

DESH KA PUMP. SHAKTI PUMP.



SUBMERSIBLE MOTORS

10 INCH MTSF
PRODUCT INFORMATION & SERVICE MANUAL



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SPARE PARTS

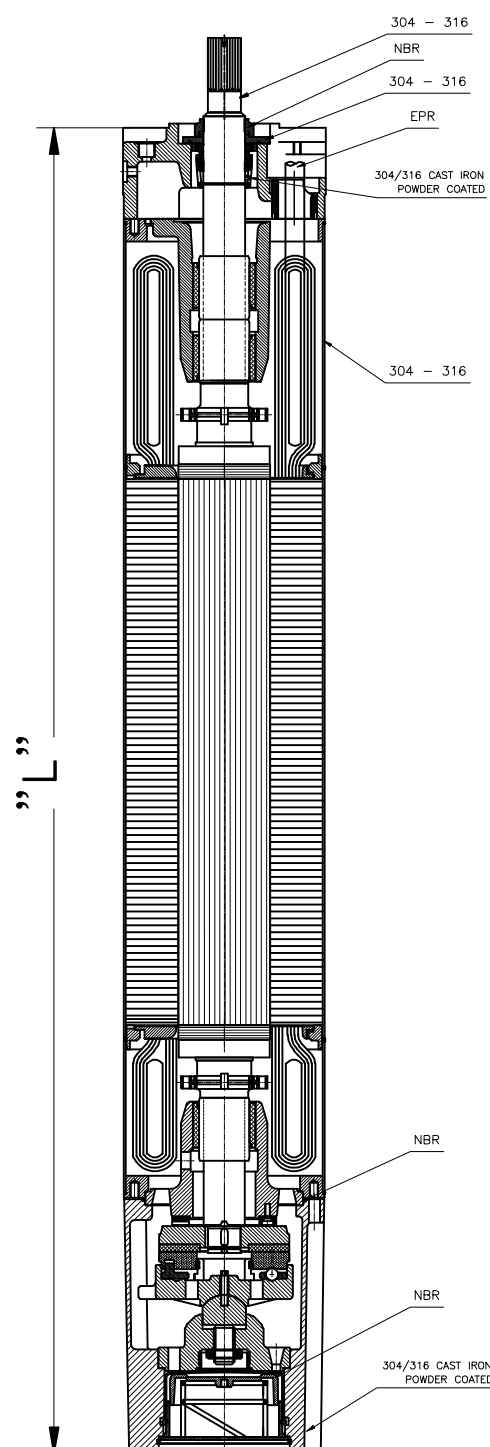
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Considering continuous product development the information/performance/specifications and illustrations disseminated in this catalogue are subject to change without notice.

01011023

SUBMERSIBLE MOTORS			
Material	GG, Stainless Steel 304 / 316	Rating	85 KW-185KW/116HP -252 HP
Type	Rewindable	Thrust Rating	60,000 N

10" Rewindable Sectional View



P _N [kW]	Motor L [mm]	Packing Size (mm)	Motor Weight (KG)	Incl. Pack (KG)
85	1419	350 X 260 X 2000	280	336
110	1529	350 X 260 X 2000	315	370
130	1659	350 X 260 X 2000	362	412
150	1769	350 X 260 X 2000	413	437
185	1919	350 X 260 X 2000	449	480

SUBMERSIBLE MOTORS			
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10" Motor Product Information

Application

10" Rewindable motors are built for dependable operation in 10" diameter or larger water wells. Water lubricated thrust and radial bearings enable a maintenance free operation.

A special diaphragm ensures pressure compensation inside the motor.

Product advantages :

- Easy to assemble with double flange
- Lead material in accordance with regulations for drinking water.
- Sand slinger and SiC Mechanical seal for maximum sand protection
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested
Max. storage temperature -15°C - + 60°
- Design for retrofitable PT100 sensor
- Non contaminating FES 93 filling

Technical Specification

Standard Motor

- 10" flange
- Protection: IP 68
- Starts per hour: max. 10
- Installation position: vertical / horizontal
- Motor Lead in 6 m length.
- Standard voltage: 380-415V/50Hz, 460V/60Hz
Voltage tolerance: +6%/-10%
(Standard: 415+6%=440V, 380-10%=342V)
- Motor protection: Select thermal overloads according to VDE, tip class 10 or 10A
- Standard motor with PVC winding insulation for max. ambient temperature of **30° C** With a min. cooling flow v=0.5 m/s

Optional

- Other voltages
- Motors complete in 316 / 304
- PE2/PA winding insulation for max ambient temp. of **45° C** at the same cooling conditions as standard
- PT 100 temperature sensor (sold separately)
- Lead in different length up to 50m

Material

Part	Material DIN/AISI	
	304 (Standard)	316
Stator shell	SS AISI 304	SS AISI 316
End bell	Cast Iron / Power Coated	SS AISI 316
Thrust bearing	Cast Iron / Power Coated	SS AISI 316
Seals	BUNA-N	BUNA-N
Seal Cover	Cast Iron	SS AISI 316
Shaft Seal	SiC	SiC
Shaft end	SS AISI 304	SS AISI 316
Diaphragm	EPDM	EPDM
Diaphragm Cover	SS AISI 304	SS AISI 316
Lead	EPR	EPR

SUBMERSIBLE MOTORS			
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10" Rewindable Motors - Model Numbers 50/60 Hz

PN [HP]	P _N [KW]	UN/f [V] / [HZ]	MODEL NUMBER	
			DOL	YΔ
116	85	380 - 415 / 50 460 / 60	9000008516	9000008521
150	110	380 - 415 / 50 460 / 60	9000008517	9000008522
177	130	380 - 415 / 50 460 / 60	9000008518	9000008523
204	150	380 - 415 / 50 460 / 60		9000008524
252	185	380 - 415 / 50 460 / 60		9000008525

SUBMERSIBLE MOTORS			
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Type	Rewindable	Thrust Rating	60,000 N

10" Rewindable Motors Performance Data 50 Hz

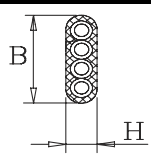
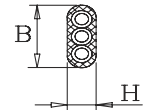
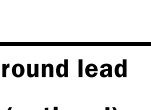
[HP]	P _N [kW]	Thrust F [N]	U _N [V]	n _N [min-1]	I _N [A]	I _A [A]	η(Eff.)[%] bei % load			COS Φ (PF) bei % load			T _N [Nm]	T _A [Nm]
							50	75	100	50	75	100		
116	85	60000	380	2890	179	783	85	86	85	0.78	0.85	0.87	281	282
			400	2900	174	828	83	85	85	0.72	0.81	0.85	280	316
			415	2910	171	863	83	85	85	0.68	0.78	0.83	279	342
150	110	60000	380	2910	235	1095	86	87	86	0.72	0.81	0.85	361	418
			400	2920	232	1158	84	86	86	0.65	0.76	0.82	360	467
			415	2920	233	1206	83	85	86	0.59	0.71	0.79	360	507
177	130	60000	380	2872	260	1271	88	88	87	0.79	0.85	0.89	428	487
			400	2920	256	1344	87	88	88	0.74	0.82	0.86	425	546
			415	2892	242	1400	87	88	87	0.69	0.78	0.87	425	592
204	150	60000	380	2888	302	1502	87	87	86.9	0.79	0.85	0.88	492	568
			400	2900	290	1590	86	88	87	0.73	0.81	0.86	491	635
			415	2930	296	1655	86	87	87	0.67	0.77	0.83	489	689
252	185	60000	380	2900	390	2030	87	88	87	0.72	0.81	0.85	609	913
			400	2920	384	2148	86	88	88	0.64	0.75	0.81	605	1022
			415	2920	389	2237	84	86	86	0.57	0.7	0.79	605	1109

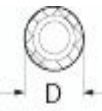
10" Rewindable Motors Performance Data 60 Hz

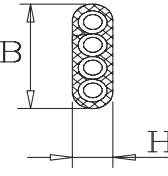
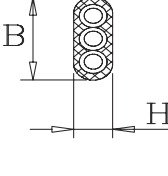

[HP]	P _N [kW]	P _{max} [kW]	Thrust F [N]	U _N [V]	n _N [min-1]	I _N [A]	I _A [A]	η(Eff.)[%] bei % load			COS Φ (PF) bei % load			T _N [Nm]	T _A [Nm]
								50	75	100	50	75	100		
116	85	98	60000	460	3500	172	803	83	85	85	0.76	0.83	0.86	267	281
150	110	127	60000	460	3510	225	1160	84	86	86	0.71	0.8	0.84	345	375
177	130	150	60000	460	3472	213.4	1308	86	87	87	0.77	0.84	0.73	408	437
204	150	173	60000	460	3510	294	1557	85	87	87	0.77	0.84	0.87	469	508
252	185	215	60000	460	3510	377	2130	85	87	87	0.7	0.79	0.83	585	858

SUBMERSIBLE MOTORS			
Material	GG, Stainless Steel 304 / 316	Rating	85 kW-185kW/116HP252-HP
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10" Rewindable Motors Leads @ 400 V 50 Hz

DOL	[kW]	Ø	B/H		Length [M]	Qty.
		[mm ²]	[mm]	[mm]		
	85	4X25	B	44.3	6	1
			H	14.5		
	110-130	4X35	B	48.5	6	1
			H	16.5		
	130-150	3X50	B	46.5	6	1
			H	19.5		

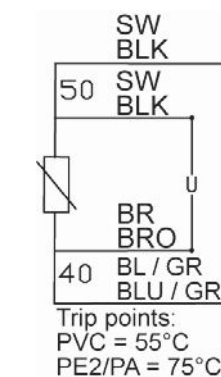
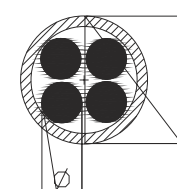
Ground lead (optional)	[kW]	Ø	D	Length [m]	Qty.
		[mm ²]	[mm]		
		1X25	13	8	1

Y Δ						
Lead	[kW]	Ø	B/H		Length [m]	Qty.
		[mm ²]	[mm]	[mm]		
	85	3x16	B	28.8	6	1
			H	12.2		
		4X16	B	38		1
			H	12.8		
	110-150	3X25	B	37.5	6	1
			H	16		
		4X25	B	44.3		1
			H	14.5		
	185	4X25	B	48.5	6	1
			H	16.5		
		3X25	B	38.5		1
			H	16.5		

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Material	GG, Stainless Steel 304 / 316	Rating	85 kW-185kW / 116 HP -252HP
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Accessories

PT 100

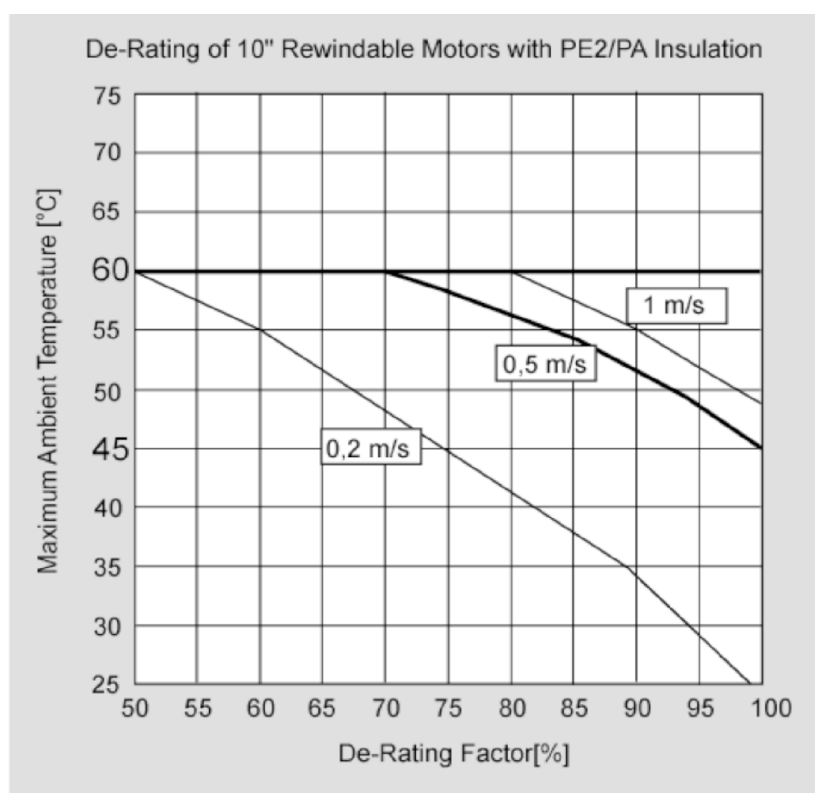
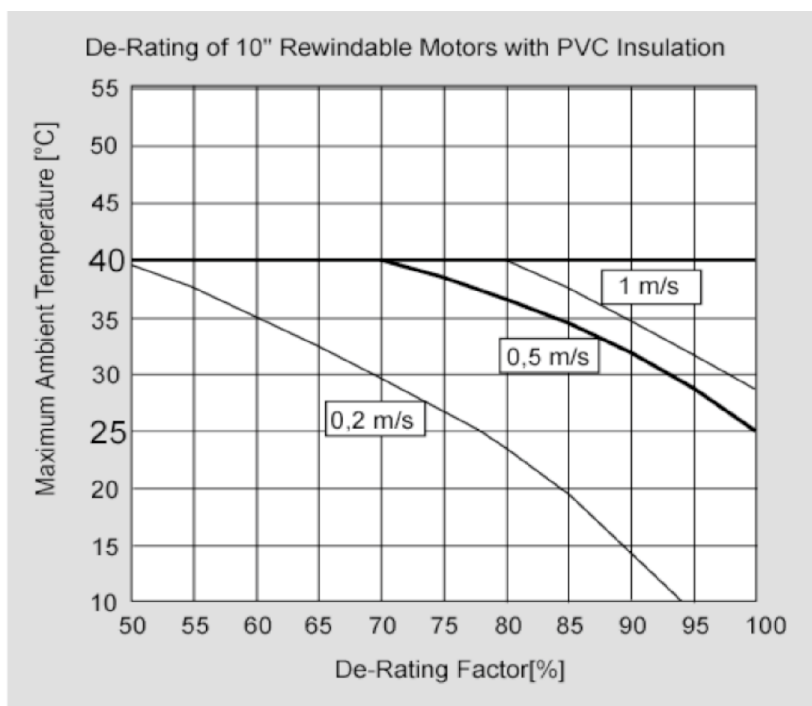


	Ø [mm ²]	D [mm]	Lead Lengths [m]
PT 100	4X0.5	8	10
PT 100	4X0.5	8	20
PT 100	4X0.5	8	30
PT 100	4X0.5	8	50

Filling

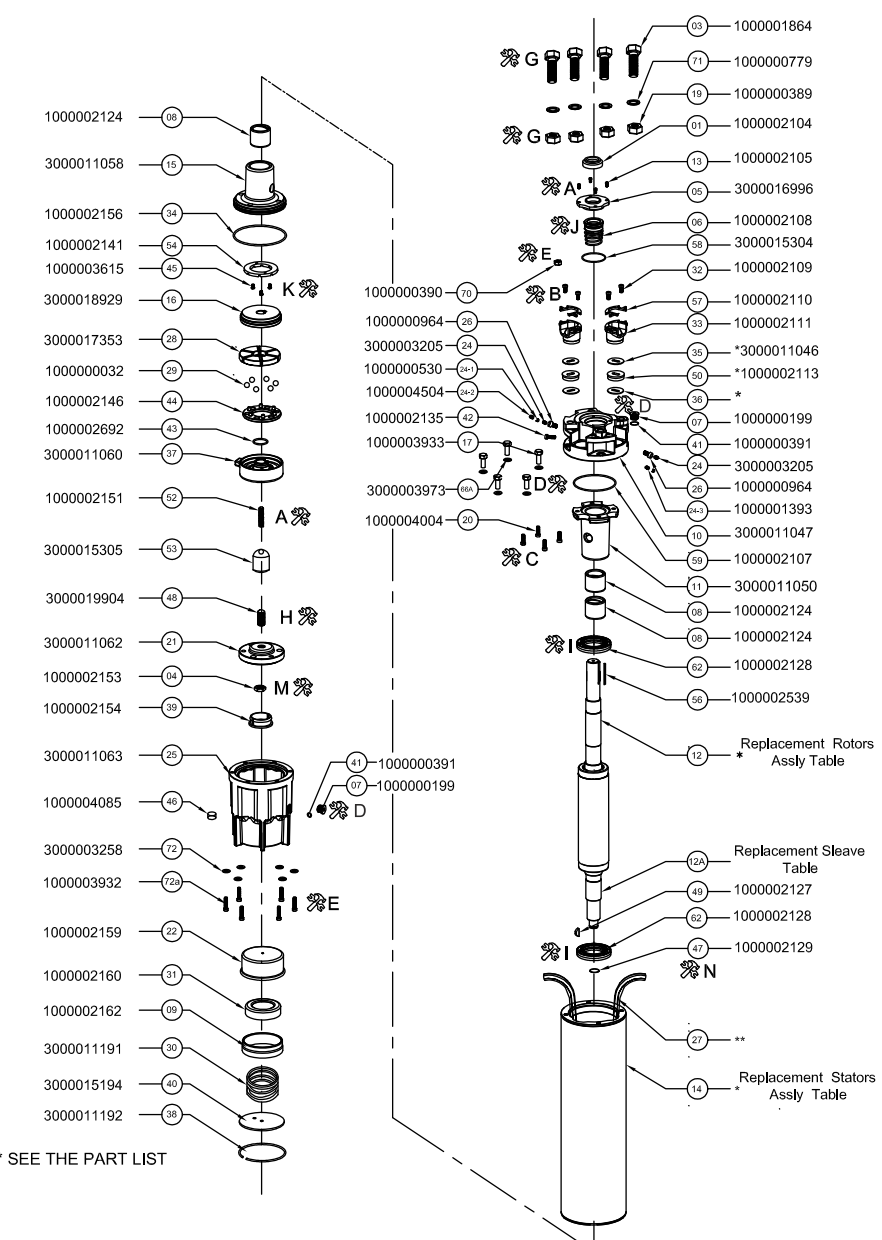
Filling Liquid	Water based lubricant
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EXPLODED VIEW

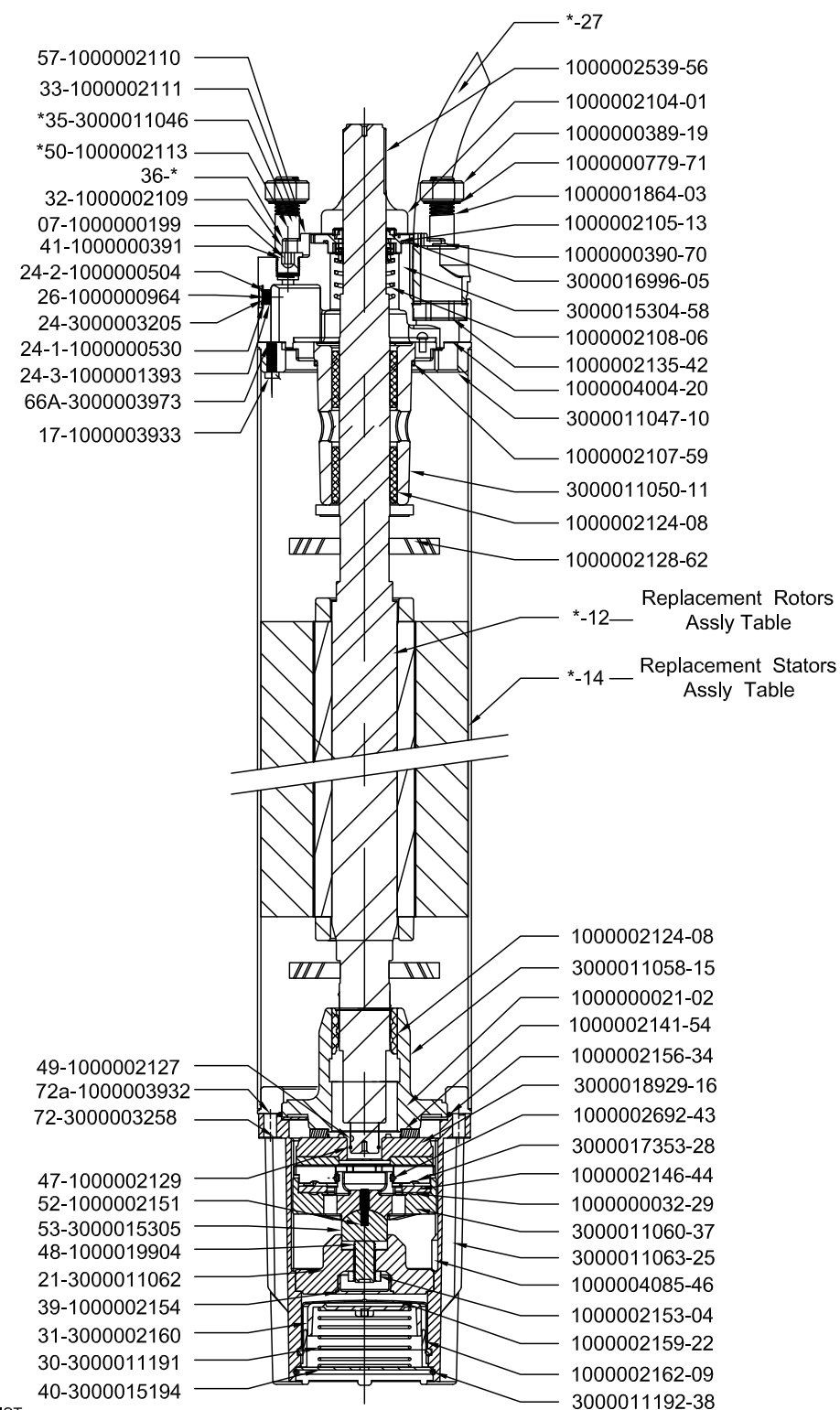


NOTE - * SEE THE PART LIST

TOOLS

A ALLEN KEY 4mm(M5)	B ALLEN KEY 6mm(M8)	C ALLEN KEY 8mm(M10)	D ALLEN KEY 10mm(M12)	E SPANER NO. 14(M8)	F SPANER NO. 19(M12)	G SPANER NO. 24(M16)
H TOOL OF ADJUSTING STUD SAP CODE - 43-28906	I TOOL OF AUXILIARY IMP. FITTING(TEFLON) SAP CODE - 43-28907	J TOOL OF MECHANICAL SEAL FITTING (TEFLON) SAP CODE - 43-28905	K SCREW DRIVER	L HAMMER(TEFLON) SAP CODE - 43-2876	M SCOKET SPANNER NO. 30(M24)	N EXTERNAL CIRCLIP PLIER

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NOTE - * SEE THE PART LIST

SUBMERSIBLE MOTORS			
Material	GG, Stainless Steel 304 / 316	Rating	85 kW-185kW / 116 HP -252HP
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POS	MATERIAL CODE	PART DISCIPTION	QTY	MATERIAL
3	1000001864	HH BOLT M16XX60SS	4	SS AISI-304
71	1000000779	SPRING WASHER M16	4	SS AISI-304
19	1000000389	NUT M16	4	SS AISI-304
1	1000002104	SAND SLINGER	1	NBR
13	1000002105	ALLEN BOLT M5X8	4	SS AISI-304
5	3000016996	DUST COVER	1	CI FG-260
6	1000002108	MECHANICAL SEAL	1	N/A
58	3000015304	SEAL SUPPORT	1	EN-8
32	1000002109	ALLEN BOLT M8X16	4	SS AISI-304
57	1000002110	GLAND COVER	2	SS AISI-304
33	1000002111	GLAND	2	PPS
35	*3000011046	LEAD SEAL	2	SS AISI-304
50	1000003989	GROMATE(16x3SQMM)	2	NITRAL RUBBER
	1000003990	GROMATE(16x4SQMM)		
	1000003991	GROMATE(25x3SQMM)		
	1000003992	GROMATE(25x4SQMM)		
	1000003993	GROMATE(35x3SQMM)		
	1000002113	GROMATE(35x4SQMM)		
	1000003994	GROMATE(50x3SQMM)		
36	*	LEAD SEAL	2	SS AISI-304
7	1000000199	DRAIN PLUG	2	BRASS
41	1000000391	O-RING 10X2.1MM	2	NBR
24	3000003205	PRESSUR RELIEF VALVE ASSLY	1	N/A
26	1000000964	THRD.PLUG VALVE	1	SS AISI-304
24-3	1000001393	FILTER	1	STANDARD
10	3000011047	ADAPTER UP.HSG	1	CI FG-260
59	1000002107	O-RING(75X2.5)	1	NBR
11	3000011050	BRG BODY UPPER	1	CI FG-260
8	1000002124	BUSH CARBON	1	REGIN IMPREGNATED CARBON
8	1000002124	BUSH CARBON	1	REGIN IMPREGNATED CARBON
56	1000002539	KEY	1	MS
62	1000002128	AUXILARY IMPELLER	1	PP
12	*	ROTOR SUB ASSLY	1	N/A
62	1000002128	AUXILARY IMPELLER	1	PP
49	1000002127	KEY	1	MS
47	1000002129	EXT.CIRCLIP	1	SS AISI-420
27	**	CABLE	1	RUBBER
14	*	STATOR SUB ASSLY	1	N/A
70	1000000390	NUT M8	1	SS AISI-304
26	1000000964	THRD.PLUG VALVE	2	SS AISI-304
24	3000003205	PRESSUR RELIEF VALUE ASSLY.	1	N/A

SUBMERSIBLE MOTORS			
Material	GG, Stainless Steel 304 / 316	Rating	85 kW-185kW / 116 HP -252HP
Type	Rewindable	Thrust Rating	60,000 N

POS	MATERIAL CODE	PART DISCIPTION	QTY	MATERIAL
24-1	1000000530	PVC CAP(WHITE)	1	PP
24-2	1000004504	PVC CAP(GREEN)	1	PP
42	1000002135	SCREW CYL(M8X30)	1	SS AISI-304
17	1000003933	ALLEN BOLT M12X45	6	SS AISI-304
66A	3000003973	SS WASHER	6	SS AISI-304
20	1000004004	ALLEN BOLT M10X35	4	SS AISI-304
8	1000002124	BUSH CARBON	1	REGIN IMPREGNATED CARBON
15	3000011058	BRG BODY LOWER	1	CI FG-260
34	1000002156	O-RING(183X3)	1	NBR
54	1000002141	UP THRUST BRG	1	PPS / NYLON
2	1000000021	ALLEN BOLT M8X40	3	SS AISI-304
16	3000018929	REVOLVING PLATE ASSLY	1	N/A
28	3000017353	THRUST BER SEGMENT	6	SS AISI-420
29	1000000032	BALL 15	6	SS AISI-304
44	1000002146	THRUST BALL RETAINER	1	LTB-4
43	1000002692	O-RING(57.3X5)	1	NBR
37	3000011060	BERING SEG CARRIER	1	CI FG-260
52	1000002151	GRUB SCREW	1	SS AISI-316
53	3000015305	BEARING SUPPORT MOTOR	1	EN-8
48	3000019904	ADJUSTING STUD	1	SS AISI-420
21	3000011062	THRUST SUPPORT	1	CI FG-260
4	1000002153	HEX NUT M24	1	SS AISI-304
39	1000002154	PROTECTION PLUG	1	PP
25	3000011063	MOTOR BASE	1	CI FG-260
41	1000000391	O-RING 10X2.1MM	1	NBR
7	1000000199	DRAIN PLUG	1	BRASS
46	1000004085	MAGNET	1	MAGNET
72	3000003258	SS WASHER	6	SS AISI-420
72a	100003932	H.H BOLT M12X45	6	SS AISI-420
22	1000002159	DIAPHRAM	1	EPDM
31	1000002160	SPRING BASE CUP	1	ABS
9	1000002162	SUPPORING RING	1	PPS
30	3000011191	SPRING DIAPHRAM	1	SS AISI-304
40	3000015194	COVER PLATE DIAPHRAM	1	SS AISI-304
38	3000011192	WIRE CIRCLIP	1	SS AISI-304

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Replacement Rotors Assly

POS	P _N	P _N	ROTOR	ROTOR MODEL NO.
	[HP]	[kW]		
12.01	116.00	85.00	ROTOR ASSLY	3000011065
12.02	150.00	110.0	ROTOR ASSLY	3000011066
12.03	177.00	130.00	ROTOR ASSLY	3000011067
12.04	204.00	150.00	ROTOR ASSLY	3000011068
12.05	252.00	185.00	ROTOR ASSLY	3000011069
12.01	116.00	85.00	ROTOR ASSLY (KEY)	3000017293
12.02	150.00	110.0	ROTOR ASSLY (KEY)	3000017987
12.03	177.00	130.00	ROTOR ASSLY (KEY)	3000017988
12.04	204.00	150.00	ROTOR ASSLY (KEY)	3000017916
12.05	252.00	185.00	ROTOR ASSLY (KEY)	3000017293

Replacement Sleeve

POS	P _N	P _N	UPPER SLEEVE	LOWER SLEEVE	ROTOR MODEL NO.
	[HP]	[kW]			
12A.01	116.00	85.00	LENGTH -73.0mm 3000015056(2 NOS USE)	LENGTH -73.0mm 3000015056(1 NOS USE)	3000011065
12A.02	150.00	110.0			3000011066
12A.03	177.00	130.00			3000011067
12A.04	204.00	150.00			3000011068
12A.05	252.00	185.00			3000011069
12A.01	116.00	85.00	LENGTH -73.0mm 3000015056(2 NOS USE)	LENGTH -73.0mm 3000015056(1 NOS USE)	3000017293
12A.02	150.00	110.0			3000017987
12A.03	177.00	130.00			3000017988
12A.04	204.00	150.00			3000017916
12A.05	252.00	185.00			3000017293

Replacement Rotors Assly

POS	P _N	P _N	ROTOR	ROTOR MODEL NO.
	[HP]	[kW]		
14.01	116.00	85.00	STATOR ASSLY	3000011090
14.02	150.00	110.0	STATOR ASSLY	3000011091
14.03	177.00	130.00	STATOR ASSLY	3000011092
14.04	204.00	150.00	STATOR ASSLY	3000011093
14.05	252.00	185.00	STATOR ASSLY	3000011094

SUBMERSIBLE MOTORS			
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Standard Stator And Rotor Model Number

[KW]	[HP]	[V] / [H]	Stator incl. Winding	Rotor
85	116	380-415/50 460/60	3000011090	3000011065
110	150	380-415/50 460/60	3000011091	3000011066
130	177	380-415/50 460/60	3000011092	3000011067
150	204	380-415/50 460/60	3000011093	3000011068
185	252	380-415/50 460/60	3000011094	3000011069

PVC Insulation Standard Windings (380 – 415 Volts 50 Hz)

[kW]	Mod.-No. Windingk tis	Turns per coil	Wire diameter [mm]	Type of Isolation	Group connection	Total Wire length [m]	Resistance coil [Ω]	Resistance YΔ (U1-U2) [Ω]	Resistance Dol (U1-V1) [Ω]
85	326 150 999	11+11+11+11	2.5 / 3.6	PVC	Parallel	487.92	0.2825	0.141	0.094
110	326 158 999	8+9+8+9	2.8 / 4.0	PVC	Parallel	426.00	0.1955	0.1080	0.0680
130	326 168 999	7+8+7+8	2.2 / 3.1 2DR.II	PVC	Parallel	849.60	0.1579	0.0789	0.0570
150	326 177 999	6+7+6+7	2.3 / 3.3 2DR.II	PVC	Parallel	809.76	0.1374	0.0730	0.0458
185	326 360 999	5+5+6+5	2.5 / 3.6 2DR.II	PVC	Parallel	736.56	0.1050	0.0570	0.035

Insulation resistant (20°C / 500 VDC)

New motor without drop cable	200 > MΩ
Used motor without drop cable	20 > MΩ
New motor with drop cable	4 > MΩ
Used motor with drop cable	1 > MΩ

SUBMERSIBLE MOTORS			
Material	GG, Stainless Steel 304 / 316	Rating	85 kW-185kW / 116 HP -252HP
Type	Rewindable	Thrust Rating	60,000 N

Outline drawings

