

PATENTED



Construction

5" Close coupled multi-stage submersible pumps.
External jacket in stainless steel AISI 304 and stages Noryl.
 MPSM with built-in capacitor, accessible through the delivery casing.
 Hydraulics located below the motor with the motor cooled by the pumped fluid. Safe operation is possible with the motor only partially submerged.
 Double shaft seal with oil chamber.
 The suction strainer prevents the entrance of solids with diameter bigger than 2 mm.

Applications

For water supply from wells, tanks or reservoirs.
 For domestic, civil and industrial applications, for garden use, irrigation and rain water harvesting systems.

Operating conditions

Water temperature up to 35 °C.
 Minimum internal diameter of well: 140 mm.
 Minimum immersion depth: 100 mm.
 Maximum immersion depth: 20 m (with suitable cable length).
 Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ 1/min).
MPS : three-phase 230 V \pm 10%;
 three-phase 400 V \pm 10%.
 Cable: H07RN8-F, length 15 m, without plug.
MPSM : single-phase 230 V \pm 10%, with thermal protector.
 Incorporated capacitor.
 Float switch MPSM.. CG (on demand)
 Cable: H07RN8-F, length 15 m, with plug CEI-UNEL 47166.
 Insulation class F.
 Protection IP X8 (for continuous immersion).
 Triple impregnation humidity-proof dry winding.
 Constructed in accordance with EN 60335-2-41.

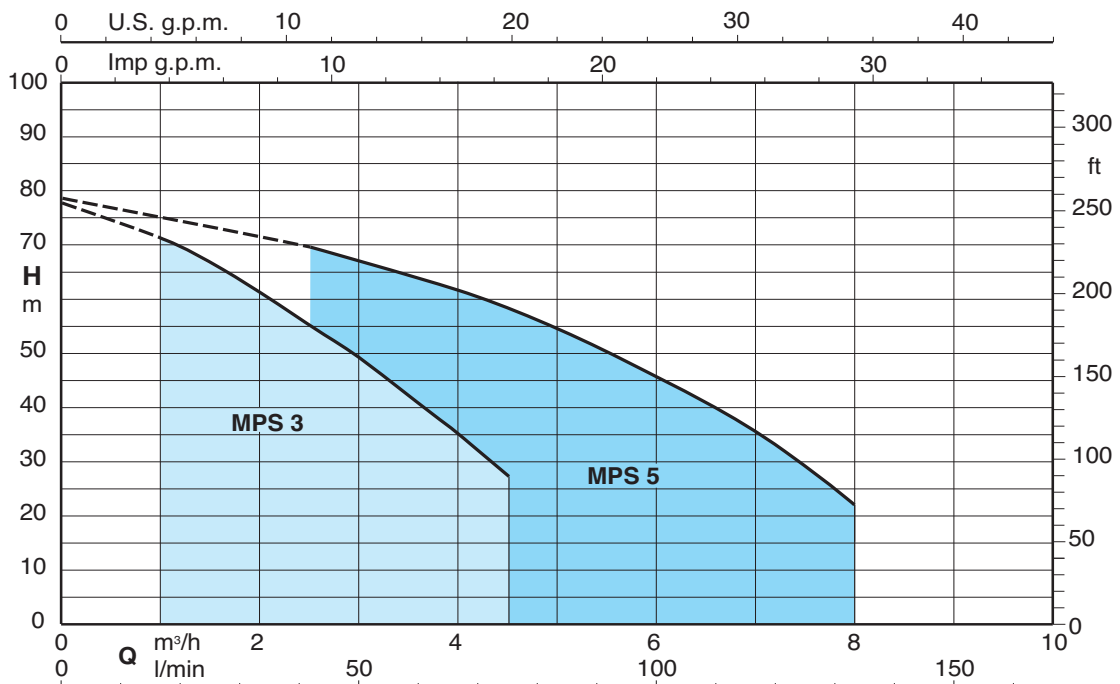
Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Cable length 20 m.
- Motor suitable operation with frequency converter.

Materials

Component	Material
Delivery casing External jacket Suction strainer Motor jacket	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Stage casing Impeller	PPO-GF20 (Noryl)
Shaft	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Capacitor cover Oil chamber cover Preload ring stages Support ring preload	PPS Polymer (Grivory)
Upper mechanical seal Lower mechanical seal	Steatite, carbon, NBR Carbon, silicon carbide, NBR
Seal lubrication oil	Oil for food machinery and pharmaceutical use

Coverage chart $n \approx 2900$ rpm



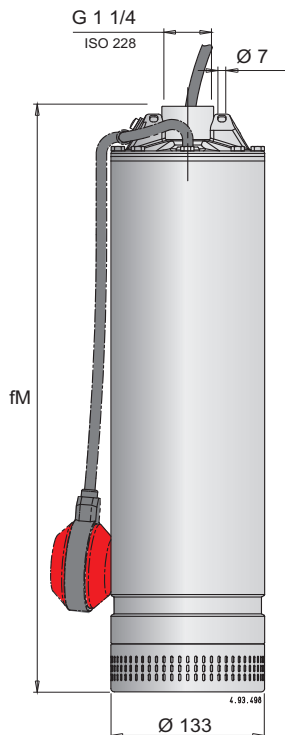
Performance n ≈ 2900 rpm

3 ~	230 V 400 V		1 ~	230 V		Capacitor	P ₁	P ₂		Q	H m								
	A	A		A	μF			V	kW		kW	HP	m ³ /h	0	1	1,5	2	2,5	3
MPS 303	2,4	1,4	MPSM 303	3,5	14	450	0,8	0,45	0,6	H m	0	16,6	25	33,3	41,6	50	58,3	66,6	75
MPS 304	2,8	1,6	MPSM 304	4,1	20	450	0,9	0,55	0,75		32,5	29,5	27,5	25,5	23	19,5	17	13	10
MPS 305	3,3	1,9	MPSM 305	5	20	450	1,1	0,75	1		44	41,5	39,5	36,5	33,5	29,5	25,5	21	16
MPS 306	3,8	2,2	MPSM 306	6	25	450	1,3	0,9	1,2		54	49,5	46,2	43	39,9	35	30	25	19
MPS 307	4,5	2,6	MPSM 307	6,6	25	450	1,5	0,9	1,2		66,5	60,5	57	53	48,5	43,5	38	32	26
											75	67,5	63	58	53	47	41	34,5	27

3 ~	230 V 400 V		1 ~	230 V		Capacitor	P ₁	P ₂		Q	H m									
	A	A		A	μF			V	kW		kW	HP	m ³ /h	0	2,5	3	3,5	4	4,5	5
MPS 503	2,8	1,6	MPSM 503	4,1	20	450	0,9	0,55	0,75	H m	0	41,6	50	58,3	66,6	75	83,3	100	116	133
MPS 504	3,8	2,2	MPSM 504	6	25	450	1,2	0,9	1,2		32,2	28,5	27,5	26	24,5	22,5	21,5	18	13,5	8
MPS 505	4,5	2,6	MPSM 505	7	25	450	1,5	1,1	1,5		45	39,5	37,8	35,8	33,5	31	28,5	23	16,5	9,5
MPS 506	4,8	2,8	MPSM 506	8,3	30	450	1,7	1,1	1,5		53	47,5	45,5	43,5	41	38,5	35,5	29,5	22	13,5
MPS 507	6,9	4	MPSM 507	12	35	450	2,2	1,5	2		66,5	58	55,6	53	50	46,3	42,5	34	24,5	14
											78,5	69,5	66,5	64	61,5	58	54,5	45,5	36	22

P₁ Max. power input. P₂ Rated motor power output. Tolerances according to UNI EN ISO 9906:2012 Test results with clean cold water, without gas content.

Dimensions and weights



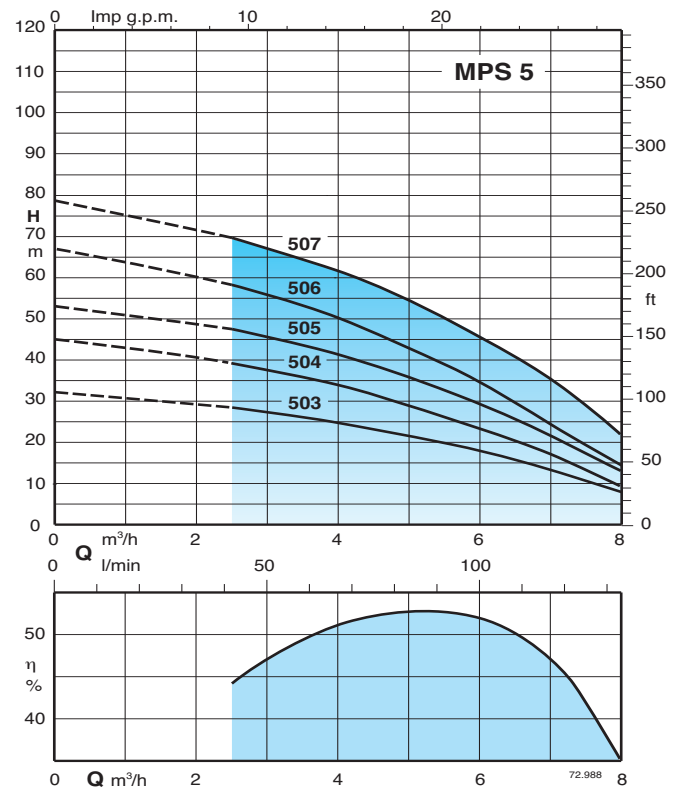
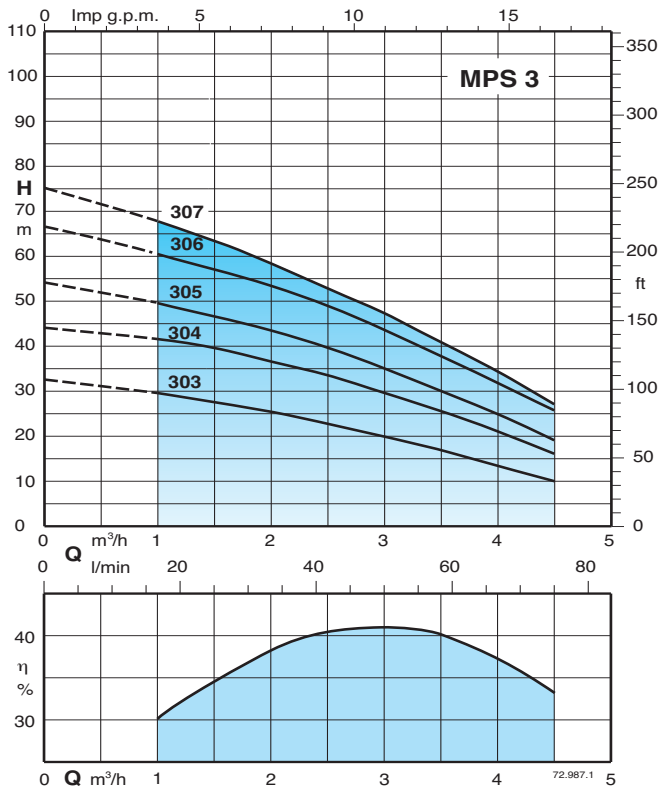
MPSM ... CG

With float switch pump (on demand)

Weights with cable length: 15 m

Pump	fM mm	kg		Cable H07RN8-F		
		MPS	MPSM	230V 1 ~	230V 3 ~	400V 3 ~
MPS 303 - MPSM 303	465	11	12	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 304 - MPSM 304	504	11,5	12,5	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 305 - MPSM 305	553	12	13	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 306 - MPSM 306	577	13,5	15	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 307 - MPSM 307	601	14	15,5	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 503 - MPSM 503	480	11,5	12,5	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 504 - MPSM 504	529	13,5	14,5	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 505 - MPSM 505	553	14	15	3G1 mm ²	4G1 mm ²	4G1 mm ²
MPS 506 - MPSM 506	622	15,5	17	3G1,5 mm ²	4G1 mm ²	4G1 mm ²
MPS 507 - MPSM 507	671	17	18,5	3G2,5 mm ²	4G1 mm ²	4G1 mm ²

Characteristic curves $n \approx 2900$ rpm



Features

Innovative

Designed to withstand water hammering and the ON-OFF operation of any valve located in the discharge line. The impacts generated by water hammering or by the closing of the valve are fully supported by the capacitor cover, which relieves the stresses on a specific support made on the stainless steel jacket, without affecting the plastic hydraulic part.

Flexible

Allows the inspection of the capacitor without disassembling the pump, through the delivery casing.

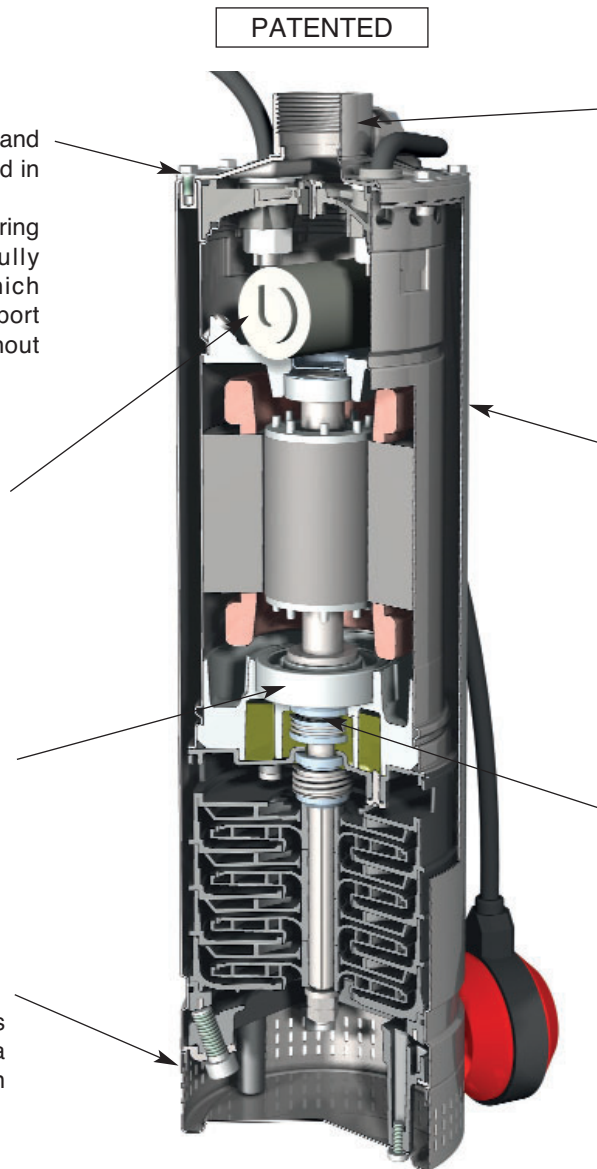
Reliable

The ball bearings and shaft are sized in order to reduce stresses, guaranteeing high reliability in any operating condition.

Low cost installation

Immersed, without suction pipe and valves. The cylindrical suction strainer provides support for the pump when installed on a flat surface or tank bottom. For operation with 100 mm minimum water level.

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Robust

Its robust stainless steel external construction allows for the pump to be suspended from the delivery pipe.

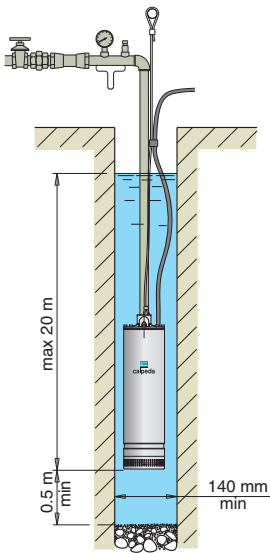
Low-Noise operation

The design of hydraulic parts, the water-filled shroud around the motor and the submerged operation ensures low noise operation.

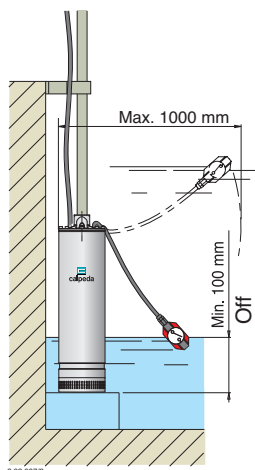
Greater Safety

The double shaft sealing with an oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

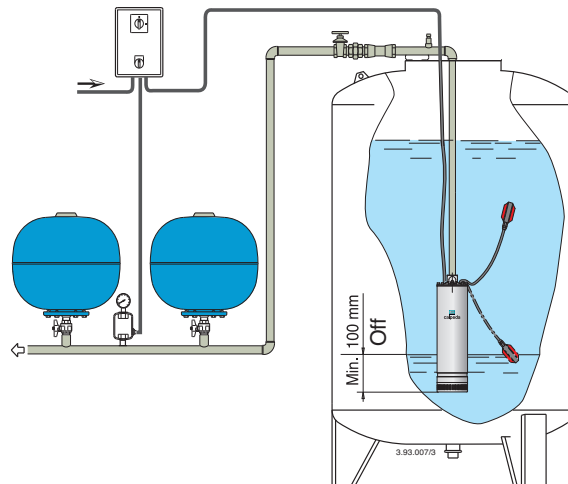
Installation



Pump in suspended position



Pump with float switch (on demand)



Installation example

MXS

Multi-Stage Submersible Clean Water Pumps in stainless steel



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Construction

5" Close coupled multi-stage submersible pumps.
All parts in contact with the fluid both internal and external are in chrome-nickel stainless steel.
 MXSM with built-in capacitor, accessible through the delivery casing. Hydraulics located below the motor with the motor cooled by the pumped fluid. Safe operation is possible with the motor only partially submerged.
 Double shaft seal with oil chamber.
 The suction strainer prevents the entrance of solids with diameter bigger than 2 mm.

Applications

For water supply from wells, tanks or reservoirs.
 For domestic, civil and industrial applications, for garden use, irrigation and rain water harvesting systems.

Operating conditions

Water temperature up to 35 °C.
 Minimum internal diameter of well: 140 mm.
 Minimum immersion depth: 100 mm.
 Maximum immersion depth: 20 m (with suitable cable length).
 Continuous duty.

Motor

2-pole induction motor, 50 Hz ($n \approx 2900$ 1/min).
MXS : three-phase 230 V \pm 10%;
 three-phase 400 V \pm 10%.
 Cable: H07RN8-F, length 15 m, without plug.
MXSM: single-phase 230 V \pm 10%, with thermal protector.
 Incorporated capacitor.
 Float switch MXSM.. CG up to 10A (on demand)
 Cable: H07RN8-F, length 15 m, with plug CEI-UNEL 47166.

Insulation class F.
 Protection IP X8 (for continuous immersion).
 Triple impregnation humidity-proof dry winding.
 Constructed in accordance with EN 60335-2-41.

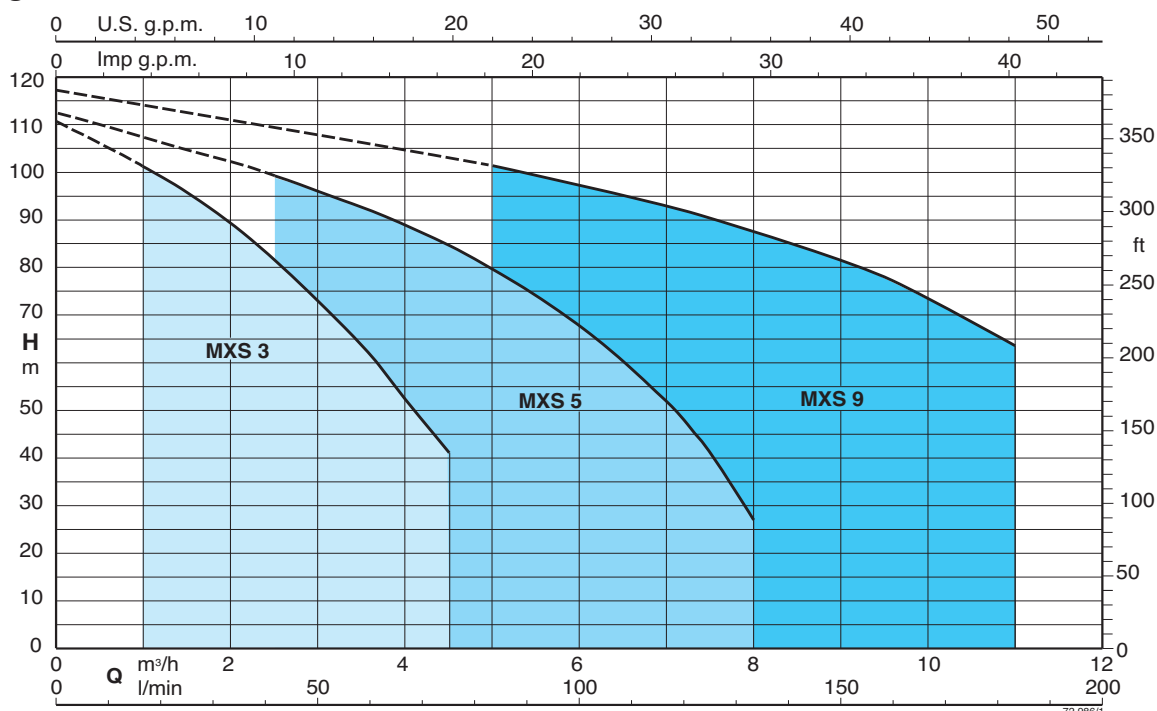
Special features on request

- Other voltages. - Frequency 60 Hz (as per 60 Hz data sheet).
- Cable length 20 m.
- Motor suitable operation with frequency converter.

Materials

Component	Material
Delivery casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
External jacket	
Suction strainer	
Stage casing	
Spacer sleeve	
Impeller	
Motor jacket	
Jacket cover	
Oil chamber cover	
Shaft	
Upper mechanical seal	Steatite, carbon, NBR
Lower mechanical seal	Ceramic alumina, silicon carbide, NBR
Seal lubrication oil	Oil for food machinery and pharmaceutic use

Coverage chart $n \approx 2900$ rpm



Performance n ≈ 2900 rpm

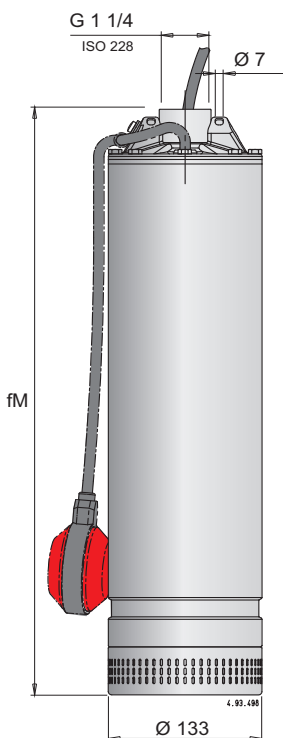
3 ~	230 V		400 V	1 ~	230 V		Capacitor	P1	P2		Q	m³/h								
	A	A			A	µF			V	kW		kW	HP	0	1	1,5	2	2,5	3	3,5
MXS 303	2,4	1,4	MXSM 303	3,5	14	450	0,8	0,45	0,6	H m	0	16,6	25	33,3	41,6	50	58,3	66,6	75	
MXS 304	2,8	1,6	MXSM 304	4,1	20	450	0,9	0,55	0,75		32,5	29,5	27,5	25,5	23	19,5	17	13	10	
MXS 305	3,3	1,9	MXSM 305	5	20	450	1,1	0,75	1		44	41,5	39,5	36,5	33,5	29,5	25,5	21	16	
MXS 306	3,8	2,2	MXSM 306	6	25	450	1,3	0,9	1,2		53	49,5	47	44	40	35	30	25	19	
MXS 307	4,5	2,6	MXSM 307	6,6	25	450	1,5	0,9	1,2		65	61	58	54	49	43	37	30,5	23	
MXS 308	4,8	2,8	MXSM 308	8,3	30	450	1,7	1,1	1,5		77,5	71	66,5	61	55	49	42	35	27	
MXS 309	6,6	3,8	MXSM 309	9	30	450	1,9	1,5	2		88,5	81,5	76	70,5	64	56,5	49,5	41	32	
MXS 310	7,5	4,3	MXSM 310	12	35	450	2,2	1,5	2		100	91	85	78,5	70,5	62,5	54,4	45	35	
											111	101,5	95	88,5	80	71	62	52,5	41,5	

3 ~	230 V		400 V	1 ~	230 V		Capacitor	P1	P2		Q	m³/h								
	A	A			A	µF			V	kW		kW	HP	0	2,5	3	3,5	4	4,5	5
MXS 503	2,8	1,6	MXSM 503	4,1	20	450	0,9	0,55	0,75	H m	0	41,6	50	58,3	66,6	75	83,3	100	116	133
MXS 504	3,8	2,2	MXSM 504	6	25	450	1,2	0,9	1,2		32,2	28,5	27,5	26	24,5	22,5	21,5	18	13,5	8
MXS 505	4,5	2,6	MXSM 505	7	25	450	1,5	1,1	1,5		43	39	38	36,5	34,5	33	30,5	25,5	19,5	13
MXS 506	4,8	2,8	MXSM 506	8,3	30	450	1,7	1,1	1,5		53	47,5	45,5	43,5	41	38,5	35,5	29,5	22	13,5
MXS 507	6,9	4	MXSM 507	12	35	450	2,2	1,5	2		66,5	58	55,6	53,5	51	48	45	36,5	27,5	16
MXS 508	7,5	4,3	MXSM 508	13	35	450	2,4	1,5	2		78,5	69,5	66,5	64	61,5	58	54,5	45,5	36	22
MXS 509	9,7	5,6	MXSM 509	14,3	40	450	2,9	2,2	3		88,5	78	75	72	68	64	60	50	38	25
MXS 510	9,7	5,6						2,2	3		101	91	87,5	84	80,5	75,5	71	60	46,5	28,5
											111	100	96,5	93	89	84,5	80	66,5	52	31

3 ~	230 V		400 V	1 ~	230 V		Capacitor	P1	P2		Q	m³/h								
	A	A			A	µF			V	kW		kW	HP	0	5	6	7	8	9	10
MXS 903	4,5	2,6	MXSM 903	7	25	450	1,5	1,1	1,5	H m	0	83,3	100	116	133	150	166,6	183,3		
MXS 904	6,6	3,8	MXSM 904	9	30	450	1,9	1,5	2		34	28,2	26,8	25,2	23,3	21,2	18,5	15,5		
MXS 905	7,5	4,3	MXSM 905	13	35	450	2,4	2,2	3		45,5	39	37	35	32,5	30	26,5	22,5		
MXS 906	9,7	5,6	MXSM 906	14,3	40	450	2,9	2,2	3		58	49	46,5	45	42,5	38,5	34	30		
MXS 907	11,4	6,6						3	4		70	59,5	56,5	54	50,5	46,5	42	37		
MXS 908	14,7	8,5						3	4		81	71	68,5	66	62	58	53	47		
MXS 909	14,7	8,5						3	4		93	81	78	75	71	66	60,5	53		
MXS 910	14,7	8,5						3	4		105	92	88	84	79	73,5	67,5	57,5		
											117	101,2	96,5	93	87,5	81,5	73,5	63,5		

P1 Max. power input. P2 Rated motor power output. Tolerances according to UNI EN ISO 9906:2012 Test results with clean cold water, without gas content.

Dimensions and weights

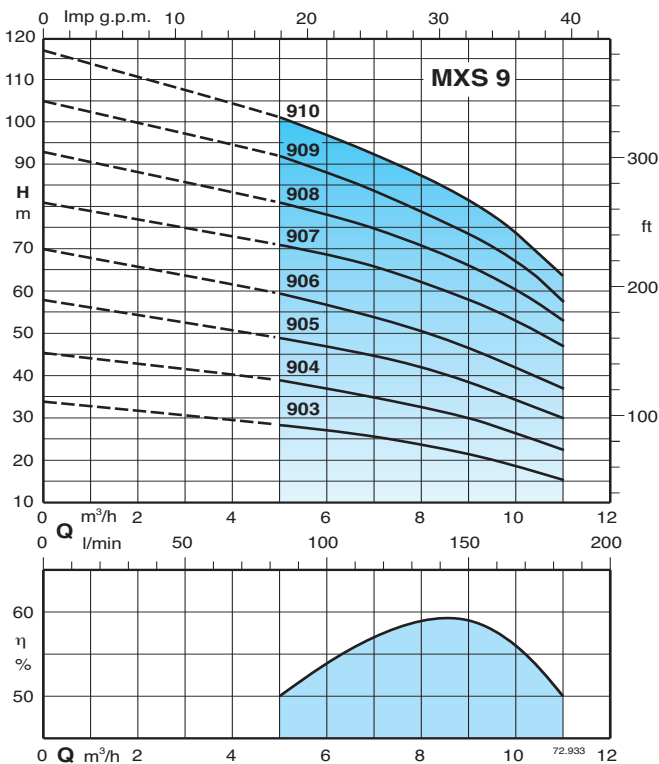
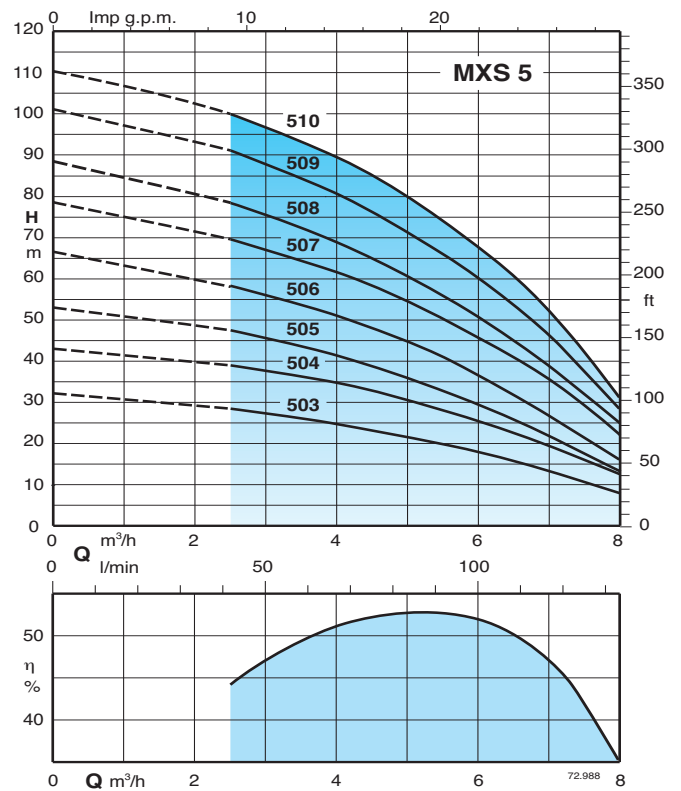
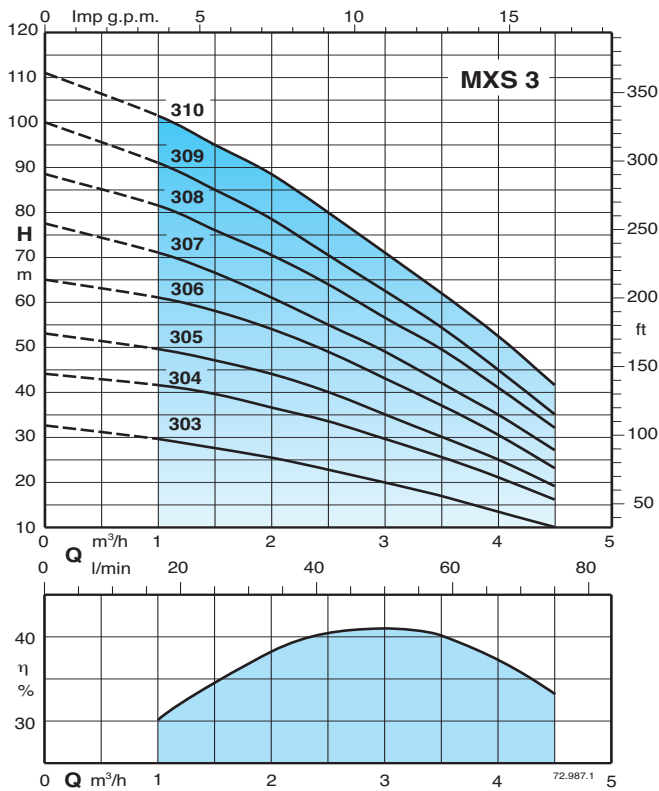


MXSM ... CG
With float switch pump
(on demand)

Weights with cable length: 15 m

Pump	fM mm	kg		Cavo H07RN8-F		
		MXS	MXSM	230V 1 ~	230V 3 ~	400V 3 ~
MXS 303 - MXSM 303	465	12,5	13,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 304 - MXSM 304	504	14,5	15,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 305 - MXSM 305	553	15	16,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 306 - MXSM 306	577	15,5	17	3G1 mm²	4G1 mm²	4G1 mm²
MXS 307 - MXSM 307	601	16	17,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 308 - MXSM 308	671	18,5	19,5	3G1,5 mm²	4G1 mm²	4G1 mm²
MXS 309 - MXSM 309	695	20,6	21,6	3G1,5 mm²	4G1,5 mm²	4G1 mm²
MXS 310 - MXSM 310	744	23	25,1	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 503 - MXSM 503	480	14,5	15,5	3G1 mm²	4G1 mm²	4G1 mm²
MXS 504 - MXSM 504	529	15	16	3G1 mm²	4G1 mm²	4G1 mm²
MXS 505 - MXSM 505	553	16,1	17,6	3G1 mm²	4G1 mm²	4G1 mm²
MXS 506 - MXSM 506	622	17,5	19	3G1,5 mm²	4G1 mm²	4G1 mm²
MXS 507 - MXSM 507	671	20	21,5	3G2,5 mm²	4G1 mm²	4G1 mm²
MXS 508 - MXSM 508	695	20,5	22	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 509 - MXSM 509	744	23	24,5	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 510	768	27			4G1,5 mm²	4G1 mm²
MXS 903 - MXSM 903	523	16,1	17,6	3G1,5 mm²	4G1 mm²	4G1 mm²
MXS 904 - MXSM 904	573	18,2	19,7	3G1,5 mm²	4G1 mm²	4G1 mm²
MXS 905 - MXSM 905	653	19	22	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 906 - MXSM 906	708	23	26	3G2,5 mm²	4G1,5 mm²	4G1 mm²
MXS 907	738	26,3			4G2,5 mm²	4G1 mm²
MXS 908	793	27			4G2,5 mm²	4G1 mm²
MXS 909	823	28,1			4G2,5 mm²	4G1,5 mm²
MXS 910	853	29,5			4G2,5 mm²	4G1,5 mm²

Characteristic curves $n \approx 2900$ rpm



Features

Flexible

Allows the inspection of the capacitor without disassembling the pump, through the delivery casing.

Reliable

The ball bearings and shaft are sized in order to reduce stresses, guaranteeing high reliability in any operating condition.

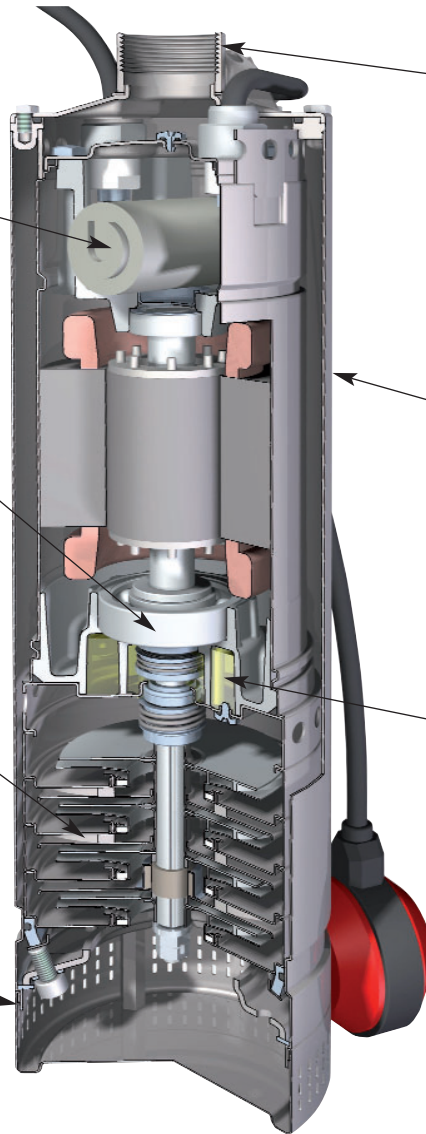
Totally in stainless steel

All parts in contact with the pumped liquid both internal and external are in stainless steel AISI 304, without plastic materials and components.

Low cost installation

Immersed, without suction pipe and valves. The cylindrical suction strainer provides support for the pump when installed on a flat surface or tank bottom. For operation with 100 mm minimum water level.

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Robust

Its robust stainless steel construction allows for the pump to be suspended from the delivery pipe.

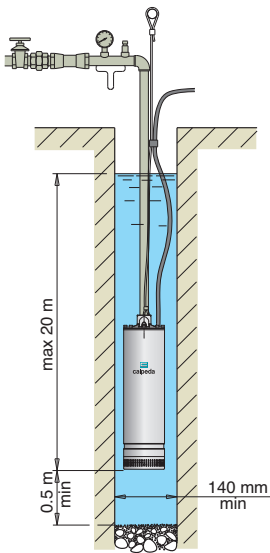
Low-Noise operation

The design of hydraulic parts, the water-filled shroud around the motor and the submerged operation ensures low noise operation.

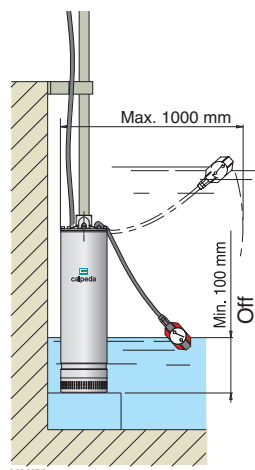
Greater Safety

The double shaft sealing with an oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

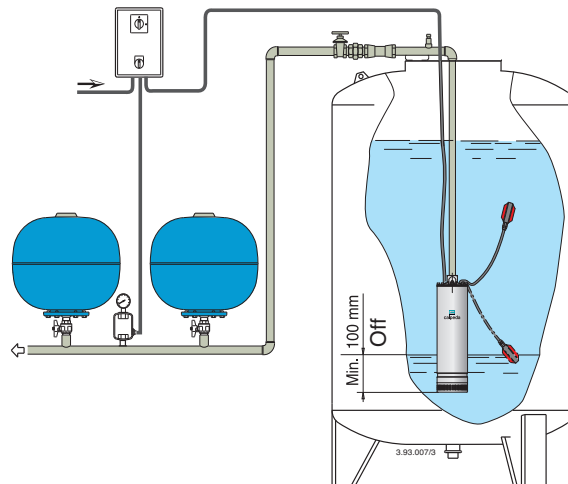
Installation



Pump in suspended position



Pump with float switch (on demand)



Installation example



Construction

Submersible borehole pumps for 4" wells (DN 100 mm), and 6" (DN 150 mm), with external jacket in stainless steel AISI 304 and impellers in Noryl.

Impellers

radial floating impellers	4SDP
radial impellers	6SDN 12, 16, 21
mixed flow impellers	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" motors.
Max. sand quantity into the water: 150 g/m³ (300 g/m³ high percentage of solids and sand).
Continuous duty.

Rewindable motor CS-R 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 7.5 kW, one of the following types of starting is necessary: star/delta, soft starter, stator impedance or autotransformer.

The electropumps 4SDP 1,2,3,6 series comply with the European Regulation no. 547/2012.

Operating conditions motor

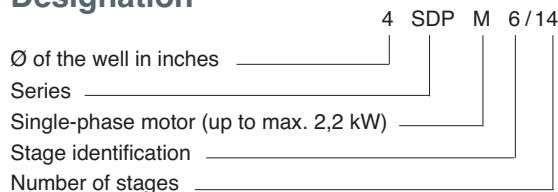
Motor	Max. Liquid temperature	Cooling: minimum flow velocity	Max. starts per hour	Motor P2
4CS-R	35 °C	0,08 m/s	20	all types
6CS-R	30 °C	0,1 m/s	15	4÷11 kW
		0,2 m/s	15	13÷15 kW
	25 °C	0,2 m/s	15	18,5 kW
		0,2 m/s	13	22÷30 kW

Insulation class F for 4" motors, class E for 6" motors.
Motor suitable operation with frequency converter .
Protection IP 68.

Special features on request

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

Designation



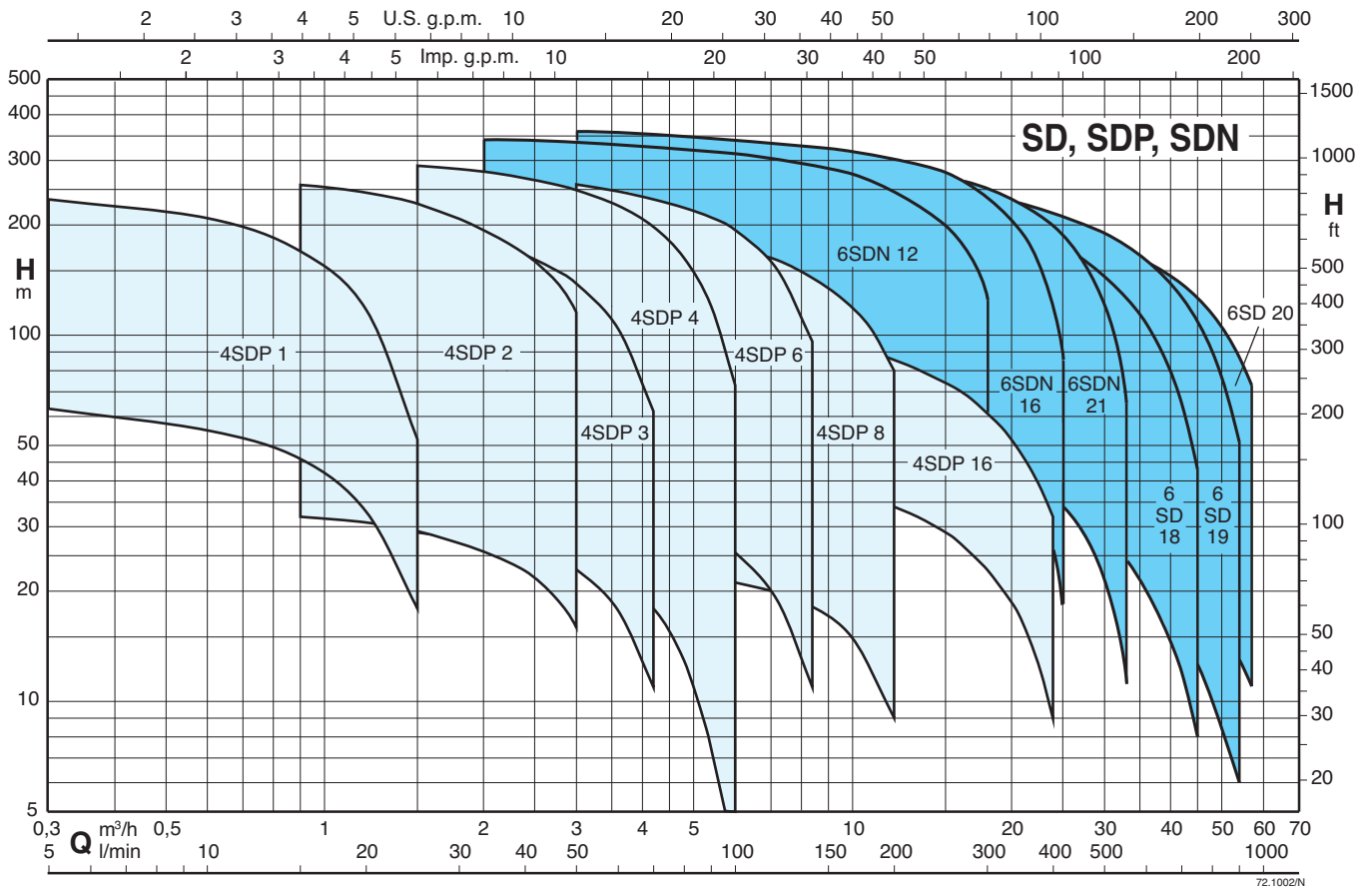
Materials

Pump Components	4SDP	6SD, 6SDN
External jacket	Cr-Ni steel AISI 304	Cr-Ni steel AISI 304
Stage casing	Cr-Ni steel AISI 304	Cr-Ni steel AISI 304
Diffuser	Polycarbonate	GFN2V* (NORYL®)*
Impeller	GFN2V* (NORYL®)*	GFN2V* (NORYL®)*
Wear ring	-	Cr-Ni steel AISI 304
Shaft	Cr-Ni steel AISI 304	Cr steel AISI 430 F
Delivery casing	Cr-Ni steel	Bronze
Suction lantern	AISI 304	G-Cu Sn 10 EN 1982
Bearing bush	POM - POLYACETAL	Rubber
Strainer	Cr-Ni steel AISI 304	Cr-Ni steel AISI 430
Screws	Cr-Ni steel AISI 304	Cr-Ni steel AISI 304

* Trademark of General Electric

Motor Components	4CS-R	6CS-R
External frame	Cr-Ni steel AISI 304	Cr-Ni steel AISI 304
Motor flange	Cast iron GJL 200 EN 1561 nickel-plated	Cast iron GJL 200 EN 1561
Shaft	Cr-Ni-Mo steel AISI 316 (shaft end)	Cr steel AISI 431
Thrust bearing	Oil wetted ball type	Oscillation pads
Bearing bush	Oil wetted ball type	Graphite

Coverage chart $n \approx 2900$ rpm



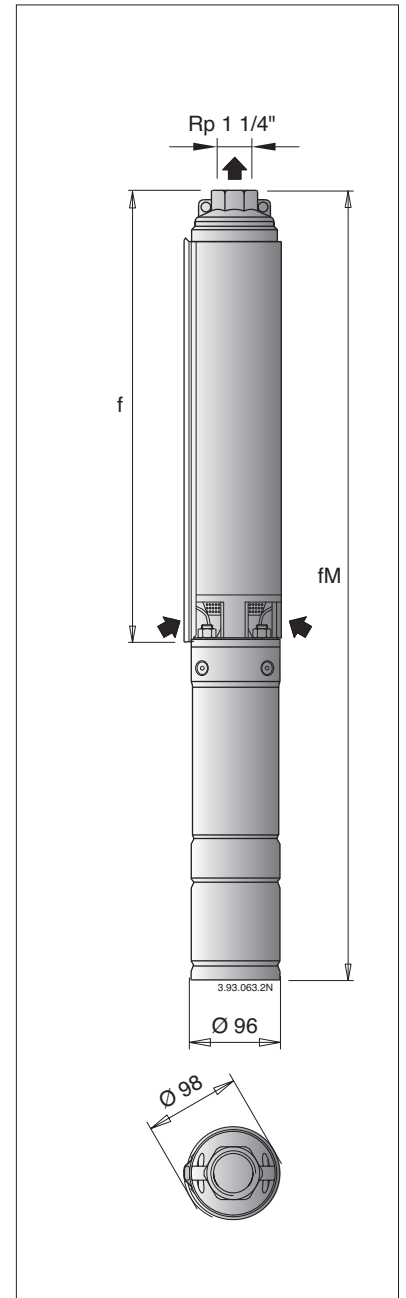
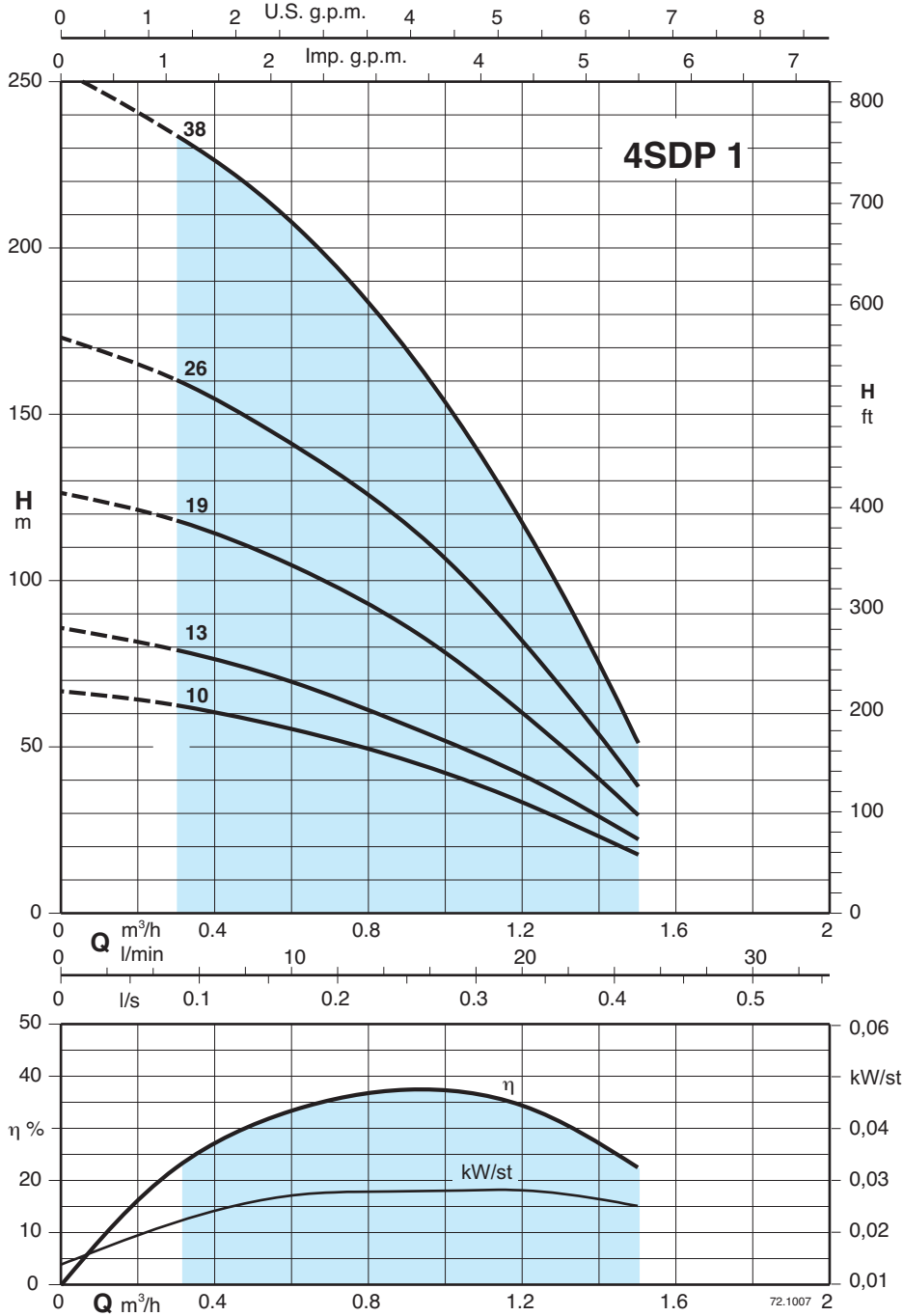
Performance n ≈ 2900 rpm

3~	400 V (380-415) 50 Hz	1~	* 230V Capacitor P1			P2			Q m³/h l/min	n ≈ 2900 1/min																
			A	A	450 Vc µF	kW	kW	HP		0	0,3	0,6	0,9	1,2	1,5	1,8	2,1	2,4	2,7	3	3,6	4,2	4,8	6		
										0	5	10	15	20	25	30	35	40	45	50	60	70	80	100		
4SDP 1/10	1,2	4SDPM 1/10	3,2	16	0,71	0,37	0,5	67	63	55	46	33	18													
4SDP 1/13	1,2	4SDPM 1/13	3,2	16	0,71	0,37	0,5	86	78	70	56	42	23													
4SDP 1/19	1,5	4SDPM 1/19	4	25	0,91	0,55	0,75	126	118	105	86	60	30													
4SDP 1/26	2,2	4SDPM 1/26	5,6	30	1,24	0,75	1	173	160	141	117	81	39													
4SDP 1/38	2,8	4SDPM 1/38	8	40	1,71	1,1	1,5	253	234	208	169	117	52													
4SDP 2/5	1,2	4SDPM 2/5	3,2	16	0,71	0,37	0,5	34			32	31	29	27	25	23	19	16								
4SDP 2/7	1,2	4SDPM 2/7	3,2	16	0,71	0,37	0,5	46			43	42	39	36	33	29	26	22								
4SDP 2/10	1,5	4SDPM 2/10	4	25	0,91	0,55	0,75	67			64	61	58	54	49	43	36	28								
4SDP 2/14	2,2	4SDPM 2/14	5,6	30	1,24	0,75	1	92			86	83	79	74	67	60	52	42								
4SDP 2/20	2,8	4SDPM 2/20	8	40	1,71	1,1	1,5	139			131	127	120	111	101	90	75	60								
4SDP 2/28	3,7	4SDPM 2/28	10,8	60	2,33	1,5	2	190			178	172	163	153	141	126	108	89								
4SDP 2/40	5,5	4SDPM 2/40	14,7	70	3,25	2,2	3	273			256	246	234	218	199	177	151	123								
4SDP 3/5	1,2	4SDPM 3/5	3,2	16	0,71	0,37	0,5	34			32	31	30	29	27	25	23	18	11							
4SDP 3/8	1,5	4SDPM 3/8	4	25	0,91	0,55	0,75	54			51	50	49	46	43	41	38	30	19							
4SDP 3/11	2,2	4SDPM 3/11	5,6	30	1,24	0,75	1	72			68	66	64	61	58	54	49	38	26							
4SDP 3/16	2,8	4SDPM 3/16	8	40	1,71	1,1	1,5	106			101	98	95	89	83	77	70	54	33							
4SDP 3/21	3,7	4SDPM 3/21	10,8	60	2,33	1,5	2	142			135	132	127	122	115	108	100	79	49							
4SDP 3/32	5,5	4SDPM 3/32	14,7	70	3,25	2,2	3	208			200	194	187	177	165	152	138	104	62							
4SDP 4/5	1,2	4SDPM 4/5	3,2	16	0,71	0,37	0,5	33			29	28	27	26			24	21	18	13	3					
4SDP 4/7	1,5	4SDPM 4/7	4	25	0,91	0,55	0,75	46			43	42	41	39			36	33	28	22	7					
4SDP 4/9	2,2	4SDPM 4/9	5,6	30	1,24	0,75	1	59			55	54	52	51			47	43	37	28	10					
4SDP 4/14	2,8	4SDPM 4/14	8	40	1,71	1,1	1,5	93			87	86	83	81			76	68	58	47	20					
4SDP 4/18	3,7	4SDPM 4/18	10,8	60	2,33	1,5	2	120			113	111	108	105			98	88	75	60	25					
4SDP 4/27	5,5	4SDPM 4/27	14,7	70	3,25	2,2	3	175			164	161	157	152			141	127	109	87	35					
4SDP 4/35	7,4					3	4	228			212	208	203	197			184	166	145	119	46					
4SDP 4/44	9,4					4	5,5	282			261	255	249	241			223	201	173	140	52					
4SDP 4/48	9,4					4	5,5	309			289	283	276	267			248	225	197	162	73					

3~	400 V (380-415) 50 Hz	1~	* 230V Capacitor P1			P2			Q m³/h l/min	n ≈ 2900 1/min																
			A	A	450 Vc µF	kW	kW	HP		0	3	3,6	4,2	4,8	5,4	6	7,2	8,4	9,6	10,8	12	15,6	18	21,6	24	
										0	50	60	70	80	90	100	120	140	160	180	200	260	300	360	400	
4SDP 6/7	2,2	4SDPM 6/7	5,6	30	1,24	0,75	1	42	36	34	32	30	28	25	19	11										
4SDP 6/10	2,8	4SDPM 6/10	8	40	1,71	1,1	1,5	62	53	51	48	45	41	38	29	18										
4SDP 6/14	3,7	4SDPM 6/14	10,8	60	2,33	1,5	2	90	77	74	71	68	63	59	46	28										
4SDP 6/20	5,5	4SDPM 6/20	14,7	70	3,25	2,2	3	125	107	102	97	92	86	80	62	40										
4SDP 6/27	7,4					3	4	169	145	139	131	123	115	107	84	55										
4SDP 6/34	9,4					4	5,5	208	178	170	162	153	143	132	103	66										
4SDP 6/36	9,4					4	5,5	221	190	181	173	164	154	143	112	72										
4SDP 6/49	13					5,5	7,5	302	257	246	234	222	209	193	151	96										
4SDP 8/4	2,2	4SDPM 8/4	5,6	30	1,24	0,75	1	26			23	22	21	20	18	16	12	9								
4SDP 8/6	2,8	4SDPM 8/6	8	40	1,71	1,1	1,5	38			35	34	33	31	28	24	19	14								
4SDP 8/8	3,7	4SDPM 8/8	10,8	60	2,33	1,5	2	52			47	45	44	41	37	31	25	18								
4SDP 8/13	5,5	4SDPM 8/13	14,7	70	3,25	2,2	3	82			75	73	71	66	59	50	40	30								
4SDP 8/17	7,4					3	4	108			98	96	94	87	79	70	58	46								
4SDP 8/21	9,4					4	5,5	132			117	114	111	103	93	82	68	52								
4SDP 8/23	9,4					4	5,5	148			134	131	127	118	108	95	79	60								
4SDP 8/32	13					5,5	7,5	202			182	178	172	160	143	125	105	80								
4SDP 16/8	5,5	4SDPM 16/8	14,7	70	3,25	2,2	3	49							39	38	36	34	28	23	15	9				
4SDP 16/11	7,4					3	4	67							55	53	50	48	39	33	23	16				
4SDP 16/13	9,4					4	5,5	79							65	62	59	56	47	40	28	20				
4SDP 16/15	9,4					4	5,5	93							76	73	70	66	55	47	34	25				
4SDP 16/20	13					5,5	7,5	122							99	95	90	86	72	61	44	32				

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

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



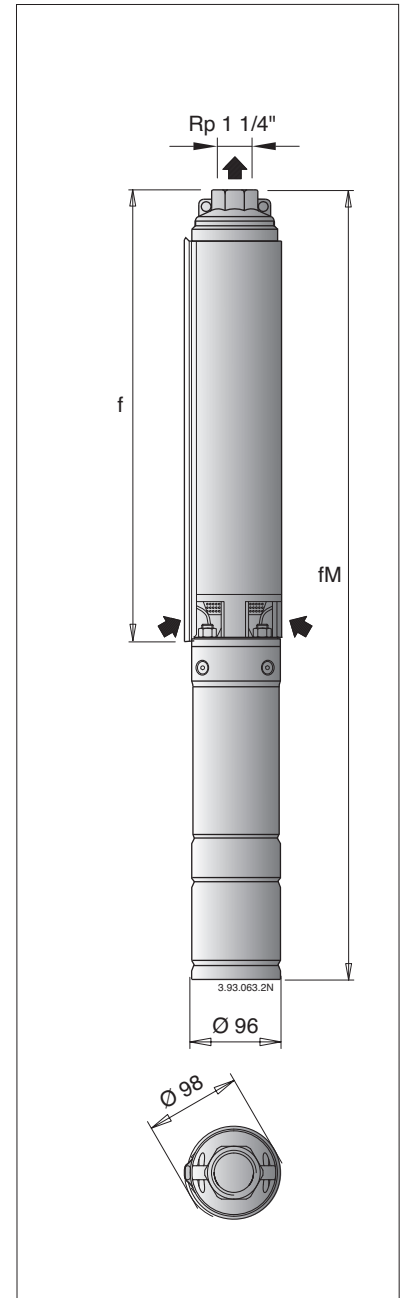
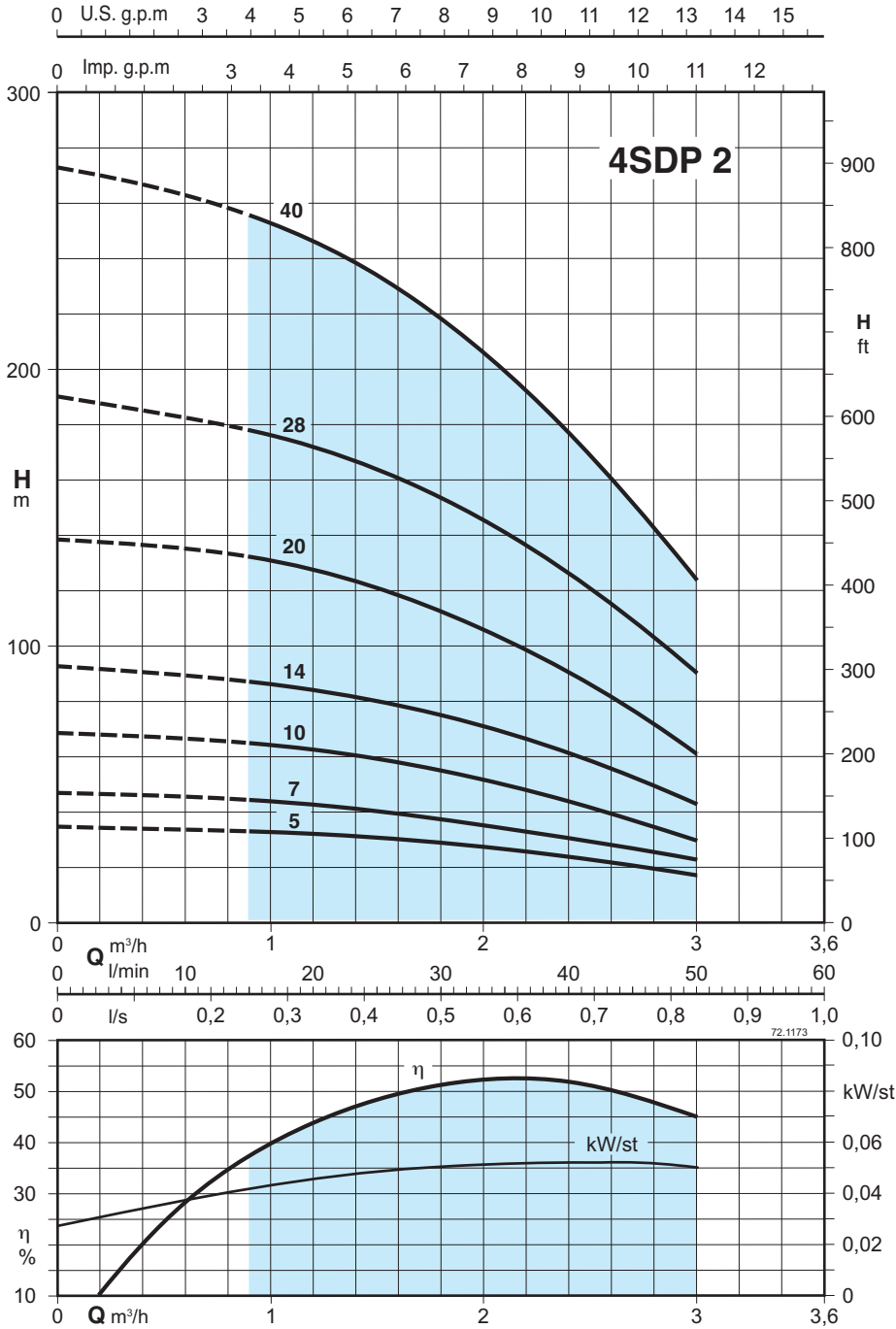
	3~ 400 V (380-415) 50 Hz		1~ 230V Cap* P ₁ P ₂				Q		n ≈ 2900 rpm													
	A		A	μF	kW	kW	HP	m³/h														
								l/min	0	0,3	0,6	0,9	1,2	1,5								
4SDP 1/10C	1,2	4SDPM 1/10C	3,2	16	0,71	0,37	0,5	H m	67	63	55	46	33	18								
4SDP 1/13C	1,2	4SDPM 1/13C	3,2	16	0,71	0,37	0,5		86	78	70	56	42	23								
4SDP 1/19C	1,5	4SDPM 1/19C	4	25	0,91	0,55	0,75		126	118	105	86	60	30								
4SDP 1/26C	2,2	4SDPM 1/26C	5,6	30	1,24	0,75	1		173	160	141	117	81	39								
4SDP 1/38C	2,8	4SDPM 1/38C	8	40	1,71	1,1	1,5		253	234	208	169	117	52								

f	4SDP		4SDPM	
	fM	kg	fM	kg
324	651	11	651	10,9
377	704	11,4	704	11,3
481	808	12,4	843	14,1
642	989	14,5	1004	15,2
864	1226	18,7	1266	19,9

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

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



3~	400 V (380-415) 50 Hz	1~	230V Capacitor P1			P2		Q	n ≈ 2900 rpm												
			A	μF	kW	kW	HP		m³/h	0	0,9	1,2	1,5	1,8	2,1	2,4	2,7	3			
4SDP 2/5C	1,2	4SDPM 2/5C	3,2	16	0,71	0,37	0,5	H m	34	32	31	29	27	25	23	19	16				
4SDP 2/7C	1,2	4SDPM 2/7C	3,2	16	0,71	0,37	0,5		46	43	42	39	36	33	29	26	22				
4SDP 2/10C	1,5	4SDPM 2/10C	4	25	0,91	0,55	0,75		67	64	61	58	54	49	43	36	28				
4SDP 2/14C	2,2	4SDPM 2/14C	5,6	30	1,24	0,75	1		92	86	83	79	74	67	60	52	42				
4SDP 2/20C	2,8	4SDPM 2/20C	8	40	1,71	1,1	1,5		139	131	127	120	111	101	90	75	60				
4SDP 2/28C	3,5	4SDPM 2/28C	10,8	60	2,33	1,5	2		190	178	172	163	153	141	126	108	89				
4SDP 2/40C	5,5	4SDPM 2/40C	14,7	70	3,25	2,2	3		273	256	246	234	218	199	177	151	123				

f	4SDP			4SDPM	
	fM	kg		fM	kg
236	563	10,2		563	10,1
271	598	10,5		598	10,4
324	651	11		686	12,7
394	741	12,6		756	13,3
499	861	14,4		901	15,6
680	1082	17,7		1127	19,3
885	1287	21		1402	25

P1 Max. power input P2 Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request)

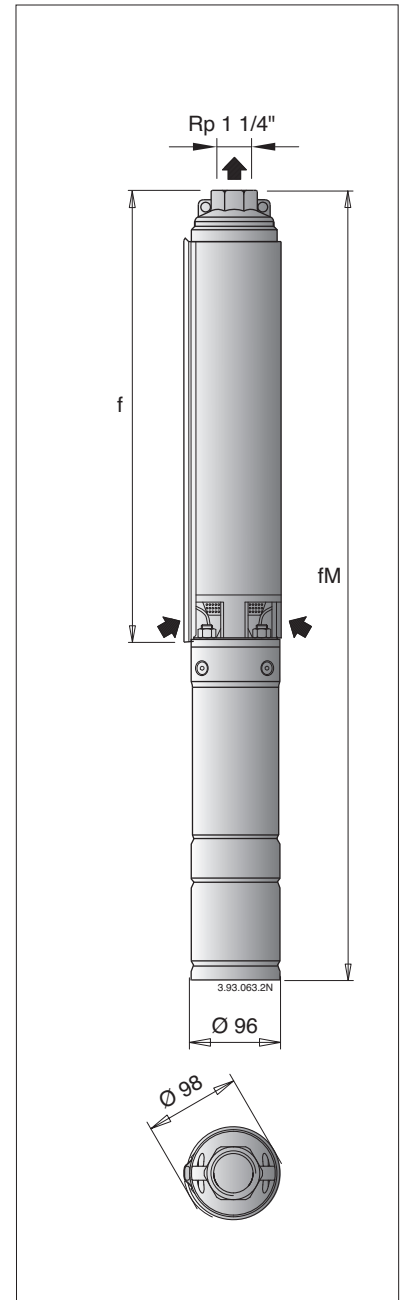
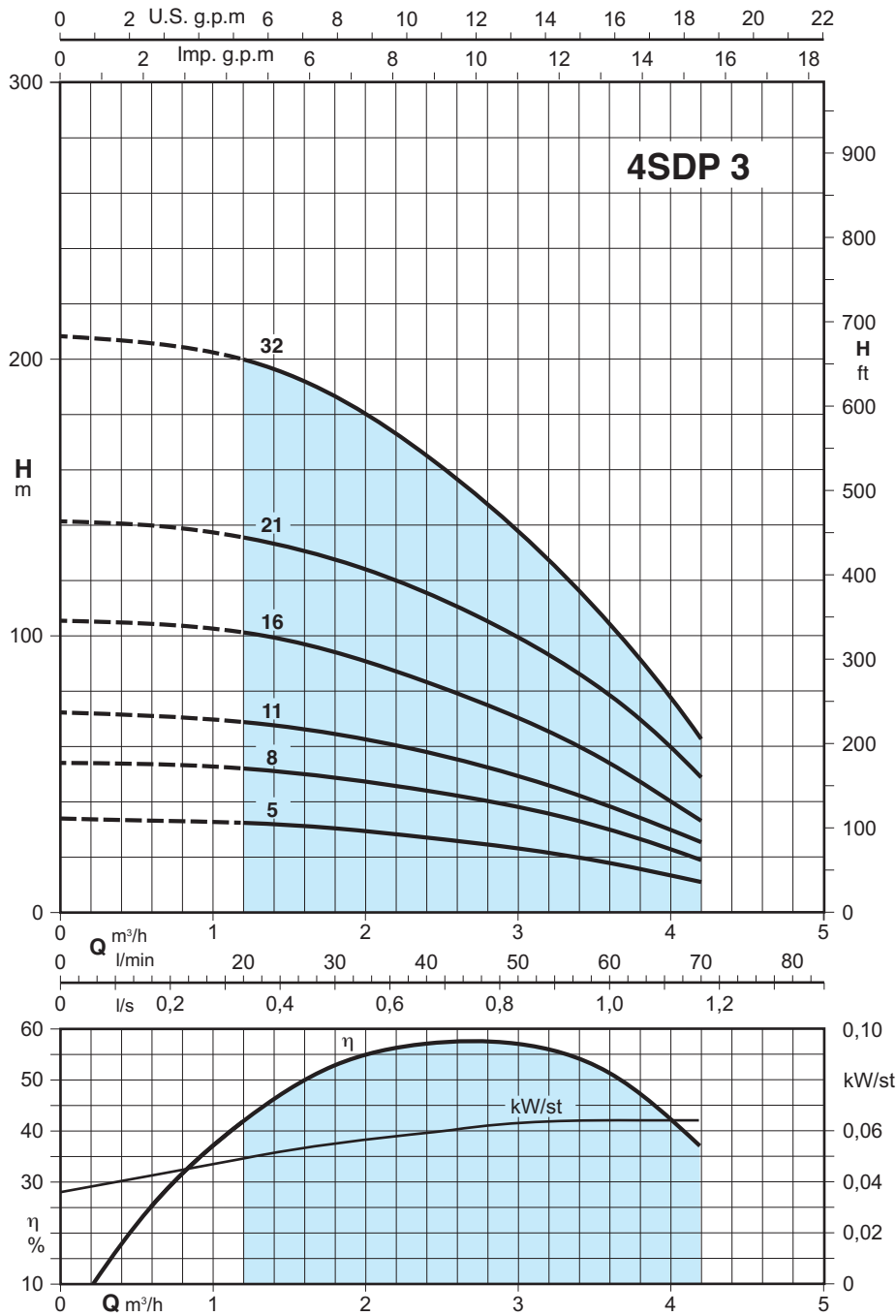
Tolerances according to UNI EN ISO 9906:2012

4SDP 3

Submersible borehole pumps for 4" wells



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



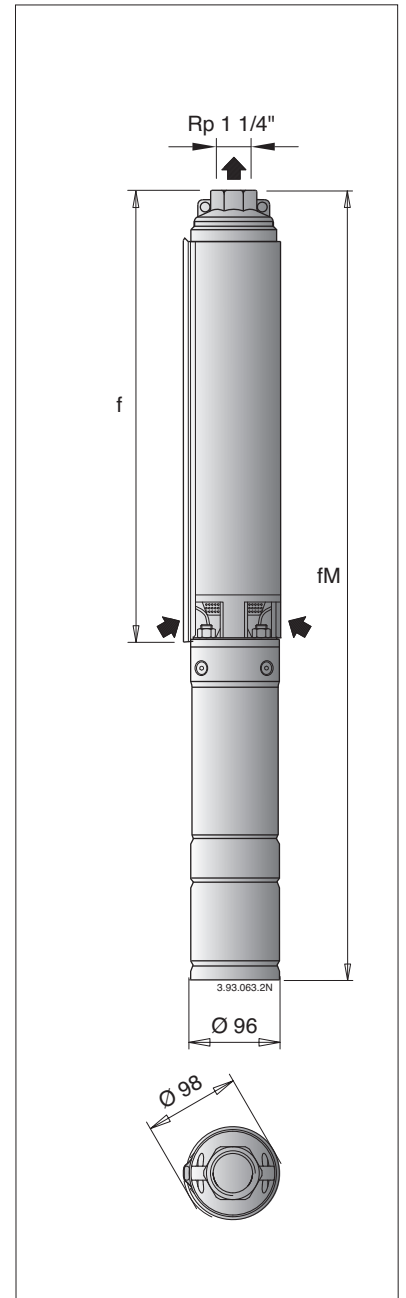
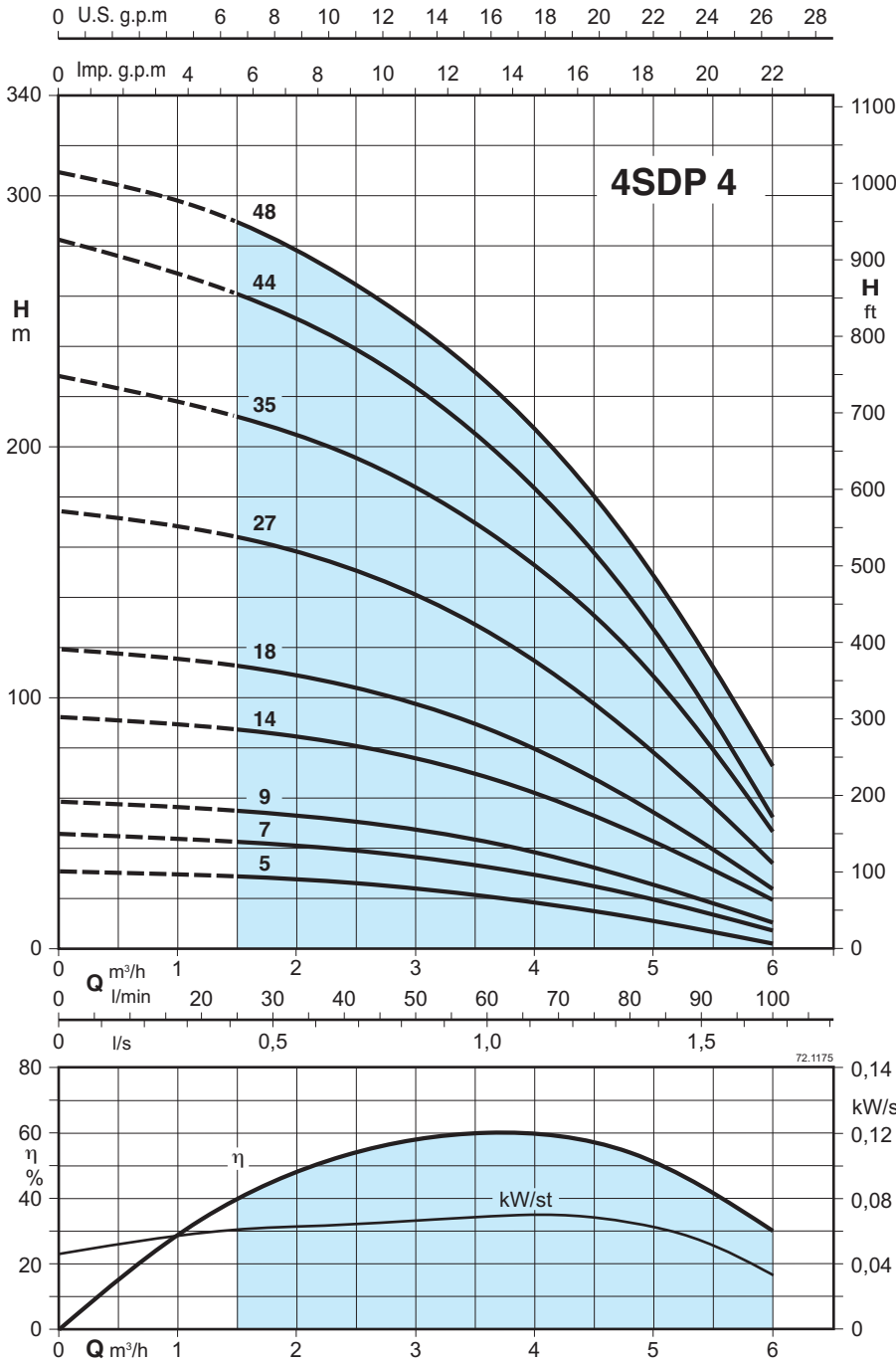
	400 V (380-415) 50 Hz		230V * Capacitor P1 450 Vc				P2		Q m³/h l/min	n ≈ 2900 rpm										
	3~ A	1~ A	A	μF	kW	kW	HP	0		1,2	1,5	1,8	2,1	2,4	2,7	3	3,6	4,2		
4SDP 3/5C	1,2	4SDPM 3/5C	3,2	16	0,71	0,37	0,5	H m	34	32	31	30	29	27	25	23	18	11		
4SDP 3/8C	1,5	4SDPM 3/8C	4	25	0,91	0,55	0,75		54	51	50	49	46	43	41	38	30	19		
4SDP 3/11C	2,2	4SDPM 3/11C	5,6	30	1,24	0,75	1		72	68	66	64	61	58	54	49	38	26		
4SDP 3/16C	2,8	4SDPM 3/16C	8	40	1,71	1,1	1,5		106	101	98	95	89	83	77	70	54	33		
4SDP 3/21C	3,7	4SDPM 3/21C	10,8	60	2,33	1,5	2		142	135	132	127	122	115	108	100	79	49		
4SDP 3/32C	5,5	4SDPM 3/32C	14,7	70	3,25	2,2	3		208	200	194	187	177	165	152	138	104	62		

f	4SDP		4SDPM	
	fM mm	kg	fM mm	kg
236	563	10,2	563	10,1
289	616	10,6	651	12,3
342	689	12,1	704	12,8
430	792	13,7	832	14,9
519	921	15,8	966	17,4
787	1189	19,8	1304	23,8

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

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



	3~ 400 V (380-415) 50 Hz A	1~	230V Capacitor P1				P2		Q m³/h l/min	n ≈ 2900 rpm												
			450 Vc		kW	kW	HP	H m														
			A	μF				0		1,5	1,8	2,1	2,4	3	3,6	4,2	4,8	6				
4SDP 4/5C	1,2	4SDPM 4/5C	3,2	16	0,71	0,37	0,5	33	29	28	27	26	24	21	18	13	3	257	584	10,4	584	10,3
4SDP 4/7C	1,5	4SDPM 4/7C	4	25	0,91	0,55	0,75	46	43	42	41	39	36	33	28	22	7	301	628	10,7	663	12,4
4SDP 4/9C	2,2	4SDPM 4/9C	5,6	30	1,24	0,75	1	59	55	54	52	51	47	43	37	28	10	344	691	12	706	12,7
4SDP 4/14C	2,8	4SDPM 4/14C	8	40	1,71	1,1	1,5	93	87	86	83	81	76	68	58	47	20	452	814	13,6	854	14,8
4SDP 4/18C	3,7	4SDPM 4/18C	10,8	60	2,33	1,5	2	120	113	111	108	105	98	88	75	60	25	538	940	15,5	985	17,1
4SDP 4/27C	5,5	4SDPM 4/27C	14,7	70	3,25	2,2	3	175	164	161	157	152	141	127	109	87	35	805	1207	18,9	1322	22,9
4SDP 4/35C	7,4					3	4	228	212	208	203	197	184	166	145	119	46	972	1453	23,8		
4SDP 4/44C	9,4					4	5,5	282	261	255	249	241	223	201	173	140	52	1166	1712	28,5		
4SDP 4/48C	9,4					4	5,5	309	289	283	276	267	248	225	197	162	73	1291	1837	29,1		

f	4SDP		4SDPM	
	fM	kg	fM	kg
257	584	10,4	584	10,3
301	628	10,7	663	12,4
344	691	12	706	12,7
452	814	13,6	854	14,8
538	940	15,5	985	17,1
805	1207	18,9	1322	22,9
972	1453	23,8		
1166	1712	28,5		
1291	1837	29,1		

P1 Max. power input P2 Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request)

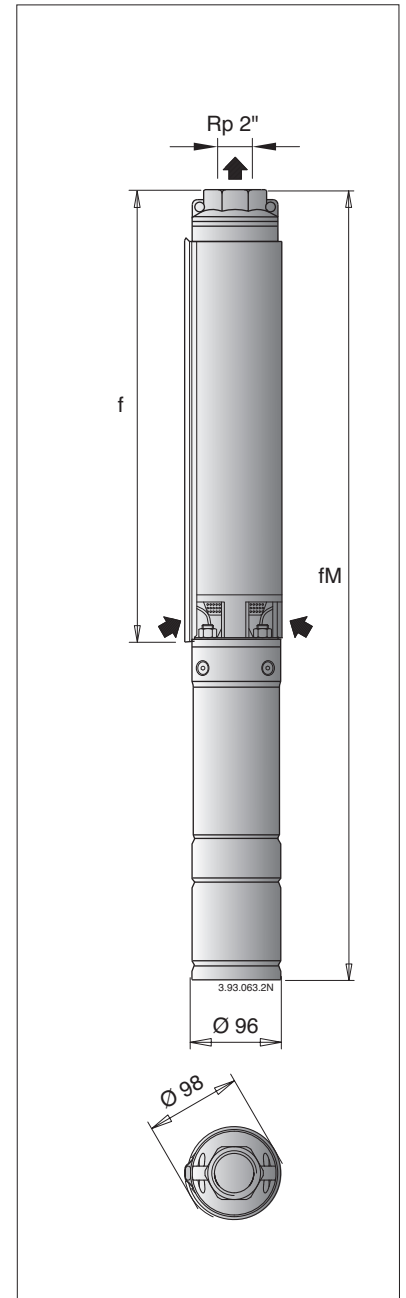
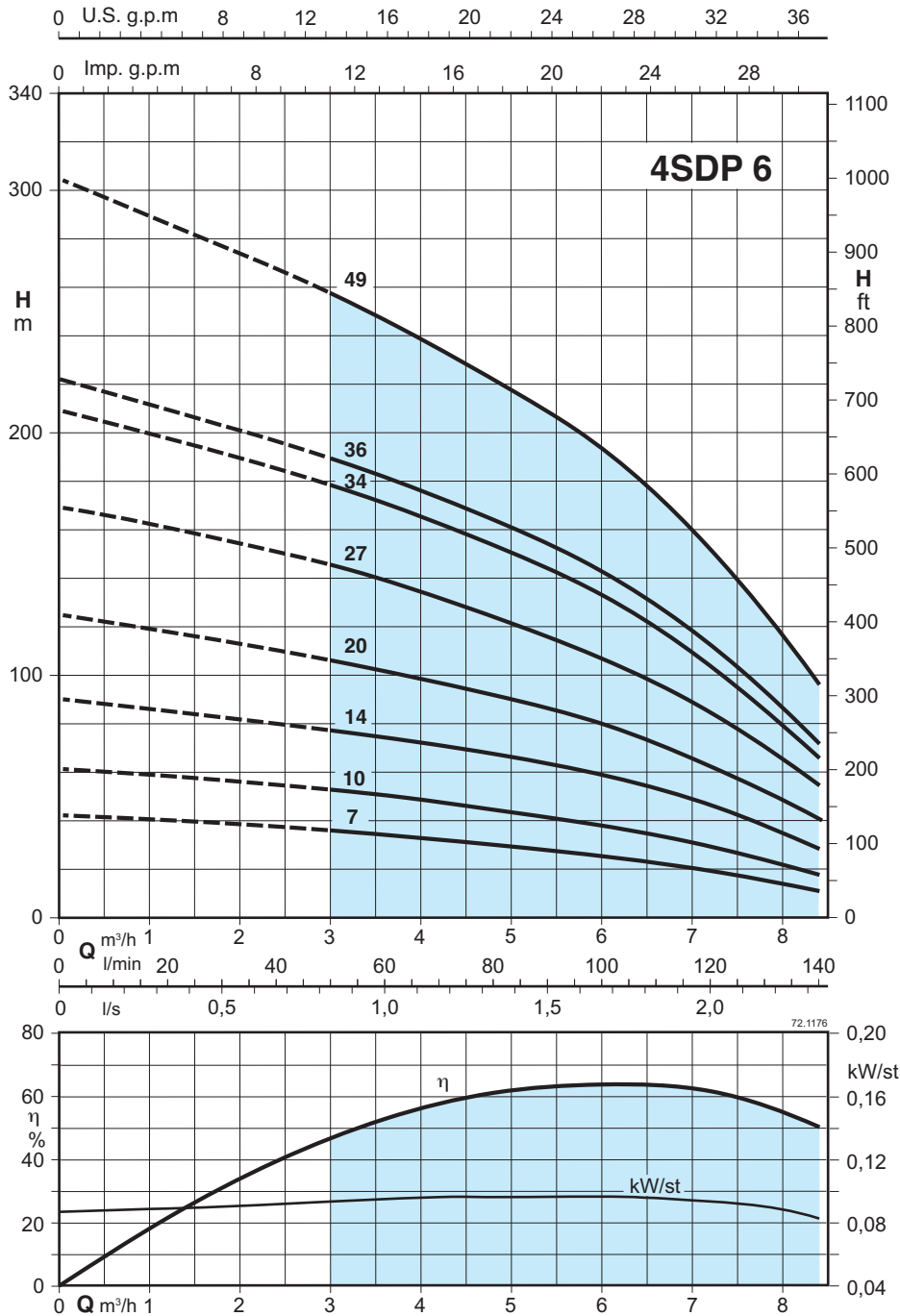
Tolerances according to UNI EN ISO 9906:2012

4SDP 6

Submersible borehole pumps for 4" wells



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



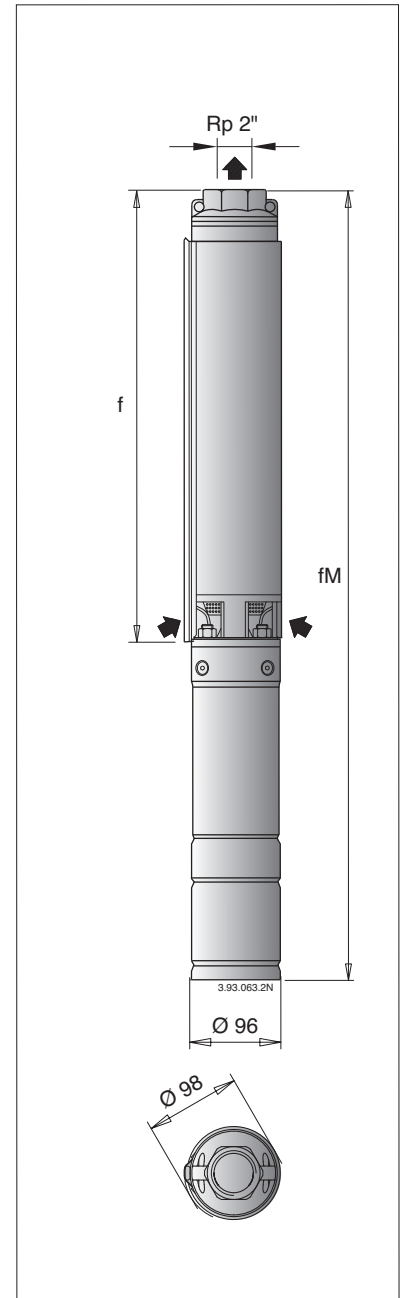
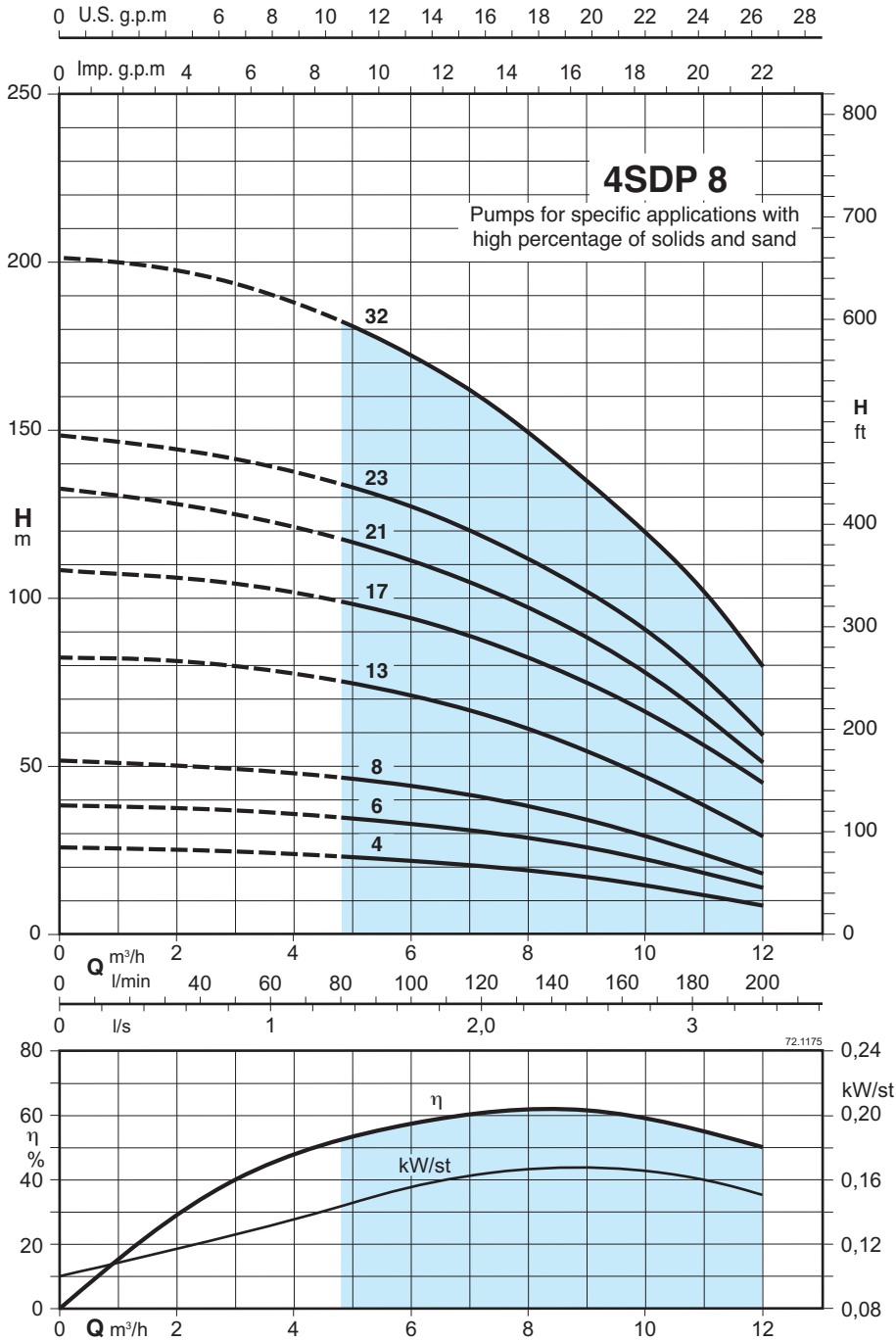
	3~ 400 V (380-415) 50 Hz		1~ 230V Capacitor P ₁		P ₂		Q	n ≈ 2900 rpm														
	A		450 Vc		kW	HP		m³/h														
	A		A	μF				kW	HP	0	3	3,6	4,2	4,8	5,4	6	7,2	8,4				
4SDP 6/7C	2,2	4SDPM 6/7C	5,6	30	1,24	0,75	1	42	36	34	32	30	28	25	19	11						
4SDP 6/10C	2,8	4SDPM 6/10C	8	40	1,71	1,1	1,5	62	53	51	48	45	41	38	29	18						
4SDP 6/14C	3,7	4SDPM 6/14C	10,8	60	2,33	1,5	2	90	77	74	71	68	63	59	46	28						
4SDP 6/20C	5,5	4SDPM 6/20C	14,7	70	3,25	2,2	3	125	107	102	97	92	86	80	62	40						
4SDP 6/27C	7,4						3	4	169	145	139	131	123	115	107	84	55					
4SDP 6/34C	9,4						4	5,5	208	178	170	162	153	143	132	103	66					
4SDP 6/36C	9,4						4	5,5	221	190	181	173	164	154	143	112	72					
4SDP 6/49C	13						5,5	7,5	302	257	246	234	222	209	193	151	96					

f	4SDP			4SDPM	
	fM	kg	fM	kg	
390	737	12,4	752	13,1	
483	845	14,1	885	15,3	
607	1009	16,5	1054	18,1	
831	1233	19,2	1348	23,2	
1086	1567	25,5			
1295	1841	30,8			
1356	1902	31,4			
1840	2486	39,9			

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

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



3~	400 V (380-415) 50 Hz A	1~	230V Capacitor P ₁			P ₂			Q	n ≈ 2900 rpm											
			A	μF	kW	kW	HP	m ³ /h		0	4,8	5,4	6	7,2	8,4	9,6	10,8	12			
4SDP 8/4C	2,2	4SDPM 8/4C	5,6	30	1,24	0,75	1	H m	26	23	22	21	20	18	16	12	9				
4SDP 8/6C	2,8	4SDPM 8/6C	8	40	1,71	1,1	1,5		38	35	34	33	31	28	24	19	14				
4SDP 8/8C	3,7	4SDPM 8/8C	10,8	60	2,33	1,5	2		52	47	45	44	41	37	31	25	18				
4SDP 8/13C	5,5	4SDPM 8/13C	14,7	70	3,25	2,2	3		82	75	73	71	66	59	50	40	30				
4SDP 8/17C	7,4					3	4		108	98	96	94	87	79	70	58	46				
4SDP 8/21C	9,4					4	5,5		132	117	114	111	103	93	82	68	52				
4SDP 8/23C	9,4					4	5,5		148	134	131	127	118	108	95	79	60				
4SDP 8/32C	13					5,5	7,5		202	182	178	172	160	143	125	105	80				

f	4SDP		4SDPM	
	fM	kg	fM	kg
294	641	11,5	656	12,2
356	718	12,9	758	14,1
418	820	14,8	865	16,4
573	975	17,2	1090	21,2
697	1178	21,5		
859	1405	26		
959	1505	27,6		
1276	1922	35		

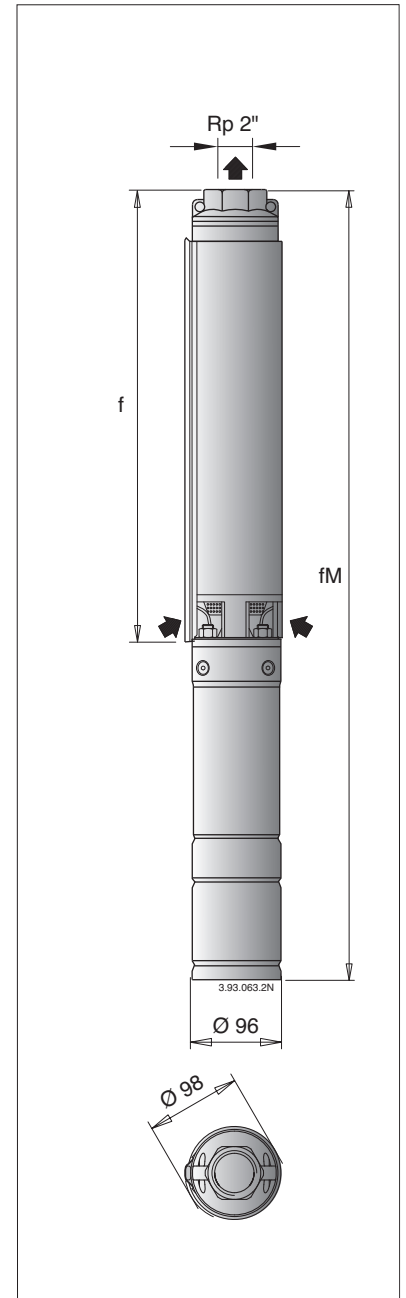
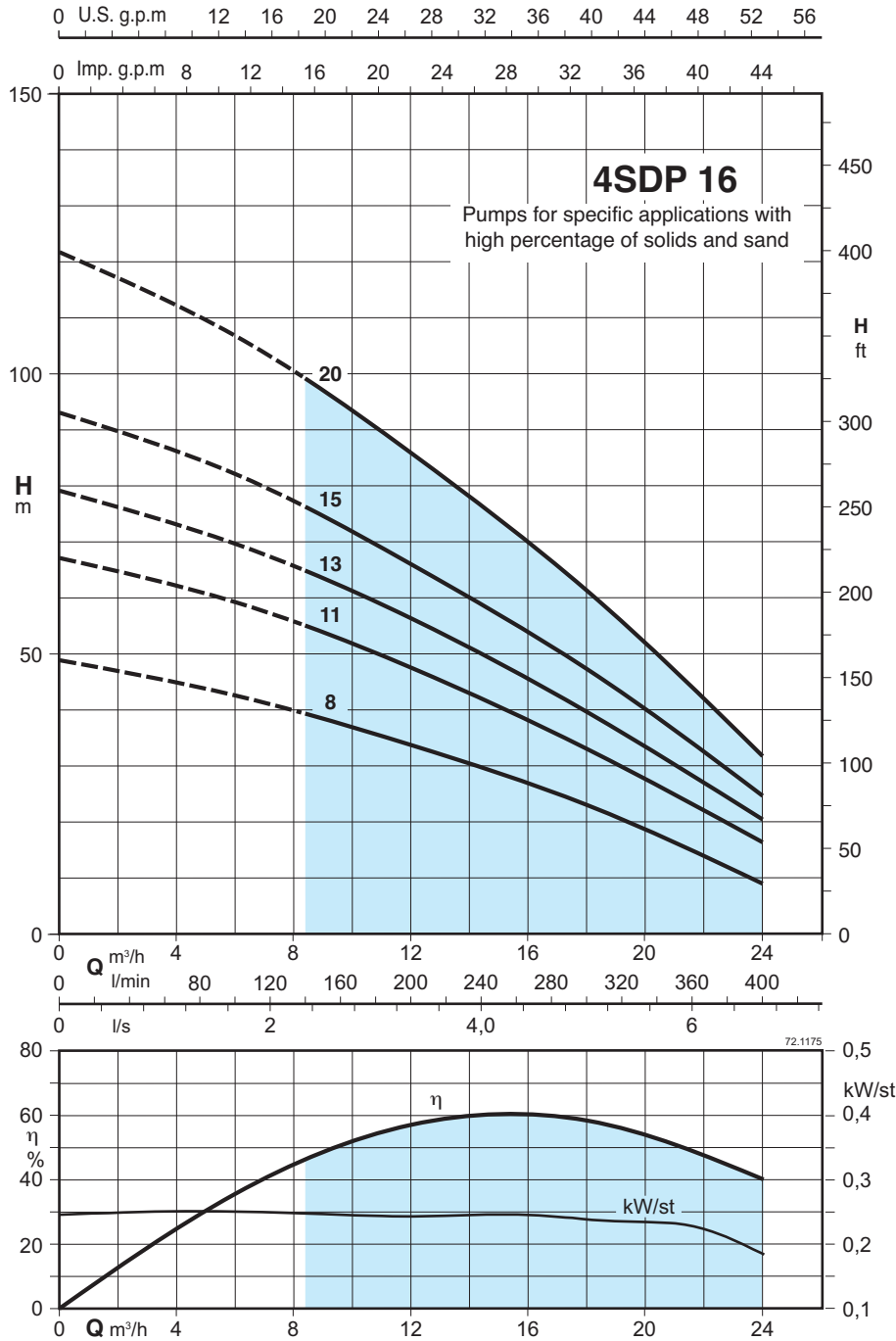
P₁ Max. power input P₂ Rated motor power output * Only for single-phase motor 230 V - 50 Hz (on request)

Tolerances according to UNI EN ISO 9906:2012

4SDP 16 Submersible borehole pumps for 4" wells



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



	3~ 400 V (380-415) 50 Hz A	1~ 230V Capacitor P1 450 Vc A	* µF	P1 kW	P2			Q m³/h l/min	n ≈ 2900 rpm															
					kW	HP	0		8,4	9,6	10,8	12	13,2	15,6	18	21,6	24							
4SDP 16/8C	5,5	4SDPM 16/8C	14,7	70	3,25	2,2	3	H m	49	39	38	36	34	32	28	23	15	9						
4SDP 16/11C	7,4					3	4		67	55	53	50	48	45	39	33	23	16						
4SDP 16/13C	9,4					4	5,5		79	65	62	59	56	53	47	40	28	20						
4SDP 16/15C	9,4					4	5,5		93	76	73	70	66	62	55	47	34	25						
4SDP 16/20C	13					5,5	7,5		122	99	95	90	86	81	72	61	44	32						

f	4SDP		4SDPM	
	fM	kg	fM	kg
676	1078	18	1193	22
880	1361	23		
1013	1559	27,5		
1149	1695	28,7		
1489	2135	36,5		

P1: Max. power input

P2: Rated motor power output

* Only for single-phase motor 230 V - 50 Hz (on request)

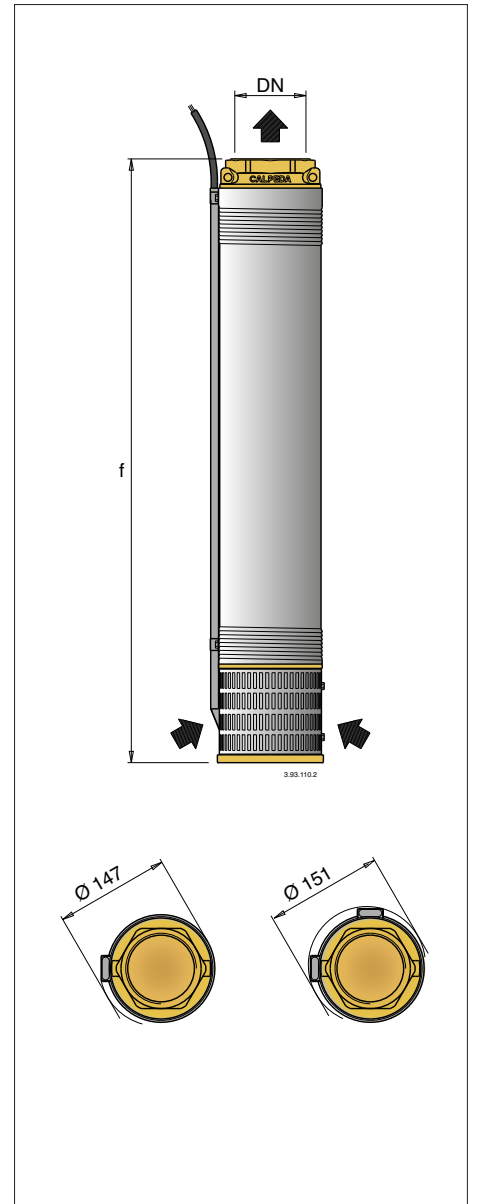
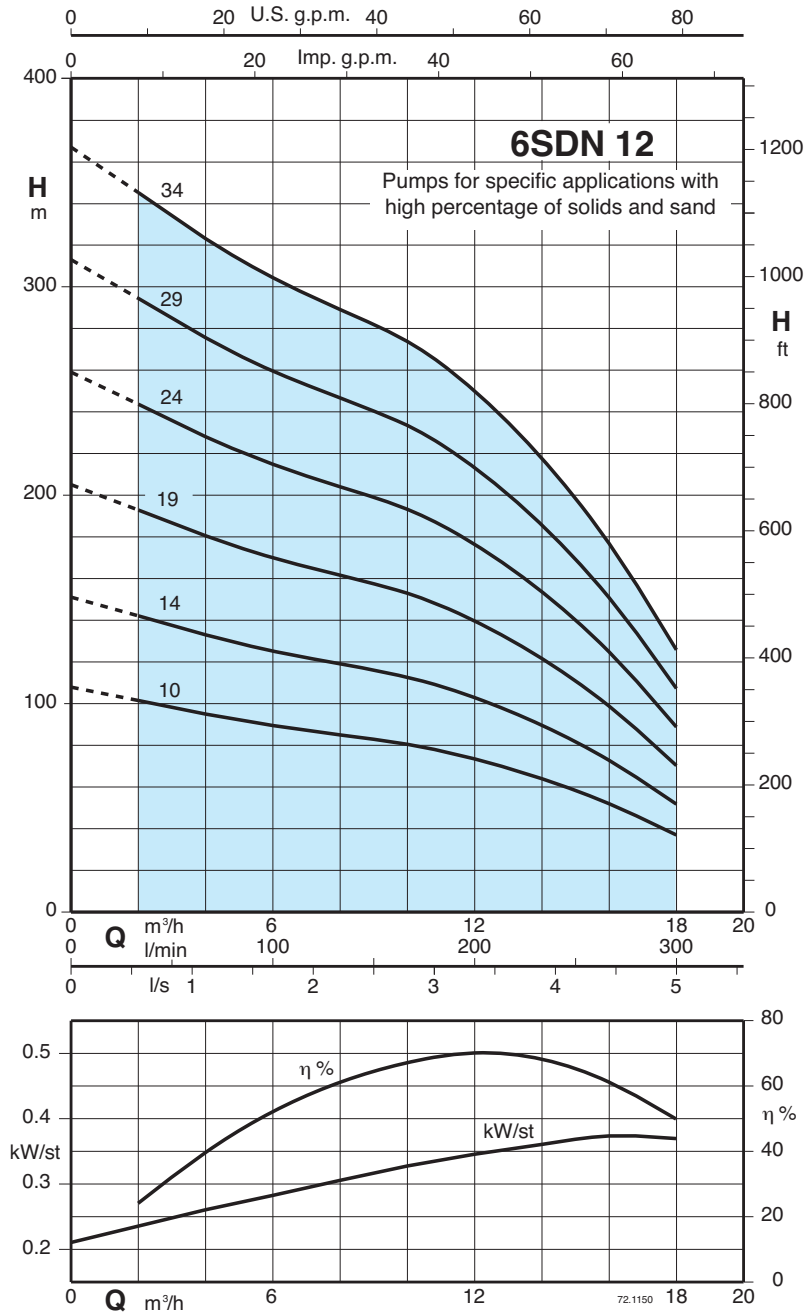
Tolerances according to UNI EN ISO 9906:2012

6SDN 12

Submersible borehole pumps for 6" wells



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



3~	P ₂		Q	n ≈ 2900 rpm												
	kW	HP		m³/h	2	4	6	8	10	12	14	16	18			
				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	f	
	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

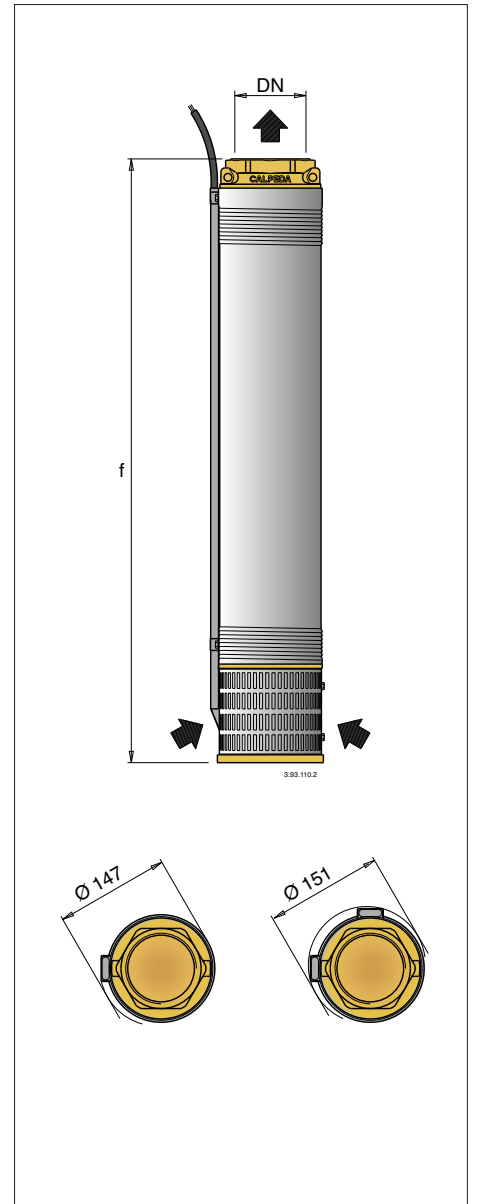
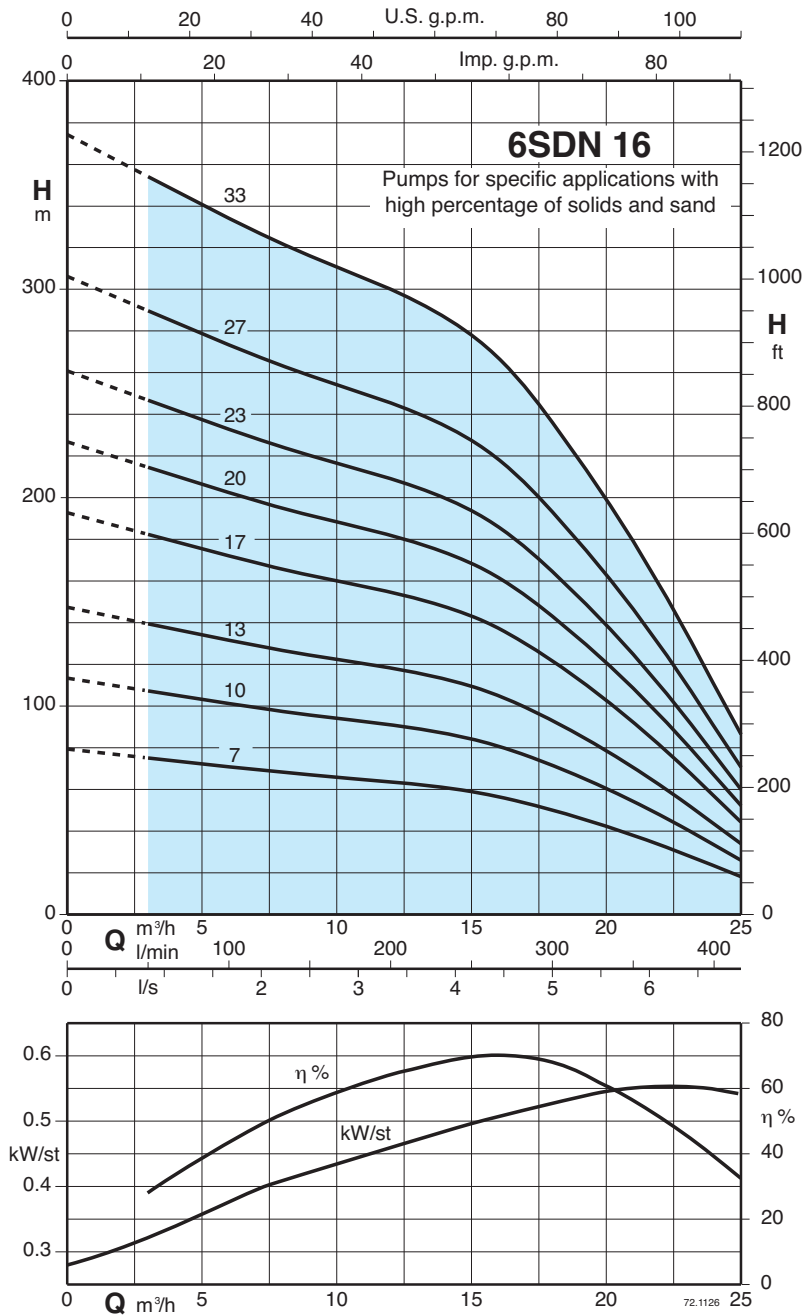
Tolerances according to UNI EN ISO 9906:2012

6SDN 16

Submersible borehole pumps for 6" wells



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



3~	P ₂		Q	n ≈ 2900 rpm											
				m ³ /h											
	kW	HP	3	6	9	12	15	18	21	25					
6SDN 16/7	4	5,5	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	f	kg
	mm	
G 3 ISO 228	600	14
	715	15,5
	830	17
	985	19
	1100	20,5
	1285	22,5
	1435	24,6
1665	28	

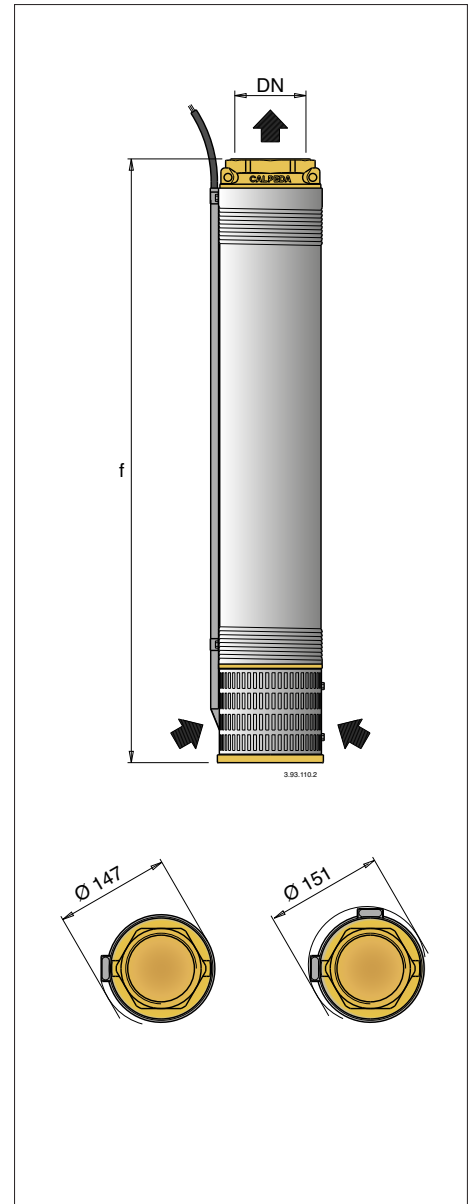
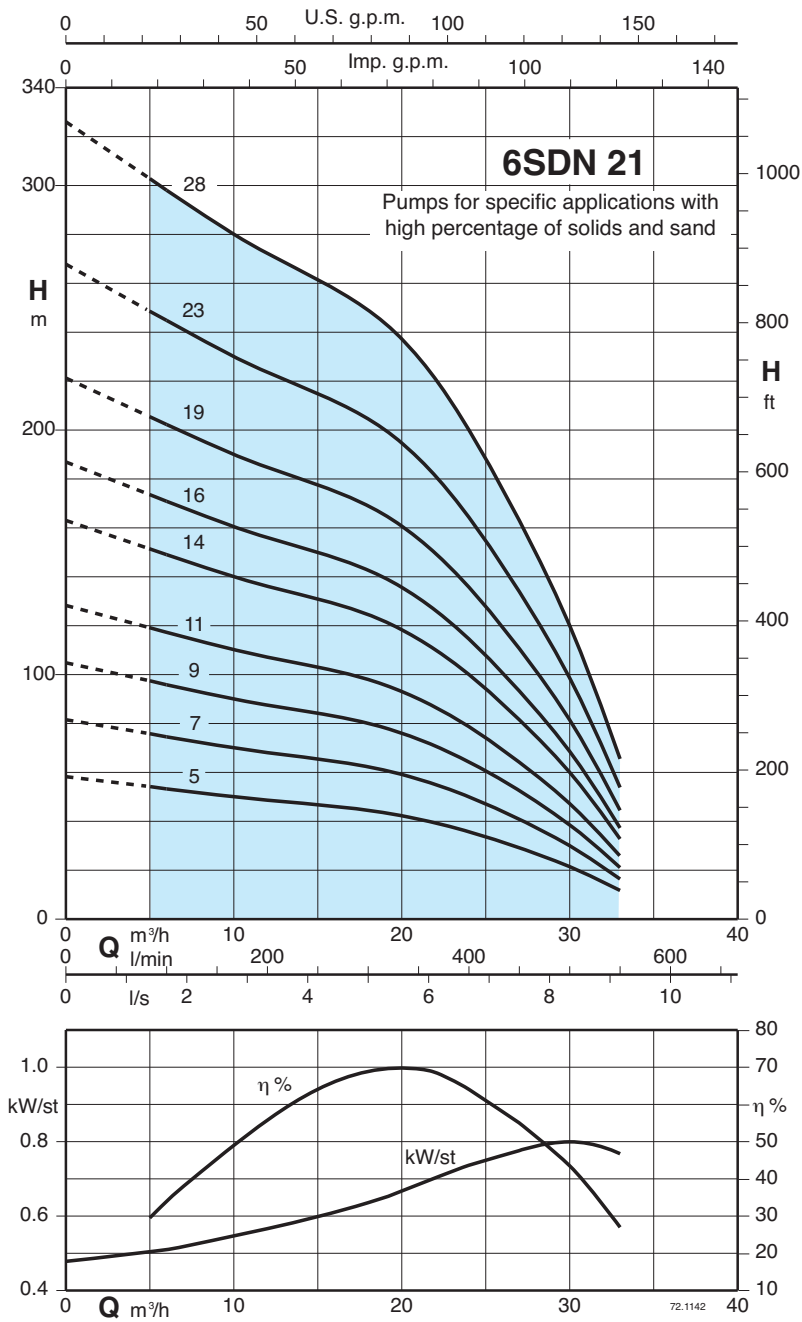
P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

Tolerances according to UNI EN ISO 9906:2012

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



3~	P ₂		Q	n ≈ 2900 rpm										
				m³/h										
	kW	HP		l/min	5	9	12	15	18	21	24	27	30	33
6SDN 21/5	4	5,5	H	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	f	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

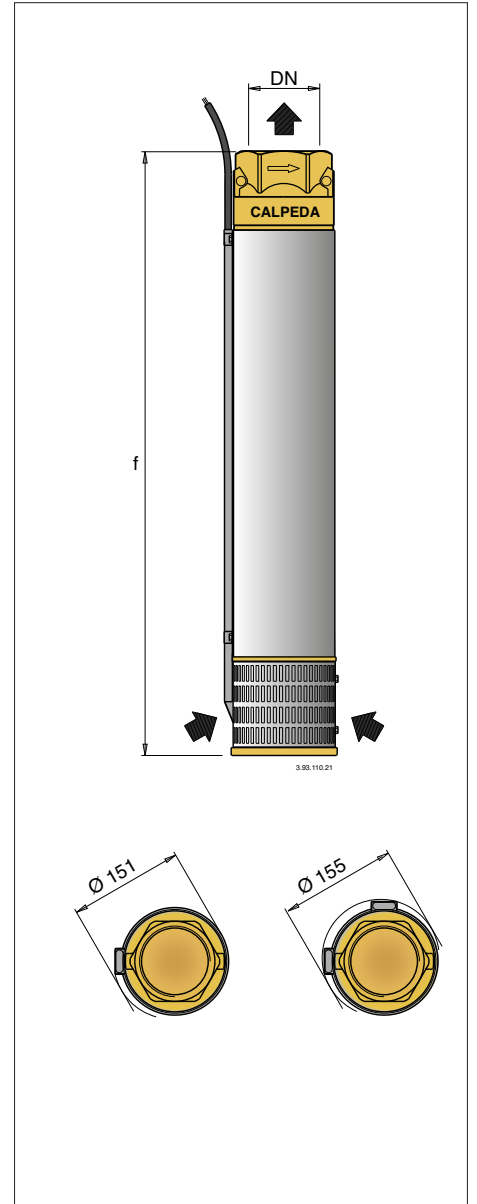
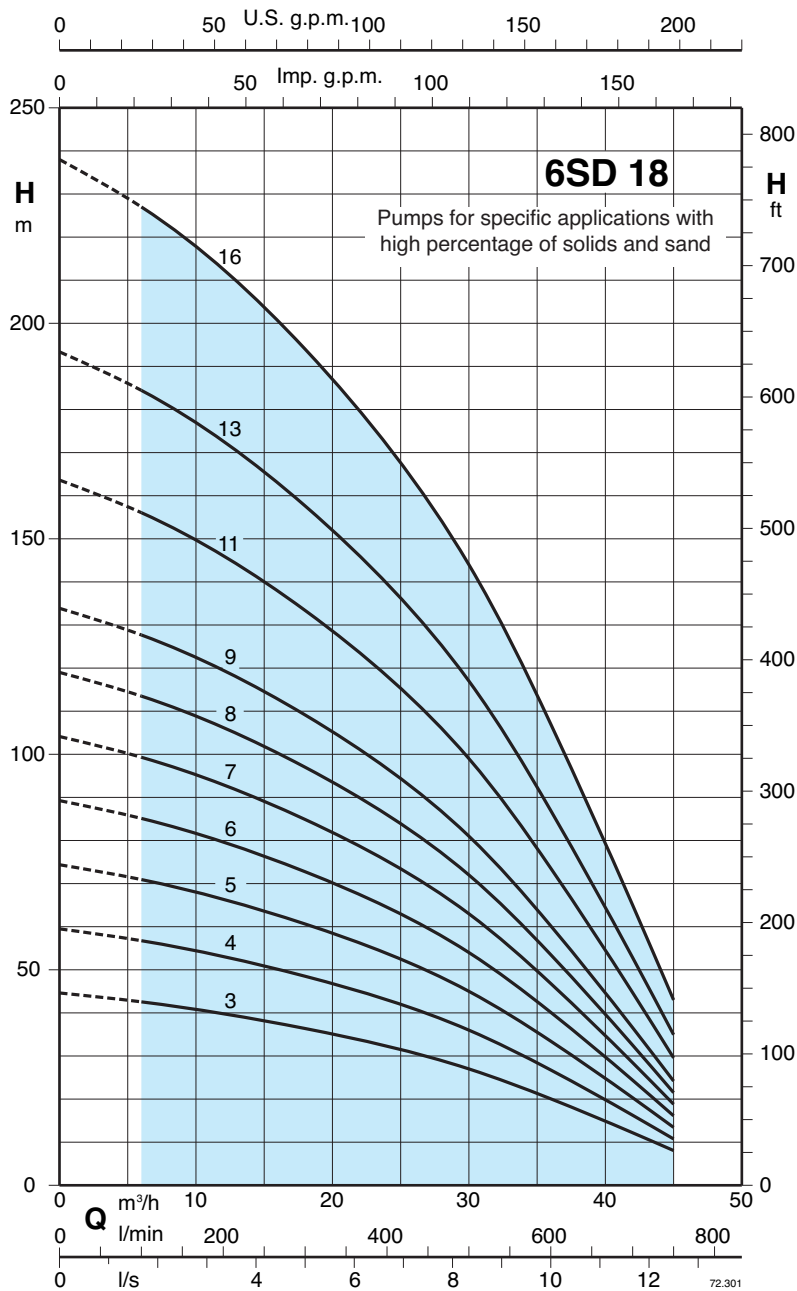
Tolerances according to UNI EN ISO 9906:2012

6SD 18

Submersible borehole pumps for 6" wells



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



3~	P ₂		Q	n ≈ 2900 rpm													
	kW	HP		H													
			l/min	6	12	18	24	30	36	42	45						
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	100	93	84	75	63	46	28	19							
6SD 18/8	11	15	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	f	
	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

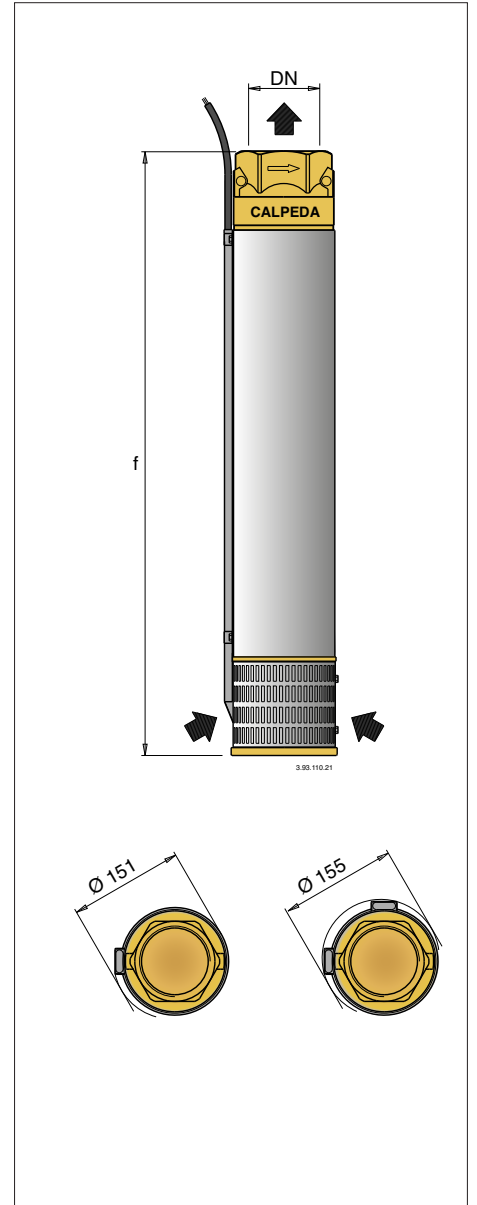
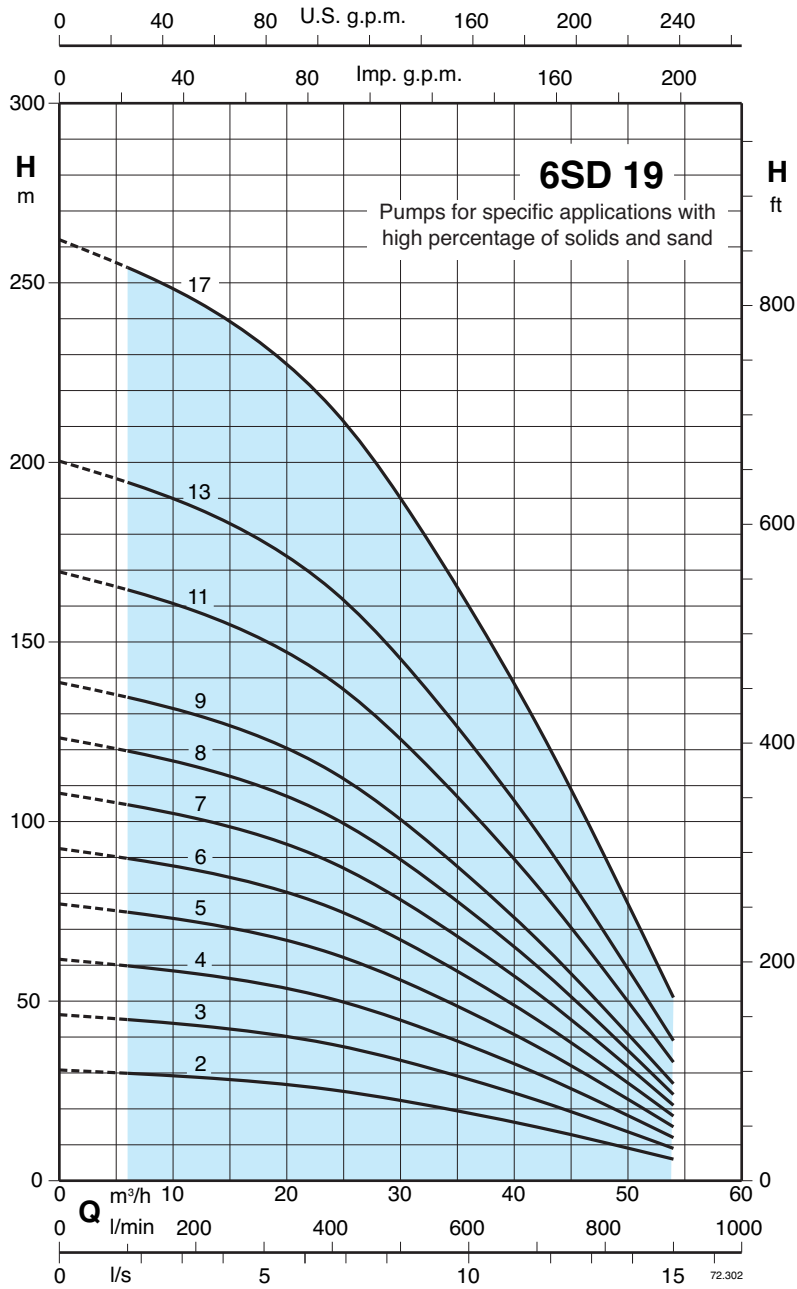
P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

Tolerances according to UNI EN ISO 9906:2012

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



3~	P ₂		Q	n ≈ 2900 rpm												
				H												
	kW	HP	m³/h	6	12	18	24	30	36	42	48	54				
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)	105	100	96	88	79	66	53	37	21					
6SD 19/8	15	20	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	f	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	

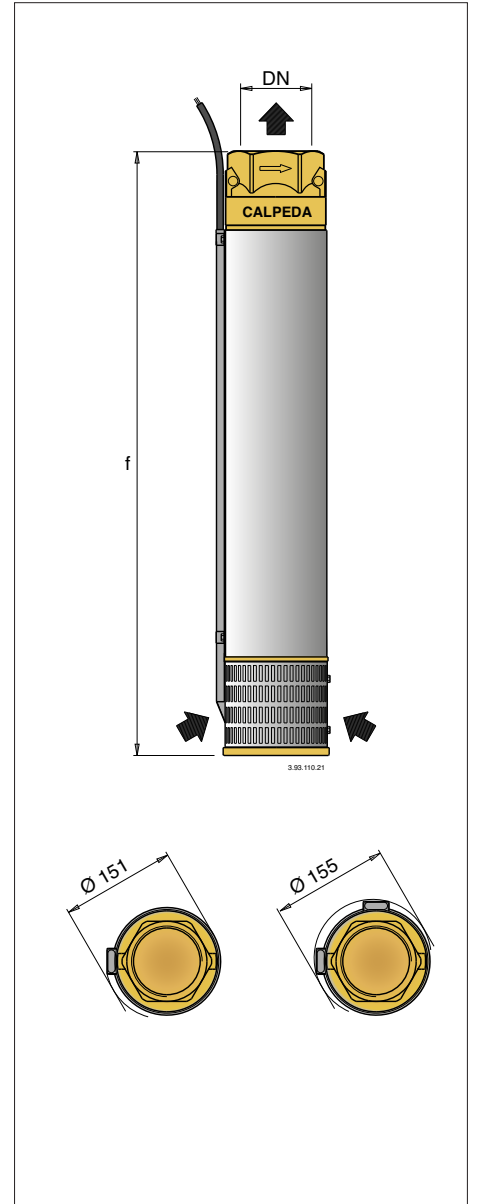
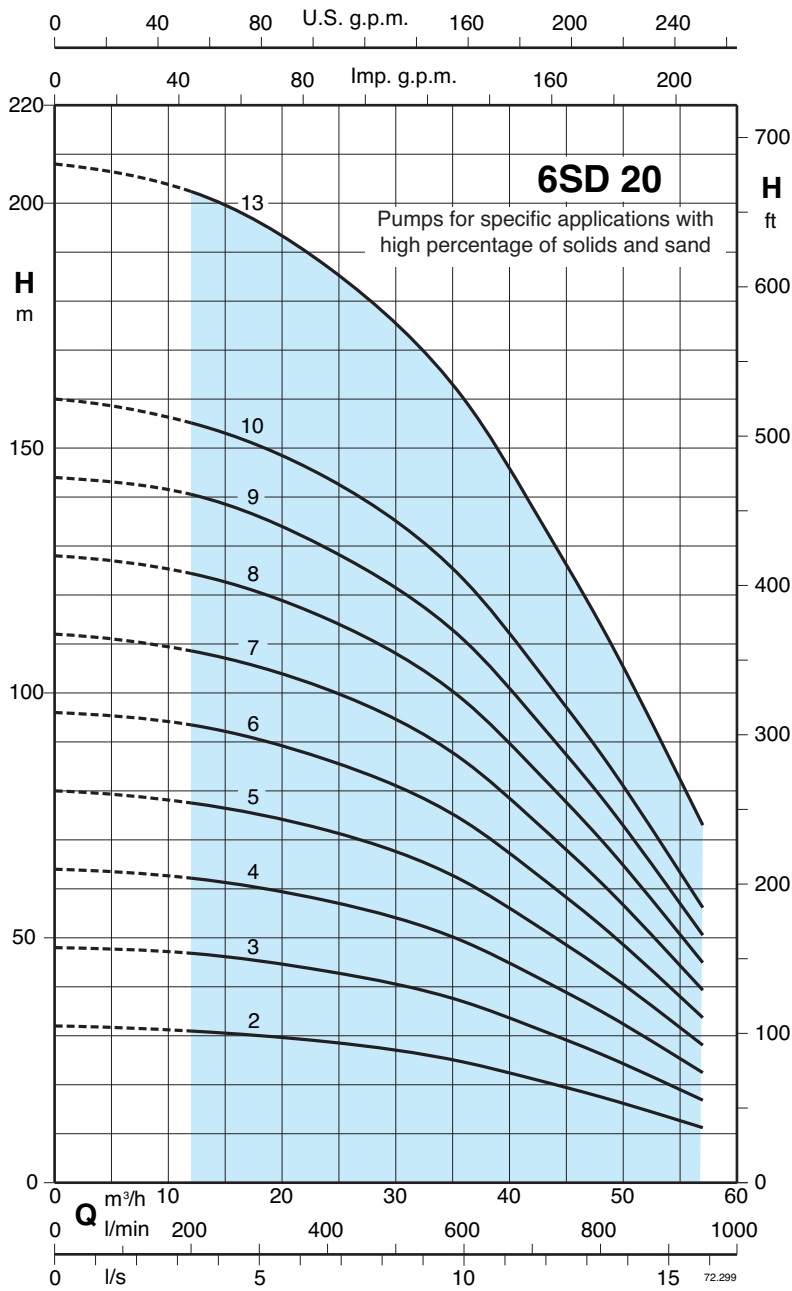
P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

Tolerances according to UNI EN ISO 9906:2012

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



3~	P ₂		Q	n ≈ 2900 rpm														
	kW	HP		H														
				m														
			m³/h	12	18	24	30	36	42	48	54	57						
			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)		93	91	87	83	73	63	53	40	34						
6SD 20/7	15	20		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	f	
	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



The electropumps 6SDX, 6SDXL series comply with the European Regulation no. 547/2012.

Materials

Components	6SDX	6SDXL	8SDX	8SDXL
External jacket	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316L	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316
Suction lantern				
Delivery casing				
Upper cover	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316L	-	-
Strainer	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316	Cr-Ni-Mo steel AISI 316	Cr-Ni-Mo steel AISI 316
Valve set				
O-ring valve	NBR			
Shaft	Cr steel AISI 431	Cr-Ni-Mo steel AISI 316	Cr-Ni-Mo steel AISI 329	Cr-Ni-Mo steel AISI 329
Coupling set	Cr steel AISI 431	Cr-Ni-Mo steel AISI 316/329		
Diffuser	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316L	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316
Stage casing				
Impeller	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316L	Cr-Ni-Mo steel AISI 316	
Wear ring	NBR		Teflon (PTFE)	
Bearing bush	NBR	HNBR	NBR	HNBR
Cable guard	Cr-Ni steel AISI 304		Cr-Ni-Mo steel AISI 316	
Screws				

CS, CS-R Motor

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

Construction

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

6SDX 16,28,45,60 - 8SDX 78,97: with external jacket and stages in stainless steel AISI 304.

6SDXL 18,30,46,65 - 8SDXL 78,97: with external jacket and stages in stainless steel AISI 316.

Impellers

Radial impellers	6SDXL 18
Mixed flow impellers	6SDX 16-28-45-60, 8SDX 78-97 6SDXL 30-46-65, 8SDXL 78-97

Connection: Screwed connection Rp 2" 1/2, 3", 4", 5"

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: 30 °C for 6SDX

60 °C for 8SDX

90 °C for SDXL.

Max. sand quantity into the water: 50 g/m³ per 6SDX

100 g/m³ per 8SDX

100 g/m³ per SDXL

Continuous duty.

Rewindable motor CS-R series

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).

With water wetted winding in rewindable execution.

Sized for connection to the pumps according to NEMA Standards.

Standard voltages:

- three-phase 400 V; 400/690 V.

Voltage tolerance : +6% / -10%.

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

Insulation class F for 4" motors, class E for 6-8" motors, PVC coated wire for 10" motors.

Motor suitable operation with frequency converter.

Protection IP 68.

Operating conditions motor

Motor	Max. Liquid temperature	Cooling: minimum flow velocity	Max. starts per hour	Motor P2
4CS-R	35 °C	0,08 m/s	20	all types
6CS-R	30 °C	0,1 m/s	15	4÷11 kW
		0,2 m/s	15	13÷15 kW
	25 °C	0,2 m/s	15	18,5 kW
		0,2 m/s	13	22÷30 kW
8CS-R	25 °C	0,3 m/s	13	37 kW
			6	45 kW
10CS	25 °C	0,50 m/s	10	30÷45 kW
			8	51÷75 kW
			6	92 kW

Special features on request

- Other voltages. - 60 Hz frequency.

- Other temperatures.

- Encapsulated motor **FK series**.

Designation

6 SDX L 30 / 17

Ø of the well in inches _____

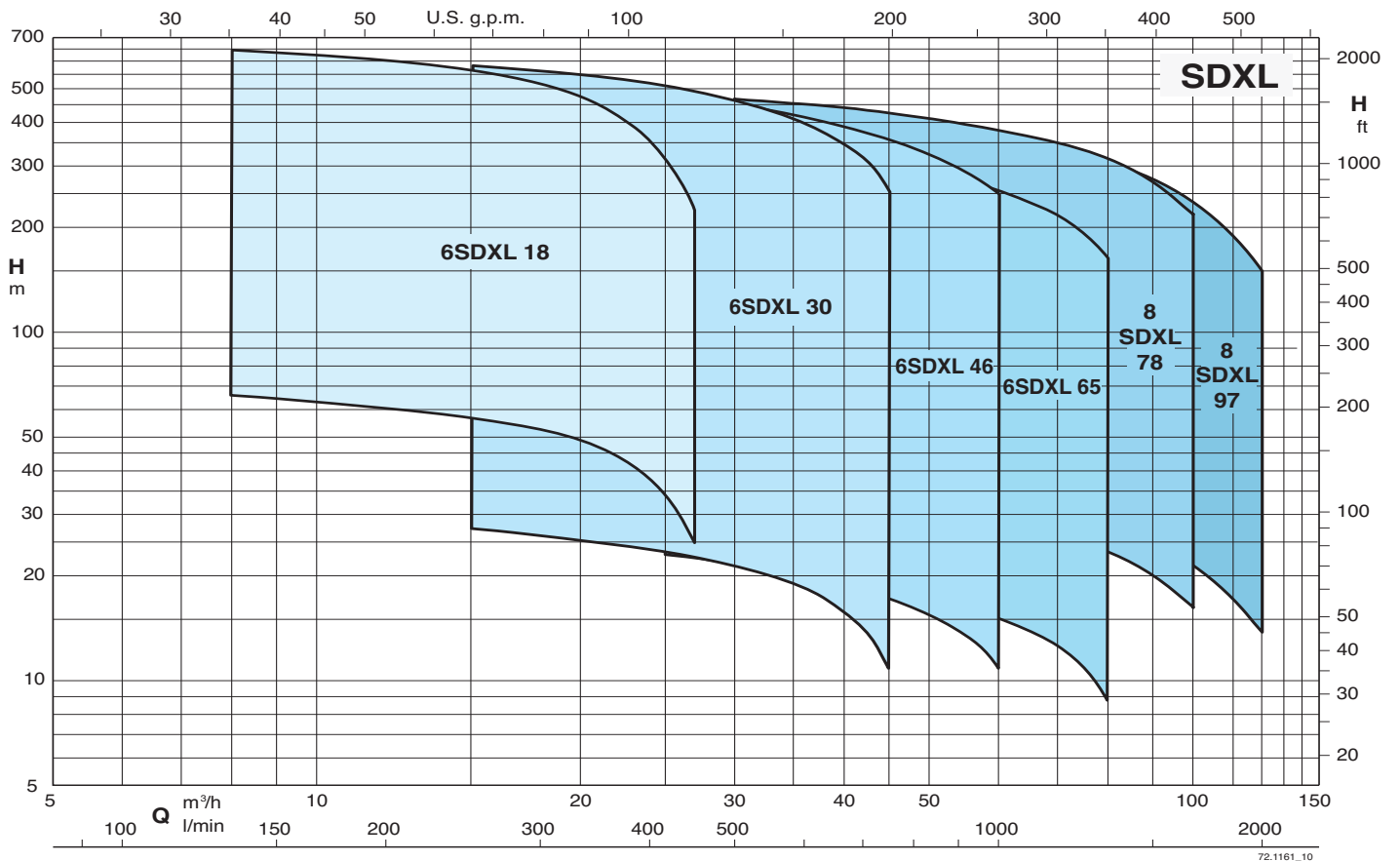
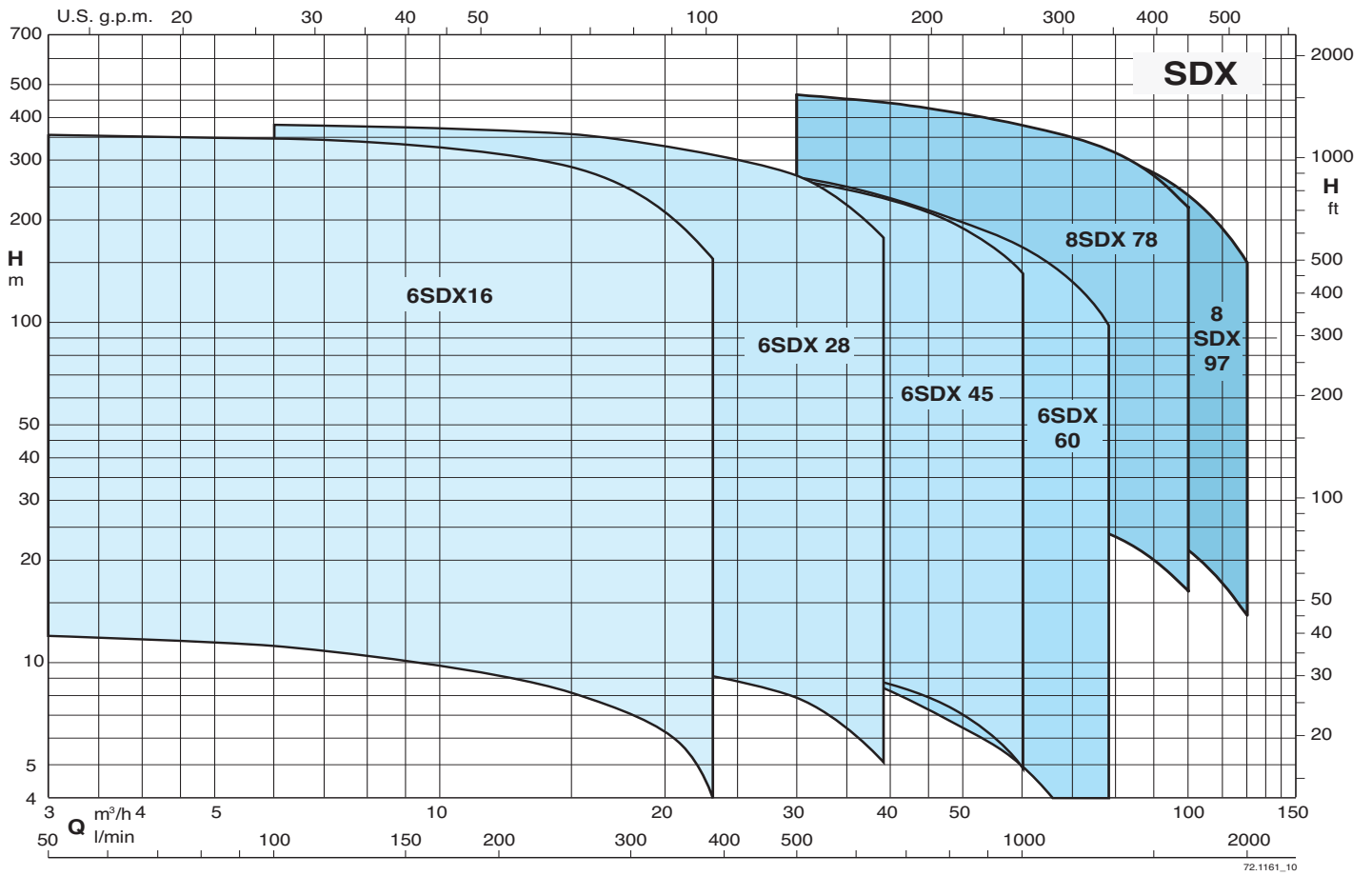
Series _____

Cr-Ni-Mo steel AISI 316 construction _____

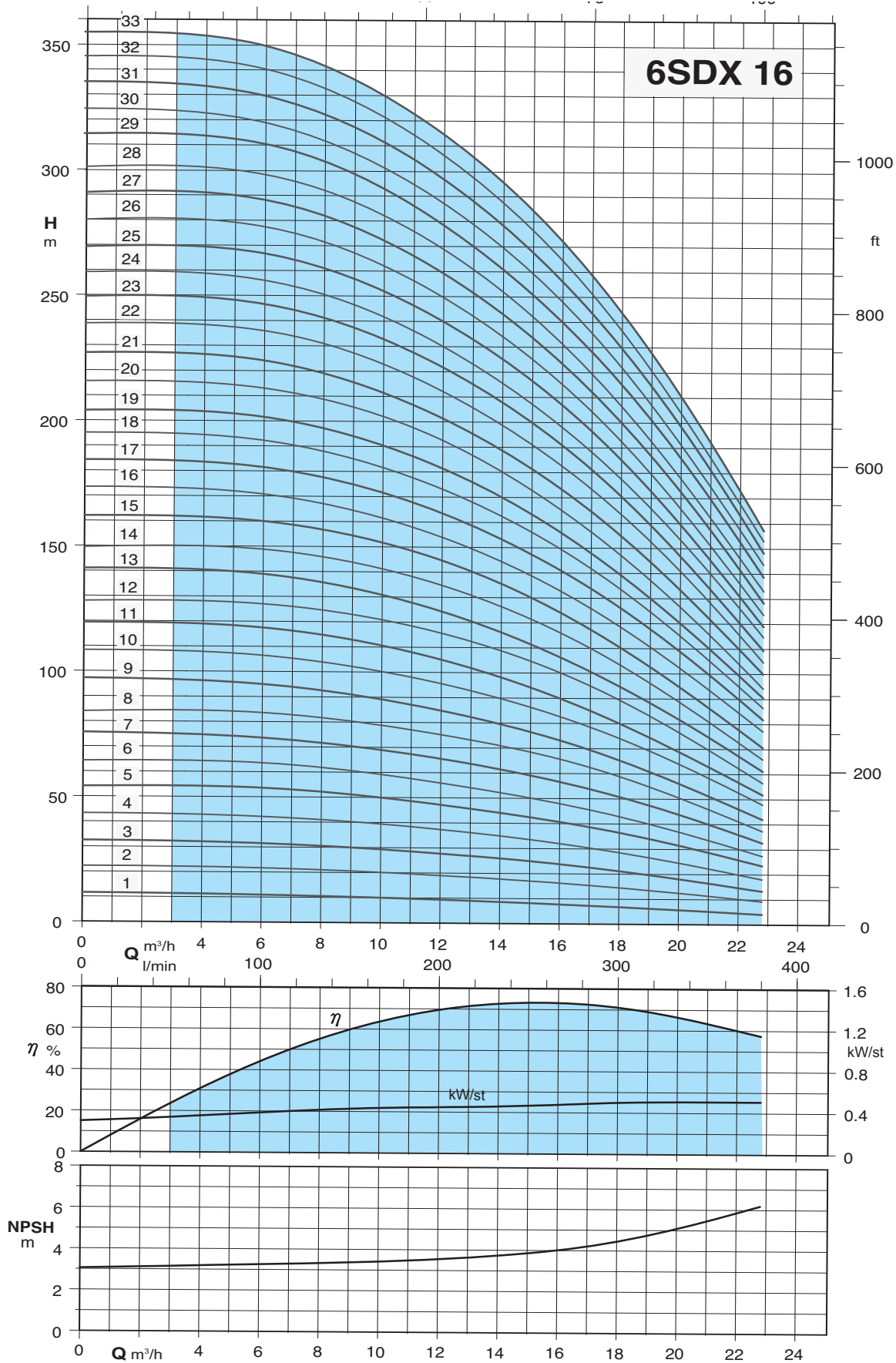
Stage identification _____

Number of stages _____

Coverage chart $n \approx 2900$ rpm

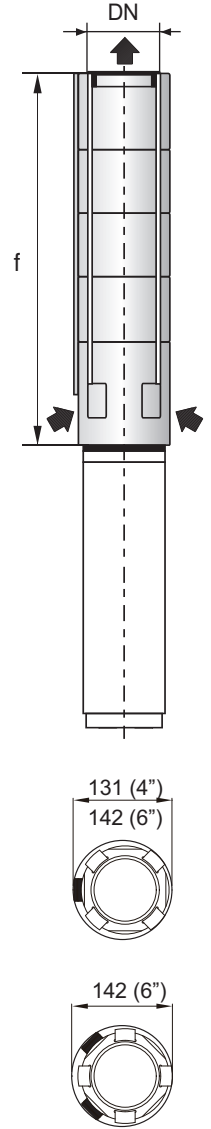


Characteristic curves



Performance $n \approx 2900$ rpm, dimensions and weights

3 ~	P ₂		Q	n ≈ 2900 1/min									DN	Motore	f	kg
				m ³ /h												
	kW	HP	l/min	0	3	6	9	12	15	18	21	23				
				0	50	100	150	200	250	300	350	383				
6SDX 16/1	0.55	0.75	H m	12	12	11	11	10	8	7	6	4	96 4"	343	5.0	
6SDX 16/2	1.1	1.5		22	22	22	20	19	18	14	12	9		403	6.4	
6SDX 16/3	2.2	3		32	32	32	30	28	25	21	17	13		464	7.9	
6SDX 16/4	2.2	3		43	43	42	40	38	33	29	23	18		524	9.3	
6SDX 16/5	3	4		53	53	52	51	48	43	37	29	22		585	10.8	
6SDX 16/6	3.7	5		64	64	63	60	56	50	43	34	27		645	12.2	
6SDX 16/7	4	5.5		75	75	74	70	66	59	51	40	32		706	13.7	
6SDX 16/8	5.5	7.5		85	85	84	80	75	68	59	46	37		766	15.1	
6SDX 16/9	5.5	7.5		97	97	95	91	85	77	65	51	42		827	16.6	
6SDX 16/10	5.5	7.5		108	108	107	102	95	86	74	58	48		887	18.0	
6SDX 16/11	7.5	10		119	119	118	113	105	94	80	63	52	948	19.5		
6SDX 16/12	7.5	10		128	128	127	123	116	105	89	69	57	1008	20.9		
6SDX 16/13	7.5	10		141	141	139	133	124	112	95	75	60	1069	22.4		
6SDX 16/14	9.2	12.5		150	150	149	144	135	122	103	81	66	1129	23.9		
6SDX 16/15	9.2	12.5		162	162	160	155	145	130	110	86	71	1190	25.3		
6SDX 16/16	9.2	12.5		173	173	171	165	154	139	119	93	77	1250	26.8		
6SDX 16/17	9.2	12.5		184	184	182	175	163	147	126	100	80	1311	28.2		
6SDX 16/18	9.2	12.5		195	195	192	185	173	156	134	105	86	1371	29.7		
6SDX 16/19	11	15		204	204	202	194	181	163	139	110	91	1432	31.1		
6SDX 16/20	11	15		216	216	213	206	192	173	147	116	95	1492	32.5		
6SDX 16/21	11	15		227	227	224	216	201	182	155	122	100	1553	34.0		
6SDX 16/22	13	17.5		239	239	237	228	212	190	163	129	105	1613	35.4		
6SDX 16/23	13	17.5		250	250	247	237	222	200	171	134	109	1674	36.9		
6SDX 16/24	13	17.5		260	260	257	247	230	208	178	140	115	1734	38.3		
6SDX 16/25	15	20		270	270	267	257	240	217	185	145	119	1795	39.8		
6SDX 16/26	15	20		281	281	278	267	250	225	192	151	124	1855	41.2		
6SDX 16/27	15	20		291	291	288	277	259	234	200	158	128	1916	42.7		
6SDX 16/28	18.5	25		302	302	298	288	269	242	207	162	133	1976	44.2		
6SDX 16/29	18.5	25		314	314	311	300	279	250	215	170	138	2037	45.6		
6SDX 16/30	18.5	25		324	324	319	307	288	260	222	175	144	2097	47.1		
6SDX 16/31	18.5	25		335	335	330	318	298	269	230	181	148	2158	48.5		
6SDX 16/32	18.5	25		345	345	341	328	307	277	237	187	153	2218	50.0		
6SDX 16/33	18.5	25		355	355	350	337	315	285	243	191	157	2279	51.4		

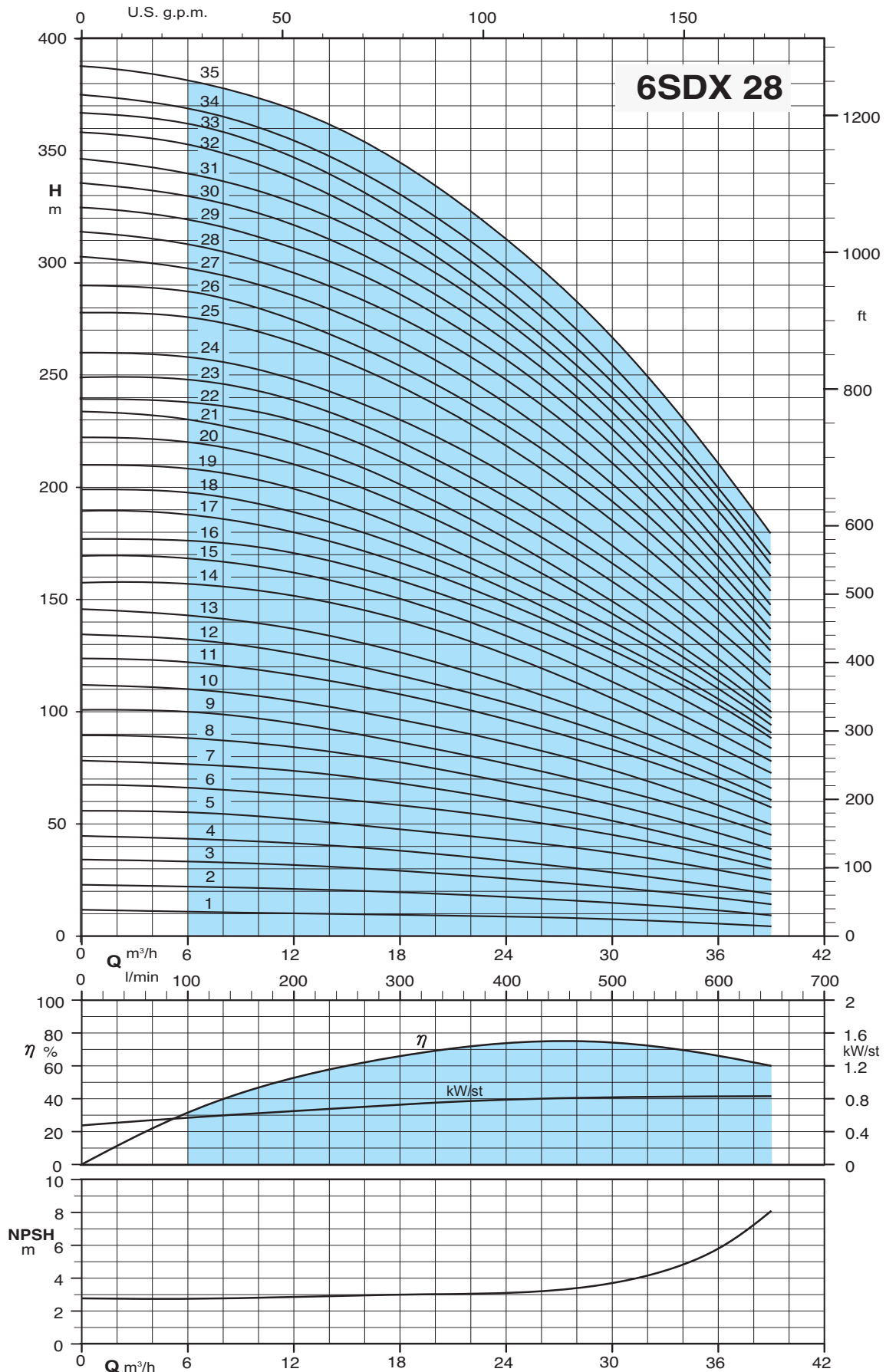


6SDX 28

Submersible borehole pumps for 6" wells

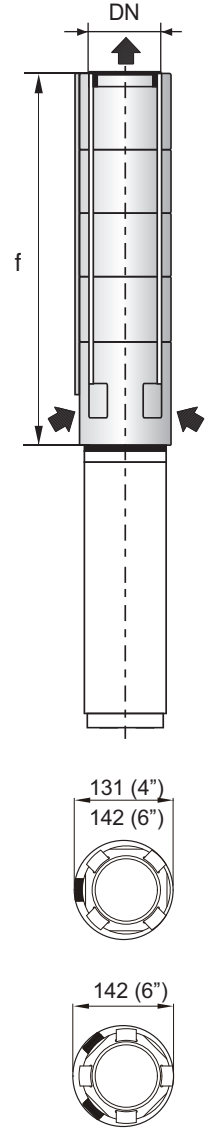


Characteristic curves

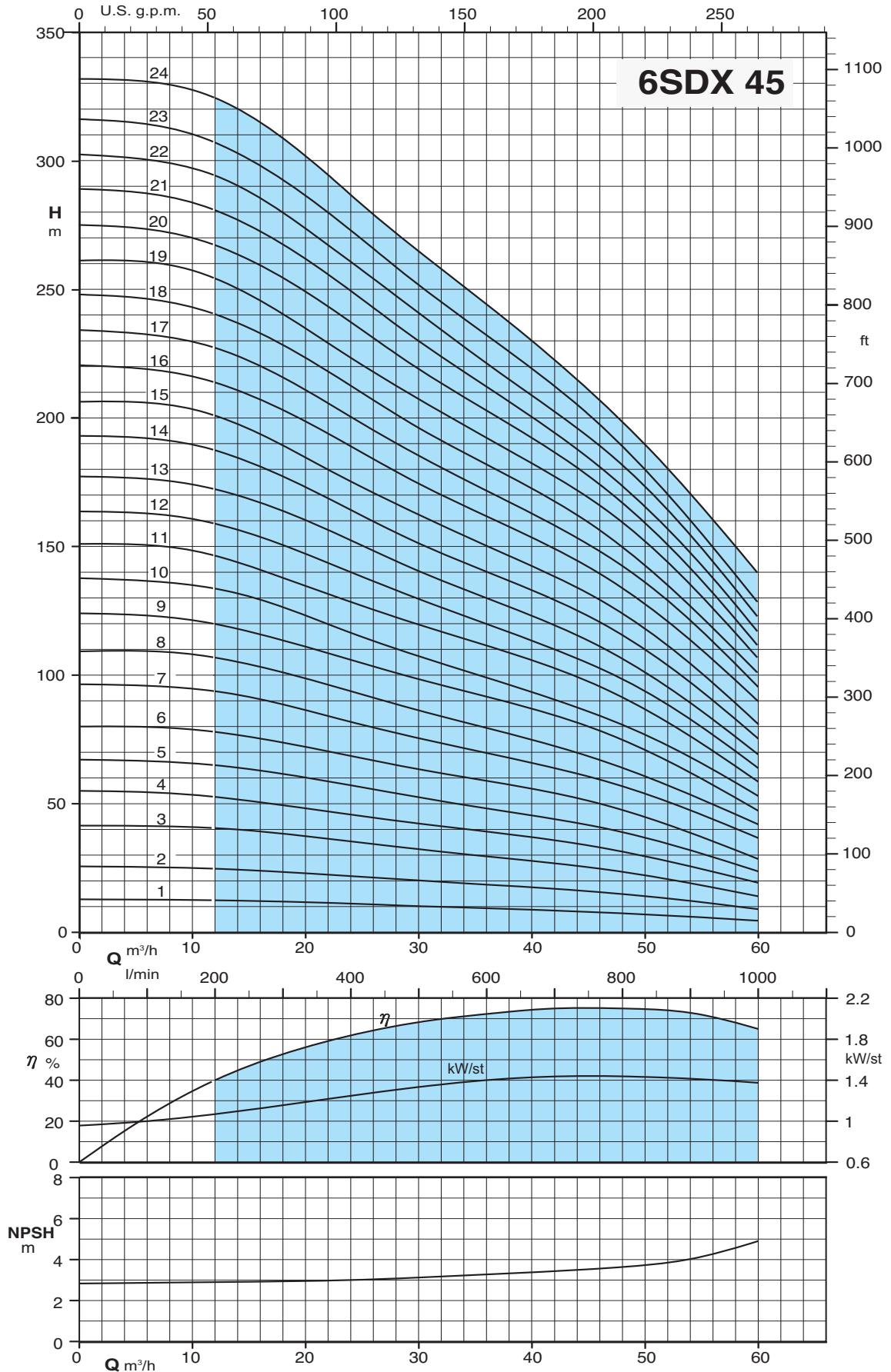


Performance $n \approx 2900$ rpm, dimensions and weights

3 ~	P ₂		Q	n \approx 2900 r/min														DN	Motore											
				H															Ø	f	kg									
	kW	HP		m ³ /h	0	6	9	12	15	18	21	24	27	30	33	36	39					l/min	0	100	150	200	250	300	350	400
6SDX 28/1	1,1	1,5	11	11	11	10	10	10	9	9	8	8	7	6	5	23	23	22	21	20	19	18	17	16	15	13	11	9	366	6.7
6SDX 28/2	2,2	3	23	23	22	21	20	19	18	17	16	15	13	11	9	33	33	32	31	30	29	28	26	24	22	20	17	14	462	8.4
6SDX 28/3	3	4	33	33	32	31	30	29	28	26	24	22	20	17	14	44	43	42	41	40	38	36	34	31	28	26	23	19	558	10.1
6SDX 28/4	3,7	5	44	43	42	41	40	38	36	34	31	28	26	23	19	56	55	54	52	50	48	45	43	40	37	34	29	25	654	11.8
6SDX 28/5	5,5	7,5	56	55	54	52	50	48	45	43	40	37	34	29	25	68	67	64	62	60	58	56	52	49	45	40	36	30	750	13.5
6SDX 28/6	5,5	7,5	68	67	64	62	60	58	56	52	49	45	40	36	30	79	77	76	74	71	68	65	61	56	52	46	40	34	846	15.2
6SDX 28/7	7,5	10	79	77	76	74	71	68	65	61	56	52	46	40	34	90	88	87	84	81	78	73	68	64	58	53	46	38	942	16.9
6SDX 28/8	7,5	10	90	88	87	84	81	78	73	68	64	58	53	46	38	101	100	98	95	91	87	82	77	72	66	60	53	45	1038	18.6
6SDX 28/9	9,2	12,5	101	100	98	95	91	87	82	77	72	66	60	53	45	112	110	108	105	101	97	92	86	81	74	67	58	50	1134	20.3
6SDX 28/10	9,2	12,5	112	110	108	105	101	97	92	86	81	74	67	58	50	124	122	120	117	112	108	102	97	90	83	76	67	57	1230	22
6SDX 28/11	11	15	124	122	120	117	112	108	102	97	90	83	76	67	57	134	132	130	126	121	116	110	104	97	89	81	71	61	1326	23.6
6SDX 28/12	11	15	134	132	130	126	121	116	110	104	97	89	81	71	61	146	143	140	137	132	127	120	113	105	97	87	77	66	1422	25.3
6SDX 28/13	11	15	146	143	140	137	132	127	120	113	105	97	87	77	66	158	157	155	152	147	141	134	126	116	108	95	84	73	1518	27
6SDX 28/14	13	17,5	158	157	155	152	147	141	134	126	116	108	95	84	73	170	168	166	162	157	150	142	134	124	113	102	90	77	1614	29.7
6SDX 28/15	15	20	170	168	166	162	157	150	142	134	124	113	102	90	77	178	176	174	171	165	159	151	142	132	122	110	97	84	1710	30.4
6SDX 28/16	15	20	178	176	174	171	165	159	151	142	132	122	110	97	84	190	188	185	180	173	167	158	148	138	127	116	103	88	1806	32.1
6SDX 28/17	15	20	190	188	185	180	173	167	158	148	138	127	116	103	88	199	198	194	189	182	174	165	155	143	130	119	106	90	1902	33.8
6SDX 28/18	18,5	25	199	198	194	189	182	174	165	155	143	130	119	106	90	210	208	205	199	192	182	172	161	150	137	125	110	94	1998	35.5
6SDX 28/19	18,5	25	210	208	205	199	192	182	172	161	150	137	125	110	94	222	220	216	210	202	193	182	170	157	144	129	114	97	2094	37.2
6SDX 28/20	18,5	25	222	220	216	210	202	193	182	170	157	144	129	114	97	232	230	226	220	212	202	190	177	164	149	134	117	100	2190	38.9
6SDX 28/21	18,5	25	232	230	226	220	212	202	190	177	164	149	134	117	100	240	238	235	230	222	212	200	187	173	159	142	124	104	2286	40.6
6SDX 28/22	22	30	240	238	235	230	222	212	200	187	173	159	142	124	104	250	248	245	239	231	221	209	196	182	167	150	131	110	2382	42.3
6SDX 28/23	22	30	250	248	245	239	231	221	209	196	182	167	150	131	110	260	258	254	248	240	230	219	207	191	175	156	137	117	2478	44
6SDX 28/24	22	30	260	258	254	248	240	230	219	207	191	175	156	137	117	278	276	272	265	256	245	233	219	203	187	166	145	122	2574	45.6
6SDX 28/25	22	30	278	276	272	265	256	245	233	219	203	187	166	145	122	290	287	282	275	266	255	242	227	212	194	173	152	127	2670	47.3
6SDX 28/26	22	30	290	287	282	275	266	255	242	227	212	194	173	152	127	302	298	293	286	277	265	253	238	221	202	181	157	132	2766	49
6SDX 28/27	26	35	302	298	293	286	277	265	253	238	221	202	181	157	132	313	309	303	296	287	276	263	248	231	212	189	164	137	2862	50.7
6SDX 28/28	26	35	313	309	303	296	287	276	263	248	231	212	189	164	137	325	319	314	307	298	287	273	257	240	220	196	170	143	2958	52.4
6SDX 28/29	26	35	325	319	314	307	298	287	273	257	240	220	196	170	143	336	330	325	317	307	295	282	266	248	227	202	176	148	3054	54.1
6SDX 28/30	26	35	336	330	325	317	307	295	282	266	248	227	202	176	148	347	340	335	327	317	305	291	275	256	234	209	183	154	3150	55.8
6SDX 28/31	26	35	347	340	335	327	317	305	291	275	256	234	209	183	154	358	353	347	338	327	313	298	281	261	240	217	190	160	3246	57.5
6SDX 28/32	30	40	358	353	347	338	327	313	298	281	261	240	217	190	160	367	362	356	347	336	322	307	289	270	248	223	196	166	3342	59.2
6SDX 28/33	30	40	367	362	356	347	336	322	307	289	270	248	223	196	166	375	369	363	355	344	331	316	298	278	255	229	200	170	3438	60.9
6SDX 28/34	30	40	375	369	363	355	344	331	316	298	278	255	229	200	170	388	382	377	368	358	346	329	311	290	267	240	211	180	3534	62.6
6SDX 28/35	30	40	388	382	377	368	358	346	329	311	290	267	240	211	180														3630	64.3



Characteristic curves



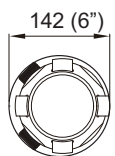
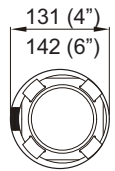
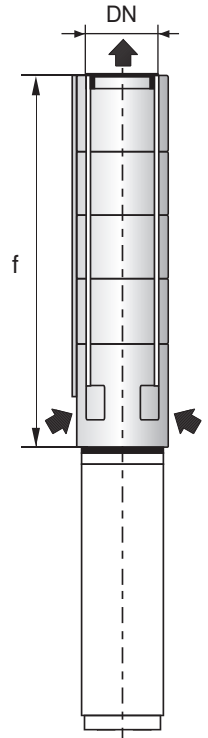
6SDX 45

Submersible borehole pumps for 6" wells



Performance $n \approx 2900$ rpm, dimensions and weights

3 ~	P ₂		Q	n ≈ 2900 1/min													DN	Motore										
				m³/h														Ø mm	f mm	kg								
	kW	HP	l/min	0	12	15	18	21	24	27	30	36	42	48	54	60					0	200	250	300	350	400	450	500
6SDX 45/1	2.2	3	H m	13	13	13	12	12	11	11	10	9	9	8	6	5	96 4"	383	6.9									
6SDX 45/2	3	4		25	24	24	23	23	22	21	20	18	17	15	12	9		496	9.2									
6SDX 45/3	5.5	7.5		41	40	39	38	37	35	34	33	29	27	23	18	14		609	11.5									
6SDX 45/4	7.5	10		54	53	51	49	48	46	44	42	39	36	31	26	19		722	13.8									
6SDX 45/5	7.5	10		67	65	63	61	59	57	55	53	48	44	39	32	24		835	16									
6SDX 45/6	9.2	12.5		80	78	76	74	71	69	66	63	59	54	48	39	29		948	18.3									
6SDX 45/7	11	15		97	94	92	88	85	82	79	76	70	64	57	47	37		1061	20.6									
6SDX 45/8	13	17.5		110	107	104	101	97	94	90	86	79	73	64	54	42		1174	22.9									
6SDX 45/9	15	20		124	120	117	114	110	106	102	98	92	85	75	62	47		1287	25.2									
6SDX 45/10	15	20		138	133	130	127	122	117	112	107	98	90	80	67	53		1400	27.4									
6SDX 45/11	18.5	25		151	146	142	138	133	128	124	120	112	103	91	76	59		1513	29.7									
6SDX 45/12	18.5	25		163	158	155	150	145	140	135	130	120	110	98	83	64		1626	32									
6SDX 45/13	22	30		178	172	169	164	158	152	146	140	130	120	106	89	69	1739	34.3										
6SDX 45/14	22	30		193	187	183	177	171	164	158	151	140	129	115	97	75	1852	36.6										
6SDX 45/15	22	30		207	200	195	189	183	176	169	163	150	138	124	103	81	1965	38.8										
6SDX 45/16	26	35		220	214	209	203	196	189	182	174	162	149	134	113	90	2078	41.1										
6SDX 45/17	26	35		234	227	222	215	208	200	193	186	172	158	143	121	96	2191	43.4										
6SDX 45/18	30	40		248	240	235	229	221	213	204	196	182	168	150	127	101	2304	45.7										
6SDX 45/19	30	40		261	254	248	241	233	224	216	208	193	178	160	136	107	2417	47.9										
6SDX 45/20	30	40		275	267	262	255	246	238	228	219	203	187	167	142	112	2530	50.2										
6SDX 45/21	37	50		289	280	275	268	259	250	240	230	212	195	174	148	117	2643	52.5										
6SDX 45/22	37	50		302	294	288	280	270	260	251	241	222	203	183	155	123	2756	54.8										
6SDX 45/23	37	50		317	307	301	293	283	273	262	252	232	213	189	161	129	2869	57.1										
6SDX 45/24	37	50		332	325	317	309	298	287	276	265	244	223	199	171	140	2982	59.3										

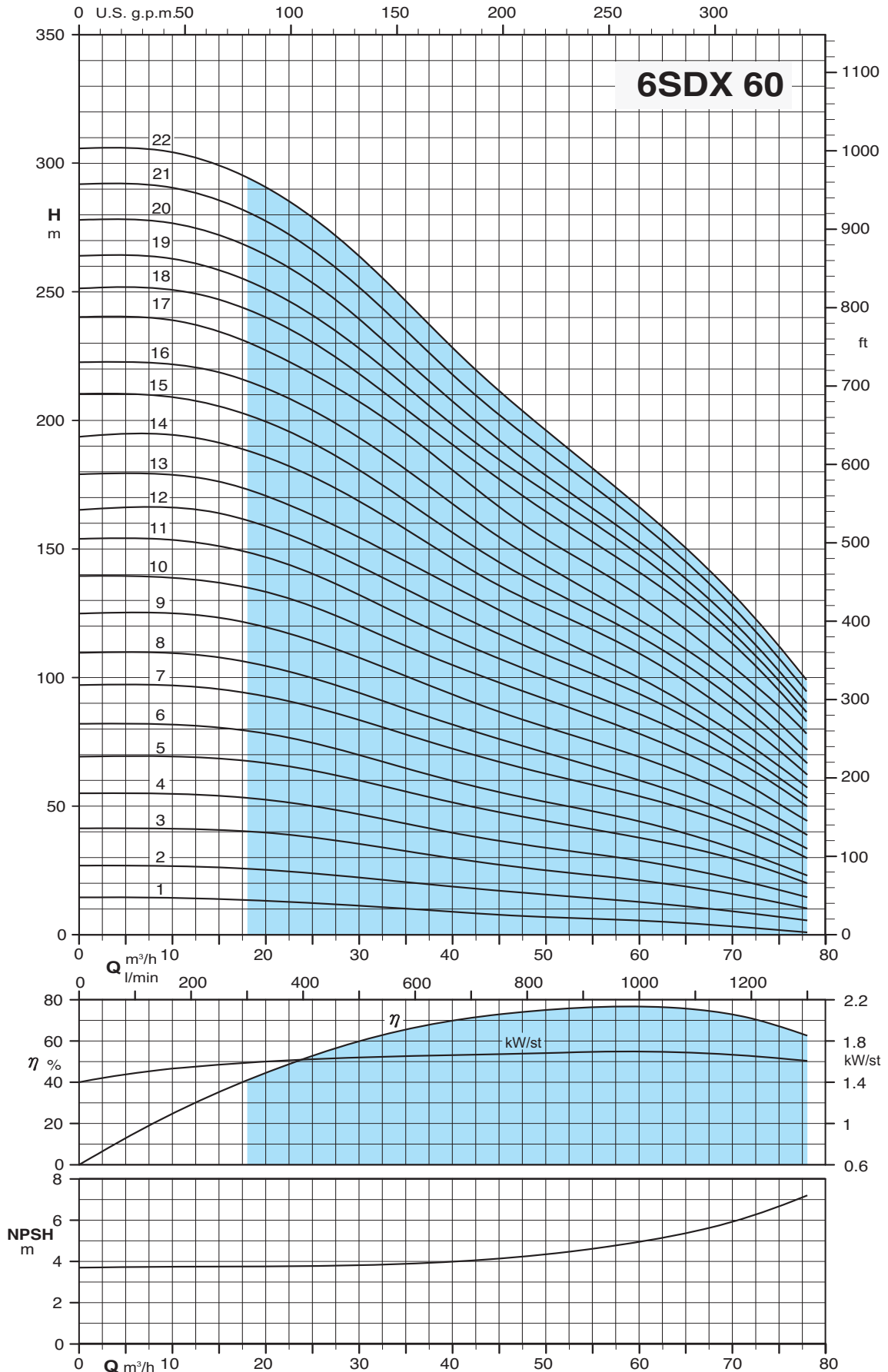


6SDX 60

Submersible borehole pumps for 6" wells



Characteristic curves



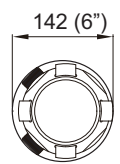
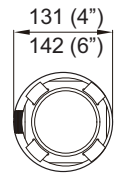
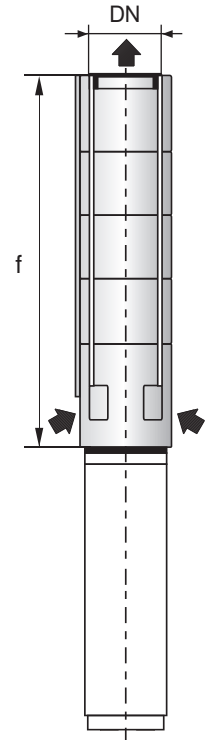
6SDX 60

Submersible borehole pumps for 6" wells



Performance $n \approx 2900$ rpm, dimensions and weights

3 ~	P ₂		Q	n ≈ 2900 1/min													DN	Motore		
				m³/h														Ø mm	f mm	kg
	kW	HP	l/min	0	18	21	24	30	36	42	48	54	60	66	72	78				
6SDX 60/1	2.2	3	14	13	13	12	11	10	8	7	6	5	4	2	1	96	383	6.9		
6SDX 60/2	3.7	5	28	26	25	24	22	20	18	16	14	13	11	8	5	4"	496	9.2		
6SDX 60/3	5.5	7.5	42	40	39	38	36	32	28	26	24	21	18	14	10	609	11.5			
6SDX 60/4	7.5	10	55	53	52	51	47	43	38	35	32	28	25	20	14	722	13.7			
6SDX 60/5	9.2	12.5	69	67	66	64	60	55	50	46	42	38	33	27	19	835	16.0			
6SDX 60/6	11	15	82	79	78	76	70	64	58	53	48	44	38	32	23	948	18.3			
6SDX 60/7	13	17.5	98	94	92	89	84	77	70	64	59	54	47	40	29	1061	20.6			
6SDX 60/8	15	20	110	106	104	101	94	87	80	73	67	60	53	44	33	1174	22.9			
6SDX 60/9	18.5	25	126	122	118	116	108	99	91	83	76	69	61	51	38	1287	25.1			
6SDX 60/10	18.5	25	140	135	132	128	120	111	102	95	87	78	68	57	45	1400	27.4			
6SDX 60/11	22	30	153	148	146	142	132	122	112	103	95	86	76	64	49	1513	29.7			
6SDX 60/12	22	30	166	162	157	153	143	133	122	112	103	94	83	68	53	1626	32.0			
6SDX 60/13	26	35	179	173	169	165	155	143	132	121	110	100	87	73	57	1739	34.3			
6SDX 60/14	26	35	195	188	184	180	168	156	142	130	120	109	96	80	63	1852	36.5			
6SDX 60/15	26	35	210	203	197	193	180	166	152	138	127	116	103	86	67	1965	38.8			
6SDX 60/16	30	40	222	216	211	206	193	178	162	148	135	123	108	92	72	2078	41.1			
6SDX 60/17	37	50	239	230	226	220	207	192	175	158	145	132	116	97	78	2191	43.4			
6SDX 60/18	37	50	252	243	238	233	218	202	185	170	155	141	126	107	83	2304	45.7			
6SDX 60/19	37	50	263	254	249	243	228	210	193	177	163	148	131	110	86	2417	48.0			
6SDX 60/20	37	50	278	267	263	256	239	220	201	184	168	153	136	115	90	2530	50.2			
6SDX 60/21	37	50	292	281	276	269	252	232	211	194	177	161	142	120	95	2463	52.5			
6SDX 60/22	37	50	306	295	289	282	264	243	221	202	184	167	147	125	99	2784	60.2			

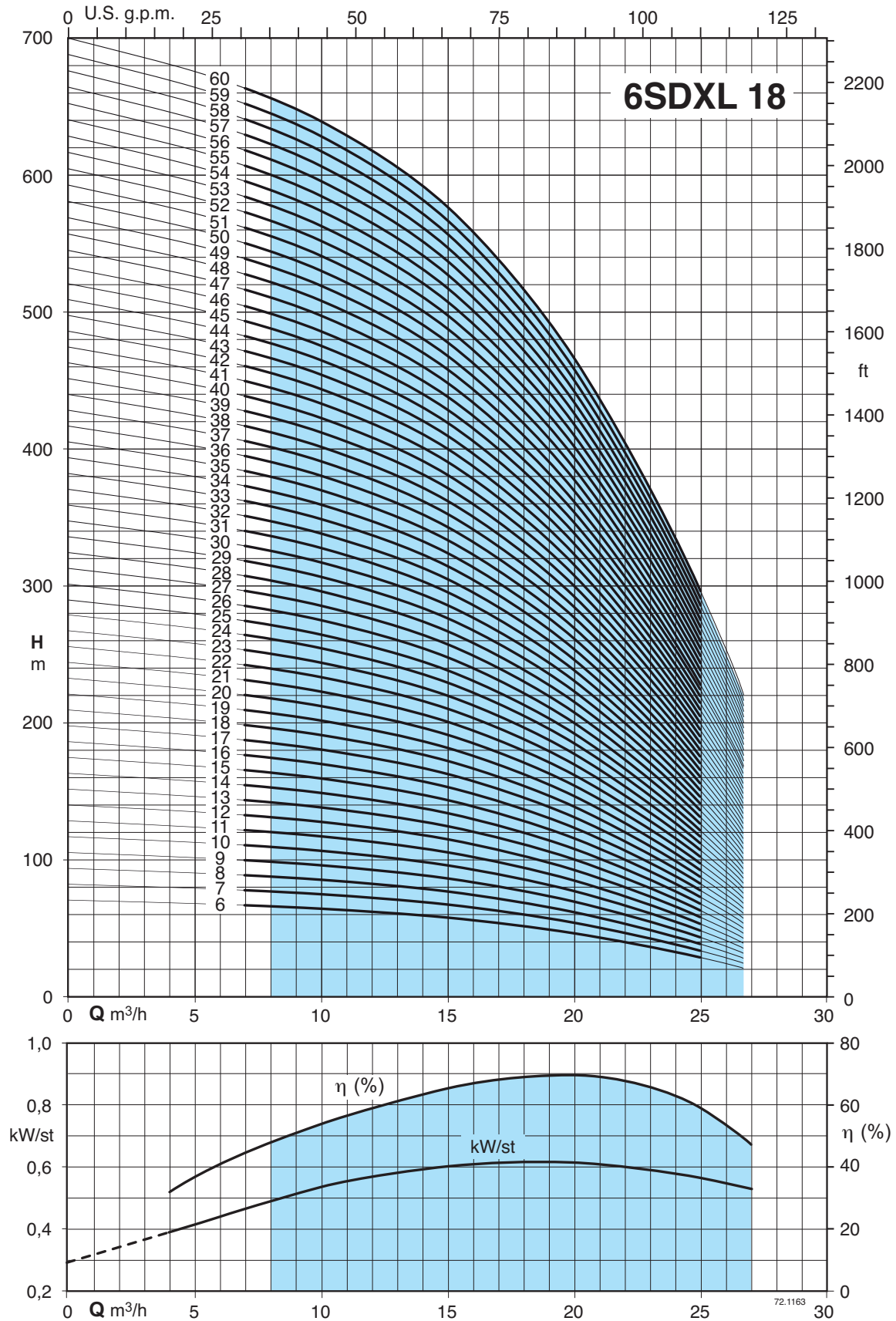


6SDXL 18

Submersible borehole pumps for 6" wells



Characteristic curves



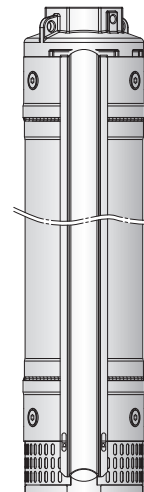
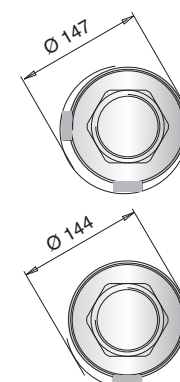
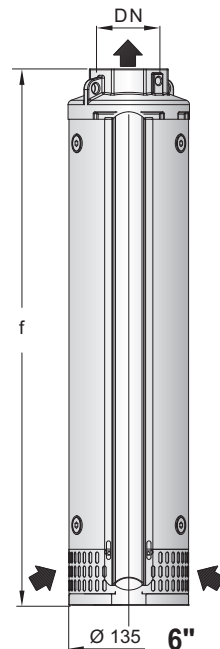
6SDXL 18

Submersible borehole pumps for 6" wells



Performance $n \approx 2900$ rpm, dimensions and weights

3 ~	P2		Q	n \approx 2900 rpm									DN	Motore		f	kg
				H m										CS-R	FK		
	kW	HP	m ³ /h	0	8	10	12	15	18	21	24	27		mm	mm		
			l/min	0	133	167	200	250	300	350	400	450					
6SDXL 18/6	4	5,5	70	66,4	64	62	57,6	51,6	43,2	32,9	20,5				494	12,5	
6SDXL 18/7	5,5	7,5	81,7	77,5	74,7	72,3	67,2	60,2	50,4	38,4	23,9				532	13,5	
6SDXL 18/8	5,5	7,5	93,3	88,5	85,3	82,7	76,8	68,8	57,6	43,9	27,4				569	14,3	
6SDXL 18/9	5,5	7,5	105	99,6	96	93	86,4	77,4	64,8	49,4	30,8				607	15	
6SDXL 18/10	7,5	10	117	111	107	103	96	86	72,0	54,9	34,2				644	16	
6SDXL 18/11	7,5	10	128	122	117	114	106	94,6	79,2	60,4	37,6				682	17	
6SDXL 18/12	7,5	10	140	133	128	124	115	103	86,4	65,8	41,0				719	17,5	
6SDXL 18/13	9,2	12,5	152	144	139	134	125	112	93,6	71,3	44,5				757	18,5	
6SDXL 18/14	9,2	12,5	163	155	149	145	134	120	101	76,8	47,9				794	19,3	
6SDXL 18/15	9,2	12,5	175	166	160	155	144	129	108	82,3	51,3				832	20	
6SDXL 18/16	11	15	187	177	171	165	154	138	115	87,8	54,7				869	21	
6SDXL 18/17	11	15	198	188	181	176	163	146	122	93,3	58,1				907	22	
6SDXL 18/18	11	15	210	199	192	186	173	155	130	98,8	61,6				944	22,5	
6SDXL 18/19	13 (15)	17,5 (20)	222	210	203	196	182	163	137	104	65,0				982	23,5	
6SDXL 18/20	13 (15)	17,5 (20)	233	221	213	207	192	172	144	110	68,4				1019	24	
6SDXL 18/21	13 (15)	17,5 (20)	245	232	224	217	202	181	151	115	71,8				1057	25	
6SDXL 18/22	15	20	257	243	235	227	211	189	158	121	75,2				1094	26	
6SDXL 18/23	15	20	268	254	245	238	221	198	166	126	78,7				1132	26,5	
6SDXL 18/24	15	20	280	266	256	248	230	206	173	132	82,1				1169	27,5	
6SDXL 18/25	18,5	25	292	277	267	258	240	215	180	137	85,5				1207	28,3	
6SDXL 18/26	18,5	25	303	288	277	269	250	224	187	143	88,9				1244	29	
6SDXL 18/27	18,5	25	315	299	288	279	259	232	194	148	92,3				1282	31	
6SDXL 18/28	18,5	25	327	310	299	289	269	241	202	154	95,8				1319	31	
6SDXL 18/29	18,5	25	338	321	309	300	278	249	209	159	99,2				1356	31,5	
6SDXL 18/30	18,5	25	350	332	320	310	288	258	216	165	103				1394	32,5	
6SDXL 18/31	22	30	362	343	331	320	298	267	223	170	106				1431	33,3	
6SDXL 18/32	22	30	373	354	342	331	307	275	230	176	109				1469	34	
6SDXL 18/33	22	30	385	365	352	341	317	284	238	181	113				1506	35	
6SDXL 18/34	22	30	397	376	363	351	326	292	245	187	116				1544	35,7	
6SDXL 18/35	22	30	408	387	373	362	336	301	252	192	120				1581	36,3	
6SDXL 18/36	22	30	420	398	384	372	346	310	259	198	123				1619	37	
6SDXL 18/37	26 (30)	35 (40)	432	409	395	382	355	318	266	203	127				1656	38,4	
6SDXL 18/38	26 (30)	35 (40)	443	420	405	393	365	327	274	209	130				1694	39,8	
6SDXL 18/39	26 (30)	35 (40)	455	432	416	403	374	335	281	214	133				1731	40	
6SDXL 18/40	26 (30)	35 (40)	467	443	427	413	384	344	288	220	137				1769	40,5	
6SDXL 18/41	26 (30)	35 (40)	478	454	437	424	394	353	295	225	140				1806	41,8	
6SDXL 18/42	26 (30)	35 (40)	490	465	448	434	403	361	302	230	144				1844	43	
6SDXL 18/43	30	40	502	476	459	444	413	370	310	236	147				1881	44	
6SDXL 18/44	30	40	513	487	469	455	422	378	317	241	151				1919	45	
6SDXL 18/45	30	40	525	498	480	465	432	387	324	247	154				1956	46	
6SDXL 18/46	30	40	537	509	491	475	442	396	331	252	157				1993	47	
6SDXL 18/47	30	40	548	520	501	486	451	404	338	258	161				2031	47,5	
6SDXL 18/48	30	40	560	531	512	496	461	413	346	263	164				2068	48	
6SDXL 18/49	30	40	572	542	523	506	470	421	353	269	168				2106	50	
6SDXL 18/50	37	50	583	553	533	517	480	430	360	274	171				2143	51	
6SDXL 18/51	37	50	595	564	544	527	490	439	367	280	174				2181	52	
6SDXL 18/52	37	50	607	575	555	537	499	447	374	285	178				2218	53	
6SDXL 18/53	37	50	618	586	565	548	509	456	382	291	181				2256	54	
6SDXL 18/54	37	50	630	598	576	558	518	464	389	296	185				2293	55	
6SDXL 18/55	37	50	642	609	587	568	528	473	396	302	188				2331	56	
6SDXL 18/56	37	50	653	620	597	579	538	482	403	307	192				2368	57	
6SDXL 18/57	37	50	665	631	608	589	547	490	410	313	195				2406	58	
6SDXL 18/58	37	50	677	642	619	599	557	499	418	318	198				2443	59	
6SDXL 18/59	37	50	688	653	629	610	566	507	425	324	202				2481	60	
6SDXL 18/60	37	50	700	664	640	620	576	516	432	329	205				2518	61	



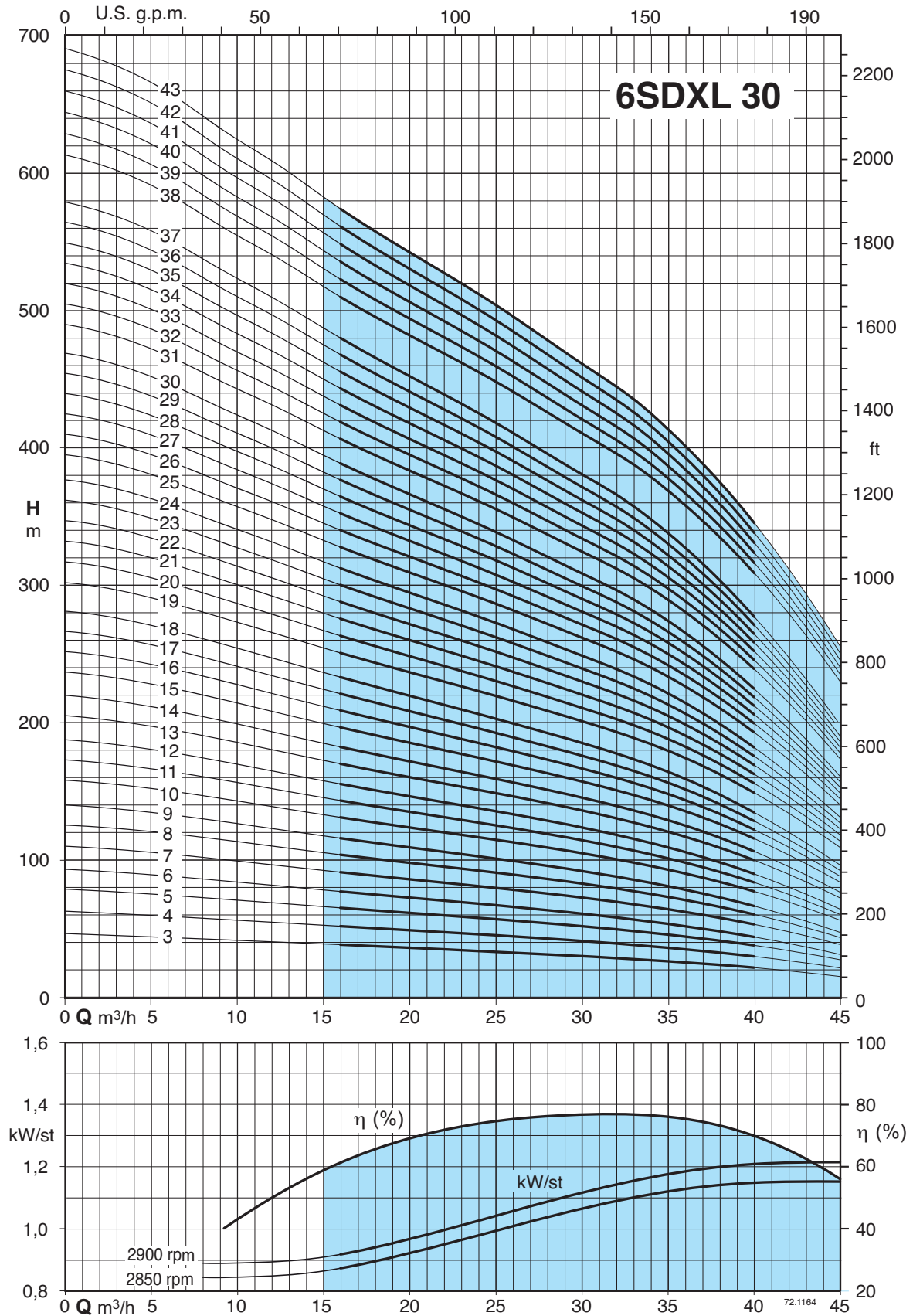
Reinforced with special collar from 6SDX(L) 18/47

6SDXL 30

Submersible borehole pumps for 6" wells

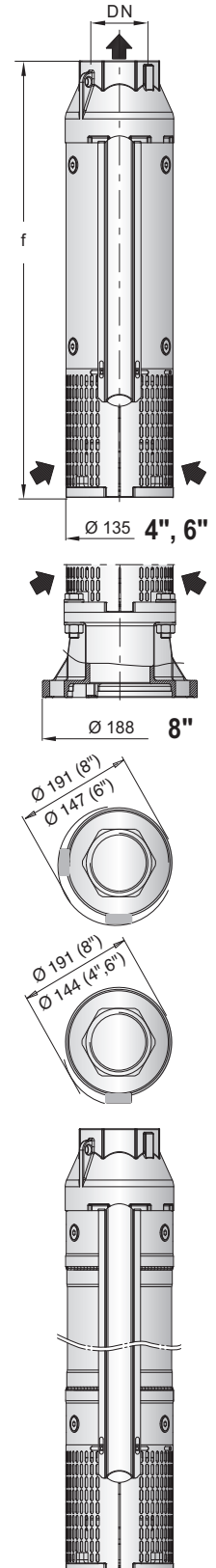


Characteristic curves



Performance $n \approx 2900$ rpm, dimensions and weights

3 ~	P ₂		Q	n ≈ 2900 rpm											DN	Motore		f	kg
	kW	HP		m ³ /h	0	15	20	25	30	35	40	45	-	CS-R		FK			
			l/min	0	250	333	416	500	583	666	750	-	mm	mm		mm			
6SDXL 30/3	4	5,5	H m	46,3	38,9	36	33,3	30,2	26,7	21,7	15,3	-	Rp 3"	145 6"	137 6"	620	14,7		
6SDXL 30/4	5,5	7,5		62,5	52,6	48,8	45,2	41,1	36,5	30	21,4					705	16,8		
6SDXL 30/5	7,5	10		78,6	66,2	61,5	56,9	51,8	46,1	38	27,4					790	18,9		
6SDXL 30/6	7,5	10		93,1	78,4	72,6	67,1	61	54	44,1	31,2					876	21		
6SDXL 30/7	9,2	12,5		110	92,6	86	79,7	72,6	64,6	53,3	38,4					961,5	23,1		
6SDXL 30/8	11	15		125	106	98,1	90,9	82,7	73,6	60,5	43,5					1047	25,4		
6SDXL 30/9	11	15		140	118	109	101	91,8	81,4	66,6	47,3					1132	27,3		
6SDXL 30/10	13 (15)	17,5 (20)		158	133	124	115	105	93,5	77,3	56,1					1218	29,4		
6SDXL 30/11	15	20		173	146	135	125	114	102	83,8	60,4					1303	31,5		
6SDXL 30/12	15	20		188	158	147	136	123	110	90	64,4					1389	33,6		
6SDXL 30/13	18,5	25		205	173	161	149	136	121	100	72,4					1474	35,7		
6SDXL 30/14	18,5	25		220	185	172	159	145	129	106	76,7					1560	37,8		
6SDXL 30/15	22	30		237	200	185	172	157	140	116	84					1645	39,9		
6SDXL 30/16	22	30		252	212	197	183	166	148	122	88,3					1730	42		
6SDXL 30/17	22	30		267	224	208	193	176	156	129	92,5					1816	44,1		
6SDXL 30/18	22	30		281	237	220	203	185	164	135	96,5					1901	46,1		
6SDXL 30/19	26 (30)	35 (40)		302	255	237	220	201	180	149	109					1987	48,2		
6SDXL 30/20	26 (30)	35 (40)		317	267	249	231	210	188	156	114					2072	50,3		
6SDXL 30/21	26 (30)	35 (40)		332	280	260	241	220	197	163	118					2157	52,4		
6SDXL 30/22	30	40		347	293	272	252	230	205	169	123					2243	54,5		
6SDXL 30/23	30	40		362	305	283	263	239	213	176	127					2328	56,6		
6SDXL 30/24	30	40		377	317	295	273	249	221	182	131					2414	58,7		
6SDXL 30/25	37	50		395	333	309	287	261	233	193	140					2499	60,8		
6SDXL 30/26	37	50		410	345	321	297	271	242	200	144					2584	62,9		
6SDXL 30/27	37	50		425	358	332	308	280	250	206	149					2670	65		
6SDXL 30/28	37	50		440	370	344	318	290	258	212	153					2755	67,2		
6SDXL 30/29	37	50		454	383	355	329	299	266	219	157					2840	69,2		
6SDXL 30/30	37	50		469	395	366	339	308	274	225	161					2926	71,3		
6SDXL 30/31	45	60		490	413	384	356	324	289	239	174					3011	75,2		
6SDXL 30/32	45	60		505	425	395	366	334	298	246	178					3096	78,3		
6SDXL 30/33	45	60		520	438	407	377	343	306	252	182					3182	80,4		
6SDXL 30/34	45	60		535	450	418	387	353	314	259	186					3267	82,5		
6SDXL 30/35	45	60		549	463	429	398	362	322	265	190					3352	84,6		
6SDXL 30/36	45	60		564	475	441	408	371	330	271	194					3438	87,9		
6SDXL 30/37	45	60		579	487	452	418	380	338	277	198					3523	90		
6SDXL 30/38	51 (55)	70 (75)		613	517	482	448	410	369	309	229					3709	92,3		
6SDXL 30/39	51 (55)	70 (75)		628	530	494	459	420	378	316	234					3794	94,5		
6SDXL 30/40	51 (55)	70 (75)		644	543	506	471	430	387	323	240					3879	96,6		
6SDXL 30/41	51 (55)	70 (75)		659	557	518	482	440	396	330	245					3965	97,6		
6SDXL 30/42	55	75		675	569	530	493	450	404	338	250					4050	98,7		
6SDXL 30/43	55	75		690	582	542	504	460	413	345	255					4135	99,8		

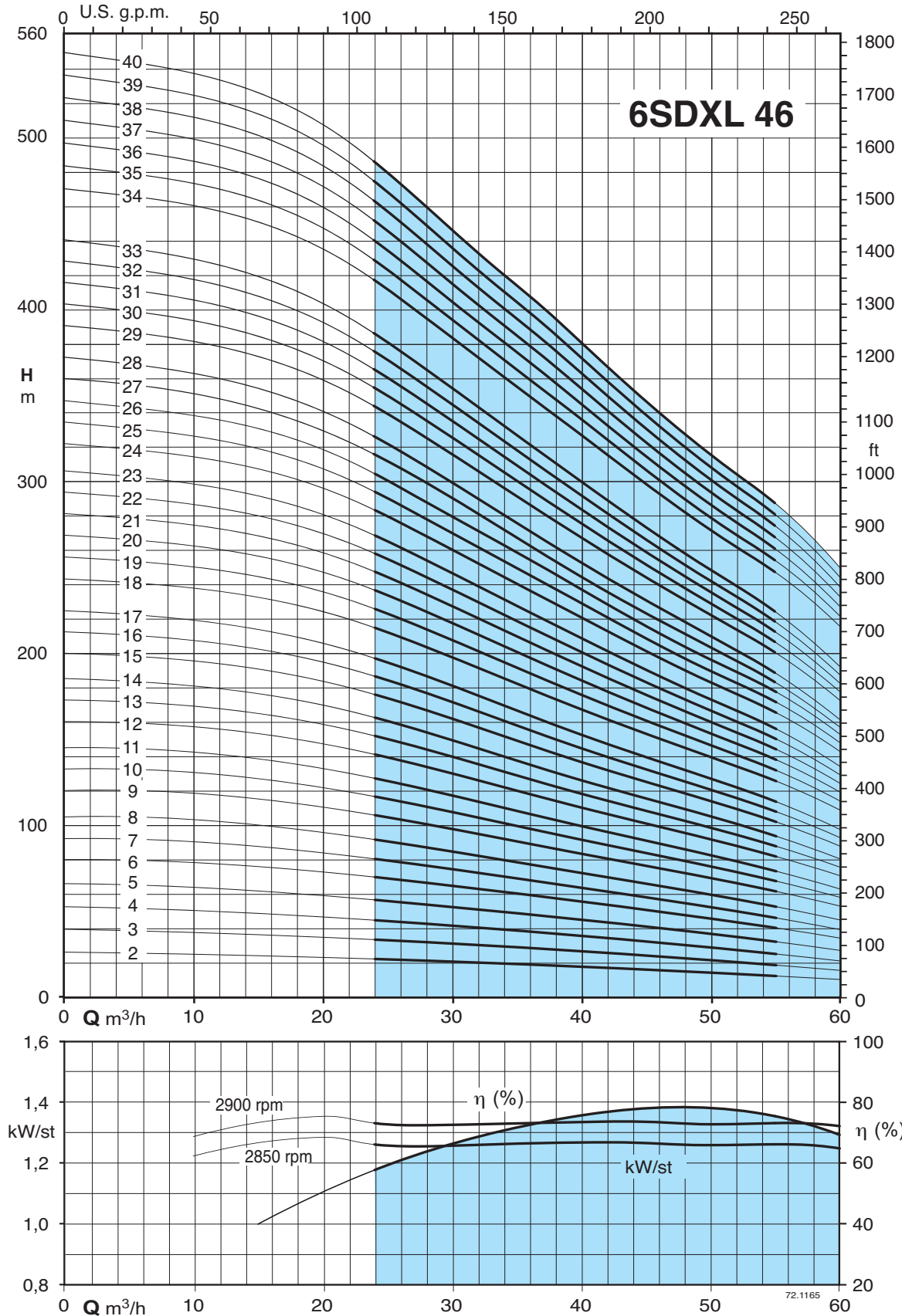


6SDXL 46

Submersible borehole pumps for 6" wells

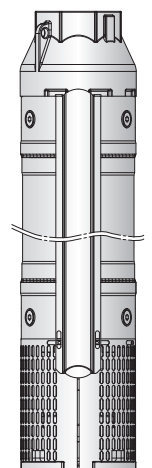
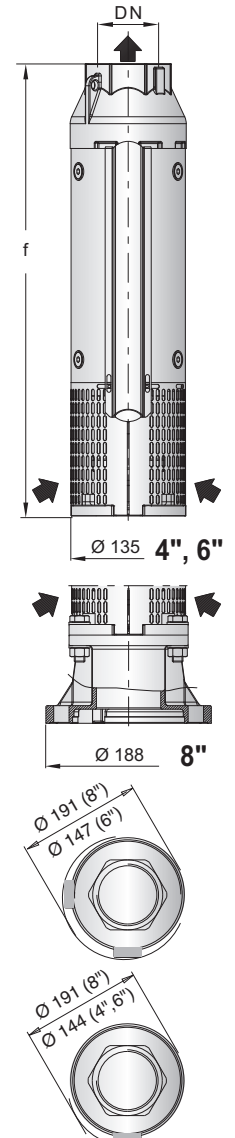


Characteristic curves



Performance $n \approx 2900$ rpm, dimensions and weights

3 ~	P ₂		Q	n ≈ 2900 rpm												DN	Motore		f	kg
				H													CS-R	FK		
	kW	HP	m ³ /h	0	25	30	35	40	45	50	55	60	-	-	mm		mm	mm		
6SDXL 46/2	3	4	26,4	22,6	20,9	19,3	17,8	16,6	15,1	13,4	11,3	-	-	96 - 4"	96 - 4"	594	13,5			
6SDXL 46/3	4	5,5	39,4	33,8	31,2	28,8	26,6	24,7	22,5	19,9	16,8	-	-	145 6"	137 6"	705	16,2			
6SDXL 46/4	5,5	7,5	52,5	45	41,5	38,3	35,5	32,9	29,9	26,5	22,3	-	-			819	18,8			
6SDXL 46/5	7,5	10	66,1	56,8	52,3	48,3	44,7	41,5	37,8	33,6	28,4	-	-			933	21,4			
6SDXL 46/6	9,2	12,5	80,7	70	65,2	60,4	55,5	50,3	46	41,6	35,7	-	-			1047	24,0			
6SDXL 46/7	9,2	12,5	93,1	80,4	74,8	69,3	63,5	57,6	52,7	47,5	40,5	-	-			1161	26,6			
6SDXL 46/8	11	15	106	91,6	85,1	78,9	72,2	65,5	59,9	54	46	-	-			1275	29,2			
6SDXL 46/9	13 (15)	17,5 (20)	121	105	98,2	91	83,7	75,9	69,5	62,9	54,1	-	-			1389	31,8			
6SDXL 46/10	13 (15)	17,5 (20)	134	116	108	100	91,9	83,3	76,2	68,9	59	-	-			1503	34,4			
6SDXL 46/11	15	20	146	126	118	109	99,9	90,5	82,8	74,7	63,7	-	-			1617	37,0			
6SDXL 46/12	18,5	25	161	140	130	120	111	101	92	83,3	71,4	-	-			1730	39,6			
6SDXL 46/13	18,5	25	174	150	140	130	119	108	98,7	89,2	76,3	-	-			1844	42,2			
6SDXL 46/14	18,5	25	186	161	149	139	127	115	105	95	81	-	-			1958	44,8			
6SDXL 46/15	22	30	201	174	162	150	138	125	114	103	88,4	-	-			2072	47,4			
6SDXL 46/16	22	30	213	184	171	159	146	132	121	109	93,2	-	-			2186	50,1			
6SDXL 46/17	22	30	225	195	181	168	154	139	127	115	97,8	-	-			2300	52,7			
6SDXL 46/18	26 (30)	35 (40)	244	212	198	183	169	153	140	127	109	-	-			2414	55,3			
6SDXL 46/19	26 (30)	35 (40)	257	223	208	192	177	160	147	133	114	-	-			2527	57,9			
6SDXL 46/20	30	40	269	234	218	208	185	168	154	139	119	-	-			2641	60,5			
6SDXL 46/21	30	40	282	244	227	211	193	175	160	145	124	-	-			2755	63,1			
6SDXL 46/22	30	40	294	255	237	220	202	183	167	151	129	-	-			2869	65,7			
6SDXL 46/23	30	40	307	265	247	229	209	190	174	157	134	-	-			2983	68,3			
6SDXL 46/24	37	50	322	280	260	241	222	201	184	166	143	-	-			3096	70,9			
6SDXL 46/25	37	50	335	290	270	250	230	208	191	172	147	-	-			3210	73,5			
6SDXL 46/26	37	50	347	301	280	259	238	216	197	178	152	-	-			3324	76,1			
6SDXL 46/27	37	50	360	311	289	268	246	223	204	184	157	-	-			3438	79,3			
6SDXL 46/28	37	50	372	321	299	277	254	230	210	190	162	-	-			3552	82,0			
6SDXL 46/29	45	60	390	339	315	292	268	243	223	201	173	-	-			3665	87,4			
6SDXL 46/30	45	60	403	349	325	301	276	251	229	207	178	-	-			3779	90,0			
6SDXL 46/31	45	60	415	360	334	310	284	258	236	213	183	-	-	3893	92,6					
6SDXL 46/32	45	60	427	370	344	319	292	265	243	219	187	-	-	4007	95,2					
6SDXL 46/33	45	60	440	380	353	328	300	272	249	225	192	-	-	4121	97,8					
6SDXL 46/34	51 (55)	70 (75)	469	411	383	355	328	298	272	248	216	-	-	4335	101					
6SDXL 46/35	51 (55)	70 (75)	482	422	394	365	337	306	279	255	221	-	-	4449	103					
6SDXL 46/36	51 (55)	70 (75)	496	434	404	374	346	314	287	261	227	-	-	4562	106					
6SDXL 46/37	51 (55)	70 (75)	509	445	415	384	355	322	294	268	233	-	-	4676	109					
6SDXL 46/38	55	75	522	456	425	394	364	330	302	275	238	-	-	4790	111					
6SDXL 46/39	55	75	535	467	436	403	372	338	309	281	244	-	-	4904	114					
6SDXL 46/40	55	75	548	479	446	413	381	346	316	288	249	-	-	5018	117					



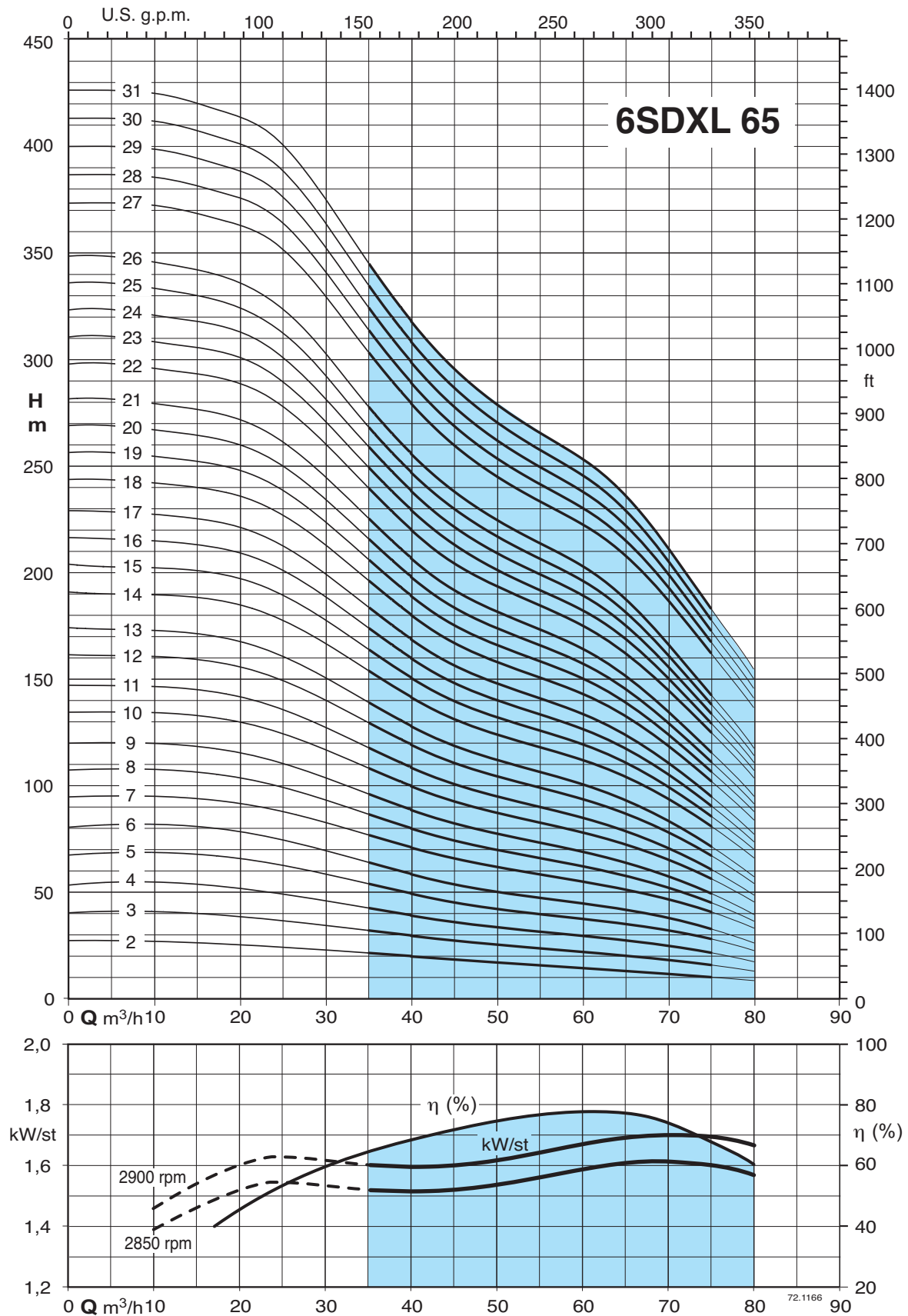
Reinforced with special collar from 6SDX(L) 46/27

6SDXL 65

Submersible borehole pumps for 6" wells



Characteristic curves



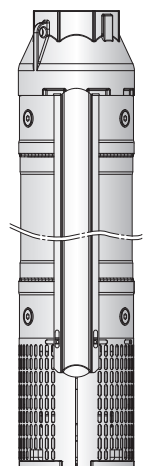
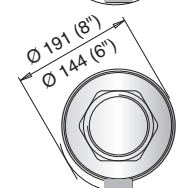
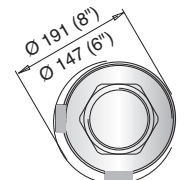
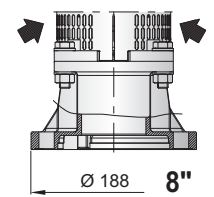
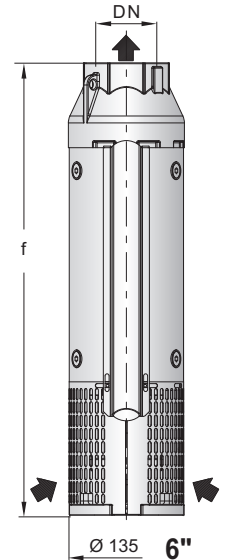
6SDXL 65

Submersible borehole pumps for 6" wells



Performance $n \approx 2900$ rpm, dimensions and weights

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



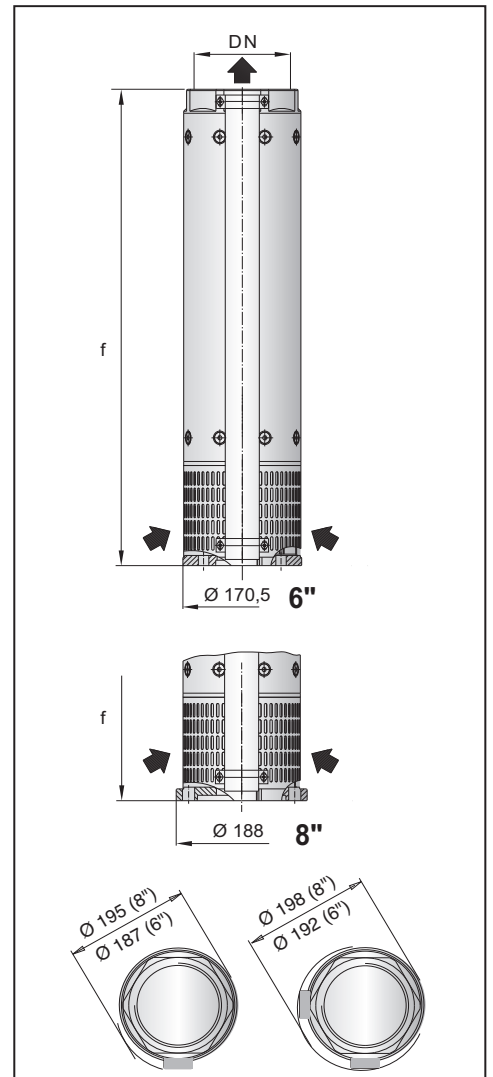
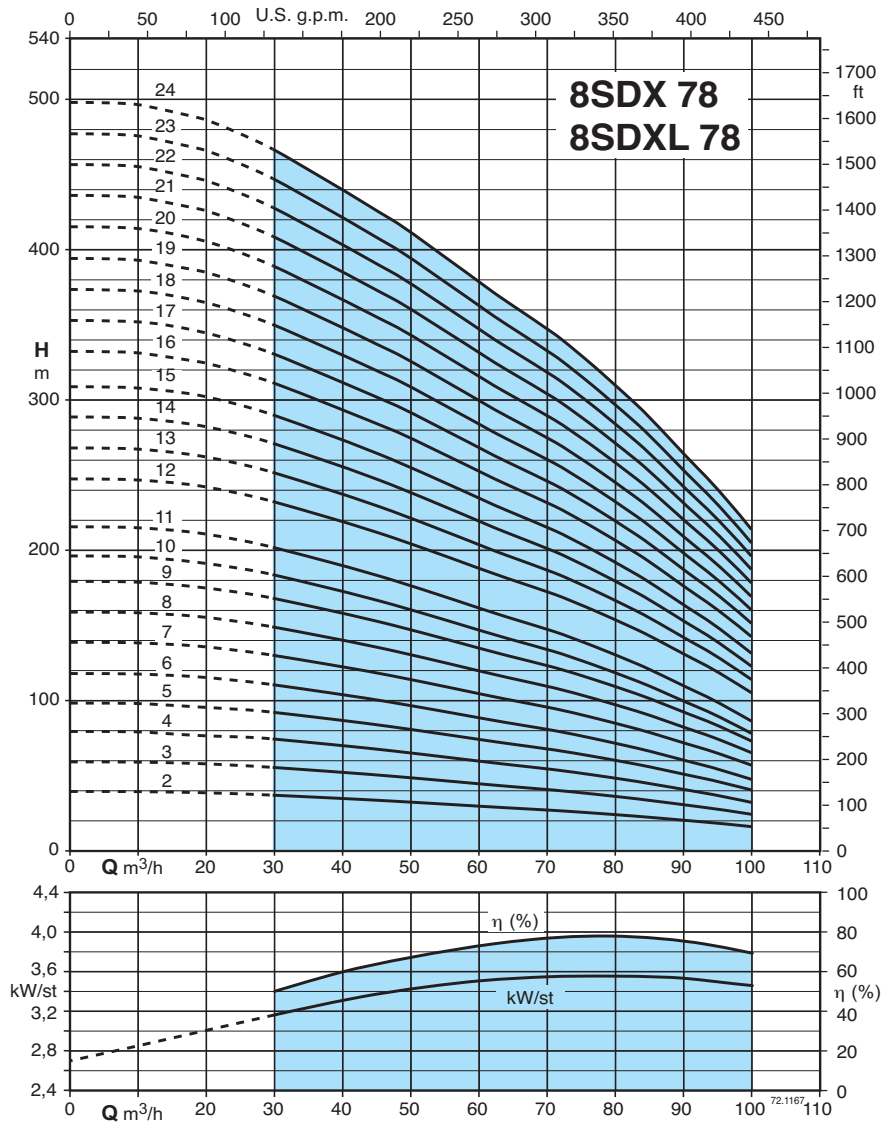
Reinforced with special collar from 6SDX(L) 65/27

8SDX(L) 78

Submersible borehole pumps for 8" wells



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



3 ~	P ₂		Q	$n \approx 2900$ rpm											Motor				
				m³/h											DN	CS-R		f	8SDXL
	kW	HP		0	30	40	50	60	70	80	90	100	mm	FK		mm	kg		
			l/min	0	500	666	833	1000	1166	1333	1500	1666							
8SDX 78/2 - 8SDXL 78/2	7,5	10	H m	39,9	37,1	34,9	32,6	29,7	27,1	24,3	20,4	16,3		Rp 5"	145 6"	137 6"	644	31,5	
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					770	36,5	
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					896	41,5	
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					1022	46,5	
8SDX 78/6 - 8SDXL 78/6	22	30		120	111	105	97,7	89,1	81,4	72,9	61,3	48,9					1148	51	
8SDX 78/7 - 8SDXL 78/7	26 (30)	35 (40)		140	130	122	114	104	95	85	71,5	57					1274	56	
8SDX 78/8 - 8SDXL 78/8	30	40		156	146	138	128	117	107	94,5	80	63,3					1400	61	
8SDX 78/9 - 8SDXL 78/9	37	50		176	164	155	144	132	120	106	90	71,2					1526	66	
8SDX 78/10 - 8SDXL 78/10	37	50		195	183	173	160	147	134	118	100	79,1					1652	71	
8SDX 78/11 - 8SDXL 78/11	45	60		215	201	190	176	162	147	130	110	87					1778	76	
8SDX 78/12 - 8SDXL 78/12	45	60		248	232	218	203	187	171	154	130	105					1909	82	
8SDX 78/13 - 8SDXL 78/13	51 (55)	70 (75)		268	251	237	220	203	185	166	141	114					2035	87	
8SDX 78/14 - 8SDXL 78/14	51 (55)	70 (75)		289	271	255	237	218	200	179	152	122		2161	92				
8SDX 78/15 - 8SDXL 78/15	55	75		310	290	273	254	234	214	192	163	131		2287	97				
8SDX 78/16 - 8SDXL 78/16	59 (75)	80 (100)		332	312	293	274	252	232	206	176	143		2413	101,5				
8SDX 78/17 - 8SDXL 78/17	66 (75)	90 (100)		353	332	311	292	268	247	219	187	152		2539	106,5				
8SDX 78/18 - 8SDXL 78/18	66 (75)	90 (100)		374	351	329	309	284	261	232	198	161		2665	111,5				
8SDX 78/19 - 8SDXL 78/19	75	100		394	371	348	326	299	276	245	209	170		2791	116,5				
8SDX 78/20 - 8SDXL 78/20	75	100		415	390	366	343	315	290	258	220	179		2917	121				
8SDX 78/21 - 8SDXL 78/21	75	100		436	409	385	361	331	304	271	231	187		3043	126				
8SDX 78/22 - 8SDXL 78/22	92	125		457	428	403	378	347	318	284	242	196		3169	131				
8SDX 78/23 - 8SDXL 78/23	92	125		478	448	422	395	363	333	297	253	205		3295	136				
8SDX 78/24 - 8SDXL 78/24	92	125		499	467	440	412	379	347	310	264	214		3421	141				

P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

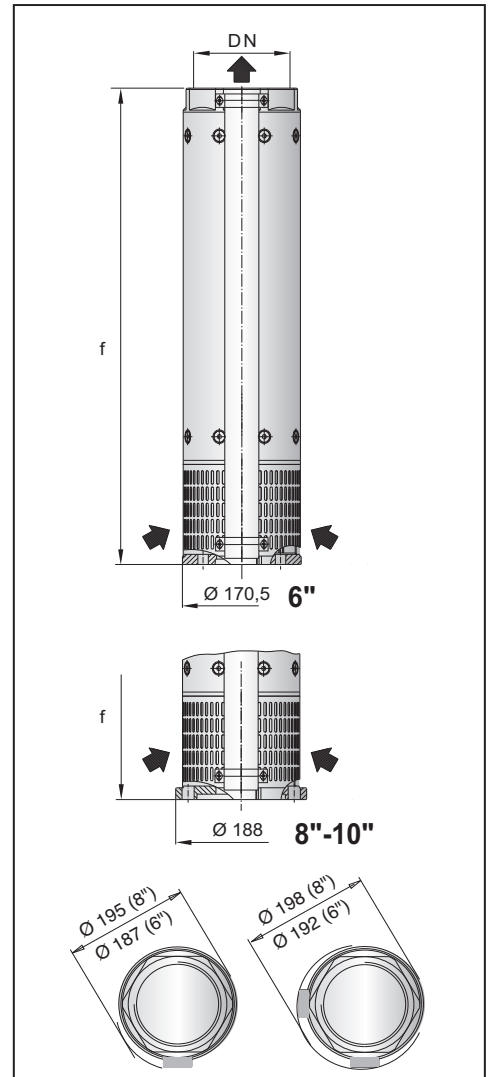
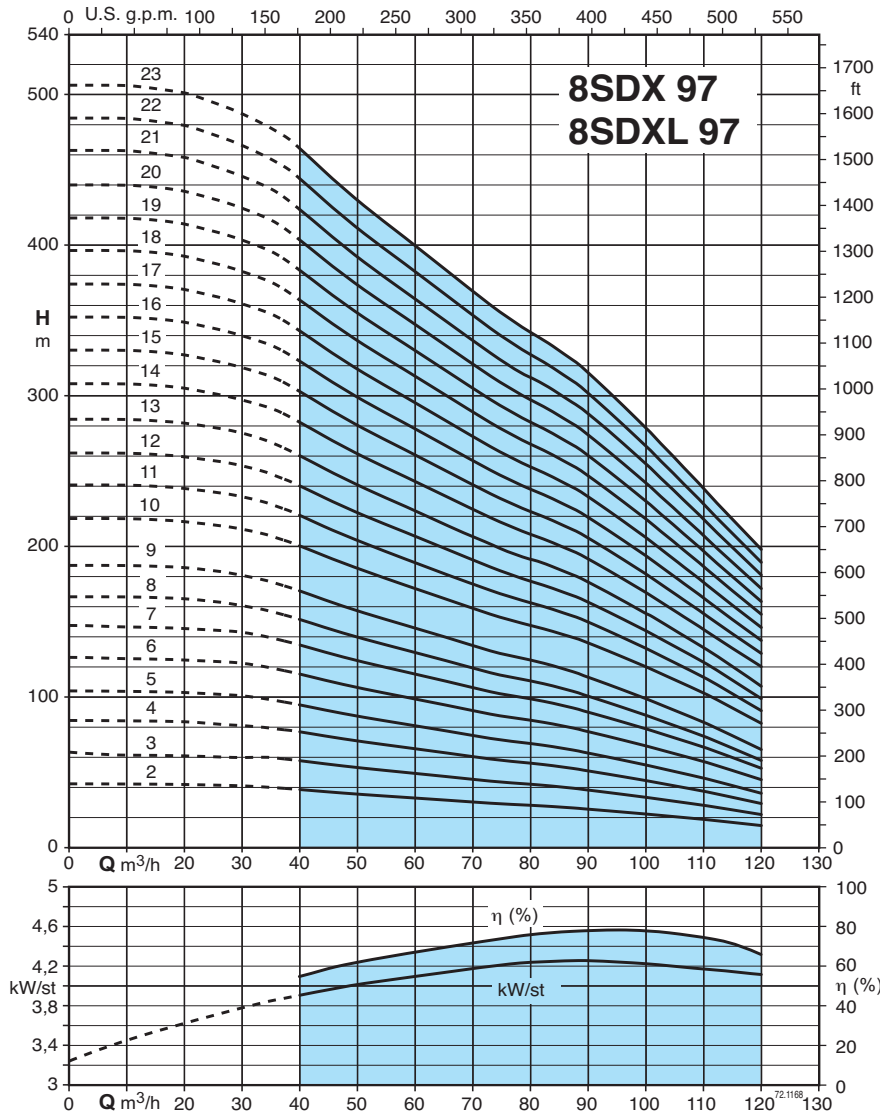
Tolerances according to UNI EN ISO 9906:2012

8SDX(L) 97

Submersible borehole pumps for 8" wells



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



3 ~	P ₂		Q	n ≈ 2900 rpm											Motor				
	kW	HP		H _m											DN	CS-R mm	FK mm	f mm	8SDXL kg
				0	40	50	60	70	80	90	100	110	120	0					
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	Rp 5"	145 6"	137 6"	644	31,5		
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				770	36,5		
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				896	41,5		
8SDX 97/5 - 8SDXL 97/5	22	30	103	96,5	88	80,5	74,5	69,5	62	54,5	46,5	37				1022	46		
8SDX 97/6 - 8SDXL 97/6	26 (30)	35 (40)	125	113	105	96,7	89	82,7	75	66,3	55	44				1148	51		
8SDX 97/7 - 8SDXL 97/7	30	40	146	132	123	113	104	96,4	87,5	77,4	64,2	51,3				1274	56		
8SDX 97/8 - 8SDXL 97/8	37	50	167	151	140	129	119	110	100	88,4	73,3	58,7				1400	61		
8SDX 97/9 - 8SDXL 97/9	37	50	188	170	158	145	134	124	113	99,5	82,5	66				1526	66		
8SDX 97/10 - 8SDXL 97/10	45	60	219	200	185	172	158	147	135	119	102	83,1				1657	72		
8SDX 97/11 - 8SDXL 97/11	51 (55)	70 (75)	241	220	204	189	174	162	149	131	112	91,4				1783	77		
8SDX 97/12 - 8SDXL 97/12	51 (55)	70 (75)	263	240	222	206	190	176	162	143	122	99,7				1909	82		
8SDX 97/13 - 8SDXL 97/13	55	75	285	260	241	223	206	191	176	155	132	108		2035	87				
8SDX 97/14 - 8SDXL 97/14	59 (75)	80 (100)	309	281	262	242	224	208	191	169	144	120		2161	92				
8SDX 97/15 - 8SDXL 97/15	66 (75)	90 (100)	331	302	279	261	240	222	205	182	156	129		2287	97				
8SDX 97/16 - 8SDXL 97/16	75	100	353	322	298	278	256	237	219	194	166	138		2413	102				
8SDX 97/17 - 8SDXL 97/17	75	100	375	342	317	295	272	251	233	206	176	147		2539	106,5				
8SDX 97/18 - 8SDXL 97/18	92	125	397	362	335	313	288	266	246	218	187	155		2665	111,5				
8SDX 97/19 - 8SDXL 97/19	92	125	419	382	354	330	304	281	260	230	197	164		2791	116,5				
8SDX 97/20 - 8SDXL 97/20	92	125	440	403	374	348	322	298	274	244	209	173		2917	121				
8SDX 97/21 - 8SDXL 97/21	92	125	462	424	393	365	338	313	288	257	219	182		3043	126				
8SDX 97/22 - 8SDXL 97/22	110	150	484	444	411	383	354	328	301	269	230	190		3169	131				
8SDX 97/23 - 8SDXL 97/23	110	150	507	464	430	400	370	343	315	281	240	199		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



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 (300 g/m³ high percentage of solids and sand).
Continuous duty.

Rewindable motor CS, CS-R series

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

In order to limit both current and torque at each starting, for rated motor powers equal to or higher than 7.5kW, one of the following types of starting is necessary: star/delta, soft starter, stator impedance or autotransformer.
Insulation class E for 6-8" motors, PVC coated wire for 10" motors.
Motor suitable operation with frequency converter.
Protection IP 68.

Operating conditions motor

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

Special features on request

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

Designation

B 10 SDS 190 / 6

Bronze construction (on request)

Ø of the well in inches

Series

Stage identification

Number of stages

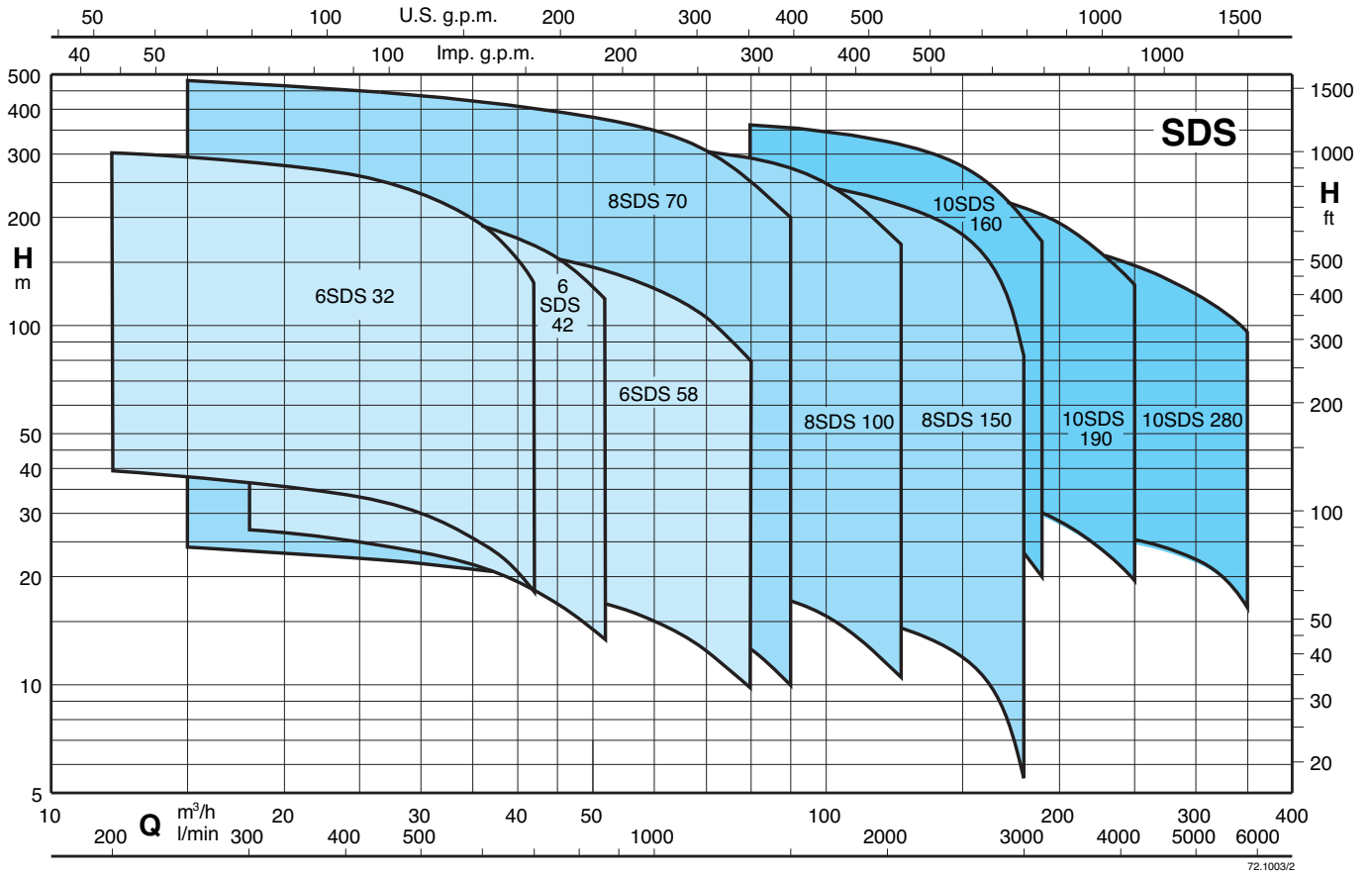
Materials

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

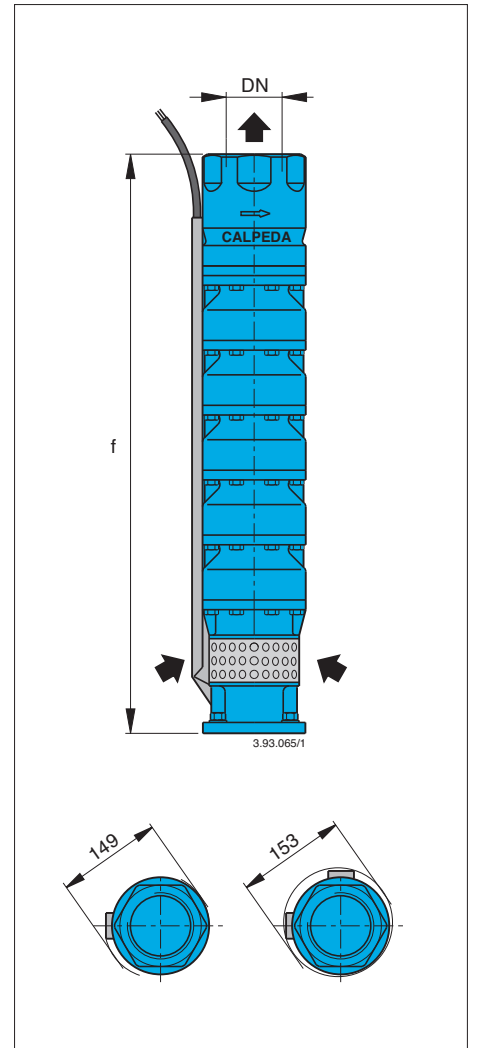
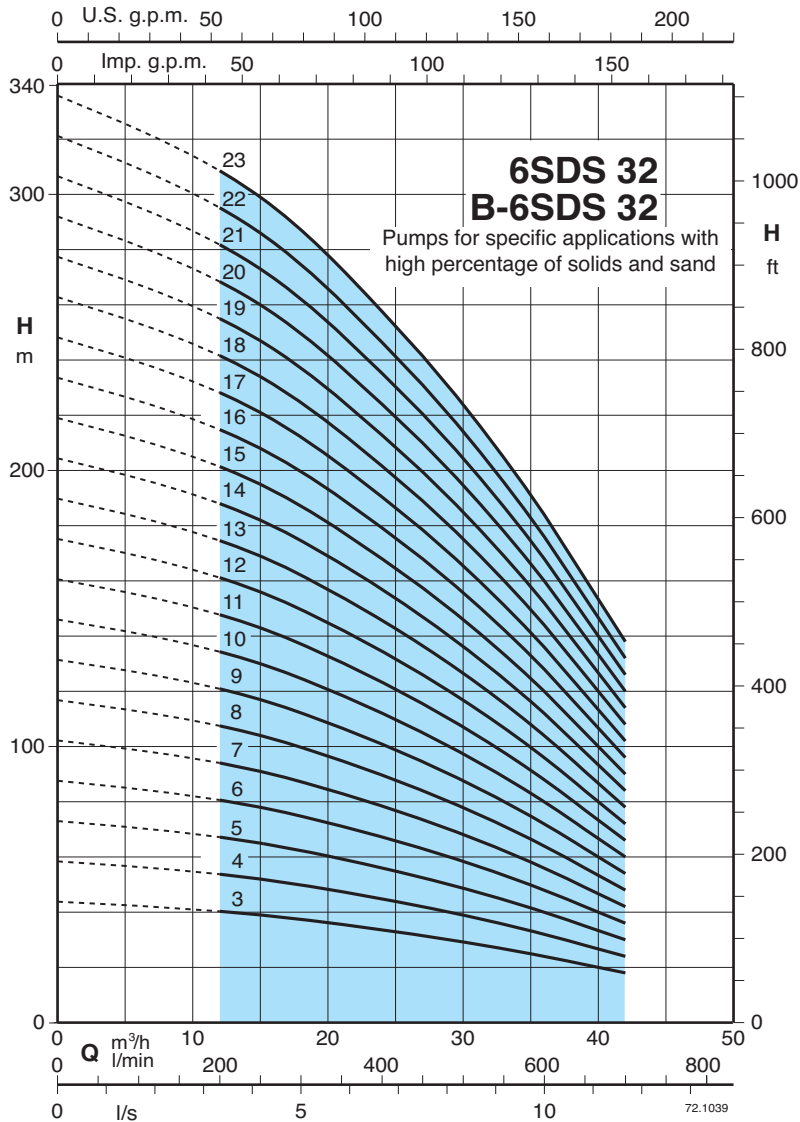
CS, CS-R Motor

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

Coverage chart $n \approx 2900$ rpm



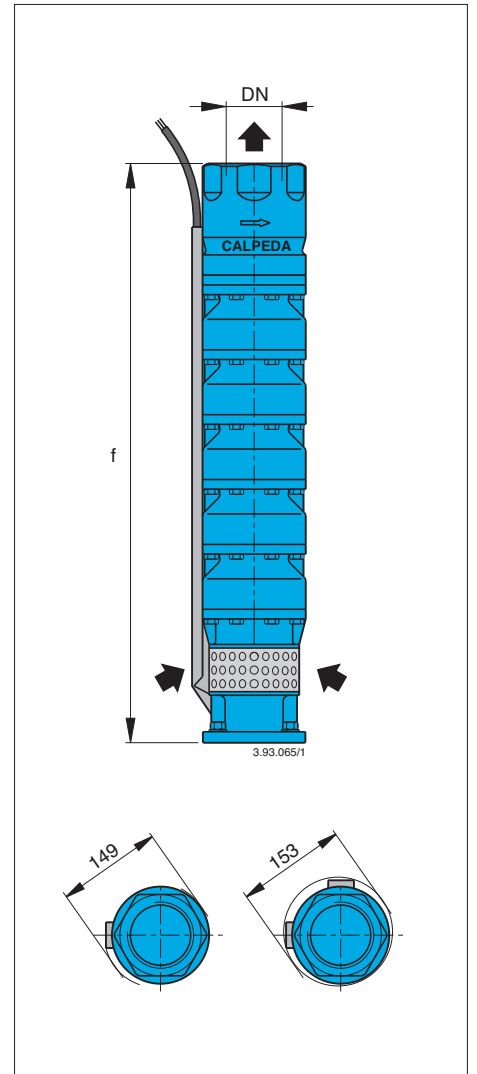
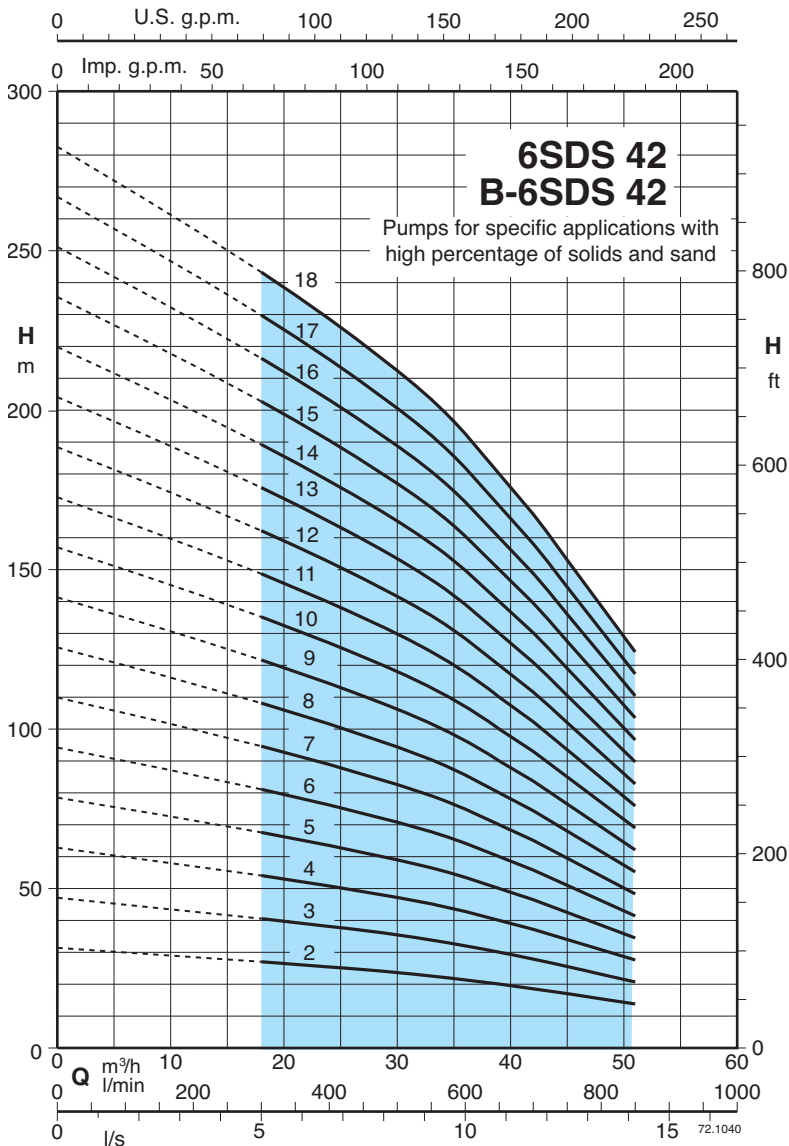
Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



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

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

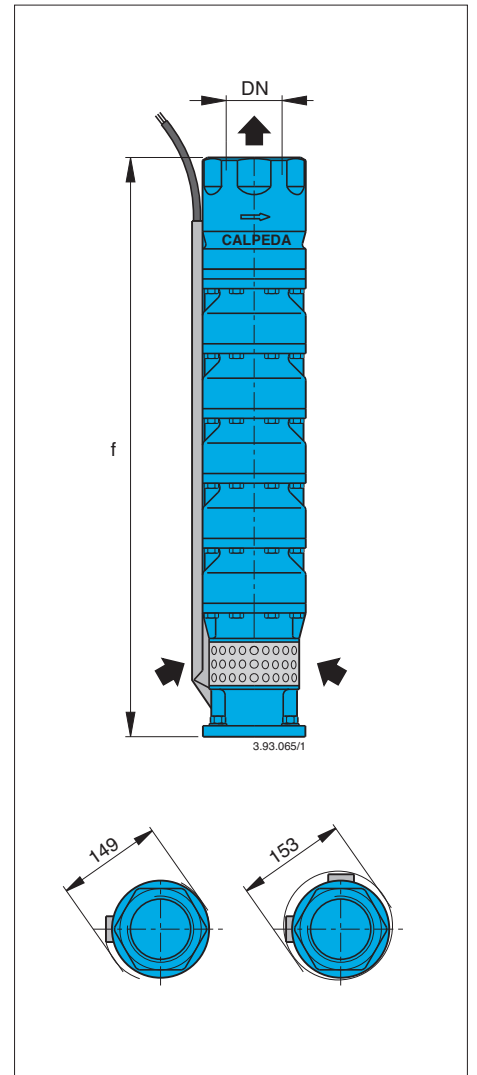
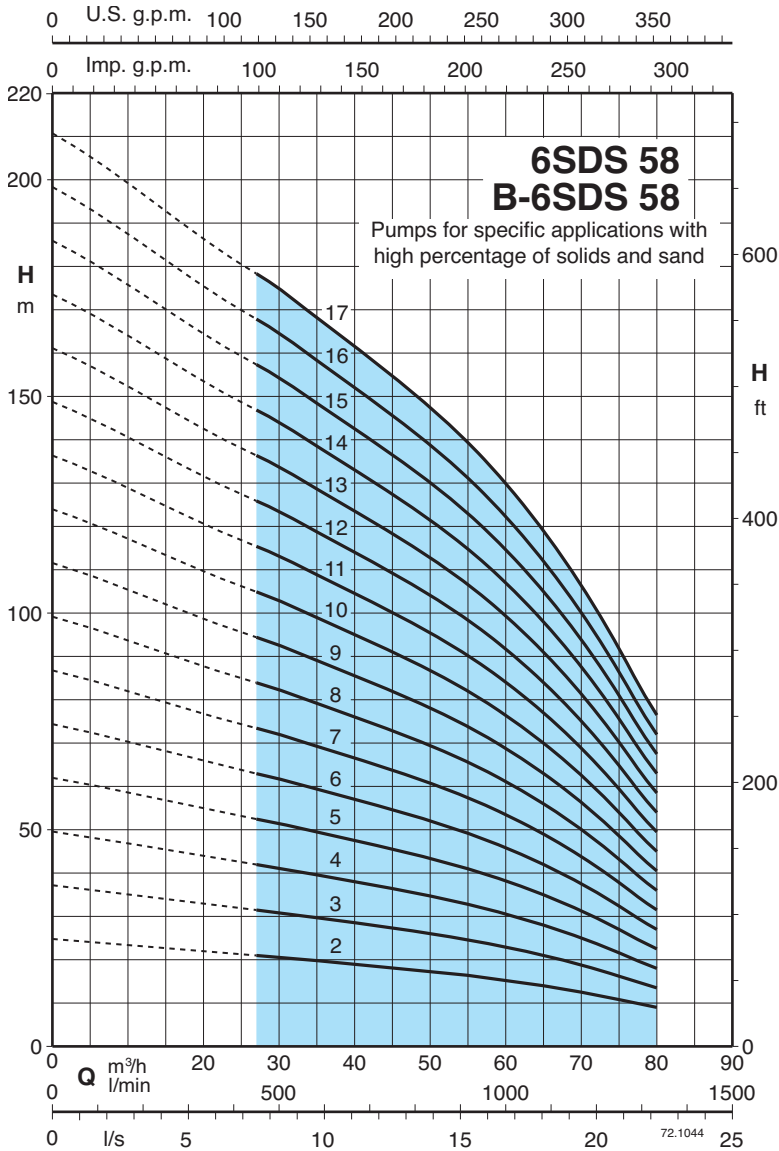
Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



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

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

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



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

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

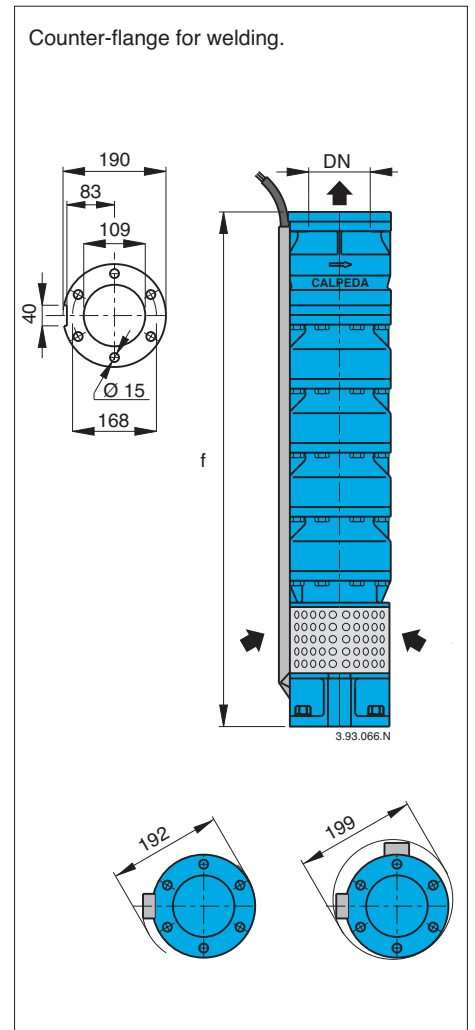
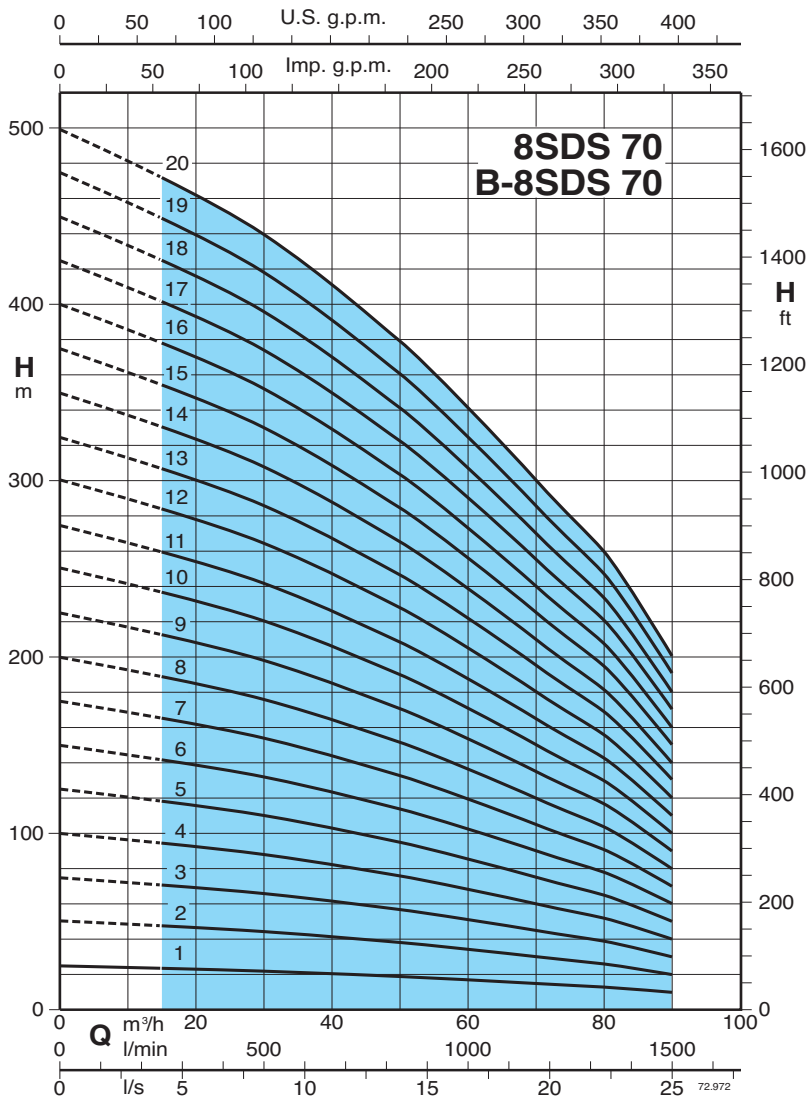
P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

Tolerances according to UNI EN ISO 9906:2012

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



3 ~	P ₂		Q	n ≈ 2900 rpm																		
	kW	HP		H																		
				m ³ /h	20	30	40	50	60	70	80	90										
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)	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		f	8SDS	B-8SDS
	CS-R mm	FK mm			
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		
	1526	116	131		
	1658	127	143		
	1790	138	156		
191 8"	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

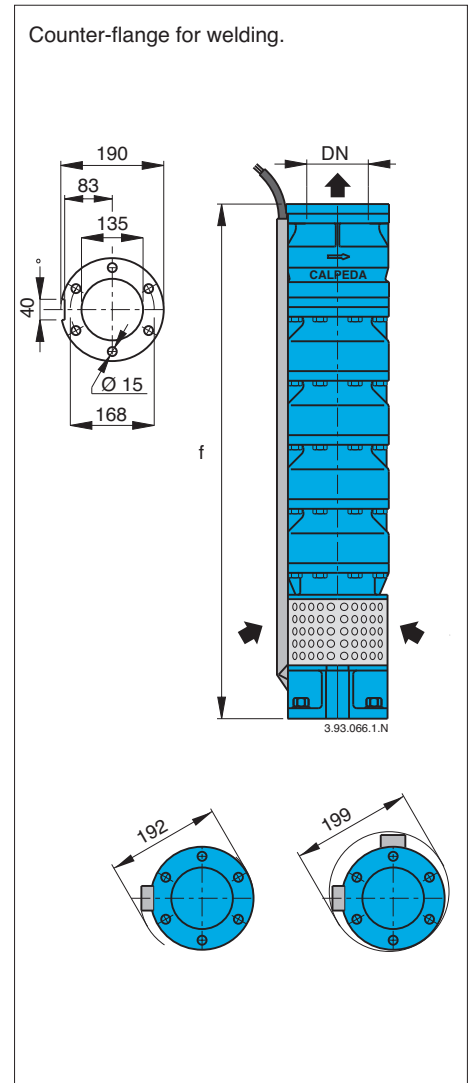
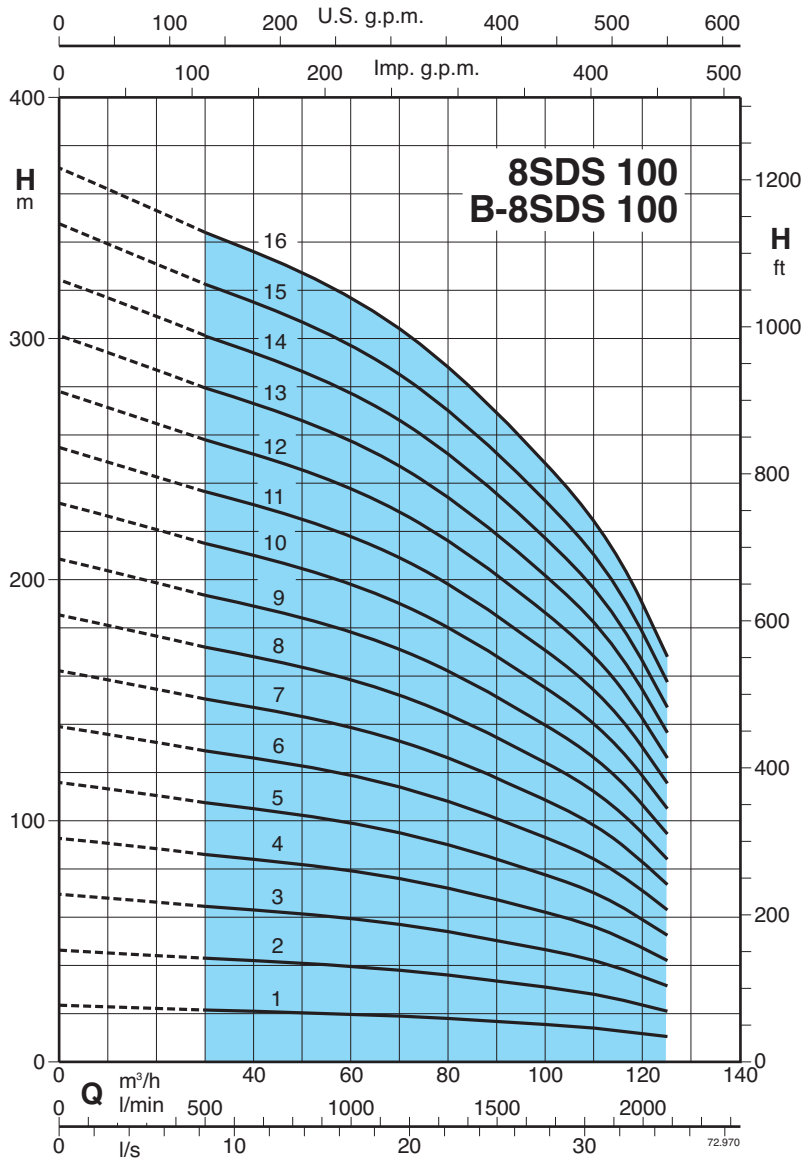
Tolerances according to UNI EN ISO 9906:2012

8SDS 100

Submersible borehole pumps for 8" wells



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



3 ~	P ₂		Q	n ≈ 2900 rpm											
	kW	HP		m ³ /h	30	40	50	60	70	80	90	100	110	125	
				l/min	500	666	833	1000	1166	1333	1500	1666	1833	2083	
8SDS 100/1 - B-8SDS 100/1	5,5	7,5	H m	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)		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		f	8SDS	B-8SDS
	CS-R mm	FK mm			
125	145 6"	137 6"	602	38	43
			734	49	55
			866	59	67
			998	70	79
			1130	81	91
	191 8"	196 8"	1262	92	103
			1394	102	115
			1526	113	128
			1658	124	140
			1790	135	152
191 8"	196 8"	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

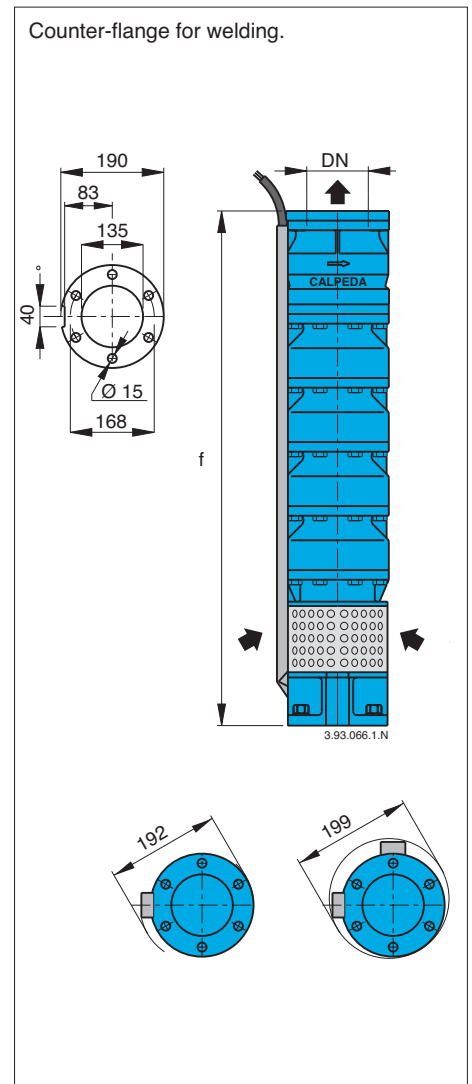
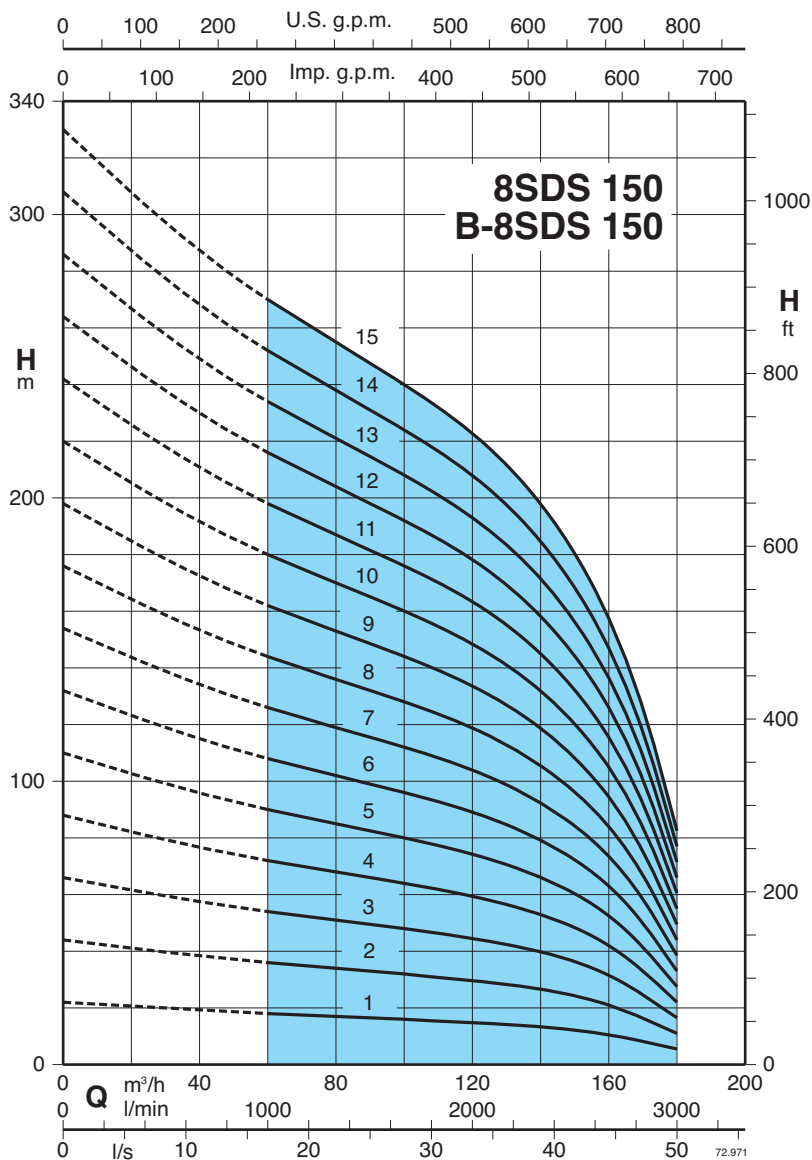
Tolerances according to UNI EN ISO 9906:2012

8SDS 150

Submersible borehole pumps for 8" wells



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



3 ~	P2		Q	$n \approx 2900$ rpm												DN	Motor		f	8SDS	B-8SDS	
	kW	HP		m³/h	H m												CS-R	FK				
					l/min	60	70	80	90	100	110	125	140	150	160							180
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	125	145 6"	137 6"	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				866	60	68		
8SDS 150/4 - B-8SDS 150/4	30	40		72	70	68	66	64	62	58	52	46	42	22				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)		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)		162	157	153	148	144	139	130	117	103	94,5	49,5		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		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		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				

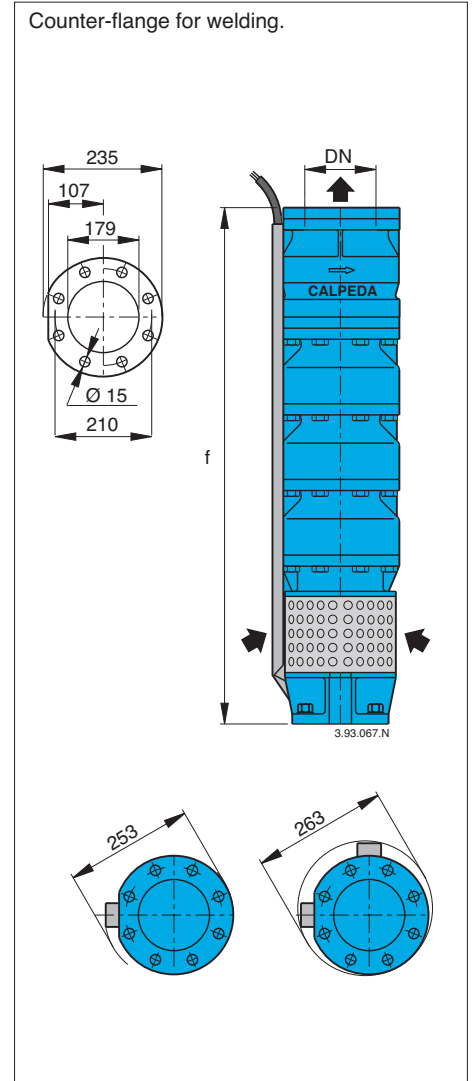
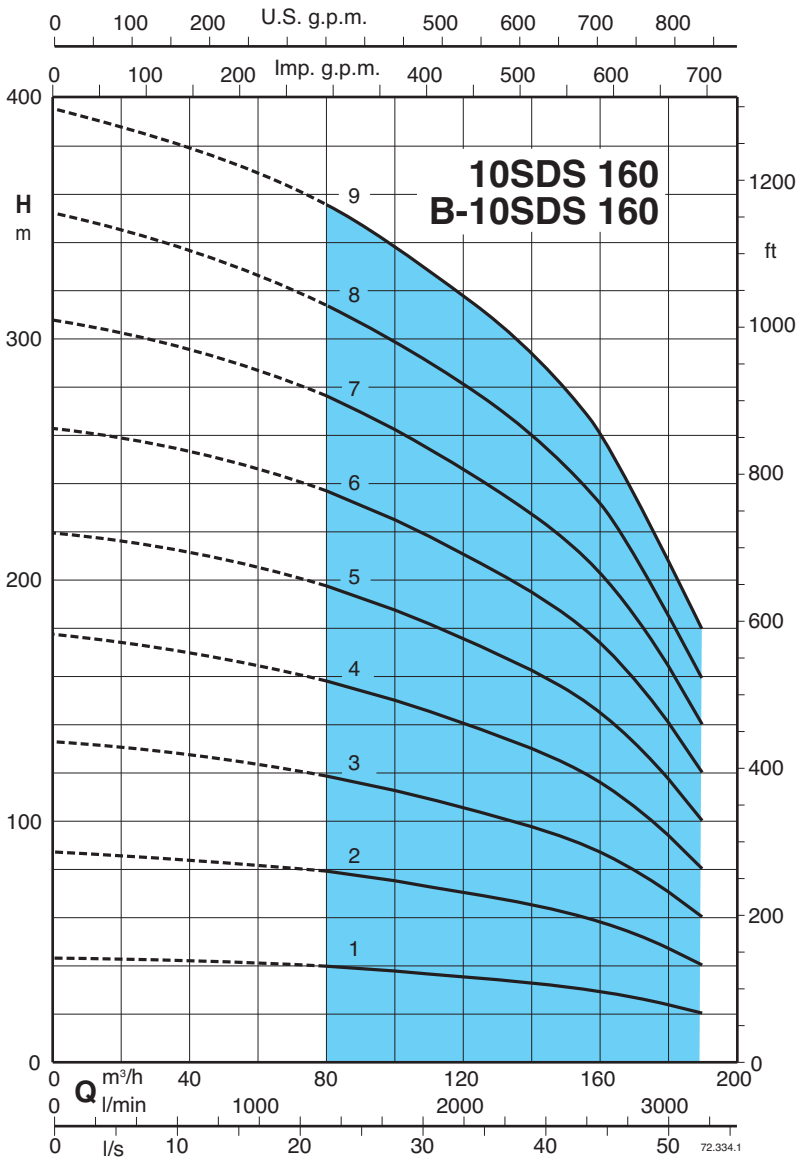
P2 Rated motor power output

(...) FK motor rated power output

H Total head in m

Tolerances according to UNI EN ISO 9906:2012

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



3 ~	P ₂		Q	n ≈ 2900 rpm												DN	Motor		f	10SDS	B-10SDS	
	kW	HP		m ³ /h	H												CS-R	FK				
					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	175	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				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	196	191	186	181	173	163	154	146	134	111	100		196 8"	-	1545	173	195			
10SDS 160/6 - B-10SDS 160/6	110	150	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				1885	220	249			
10SDS 160/8 - B-10SDS 160/8	150	200	314	305	298	289	276	260	246	233	213	177	160		240 10"	-	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			

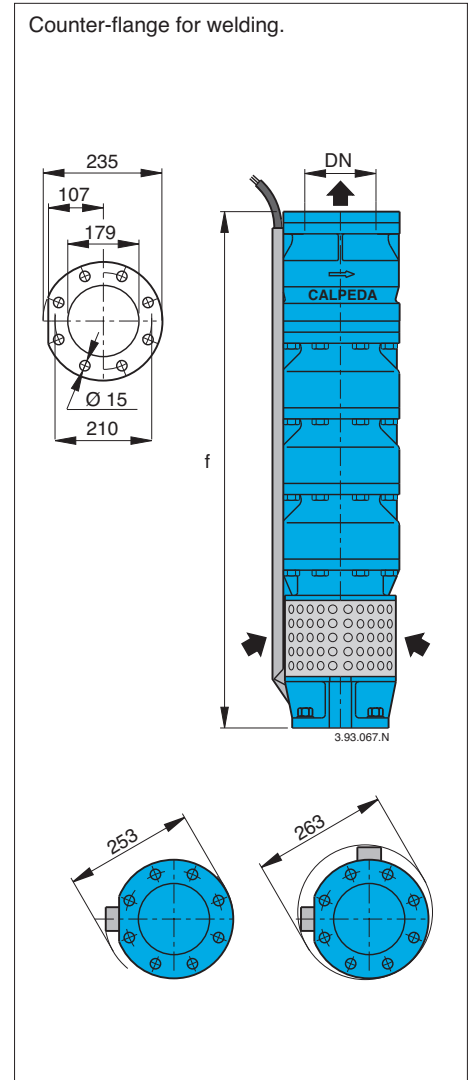
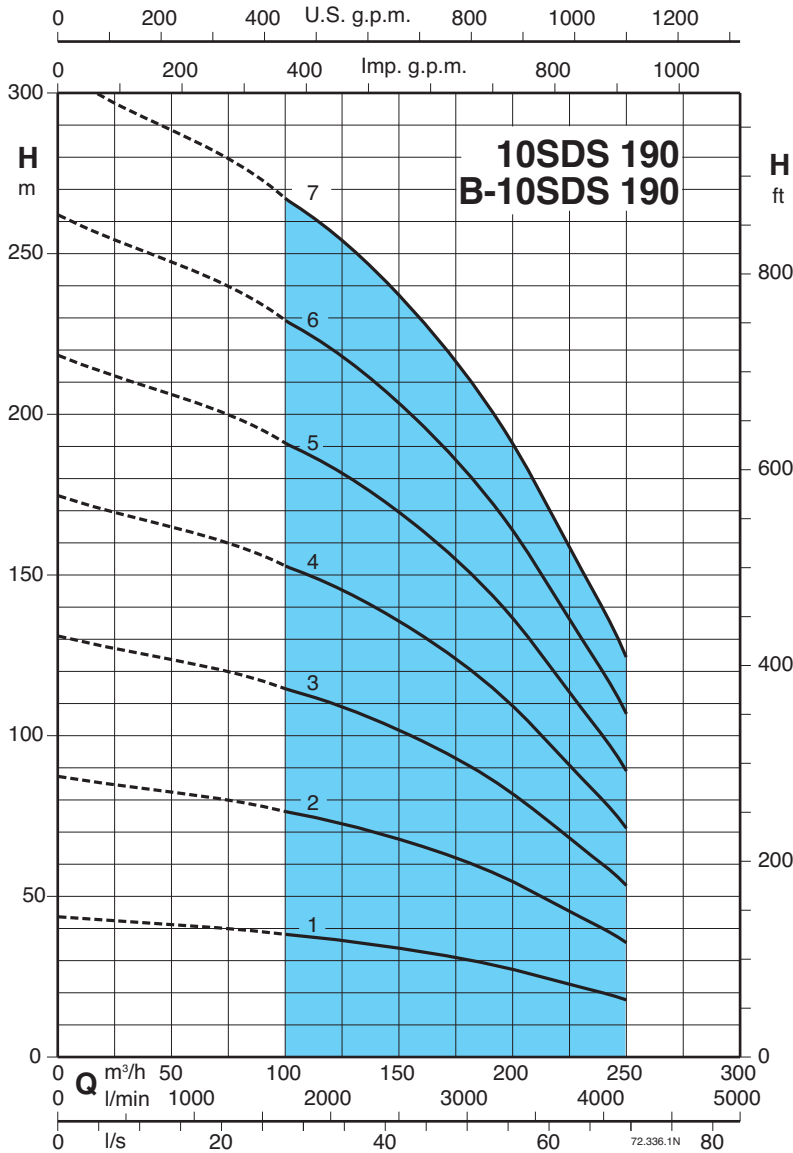
P₂ Rated motor power output

(...) FK motor rated power output

H Total head in m

Tolerances according to UNI EN ISO 9906:2012

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



3 ~	P2		Q	$n \approx 2900$ rpm											DN	Motor		f	10SDS	B-10SDS
	kW	HP		$n \approx 2900$ rpm												CS-R	FK			
			m³/h	100	120	140	160	180	200	220	230	240	250	mm						
			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	175	145 6"	137 6"	865	78	88	
10SDS 190/2 - B-10SDS 190/2	45	60		76	73	70	66	61	55	47	44	40	36				1035	102	115	
10SDS 190/3 - B-10SDS 190/3	66 (75)	90 (100)		115	110	105	98	91	82	71	65	59	53				1205	127	143	
10SDS 190/4 - B-10SDS 190/4	92	125		153	147	140	131	121	109	95	87	79	71				1375	151	170	
10SDS 190/5 - B-10SDS 190/5	110	150		191	183	175	164	152	137	119	109	99	89				1545	175	198	
10SDS 190/6 - B-10SDS 190/6	130	175		229	220	210	197	182	164	142	131	119	107				1715	199	225	
10SDS 190/7 - B-10SDS 190/7	185	250		267	257	244	230	212	191	166	152	139	125				1885	223	252	

P2 Rated motor power output

(...) FK motor rated power output

H Total head in m

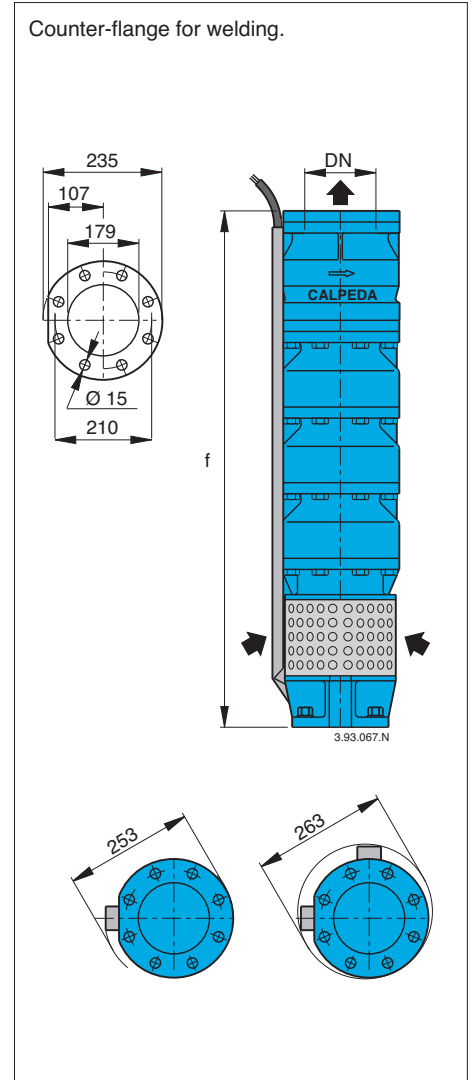
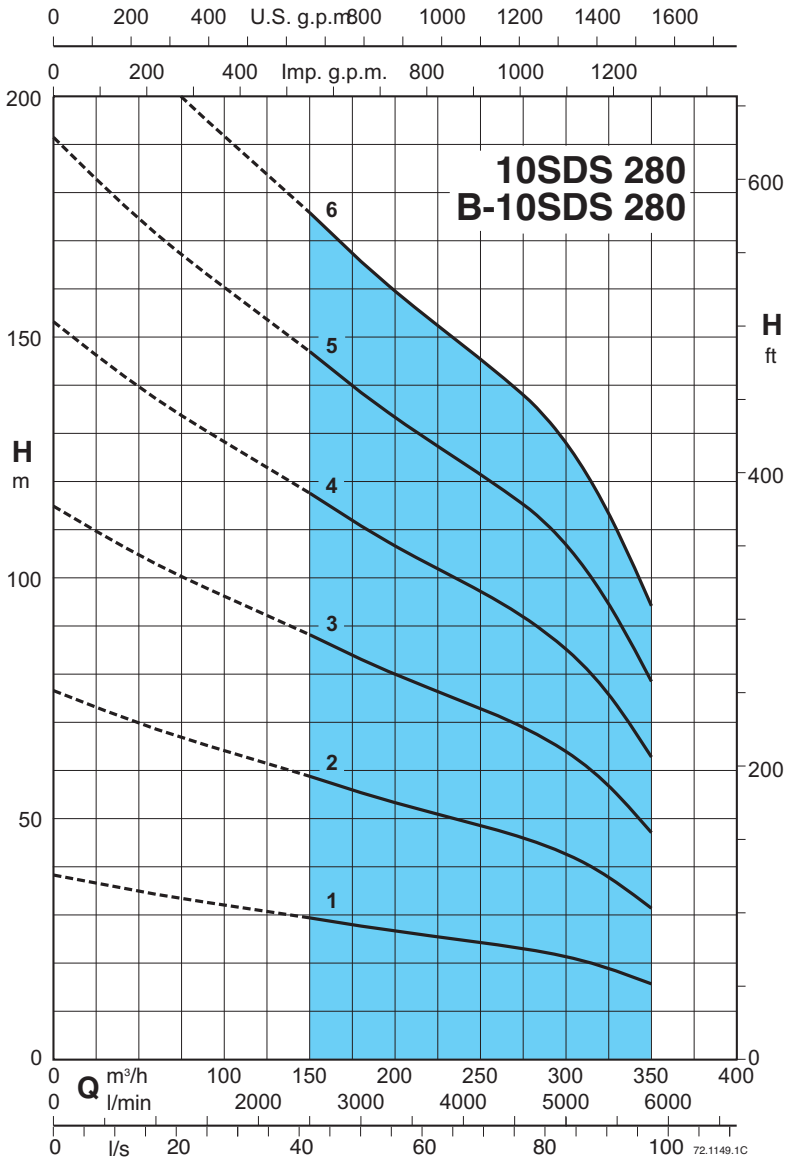
Tolerances according to UNI EN ISO 9906:2012

10SDS 280

Submersible borehole pumps for 10" wells



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



3 ~	P ₂		Q	n ≈ 2900 rpm											DN	Motor		f	10SDS	B-10SDS
	kW	HP		m³/h	150	180	200	220	240	260	280	300	315	350		CS-R	FK			
			l/min	2500	3000	3333	3666	4000	4333	4666	5000	5250	5833	mm		mm				
10SDS 280/1 - B-10SDS 280/1	26 (30)	35 (40)	H m	29	28	27	26	25	24	23	21	20	16	175	145-6"	137-6"	865	78	88	
10SDS 280/2 - B-10SDS 280/2	55	75		59	55	53	51	50	48	46	42	40	31		191	196	8"	1035	103	116
10SDS 280/3 - B-10SDS 280/3	75	100		88	83	80	77	75	71	69	64	60	47		8"		1205	127	143	
10SDS 280/4 - B-10SDS 280/4	110	150		118	111	106	103	100	95	92	85	80	63		240		10"	1375	151	170
10SDS 280/5 - B-10SDS 280/5	130	175		147	139	133	129	125	119	115	106	100	79		10"	1545	175	198		
10SDS 280/6 - B-10SDS 280/6	150	200		176	167	160	155	150	143	138	127	120	95			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.

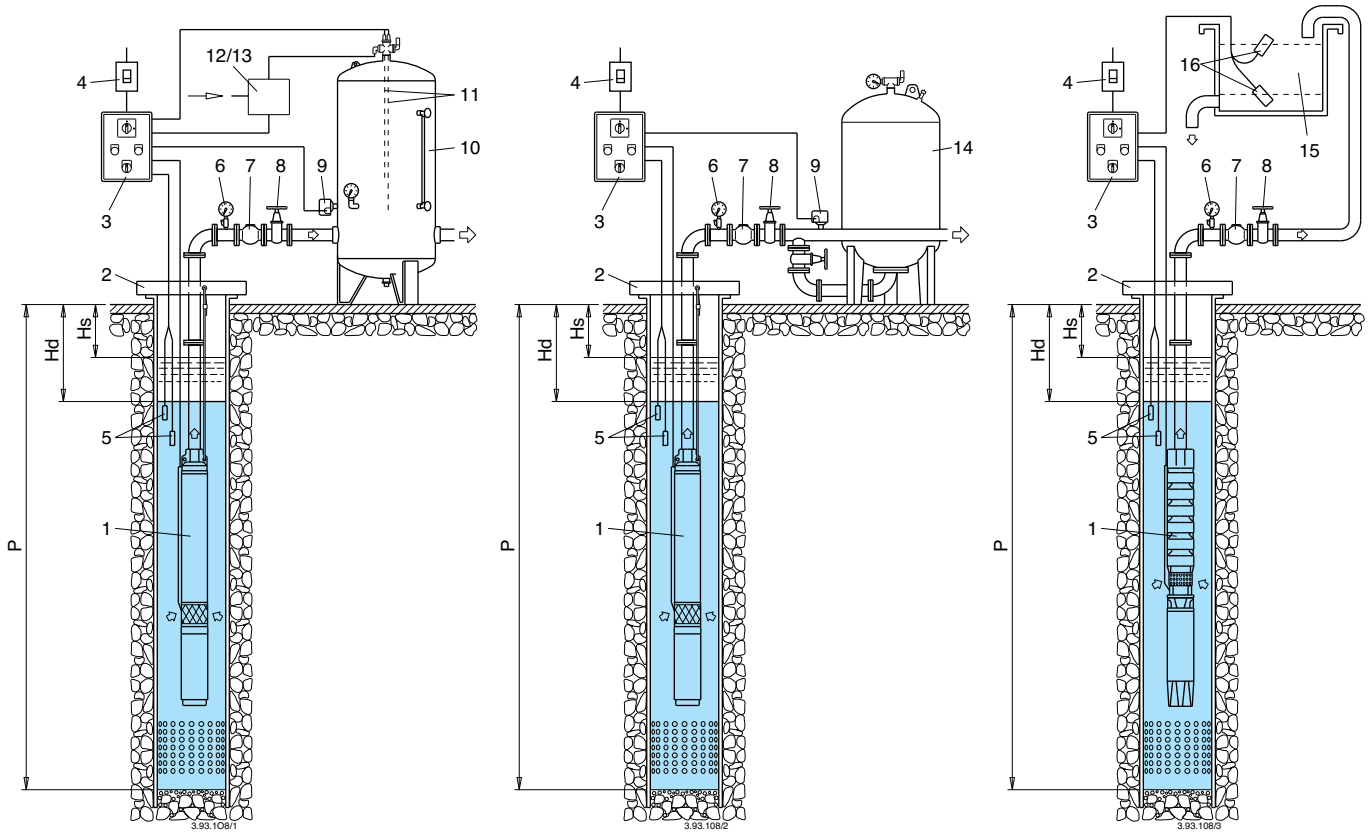
The kit includes:

- 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, CS-R

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-R series

The **CS-R** 6/8/10" motors are in a water bath with the wire being coated with polyvinyl chloride, while the **CS-R** 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.

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

Operation data

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).
 Sized for connection to the pumps according to NEMA Standards (10" excluded).
 Standard voltages:
 - single-phase 230 V - up to 2,2 kW for 4" motors.
 - three-phase 230 V; (5,5 kW excluded) 400 V for 4" motors.
 - three-phase 400 V; 400/690 V for 6-8-10" motors.
 Voltage tolerance : ± 10% (+6%/-10% for 4").

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:
 - class F for 4" motors,
 - class E for 6" motors, PVC for I-6" (I-6" 45 kW PE2+PA).
 - PVC for 8"
 - PVC for 10" (10" 170kW and 190 kW PE2+PA)

Protection IP 68.
 Installation below water level: 100 m for 4", 150 m for 6", 500 m for 8,10"

Motor suitable operation with frequency converter (with suitable filter dv/dt for 6.8.10") (4" single-phase excluded).

Horizontal installation (6" 37-45kW, 8" 92kW, 10" 170-190 kW excluded)

Operating conditions

Motor	P2	Max. Liquid temperature	Cooling minimum flow velocity	Max. starts per hou
4CS-R	all types	35 °C	0,08 m/s	20
6CS-R	4÷11 kW	30 °C	0,1 m/s	15
	13÷15 kW	30 °C	0,2 m/s	15
	18,5 kW	25 °C	0,2 m/s	15
	22÷30 kW	25 °C	0,2 m/s	13
	37 kW	40 °C	0,1 m/s	13
I-6CS-R	45 kW	40 °C	0,3 m/s	6
	4÷37 kW	30 °C	0,15 m/s	20
8CS-R	45 kW	45 °C	0,15 m/s	20
	all types	30 °C	0,15 m/s	10
10CS-R	75÷150 kW	30 °C	0,15 m/s	10
	170÷190 kW	50 °C	0,15 m/s	10

Continuous duty.

Special features on request

- Other voltage.
- Frequency 60 Hz.
- Higher liquid temperature.
- Bronze, AISI 904 and Super Duplex version for 6.8.10".
- PT100 temperature sensor
- PE2 / PA winding insulation
- Cooling jackets



kW	4" 1~		4" 3~		6" 3~		8" 3~		10" 3~	
	CS-R	CS-R	CS-R	I-CS-R 316	CS-R	I-CS-R 316	CS-R	I-CS-R 316	CS-R	I-CS-R 316
0,37	•	•								
0,55	•	•								
0,75	•	•								
1,1	•	•								
1,5	•	•								
2,2	•	•								
3		•								
4		•	•	•						
5,5		•	•	•						
7,5			•	•						
9,2			•	•						
11			•	•						
13			•	•						
15			•	•						
18,5			•	•						
22			•	•						
26			•	•						
30			•	•	•	•				
37			•	•	•	•				
45			•	•	•	•				
51					•	•				
59					•	•				
66					•	•				
75					•	•	•	•		
92						•	•	•	•	
110								•	•	•
132								•	•	•
150								•	•	•
170								•	•	•
190								•	•	•

Materials

Components	4"	
External frame	Cr-Ni steel AISI 304	
Motor flange	Cast iron GJL 200 EN 1561 nickel-plated	
Shaft end	Cr-Ni-Mo steel AISI 316	
Thrust bearing	Oil wetted	
Components	6", 8", 10" standard	6", 8", 10" AISI 316
External frame	Cr-Ni steel AISI 304	Cr-Ni-Mo steel AISI 316
Motor flange	Cast iron GJL 200 EN 1561 (Cast iron G 25 EN 1561 for 8,10")	Cr-Ni-Mo steel AISI 316
Shaft end	Cr-Ni steel AISI 431 (Steel AISI 420 for 8")	Duplex 1.4462
Thrust bearing	Oscillating pads	Oscillating pads
Bushings	Resin/ Graphite compound (Graphite for 6")	Resin/ Graphite compound

Cable

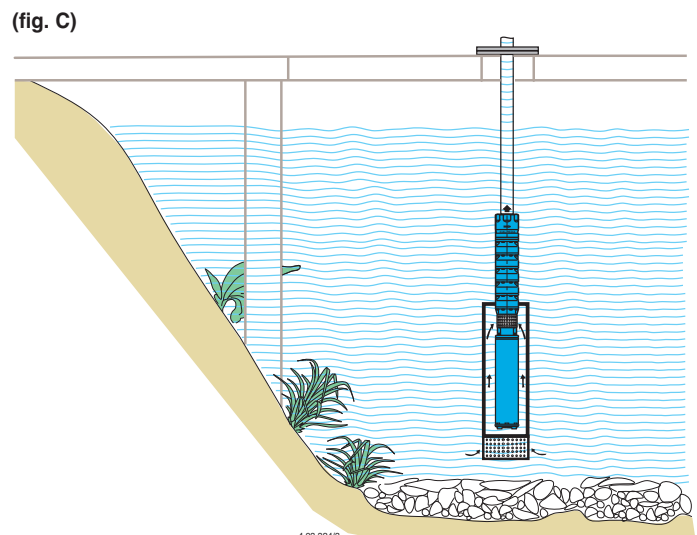
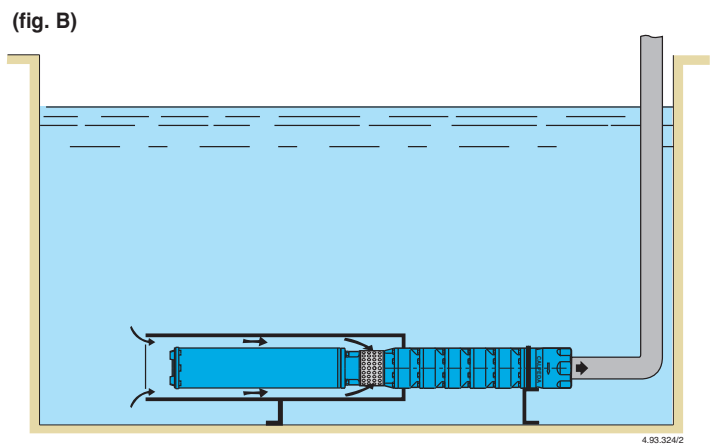
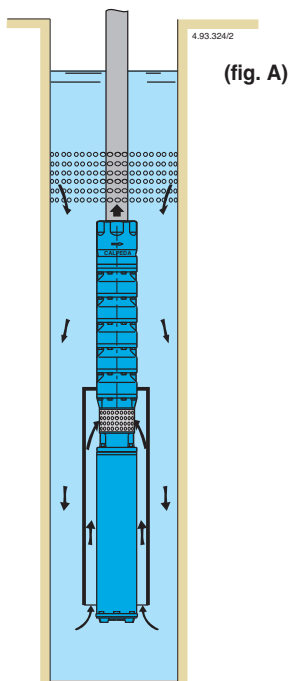
Motor 230V - 50Hz - 1~	Section	Length
4CS-R 0,37 ÷ 2,2 kW	3x2 + 1G2 mm ²	2 m
Motor 400V - 50Hz - 3 ~	Section	Length
4CS-R 0,37 ÷ 1,5 kW	3x2 + 1G2 mm ²	2 m
4CS-R 2,2 ÷ 5,5 kW	3x2 + 1G2 mm ²	3 m
6CS-R 4 ÷ 11 kW	3 x (1x2,5) mm ²	3,5 m
6CS-R 13 ÷ 22 kW	3 x (1x4) mm ²	3,5 m
6CS-R 26 - 30 kW	3 x (1x6) mm ²	3,5 m
6CS-R 37 - 45 kW	3 x (1x10) mm ²	3,5 m
I-6CS-R 4 ÷ 15 kW	3 x (1x4) mm ²	3,5 m
I-6CS-R 18,5 ÷ 26 kW	3 x (1x6) mm ²	3,5 m
I-6CS-R 30 kW	3 x (1x10) mm ²	3,5 m
I-6CS-R 37 ÷ 45 kW	3 x (1x10) mm ²	4,5 m
8CS-R 30 kW	3 x (1x10) mm ²	3,5 m
8CS-R 37 ÷ 59 kW	3 x (1x16) mm ²	3,5 m
8CS-R 66 ÷ 75 kW	3 x (1x25) mm ²	3,5 m
8CS-R 92 kW	3 x (1x25) mm ²	4,5 m
10CS 75 ÷ 92 kW	3x(1x25) mm ²	4,5 m
10CS 110 kW	3x(1x35) mm ²	4,5 m
10CS 132 kW	3x(1x50) mm ²	4,5 m
10CS 150 ÷ 170 kW	3x(1x70) mm ²	4,5 m
10CS 190 kW	3x(1x95) mm ²	4,5 m

Cooling jacket

When the submersible motor is installed :

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

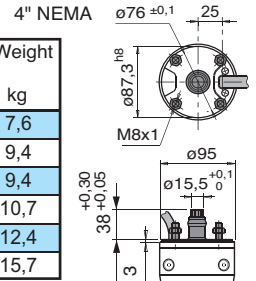
an external jacket must be installed to create a cooling flow around the motor. Only in this way a safe operation can be assured avoiding any overheating which can damage the motor.



Performance, dimensions and weights

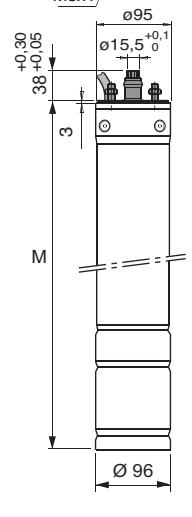
4"CS-R - 1 ~

Type	PN		IN 230 V A	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Capacitor 450 Vc μF	Axial thrust N	M mm	Weight kg
	kW	HP		4/4	3/4	2/4	4/4	3/4	2/4		I _A IN	C _A CN				
4CS-R 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-R 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-R 0,75M	0,75	1	5.6	0.96	0.91	0.80	61	55	36		3.6	0.66	30		362	9,4
4CS-R 1,1M	1,1	1,5	8.0	0.93	0.86	0.71	66	59	38		4.2	0.65	40		402	10,7
4CS-R 1,5M	1,5	2	10.8	0.94	0.89	0.75	64	59	39		3.5	0.75	60		447	12,4
4CS-R 2,2M	2,2	3	14.7	0.96	0.93	0.80	67	64	44		4.2	0.51	70		517	15,7



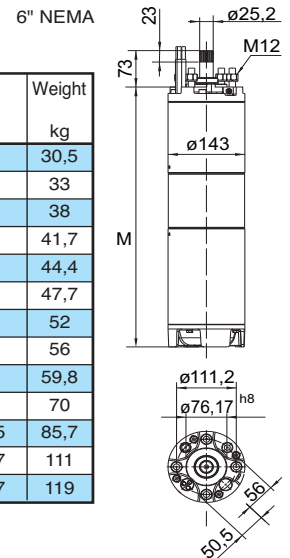
4"CS-R - 3 ~

Type	PN		IN 400 V A	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Axial thrust N	M mm	Weight kg
	kW	HP		4/4	3/4	2/4	4/4	3/4	2/4		I _A IN	C _A CN			
4CS-R 0,37T	0,37	0,5	1.2	0.73	0.64	0.47	63	58	44	≈ 2850	5.6	4.2	1500	327	7,7
4CS-R 0,55T	0,55	0,75	1.5	0.80	0.71	0.53	68	66	52		6.1	4.1		327	7,7
4CS-R 0,75T	0,75	1	2.2	0.77	0.69	0.50	65	63	49		4.2	3		347	8,7
4CS-R 1,1T	1,1	1,5	2.8	0.80	0.71	0.49	72	73	62		4.5	3		362	9,5
4CS-R 1,5T	1,5	2	3.7	0.79	0.70	0.47	76	75	65		5.0	3.1		402	10,8
4CS-R 2,2T	2,2	3	5.5	0.81	0.71	0.47	72	73	62		4.9	2.2		402	11,7
4CS-R 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-R 4T	4	5,5	9,4	0,82	0,74	0,60	74,5	75	71		6,3	2,19		546	18,2
4CS-R 5,5T	5,5	7,5	13	0,81	0,72	0,57	76	76	71		7,8	3,44		646	23



6"CS-R

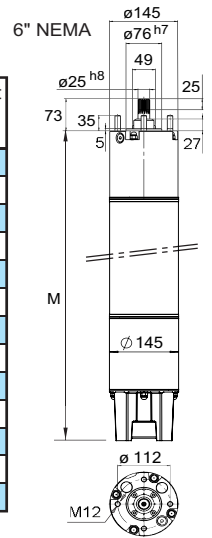
Type Standard	PN		IN 400 V A	Power factor cos φ		Efficiency η %		R.P.M.	Direct start		Axial thrust N	M mm	Weight kg
	kW	HP		4/4	3/4	4/4	3/4		I _A IN	C _A CN			
6CS-R 4	4	5,5	11	0,80	0,70	70	68	2825	3	1,5	30000	530	30,5
6CS-R 5,5	5,5	7,5	14,5	0,81	0,72	72	72	2815	3,2	1,5	30000	550	33
6CS-R 7,5	7,5	10	18,5	0,80	0,72	76	76	2830	4,1	2	30000	595	38
6CS-R 9,2	9,2	12,5	22	0,80	0,71	78	78	2840	4	1,7	30000	640	41,7
6CS-R 11	11	15	26	0,83	0,76	78	79	2835	5,2	2,5	30000	670	44,4
6CS-R 13	13	17,5	31	0,80	0,69	79	78	2840	5	2,6	30000	700	47,7
6CS-R 15	15	20	35	0,80	0,72	81	81	2855	5	1,95	30000	715	52
6CS-R 18,5	18,5	25	42	0,82	0,74	81	82	2840	5,4	2,5	30000	750	56
6CS-R 22	22	30	49,5	0,83	0,76	81	83	2820	4,5	1,7	30000	790	59,8
6CS-R 26	26	35	57,5	0,82	0,74	83	84	2850	5,3	2	30000	875	70
6CS-R 30	30	40	64,6	0,80	0,74	85	87	2845	5,3	2	30000	1025	85,7
6CS-R 37	37	50	82,5	0,80	0,72	86	87	2870	6	2,4	30000	1227	111
6CS-R 45	45	60	98,9	0,80	0,73	85	85	2860	5,1	2	30000	1287	119



Performance, dimensions and weights

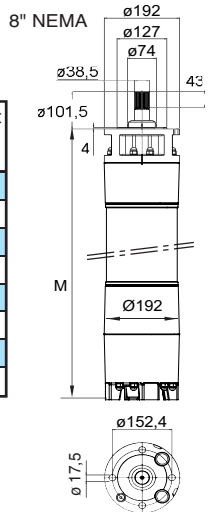
I-6"CS-R

Type AISI 316	PN		IN 400 V A	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Axial thrust N	M mm	Weight kg
	kW	HP		4/4	3/4	2/4	4/4	3/4	2/4		I _A I _N	C _A C _N			
I-6CS-R 4	4	5,5	9,9	0,80	0,73	0,64	74,8	74,4	67,4	2852	4	1,5	25000	597	44
I-6CS-R 5,5	5,5	7,5	13	0,80	0,75	0,67	76,7	75,2	65,2	2839	4	1,5	25000	627	47
I-6CS-R 7,5	7,5	10	17	0,81	0,76	0,68	78,4	76,9	73,1	2837	4	2	25000	667	51
I-6CS-R 9,2	9,2	12,5	20	0,82	0,77	0,68	79,1	79,4	74,3	2862	4	1,7	25000	697	54
I-6CS-R 11	11	15	24	0,84	0,80	0,72	80,8	81,9	78,6	2841	4	2,5	25000	767	61
I-6CS-R 13	13	17,5	30	0,82	0,77	0,67	80	79,3	76,7	2863	4	2,6	25000	767	62
I-6CS-R 15	15	20	33	0,83	0,77	0,68	81,6	82,8	81,0	2836	4	1,95	25000	827	69
I-6CS-R 18,5	18,5	25	40	0,83	0,78	0,69	81,9	82,6	80,3	2853	4	2,5	35000	897	74
I-6CS-R 22	22	30	47	0,82	0,75	0,64	83,5	84	82,1	2868	4	1,7	35000	967	81
I-6CS-R 26	26	35	54	0,82	0,77	0,66	84,5	86,1	85,2	2864	4	2	35000	1027	90
I-6CS-R 30	30	40	62	0,82	0,77	0,66	85	85,7	84,9	2860	4	2	45000	1167	103
I-6CS-R 37	37	50	79	0,81	0,75	0,63	83,5	84,6	84,1	2856	4	2,4	45000	1297	117
I-6CS-R 45	45	60	98	0,83	0,76	0,63	80,5	83,4	83,8	2827	4	2	45000	1327	119



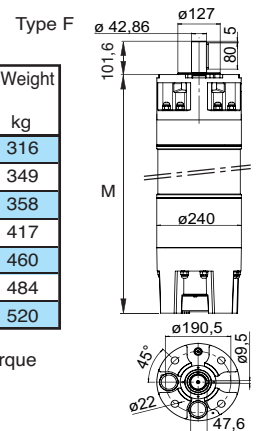
8"CS-R, I-8"CS-R

Type		PN		IN 400 V A	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Axial thrust N	M mm	Weight kg
Standard	AISI 316	kW	HP		4/4	3/4	2/4	4/4	3/4	2/4		I _A I _N	C _A C _N			
8CS-R 30	I-8CS-R 30	30	40	61	0,85	0,82	0,75	83,9	84,9	82,3	2886	4,5	1,8	50000	1049	137
8CS-R 37	I-8CS-R 37	37	50	76	0,84	0,8	0,71	84,8	84,7	82,7	2890	4,5	1,8	50000	1119	157
8CS-R 45	I-8CS-R 45	45	60	91	0,84	0,79	0,71	86	86	83,4	2900	4,5	1,9	50000	1229	169
8CS-R 51	I-8CS-R 51	51	70	103	0,85	0,81	0,73	84,9	86,5	85,1	2879	4,5	1,9	60000	1229	170
8CS-R 59	I-8CS-R 59	59	80	116	0,83	0,79	0,69	87,5	88,6	87,4	2898	4,5	2	60000	1349	194
8CS-R 66	I-8CS-R 66	66	90	129	0,84	0,81	0,72	87,1	88	87	2883	4,5	2	70000	1419	210
8CS-R 75	I-8CS-R 75	75	100	146	0,85	0,81	0,73	86,9	87,7	86,5	2890	4,5	2	70000	1609	241
8CS-R 92	I-8CS-R 92	92	125	181	0,83	0,77	0,66	88,5	88,4	87,9	2900	4,5	2,1	70000	1679	251



10"CS-R, I-10"CS-R

Type		PN		IN 400 V A	Power factor cos φ			Efficiency η %			R.P.M.	Direct start		Axial thrust N	M mm	Weight kg
Standard	AISI 316	kW	HP		4/4	3/4	2/4	4/4	3/4	2/4		I _A I _N	C _A C _N			
10CS-R 75	I-10CS-R 75	75	100	154	0,83	0,81	0,75	84,8	83,7	81,3	2900	4,5	1,1	80000	1439	316
10CS-R 92	I-10CS-R 92	92	125	184	0,84	0,82	0,78	85,7	84	82	2891	4,5	1,3	80000	1569	349
10CS-R 110	I-10CS-R 110	110	150	217	0,84	0,82	0,76	87,1	87,6	86,5	2907	4,5	1,3	80000	1709	358
10CS-R 132	I-10CS-R 132	132	180	262	0,85	0,83	0,78	87	87,3	85,6	2892	4,5	1,3	80000	1809	417
10CS-R 150	I-10CS-R 150	150	200	294	0,83	0,8	0,73	88,1	88,7	87,1	2907	4,5	1,7	80000	1929	460
10CS-R 170	I-10CS-R 170	170	230	334	0,83	0,79	0,71	87,5	88,4	87,2	2900	4,5		80000	2029	484
10CS-R 190	I-10CS-R 190	190	260	374	0,83	0,79	0,7	88,3	89,5	89,2	2904	4,5		80000	2129	520

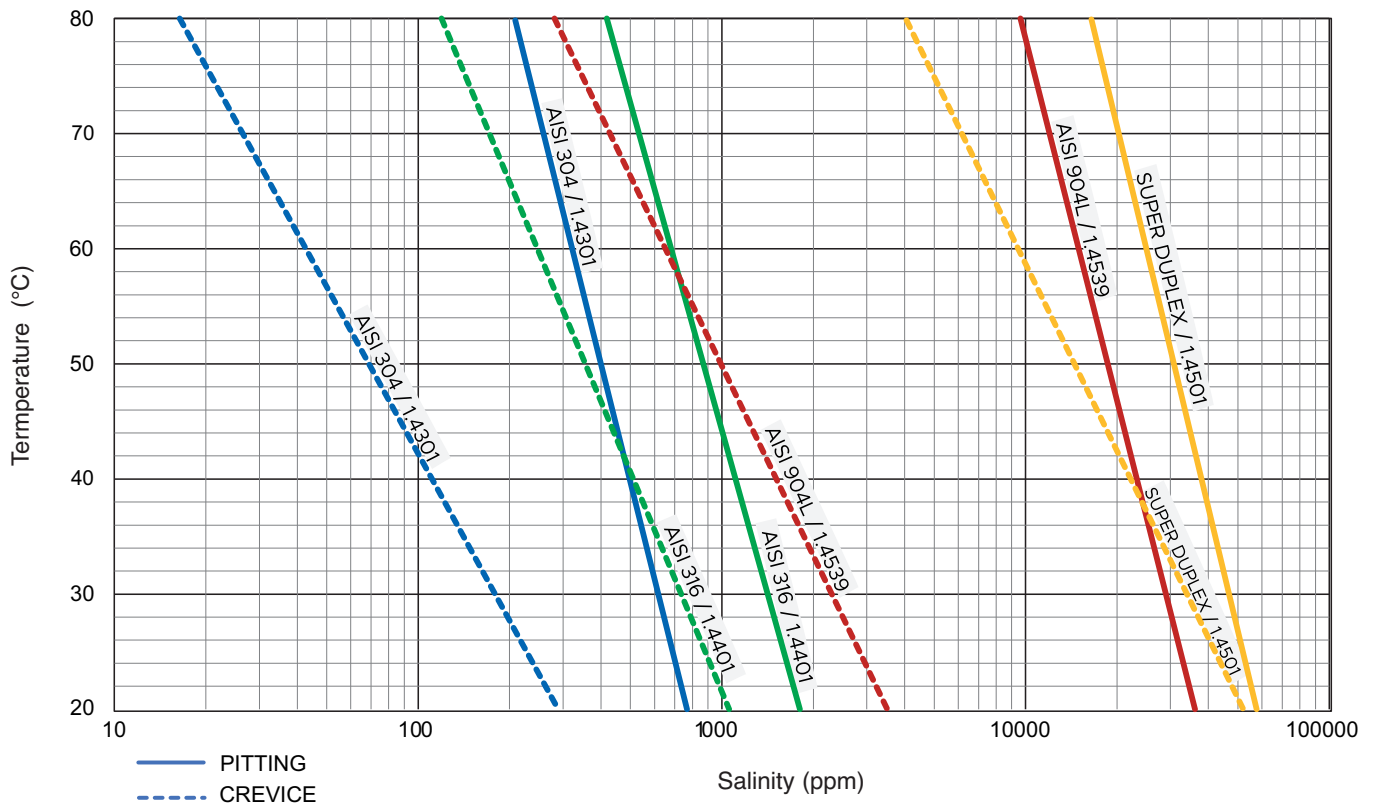


^N Rated power output IN Rated current

$\frac{I_A}{I_N}$ Starting current / Nominal current

$\frac{C_A}{C_N}$ Starting torque/Nominal torque

Relationship between temperature and salinity



Maximum length of electric cables

IN A	230 Volt - 50 Hz - 1 ~				
	1 four-wires cable 4 xmm ²				
	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 xmm ²							4 cables 1 xmm ²																				
	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 xmm ²								4 cables 1 xmm ²																								
	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 Gmm ²							7 cables 1 xmm ²						
	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 Gmm ²							7 cables 1 xmm ²							
	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150		
cables max m															
30															
35															
40															
45															
50															
60															
70															
80															
90															
100															
110															
120															
130															
140															
150															
160															
170															
180															
190															
200															
220															
240															
260															
280															
300															

- 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 drops above 3%, we advise to use suitable starting motors systems.
- All the cable wave to respect the usually applied normative and to present excellent insulation 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 mm ²	Maximum cable current		Resistance R at 80°C ohm/km ⁴⁾	Reactance X at 50Hz ohm/km ⁴⁾
		1 Ader A ¹⁾	2 Ader A ³⁾		
four-wires cable	1.5	18		15.1	0,142
four-wires cable	2.5	24		9.08	0,131
four-wires cable	4	32		5.63	0,121
four-wires cable	6	41		3.73	0,115
four-wires cable	10	57		2.27	0,103
four-wires cable	16	76		1.43	0,098
four-wires cable	25	96		0.91	0,097
four-wires cable	35		119	0.65	0,094
single-wire cable	50		167	0.473	0,121
single-wire cable	70		216	0.328	0,116
single-wire cable	95		264	0.236	0,118
single-wire cable	120		308	0.188	0,113
single-wire cable	150		356	0.153	0,112
single-wire cable	185		409	0.123	0,109
single-wire cable	240		485	0.094	0,110

¹⁾ IEC 60364-5-52:2009 Tab.B52.4 / C

²⁾ IEC 60364-5-52:2009 Tab.B52.6

³⁾ 1)×0,85 IEC 60364-5-52:2009 Tab.B52.17 ITEM2

⁴⁾ UNEL 35023-70

* 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 (IEC 60364-5-52:2009 Tab.B.52.14)

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 chosen by checking the voltage drop along the line , through the following equation:

$$DU\% = 1,73 \cdot I \cdot L \cdot (R \cdot \cos \varphi + X \cdot \sin \varphi) / (V \cdot 1000)$$

DU% the voltage drop should not be greater than 3%

R, X = cable resistance and reactance in ohms/km (indicated in Table 1)

$$\sin \varphi = \sqrt{1 - (\cos \varphi)^2}$$

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 (CEI 64-8:2007 Tab.54F)

Phase cross section area S mm ²	PE cross section area S _{PE} mm ²
S ≤ 16	S
16 < S ≤ 25	16
S > 25	S/2

Electric control panels

M COMP Control panel for 1 single-phase submersible pump




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 bipolar 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/A 1 D Control panel for 1 pump with single-phase motor, direct starting



Type	Motor 230V - 1~ kW	Setting A	Dimensions HxBxP mm
QML/A 1 D 12A-FA	0,25 - 1,5	1 - 12	250x205x105
QML/A 1 D 12A-FA 20	0,25 - 1,5	1 - 12	250x205x105
QML/A 1 D 12A-FA 25	0,25 - 1,5	1 - 12	250x205x105
QML/A 1 D 3 FT	2,2 - 3	13 - 18	400x300x160


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).

Pump operation controlled by an electronic board type MPS 3000 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 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	Motor 400V - 3~ kW	Setting A	Dimensions HxBxP mm
PFC-T 16/A	0,37 - 5,5	1 - 16	250x205x105

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/A 1 D Control panel for 1 pump with three-phase motor, direct starting



Type	Motor 400V - 3~ kW	Setting A	Dimensions HxBxP mm
QTL/A 1 D 12A-FA	0,25 - 5,5	1 - 12	250x205x105
QTL/A 1 D 7,5 FT	7,5	13 - 18	400x300x160
QTL/A 1 D 9,2 FT	9,2	17 - 23	400x300x160
QTL/A 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 MPS 3000 with microprocessor which allows three different modes of operation of the pump: standard, emergency and timed.

Dry-running protection with float switch.

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



Type	Motor Power kW	400V - 3~ Current A	Dimensions HxBxP mm
QTL/A 1 ST 5,5 FT	5,5	11 - 15	600x400x200
QTL/A 1 ST 7,5 FT	7,5	12 - 17	600x400x200
QTL/A 1 ST 11 FT	9,2 - 11	16 - 24	600x400x200
QTL/A 1 ST 15 FT	15	23 - 31	600x400x200
QTL/A 1 ST 18,5 FT	18,5	30 - 39	600x400x200
QTL/A 1 ST 22 FT	22	35 - 43	700x500x200
QTL/A 1 ST 30B FT	30	42 - 55	700x500x200
QTL/A 1 ST 30A FT	30	55 - 65	700x500x200
QTL/A 1 ST 37 FT	37	61 - 84	800x600x250
QTL/A 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 MPS 3000 with microprocessor with different pump operating modes.

Dry-running protection with float switch or level control probes.

Electric control panels

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

Type	Motor 400V - 3~		Dimensions HxBxP mm
	Power kW	Current A	
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 15 E	9,2 - 11 - 15	30	700x500x250
QTL 1 SS 22 E	18,5 - 22	45	700x500x250
QTL 1 SS 30 E	26 - 30	60	900x600x300
QTL 1 SS 37 E	37	75	900x600x300
QTL 1 SS 45 E	45	85	900x600x300
QTL 1 SS 55 E	55	110	900x600x300
QTL 1 SS 63 E	63	125	1100x700x300
QTL 1 SS 75 E	75	142	1100x700x300
QTL 1 SS 90 E	90	190	1200x800x400
QTL 1 SS 132 E	110 - 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 Impedance starter


Type	Motor 400V - 3~		Dimensions HxBxP mm
	Power kW	Current A	
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 Impedance 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	2,4	500x350x200
	QML 1 VFT 0,75	0,55 - 0,75	4,2	500x350x200
	QML 1 VFT 1,5	1,1 - 1,5	7,5	500x350x200
	QML 1 VFT 2,2	2,2	10	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	2,3	500x350x200
	QTL 1 VFT 1,5	1,1 - 1,5	4,1	500x350x200
	QTL 1 VFT 2,2	2,2	5,5	500x350x200
	QTL 1 VFT 4	3 - 4	9,5	500x350x200
	QTL 1 VFT 5,5	5,5	14,3	600x400x250
	QTL 1 VFT 7,5	7,5	17	600x400x250
	QTL 1 VFT 11	9,2 - 11	27,7	700x500x250
	QTL 1 VFT 15	15	33	700x500x250
	QTL 1 VFT 18,5	18,5	46,3	800x600x250
	QTL 1 VFT 22	22	61,5	800x600x250
	QTL 1 VFT 30	30	74,5	900x600x250
	QTL 1 VFT 37	37	88	1100x700x300
	QTL 1 VFT 45	45	106	1200x800x300
QTL 1 VFT 55	55	145	1200x800x300	
QTL 1 VFT 75	75	173	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.