
M COMP 4-20	4,5	20 µF	0,55	220x210x110
M COMP 5-20	5	20 µF	0,55	220x210x110
M COMP 5-25	5	25 µF	0,55	220x210x110
M COMP 6-20	6	20 µF	0,75	220x210x110
M COMP 6-35	6	35 µF	0,9	220x210x110
M COMP 7-25	7	25 µF	0,9	220x210x110
M COMP 7-30	7	30 µF	0,9	220x210x110
M COMP 8-25	8	25 µF	1,1	220x210x110
M COMP 8-30	8	30 µF	1,1	220x210x110
M COMP 10-35	10	35 µF	1,1	220x210x110
M COMP 10-40	10	40 µF	1,1	220x210x110
M COMP 12-35	12	35 µF	1,5	220x210x110
M COMP 12-50	12	50 µF	1,5	220x210x110
M COMP 12-60	12	60 µF	1,5	220x210x110
M COMP 16-70	16	70 µF	2,2	220x210x110

Construction

Control panel with ON-OFF switch and capacitor for 1 submersible pump with single-phase motor.
Suitable for use with LVBT board for level control.
Protection is provided by means of a main bi-polar switch with a phase protected against overload by means of a thermal element.

PFC-M Control panel for 1 submersible pump with single-phase motor, PF control

Type	Setting **A**	Capacitor **450Vc**	Motor 50/60Hz 220V-240V - 1~ **kW**	Dimensions HxBxP mm
PFC-M 18-16	1 - 18	16 µF	0,37	220x210x110
PFC-M 18-20	1 - 18	20 µF	0,55	220x210x110
PFC-M 18-25	1 - 18	25 µF	0,55	220x210x110
PFC-M 18-30	1 - 18	30 µF	0,75	220x210x110
PFC-M 18-35	1 - 18	35 µF	0,75	220x210x110
PFC-M 18-40	1 - 18	40 µF	1,1	220x210x110
PFC-M 18-50	1 - 18	50 µF	1,5	220x210x110
PFC-M 18-60	1 - 18	60 µF	1,5	220x210x110
PFC-M 18-70	1 - 18	70 µF	2,2	220x210x110

Construction

Control panel for controlling one submersible pump with single-phase motor.
Electronic control of the operation and dry-running protection through the power factor (PF) control.
The installation of level probes into the well is not required.
It stops the pump in case of lack of air cushion in the pressure vessel (patented system).
Displayed operating data and alarms available in four languages.

QML 1 FT Control panel for 1 pump with single-phase motor, direct starting

Type	Motor 230V - 1~ **kW**	Setting **A**	Dimensions HxBxP mm
QML 1 FT 0,37	0,37	1,6 - 2,5	200x255x170
QML 1 FT 0,55	0,45 - 0,55	2,5 - 4	200x255x170
QML 1 FT 0,75	0,75	4 - 6,5	200x255x170
QML 1 FT 1,1	1,1	6,3 - 10	200x255x170
QML 1 FT 1,5	1,5	9 - 12	200x255x170

Construction

Control panel for 1 pump with single-phase motor, direct starting for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel.
Arranged for the capacitor internal connection (for pumps without built-in capacitor) and for the SRL 3 level control card application against dry running.
Pump operation controlled by an electronic board type MP 1000 with microprocessor which allows three different modes of operation of the pump: standard, emergency and timed.

T COMP Control panel for 1 submersible pump with three-phase motor

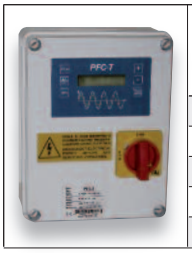
Type	Protector **A**	Motor 230V - 3~ **kW**	Motor 400V - 3~ **kW**	Dimensions HxBxP mm
T COMP 8	1 ÷ 8	0,37 ÷ 1,5	0,5 ÷ 2,2	170x145x85
T COMP 10	7 ÷ 10	---	3 ÷ 3,7	230x180x155
T COMP 12	9 ÷ 12	2,2	4	230x180x155
T COMP 16	11 ÷ 16	3	5,5	230x180x155
T COMP 20	14 ÷ 20	3,7 - 4	7,5	230x180x155

Construction

Control panel and protection for 1 submersible pump with three-phase motor.
Arranged for the LVBT level control internal connection against dry running (T COMP8 model has the level control as a standard).
Control pumps with pressure switch and float-type switch.

Electric control panels

PFC-T Control panel for 1 submersible pump with three-phase motor, PF control



Type	Setting A	Motor 400V 50Hz - 3~ kW	Motor 380V 60Hz - 3~ kW	Dimensions HxBxP mm	kg
PFC-T 11	1 - 11	0,37 - 4	0,37 - 4	255x200x135	1,7
PFC-T 16	1 - 16	5,5	5,5	255x200x135	1,7

Construction

Control panel for controlling 1 submersible pump with three-phase motor. Electronic control of the operation and dry-running protection through the power factor (PF) control.
The installation of level probes into the well is not required.
It stops the pump in case of lack of air cushion in the pressure vessel (patented system) Displayed operating data and alarms, available in four languages.

QTL 1 FT Control panel for 1 pump with three-phase motor, direct starting

Type	Motor 400V - 3~ kW	Setting A	Dimensions HxBxP mm
QTL 1 FT 0,55	0,37 - 0,45 - 0,55	1 - 1,6	200x255x170
QTL 1 FT 1,1	0,75 - 1,1	1,6 - 2,5	200x255x170
QTL 1 FT 1,5	1,5	2,5 - 4	200x255x170
QTL 1 FT 3	2,2 - 3	4 - 6,5	200x255x170
QTL 1 FT 4	4	6,3 - 10	200x255x170
QTL 1 FT 5,5	5,5	9 - 12	200x255x170
QTL 1 D 7,5 FT	7,5	13 - 18	400x300x160
QTL 1 D 9,2 FT	9,2	17 - 23	400x300x160
QTL 1 D 11 FT	11	20 - 25	400x300x160

Construction

Control panel for 1 pump with three-phase motor, direct starting for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel.
Pump operation controlled by an electronic card type MP 1000 with microprocessor which allows three different modes of operation of the pump: standard, emergency and timed.
Dry-running protection with float switch.
Arranged for SRL 3 level control application for probes connection against dry-running.

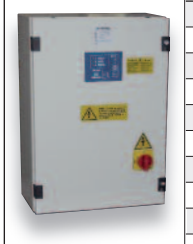
QTL 1 D FTE Control panel for 1 pump with three-phase motor, direct starting

Type	Motor 400V - 3~ kW	Setting A	Dimensions HxBxP mm
QTL 1 D 4 FTE	4	6,3 - 10	400x300x160
QTL 1 D 5,5 FTE	5,5	9 - 12	400x300x160
QTL 1 D 7,5 FTE	7,5	13 - 18	400x300x160
QTL 1 D 9,2 FTE	9,2	17 - 23	400x300x160
QTL 1 D 11 FTE	11	20 - 25	400x300x160
QTL 1 D 15 FTE	15	24 - 32	500x350x200
QTL 1 D 18,5 FTE	18,5	32 - 38	500x350x200
QTL 1 D 22 FTE	22	35 - 50	500x350x200
QTL 1 D 30 FTE	30	46 - 65	500x350x200

Construction

Electromechanical control panel for 1 pump with three-phase motor, direct starting.
Operating signals by E 1000 led card.
Dry-running protection with float switch.
Construction with SRLE level control for probes connection against dry-running on request .

QTL 1 ST FT Control panel for 1 pump with three-phase motor, Y/Δ starting



Type	Motor 400V - 3~ Power kW	Motor 400V - 3~ Current A	Dimensions HxBxP mm
QTL 1 ST 5,5 FT	5,5	11 - 15	600x400x200
QTL 1 ST 7,5 FT	7,5	12 - 17	600x400x200
QTL 1 ST 11 FT	9,2 - 11	16 - 24	600x400x200
QTL 1 ST 15 FT	15	23 - 31	600x400x200
QTL 1 ST 18,5 FT	18,5	30 - 39	600x400x200
QTL 1 ST 22 FT	22	35 - 43	700x500x200
QTL 1 ST 30B FT	30	42 - 55	700x500x200
QTL 1 ST 30A FT	30	55 - 65	700x500x200
QTL 1 ST 37 FT	37	61 - 84	800x600x250
QTL 1 ST 45 FT	45	80 - 105	800x600x250

Construction

Control panel for 1 pump with three-phase motor, Y/Δ starting for pressure booster sets, with a patented working time-measuring system that stops the pump in case of lack of air cushion in the pressure vessel.
Pump operation controlled by an electronic card type MP 1000 with microprocessor wicht 3 different pump operating modes: standard, emergency and timed.
Dry-running protection with float switch.
Arranged for SRL 3 level control application for probes connection against dry-running on request.

Electric control panels

QTL 1 ST FTE Control panel for 1 pump with three-phase motor, Y/Δ starting

Type	Motor 400V - 3~ Power kW	Motor 400V - 3~ Current A	Dimensions HxBxP mm
QTL 1 ST 5,5 FTE	5,5	11 - 15	500x350x200
QTL 1 ST 7,5 FTE	7,5	12 - 17	500x350x200
QTL 1 ST 11 FTE	9,2 - 11	16 - 24	500x350x200
QTL 1 ST 15 FTE	15	23 - 31	500x350x200
QTL 1 ST 18,5 FTE	18,5	30 - 39	500x350x200
QTL 1 ST 22 FTE	22	35 - 43	600x400x200
QTL 1 ST 30B FTE	30	42 - 55	600x400x200
QTL 1 ST 30A FTE	30	55 - 65	600x400x200
QTL 1 ST 37 FTE	37	61 - 84	700x500x200
QTL 1 ST 45 FTE	45	80 - 105	700x500x200
QTL 1 ST 55 FTE	55	100 - 125	700x500x200
QTL 1 ST 75 FTE	75	120 - 160	800x600x250
QTL 1 ST 92 FTE	92	140 - 198	800x600x250
QTL 1 ST 110 FTE	110	180 - 250	800x600x250

Construction

Electromechanical control panel for 1 pump with three-phase motor, Y/Δ starting.
Operating signals by E 1000 led board.
Dry-running protection with float switch.
Construction with SRLE level control for probes connection against dry-running on request .

QTL 1 SS E Control panel for 1 pump with three-phase motor, start/stop with soft starter

Type	Motor 400V - 3~ kW	Max current output max A	Dimensions HxBxP mm
QTL 1 SS 7,5 E	7,5	17	700x500x250
QTL 1 SS 9,2 E	9,2	22	700x500x250
QTL 1 SS 15 E	11 - 15	34	700x500x250
QTL 1 SS 22 E	18,5 - 22	48	700x500x250
QTL 1 SS 26 E	26	58	900x600x300
QTL 1 SS 30 E	30	68	900x600x300
QTL 1 SS 37 E	37	82	900x600x300
QTL 1 SS 45 E	45	92	900x600x300
QTL 1 SS 55 E	55	114	900x600x300
QTL 1 SS 63 E	63	126	1100x700x300
QTL 1 SS 75 E	75	150	1100x700x300
QTL 1 SS 92 E	92	196	1200x800x400
QTL 1 SS 110 E	110	231	1200x800x400
QTL 1 SS 132 E	132	245	1200x800x400

Construction

Control panel for 1 pump with three-phase motor, start/stop with soft starter.
Operating signals on E 1000 led board.
Application: control of submersible motor with great cable length and surface motors.
Dry-running protection with float switch.
Construction with SRLE level control for probes connection against dry-running on request .

QTL 1 IS FTE Control panel for 1 pump with three-phase motor, with Stator Impedence starter

Type	Motor 400V - 3~ Power kW	Motor 400V - 3~ Current A	Dimensions HxBxP mm
QTL 1 IS 5,5 FTE-2RL	5,5	11 - 15	
QTL 1 IS 7,5 FTE-2RL	7,5	12 - 17	
QTL 1 IS 11 FTE-2RL	9,2 - 11	16 - 24	
QTL 1 IS 15 FTE-2RL	15	23 - 31	
QTL 1 IS 18,5 FTE-2RL	18,5	30 - 39	
QTL 1 IS 22 FTE-2RL	22	35 - 43	
QTL 1 IS 30 FTE-2RL	30	42- 65	
QTL 1 IS 37 FTE-2RL	37	61 - 84	
QTL 1 IS 45 FTE-2RL	45	80 - 105	
QTL 1 IS 55 FTE-2RL	55	100 - 125	
QTL 1 IS 75 FTE-2RL	75	120 - 160	
QTL 1 IS 92 FTE-2RL	92	140 - 198	
QTL 1 IS 110 FTE-2RL	110	180 - 250	

Construction

Electromechanical control panel for 1 submersible pump with three-phase motor, with Stator Impedence starter.
Operating signals on led board type E 1000.
Application : submersible motors control with great cable length.
Construction with SRLE level control for probes connection against dry-running .

Electric control panels

QML 1 VFT Control panel for 1 pump with variable speed three-phase motor

Type	Motor 230V - 3~ **kW**	Max current output max **A**	Dimensions HxBxP mm
QML 1 VFT 0,4	0,37 - 0,45	2,6	500x350x200
QML 1 VFT 0,75	0,55 - 0,75	4	500x350x200
QML 1 VFT 1,5	1,1 - 1,5	7,1	500x350x200
QML 1 VFT 2,2	2,2	10	500x350x200
QML 1 VFT 3,7	3,7	17,5	500x350x200

Construction

Single-phase mains supply control panel with frequency converter for 1 pump with three-phase variable speed motor, for constant pressure booster sets.
Arranged for SRL 3 level control application for probes connection against dry-running.
Pump operation controlled by an electronic board type MPS 4000 with microprocessor.

QTL 1 VFT Control panel for 1 pump with variable speed three-phase motor

Type	Motor 400V - 3~ **kW**	Max current output max **A**	Dimensions HxBxP mm
QTL 1 VFT 0,4	0,4	1,5	500x350x200
QTL 1 VFT 0,75	0,55 - 0,75	2,5	500x350x200
QTL 1 VFT 1,5	1,1 - 1,5	3,8	500x350x200
QTL 1 VFT 2,2	2,2	5,5	500x350x200
QTL 1 VFT 4	3 - 4	8,6	500x350x200
QTL 1 VFT 5,5	5,5	13	600x400x200
QTL 1 VFT 7,5	7,5	16	600x400x200
QTL 1 VFT 11	9,2 - 11	22	700x500x200
QTL 1 VFT 15	15	29	700x500x200
QTL 1 VFT 22	18,5 - 22	43	800x600x250
QTL 1 VFT 30	30	57	800x600x250
QTL 1 VFT 37	37	70	1100x700x300
QTL 1 VFT 45	45	85	1200x800x300
QTL 1 VFT 55	55	105	1200x800x300
QTL 1 VFT 75	75	135	1200x800x300

Construction

Control panel with frequency converter for 1 pump with three-phase variable speed motor, for constant pressure booster sets.
Arranged for SRL 3 level control application for probes connection against dry-running.
Pump operation controlled by an electronic board type MPS 4000 with microprocessor.

Motor Cooling

To ensure a suitable cooling, water must be in touch with the motor casing with a minimum velocity according to the following table

Rewindable motor CS series

Motor	Max. Liquid temperature	Cooling minimum flow velocity	Max. starts per hour
4”	35 °C	0,08 m/s	20
6”	25 °C	0,20 m/s for 4 ÷ 15 kW 0,50 m/s for 18,5 ÷ 30 kW	15
8”	25 °C	0,20 m/s for 30 ÷ 51 kW 0,50 m/s for 55 ÷ 92 kW	15
10”	25 °C	0,50 m/s	10

Encapsulated motor FK series

Motor	Max. Liquid temperature	Cooling minimum flow velocity	Max. starts per hour
4”	30 °C	0,08 m/s	20
6”	30 °C for 4 ÷ 30 kW 50 °C for 37 ÷ 45 kW	0,16 m/s	20
8”	30 °C	0,16 m/s	20

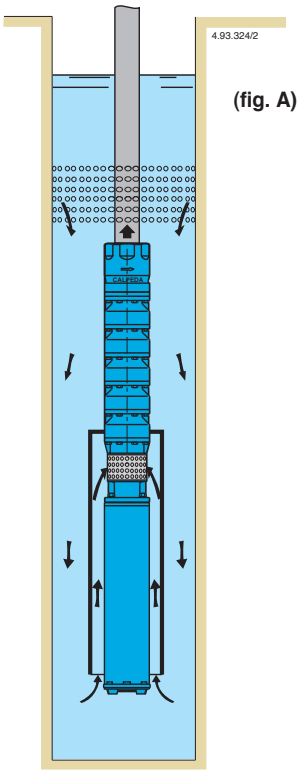
For operation with higher temperatures, contact our Technical Sales Department

Cooling jacket

When the submersible motor is installed :

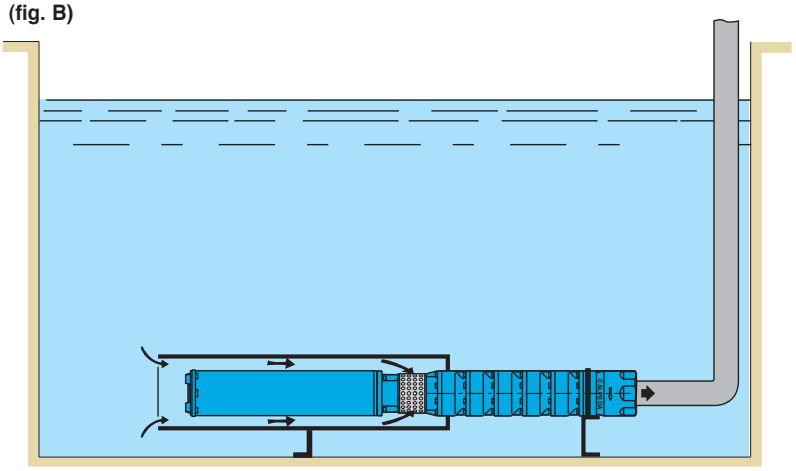
- below the well inlet points (**picture A**);
- in tanks, lakes, basins, etc… (**pictures B and C**)

an external jacket must be installed to create a cooling flow around the motor. Only in this way a safe operation can be assured avoiding any overheating which can damage the motor.



(fig. A)

(fig. B)



(fig. C)