



4" Encapsulated Motors

4" Super Stainless 1~ PSC

Submersible Motors Quality in the Well

Franklin Electric 4" encapsulated submersible motors, built in ISO 9001/14001 certified facilities for outstanding performance in 4" or larger water wells.

The single phase PSC motor has been electrically optimized to offer reliable pump starting over a wide range of incoming voltages. It should ideally be combined to the Franklin Electric SubStart/ SubTronicSC control boxes for maximum system performance, protection and warranty.



Standard Motor Design Specifications:

- Hermetically sealed stator. Anti track, self healing stator resin prevents motor burn out, mechanically supports the winding and provides fast heat dissipation.
- High efficiency electrical design (low operation cost, cool running winding)
- Removable water bloc lead connector
- Cable material according to drinking water regulations (VDE / ACS / KTW approved)
- No-wear, water lubricated radial and thrust bearings for 100% maintenance free operation
- Non-contaminating FES 93 filling liquid
- Various agency approvals for use in drinking water

Pollution Recovery Motor Version Specifications:

- Fluorelastomere (Viton®) rubber parts
- Special Polyurethane (PUR) lead assemblies
- 304 graded stainless steel as standard, 316SS as an option

Brackish Water Motor Version Specifications:

- For use in water that has more salinity than fresh water, but not as much as seawater.
- The novel Franklin Electric Brackish Water Motor proposes a cost-effective solution wherever standard 4" motors are not giving sufficient service life

Technical specification:

- PSC motor range: 0,25 – 2,2kW
- 4" NEMA flange
- Rotation: CCW facing shaft end (CW upon request)
- Degree of protection: IP68
- Insulation: Cl.B
- Rated ambient temperature: 30°C
- Required cooling flow: min. 0,08m/s
- Max. starts/hr.: 20, equally distributed
- Mounting: vertical to horizontal, shaft upwards
- Voltage tolerance 50Hz from nominal: -10% / +6%
- Protection requirements: EN 61947-4-1

Options

- Motor cable VDE, KTW approved (1,5m; special lengths available)
- Motors with factory- installed lead in Single Packing
- Built in lightning arrestors
- Built in overload protection
- Alternative material executions
- Motor sets including control box, lead and splice kit

4" Encapsulated Motors



4" PSC Motors Model Numbers 50 Hz

P _N [kW]	U _N [V]	Model No.			
		Standard Motors (40 motors packing unit)	Standard Motors (single pack, with Lead)	Pollution Recovery Motors (single pack, with Lead)	Brackish Water Motors (single pack, with Lead)
0,25	220-230	254 803 1621	254 803 1621L	254 803 1622L	254 803 1624L
	230-240	254 813 1621	254 813 1621L	254 813 1622L	254 813 1624L
0,37	220-230	254 805 1621	254 805 1621L	254 805 1622L	254 805 1624L
	230-240	254 815 1621	254 815 1621L	254 815 1622L	254 815 1624L
0,55	220-230	254 807 1621	254 807 1621L	254 807 1622L	254 807 1624L
	230-240	254 817 1621	254 817 1621L	254 817 1622L	254 817 1624L
0,75	220-230	254 808 1621	254 808 1621L	254 808 1622L	254 808 1624L
	230-240	254 818 1621	254 818 1621L	254 818 1622L	254 818 1624L
1,10	220-230	254 809 1621	254 809 1621L	254 809 1622L	254 809 1624L
	230-240	254 819 1621	254 819 1621L	254 819 1622L	254 819 1624L
1,50	220-230	254 810 1621	254 810 1621L	254 810 1622L	254 810 1624L
	230-240	254 820 1621	254 820 1621L	254 820 1622L	254 820 1624L
2,20	220-230	254 811 2521	254 811 2521L	254 811 2522L	254 811 2524L
	230-240	254 821 2521	254 821 2521L	254 821 2522L	254 821 2524L

4" PSC Performance Data 50 Hz

220V - 230V version

P _N [kW]	Thrust F [N]	U _N [V]	n _N [min ⁻¹]	I _N [A]	I _A [A]	η (Eff.) [%] at % load			cos φ (Pf.) at % load			T _N [Nm]	T _A [Nm]	Capacitor μF (U _c =450V)
						50	75	100	50	75	100			
0,25	3000	220	2865	2,3	9,0	33	45	51	0,91	0,93	0,96	0,82	0,73	12,5
		230	2875	2,4	9,4	28	42	50	0,80	0,88	0,92	0,83	0,80	
0,37	3000	220	2850	3,2	12,1	36	47	54	0,86	0,92	0,97	1,21	1,07	16
		230	2860	3,3	12,6	35	46	54	0,78	0,85	0,91	1,24	1,17	
0,55	3000	220	2840	4,2	16,9	46	57	63	0,94	0,97	0,98	1,85	1,50	20
		230	2850	4,3	17,7	45	57	63	0,86	0,91	0,94	1,90	1,63	
0,75	3000	220	2825	5,7	21,7	44	54	61	0,97	0,99	0,99	2,5	2,3	35
		230	2845	5,7	22,7	41	52	59	0,92	0,96	0,98	2,5	2,5	
1,1	3000	220	2830	8,1	32,5	47	59	65	0,86	0,94	0,97	3,7	2,9	40
		230	2845	8,4	33,9	43	56	63	0,77	0,86	0,92	3,7	3,1	
1,5	3000	220	2820	10,4	39,9	52	63	68	0,90	0,95	0,98	5,1	3,6	50
		230	2830	10,7	41,7	48	59	66	0,82	0,90	0,95	5,1	3,9	
2,2	4000	220	2825	14,7	59,2	55	65	70	0,93	0,98	0,99	7,4	5,0	70
		230	2840	14,7	61,8	51	62	68	0,86	0,93	0,97	7,4	5,5	

230V - 240V version

P _N [kW]	Thrust F [N]	U _N [V]	n _N [min ⁻¹]	I _N [A]	I _A [A]	η (Eff.) [%] at % load			cos φ (Pf.) at % load			T _N [Nm]	T _A [Nm]	Capacitor μF (U _c =450V)
						50	75	100	50	75	100			
0,25	3000	230	2865	2,2	8,6	33	45	51	0,91	0,93	0,96	0,82	0,73	12,5
		240	2875	2,3	9,0	28	42	50	0,80	0,88	0,92	0,83	0,80	
0,37	3000	230	2850	3,1	11,6	36	47	54	0,86	0,92	0,97	1,21	1,07	16
		240	2860	3,2	12,1	35	46	54	0,78	0,85	0,91	1,24	1,17	
0,55	3000	230	2840	4,0	16,2	46	57	63	0,94	0,97	0,98	1,85	1,50	20
		240	2850	4,1	16,9	45	57	63	0,86	0,91	0,94	1,90	1,63	
0,75	3000	230	2825	5,5	20,8	44	54	61	0,97	0,99	0,99	2,5	2,3	35
		240	2845	5,5	21,8	41	52	59	0,92	0,96	0,98	2,5	2,5	
1,1	3000	230	2830	7,8	31,1	47	59	65	0,86	0,94	0,97	3,7	2,9	40
		240	2845	8,1	32,5	43	56	63	0,77	0,86	0,92	3,7	3,1	
1,5	3000	230	2820	10,0	38,3	52	63	68	0,90	0,95	0,98	5,1	3,6	50
		240	2830	10,2	40,0	48	59	66	0,82	0,90	0,95	5,1	3,9	
2,2	4000	230	2825	14,0	56,7	55	65	70	0,93	0,98	0,99	7,4	5,0	70
		240	2840	14,1	59,3	51	62	68	0,86	0,93	0,97	7,4	5,5	

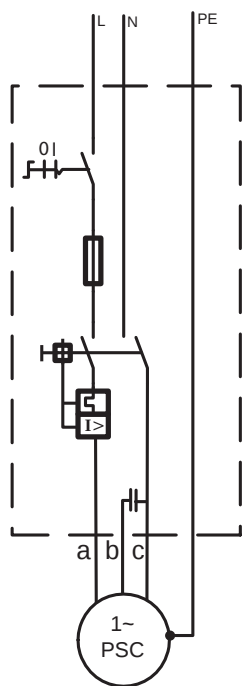


4" Encapsulated Motors

PSC Winding Resistances 50 Hz

P_N [kW]	U_N [V]	Stator-Ref. #	Main Phase [Ohm]	Start Phase [Ohm]
0,25	220 - 230	326 738 912	8,2 - 10,0	31,1 - 38,1
	230 - 240	326 800 912	8,9 - 10,9	26,7 - 32,6
0,37	220 - 230	326 739 912	6,7 - 8,1	21,7 - 26,5
	230 - 240	326 801 912	7,2 - 8,8	20,8 - 25,4
0,55	220 - 230	326 740 912	4,4 - 5,4	13,6 - 16,6
	230 - 240	326 802 912	4,8 - 5,8	13,1 - 16,0
0,75	220 - 230	326 741 912	3,3 - 4,1	8,1 - 9,9
	230 - 240	326 803 912	3,7 - 4,6	7,7 - 9,4
1,1	220 - 230	326 742 912	2,3 - 2,8	6,8 - 8,3
	230 - 240	326 804 912	2,5 - 3,0	6,5 - 7,9
1,5	220 - 230	326 743 912	1,8 - 2,2	4,7 - 5,7
	230 - 240	326 805 912	1,9 - 2,4	4,4 - 5,4
2,2	220 - 230	326 744 912	1,2 - 1,5	3,2 - 3,9
	230 - 240	326 806 912	1,3 - 1,6	3,0 - 3,6

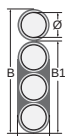
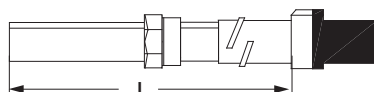
Electrical Connection



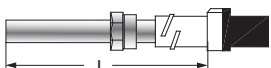
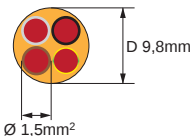
a	b	c	PE
black	brown	grey	yellow/green

VDE / ACS/ KTW Approved Leads*

$\emptyset$ [mm ²]	B (mm)	B1 (mm)	H (mm)
3X1,5+1G1,5	16,8 ± 0,3	10,7 ± 0,3	5,0 ± 0,3

L [m]	PSC Motor Leads		
	Brass	304 SS	316 SS
1,5	310 113 001	310 113 401	310 113 501
2,5	310 113 002	310 113 402	310 113 502
5	310 113 005	310 113 405	310 113 505
10	310 113 010	310 113 410	310 113 510
15	310 113 015	310 113 415	310 113 515
20	310 113 020	310 113 420	310 113 520
30	310 113 030	310 113 430	310 113 530
40	310 113 040	310 113 440	310 113 540
50	310 113 050	310 113 450	310 113 550

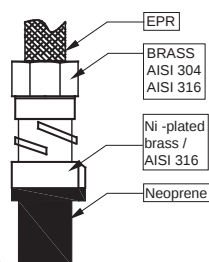
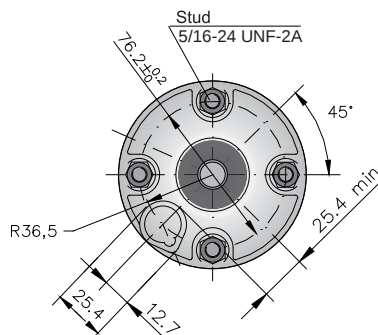
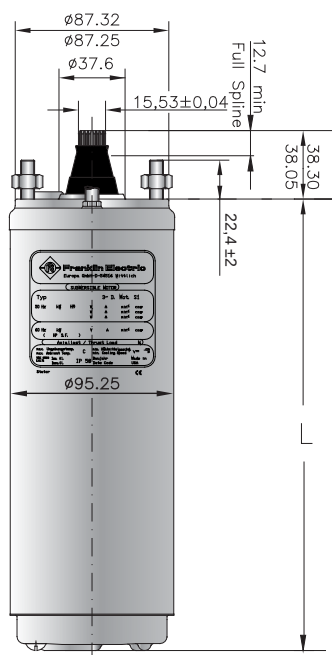
L [m]	Pollution Recovery Motor Leads	
	Model number (only 316SS)	
1,5	310 313 501	 
2,5	310 313 502	
10	310 313 510	
20	310 313 520	
30	310 313 530	
40	310 313 540	
50	310 313 550	

*Cables are designed for submerged operation. For air operation please consult Franklin Electric.

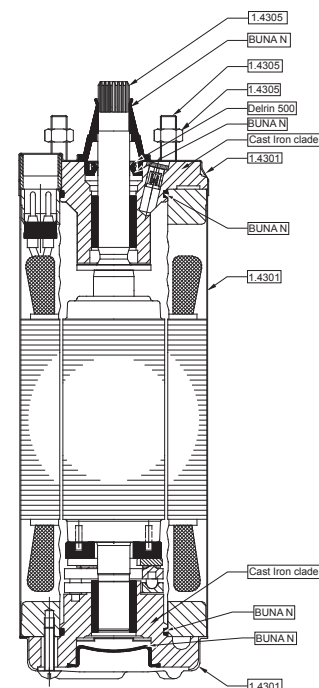
4" Encapsulated Motors



Outline Drawing PSC Motors



Material Description



Tolerances according to NEMA MG 1-18.388

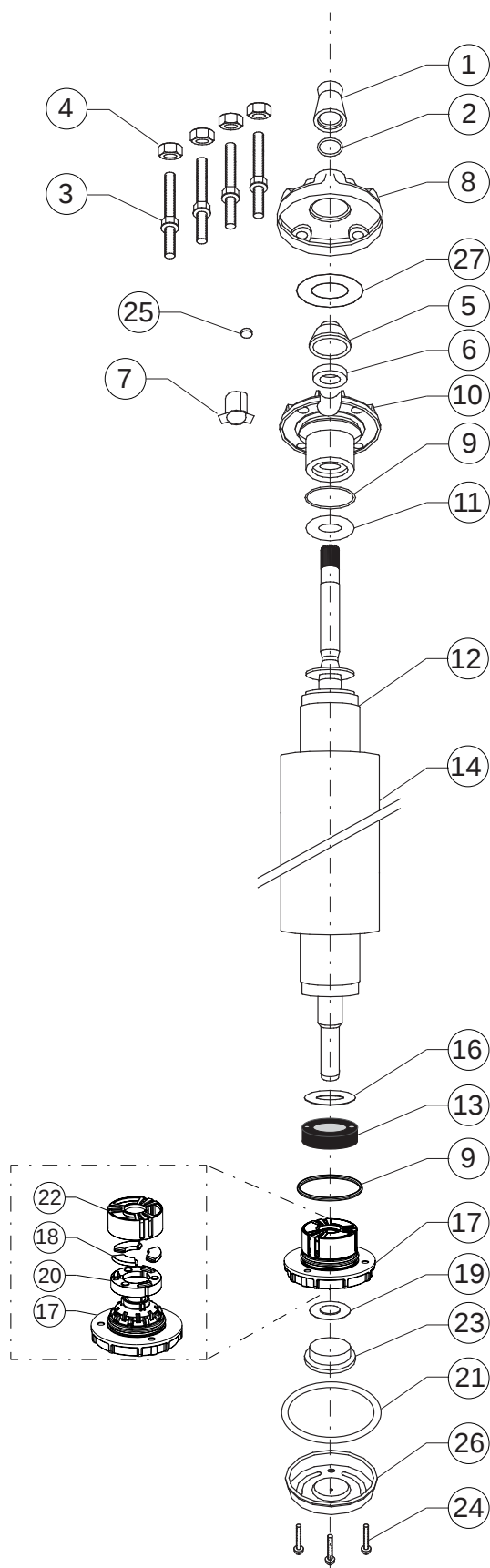
4" PSC Motors Lengths and Weights / Packing sizes

P _N		L [mm]	M [kg]	Motor Package size (40 motors per packing unit)		Motor with Lead in single pack	
				[mm]	[kg]	[mm]	[kg]
0,25	0,33	214,2	7,4	800 x 500 x 870	310,0	400 x 100 x 110	8,6
0,37	0,50	228,2	8,0	800 x 500 x 870	334,0	400 x 100 x 110	9,2
0,55	0,75	253,2	9,2	800 x 500 x 870	382,0	530 x 100 x 110	10,5
0,75	1,00	282,6	10,4	800 x 500 x 870	430,0	530 x 100 x 110	11,7
1,10	1,50	306,6	11,8	800 x 500 x 870	486,0	530 x 100 x 110	13,1
1,50	2,0	338,6	12,9	800 x 500 x 870	530,0	796 x 100 x 110	14,7
2,20	3,0	436,6	17,3	800 x 500 x 870	706,0	796 x 100 x 110	15,5



4" Encapsulated Motors

4" PSC Standard Motor* Part Description



Pos.	Part Description	Qty.	Part No.
1	Protector, Spline	1	Kit B
2	Washer	4	Kit B
3	Stud	4	Kit C
4	Nut	1	Kit C
5	Seal cover	1	Kit
6	Shaft Seal	1	Kit B
7	Connector boss	1	151 820 102
8	Top Endbell, Cover	1	Kit
9	O-Ring	2	Kit B
10	Top Endbell	1	Kit
11	Upthrust washer	1	Kit
12	Rotor	1	page 9
13	Thrust disk assy	1	Kit A
14	Stator	1	page 9
15	Leveling Disk (only 1500N)	1	Kit A
16	Washer	1	Kit A
17	Bottom Endbell	1	Kit
18	Segments	3	Kit A
19	Diaphragm Insert	1	151 314 101
20	Rocking Disk	1	Kit A
21	Gasket	1	Kit B
22	Bearing cage	1	Kit A
23	Diaphragm	1	Kit B
24	Screw, Seal	3	Kit C
25	Filter	1	Kit B
26	Bottom Endbell Cover		156 414 101
27	Washer	1	Kit B

* Spare Parts for Pollution Recovery and Brackish Water Motors on Request

4" Encapsulated Motors



4" PSC Standard Motor* Spare Part Kit's

P _N [kW]	Thrust Bearing	End bell, upper (Pos. 5 - 10, 27)	End bell, lower (Pos. 17)	Up thrust washer (Pos. 11)
0,25 - 0,55	Kit A1	177 231 904	Kit A1	150 954 102
0,75 - 1,5		177 233 904		151 093 105
2,2		(0,75 - 2,2kW)		
Kit 1500N 0,25 – 0,55kW up to 07.2008	Thrust bearing Kit 1500N		inkl. Pos.: 13, 15, 16, 18, 20	308 652 101
Kit A1	End bell (lower) incl. Thrust bearing Kit 3000N/4000N		inkl. Pos.: 9, 13, 16, 17, 18, 20, 22	308 464 901
Kit B1	Seals Kit		inkl. Pos.: 1, 2, 6, 9, 21, 23, 25, 27	308 650 101
Kit B2	Seals Kit (Viton)		inkl. Pos.: 1, 2, 6, 9, 21, 23, 25, 27	308 650 104
Kit C	Screws Kit		inkl. Pos.: 3, 4, 24	308 656 101

PSC Replacement Stator and Rotor 50 Hz

P _N [kW]	Volt	Motor Model No.	Stator	Rotor
0,25	220-230	254 803 1621 / L	305 491 101	178 610 902K
	230-240	254 813 1621 / L	305 491 121	
0,37	220-230	254 805 1621 / L	305 491 102	178 611 902K
	230-240	254 815 1621 / L	305 491 122	
0,55	220-230	254 807 1621 / L	305 491 103	178 612 902K
	230-240	254 817 1621 / L	305 491 123	
0,75	220-230	254 808 1621 / L	305 491 104	178 613 902K
	230-240	254 818 1621 / L	305 491 124	
1,10	220-230	254 809 1621 / L	305 491 105	178 614 902K
	230-240	254 819 1621 / L	305 491 125	
1,50	220-230	254 810 1621 / L	305 491 106	178 615 902K
	230-240	254 820 1621 / L	305 491 126	
2,20	220-230	254 811 2521 / L	305 491 107	178 616 902K
	230-240	254 821 2521 / L	305 491 127	

* Spare Parts for Pollution Recovery and Brackish Water Motors on Request



4" Encapsulated Motors

4" Super Stainless 3-wire



Submersible Motors

Quality in the Well

Franklin Electric 4" encapsulated submersible motors, built in ISO 9001/14001 certified facilities for outstanding performance in 4" or larger water wells.

The single phase 3-wire motor has been designed for highest achievable starting torque and shaft power from single phase power supplies. It is therefore ideally suited for applications where starting torque is paramount and 3 phase motors cannot be used. It should ideally be combined to the Franklin Electric 3-wire control boxes for maximum system performance, protection and warranty.

Product advantages:

- Hermetically sealed stator. Anti track, self healing stator resin prevents motor burn out, mechanically supports the winding and provides fast heat dissipation.
- High efficiency electrical design (low operation cost, cool running winding)
- Removable water bloc lead connector
- Cable material according to drinking water regulations (VDE / ACS / KTW approved)
- No-wear, water lubricated radial and thrust bearings for 100% maintenance free operation
- Non contaminating FES 93 filling liquid
- Various agency approvals for use in drinking water

Brackish Water Motor Version Specifications:

- For use in water that has more salinity than fresh water, but not as much as seawater.
- The novel Franklin Electric Brackish Water Motor proposes a cost-effective solution wherever standard 4" motors are not giving sufficient service life

Technical Specifications

Standard Motor:

- 3-W motor range: 0,25 – 3,7kW
- 4" NEMA flange
- Rotation: CCW facing shaft end (CW upon request)
- Degree of protection: IP68
- Insulation: Cl.B
- Rated ambient temperature: 30°C
- Required cooling flow: min. 0,08m/s
- Max. starts/hr.: 20, equally distributed
- Mounting: vertical to horizontal, shaft upwards
- Voltage tolerance 50Hz from nominal: -10% / +6%
- Voltage tolerance 60Hz from nominal: ±10%
- Protection requirements: EN 61947-4-1

Options

- Motor cable VDE, KTW approved (1,5m; special lengths available)
- Motors with factory- installed lead in Single Packing
- Built in lightning arrestors
- Alternative material executions

4" Encapsulated Motors



4" 3- wire Motor Model Numbers

P _N [kW]	U _N [V]	Digit 1-6	Digit 7-10				
			Standard 304		316 SS		Brackish Water Motor
			(Motors in 40 motors packing unit)	(Motors in single pack, with Lead)	(Motors in 40 motors packing unit)	(Motors in single pack, with Lead)	(Motors in single pack, with Lead)
0,25	220 / 230	214 753	1621	1621L	0521	0521L	1624L
0,37	220 / 230	214 755	1621	1621L	0521	0521L	1624L
0,55	220 / 230	214 757	1621	1621L	0521	0521L	1624L
0,75	220 / 230	214 758	1621	1621L	0521	0521L	1624L
1,10	220 / 230	224 750	1621	1621L	0521	0521L	1624L
1,50	220 / 230	224 751	1621	1621L	0521	0521L	1624L
2,20	220 / 230	224 752	2521	2521L	2221	2221L	2524L

4" 3- wire Motor Model Numbers High Thrust

P _N [kW]	U _N [V]	Digit 1-6	Digit 7-10				
			304		316 SS		Brackish Water Motor
			(Motors in 40 motors packing unit)	(Motors in single pack, with Lead)	(Motors in 40 motors packing unit)	(Motors in single pack, with Lead)	(Motors in single pack, with Lead)
2,2	220 / 230	224 752	3421	3421L	3521	3521L	3424L
3,7	220 / 230	224 753	3421	3421L	3521	3521L	3424L

Standard Windings Resistance 50 Hz

P _N [kW]	U _N [V]	Stator Ref.	Main phase Ohm	Start sphase Ohm
0.25	220 / 230	326 807 912	10,6 - 13,0	38,3 - 46,8
0.37	220 / 230	326 808 912	7,3 - 8,9	23,9 - 29,3
0.55	220 / 230	326 809 912	4,8 - 5,8	18,5 - 22,7
0.75	220 / 230	326 810 912	3,5 - 4,3	14,8 - 18,0
1.1	220 / 230	326 811 912	2,6 - 3,2	6,9 - 8,4
1.5	220 / 230	326 812 912	2,0 - 2,4	5,3 - 6,4
2.2	220 / 230	326 813 912	1,3 - 1,6	3,8 - 4,6
3,7	220 / 230	326 813 912	1,0 - 1,3	2,5 - 3,1



4" Encapsulated Motors

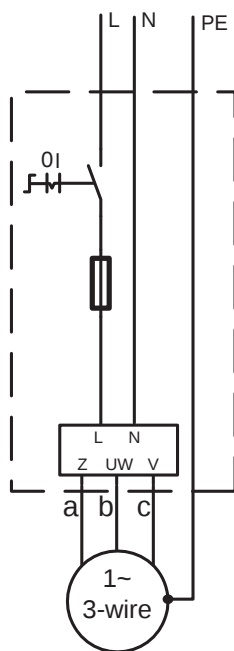
4" 3-Wire Standard Performance Data 50 Hz

P _N [kW]	Thrust F [N]	U _N [V]	n _N [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		
0,25	3000	220	2850	2,8	9,3	43	50	53	0,61	0,70	0,78	0,83	1,45
		230	2870	2,8	9,7	42	50	53	0,58	0,67	0,75	0,83	1,65
0,37	3000	220	2855	3,9	13,1	48	55	56	0,58	0,69	0,77	1,23	1,90
		230	2870	4,0	13,7	46	53	56	0,55	0,65	0,74	1,23	2,05
0,55	3000	220	2860	5,9	20,6	46	53	56	0,58	0,69	0,77	1,84	3,0
		230	2880	5,9	21,6	45	53	56	0,53	0,64	0,73	1,82	3,2
0,75	3000	220	2850	7,3	26,6	53	59	60	0,59	0,71	0,79	2,5	3,8
		230	2870	7,3	27,8	51	58	61	0,55	0,67	0,76	2,5	4,2
1,1	3000	220	2875	8,6	41,3	63	68	69	0,69	0,80	0,87	3,7	6,9
		230	2885	8,6	41,2	60	67	68	0,65	0,76	0,84	3,7	6,8
1,5	3000	220	2860	10,6	55,4	66	71	71	0,75	0,85	0,91	5,0	9,6
		230	2875	10,4	53,3	64	70	71	0,69	0,81	0,88	4,9	9,5
2,2	4000	220	2875	15,2	71,2	67	73	74	0,76	0,86	0,91	7,3	13,8
		230	2885	15,3	74,5	63	70	73	0,69	0,80	0,88	7,3	15,0

4" 3-Wire High Thrust Performance Data 50 Hz

P _N [kW]	Thrust F [N]	U _N [V]	n _N [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		
2,2	6500	220	2875	15,2	71,2	67	73	74	0,76	0,86	0,91	7,3	13,8
		230	2885	15,3	74,5	63	70	73	0,69	0,80	0,88	7,3	15,0
3,7	6500	220	2880	22,5	97	72	77	78	0,98	0,99	0,99	12,3	16,1
		230	2895	21,4	101	70	76	77	0,97	0,98	0,99	12,2	17,6

Electrical Connection



a	b	c	PE
black	brown	grey	yellow/green

VDE / ACS / KTW Approved Leads*

Ø [mm²]	B [mm]	B1 [mm]	H [mm]
3X1,5+1G1,5	16,8 ± 0,3	10,7 ± 0,3	5,0 ± 0,3

L [m]	Part Numbers		
	Standard	304 SS	316 SS
1,5	310 113 001	310 113 401	310 113 501
2,5	310 113 002	310 113 402	310 113 502
5	310 113 005	310 113 405	310 113 505
10	310 113 010	310 113 410	310 113 510
15	310 113 015	310 113 415	310 113 515
20	310 113 020	310 113 420	310 113 520
30	310 113 030	310 113 430	310 113 530
40	310 113 040	310 113 440	310 113 540
50	310 113 050	310 113 450	310 113 550

*Cables are designed for submerged operation. For air operation please consult Franklin Electric.

4" Encapsulated Motors

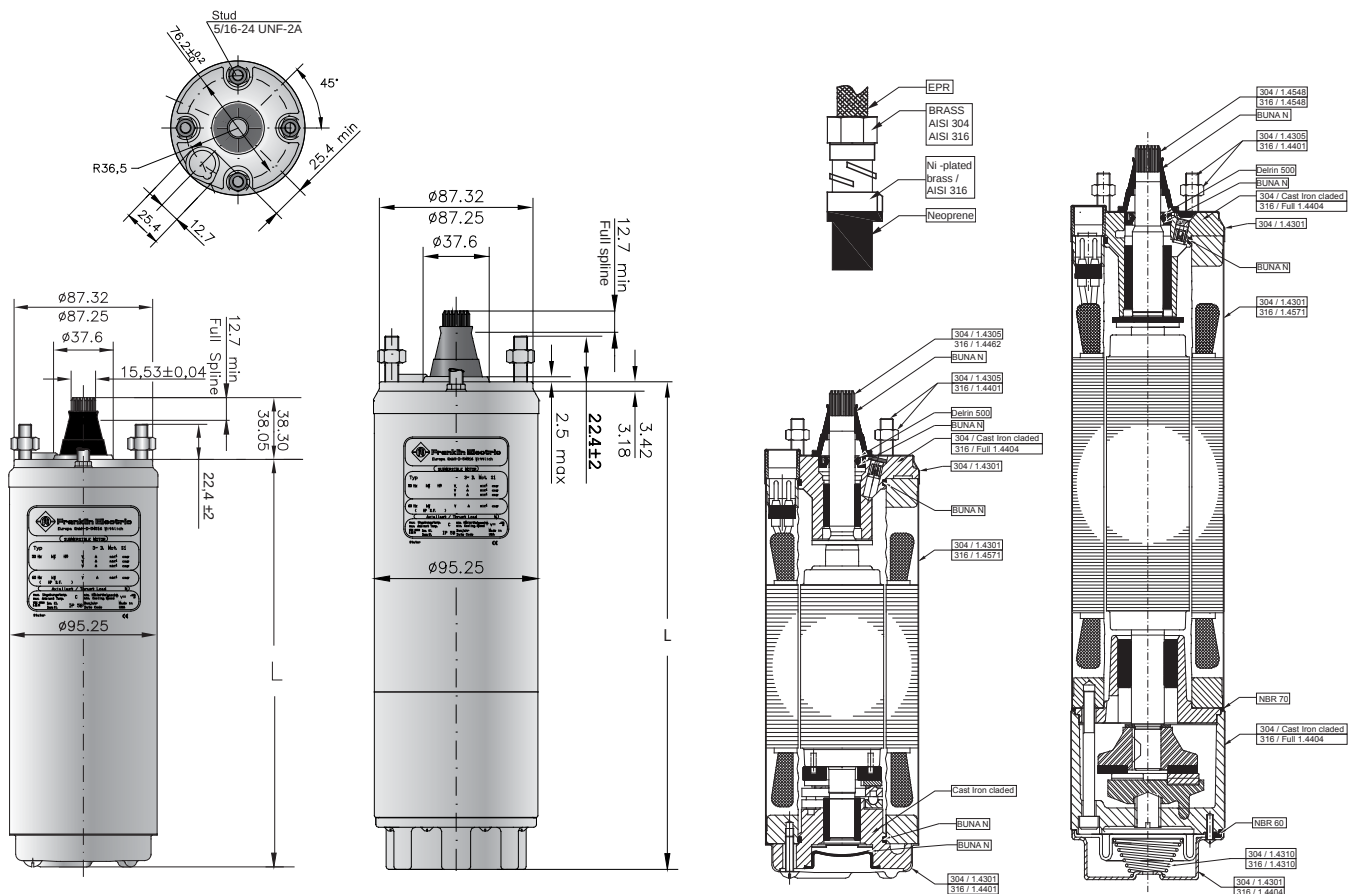


4" 3- wire Motors Lengths & Weights

Standard 0,25 - 3,7kW

High Thrust 2,2 - 3,7kW

Material Description



Tolerances according to NEMA MG 1-18.388

Standard Motors

P _N [kW]	304 L [mm]	316SS L [mm]	304 M [Kg]	316SS M [Kg]	Motor Package size (40 motors per packing unit)			Motor with Lead (in single pack)		
					[mm]	304 [Kg]	316SS [Kg]	[mm]	304 [Kg]	316SS [Kg]
0,25	214,2	228,9	7,2	7,7	800 x 500 x 870	302,0	322,0	400 x 100 x 110	8,4	8,9
0,37	228,2	242,9	7,8	8,3	800 x 500 x 870	326,0	346,0	400 x 100 x 110	9,0	9,5
0,55	248,2	262,9	8,7	9,2	800 x 500 x 870	362,0	382,0	530 x 100 x 110	10,0	10,7
0,75	282,6	290,2	10,0	10,5	800 x 500 x 870	414,0	434,0	530 x 100 x 110	11,3	11,8
1,10	338,6	346,2	12,6	13,1	800 x 500 x 870	518,0	538,0	530 x 100 x 110	13,9	14,5
1,50	349,6	357,2	13,0	13,5	800 x 500 x 870	534,0	554,0	796 x 100 x 110	14,8	15,3
2,20	436,6	444,2	16,9	17,4	800 x 500 x 870	690,0	710,0	796 x 100 x 110	18,7	19,2

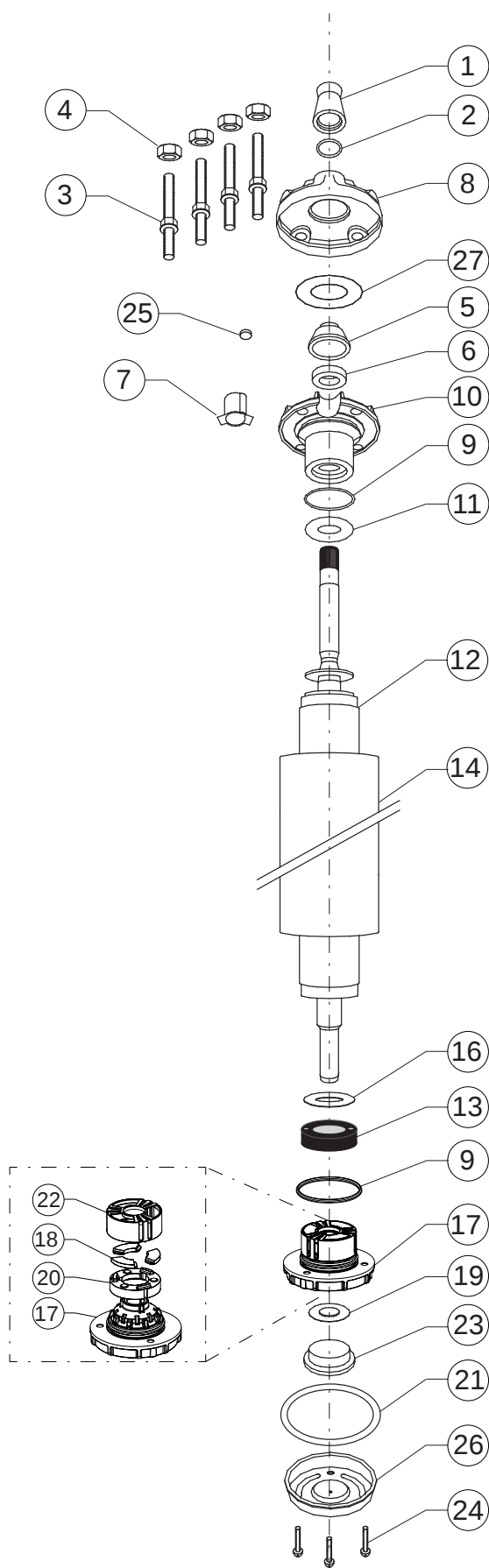
Standard High Thrust Version

P _N [kW]	304 L [mm]	316SS L [mm]	304 M [Kg]	316SS M [Kg]	Motor with Lead (in single pack)		
					[mm]	304 [Kg]	316SS [Kg]
2,2	520,2	529,4	21,3	21,8	796 x 100 x 110	23,1	23,6
3,7	652,5	661,7	26,4	27,3	904 x 100 x 110	28,5	29,4



4" Encapsulated Motors

4" 3- wire Standard Motor* 304SS Parts Description



Pos.	Part Description	Qty.	Part No.
1	Protector, Spline	1	Kit B
2	Washer	1	Kit B
3	Stud	4	Kit C
4	Nut	4	Kit C
5	Seal cover	1	Kit
6	Shaft Seal	1	Kit B
7	Connector boss	1	151 820 102
8	Top Endbell, Cover	1	Kit
9	O-Ring	2	Kit B
10	Top Endbell	1	Kit
11	Upthrust washer	1	Kit
12	Rotor	1	page 23
13	Thrust disk assy	1	Kit A
14	Stator	1	page 23
15	Leveling Disk (only 1500N)	1	Kit A
16	Washer	1	Kit A
17	Bottom Endbell	1	Kit
18	Segments	3	Kit A
19	Diaphragm Insert	1	151 314 101
20	Rocking Disk	1	Kit A
21	Gasket	1	Kit B
22	Bearing cage	1	Kit A
23	Diaphragm	1	Kit B
24	Screw, Seal	3	Kit C
25	Filter	1	Kit B
26	Bottom Endbell Cover	1	156 414 101
27	Washer	1	Kit

* Spare Parts for Brackish Water Motors on Request

4" Encapsulated Motors



4" 3- wire Spare Parts 304SS

P_N [kW]	Thrust Bearing	End bell upper Pos. 5 - 10, 27	End bell, Lower Pos. 17	Upthrust washer Pos. 11
0,25 - 0,55	Kit A1	177 231 904	Kit A1	150 954 102
0,75		177 233 904		151 093 105
1,10 – 1,5				
2,2				
Kit 1500N 0,25 – 0,55kW up to 07.2008	Thrust bearing Kit		incl. Pos.: 13, 15, 16, 18	308 652 101
Kit A1	End bell (lower) incl. Thrust bearing Kit 3000N / 4000N		inkl. Pos.: 9, 13, 16, 17, 18, 20, 22	308 464 901
Kit B1	Seal Kit		incl. Pos.: 1, 2, 6, 9, 21, 23, 25, 27	308 650 101
Kit B2	Seal Kit (Viton)		incl. Pos.: 1, 2, 6, 9, 21, 23, 25, 27	308 650 104
Kit C	Screw Kit		incl. Pos.: 3, 4, 24	308 656 101

Replacement Standard Motors* Stators and Rotors 50 Hz

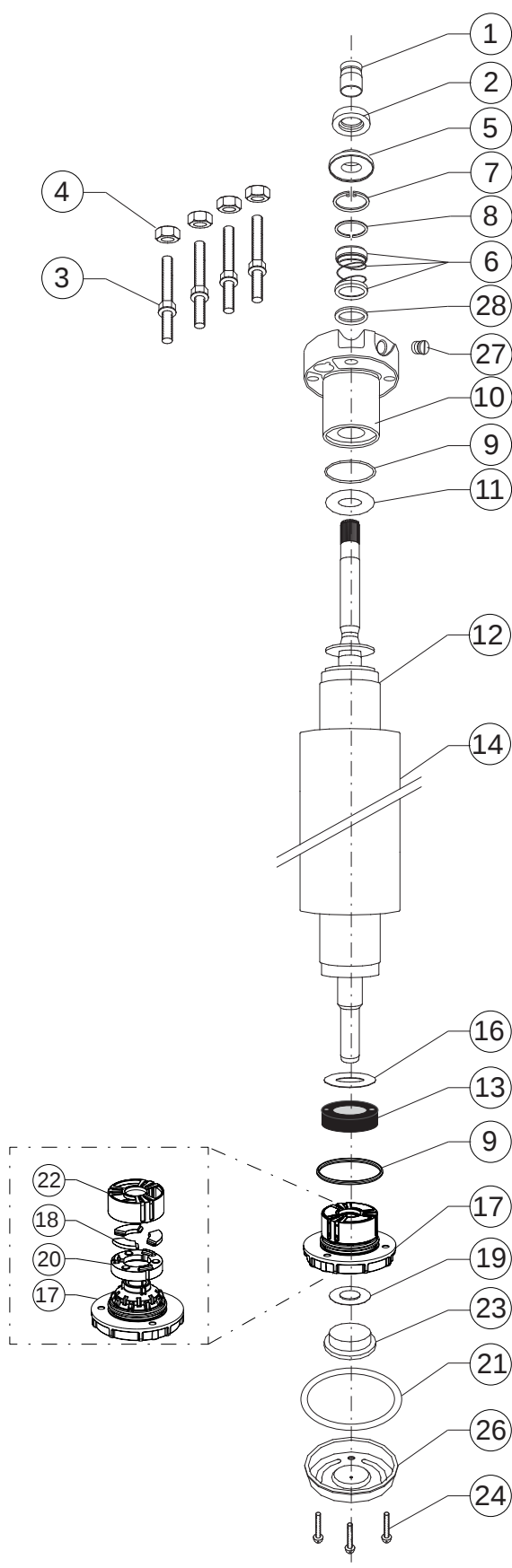
P_N [kW]	U_N [V]	Motor No.	Stator	Rotor
0,25	220 / 230	214 753 1621 / L	305 491 141	178 156 902K
0,37	220 / 230	214 755 1621 / L	305 491 142	178 157 902K
0,55	220 / 230	214 757 1621 / L	305 491 143	178 158 902K
0,75	220 / 230	214 758 1621 / L	305 491 144	178 160 902K
1,10	220 / 230	224 750 1621 / L	305 491 145	178 163 902K
1,50	220 / 230	224 751 1621 / L	305 491 146	178 124 902K
2,20	220 / 230	224 752 2521 / L	305 491 147	178 126 902K

* Spare Parts for Brackish Water Motors on Request



4" Encapsulated Motors

4" 3- wire Standard Motor* 316SS Parts Description



Pos.	Part Description	Qty.	Part No.
1	Protector, Spline	1	Kit C
2	Slinger	1	Kit C
3	Stud	4	Kit D
4	Nut	4	Kit D
5	Seal cover	1	Kit B + C
6	Shaft Seal	1	Kit B
7	Retain Ring	1	Kit B
8	Ring	1	Kit B
9	O-Ring	2	Kit B
10	Top Endbell	1	Kit
11	Upthrust washer	1	Kit
12	Rotor	1	page 25
13	Thrust disk assy	1	Kit A
14	Stator	1	page 25
15	Leveling Disk (only 1500N)	1	Kit A
16	Washer	1	Kit A
17	Bottom Endbell	1	Kit
18	Segments	3	Kit A
19	Diaphragm Insert	1	151 314 101
20	Rocking Disk	1	Kit A
21	Gasket	1	Kit B
22	Bearing cage	1	Kit A
23	Diaphragm	1	Kit B
24	Screw, Seal	3	Kit D
25	Valve		Incl. Pos.: 10
26	Bottom Endbell Cover	1	156 414 102
27	Sealing Screw	1	308 279 903
28	Washer	1	308 747 201

* Spare Parts for Brackish Water Motors on Request

4" Encapsulated Motors



4" 3- wire Spare Parts 316SS

P _N [kW]	Thrust Bearing	End bell, upper (Pos. 10)	End bell, lower (Pos. 17)	Upthrust washer (Pos. 11)
0,25 - 0,55	Kit A1	177 390 955	Kit A1	308 268 104
0,75				
1,1 - 1,5				
2,2 - 3,0				
Kit 1500N up to 07.2008	Thrust bearing Kit		inkl. Pos.: 13, 15, 16, 18, 20	308 652 101
Kit A1	End bell (lower) incl. Thrust bearing Kit 3000N / 4000N		inkl. Pos.: 9, 13, 16, 17, 18, 20, 22	308 464 901
Kit B	Seals		inkl. Pos.: 5, 6, 7, 8, 9, 21, 23	308 650 105
Kit B2	Seal Kit (Viton)		inkl. Pos.: 5, 6, 7, 8, 9, 21, 23	308 650 106
Kit C	Sand Protection Seal Kit		inkl. Pos.: 1, 2, 5	308 825 201
Kit D	Screw Kit		inkl. Pos.: 3, 4, 24	308 656 102

Replacement Standard Motor* Stators and Rotors 50 Hz

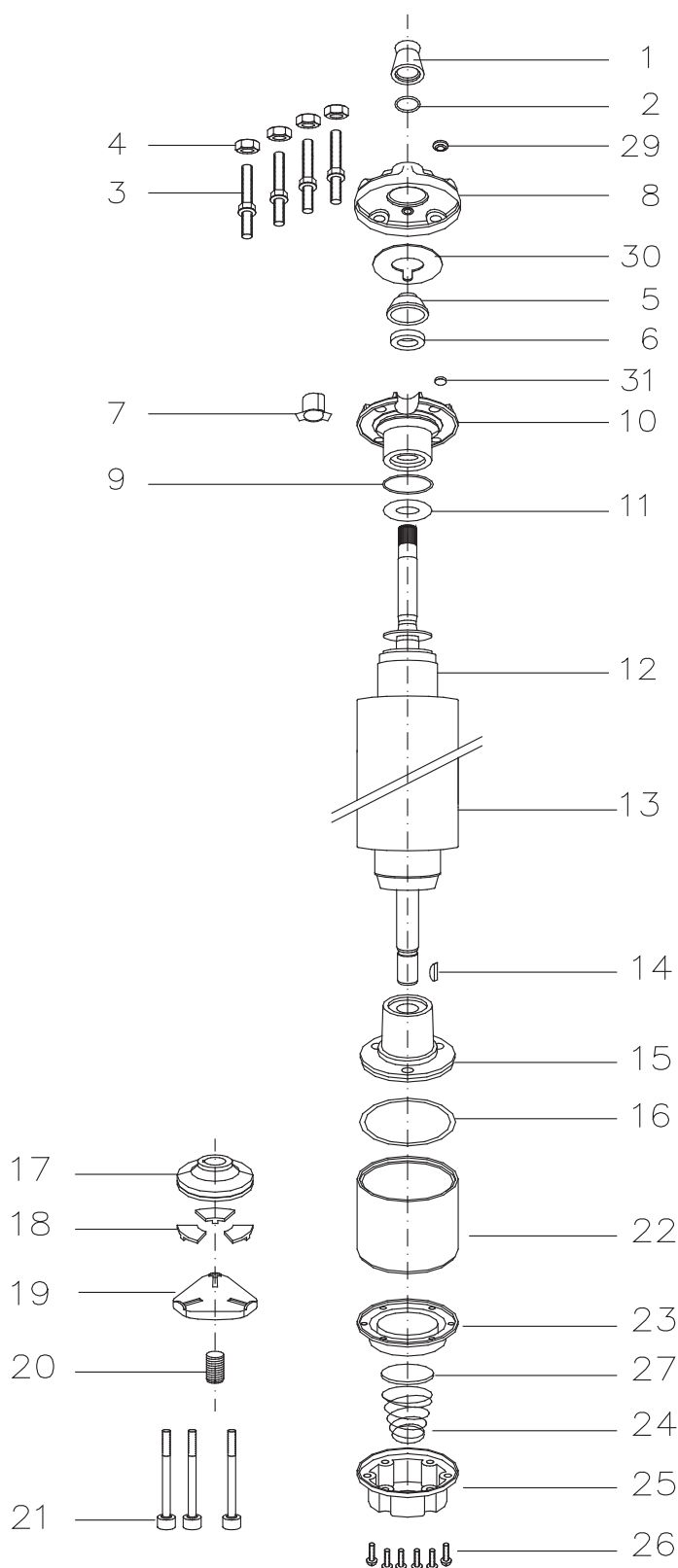
P_N [kW]	U_N [V]	Motor No.	Stator	Rotor
0,25	220 / 230	214 753 0521 / L	305 491 501	178 156 912K
0,37	220 / 230	214 755 0521 / L	305 491 502	178 157 912K
0,55	220 / 230	214 757 0521 / L	305 491 503	178 158 912K
0,75	220 / 230	214 758 0521 / L	305 491 504	178 160 912K
1,10	220 / 230	224 750 0521 / L	305 491 505	178 163 912K
1,50	220 / 230	224 751 0521 / L	305 491 506	178 124 912K
2,20	220 / 230	224 752 2221 / L	305 491 507	178 126 912K

* Spare Parts for Brackish Water Motors on Request



4" Encapsulated Motors

4" 3- wire Standard Motor* Parts List High Thrust 304



Pos.	Part Description	Qty.	Part No.
1	Protector, Spline	1	Kit B
2	Washer	1	Kit B
3	Stud	4	Kit C
4	Nut	4	Kit C
5	Seal cover	1	Kit D
6	Shaft Seal	1	Kit B+D
7	Connector boss	1	Kit D
8	Top Endbell, Cover	1	Kit D
9	O-Ring	1	Kit B+D
10	Top Endbell	1	Kit D
11	Upthrust washer	1	Kit
12	Rotor	1	page 27
13	Stator	1	page 27
14	Woodruff key	1	275 250 104
15	Bottom Endbell	1	Kit
16	O-Ring	1	Kit B
17	Thrust disc	1	Kit A
18	Segment	1	Kit A
19	Leveling disc	1	155 660 101
20	Screw, adj.	1	151 048 102
21	Screw	3	Kit C
22	Thrust housing	1	177 378 901
23	Diaphragm	1	Kit B
24	Spring	1	151 449 101
25	Cover, Diaphragm	1	155 647 101
26	Screw	6	Kit C
27	Cup spring, Diaphragm	1	151 448 101
29	Sealing stopper	1	Kit B+D
30	Seal	1	Kit D
31	Filter	1	Kit B+D

* Spare Parts for Brackish Water Motors on Request

4" Encapsulated Motors



4" 3- wire Standard Motors* Spare Parts High Thrust 304SS

P_N [kW]	End bell upper (Kit D1) inkl. Pos.: 5, 6, 7, 8, 9, 10, 29,30, 31	End bell, Lower (Pos. 15)	Upthrust washer (Pos. 11)
2,2	308 233 509	177 379 921	308 268 104
3,7	308 434 501	177 379 921	308 317 901
Kit A 6500N	Thrust Bearing Kit	inkl. Pos.: 17, 18	308 700 301
Kit B	Seal Kit	inkl. Pos.: 1, 2, 6, 9, 16, 23,29, 31	308 900 351
Kit B1	Seal Kit Pollution Recovery	inkl. Pos.: 1, 2, 6, 9, 16, 23,29, 31	308 900 401
Kit C	Screw Kit	inkl. Pos.: 3, 4, 21, 26	308 658 351

Standard Motors* High Thrust Replacement Stator and Rotor 304 50 Hz

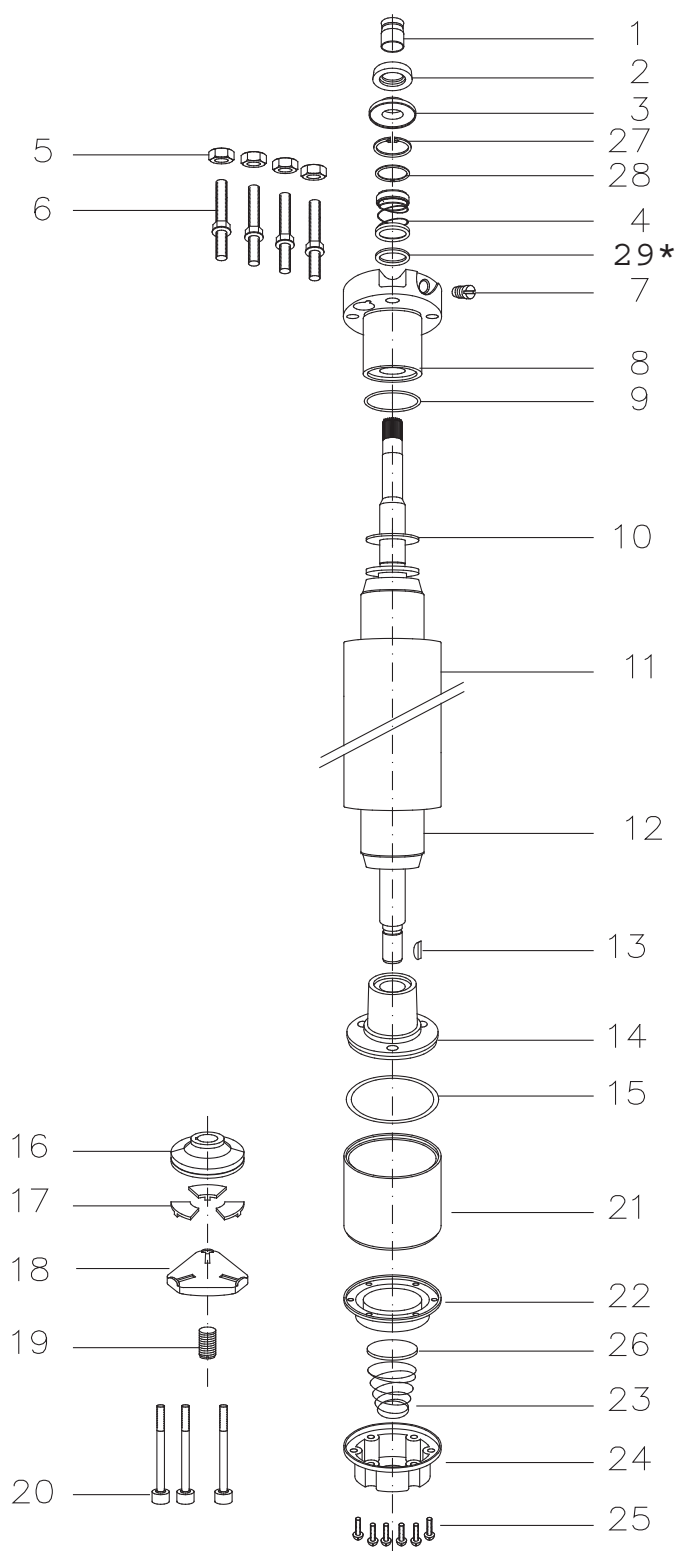
P_N [kW]	U_N [V]	Motor No.	Stator	Rotor
2,2	220 / 230	224 752 3421 / L	305 491 181	178 126 903K
3,7	220 / 230	224 753 3421 / L	305 491 182	178 135 903K

* Spare Parts for Brackish Water Motors on Request



4" Encapsulated Motors

4" 3- wire Standard Motors* 316SS High Thrust Parts List



Pos.	Part Description	Qty.	Part No.
1	Protector, Spline	1	Kit C
2	Slinger	1	Kit C
3	Seal cover	1	Kit B + C
4	Shaft Seal	1	Kit B
5	Stud	4	Kit D
6	Nut	4	Kit D
7	Sealing Screw	1	308 279 903
8	Top Endbell	1	Kit
9	O-Ring	1	Kit B
10	Upthrust washer	1	Kit
11	Stator	1	page 29
12	Rotor	1	page 29
13	Woodruff key	1	275 250 104
14	Bottom Endbell	1	Kit
15	O-Ring	1	Kit B
16	Thrust disc	1	Kit A
17	Segments	1	Kit A
18	Leveling disc	1	155 660 101
19	Screw, adj.	1	151 048 102
20	Screw	3	Kit D
21	Thrust housing	1	177 378 951
22	Diaphragm	1	Kit B
23	Spring	1	151 449 101
24	Cover, Diaphragm	1	155 647 201
25	Screw	6	Kit D
26	Cup spring, Diaphragm	1	151 448 101
27	Ring	1	Kit B
28	Retain Ring	1	Kit B
29*	Washer	1	308 747 201

* only for 2,2 - 3kW

* Spare Parts for Brackish Water Motors on Request

4" Encapsulated Motors



4" 3- wire Standard Motors* Spare Parts High Thrust 316SS

P _N [kW]	End bell upper (Pos 8)	End bell, Lower (Pos. 14)	Upthrust washer (Pos. 10)
2,2	177 390 955	177 379 921	308 317 901
3,7			
Kit A 6500N	Thrust bearing Kit	inkl. Pos.: 16, 17	308 700 301
Kit B	Seal Kit	inkl. Pos.: 4, 9, 15, 22, 27, 28	308 900 302
Kit C	Sand Protection Kit	inkl. Pos.: 1, 2, 3	308 825 201
Kit D	Screw Kit	inkl. Pos.: 5, 6, 20, 25	308 658 301

Standard Motors* High Thrust Replacement Stator and Rotor 316SS / 50 Hz

P _N [kW]	U _N [V]	Motor Model No.	Stator	Rotor
2,2	220 / 230	224 752 3521 / L	305 491 541	178 126 913K
3,7	220 / 230	224 753 3521 / L	305 491 542	178 135 913K

* Spare Parts for Brackish Water Motors on Request