

SHAKTI SUBMERSIBLE MOTORS

6" MATASF Product Information Service

STRONG.
REWINDABLE.
EFFICIENT.



SUBMERSIBLE MOTORS

Summary

6" MATASF PRODUCT INFORMATION

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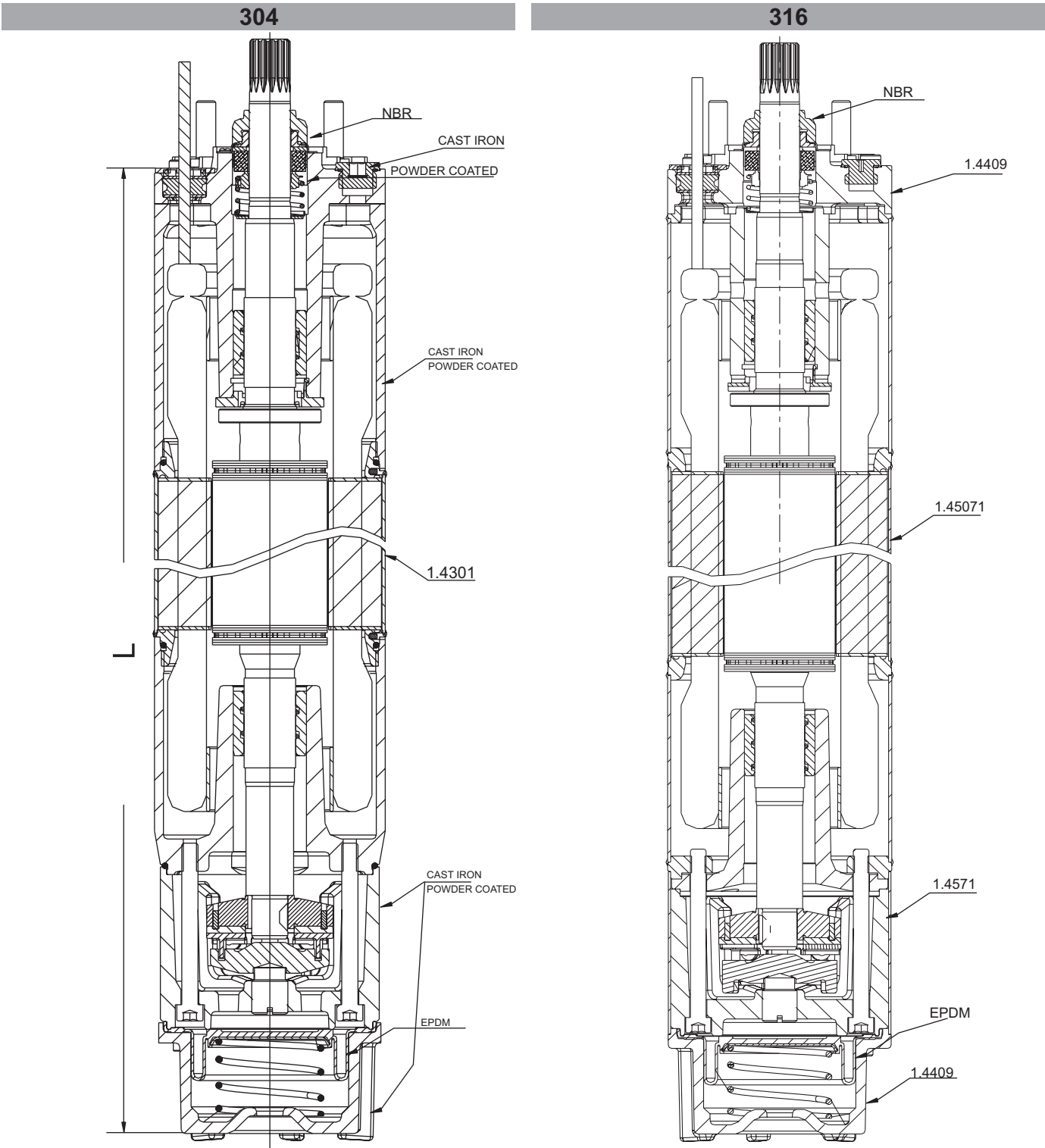
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SUBMERSIBLE MOTORS				
Material	GG, Stainless Steel 304 / 316	Rating	3.7 kW – 37 kW	5 HP - 50 HP
Type	Rewindable MATASFC/ MATASFN	Thrust Rating	15500 - 27500	

6" Rewindable Sectional View



SUBMERSIBLE MOTORS				
Material	GG, Stainless Steel 304 / 316	Rating	3.7 kW – 37 kW	5 HP - 50 HP
Type	Rewindable MATASFC/ MATASFN	Thrust Rating	15500 - 27500	

6" Rewindable Motor Product Information

Application

6" Rewindable motors are built for dependable operation in 6" diameter or larger water wells. Water lubricated thrust and radial bearings enable a maintenance free operation. The motors are ready to operate, providing frost protection down to - 15°C. Fill and check valve, as well as a preloaded special diaphragm, ensure pressure compensation inside the motor. (inside pressure 0,5 - 0,7 bar)

Other Product advantages:

- ✘ Cable material according to drinking water regulations
- ✘ Sand slinger and shaft seal for high performance in sand
- ✘ High efficiency electrical design for low operation cost
- ✘ All motors prefilled and 100% tested
- ✘ Design for retrofitable PT100 sensor

Technical Specification

Standard Motor

- ✘ 6" NEMA – flange with Studs (M 12).
- ✘ Protection: IP 68
- ✘ Starts per hour: max. 20
- ✘ Installation position: vertical / horizontal
- ✘ Motor Lead in 4m length
- ✘ Voltage tolerance: +6% / -10%
(Standard: 415 + 6% = 440V, 380 – 10% = 342V)
- ✘ Motor protection : Select Thermal overload
- ✘ Standard motor with Taping winding insulation for max. ambient of 30° with a min.
Cooling flow :
3.7 Kw - 15 Kw / 5 HP - 11 HP V = 20 cm/s
18.5 Kw - 37 Kw / 12.5 HP - 50 HP V = 50 cm/s

Optional

- ✘ Motors in complete 316
- ✘ PT 100 temperature sensor (sold separately)
- ✘ Motor with SiC-Shaft Seal
- ✘ Drop cable in different lengths up to 50m

Material

Part	Material AISI	
	304 (Standard)	316
Shell	(SS AISI 304)	(SS AISI 316)
Endbell, Diaphragm cover	Cast Iron / powder coated	(SS AISI 316)
Housing thrust bearing	Cast Iron / powder coated	(SS AISI 316)
Seals	BUNA N	BUNA N
Seal Cover	(SS AISI 304)	(SS AISI 316)
Shaft Seal	SiC	SiC
Shaft end 4kW – 22kW / 5.5 HP - 30 HP	(SS AISI 410)	(SS AISI 316)
Shaft end 26kW – 37kW / 35 HP - 50 HP	(SS AISI 410)	(SS AISI 316)
Diaphragm	EPDM	EPDM
Lead	EPR	EPR

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6" Rewindable Motors - Model Numbers 50 / 60 Hz

HP	Kw	[V] / [HZ]	DOL		YΔ	
			304	316	304	316
5	3.7	380 - 415 / 50	3000002263	3000002359	3000002264	3000002360
		460 / 60	3000002268	3000002364	3000002264	3000002360
5.5	4	380 - 415 / 50	3000002263	3000002359	3000002264	3000002360
		460 / 60	3000002268	3000002364	3000002264	3000002360
7.5	5.5	380 - 415 / 50	3000002271	3000002366	3000002272	3000002367
		460 / 60	3000002276	3000002371	3000002272	3000002367
10	7.5	380 - 415 / 50	3000002269	3000002373	3000002280	3000002374
		460 / 60	3000002284	3000002378	3000002280	3000002374
12.5	9.3	380 - 415 / 50	3000002287	3000002380	3000002288	3000002381
		460 / 60	3000002292	3000002385	3000002288	3000002381
15	11.0	380 - 415 / 50	3000002295	3000002387	3000002296	3000002388
		460 / 60	3000002300	3000002392	3000002296	3000002388
17.5	13.0	380 - 415 / 50	3000002203	3000002394	3000002204	3000002395
		460 / 60	3000002308	3000002399	3000002204	3000002395
20	15.0	380 - 415 / 50	3000002317	3000002401	3000002312	3000002402
		460 / 60	3000002316	3000002406	3000002312	3000002402
25	18.50	380 - 415 / 50	3000002319	3000002408	3000002320	3000002409
		460 / 60	3000002324	3000002413	3000002320	3000002409
30	22.0	380 - 415 / 50	3000002327	3000002415	3000002328	3000002416
		460 / 60	3000002332	3000002420	3000002328	3000002416
35	26.0	380 - 415 / 50	3000002335	3000002422	3000002336	3000002423
		460 / 60	3000002340	3000002427	3000002336	3000002423
40	30.0	380 - 415 / 50	3000002343	3000002429	3000002344	3000002430
		460 / 60	3000002348	3000002434	3000002344	3000002430
50	37.0	380 - 415 / 50	3000002351	3000002436	3000002352	3000002437
		460 / 60	3000002356	3000002441	3000002352	3000002437

SUBMERSIBLE MOTORS					
Material	GG, Stainless Steel 304 / 316		Rating	3.7 kW – 37 kW	5 HP - 50 HP
Type	Rewindable MATASFC/ MATASFN		Thrust Rating	15500 - 27500	

6" Rewindable Motors Performance Data 50 Hz

HP	P _N [KW]	Thrust F [N]	U _N [V]	Nn [min - 1]	I _N [A]	I _A [A]	η(Eff.)[%] at % load			COS∅(PF) at % load			T _N [Nm]	T _A [Nm]
							50	75	100	50	75	100		
							5	3.7	15500	380 400 415	2910 2930 2930	10,4 10,6 10,9		
5.5	4	15500	380 400 415	2910 2930 2930	10,4 10,6 10,9	48 51 53	0,71 0,68 0,65	0,75 0,73 0,72	0,76 0,76 0,76	0,59 0,53 0,50	0,71 0,65 0,61	0,78 0,73 0,69	13,1 13,1 13,0	15,5 17,3 18,8
7.5	5.5	15500	380 400 415	2860 2890 2890	13,7 13,3 13,4	48 51 53	0,74 0,72 0,71	0,76 0,76 0,75	0,75 0,76 0,75	0,76 0,62 0,59	0,78 0,74 0,71	0,83 0,81 0,78	18,3 18,2 18,1	15,5 17,3 18,8
10	7.5	15500	380 400 415	2860 2880 2890	18,3 17,7 17,7	59 63 65	0,77 0,75 0,73	0,78 0,78 0,77	0,76 0,77 0,77	0,70 0,65 0,61	0,80 0,76 0,73	0,84 0,82 0,80	25,0 24,8 24,7	19,2 21,5 23,4
12.5	9,3	15500	380 400 415	2850 2870 2880	22,0 21,4 21,2	74 78 81	0,79 0,78 0,76	0,80 0,79 0,79	0,78 0,78 0,78	0,71 0,64 0,60	0,80 0,76 0,72	0,84 0,82 0,80	31,1 31,0 30,9	25,9 29,0 31,4
15	11,0	15500	380 400 415	2860 2880 2890	25,8 25,2 25,1	93 98 102	0,78 0,77 0,75	0,80 0,80 0,78	0,78 0,79 0,79	0,71 0,65 0,61	0,80 0,76 0,73	0,85 0,83 0,80	36,7 36,4 36,3	31,5 35,5 38,2
17.5	13,0	15500	380 400 415	2880 2900 2900	30,1 29,6 29,7	118 125 130	0,80 0,78 0,76	0,81 0,80 0,79	0,80 0,80 0,80	0,68 0,61 0,57	0,79 0,74 0,70	0,84 0,81 0,78	43,1 42,8 42,7	45,0 50,3 54,6
20	15,0	15500	380 400 415	2880 2890 2900	33,9 33,1 33,0	140 148 154	0,81 0,79 0,77	0,82 0,81 0,80	0,81 0,81 0,81	0,71 0,65 0,60	0,81 0,77 0,73	0,85 0,83 0,81	49,7 49,4 49,3	53,9 60,4 65,5
25	18,5	15500	380 400 415	2860 2880 2890	42,3 42,0 42,5	172 182 189	0,81 0,78 0,76	0,82 0,81 0,79	0,81 0,81 0,80	0,68 0,61 0,57	0,78 0,74 0,70	0,84 0,80 0,77	61,7 61,2 61,1	75,2 84,3 91,3
30	22,0	15500	380 400 415	2880 2900 2910	49,1 49,0 49,6	218 231 240	0,82 0,80 0,77	0,84 0,82 0,81	0,83 0,82 0,82	0,68 0,61 0,56	0,78 0,73 0,69	0,84 0,80 0,77	72,6 72,5 72,2	91,2 102,2 110,7
35	26	15500	380 400 415	2880 2900 2910	57,5 56,7 57,3	268 284 296	0,83 0,81 0,78	0,84 0,83 0,82	0,83 0,83 0,82	0,68 0,61 0,56	0,69 0,74 0,69	0,86 0,83 0,80	86,0 85,6 85,3	120,4 134,7 146,1
40	30,0	27500	380 400 415	2900 2910 2910	66,4 66,4 67,5	328 347 361	0,82 0,80 0,77	0,84 0,83 0,81	0,83 0,83 0,82	0,67 0,60 0,55	0,78 0,73 0,68	0,84 0,80 0,77	98,8 98,4 98,2	135,0 151,0 163,0
50	37	27500	380 400 415	2890 2900 2910	82,0 81,9 83,9	409 433 450	0,83 0,80 0,77	0,84 0,83 0,81	0,83 0,83 0,82	0,67 0,60 0,55	0,78 0,72 0,68	0,84 0,80 0,76	122,1 121,6 121,3	192,8 215,8 234,0

SUBMERSIBLE MOTORS					
Material	GG, Stainless Steel 304 / 316		Rating	3.7 kW – 37 kW	5 HP - 50 HP
Type	Rewindable MATASFC/ MATASFN		Thrust Rating	15500 - 27500	

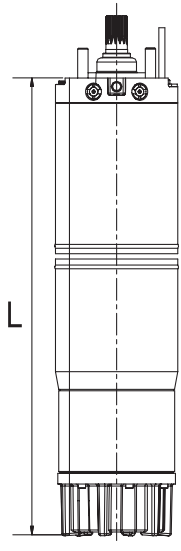
6" Rewindable Motor Performance Data 60 Hz

HP	P _N [KW]	P _{max} [KW]	U _N [V]	Nn [min 1]	I _N [A]	I _A [A]	η(Eff.)[%] at % load			COSØ (PF.) at % load			T _N [Nm]	T _A [Nm]
							50	75	100	50	75	100		
							5	3.7	4,6	380 460	3530 3520	13,3 10,1		
5.5	4	4,6	380 460	3520 3520	13,3 10,1	61 51	0,66 0,70	0,72 0,76	0,77 0,78	0,51 0,56	0,63 0,67	0,71 0,75	12,4 12,5	15,0 15,3
7.5	5,5	6,3	380 460	3480 3480	15,4 12,9	61 51	0,76 0,74	0,78 0,77	0,78 0,77	0,64 0,65	0,75 0,76	0,81 0,82	17,3 17,3	15,0 15,1
10	7,5	8,6	380 460	3480 3470	20,8 17,2	81 64	0,76 0,75	0,79 0,78	0,79 0,78	0,64 0,67	0,75 0,77	0,81 0,82	23,6 23,7	20,2 19,4
12.5	9,3	10,7	380 460	3470 3460	25,6 20,8	100 78	0,77 0,78	0,80 0,80	0,80 0,80	0,64 0,67	0,75 0,78	0,81 0,82	29,4 29,4	25,9 24,4
15	11,0	12,7	380 460	3490 3480	30,3 25,0	129 98	0,77 0,78	0,81 0,81	0,81 0,80	0,62 0,68	0,74 0,77	0,80 0,83	34,5 34,7	34,3 31,5
17.5	13,0	14,9	380 460	3500 3490	36,3 29,0	164 125	0,77 0,78	0,81 0,81	0,82 0,81	0,59 0,65	0,71 0,76	0,78 0,82	40,7 40,9	47,2 43,3
20	15,0	17,3	380 460	3490 3490	39,1 32,1	188 151	0,81 0,80	0,83 0,83	0,83 0,83	0,66 0,68	0,77 0,78	0,82 0,84	47,2 47,1	56,5 55,6
25	18,5	21,3	380 460	3490 3480	52,5 40,6	249 184	0,76 0,80	0,80 0,82	0,81 0,82	0,58 0,65	0,70 0,76	0,77 0,81	58,1 58,4	83,6 74,5
30	22,0	25,3	380 460	3510 3500	59,9 47,1	309 232	0,82 0,83	0,84 0,84	0,84 0,84	0,67 0,72	0,75 0,79	0,78 0,82	68,8 69,1	94,9 85,8
35	26	29,9	380 460	3500 3500	67,5 55,7	360 287	0,83 0,83	0,85 0,85	0,85 0,85	0,62 0,64	0,74 0,76	0,81 0,84	81,6 81,6	121,4 117,2
40	30,0	34,5	380 460	3510 3500	79,6 64,4	436 346	0,79 0,81	0,83 0,84	0,84 0,84	0,62 0,64	0,74 0,75	0,81 0,82	93,9 94,0	132,9 126,4
50	37,0	42,6	380 460	3510 3500	102,8 79,1	567 430	0,77 0,82	0,81 0,84	0,82 0,85	0,59 0,63	0,71 0,75	0,78 0,81	115,8 116,0	193,6 177,8

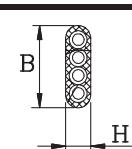
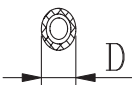
SUBMERSIBLE MOTORS				
Material	GG, Stainless Steel 304 / 316		Rating	3.7 kW – 37 kW 5 HP - 50 HP
Type	Rewindable MATASFC/ MATASFN		Thrust Rating	15500 - 27500

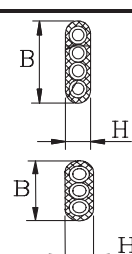
Motor Lengths and Weights

P _N [HP]	P _N [kW]	L* [mm] 304	L* [mm] 316	Motor weights [KG]	
				304 / 316	incl. pack
5	3.7	699	712	48	53
5.5	4	699	712	48	53
7.5	5,5	699	712	48	53
10	7,5	719	732	50	55
12.5	9,3	749	762	53	58
15	11	779	792	56	61
17.5	13	829	842	61	66
20	15	874	887	66	71
25	18,5	919	932	70	75
30	22	1009	1022	79	84
35	26	1114	1127	90	95
40	30	1214	1227	100	105
50	37	1294	1307	107	112



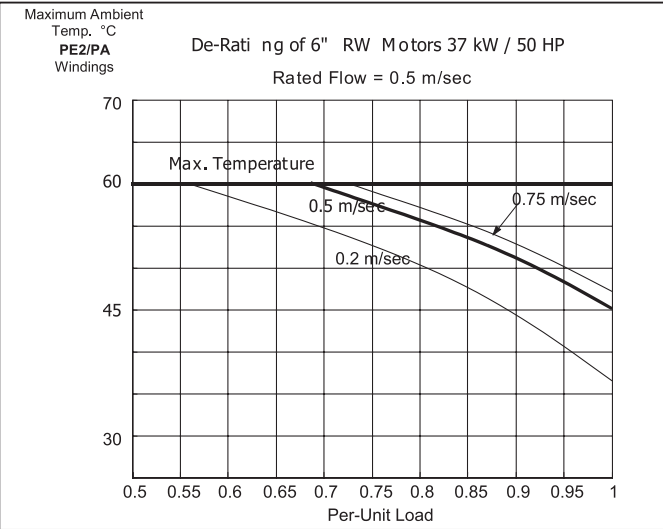
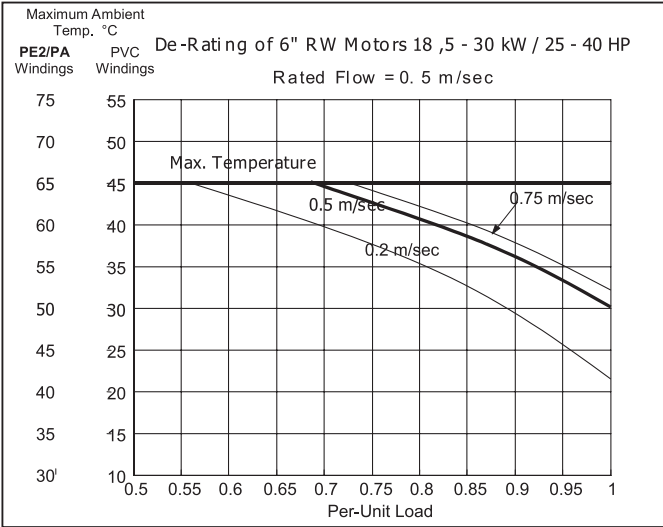
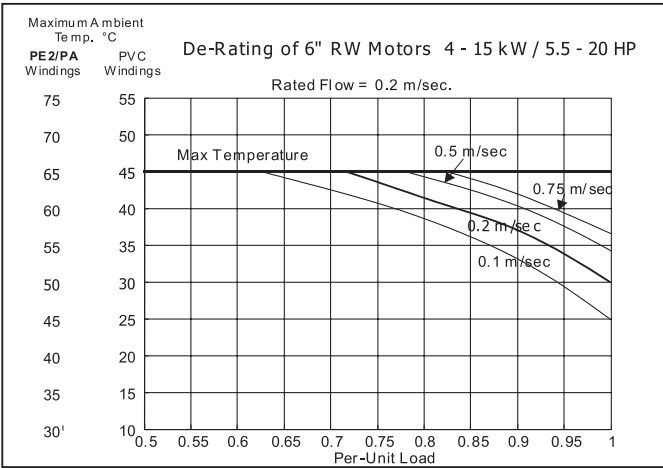
6" Rewindable Motors Leads @ 400 V

DOL	[kW]	[HP]	St #	φ [mm ²]	B / H [mm]	Length [m]
	3.7 - 13	5 - 7.5	1	4 x 2,5	17,2 x 6,2	4
	15 - 22	20 - 30	1	4 x 4	23,5 x 9,0	4
	26 - 30	35 - 40	1	4 x 6	26,5 x 9,8	4
	37		1	3 x 10	25,5 x 11,5	4
Ground lead (optional)	P [kW]	P [HP]	#	φ [mm ²]	B / H [mm]	Length [m]
	37	50	1	10	D = 11,5	4

YΔ	[kW]	[HP]	#	φ [mm ²]	B / H [mm]	Length [m]
	3.7 - 22	5 - 30	1	3 x 2,5	13,0 x 6,2	4
			1	4 x 2,5	17,2 x 6,2	4
	26 - 37	35 - 50	1	3 x 4	19,0 x 9,0	4
			1	4 x 4	23,5 x 9,0	4
lead opening seal kit	3.7 - 37 kW DOL / YΔ					

Technical changes without notice

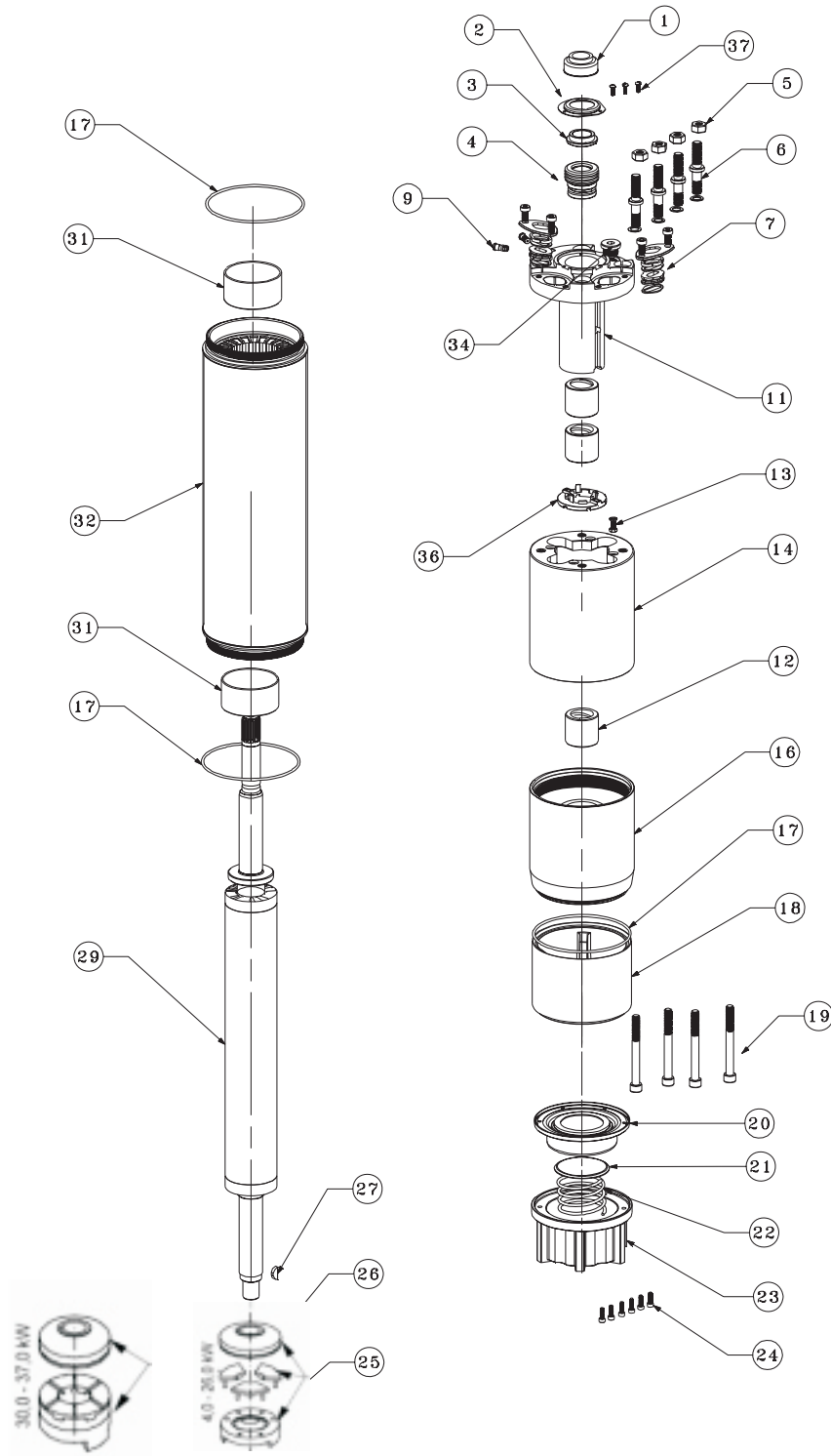
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Technical changes without notice

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Exploded View



Technical changes without notice

SUBMERSIBLE MOTORS				
Material	GG, Stainless Steel 304 / 316	Rating	3.7 kW – 37 kW	5 HP - 50 HP
Type	Rewindable MATASFC/ MATASFN	Thrust Rating	15500 - 27500	

Pos.	Part Description	Qty.	Part No.	Kit
1	Sand Slinger	1	1000000699	Kit3
37	Screw, Cover Seal	3	1000000431	Kit3
2	CoverSeal	1	3000001888	Kit3
3	BushfordustCover	1	3000001880	N/A
4	Shaftseal	1	1000000349	Kit 3
34	DrainPlug	1	1000000963	Kit 4
5	Nut,M12	4	1000000383	Kit 4
6	Stud,M12	4	3000001874	Kit 4
	SpringWasher	4	1000001394	Kit 4
7	Cyl.ScrewM8x10mm,LeadSeal	4	1000000015	Kit 6
	Leadclamp	2	3000001895	Kit 6
	LeadSpacer	2	1000000332	Kit 6
	LeadSealPlate	6	3000001896	Kit 6
	Leadseal	2	3000004069	Kit6
9	Pressurereliefvalve	1	3000003205	N/A
	Filter	2	1000001393	N/A
11	EndBell(upper) 4-26kw	1	3000003922	Kit8
	EndBell(upper) 30-37kw	1		Kit8
36	UpThrustBearing	1	1000001111	Kit1
29	Rotor	1	AsPerHP/Kw	Kit10
32	Stator	1	AsPerHP/Kw	Kit10
27	Woodruffkey	1	1000001187	Kit1
16	EndBell(lower) 4-26kw	1	3000003921	Kit8
	EndBell(lower) 30-37Kw	1		Kit8
17	O-Ring123.42mmx3.53mm	3	1000000963	Kit1
19	Cyl.ScrewM10x100mm,thrusthousing	4	1000000010	Kit4
26	Thrustdisk,assly	1	3000003206	Kit1
	Segment,assly	3/6	3000001874	Kit1
	BearingsegmentCarrier	1	3000001874	Kit1
18	Thrusthousing	1	3000008466	Kit9
25	AdjustingStud	1	3000006625	N/A
20	Diaphragm	1	1000000613	Kit 3
22	Spring	1	3000003362	Kit 3
23	Cover,Diaphragm	1	3000006643	Kit 9
24	Cyl.screwM5x16mm,coverdiaphragm	6	1000000012	Kit 4
21	Springplate	1	3000001885	Kit 4
13	Cyl.ScrewM6x20mm,Earthinginside	1	1000001632	Kit 4
14	Windingcover	1	3000008508	Kit 9
12	RadialBushing	2/4	1000000056	Kit2
31	Supportingring	2	1000000828	Kit4

SUBMERSIBLE MOTORS					
Material	GG, Stainless Steel 304 / 316		Rating	3.7 kW – 37 kW	5 HP - 50 HP
Type	Rewindable MATASFC/ MATASFN		Thrust Rating	15500 - 27500	

Standard Stator and Rotor Model Numbers

HP	[V] / {Hz}	Stator 304 (incl. Winding and 4 m motor lead)		Stator 316 (incl. Winding and 4 m motor lead)		Rotor	
		DOL	YΔ	Dol	YΔ	304	316
5.00	380, 400 - 415 / 50 460 / 60	3000002263 3000002268	3000002264	3000002359 3000002364	3000002360	3000002166	3000002177
5.50	380, 400 - 415 / 50 460 / 60	3000002263 3000002268	3000002264	3000002359 3000002364	3000002360	3000002166	3000002177
7.50	380, 400 - 415 / 50 460 / 60	3000002271 3000002276	3000002272	3000002366 3000002371	3000002367	3000002166	3000002177
10.00	380, 400 - 415 / 50 460 / 60	3000002279 3000002284	3000002280	3000002373 3000002378	3000002374	3000002167	3000002178
12.50	380, 400 - 415 / 50 460 / 60	3000002287 3000002292	3000002288	3000002380 3000002385	3000002381	3000002168	3000002179
15.00	380, 400 - 415 / 50 460 / 60	3000002295 3000002300	3000002296	3000002387 3000002392	3000002388	3000002169	3000002180
17.50	380, 400 - 415 / 50 460 / 60	3000002303 3000002308	3000002304	3000002394 3000002399	3000002395	3000002170	3000002181
20.00	380, 400 - 415 / 50 460 / 60	3000002311 3000002316	3000002312	3000002401 3000002406	3000002402	3000002171	3000002182
25.00	380, 400 - 415 / 50 460 / 60	3000002319 3000002324	3000002320	3000002408 3000002413	3000002409	3000002172	3000002183
30.00	380, 400 - 415 / 50 460 / 60	3000002327 3000002332	3000002328	3000002415 3000002420	3000002416	3000002173	3000002184
35.00	380, 400 - 415 / 50 460 / 60	3000002335 3000002340	3000002336	3000002422 3000002427	3000002423	3000002174	3000002185
40.00	380, 400 - 415 / 50 460 / 60	3000002343 3000002348	3000002244	3000002429 3000002434	3000002430	3000002175	3000002186
50.00	380, 400 - 415 / 50 460 / 60	3000002351 3000002356	3000002352	3000002436 3000002441	3000002437	3000002176	3000002187

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

HP	[kW]	Mod.-No. Windingkts	Turns per coil	Wire diameter [mm]	Type of Isolation	Group connection	Total Wire length [m]	Resistant coil [Ω]	Resistant YΔ [Ω]	Resistant Dol (U1-V1) [Ω]
5	3.7	326 364 99 9	53+53+53+53	0.9 / 1.6	PVC	Serie	540.0	4.76	5.0400	3.19
5.5	4	326 364 99 9	53+53+53+53	0.9 / 1.6	PVC	Serie	540.0	4.76	5.0400	3.19
7.5	5,5	326 364 999	53+53+53+53	0,9 / 1,6	PVC	Serie	540.0	4.76	5.0400	3.19
10	7,5	326 375 999	47+47+47+47	1,0 / 1,7	PVC	Serie	500.0	3.60	3.9620	2.38
12.5	9,3	326 374 999	41+41+41+41	1,1 / 1,8	PVC	Serie	466.0	2.80	2.9910	1.86
15	11	326 373 999	36+36+36+36	1,2 / 1,9	PVC	Serie	436.0	2.20	2.3270	1.50
17.5	13	326 372 999	30+30+30+30	1,3 / 2,0	PVC	Serie	400.0	1.75	1.8980	1.20
20	15	326 366 999	27+27+27+27	1,4 / 2,2	PVC	Serie	395.0	1.52	1.5940	0.94
25	18,5	326 371 999	23+23+23+23	1,5 / 2,3	PVC	Serie	362.0	1.20	1.2630	0.79
30	22	326 370 999	19+19+19+19	1,7 / 2,5	PVC	Serie	342.0	0.80	0.8638	0.59
35	26	326 378 999	17+17+17+17	1,8 / 2,4	PVC	Serie	330.0	0.86	0.9140	0.57
40	30	326 369 999	15+15+15+15	1,9 / 2,5	PVC	Serie	624.0	0.64	1.0247	0.46
50	37	326 377 999	12+12+12+12	2,0 / 2,9	PVC	Serie	302.0	0.56	0.6096	0.37

Insulation resistance (20°C / 500 VDC)

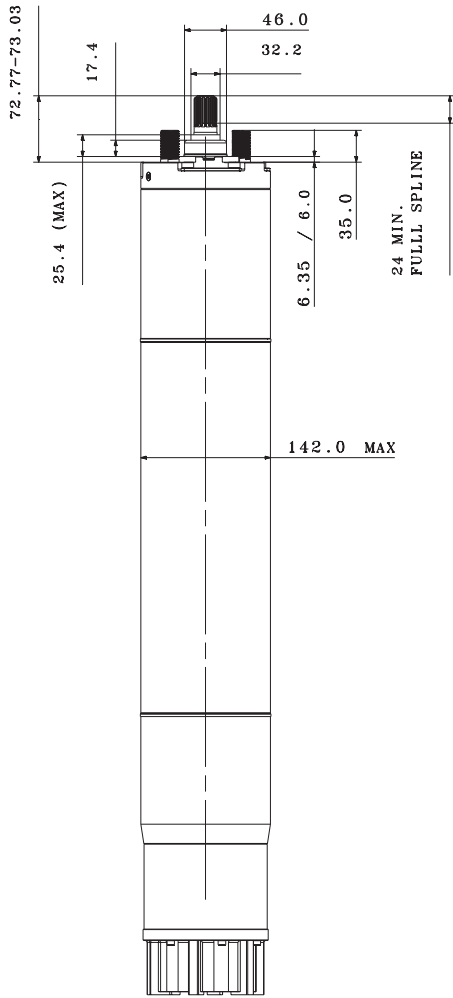
New motor without drop cable	200 > MΩ
Used motor without drop cable	20 > MΩ
New motor with drop cable	2 > MΩ
Used motor with drop cable	0,5 - 2 MΩ

Technical changes without notice

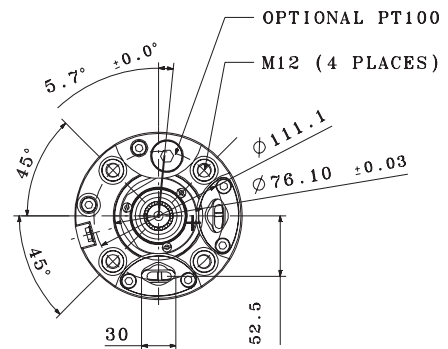
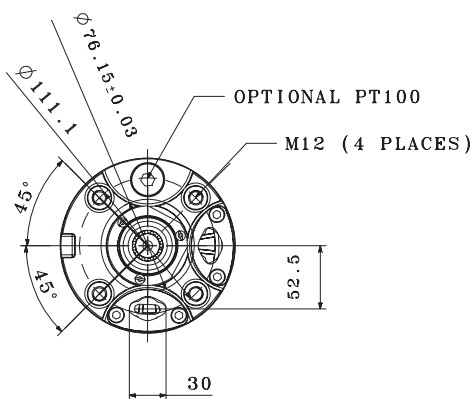
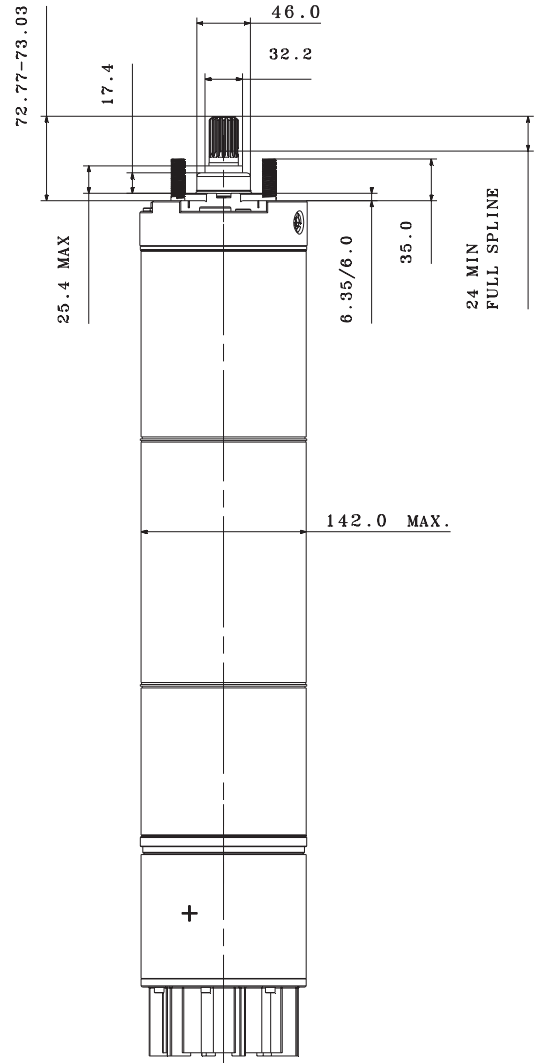
SUBMERSIBLE MOTORS				
Material	GG, Stainless Steel 304 / 316	Rating	3.7 kW – 37 kW	5 HP - 50 HP
Type	Rewindable MATASFC/ MATASFN	Thrust Rating	15500 - 27500	

Sectional View

304



316



Technical changes without notice