



Construction

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

Impellers

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

Connection: screwed connection ISO 228.
Delivery casing with built-in non-return valve.

Applications

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

Operating conditions

Liquid temperature: - up to a 35 °C for 4" motors
- up to a 25 °C for 6-8-10" motors.

Max. sand quantity into the water: 150 g/m³ (300 g/m³ high percentage of solids and sand).
Continuous duty.

Rewindable motor CS series

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).
Sized for connection to the pumps according to NEMA Standards.
Standard voltages:

- single-phase 230 V up to 2,2 kW for 4" motors.
- three-phase 230 V; 400 V, for 4" motors.
- three-phase 400 V; 400/690 V, for 6" motors.

Voltage tolerance : +6% / -10%.

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

Operating conditions motor

Motor	Max. Liquid temperature	Cooling: minimum flow velocity	Max. starts per hour	Motor P2
4CS	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

4 SD M 31 / 26
 Ø of the well in inches _____
 Series _____
 Single-phase motor (up to max. 2,2 kW) _____
 Stage identification _____
 Number of stages _____

The electropumps 4SD31, 4SDF series comply with the European Regulation no. 547/2012.

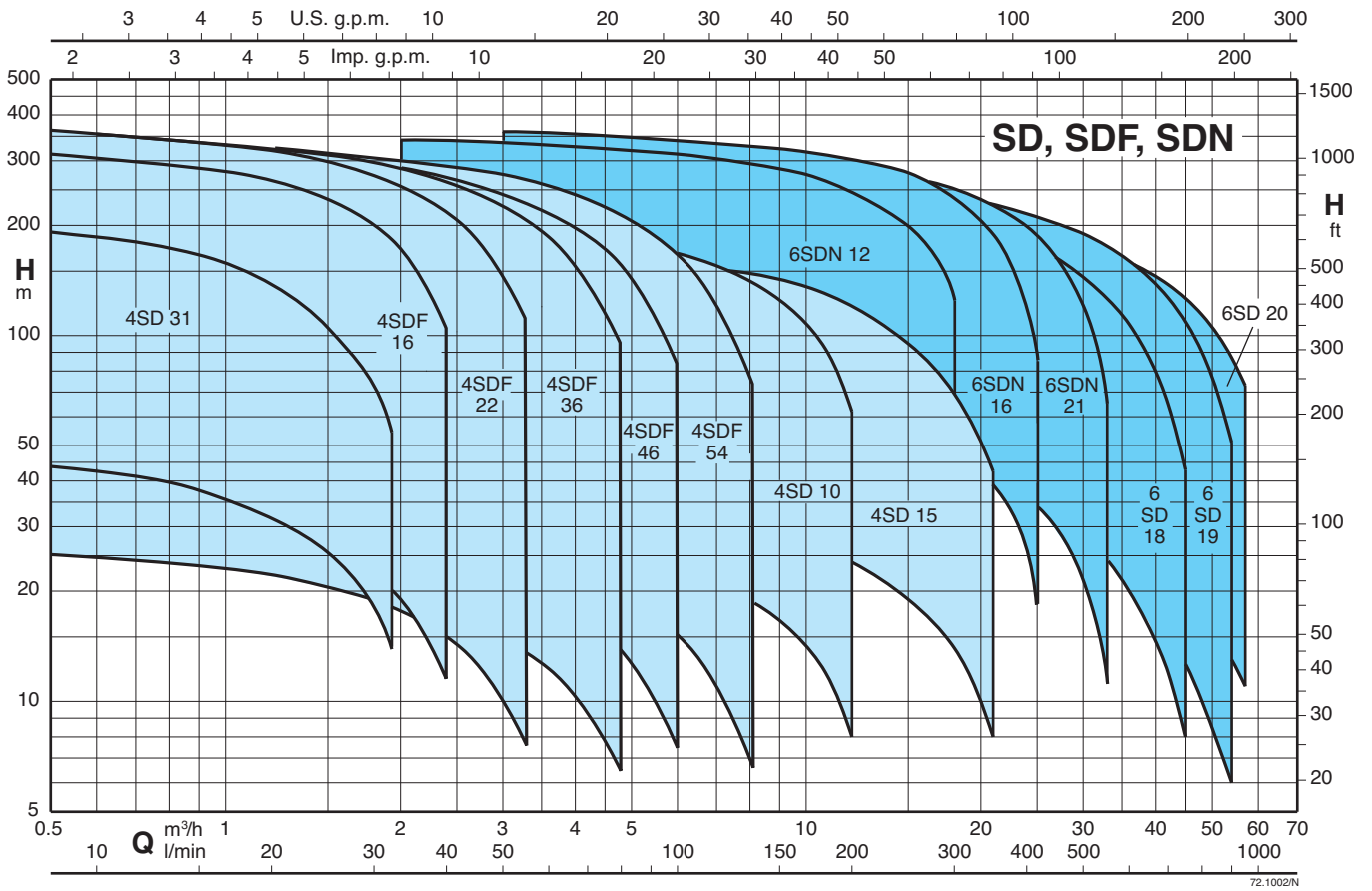
Materials

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

* Trademark of General Electric

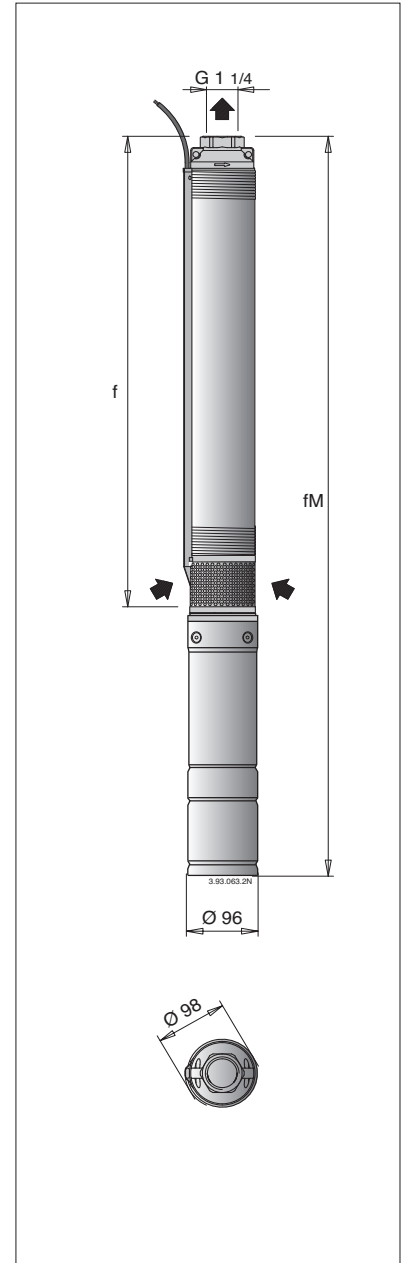
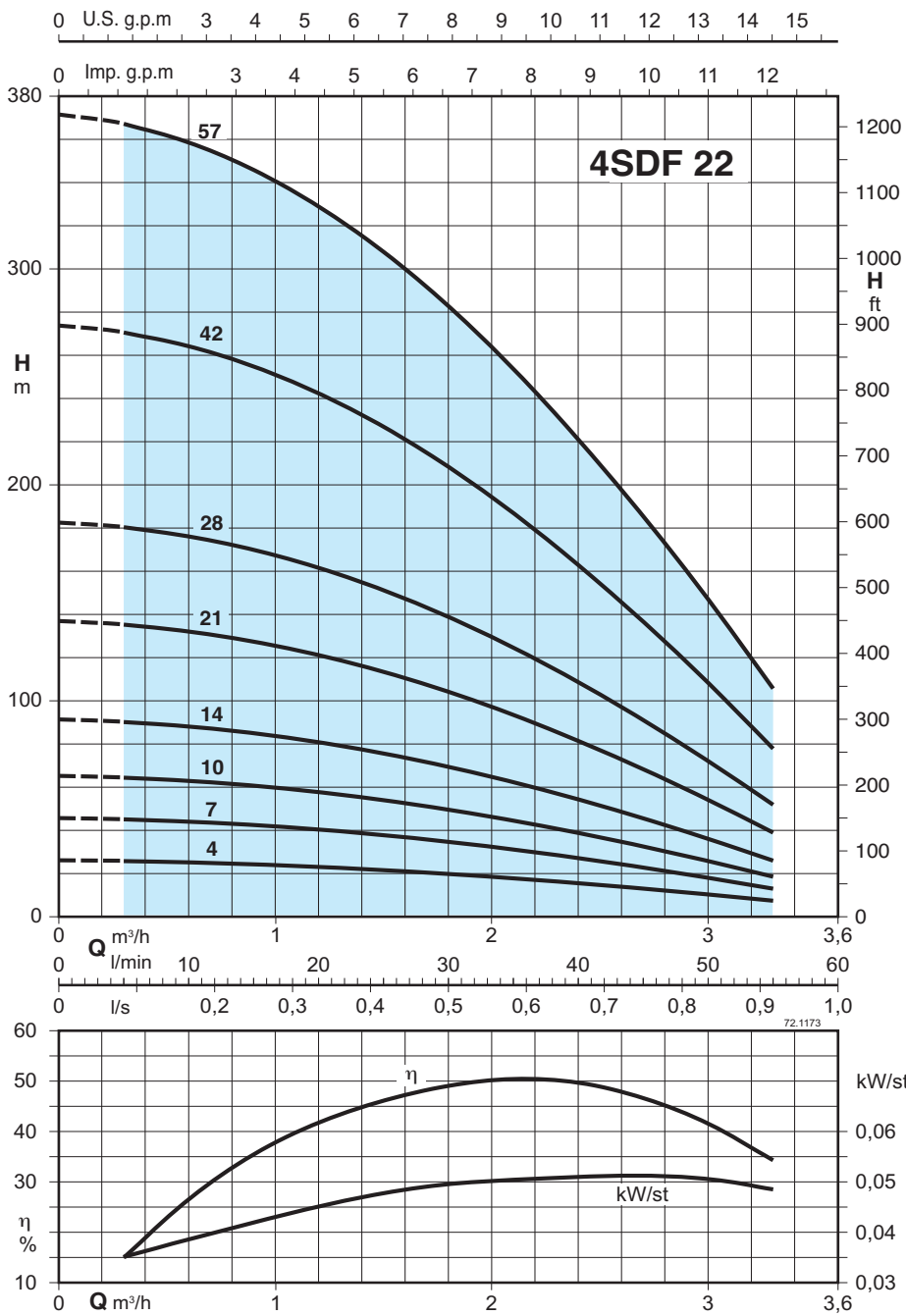
Components	4CS	6CS-R
External frame	Cr-Ni steel	AISI 304
Shaft	Cr-Ni-Mo steel AISI 316 (shaft end)	Cr steel AISI 431
Thrust bearing	Oil wetted ball type	Oscillation pads
Bearing bush	Oil wetted ball type	Graphite

Coverage chart $n \approx 2900$ rpm



72.1002/N

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



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

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

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

Tolerances according to UNI EN ISO 9906:2012