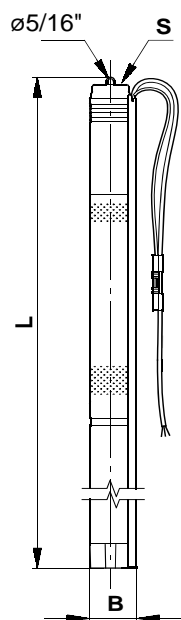


Technical data

Dimensions and weights



TM02 2209 3901

Pump type	Dimensions [in]			Net weight [lb]★	Gross weight [lb]★	Shipping volume [ft ³]★
	L	B	S			
3 SQF-2	47 *	2.9	1" NPT	17	21	0.85
3 SQF-3	49 *	2.9	1" NPT	17.5	21	0.85
6 SQF-2	48 *	2.9	1" NPT	17.5	21	0.85
6 SQF-3	51	2.9	1" NPT	1.8	2.2	0.85
11 SQF-2	49 *	2.9	1 1/4" NPT	18	22	0.85
16 SQF-10	38	3.9	1 1/4" NPT	21	24	1.00
25 SQF-3	32	3.9	1 1/2" NPT	18	21	1.00
25 SQF-7	35	3.9	1 1/2" NPT	19.5	23	1.00
40 SQF-3	36	3.9	2" NPT	21	24	1.00
40 SQF-5	40	3.9	2" NPT	23	26.5	1.00
60 SQF-3	39	3.9	2" NPT	24	27	1.00

★ Pump complete

Electrical data

30-300 VDC or 1 x 90-240 VAC, 50/60 Hz

Pump type	Motor type	Max. power input P ₁ [W]	Max. current [A]
3 SQF-2	MSF 3	900	8.4
3 SQF-3	MSF 3	900	8.4
6 SQF-2	MSF 3	900	8.4
6 SQF-3	MSF 3	900	8.4
11 SQF-2	MSF 3	900	8.4
16 SQF-10	MSF 3	1400	8.4
25 SQF-3	MSF 3	1400	8.4
25 SQF-7	MSF 3	1400	8.4
40 SQF-3	MSF 3	1400	8.4
40 SQF-5	MSF 3	1400	8.4
60 SQF-3	MSF 3	1400	8.4

Technical data

SQF pump

Power supply to pump	30-300 VDC, PE. 1 x 90-240 V -10%/+6%, 50/60 Hz, PE.
Run-up time	Depends on the energy source.
Start/stop	No limitation to the number of starts/stops per hour.
Enclosure class	IP 68.
Motor protection	Built into the pump. Protection against <ul style="list-style-type: none"> • dry running by means of a water level electrode • overvoltage and undervoltage • overload • overtemperature.
Conductivity	≥ 70 μs/cm (micro siemens).
Sound pressure level	The sound pressure level of the pump is lower than the limiting values stated in the EC Machinery Directive.
Radio noise	The SQF complies with the EMC Directive 89/336/EEC. Approved according to the standards EN 61000-6-2 and EN 61000-6-3.
Reset function	The SQF can be reset via the CU 200 or by disconnecting the power supply for 1 minute.
Power factor	PF = 1.
Operation via generator	Voltage: 230 VAC -10%/+6%. The generator output must be <ul style="list-style-type: none"> • minimum 1000 W (helical rotor pumps) • minimum 1500 W (centrifugal pumps).
Earth-leakage circuit breaker	If the pump is connected to an electric installation where an earth-leakage circuit breaker (ELCB) is used as an additional protection, this circuit breaker must trip out when earth fault currents with DC content (pulsating DC) occur.
Borehole diameter	3 SQF, 6 SQF, 11 SQF: Minimum: 3 in. 16 SQF, 25 SQF, 40 SQF, 60 SQF: Minimum: 4 in.
Installation depth	Minimum: The pump must be completely submerged in the pumped liquid. Maximum: 500 ft below the static water table (220 psi).
Suction strainer	Holes of the suction strainer: 3 SQF, 6 SQF, 11 SQF: ø0.090 in. 16 SQF, 25 SQF: ø0.10 in. 40 SQF, 60 SQF: 0.16 in x 0.80 in.
Pumped liquids	pH 5 to 9. Sand content up to 50 ppm.
Marking	CE.

CU 200 SQFlex control unit

Voltage	30-300 VDC, 8.4 A. 90-240 VAC, 8.4 A.
Power consumption	5 W.
Current consumption	Maximum 130 mA.
Pump cable	Maximum length between the CU 200 and the pump: 650 ft. Maximum length between the CU 200 and the level switch: 2000 ft.
Back-up fuse	Maximum 10 A.
Radio noise	The CU 200 complies with the EMC Directive 89/336/EEC. Approved according to the standards EN 55014 and 55014-2.
Relative air humidity	95%.
Enclosure class	IP 55.
Ambient temperature	During operation: -22 °F to +122 °F. During storage: -22 °F to +140 °F.
Marking	CE.
Weight	4.5 lb.

Technical data

IO 50 SQFlex switch box

Voltage	Maximum 300 VDC, 8.4 A. Maximum 265 VAC, 8.4 A.
Enclosure class	IP 66.
Ambient temperature	During operation: -22 °F to +122 °F. During storage: -22 °F to +140 °F.
Marking	CE.

IO 101 SQFlex switch box

Voltage	230 VAC -15%/+10%, 50/60 Hz (internal relay). Maximum 225 VDC, 8.4 A. Maximum 265 VAC, 8.4 A.
Enclosure class	IP 55.
Ambient temperature	During operation: -22 °F to +122 °F. During storage: -22 °F to +140 °F.
Marking	CE.

IO 102 SQFlex breaker box

Voltage	Maximum 225 VDC, 8.4 A. Maximum 265 VAC, 8.4 A.
Enclosure class	IP 55.
Ambient temperature	During operation: -22 °F to +122 °F. During storage: -22 °F to +140 °F.
Marking	CE.

Charge controller

Voltage (solar input)	Maximum 110 VDC.
Current (solar input)	Maximum 15 A.
Output current (load)	Maximum 15 A.
Ambient temperature	-40 °F to +140 °F.
Weight	0.75 lb.

Technical data

Material specification, helical rotor pump

Pos.	Component	Material	SQF
			AISI
1	Valve casing	Polyamide	
1a	Discharge chamber	Stainless steel	304
1d	O-ring	NBR	
2	Valve cup	Polyamide	
3	Valve seat	NBR	
6	Flange, upper	Stainless steel	304
7a	Circlip	Stainless spring steel	310
9	Pump stator	Stainless steel/EPDM	304
13	Pump rotor	Stainless steel	304
16	Torsion shaft	Stainless steel	316
39	Valve spring	Stainless spring steel	316 LN
55	Outer sleeve	Stainless steel	304
70	Valve guide	Polyamide	
159c	Sand shield	Polyamide	
	Cable guard	Stainless steel	304
	Screws for cable guard	Stainless steel	316

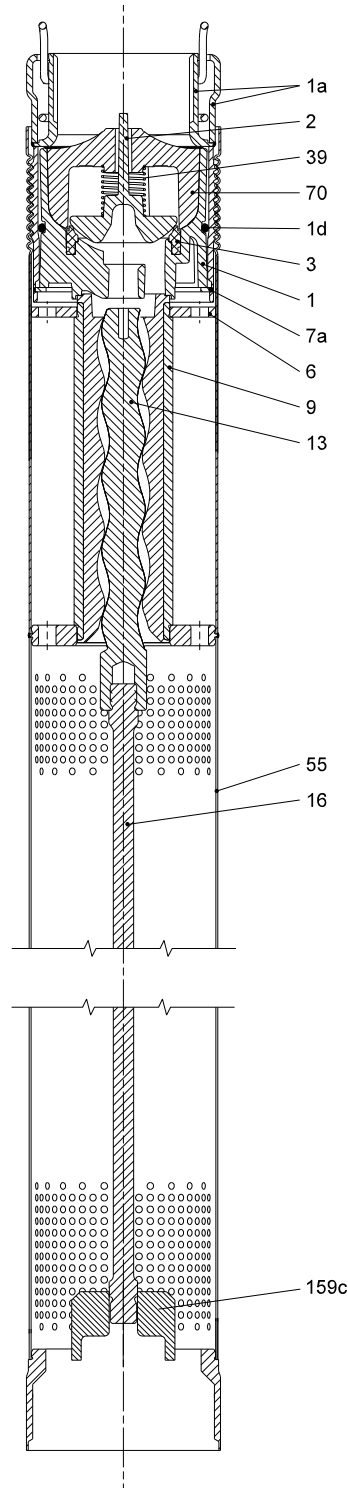


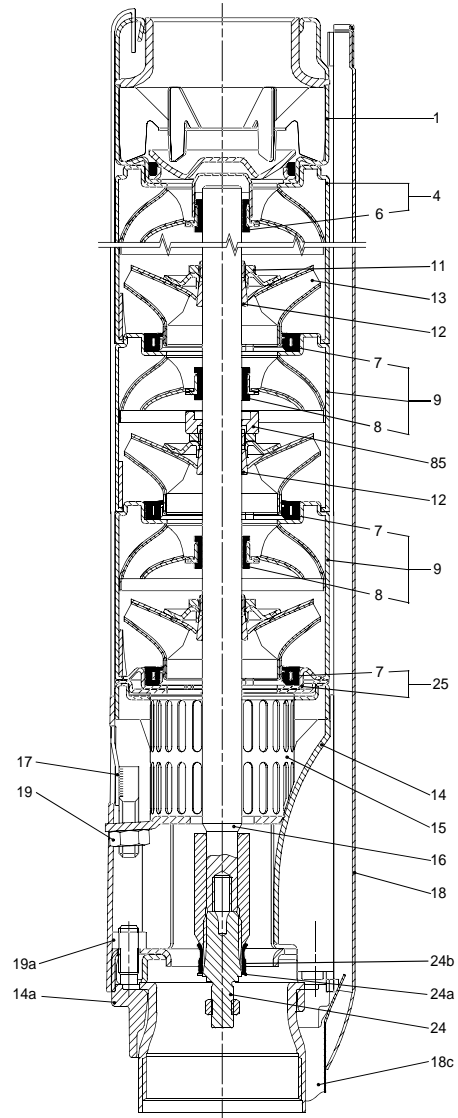
Fig. 30 Example: 6 SQF-2

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Technical data

Material specification, centrifugal pump

Pos.	Component	Material	SQF	
			AISI	
1	Valve casing	Stainless steel	304	
4	Chamber, top	Stainless steel	304	
6	Top bearing	NBR		
7	Neck ring	NBR/PPS		
8	Bearing	NBR		
9	Chamber, complete	Stainless steel	304	
11	Nut for split cone	Stainless steel	304	
12	Split cone	Stainless steel	304	
13	Impeller	Stainless steel	304	
14	Inlet part	Stainless steel	304	
14a	Connecting piece, complete (MSF 3 adapter)	Stainless steel	304	
15	Strainer	Stainless steel	304	
16	Shaft, cylindrical	Stainless steel	431	
17	Strap	Stainless steel	304	
18	Cable guard, pump	Stainless steel	304	
18c	Cable guard, motor	Stainless steel	304	
19	Nut for strap	Stainless steel	304	
19a	Nut	Stainless steel	316	
24	Coupling with nut	Stainless steel	329	
24a	Supporting ring	Stainless steel	316	
24b	Spline protector	NBR		
25	Retainer for neck ring, complete	Stainless steel	304	
85	Stop ring (only 25 SQF and 60 SQF)	Carbon/graphite PTFE		
	Screws for cable guard	Stainless steel	316	



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Fig. 31 Example: 60 SQF-3

Technical data

Material specification, motor

Pos.	Component	Material	MSF 3
			AISI
201	Stator with sleeve, complete	Stainless steel	304
202	Rotor	Stainless steel	304
202a	Stop ring	PP	
202c	Shaft end	Stainless steel	316
203	Thrust bearing, stationary	Stainless steel/carbon	316
205	Bearing plate with radial bearing	Silicon carbide	304
206	Thrust bearing, rotating	Stainless steel/aluminium oxide Al_2O_3	316
220	Motor cable with plug		
222a	Filling plug	NBR	
223	Electronic unit		
224	O-ring	NBR	
225	Top cover	NBR	
232	Shaft seal	NBR	
243	Thrust-bearing housing	Stainless steel	316
	Four screws (M4)	Stainless steel	316

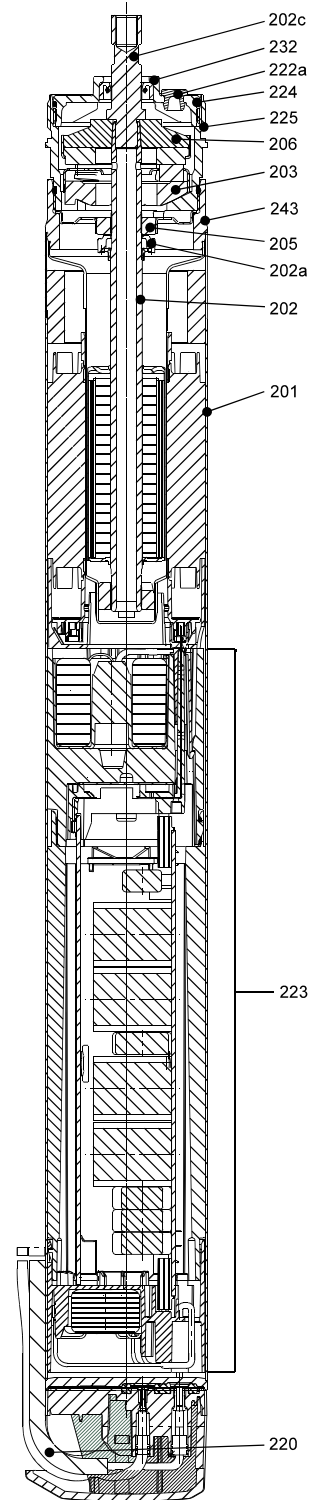


Fig. 32 MSF 3

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