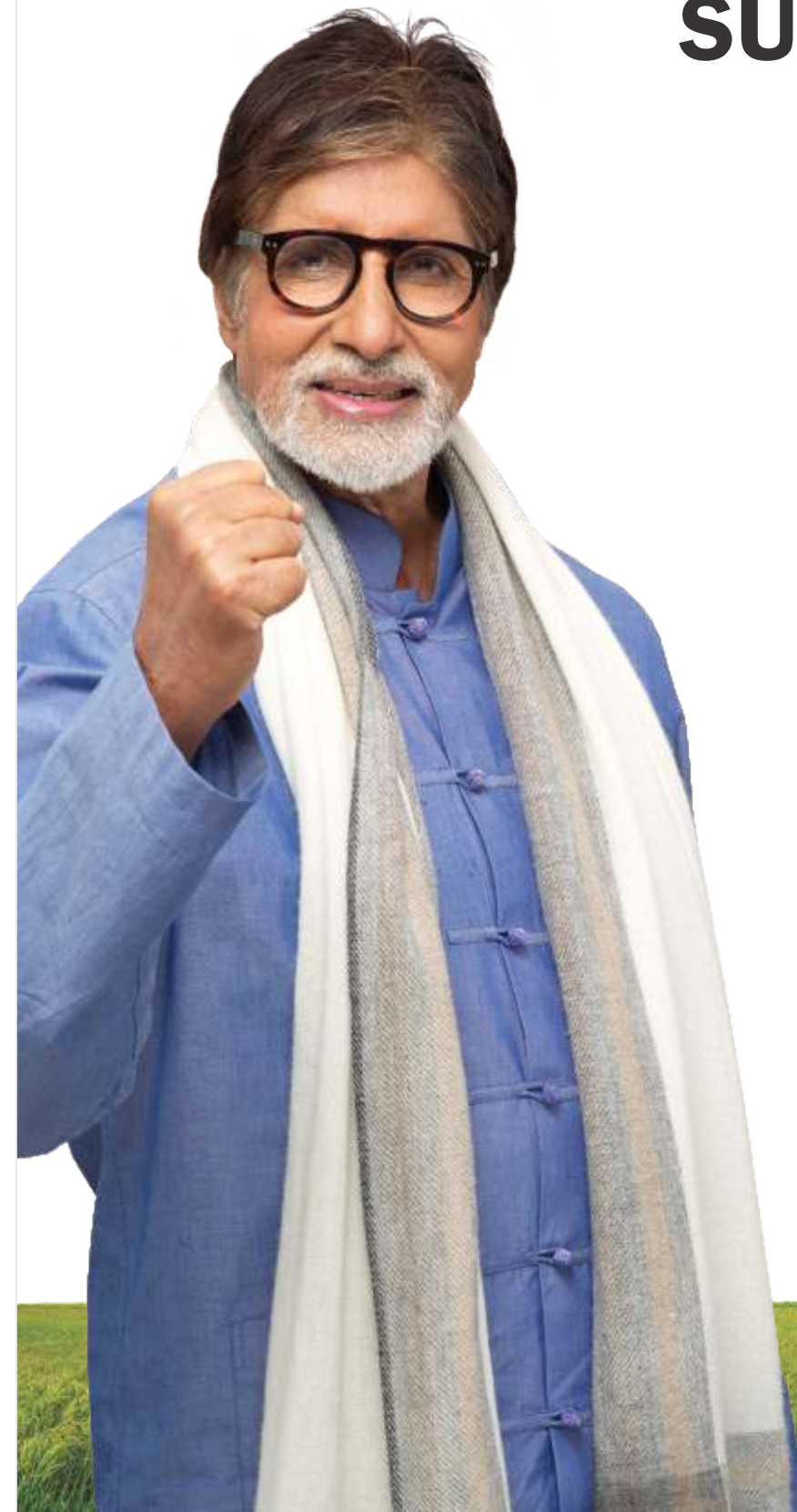


SUBMERSIBLE MOTORS



SAP No. 2900000285

June/2014-15/L1/500



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150 MM SML

PRODUCT INFORMATION & SERVICE MANUAL

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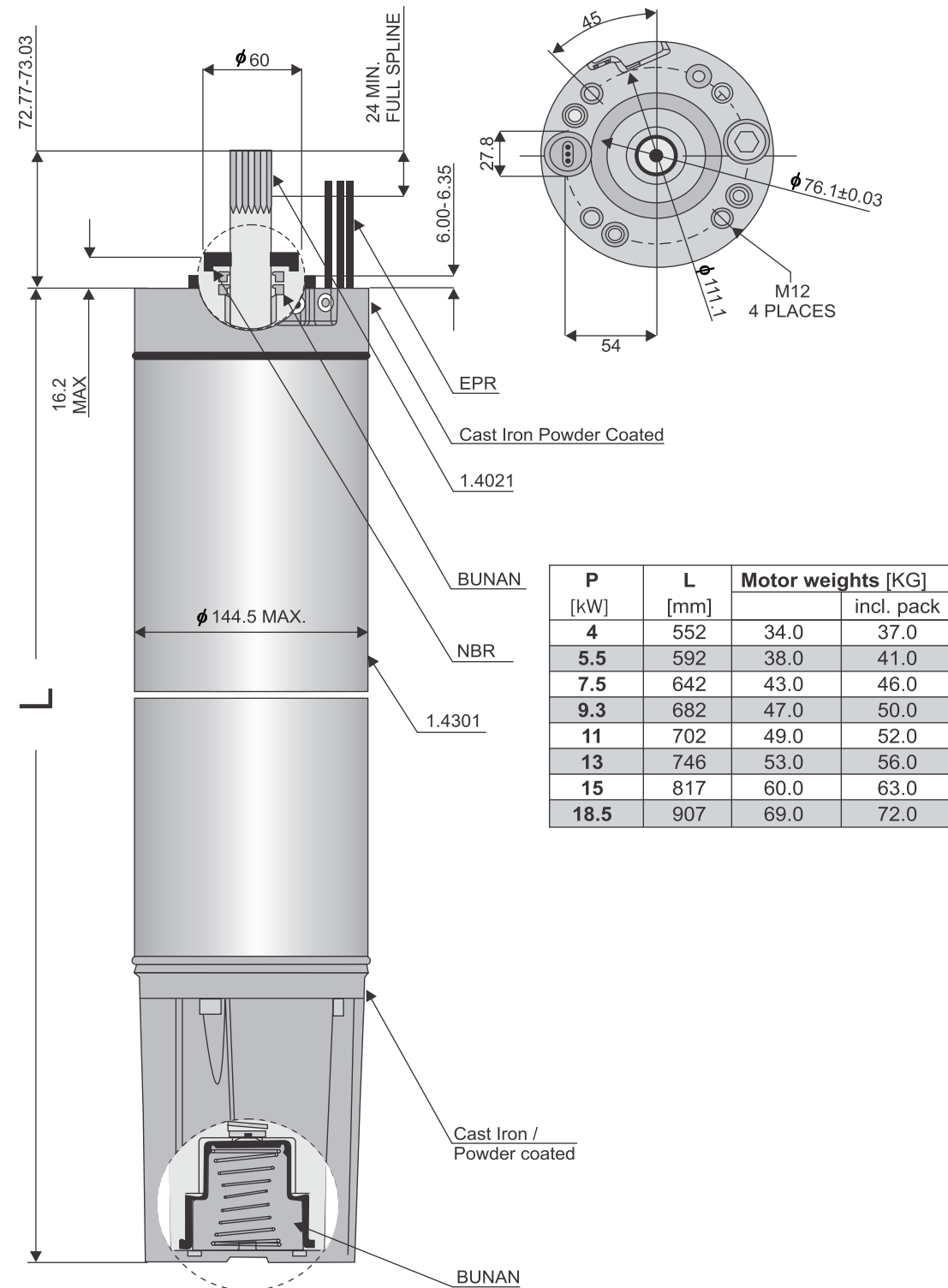
Considering continuous product development the information/performance/specifications and illustrations disseminated in this catalogue are subject to change without notice.

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SUBMERSIBLE MOTORS

150 MM Rew. SML : 4 - 18.5 kW / 5.5 HP-25HP

SML OUTLINE



SUBMERSIBLE MOTORS

150 MM Rew. SML : 4 - 18.5 kW / 5.5 HP-25HP

APPLICATION

150 MM Rewindable motors are built for dependable operation in 6" diameter or larger water wells.

Water lubricated thrust and radial bearing enable a maintenance free operation.

A preloaded special diaphragm ensures pressure compensation inside the motor.

Product advantages:-

- High efficiency electrical design for low operation cost.
- All motors prefilled and 100% tested Max. Storage temperature -15°C - + 16°C
- Non contaminating liquid filling.

TECHNICAL SPECIFICATION

- 6" NEMA Flange
- Protection: IP 68
- Start per hour: max. 20
- Installation position: vertical / horizontal
- Motor lead in 3m length.
- Standard voltage: 380-415/50HZ, Voltage tolerance: + 6%/-10 % (standard:415+6% = 440V,380 -10% = 342 V)
- Motor protection: Select thermal overloads according to EN 60947-4-1, trip class 10 or 10A, trip time <10 S at 5X IN.
- PVC winding insulation.
- Max. ambient temp. of 30°C with a min. cooling flow: v = 0.2 m/s.

150 MM REWINDABLE MOTORS - MODEL NUMBERS

P _N		UN / f	Model numbers			
[kW]	HP		SMLC		SMLS	
		[V] / [Hz]	Y	YΔ	Y	YΔ
4	5.5	380 - 415 / 50	9000006511	9000006463	9000006575	9000006527
5.5	7.5	380 - 415 / 50	9000006512	9000006464	9000006576	9000006528
7.5	10	380 - 415 / 50	9000006457	9000006465	9000006521	9000006529
9.3	12.5	380 - 415 / 50	9000006458	9000006466	9000006522	9000006530
11	15	380 - 415 / 50	9000006459	9000006467	9000006523	9000006531
13	17.5	380 - 415 / 50	9000006460	9000006468	9000006524	9000006532
15	20	380 - 415 / 50	9000006461	9000006469	9000006525	9000006533
18.5	25	380 - 415 / 50	9000006462	9000006470	9000006526	9000006534

SUBMERSIBLE MOTORS

150 MM Rew. SML : 4 - 18.5 kW / 5.5 HP-25HP

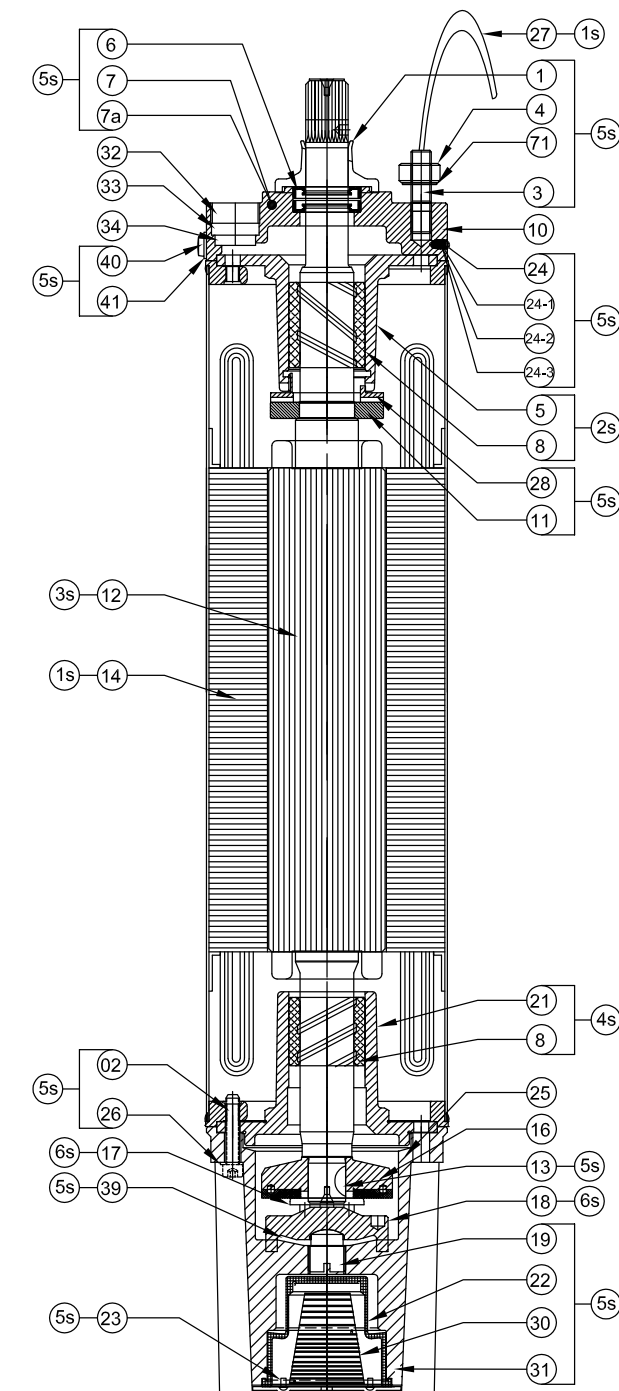
150 MM REWINDABLE MOTORS PERFORMANCE DATA 50 Hz

P _N [HP]	P _N [kW]	Thrust F [N]	U _N [V]	η [min -1]	I _N [A]	I _A [A]	η (Eff.) [%] at % load			Cos Φ (PF) at % load			T _N [Nm]	T _A [Nm]
							50	75	100	50	75	100		
5.5	4	15500	380	2838	10.0	39	0.72	0.76	0.78	0.66	0.77	0.83	13.5	19.8
			400	2851	10.0	42	0.72	0.77	0.79	0.59	0.70	0.77	13.4	22.2
			415	2878	10.0	43	0.72	0.79	0.81	0.56	0.67	0.75	13.3	25.3
7.5	5.5	15500	380	2824	13.5	60	0.75	0.79	0.78	0.63	0.74	0.80	18.6	34.7
			400	2858	13.3	63	0.75	0.79	0.80	0.57	0.68	0.75	18.4	37.1
			415	2901	13.3	66	0.81	0.82	0.82	0.51	0.63	0.71	18.3	41.8
10	7.5	15500	380	2838	17.0	75	0.79	0.81	0.80	0.70	0.82	0.88	25.2	41.7
			400	2863	16.5	80	0.80	0.82	0.81	0.63	0.76	0.84	25.0	47.5
			415	2867	16.5	83	0.78	0.81	0.81	0.60	0.73	0.81	25.0	50.7
12.5	9.3	15500	380	2825	21.2	100	0.79	0.81	0.80	0.66	0.77	0.83	31.4	56.2
			400	2848	20.7	107	0.78	0.81	0.81	0.61	0.73	0.80	31.2	64.0
			415	2869	20.8	110	0.77	0.80	0.82	0.57	0.69	0.76	31.0	71.0
15	11	15500	380	2855	26.0	130	0.79	0.83	0.82	0.58	0.69	0.76	36.8	70.2
			400	2870	26.5	138	0.76	0.81	0.82	0.53	0.64	0.71	36.6	79.5
			415	2889	27.0	143	0.74	0.79	0.82	0.49	0.61	0.69	36.4	84.6
17.5	13	15500	380	2821	30.0	140	0.79	0.81	0.80	0.67	0.78	0.84	44.0	79.3
			400	2846	30.0	151	0.79	0.83	0.82	0.60	0.71	0.77	43.6	91.8
			415	2867	29.0	157	0.75	0.81	0.83	0.57	0.61	0.76	43.3	97.8
20	15	15500	380	2837	34.8	177	0.79	0.83	0.83	0.66	0.76	0.81	50.5	94.6
			400	2867	34.5	188	0.80	0.83	0.83	0.59	0.70	0.78	49.9	107.3
			415	2887	35.0	196	0.77	0.82	0.83	0.54	0.66	0.74	49.6	120.4
25	18.5	15500	380	2804	40.6	223	0.84	0.85	0.83	0.65	0.75	0.84	61.6	119.0
			400	2824	40.6	236	0.81	0.84	0.84	0.57	0.68	0.80	61.3	133.0
			415	2832	41.0	246	0.80	0.82	0.83	0.52	0.63	0.78	61.1	145.0

SUBMERSIBLE MOTORS

150 MM Rew. SML : 4 - 18.5 kW / 5.5 HP-25HP

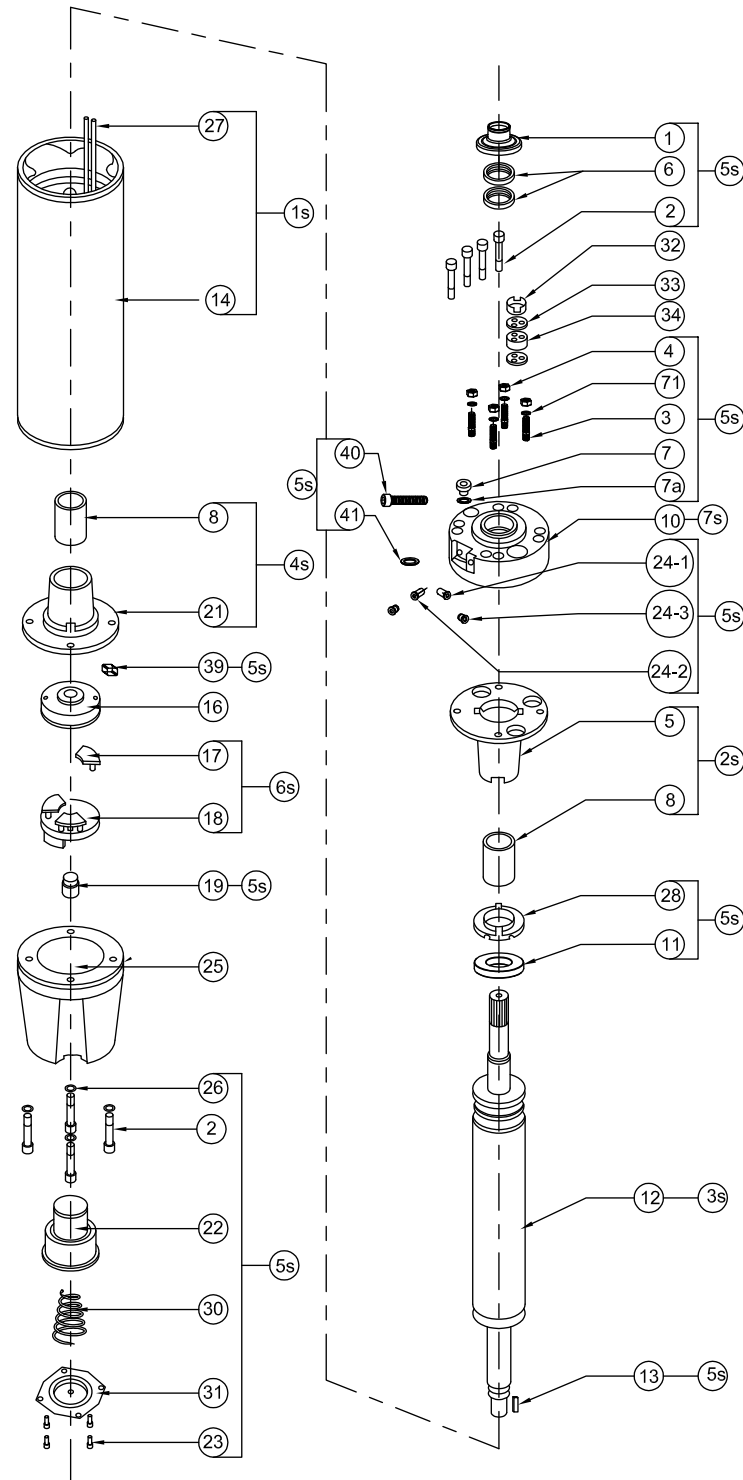
SECTIONAL VIEW SML (C) 150



SUBMERSIBLE MOTORS

150 MM Rew. SML : 4 - 18.5 kW / 5.5 HP-25HP

EXPLODED VIEW SML (C) 150



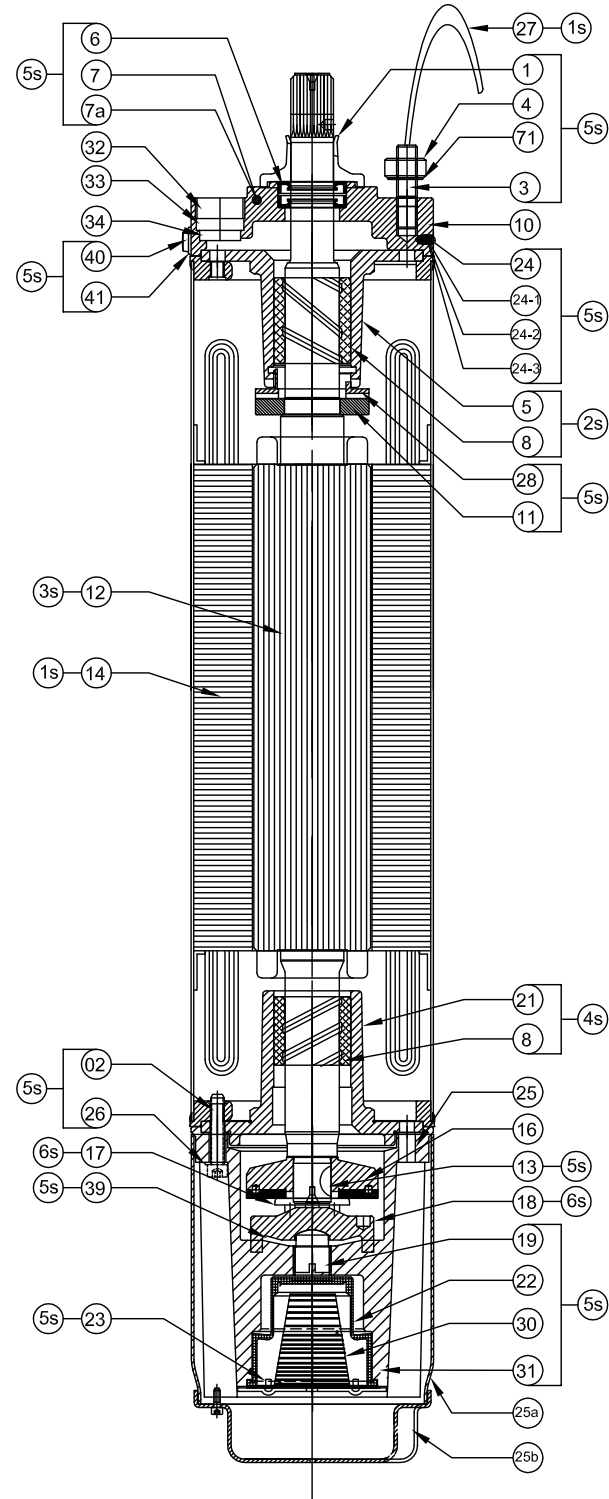
EXPLODED VIEW SML (C) 150 PART LIST

GROUP	POS	MATERIAL CODE	PART DESCRIPTION	QTY	MATERIAL
5S 3000019439	01	1000000702	SAND SLINGER	1	NBR
	02	1000000021	ALLEN BOLT M8X40	4	SS AISI-304
	06	1000000425	OIL SEAL	2	N/A
	03	1000001727	STUD	4	SS AISI-304
	07	1000000198	DRAIN PLUG	1	N/A
	04	1000000383	NUT	4	SS AISI-304
	71	1000001394	SPRING WASHER	4	SS AISI-304
	24	3000003205	PRESSUR RELIEF VALUE ASSLY.	2	N/A
7S 300008500	10	3000003785	UPPER HOUSING	1	CI FG-260
2S 300003924	5	3000003762	END BELL UPPER	1	CI FG-260
	8	1000001685	BUSH	1	REGIN IMPREGNATED CARBON
5S 3000019439	28	1000001111	UP THRUST BEARING	1	PPS
	11	3000001876	THRUST PLATE	1	CI FG-260
4S 3000003923	08	1000001685	BUSH CARBON	1	REGIN IMPREGNATED CARBON
	21	3000003761	END BELL LOWER	1	CI FG-260
5S 3000019439	26	3000002954	COPPER WASHER	8	COPPER
	02	1000000021	ALLEN BOLT M8X40	4	SS AISI-304
	22	1000000188	DIAPHRAM	1	NBR
	30	3000003363	DIAPHRAM SPRING	1	SS
	23	1000001407	ALLEN BOLT M4X10	1	SS AISI-304
	31	3000002963	MOTOR BASE COVER	1	SS AISI-304
	39	1000001396	MAGNET	1	MAGNET
	25	3000006743	MOTOR BASE	1	CI FG-260
	32	1000000111	CONNECTOR RING	1	BRASS
	33	3000002962	GROMATE WASHER	1	SS AISI-304
	34	**	GROMATE	2	NITRILE RUBBER
5S 3000019439	33	3000002962	GROMATE WASHER	1	SS AISI-304
	40	1000000290	HH BOLT	1	SS AISI-304
	41	1000001693	SS WASHER	1	SS AISI-304
	7A	1000000201	DRAIN PLUG WSHR	1	NBR
	24-1	1000000530	PVC CAP	1	PVC
	24-2	1000004504	PVC CAP	1	PVC
	24-3	1000001393	FILTER	1	NA
1S 3000003011	27	**	CABLE	1	N/A
	14	**	STATOR SUB ASSLY	1	N/A
3S 3000002995	12	*	ROTOR SUB ASSLY	1	RUBBER
	16	3000003206	REVOLVING PLATE	1	CI FG-260
6S 3000001903	17	3000001902	THUST BRG.SEG	3	AISI SS-420
	18	3000008476	THRUST BER PLATE	1	CI FG-260
5S 3000019439	19	3000006626	ADJUSTING STUD	1	DUPLEX
	13	1000001187	WOOD RUF KEY	1	SS AISI-304

SUBMERSIBLE MOTORS

150 MM Rew. SML : 4 - 18.5 kW / 5.5 HP-25HP

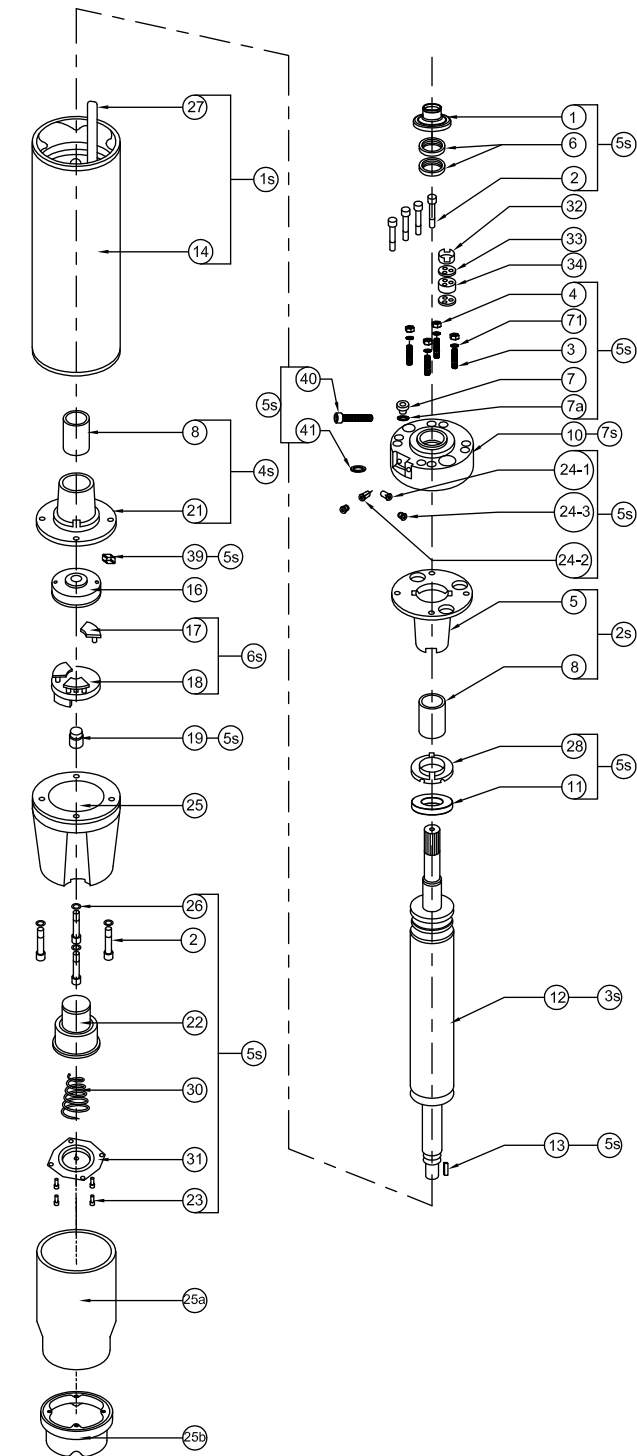
SECTIONAL VIEW SML (S) 150



SUBMERSIBLE MOTORS

150 MM Rew. SML : 4 - 18.5 kW / 5.5 HP-25HP

EXPLODED VIEW SML (S) 150



EXPLODED VIEW SML (S) 150 PART LIST

GROUP	POS	MATERIAL CODE	PART DESCRIPTION	QTY	MATERIAL
5S 3000019439	01	100000702	SAND SLINGER	1	NBR
	02	100000021	ALLEN BOLT M8X40	4	SS AISI-304
	06	100000425	OIL SEAL	2	N/A
	03	1000001727	STUD	4	SS AISI-304
	07	1000000198	DRAIN PLUG	1	N/A
	04	1000000383	NUT	4	SS AISI-304
	71	1000001394	SPRING WASHER	4	SS AISI-304
	24	3000003205	PRESSURE RELIEF VALVE ASSLY.	2	N/A
	10	3000003765	UPPER HOUSING	1	SS AISI 304
2S 300003924	5	3000003762	END BELL UPPER	1	CI FG-260
	8	1000001685	BUSH	1	REGIN IMPREGNATED CARBON
5S 3000019439	28	1000001111	UP THRUST BEARING	1	PPS
	11	3000001876	THRUST PLATE	1	CI FG-260
4S 3000003923	08	1000001685	BUSH CARBON	1	REGIN IMPREGNATED CARBON
	21	3000003761	END BELL LOWER	1	CI FG-260
5S 3000019439	26	3000002954	COPPER WASHER	8	COPPER
	02	1000000021	ALLEN BOLT M8X40	4	SS AISI-304
	22	1000000188	DIAPHRAGM	1	NBR
	30	3000003363	DIAPHRAGM SPRING	1	SS
	23	1000001407	ALLEN BOLT M4X10	1	SS AISI-304
	31	3000002963	MOTOR BASE COVER	1	SS AISI-304
	39	1000001396	MAGNET	1	MAGNET
	25	3000003764	MOTOR BASE	1	CI FG-260
	25a	3000006748	MOTOR BASE COVER PIPE	1	SS AISI 304
	25b	3000002771	MOTOR END SHIELD	1	SS AISI 304
	32	1000000111	CONNECTOR RING	1	BRASS
	33	3000002962	GROMATE WASHER	1	SS AISI-304
	34	**	GROMATE	2	NITRILE RUBBER
	33	3000002962	GROMATE WASHER	1	SS AISI-304
5S 3000019439	40	1000000290	HH BOLT	1	SS AISI-304
	41	1000001693	SS WASHER	1	SS AISI-304
	7A	1000000201	DRAIN PLUG WASHER	1	NBR
	24-1	1000000530	PVC CAP	1	PVC
	24-2	1000004504	PVC CAP	1	PVC
	24-3	1000001393	FILTER	1	NA
1S 3000003011	27	**	CABLE	1	N/A
	14	**	STATOR SUB ASSLY	1	N/A
3S 3000002995	12	*	ROTOR SUB ASSLY	1	RUBBER
	16	3000003206	REVOLVING PLATE	1	CI FG-260
6S 3000001903	17	3000001902	THRUST BRG.SEG	3	AISI SS-420
	18	3000008476	THRUST BRG. PLATE	1	CI FG-260
5S 3000019439	19	3000006626	ADJUSTING STUD	1	DUPLEX
	13	1000001187	WOOD RUF KEY	1	SS AISI-304

SUBMERSIBLE MOTORS

150 MM Rew. SML : 4 - 18.5 kW / 5.5 HP-25HP

STANDARD STATOR AND ROTOR MODEL NUMBERS (380 - 415 V / 50HZ)

PN		Stator (incl. winding and 3m motor lead)		Rotor
[kW]	[HP]	Y	YΔ	
4	5.5	3000008073	-	3000002995
5.5	7.5	3000008075	3000008089	3000002996
7.5	10	3000008077	3000008091	3000002997
9.3	12.5	3000008079	3000008093	3000002998
11	15	3000008081	3000008095	3000002999
13	17.5	3000008083	3000008097	3000003000
15	20	3000008085	3000008099	3000003001
18.5	25	3000008087	3000008107	3000003002

PVC INSULATION STANDARD WINDINGS (380 - 415 V / 50 Hz)

PN		Mod.No.	Turns per coil	Wire diameter [mm]	Type of insulation	Group connection	Total wire length (m)	Resistant coil Ω	Resistant Dol (U1-V1)[Ω]
HP	[kW]	Winding kits							
5.5	4	3000003019	51-51-51	1.2	PVC	Star	500	1.73	-
7.5	5.5	3000003020	44-44-44	1.2	PVC	Star	476	1.26	2.47
10	7.5	3000003021	55-55-55	1.1	PVC	SD	380	2.68	1.86
12.5	9.3	3000003022	46-46-46	1.2	PVC	SD	384	2.12	1.46
15	11	3000003023	40-41-40	1.3	PVC	SD	396	1.69	1.09
17.5	13	3000003024	35-36-35	1.4	PVC	SD	360	1.38	0.91
20	15	3000003025	30-30-30	1.5	PVC	SD	374	1.10	0.74
25	18.5	3000003026	25-26-25	1.7	PVC	SD	345	0.84	0.61

Note : SD - Star Delta

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

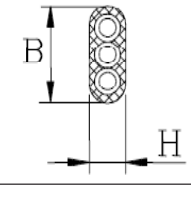
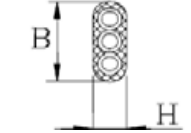
150 MM Rew. SML : 4 - 18.5 kW / 5.5 HP-25HP

150 MM REWINDABLE MOTORS LEADS @ 400 V 50 Hz

DOL

LEAD	(kW)	HP	Φ (mm) ²	B/H	Length (m)
	4 - 9.3	5.5 - 12.5	3 x 2.5	13.0 x 6.20	3
	11 - 15	15 - 20	3 x 4	19 x 9.0	3
	18.5	25	3 x 6	17.4 x 7.6	3

Y Δ

LEAD	(kW)	HP	Φ (mm) ²	B/H	Length (m)
	4 - 9.3	5.5 - 12.5	3 x 2.5, 3 x 2.5	13.0 x 6.20	3
	11 - 15	15 - 20	3 x 4, 3 x 4	19 x 9.0	3
	18.5	25	3 x 6, 3 x 6	17.4 x 7.6	3