

SUBMERSIBLE MOTORS

8 INCH MTSF

PRODUCT INFORMATION & SERVICE MANUAL



SHAKTI

THE POWER OF INNOVATION, EFFICIENCY & TECHNOLOGY.

CONTENT

8" PRODUCT INFORMATION

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PRODUCT APPLICATION AND PRODUCT SPECIFICATION

GENERAL DATA

These 200 mm Rewindable motors, manufactured in ISO 9001:2015 certified facilities

Applications

This motor is built for dependable operation in 200 mm diameter or larger water wells. It is fitted with water lubricated radial and thrust bearings for a maintenance – free operations. The motor is filled with a special fluid, Providing frost protection down to -15°C storage temperature . A special diaphragm ensures pressure compensation inside the motor.

Product advantages

- High efficiency electrical design (low operation cost, cooler winding temperature).
- Design for retrofittable PT100 sensor.
- Motor With SiC Mechanical seal and sand slinger.
- Cable material in accordance with regulations for drinking water.
- Water lubricated radial and thrust bearing.
- All motors pre-filled and 100% tested.
- Non contaminating, water-filled design.
- Max. storage temperature -15°C to +60°C.

Technical specification

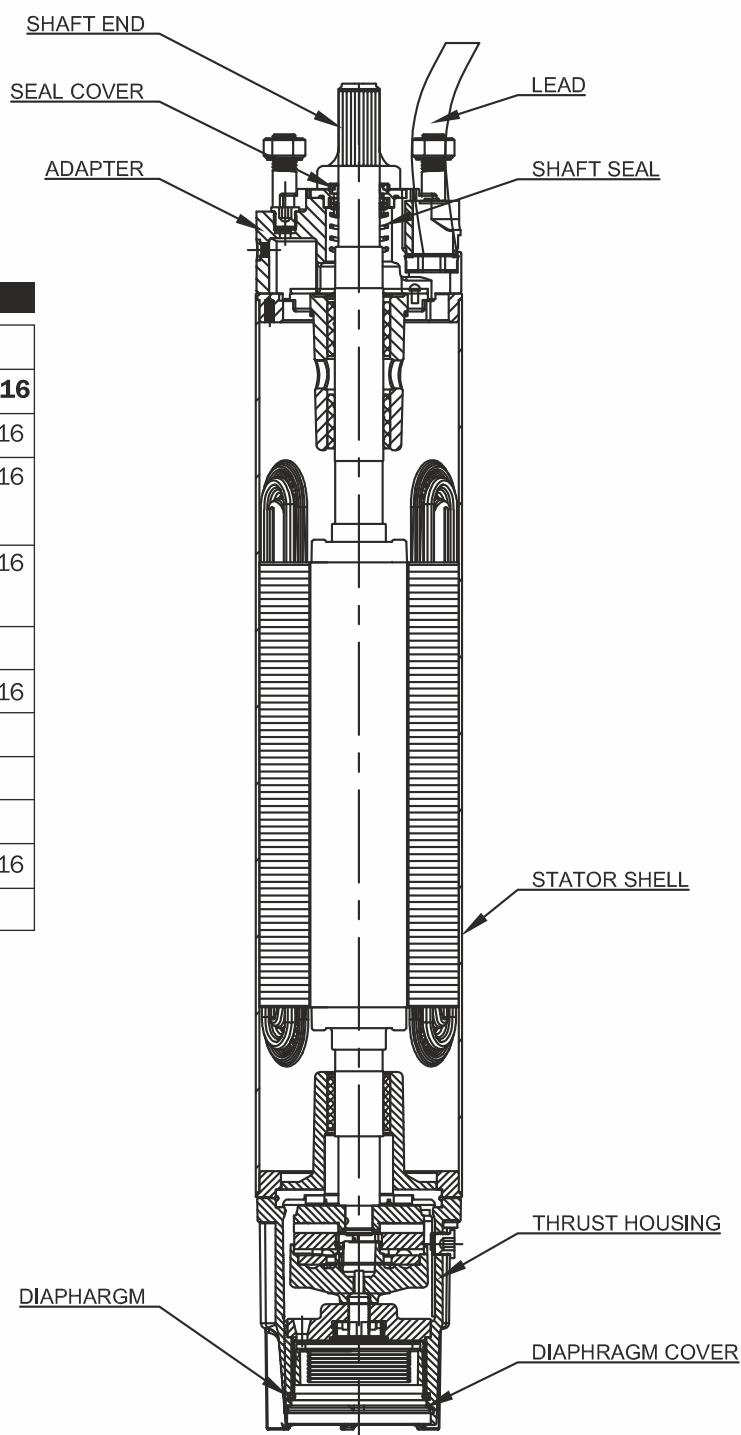
Power range	: 30 HP - 125 HP / 22 kW - 93 kW
Flange	: 200 mm NEMA
Degree of protection	: IP68
Ambient temperature	: 30°C
Cooling flow	: 30 HP - 70 HP / 22 kW - 52 kW = 0.2 m/s 75 HP - 125 HP / 55 - 93 kW = 0.5 m/s
Starts/hr	: 10
Voltage tolerance	: +6% / -10% UN

Considering continuous product development the information/performance/specifications and illustrations disseminated in this catalogue are subject to change without notice.

SUBMERSIBLE MOTORS			
Material	CI, Stainless Steel 304/316	Rating	22kW-93kW/30HP-125HP
Type	Rewindable	Thrust Rating	45000 N

8" Rewindable

Material			
Part	Material DIN/AISI		
	CI	AISI SS 304	AISI SS 316
Stator shell	AISI SS 304	AISI SS 304	AISI SS 316
Adapter	Cast Iron Powder Coated	AISI SS 304	AISI SS 316
Thrust Housing	Cast Iron Powder Coated	AISI SS 304	AISI SS 316
Seals	NBR	NBR	NBR
Seal Cover	AISI SS 304	AISI SS 304	AISI SS 316
Shaft Seal	SiC	SiC	SiC
Shaft end	Duplex	Duplex	Duplex
Diaphragm	EPDM	EPDM	EPDM
Diaphragm Cover	AISI SS 304	AISI SS 304	AISI SS 316
Lead	EPR	EPR	EPR



SUBMERSIBLE MOTORS			
Material	Cl, Stainless Steel 304/316	Rating	22kW-93kW/30HP-125HP
Type	Rewindable	Thrust Rating	45000 N

8" Rewindable Motors Performance Data 50 Hz

MATERIAL CODE	P _N	Thrust	U _N	n _N	I _N	I _A	EFFICIENCY[%]			POWER FACTOR [%]			T _N	T _A
	[kW]	F[N]	[V]	[min ⁻¹]	[A]	[A]	50	75	100	50	75	100	[Nm]	[Nm]
9000012053	22	45000	380	2856	46.8	257	81	84	84	0.76	0.83	0.86	74	94
			400	2872	45.5	250	81	84	84	0.72	0.81	0.84	73	104
			415	2880	45	248	80	84	84	0.69	0.79	0.82	73	112
9000006583	30	45000	380	2888	62.5	344	85	86	86	0.78	0.82	0.86	99	127
			400	2900	61.1	336	85	86	86	0.76	0.79	0.83	99	141
			415	2912	60.8	334	85	86	87	0.71	0.76	0.82	98	153
9000006584	37	45000	380	2852	77	424	85	86	85	0.79	0.84	0.87	124	159
			400	2856	75.9	417	86	85	85	0.76	0.78	0.85	124	158
			415	2872	75	413	87	86	85	0.72	0.75	0.82	123	194
9000006585	45	45000	380	2844	93.5	533	82	85	84	0.75	0.84	0.87	151	221
			400	2856	90.3	515	83	85	85	0.72	0.83	0.87	150	245
			415	2872	89.0	507	81	85	85	0.65	0.82	0.85	150	266
9000006586	52	45000	380	2872	104.0	603	86	87	87	0.87	0.87	0.88	173	281
			400	2888	103.1	598	86	87	87	0.83	0.84	0.84	172	314
			415	2892	101.2	587	86	87	87	0.83	0.82	0.83	172	309
9000006587	55	45000	380	2860	111.1	655	87	87	86	0.86	0.86	0.88	184	304
			400	2872	105.4	622	87	87	87	0.83	0.83	0.89	183	344
			415	2884	106.4	628	87	87	87	0.84	0.81	0.86	182	368
9000006606	60	45000	380	2876	121	702	86	87	87	0.73	0.81	0.87	199	321
			400	2900	119	690	85	87	87	0.69	0.79	0.85	197	358
			415	2904	117	679	85	87	88	0.66	0.76	0.83	197	358
9000006589	63	45000	380	2868	125.5	766	87	88	87	0.79	0.88	0.88	210	339
			400	2892	121.0	738	86	88	87	0.76	0.85	0.87	208	377
			415	2896	120.0	732	86	88	88	0.72	0.84	0.86	208	374
9000011072	67	45000	380	2868	138.5	859	85	85	86	0.77	0.83	0.86	223	357
			400	2872	134	831	84	85	86	0.72	0.80	0.85	223	459
			415	2876	132	818	84	85	86	0.69	0.79	0.84	222	402
9000006590	75	45000	380	2876	155.0	977	86	86	86	0.80	0.83	0.85	249	423
			400	2884	152.0	958	86	86	86	0.79	0.82	0.84	248	517
			415	2888	150.0	945	85	86	86	0.78	0.80	0.82	248	476
9000006591	83	45000	380	2880	167	1119	86	87	87	0.87	0.88	0.87	275	482
			400	2888	160	1072	86	87	87	0.87	0.87	0.87	274	546
			415	2892	158	1059	86	87	87	0.86	0.85	0.85	274	588
9000006592	93	45000	380	2864	187.0	1216	87	87	86	0.88	0.88	0.88	310	562
			400	2868	178.0	1157	87	87	87	0.87	0.88	0.89	310	680
			415	2876	174	1131	87	88	87	0.87	0.87	0.85	309	679

SUBMERSIBLE MOTORS			
Material	Cl, Stainless Steel 304/316	Rating	22kW-93kW/30HP-125HP
Type	Rewindable	Thrust Rating	45000 N

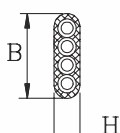
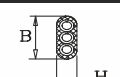
8" Rewindable Motors Performance Data 60 Hz


MATERIAL CODE	P _N	P _{max}	Thrust	U _N	n _N	I _N	I _A	EFFICIENCY[%]			POWER FACTOR [%]			T _N	T _A
	[kW]	[kW]	F[N]	[V]	[min ⁻¹]	[A]	[A]	50	75	100	50	75	100	[Nm]	[Nm]
9000012053	22	25.3	45000	460	3444	46.2	254	84	86	85	0.80	0.82	0.82	70	94
9000006583	30	34.5	45000	460	3484	62	341	81	83	85	0.71	0.71	0.82	95	127
9000006584	37	42.6	45000	460	3462	77.8	428	84	85	85	0.80	0.81	0.81	117	159
9000006585	45	51.8	45000	460	3420	91	501	86	86	86	0.84	0.84	0.84	145	221
9000006586	52	59.8	45000	460	3476	104.0	572	86	87	87	0.82	0.83	0.83	164	281
9000006587	55	63	45000	460	3432	110	605	85	86	86	0.82	0.83	0.84	175	304
9000006606	60	69	45000	460	3476	123	677	88	89	89	0.79	0.79	0.80	189	321
9000006589	63	72.5	45000	460	3444	127	699	88	89	88	0.81	0.82	0.81	201	339
9000011072	67	77	45000	460	3436	139	765	84	86	85	0.80	0.82	0.82	214	357
9000006590	75	86	45000	460	3480	155.0	853	85	86	86	0.80	0.80	0.81	236	423
9000006591	83	95	45000	460	3476	165	908	85	86	87	0.83	0.84	0.84	261	482
9000006592	93	107	45000	460	3468	185.0	1018	86	87	87	0.86	0.86	0.86	295	562

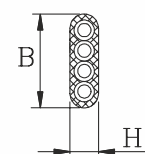
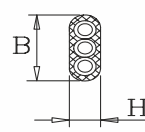
SUBMERSIBLE MOTORS

Material	Cl, Stainless Steel 304/316	Rating	22kW-93kW/30HP-125HP
Type	Rewindable	Thrust Rating	45000 N

8" Rewindable Motors Leads @ 400 V

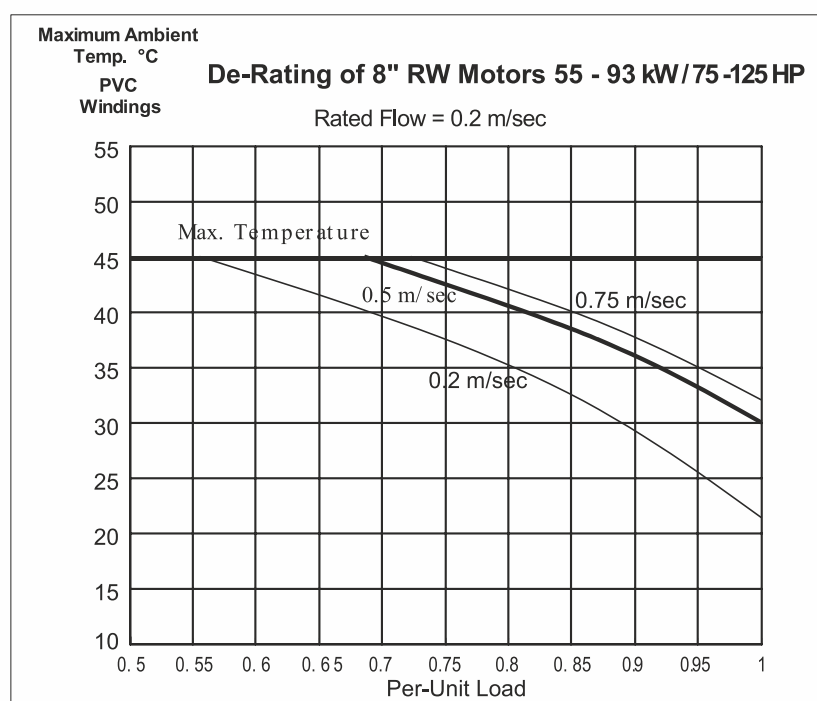
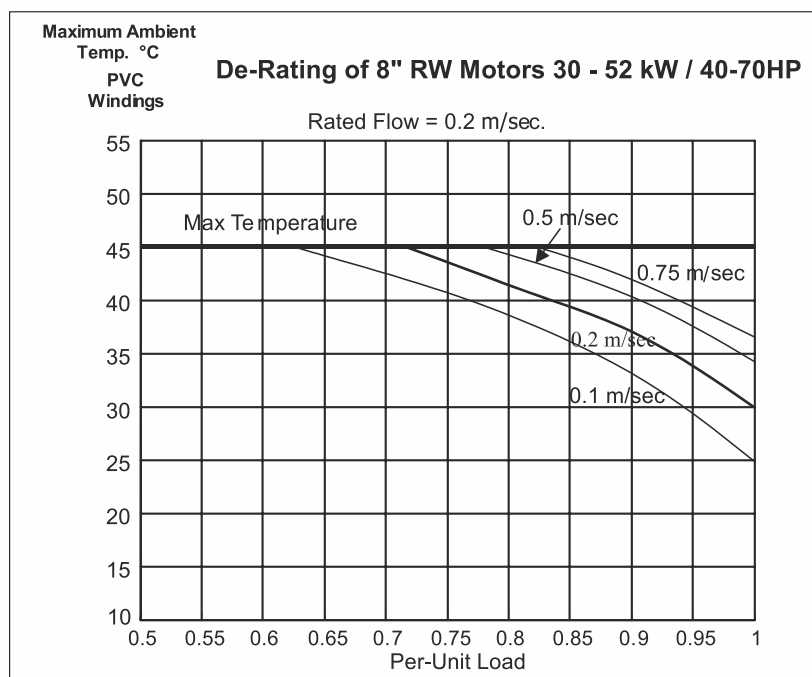
DOL	[kW]	\emptyset	B/H		Length	Qty
		[mm2]	[mm]		[M]	
	22-45	1x4x10	B	30.0	6	1
			H	10.5		
	52-55	1x4x16	B	38.0	6	1
			H	12.8		
	60-93	1x3x25	B	37.5	6	1
			H	16.0		

Ground Lead (option)	[kW]	\emptyset	D	Length	Qty
		[mm2]		[M]	
	60-93	1x25	13	6	1

Y Δ	[kW]	\emptyset	B/H		Length	St.
Lead		[mm2]	[mm]		[M]	
 	22-55	1x3x6	B	19.5	6	1
			H	9.5		
		1x4x6	B	25.0		
			H	9.0		
	60-75	1x3x10	B	24.5	6	1
			H	11.5		
		1x4x10	B	30.0		
			H	10.5		
	83-93	1x3x16	B	28.8	6	1
			H	12.2		
		1x4x16	B	38.0		
			H	12.8		

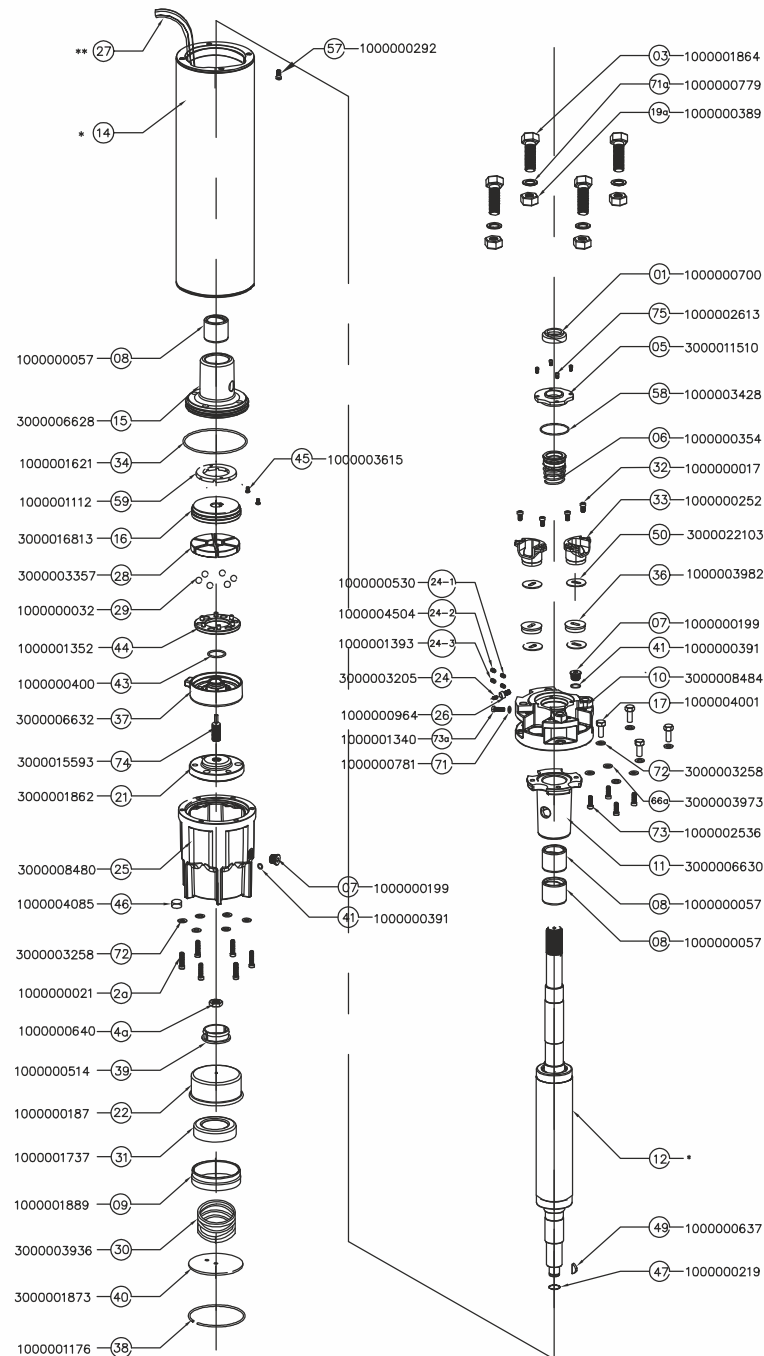
SUBMERSIBLE MOTORS			
Material	Cl, Stainless Steel 304/316	Rating	22kW-93kW/30HP-125HP
Type	Rewindable	Thrust Rating	45000 N

8" Rewindable Motors Performance Data 50Hz



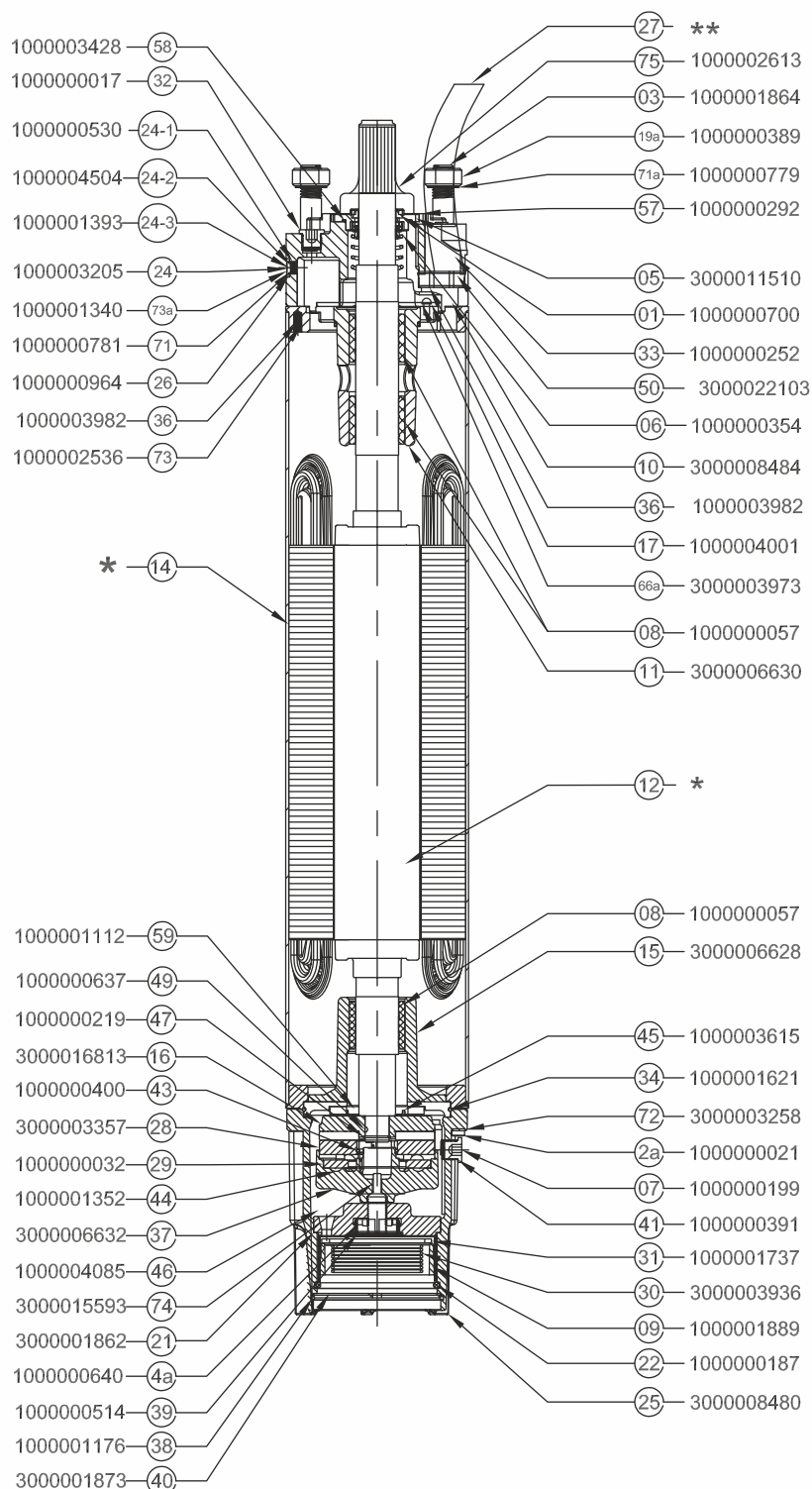
SUBMERSIBLE MOTORS			
Material	CI, Stainless Steel 304/316	Rating	22kW-93kW/30HP-125HP
Type	Rewindable	Thrust Rating	45000 N

Exploded View



NOTES: -
 * INDICATE AS PER (HP)
 ** AS PER REQUIREMENT

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Material	CI, Stainless Steel 304/316	Rating	22kW-93kW/30HP-125HP
Type	Rewindable	Thrust Rating	45000 N



SUBMERSIBLE MOTORS			
Material	CI, Stainless Steel 304/316	Rating	22kW-93kW/30HP-125HP
Type	Rewindable	Thrust Rating	45000 N

POS	MATERIAL CODE	PART DISCRIPTION	QTY	MATERIAL
03	1000001864	HH BOLT M16XX60SS	4	SS AISI-304
71a	1000000779	SPRING WASHER	4	SS AISI-304
19a	1000000389	NUT(M16)	4	SS AISI-304
01	1000000700	SAND SLINGER	1	NBR
75	1000002613	ALLEN BOLT M5X10	4	SS AISI-304
05	3000011510	DUST COVER	1	SS AISI-304
58	1000003428	O-RING(Ø64.5X2.5)	1	NBR
06	1000000354	MECHANICAL SEAL	1	N/A
32	1000000017	ALLEN BOLT M8X16	4	SS AISI-304
33	1000000252	GLAND	2	PPS 30/PPO 20
50	3000022103	GROMMET COVER	4	SS AISI-304
36	1000003982	GROMMET	2	NYTRIAL RUBBER
7	1000000199	DRAIN PLUG	1	BRASS
41	1000000391	O-RING 10X2.1MM	1	NBR
10	3000008484	ADOPTER UP.HSG	1	CI FG-260
17	1000004001	HH BOLT M12XX35SS	4	SS AISI-304
72	3000003258	SS WASHER	4	SS AISI-304
66a	3000003973	SS WASHER	4	EN 1.4509
73	1000002536	ALLEN BOLT M8X30	4	SS AISI-304
11	3000006630	BRG BODY UPPER	1	CI FG-260
08	1000000057	BUSH CARBON	2	METAL IMPREGNATED ANTI-MONY
12	*	ROTOR SUB ASSLY	1	N/A
49	1000000637	S.S. KEY	1	SS
47	1000000219	EXT.CIRCLIP	1	SS AISI-304
57	1000000292	HH BOLT M8XX12	1	SS AISI-304
45	1000003615	COUNTER SHANK SCREW	2	SS AISI-304
24-1	1000000530	PVC CAP	1	PP
24-2	1000004504	PVC CAP	1	PP
24-3	1000001393	FILTER	2	N/A
24	3000003205	PRESSUR RELIEF VALUE ASSLY.	2	N/A
26	1000000964	THRD.PLUG VALUE	1	SS AISI-304
73a	1000001340	ALLEN BOLT M8X12	1	SS AISI-304
71	1000000781	SPRING WASHER	1	SS AISI-304
7	1000000199	DRAIN PLUG	1	BRASS
41	1000000391	O-RING	1	NBR
27	**	CABLE	1	RUBBER
14	*	STATOR SUB ASSLY	1	N/A
08	1000000057	BUSH CARBON	1	METAL IMPREGNATED ANTI-MONY
15	3000006628	BRG BODY LOWER	1	CI FG-260
34	1000001621	O-RING	1	NBR
59	1000001112	UPTHRUST BEARING	1	CARBON
16	3000016813	REVOLVING PLATE ASSLY	1	N/A

SUBMERSIBLE MOTORS			
Material	CI, Stainless Steel 304/316	Rating	22kW-93kW/30HP-125HP
Type	Rewindable	Thrust Rating	45000 N

POS	MATERIAL CODE	PART DISCRIPTION	QTY	MATERIAL
28	3000003357	THRUST BER SEGMENT	6	SS AISI-420
29	1000000032	BALL 15	6	SS AISI-304
44	1000001352	THRUST BALL RETAINER	1	LTB-2
43	1000000400	O-RING	1	NBR
37	3000006632	BRG SEG .CARRIER	1	CI FG-260
74	3000015593	GRUB SCREW	1	SS AISI-304
21	3000001862	THRUST SUPPORT	1	CI FG-260
25	3000008480	MOTOR BASE	1	CI FG-260
46	1000004085	MAGNET	1	MAGNET
72	3000003258	SS WASHER	6	SS AISI-304
2a	1000000021	ALLEN BOLT M8X40	6	SS AISI-304
4a	1000000640	SS LOCK NUT	1	SS AISI-420
39	1000000514	PROTECTION PLUG	1	PP/PLASTIC
22	1000000187	DIAPHRAM	1	EPDM
31	1000001737	SPRING BASE CUP	1	ABS
9	1000001889	SUPPoring RING	1	PP/PLASTIC
30	3000003936	SPRING DIAPHRAM	1	SS AISI-304
40	3000001873	COVER PLATE	1	SS AISI-304
38	1000001176	WIRE CIRCLIP	1	SS AISI-304

SUBMERSIBLE MOTORS			
Material	Cl, Stainless Steel 304/316	Rating	22kW-93kW/30HP-125HP
Type	Rewindable	Thrust Rating	45000 N

Replacement Rotors & Sleeve Assembly

POS	P _N	UPPER SLEEVE	LOWER SLEEVE	ROTOR MODEL NO.
	[kW]			
12.01	22	3000003928 (2 NOS USE)	300003928 (1 NOS USE)	3000017372
12.02	30			3000002188
12.03	37			3000002188
12.04	45			3000002189
12.05	52			3000002190
12.06	55			3000002190
12.07	60			3000002191
12.08	63			3000002191
12.09	67			3000002191
12.10	75			3000002192
12.11	83			3000002193
12.12	93			3000002193

Replacement Stator Assembly

POS	P _N	STATOR ASSEMBLY	STATOR MODEL NO
	[kW]		
12.01	22	STATOR ASSEMBLY	30000017371
12.02	30		3000002233
12.03	37		3000002233
12.04	45		3000002234
12.05	52		3000002235
12.06	55		3000002235
12.07	60		3000002236
12.08	63		3000002236
12.09	67		3000002236
12.10	75		3000002237
12.11	83		3000002238
12.12	93		3000002238

SUBMERSIBLE MOTORS			
Material	CI, Stainless Steel 304/316	Rating	22kW-93kW/30HP-125HP
Type	Rewindable	Thrust Rating	45000 N

380, 400, 415/50, 460/60 (V)/Hz

[kW]	Stator incl. Winding		ROTOR
	DOL	YΔ	
30	3000003160	3000003161	3000002188
37	3000003811	3000008280	3000002188
45	3000003812	3000003813	3000002189
52	3000008283	3000008284	3000002190
55	3000003814	3000003815	3000002190
60	3000008281	3000008282	3000002191
67	3000008279	3000004057	3000002191
75	3000003816	3000003817	3000002192
83	3000004054	3000004055	3000002193
93	3000003162	3000003818	3000002193

Standard Windings (380 – 415 / 460 Volt and 50 / 60 Hz)

[kW]	Turns per coil	Wire diameter(mm) No. of wire	Group Connection	Total wire Length[m]	Resistance YΔ (U1-U2)[Ω]	Resistance DOL(U1-V1)[Ω]
22	24+24+24+24	2.2X1	DELTA	380	0.64	0.43
30	18+18+18+18	2.5X1	DELTA	310	0.43	0.29
37	18+18+18+18	2.5X1	DELTA	310	0.43	0.29
45	15+15+15+15	1.9X2	DELTA	612	0.36	0.24
52	12+12+12+12	2.2X2	DELTA	552	0.25	0.17
55	12+12+12+12	2.2X2	DELTA	552	0.25	0.17
60	10+10+10+10	2.4X1/2.3X1	DELTA	523	0.20	0.13
63	10+10+10+10	2.4X1/2.3X1	DELTA	523	0.20	0.13
67	10+10+10+10	2.4X1/2.3X1	DELTA	523	0.20	0.13
75	8+9+8+9	2.5X2	DELTA	481	0.16	0.11
83	8+8+8+8	2.2X3	DELTA	685	0.15	0.10
93	8+8+8+8	2.2X3	DELTA	685	0.15	0.10

NOTE : INSULATION TYPE PVC

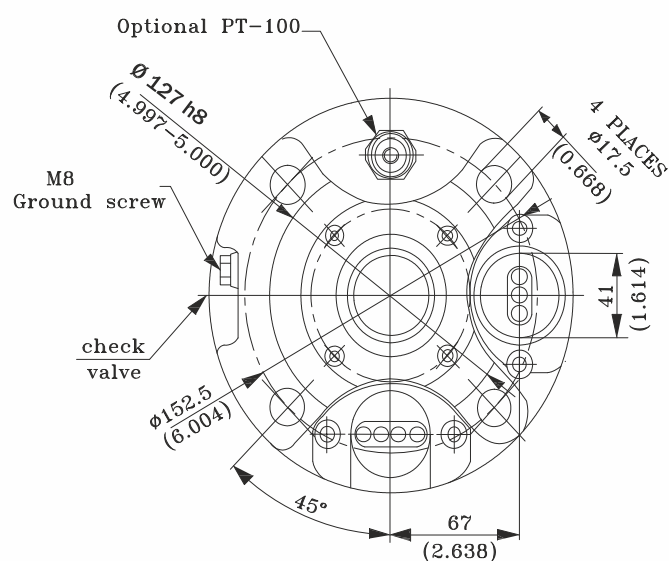
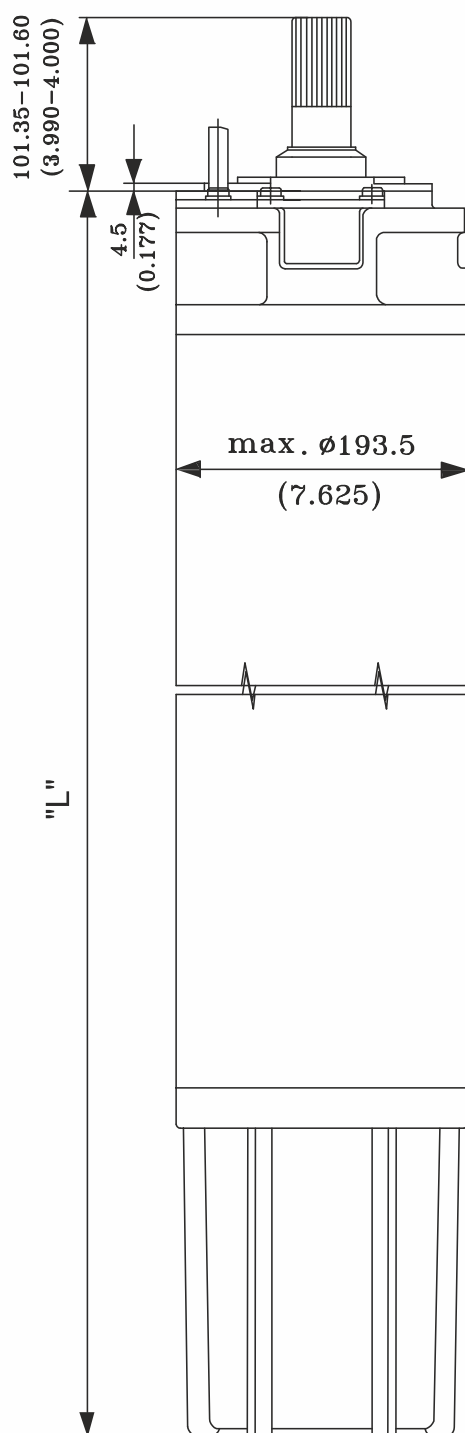
Insulation Resistance (20°C/500 VDC)

New motor without drop cable	200 > MΩ
Used motor without drop cable	20 > MΩ
New motor with drop cable	2 > MΩ
Used motor with drop cable	0.5 -2 MΩ

SUBMERSIBLE MOTORS

Material	Cl, Stainless Steel 304/316	Rating	22kW-93kW/30HP-125HP
Type	Rewindable	Thrust Rating	45000 N

Outline drawings



Motor Lengths & Weights

P [kW]	L [mm]	Packing Size [mm]	Motor Weights [kg]	
			Net Wt.	Incl. Packing [kg]
22	1140	1550X200X290	146	164
30	1140	1550X200X290	146	164
37	1140	1550X200X290	146	164
45	1230	1550X200X290	168	189
52	1340	1650X200X290	181	203
55	1340	1650X200X290	181	203
60	1470	1850X200X290	228	245
63	1470	1850X200X290	228	245
67	1470	1850X200X290	228	245
75	1560	2000X200X290	228	245
83	1740	2100X200X290	260	292
93	1740	2100X200X290	260	292



Mar. 2023/R3 SAP No. 2000017387

Mar./2023-24/L7/000 VC - 0000000

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