



# 6" Encapsulated Motors

## 6" Encapsulated Motors

Standard: **SAND FIGHTER**

### Submersible Motors Quality in the Well

These 6" encapsulated motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 6" 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. The motor is filled with a special FES91 fluid, providing frost protection down to -15°C storage temperature.

The Sand fighter® SiC seal system is standard.

### Product advantages:

- Hermetically sealed stator, anti track, self healing stator resin prevents motor burn out
- 37 and 45kW up to 50°C ambient temperature
- Removable "Water Bloc" lead connector
- Cable material according to drinking water regulations (VDE / ACS / KTW approved)
- „Sand fighter®“ Motor with SiC-Mechanical Seal and Sand Slinger
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested
- Max. storage temperature -15°C - + 60°C
- Non contaminating FES91 -filled design
- 45kN Thrust Capacity (Standard in 37kW and 45kW motors)

### Technical Specifications

#### Standard Motor:

- 4 ... 45 kW
- 6" NEMA flange
- Protection: IP 68
- Starts per hour: 20
- Installation: vertical/horizontal
- Standard Voltage: 380-415V/50Hz, 460V/60Hz
- Voltage tolerance 50Hz: -10% / +6%  $U_N$  [380-415V = (380-10%) – (415+6%)]
- Voltage tolerance 60Hz:  $\pm 10\% U_N$
- Motor protection: Select thermal overloads according to DIN 61947-4-1
- Insulation: Class F
- Rated ambient temperature: 4- 30kW up to 30°C; 37 & 45 kW up to 50°C
- Cooling flow: min. 0,16 m/s
- Motor lead in 4m length (VDE / ACS / KTW approved)

#### Options

- Other voltages
- YΔ - start (pos. of cables 90°)
- 45kN High Thrust Version (standard in 37kw and 45kW motors)
- Motors complete in 304SS and in 316SS
- PT 100 temperature sensor (sold separately)
- Special Lead lengths up to 50m
- Built-in PTC temperature sensor
- Built-in SubMonitor Transmitter (standard for 37&45kW)



# 6" Encapsulated Motors



## 6" Motor Design 4- 30 kW

Cast Iron Version

304SS

316SS



### Material DIN / AISI

Part	Cast Iron Version	304	316 SS
Shell	1.4301	1.4301	1.4571
Upper end bell	Cast iron powder coated	1.4301	1.4408
Lower end bell	Cast iron	Cast iron	1.4401
Thrust housing	Cast iron powder coated	1.4301	1.4408
Mechanical seal	SiC / SiC	SiC / SiC	SiC / SiC
Seal cover	1.4301	1.4301	1.4401
Slinger	NBR	NBR	NBR
Shaft end	1.4305	1.4305	1.4462
Diaphragm	NBR	NBR	NBR
Lead	EPR	EPR	EPR



# 6" Encapsulated Motors

## 6" Motor Design 37- 45 kW

### Cast Iron Version

### 316SS



### Material DIN / AISI

Part	Cast Iron Version	316 SS
Shell	1.4301	1.4571
Upper end bell	Cast iron powder coated	1.4408
Lower end bell	Cast iron	1.4401
Thrust housing	Cast iron powder coated	1.4408
Mechanical seal	SiC / SiC	SiC / SiC
Seal cover	1.4301	1.4401
Slinger	Viton	Viton
Shaft end	1.4305	1.4542
Diaphragm	Viton	Viton
Lead	EPR	EPR
Jam Nut (Lead)	Brass	1.4401
Lead bushing	Rubber	Rubber

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## 6" Standard Model Numbers 50 Hz

P <sub>N</sub> [kW]	U <sub>N</sub> [V]	Model Number Digit 1 – 6		Model Number Digit 7 - 10									45 000N Motor Version
		DOL	YΔ	Standard			with SubMonitor Transmitter			with PTC			
				Cast Iron	304SS	316SS	Cast Iron	304SS	316SS	Cast Iron	304SS	316SS	
4	220, 230	236 680	236 670	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 610	236 710										
	500	236 700	236 790										
5,5	220, 230	236 681	236 671	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 611	236 711										
	500	236 701	236 791										
7,5	220, 230	236 682	236 672	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 612	236 712										
	500	236 702	236 792										
9,3	220, 230	236 015	236 005	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 001	236 011										
	500	236 008	236 018										
11	220, 230	236 683	236 673	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 613	236 713										
	500	236 703	236 793										
15	220, 230	236 684	236 674	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 614	236 714										
	500	236 704	236 794										
18,5	220, 230	236 685	236 675	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 615	236 715										
	500	236 705	236 795										
22	220, 230	236 686	236 676	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 616	236 716										
	500	236 706	236 796										
30	220, 230		236 677	9061	1061	3961	6061	1161	4061	2061	1261	3661	**63
	380 - 415	236 617	236 717										
	500	236 707	236 797										
37	380 - 415	276 618	276 718				6161		6361				Standard
45	380 - 415	276 619	276 719				6161		6361				Standard



# 6" Encapsulated Motors

## 6" Performance Data 50 Hz

P <sub>N</sub> [kW]	Thrust F [N]	U <sub>N</sub> [V]	n <sub>N</sub> [min <sup>-1</sup> ]	I <sub>N</sub> [A]	I <sub>A</sub> [A]	η (Eff.) [%] at % load			cos φ (Pf.) at % load			T <sub>N</sub> [Nm]	T <sub>A</sub> [Nm]
						50	75	100	50	75	100		
4,0	15.500	220	2840	16,4	73	76,0	78,5	77,0	0,70	0,80	0,85	12,5	17,9
		230	2860	16,1	75	74,0	77,5	78,0	0,62	0,74	0,82	12,3	20,2
		380	2840	9,5	42	76,0	78,5	77,0	0,70	0,80	0,85	12,5	17,9
		400	2860	9,3	43	74,0	77,5	78,0	0,62	0,74	0,82	12,3	20,2
		415	2880	9,3	46	74,5	78,0	78,5	0,57	0,70	0,78	12,3	20,8
		500	2840	7,2	32	76,0	78,5	77,0	0,70	0,80	0,85	12,5	17,9
5,5	15.500	220	2850	22,1	104	77,0	79,0	78,0	0,70	0,80	0,85	18,7	30,3
		230	2870	21,7	106	74,0	78,0	79,0	0,63	0,75	0,82	18,6	35,0
		380	2850	12,8	60	77,0	79,0	78,0	0,70	0,80	0,85	18,7	30,3
		400	2870	12,5	64	74,0	78,0	79,0	0,63	0,75	0,82	18,6	35,0
		415	2880	12,8	66	74,0	77,5	78,0	0,58	0,70	0,78	18,6	35,9
		500	2850	9,7	46	77,0	79,0	78,0	0,70	0,80	0,85	18,7	30,3
7,5	15.500	220	2850	28,2	143	77,5	79,5	79,0	0,74	0,83	0,87	25,0	43,0
		230	2860	27,7	144	75,0	78,5	79,0	0,70	0,81	0,86	25,0	47,7
		380	2850	16,3	83	77,5	79,5	79,0	0,74	0,83	0,87	25,0	43,0
		400	2860	16,0	83	75,0	78,5	79,0	0,70	0,81	0,86	25,0	47,7
		415	2880	16,2	91	75,0	78,5	79,0	0,61	0,74	0,81	24,7	51,3
		500	2850	12,4	63	77,5	79,5	79,0	0,74	0,83	0,87	25,0	43,0
9,3	15.500	220	2870	36,4	183	79,0	81,0	81,0	0,71	0,81	0,86	31,1	61,6
		230	2870	36,0	189	78,0	81,0	81,0	0,58	0,72	0,80	31,1	68,6
		380	2870	21,0	106	79,0	81,0	81,0	0,71	0,81	0,86	31,1	61,6
		400	2870	20,7	112	78,0	81,0	81,0	0,58	0,72	0,80	31,1	68,2
		415	2890	21,0	116	74,0	79,0	80,0	0,55	0,70	0,78	30,8	74,1
		500	2870	16,0	80	79,0	81,0	81,0	0,71	0,81	0,86	31,1	61,6
11,0	15.500	220	2860	41,5	218	80,0	82,0	81,0	0,73	0,82	0,87	37,4	72,8
		230	2860	40,4	224	78,5	81,0	81,0	0,68	0,79	0,85	37,3	78,3
		380	2860	24,0	126	80,0	82,0	81,0	0,73	0,82	0,87	37,4	72,8
		400	2860	23,3	129	78,5	81,0	81,0	0,68	0,79	0,85	37,3	78,3
		415	2870	24,1	136	74,5	78,5	79,5	0,61	0,74	0,81	37,2	84,8
		500	2860	18,2	96	80,0	82,0	81,0	0,73	0,82	0,87	37,4	72,8
15,0	15.500	220	2850	55,0	283	81,0	83,0	82,0	0,76	0,84	0,86	50,0	104,0
		230	2860	54,2	289	79,0	81,5	81,0	0,70	0,80	0,85	49,9	107,3
		380	2850	32,0	164	81,0	83,0	82,0	0,76	0,84	0,86	50,0	104,0
		400	2860	31,3	169	79,0	81,5	81,0	0,70	0,80	0,85	49,9	107,3
		415	2870	31,0	179	77,0	81,0	81,0	0,65	0,77	0,83	49,6	116,6
		500	2850	24,3	124	81,0	83,0	82,0	0,76	0,84	0,86	50,0	104,0
18,5	15.500	220	2850	69,2	380	82,0	83,0	82,0	0,76	0,84	0,87	62,4	139,7
		230	2860	66,7	392	80,0	82,5	82,0	0,68	0,79	0,85	62,4	159,6
		380	2850	40,0	220	82,0	83,0	82,0	0,76	0,84	0,87	62,4	139,7
		400	2850	38,5	231	80,0	82,5	82,0	0,68	0,79	0,85	62,4	154,6
		415	2850	38,5	240	78,5	81,5	82,0	0,64	0,76	0,83	62,1	166,8
		500	2850	30,5	168	82,0	83,0	82,0	0,76	0,84	0,87	62,4	139,7
22	15.500	220	2840	81,2	441	82,0	83,0	82,0	0,78	0,86	0,88	75,3	160,0
		230	2860	78,5	455	81,0	83,0	83,0	0,71	0,81	0,86	74,7	177,6
		380	2840	47,0	255	82,0	83,0	82,0	0,78	0,86	0,88	75,3	160,0
		400	2860	45,3	268	81,0	83,0	83,0	0,71	0,81	0,86	74,7	177,6
		415	2870	45,0	278	79,5	82,5	82,5	0,66	0,78	0,84	74,5	189,9
		500	2840	35,8	194	82,0	83,0	82,0	0,78	0,86	0,88	75,3	160,0
30	27.500	220	2860	111	645	83,0	83,5	82,5	0,74	0,82	0,85	99,6	237,4
		230	2860	107	670	80,5	83,0	83,0	0,67	0,79	0,84	99,4	263,1
		380	2860	64,1	373	83,0	83,5	82,5	0,74	0,82	0,85	99,6	237,4
		400	2860	63,5	393	80,5	83,0	83,0	0,67	0,79	0,84	99,4	263,1
		415	2880	64,5	407	79,0	82,0	82,5	0,62	0,74	0,81	99,0	283,5
		500	2860	49,0	283	83,0	83,5	82,5	0,74	0,82	0,85	99,6	237,4
37	45.000	380	2850	80,1	387	77	80,0	81,0	0,75	0,82	0,87	124,8	269,8
		400	2870	77,9	411	76	80,0	81,0	0,68	0,78	0,85	124,5	269,8
		415	2880	77,9	423	75	79,0	81,0	0,64	0,75	0,82	123,8	269,8
45	45.000	380	2850	95,5	480	79	81,0	82,0	0,76	0,83	0,87	150,5	287,4
		400	2870	93,9	509	78	80,0	82,0	0,72	0,79	0,84	149,1	325,4
		415	2880	93,2	531	77	80,0	82,0	0,68	0,77	0,82	149,1	355,2

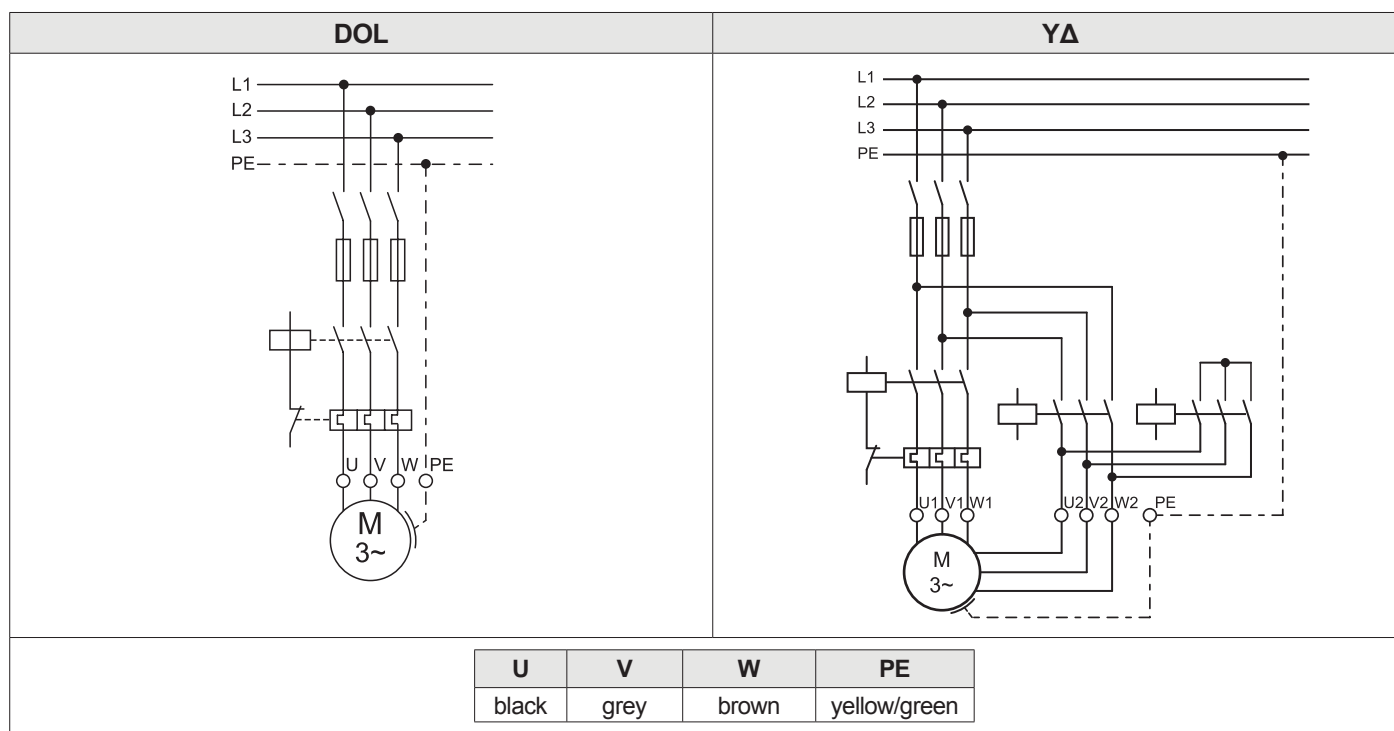
# 6" Encapsulated Motors



## Winding Resistances 50 Hz

P <sub>N</sub> kW	U <sub>N</sub> [V]	3 ~ DOL		3 ~ YΔ	
		Stator Ref.	U - V / Ohm V - W / Ohm U - W / Ohm	Stator Ref.	U <sub>1</sub> - U <sub>2</sub> / Ohm V <sub>1</sub> - V <sub>2</sub> / Ohm W <sub>1</sub> - W <sub>2</sub> / Ohm
4.0	220, 230	336 694 ...	1.20 - 1.40	336 740 ...	1.75 - 2.15
	380 - 415	336 327 ...	3.40 - 4.20	336 747 ...	5.40 - 6.60
	500	336 787 ...	5.80 - 7.10	337 224 ...	9.00 - 11.0
5.5	220, 230	336 695 ...	0.72 - 0.90	336 741 ...	1.10 - 1.30
	380 - 415	336 328 ...	2.20 - 2.70	336 748 ...	3.70 - 4.50
	500	336 788 ...	4.00 - 4.90	337 225 ...	6.28 - 7.70
7.5	220, 230	336 696 ...	0.59 - 0.72	336 742 ...	0.87 - 1.08
	380 - 415	336 329 ...	1.70 - 2.20	336 749 ...	2.40 - 2.90
	500	336 789 ...	3.20 - 3.90	337 226 ...	4.53 - 5.54
9.3	220, 230	338 100 ...	0.42 - 0.50	338 103 ...	0.63 - 0.77
	380 - 415	337 915 ...	1.25 - 1.55	338 061 ...	1.94 - 2.38
	500	338 220 ...	2.60 - 3.10	338 223 ...	3.27 - 4.00
11.0	220, 230	336 697 ...	0.35 - 0.44	336 743 ...	0.53 - 0.65
	380 - 415	336 330 ...	1.05 - 1.30	336 750 ...	1.64 - 2.00
	500	336 790 ...	1.80 - 2.20	337 227 ...	2.73 - 3.35
15.0	220, 230	336 698 ...	0.25 - 0.30	336 744 ...	0.38 - 0.47
	380 - 415	336 331 ...	0.75 - 0.94	336 751 ...	1.22 - 1.50
	500	336 791 ...	1.30 - 1.60	337 228 ...	2.04 - 2.50
18.5	220, 230	336 699 ...	0.20 - 0.24	336 745 ...	0.29 - 0.36
	380 - 415	336 332 ...	0.59 - 0.73	336 752 ...	0.93 - 1.15
	500	336 792 ...	1.10 - 1.34	337 229 ...	1.70 - 2.10
22.0	220, 230	336 700 ...	0.16 - 0.20	336 746 ...	0.24 - 0.30
	380 - 415	336 333 ...	0.48 - 0.60	336 753 ...	0.74 - 0.92
	500	336 793 ...	0.83 - 1.00	337 230 ...	1.26 - 1.55
30.0	220, 230			337 353 ...	0.16 - 0.20
	380 - 415	336 334 ...	0.32 - 0.40	336 754 ...	0.50 - 0.61
	500	336 794 ...	0.60 - 0.73	337 231 ...	0.91 - 1.11
37.0	380 - 415	336 710 ...	0.25 - 0.32	336 755 ...	0.36 - 0.45
45.0	380 - 415	336 336 ...	0.22 - 0.27	336 756 ...	0.33 - 0.41

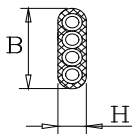
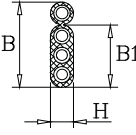
## Electrical Connection

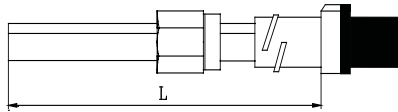




# 6" Encapsulated Motors

VDE / ACS / KTW Approved Leads\* 304 / 316SS

	Ø mm <sup>2</sup>	Motor			B (± 0,3mm)	B1 (±0,3mm)	H (± 0,3mm)
		220V	380 - 415V	500V			
	4G4 (L=4m)	4-11kW, DOL 4-22kW, YΔ	4-22 kW, DOL 4-37 kW, YΔ	4-30 kW, DOL	19,0 mm	-	7,0 mm
	3X8,4+1G8,4 (L=4m)	15-22 kW, DOL 30-37kW, YΔ	30-45 kW, DOL 45 kW, YΔ		29,5 mm	19,5 mm	8,9 mm



	Part Numbers 304	
	4G4mm <sup>2</sup>	3X8,4+1G8,4mm <sup>2</sup>
4 m	310 125 004	310 145 004
8 m	310 125 008	310 145 008
10 m	310 125 010	310 145 010
15 m	310 125 015	310 145 015
20 m	310 125 020	310 145 020
25 m	310 125 025	310 145 025
30 m	310 125 030	310 145 030
35 m	310 125 035	310 145 035
40 m	310 125 040	310 145 040
45 m	310 125 045	310 145 045
50 m	310 125 050	310 145 050
	Part Numbers 316 SS	
	4G4mm <sup>2</sup>	3X8,4+1G8,4mm <sup>2</sup>
4 m	310 125 504	310 145 504
8 m	310 125 508	310 145 508
10 m	310 125 510	310 145 510
15 m	310 125 515	310 145 515
20 m	310 125 520	310 145 520
25 m	310 125 525	310 145 525
30 m	310 125 530	310 145 530
35 m	310 125 535	310 145 535
40 m	310 125 540	310 145 540
45 m	310 125 545	310 145 545
50 m	310 125 550	310 145 550

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

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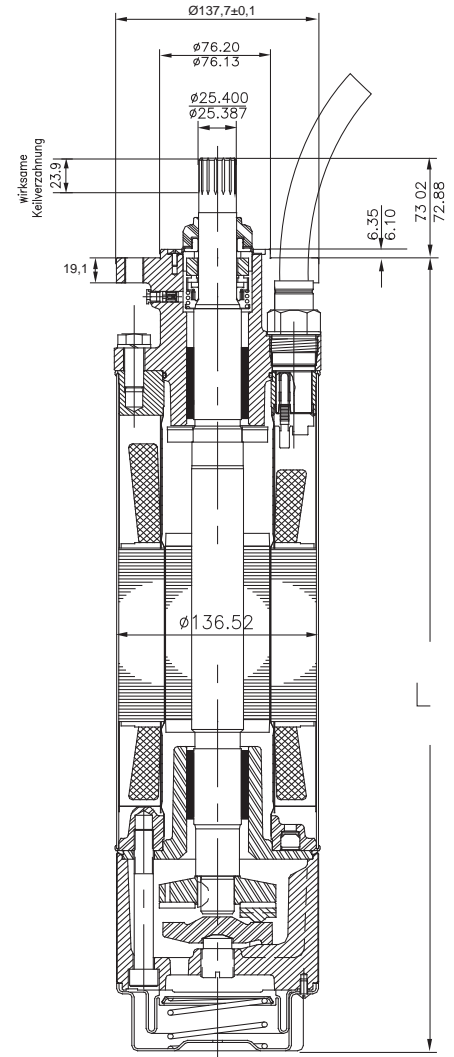
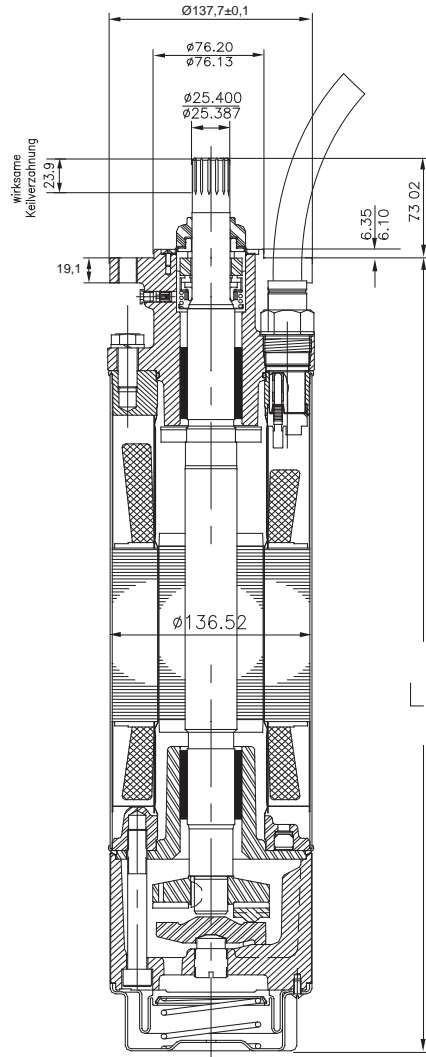
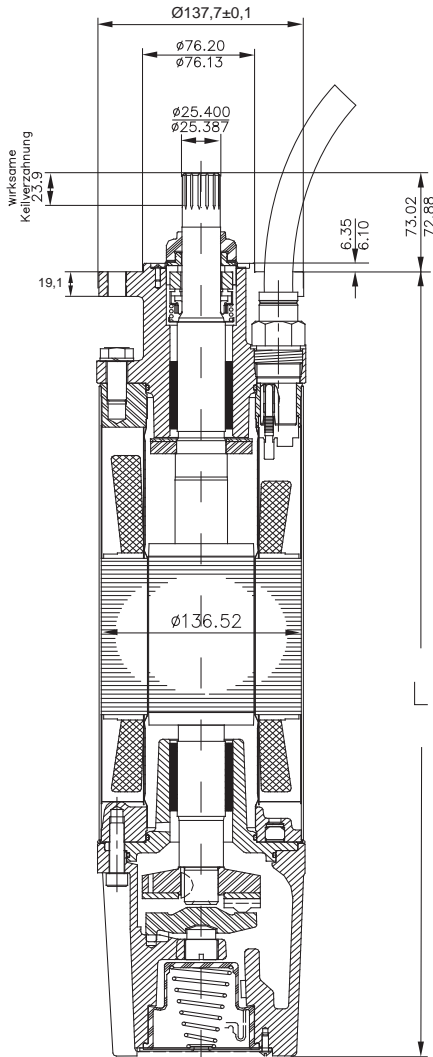


## 6" Motor Design 4 - 30 kW

### Cast Iron Version

### 304SS

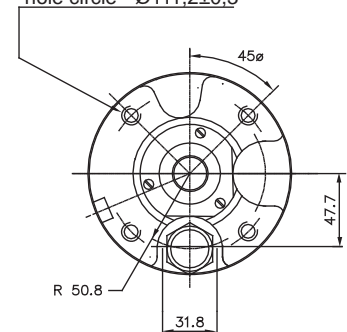
### 316SS



### Motor Sizes

P <sub>N</sub> [kW]	Cast Iron L [mm]	304SS L [mm]	316SS L [mm]	Motor Package Size [mm]	Shipping Weight [kg]	
					DOL	YΔ
4	581,2	570,7	570,7	155 x 212 x 800	41,3	40,3
5,5	614,4	604,0	604,0	155 x 212 x 800	44,9	43,9
7,5	646,2	635,8	635,8	155 x 212 x 800	49,0	48,0
9,3	678,7	668,3	668,3	155 x 212 x 1070	51,3	50,3
11	711,2	700,8	700,8	155 x 212 x 1070	54,7	53,7
15	776,2	765,8	765,8	155 x 212 x 1070	60,5	59,5
18,5	841,5	831,1	831,1	155 x 212 x 1070	67,1	66,1
22	906,5	896,1	896,1	155 x 212 x 1070	73,1	72,1
30	1036,6	1026,2	1026,2	155 x 212 x 1200	87,7	87,7

4 threaded holes  
1/2-20 UNF-2B  
hole circle - Ø111,2±0,3



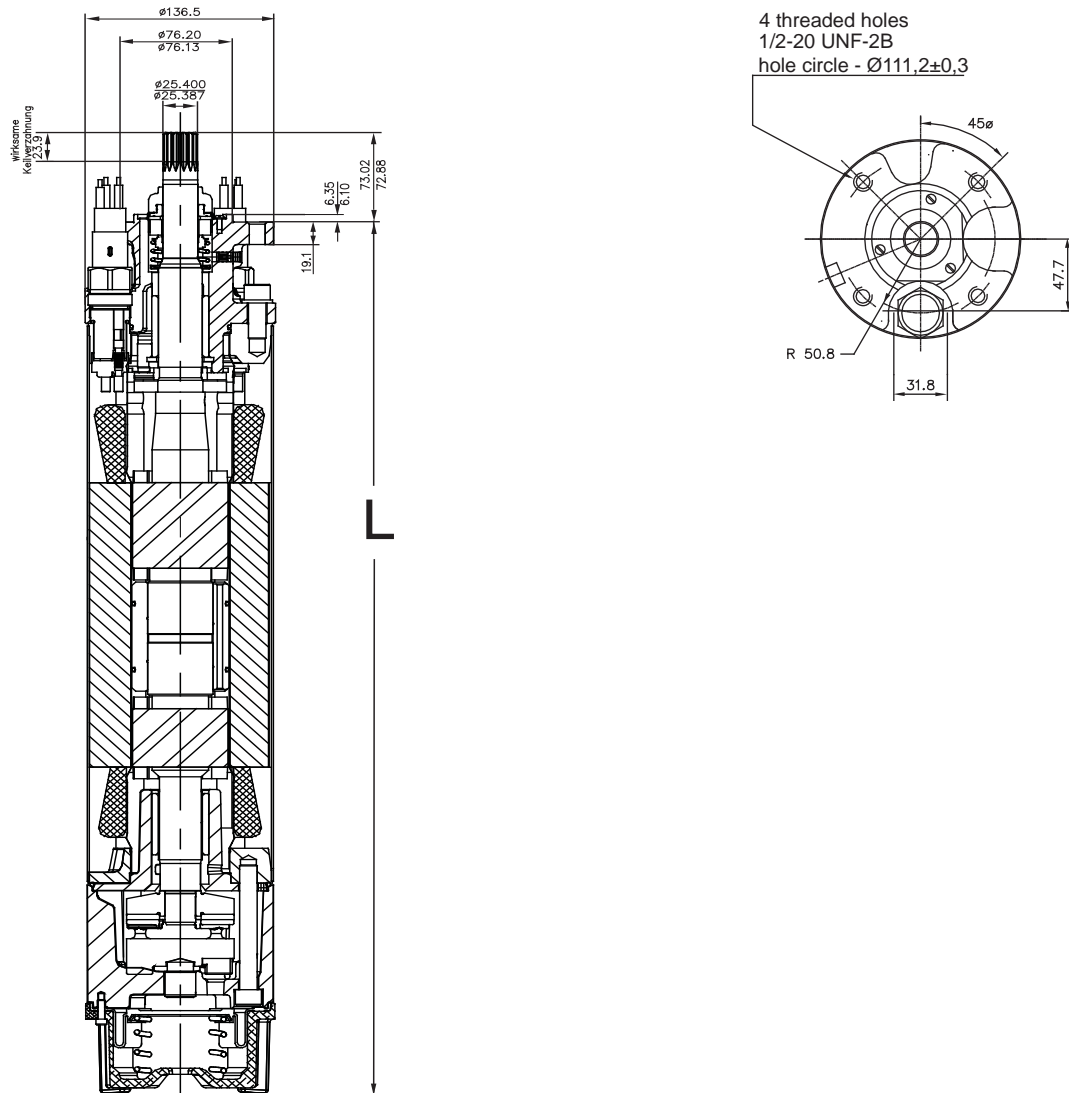




# 6" Encapsulated Motors

## 6" Motor Design 37- 45 kW

Cast Iron / 316SS



### Motor Sizes

$P_N$ [kW]	304 L [mm]	316 L [mm]	Motor Package Size [mm]	Shipping Weight [kg]
37	1476,7	1476,7	223 x 267 x 1823	140
45	1629,2	1629,2	223 x 267 x 1823	156

# 6" Encapsulated Motors

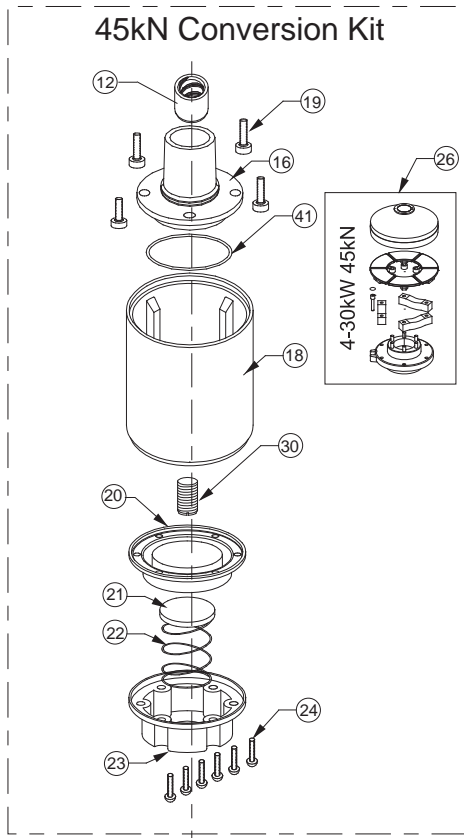
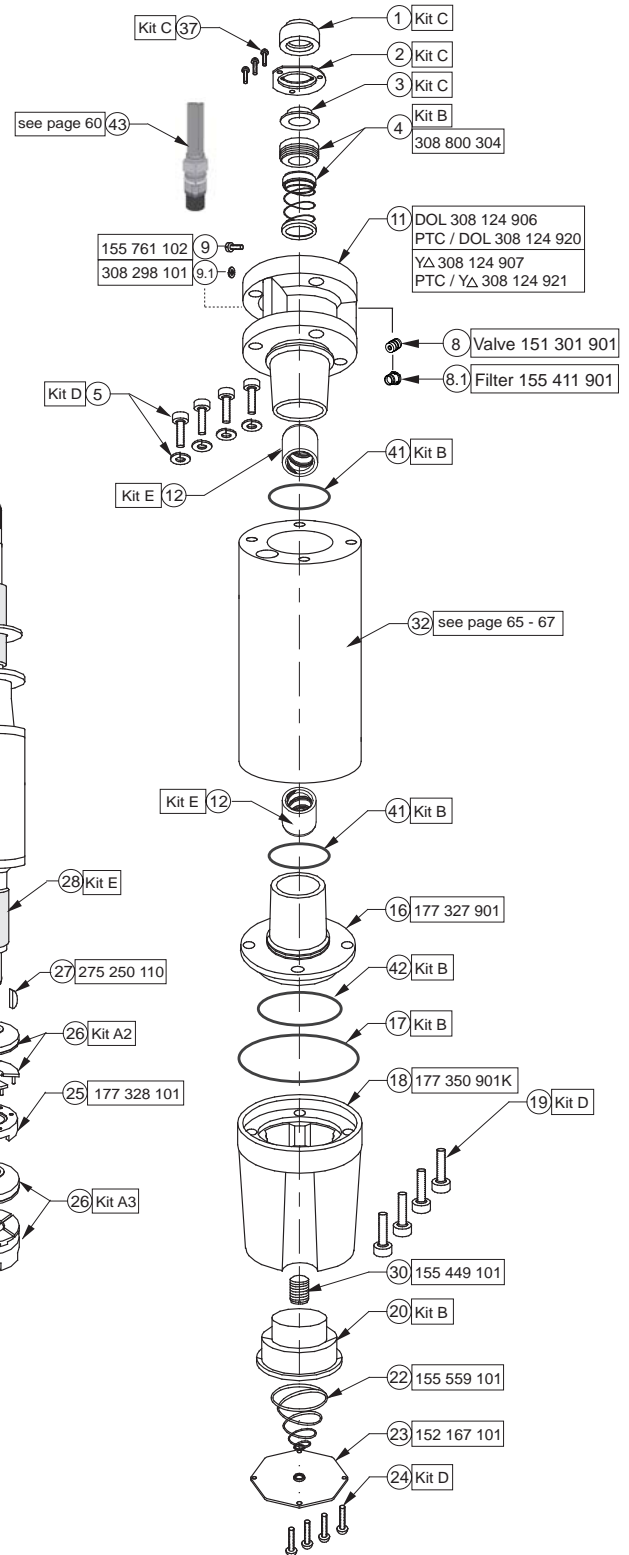


## 6" Encapsulated Cast Iron Version

4 - 30kW

Rotor Kit 6500N to 15.500N	4,0 kW	incl. Pos.: 25; 26, 29	305 330 901
	5,5 kW	incl. Pos.: 25; 26, 29	305 330 902
Kit A2 15.500N / 4-22kW	Thrust Bearing Kit	incl. Pos.: 26	308 750 120
Kit A3 27.500N / 30kW	Thrust Bearing Kit	incl. Pos.: 26	308 750 200
Kit A4	Thrust Bearing Kit 45.000N	incl. Pos.: 26	308 750 510
45kN Conversion Kit 4,0 - 30kW		incl. Pos.: 12; 16; 18; 19; 20; 21; 22; 23; 24; 26; 30; 41	308 750 500
Kit B1 4 - 30kW	Seal Kit	incl. Pos.: 4; 17; 20; 41; 42	308 800 125
Kit C1	Slinger Kit	incl. Pos.: 1; 2; 3; 37	308 725 101
Kit D3 up to 07.2002	Screw Kit	incl. Pos.: 5; 19; 24	308 659 120
Kit D4 starting 07.2002	Screw Kit	incl. Pos.: 5; 19; 24	308 659 121
Kit E* 4 - 30 kW	Radial Bearing Kit	incl. Pos.: 12; 28	308 678 101

\* Radial Bearing Parts are unfinished



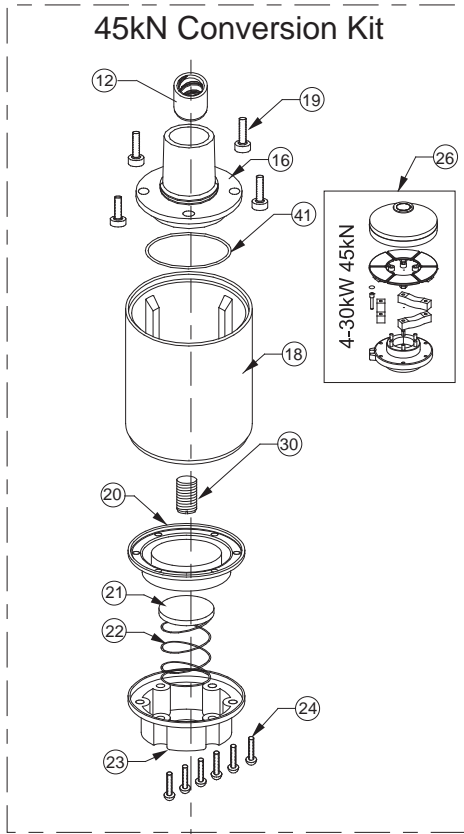
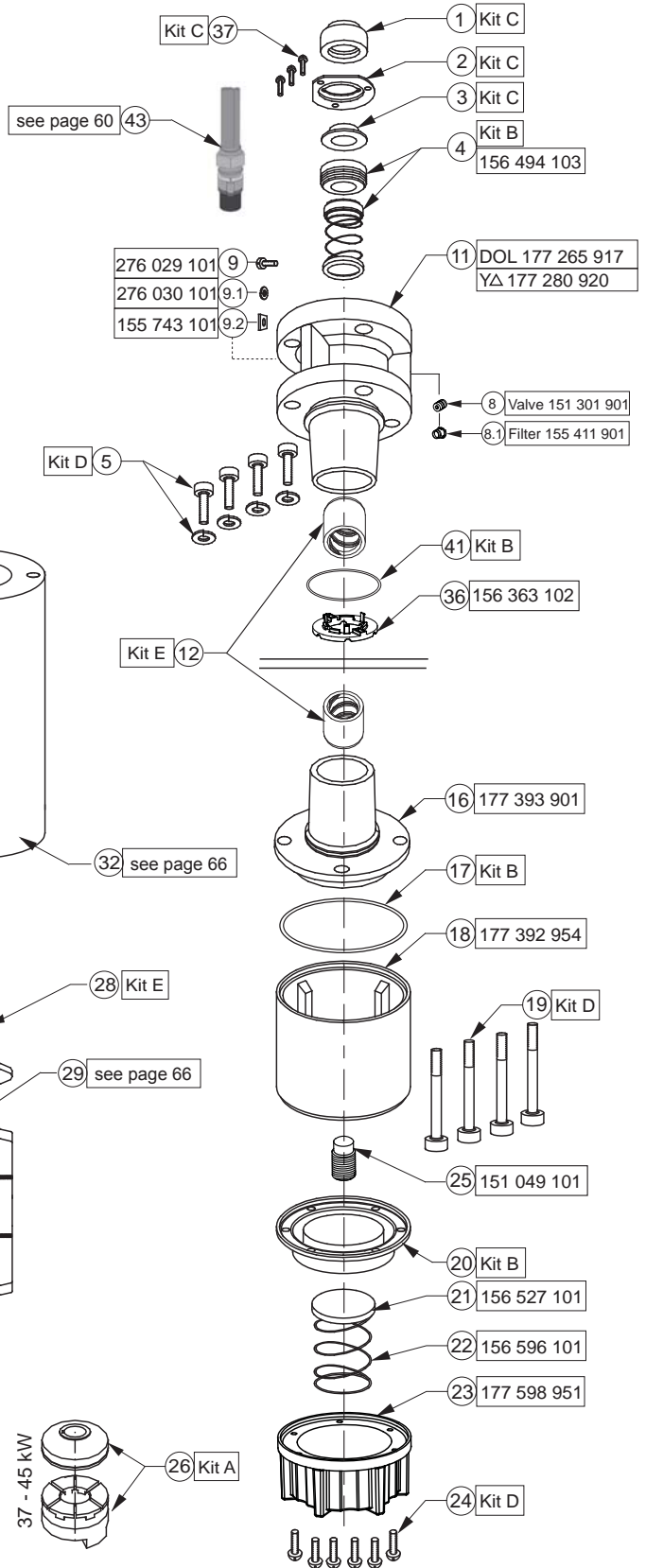


# 6" Encapsulated Motors

## 6" Encapsulated Cast Iron Version 37 - 45 Kw

Kit A3	Thrust Bearing Kit 27.500N	incl. Pos.: 26	308 750 200
Kit A4	Thrust Bearing Kit 45.000N	incl. Pos.: 26	308 750 510
45kN Conversion Kit 37 - 45kWkW		incl. Pos.: 12; 16; 18; 19; 20; 21; 22; 23; 24; 26; 30; 41	308 750 500
Kit B3	Seal Kit	incl. Pos.: 4; 17; 20; 41; 44	308 800 250
Kit C3	Slinger Kit	incl. Pos.: 1; 2; 3; 37	308 725 150
Kit D5	Screw Kit	incl. Pos.: 5; 19; 24	308 659 155
Kit E*	Radial Bearing Kit	incl. Pos.: 12; 28	308 678 101

\* Radial Bearing Parts are unfinished



# 6" Encapsulated Motors



## Replacement Stators and Rotors Cast Iron Version / 50 Hz

3 ~ ohne SubMonitor Transmitter 3 ~ without SubMonitor Transmitter	3 ~ sans transm. SubMonitor 3 ~ senza trasmettitore SubMonitor	3 ~ sin transmissor SubMonitor 3 ~ sem transmissor SubMonitor
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P <sub>N</sub> [kW]	U <sub>N</sub> [V]	Thrust F [N]	DOL		YΔ (*)		Rotor Model No.
			Motor Model No.	Stator Model No.	Motor Model No.	Stator Model No.	
4,0	220, 230	15.500	236 680 90**	305 478 927	236 670 90**	305 478 930	178 117 912K
	380, 400, 415		236 610 90**	305 478 928	236 710 90**	305 478 931	
	500		236 700 90**	305 478 929	236 790 90**	305 478 932	
5,5	220, 230	15.500	236 681 90**	305 479 930	236 671 90**	305 479 933	178 118 911K
	380, 400, 415		236 611 90**	305 479 931	236 711 90**	305 479 934	
	500		236 701 90**	305 479 932	236 791 90**	305 479 935	
7,5	220, 230	15.500	236 682 90**	305 480 932	236 672 90**	305 480 935	178 119 906K
	380, 400, 415		236 612 90**	305 480 933	236 712 90**	305 480 936	
	500		236 702 90**	305 480 934	236 792 90**	305 480 937	
9,3	220, 230	15.500	236 015 90**	305 481 921	236 005 90**	305 481 924	178 182 906K
	380, 400, 415		236 001 90**	305 481 922	236 011 90**	305 481 925	
	500		236 008 90**	305 481 923	236 018 90**	305 481 926	
11,0	220, 230	15.500	236 683 90**	305 482 933	236 673 90**	305 482 936	178 120 906K
	380, 400, 415		236 613 90**	305 482 934	236 713 90**	305 482 937	
	500		236 703 90**	305 482 935	236 793 90**	305 482 938	
15,0	220, 230	15.500	236 684 90**	305 484 933	236 674 90**	305 484 936	178 121 906K
	380, 400, 415		236 614 90**	305 484 934	236 714 90**	305 484 937	
	500		236 704 90**	305 484 935	236 794 90**	305 484 938	
18,5	220, 230	15.500	236 685 90**	305 485 930	236 675 90**	305 485 933	178 122 906K
	380, 400, 415		236 615 90**	305 485 931	236 715 90**	305 485 934	
	500		236 705 90**	305 485 932	236 795 90**	305 485 935	
22,0	220, 230	15.500	236 686 90**	305 486 934	236 676 90**	305 486 937	178 123 906K
	380, 400, 415		236 616 90**	305 486 935	236 716 90**	305 486 938	
	500		236 706 90**	305 486 936	236 796 90**	305 486 939	
30,0	220, 230	27.500			236 677 90**	305 488 923	178 115 906K
	380, 400, 415		236 617 90**	305 488 921	236 717 90**	305 488 924	
	500		236 707 90**	305 488 922	236 797 90**	305 488 925	

(\*) : Kabel 90° versetzt  
Pos. of leads 90°  
Pos. des câbles 90°

Pos. de cavi 90°  
Pos. de los cables 90°  
Pos. dos cabos 90°



# 6" Encapsulated Motors

## Replacement Stators and Rotors Cast Iron Version / 50 Hz

3 ~ mit SubMonitor Transmitter 3 ~ with SubMonitor Transmitter	3 ~ avec transm. SubMonitor 3 ~ con trasmettitore SubMonitor	3 ~ con transmissor SubMonitor 3 ~ com transmissor SubMonitor
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P <sub>N</sub> [kW]	U <sub>N</sub> [V]	Thrust F [N]	DOL		YΔ (*)		Rotor Model No.
			Motor Model No.	Stator Model No.	Motor Model No.	Stator Model No.	
4,0	220, 230	15.500	236 680 60**	305 478 907	236 670 60**	305 478 910	178 117 912K
	380, 400, 415		236 610 60**	305 478 908	236 710 60**	305 478 911	
	500		236 700 60**	305 478 909	236 790 60**	305 478 912	
5,5	220, 230	15.500	236 681 60**	305 479 910	236 671 60**	305 479 913	178 118 911K
	380, 400, 415		236 611 60**	305 479 911	236 711 60**	305 479 914	
	500		236 701 60**	305 479 912	236 791 60**	305 479 915	
7,5	220, 230	15.500	236 682 60**	305 480 912	236 672 60**	305 480 915	178 119 906K
	380, 400, 415		236 612 60**	305 480 913	236 712 60**	305 480 916	
	500		236 702 60**	305 480 914	236 792 60**	305 480 917	
9,3	220, 230	15.500	236 015 60**	305 481 901	236 005 60**	305 481 904	178 182 906K
	380, 400, 415		236 001 60**	305 481 902	236 011 60**	305 481 905	
	500		236 008 60**	305 481 903	236 018 60**	305 481 906	
11,0	220, 230	15.500	236 683 60**	305 482 913	236 673 60**	305 482 916	178 120 906K
	380, 400, 415		236 613 60**	305 482 914	236 713 60**	305 482 917	
	500		236 703 60**	305 482 915	236 793 60**	305 482 918	
15,0	220, 230	15.500	236 684 60**	305 484 913	236 674 60**	305 484 916	178 121 906K
	380, 400, 415		236 614 60**	305 484 914	236 714 60**	305 484 917	
	500		236 704 60**	305 484 915	236 794 60**	305 484 918	
18,5	220, 230	15.500	236 685 60**	305 482 910	236 675 60**	305 485 913	178 122 906K
	380, 400, 415		236 615 60**	305 485 911	236 715 60**	305 485 914	
	500		236 705 60**	305 482 912	236 795 60**	305 485 915	
22,0	220, 230	15.500	236 686 60**	305 486 914	236 676 60**	305 486 917	178 123 906K
	380, 400, 415		236 616 60**	305 486 915	236 716 60**	305 486 918	
	500		236 706 60**	305 486 916	236 796 60**	305 486 919	
30,0	220, 230	27.500			236 677 60**	305 488 907	178 115 906K
	380, 400, 415		236 617 60**	305 488 905	236 717 60**	305 488 908	
	500		236 707 60**	305 488 906	236 797 60**	305 488 909	
37,0	380, 400, 415	45.000	276 618 6161	305 489 920	276 718 6161	305 489 919	305 223 920
45,0	380, 400, 415	45.000	276 619 6161	305 490 920	276 719 6161	305 490 919	305 223 921

(\*) : **Kabel 90° versetzt**      **Pos. de cavi 90°**  
**Pos. of leads 90°**        **Pos. de los cables 90°**  
**Pos. des câbles 90°**      **Pos. dos cabos 90°**

# 6" Encapsulated Motors



## Replacement Stators and Rotors Cast Iron Version / 50 Hz

3 ~ mit PTC 3 ~ with PTC	3 ~ avec PTC 3 ~ con PTC	3 ~ con PTC 3 ~ com PTC
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P <sub>N</sub> [kW]	U <sub>N</sub> [V]	Thrust F [N]	DOL		YΔ (*)		Rotor Model No.
			Motor Model No.	Stator Model No.	Motor Model No.	Stator Model No.	
4,0	220, 230	15.500	236 680 20**	305478933	236 670 20**	305478936	178 117 912K
	380, 400, 415		236 610 20**	305478934	236 710 20**	305478937	
	500		236 700 20**	305478935	236 790 20**	305478938	
5,5	220, 230	15.500	236 681 20**	305479936	236 671 20**	305479939	178 118 911K
	380, 400, 415		236 611 20**	305479937	236 711 20**	305479940	
	500		236 701 20**	305479938	236 791 20**	305479941	
7,5	220, 230	15.500	236 682 20**	305480938	236 672 20**	305480941	178 119 906K
	380, 400, 415		236 612 20**	305480939	236 712 20**	305480942	
	500		236 702 20**	305480940	236 792 20**	305480943	
9,3	220, 230	15.500	236 015 20**	305481927	236 005 20**	305481930	178 182 906K
	380, 400, 415		236 001 20**	305481928	236 011 20**	305481931	
	500		236 008 20**	305481929	236 018 20**	305481932	
11,0	220, 230	15.500	236 683 20**	305482939	236 673 20**	305482942	178 120 906K
	380, 400, 415		236 613 20**	305482940	236 713 20**	305482943	
	500		236 703 20**	305482941	236 793 20**	305482944	
15,0	220, 230	15.500	236 684 20**	305484939	236 674 20**	305484942	178 121 906K
	380, 400, 415		236 614 20**	305484940	236 714 20**	305484943	
	500		236 704 20**	305484941	236 794 20**	305484944	
18,5	220, 230	15.500	236 685 20**	305485936	236 675 20**	305485939	178 122 906K
	380, 400, 415		236 615 20**	305485937	236 715 20**	305485940	
	500		236 705 20**	305485938	236 795 20**	305485941	
22,0	220, 230	15.500	236 686 20**	305486940	236 676 20**	305486943	178 123 906K
	380, 400, 415		236 616 20**	305486941	236 716 20**	305486944	
	500		236 706 20**	305486942	236 796 20**	305486945	
30,0	220, 230	27.500			236 677 20**	305488928	178 115 906K
	380, 400, 415		236 617 20**	305488926	236 717 20**	305488929	
	500		236 707 20**	305488927	236 797 20**	305488930	

(\*) : Kabel 90° versetzt  
Pos. of leads 90°  
Pos. des câbles 90°

Pos. de cavi 90°  
Pos. de los cables 90°  
Pos. dos cabos 90°



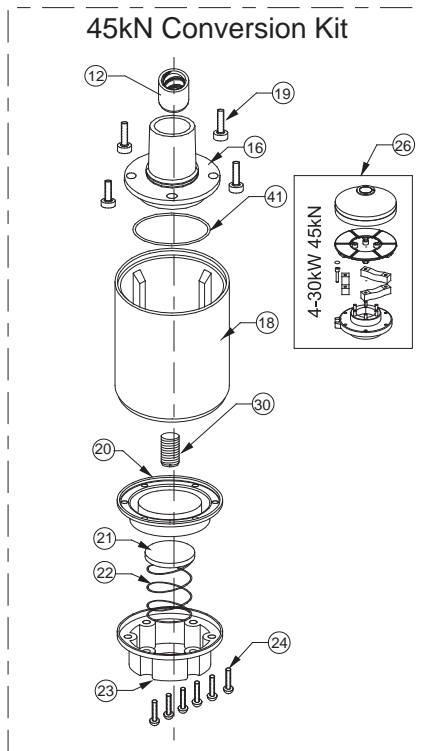
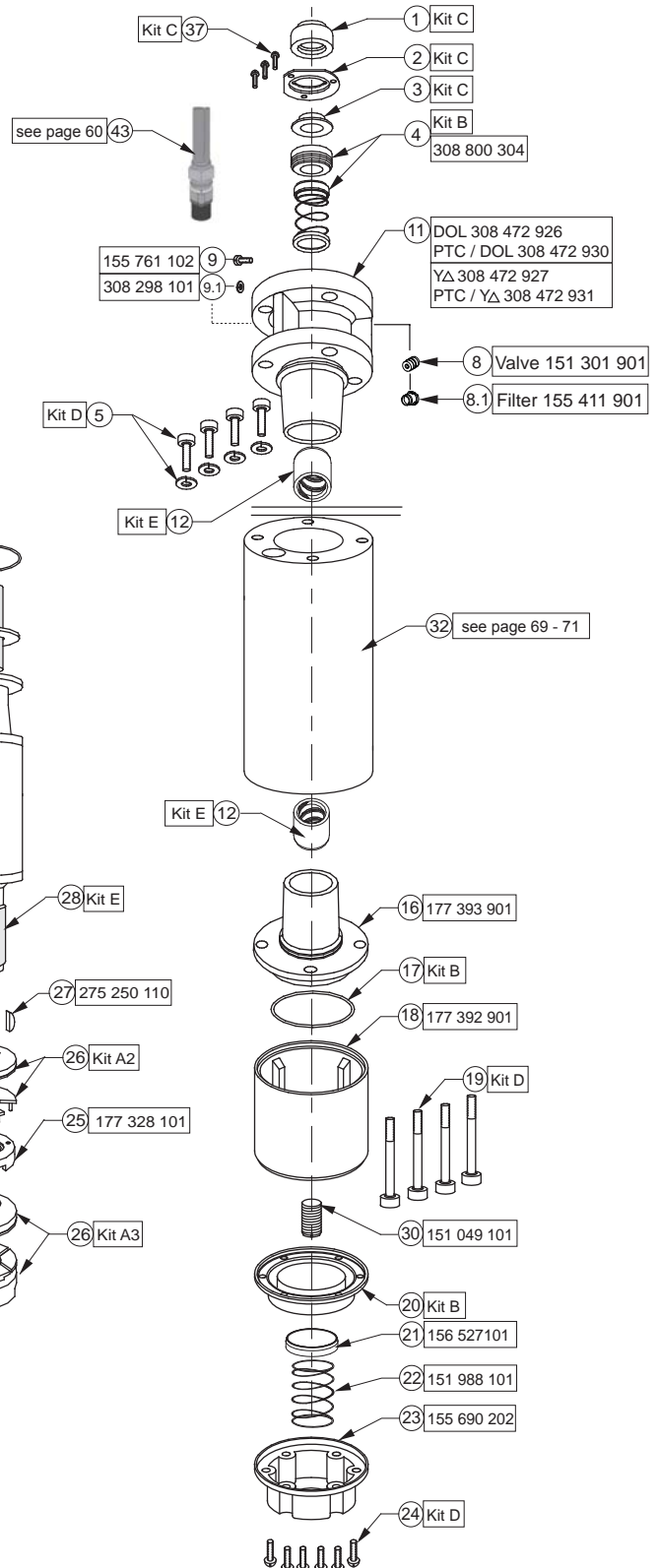
# 6" Encapsulated Motors

## 6" Encapsulated 304SS

4 - 30kW

Kit A2 15.500N / 4-22kW	Thrust Bearing Kit	incl. Pos.: 26	308 750 120
Kit A3 27.500N / 30kW	Thrust Bearing Kit	incl. Pos.: 26	308 750 200
45kN Conversion Kit 4,0 - 30kW		incl. Pos.: 12; 16; 18; 19 ; 20; 21; 22; 23; 24; 26; 30; 41	308 750 500
Kit B2 4 - 30kW	Seal Kit	incl. Pos.: 4; 17; 20; 21, 22, 41	308 800 302
Kit C2	Slinger Kit	incl. Pos.: 1; 2; 3; 37	308 725 302
Kit D4	Screw Kit	incl. Pos.: 5; 19; 24	308 659 302
Kit E* 4 - 30 kW	Radial Bearing Kit	incl. Pos.: 12; 28	308 678 101

\* Radial Bearing Parts are unfinished



# 6" Encapsulated Motors



## Replacement Stators and Rotors 304SS / 50 Hz

3 ~ ohne SubMonitor Transmitter 3 ~ without SubMonitor Transmitter	3 ~ sans transm. SubMonitor 3 ~ senza trasmettitore SubMonitor	3 ~ sin transmissor SubMonitor 3 ~ sem transmissor SubMonitor
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P <sub>N</sub> [kW]	Volts	Thrust F [N]	DOL		Y <sub>Δ</sub> (*)		Rotor Model No.
			Motor Model No.	Stator Model No.	Motor Model No.	Stator Model No.	
4,0	220, 230	15.500	236 680 10**	305 478 ***	236 670 10**	305 478 ***	178 117 912K
	380, 400, 415		236 610 10**	305 478 ***	236 710 10**	305 478 ***	
	500		236 700 10**	305 478 ***	236 790 10**	305 478 ***	
5,5	220, 230	15.500	236 681 10**	305 479 ***	236 671 10**	305 479 ***	178 118 911K
	380, 400, 415		236 611 10**	305 479 ***	236 711 10**	305 479 ***	
	500		236 701 10**	305 479 ***	236 791 10**	305 479 ***	
7,5	220, 230	15.500	236 682 10**	305 480 ***	236 672 10**	305 480 ***	178 119 906K
	380, 400, 415		236 612 10**	305 480 ***	236 712 10**	305 480 ***	
	500		236 702 10**	305 480 ***	236 792 10**	305 480 ***	
9,3	220, 230	15.500	236 015 10**	305 481 ***	236 005 10**	305 481 ***	178 182 906K
	380, 400, 415		236 001 10**	305 481 ***	236 011 10**	305 481 ***	
	500		236 008 10**	305 481 ***	236 018 10**	305 481 ***	
11,0	220, 230	15.500	236 683 10**	305 482 ***	236 673 10**	305 482 ***	178 120 906K
	380, 400, 415		236 613 10**	305 482 ***	236 713 10**	305 482 ***	
	500		236 703 10**	305 482 ***	236 793 10**	305 482 ***	
15,0	220, 230	15.500	236 684 10**	305 484 ***	236 674 10**	305 484 ***	178 121 906K
	380, 400, 415		236 614 10**	305 484 ***	236 714 10**	305 484 ***	
	500		236 704 10**	305 484 ***	236 794 10**	305 484 ***	
18,5	220, 230	15.500	236 685 10**	305 485 ***	236 675 10**	305 485 ***	178 122 906K
	380, 400, 415		236 615 10**	305 485 ***	236 715 10**	305 485 ***	
	500		236 705 10**	305 485 ***	236 795 10**	305 485 ***	
22,0	220, 230	15.500	236 686 10**	305 486 ***	236 676 10**	305 486 ***	178 123 906K
	380, 400, 415		236 616 10**	305 486 ***	236 716 10**	305 486 ***	
	500		236 706 10**	305 486 ***	236 796 10**	305 486 ***	
30,0	220, 230	27.500			236 677 10**	305 488 ***	178 115 906K
	380, 400, 415		236 617 10**	305 488 ***	236 717 10**	305 488 ***	
	500		236 707 10**	305 488 ***	236 797 10**	305 488 ***	

(\*) : **Kabel 90° versetzt**      **Pos. de cavi 90°**  
**Pos. of leads 90°**        **Pos. de los cables 90°**  
**Pos. des câbles 90°**      **Pos. dos cabos 90°**





# 6" Encapsulated Motors

## Replacement Stators and Rotors 304SS / 50 Hz

3 ~ mit SubMonitor Transmitter  
3 ~ with SubMonitor Transmitter

3 ~ avec transm. SubMonitor  
3 ~ con trasmettitore SubMonitor

3 ~ con transmissor SubMonitor  
3 ~ com transmissor SubMonitor

P <sub>N</sub> [kW]	Volts	Thrust F [N]	DOL		Y <sub>Δ</sub> (*)		Rotor Model No.
			Motor Model No.	Stator Model No.	Motor Model No.	Stator Model No.	
4,0	220, 230	15.500	236 680 11**	305 478 ***	236 670 11**	305 478 ***	178 117 912K
	380, 400, 415		236 610 11**	305 478 ***	236 710 11**	305 478 ***	
	500		236 700 11**	305 478 ***	236 790 11**	305 478 ***	
5,5	220, 230	15.500	236 681 11**	305 479 ***	236 671 11**	305 479 ***	178 118 911K
	380, 400, 415		236 611 11**	305 479 ***	236 711 11**	305 479 ***	
	500		236 701 11**	305 479 ***	236 791 11**	305 479 ***	
7,5	220, 230	15.500	236 682 11**	305 480 ***	236 672 11**	305 480 ***	178 119 906K
	380, 400, 415		236 612 11**	305 480 ***	236 712 11**	305 480 ***	
	500		236 702 11**	305 480 ***	236 792 11**	305 480 ***	
9,3	220, 230	15.500	236 015 11**	305 481 ***	236 005 11**	305 481 ***	178 182 906K
	380, 400, 415		236 001 11**	305 481 ***	236 011 11**	305 481 ***	
	500		236 008 11**	305 481 ***	236 018 11**	305 481 ***	
11,0	220, 230	15.500	236 683 11**	305 482 ***	236 673 11**	305 482 ***	178 120 906K
	380, 400, 415		236 613 11**	305 482 ***	236 713 11**	305 482 ***	
	500		236 703 11**	305 482 ***	236 793 11**	305 482 ***	
15,0	220, 230	15.500	236 684 11**	305 484 ***	236 674 11**	305 484 ***	178 121 906K
	380, 400, 415		236 614 11**	305 484 ***	236 714 11**	305 484 ***	
	500		236 704 11**	305 484 ***	236 794 11**	305 484 ***	
18,5	220, 230	15.500	236 685 11**	305 485 ***	236 675 11**	305 485 ***	178 122 906K
	380, 400, 415		236 615 11**	305 485 ***	236 715 11**	305 485 ***	
	500		236 705 11**	305 485 ***	236 795 11**	305 485 ***	
22,0	220, 230	15.500	236 686 11**	305 486 ***	236 676 11**	305 486 ***	178 123 906K
	380, 400, 415		236 616 11**	305 486 ***	236 716 11**	305 486 ***	
	500		236 706 11**	305 486 ***	236 796 11**	305 486 ***	
30,0	220, 230	27.500			236 677 11**	305 488 ***	178 115 906K
	380, 400, 415		236 617 11**	305 488 ***	236 717 11**	305 488 ***	
	500		236 707 11**	305 488 ***	236 797 11**	305 488 ***	

(\*) : Kabel 90° versetzt  
Pos. of leads 90°  
Pos. des câbles 90°

Pos. de cavi 90°  
Pos. de los cables 90°  
Pos. dos cabos 90°

# 6" Encapsulated Motors



## Replacement Stators and Rotors 304SS / 50 Hz

3 ~ mit PTC  
3 ~ with PTC

3 ~ avec PTC  
3 ~ con PTC

3 ~ con PTC  
3 ~ com PTC

P <sub>N</sub> [kW]	Volts	Thrust F [N]	DOL		Y <sub>Δ</sub> (*)		Rotor Model No.
			Motor Model No.	Stator Model No.	Motor Model No.	Stator Model No.	
4,0	220, 230	15.500	236 680 12**	305 478 ***	236 670 12**	305 478 ***	178 117 912K
	380, 400, 415		236 610 12**	305 478 ***	236 710 12**	305 478 ***	
	500		236 700 12**	305 478 ***	236 790 12**	305 478 ***	
5,5	220, 230	15.500	236 681 12**	305 479 ***	236 671 12**	305 479 ***	178 118 911K
	380, 400, 415		236 611 12**	305 479 ***	236 711 12**	305 479 ***	
	500		236 701 12**	305 479 ***	236 791 12**	305 479 ***	
7,5	220, 230	15.500	236 682 12**	305 480 ***	236 672 12**	305 480 ***	178 119 906K
	380, 400, 415		236 612 12**	305 480 ***	236 712 12**	305 480 ***	
	500		236 702 12**	305 480 ***	236 792 12**	305 480 ***	
9,3	220, 230	15.500	236 015 12**	305 481 ***	236 005 12**	305 481 ***	178 182 906K
	380, 400, 415		236 001 12**	305 481 ***	236 011 12**	305 481 ***	
	500		236 008 12**	305 481 ***	236 018 12**	305 481 ***	
11,0	220, 230	15.500	236 683 12**	305 482 ***	236 673 12**	305 482 ***	178 120 906K
	380, 400, 415		236 613 12**	305 482 ***	236 713 12**	305 482 ***	
	500		236 703 12**	305 482 ***	236 793 12**	305 482 ***	
15,0	220, 230	15.500	236 684 12**	305 484 ***	236 674 12**	305 484 ***	178 121 906K
	380, 400, 415		236 614 12**	305 484 ***	236 714 12**	305 484 ***	
	500		236 704 12**	305 484 ***	236 794 12**	305 484 ***	
18,5	220, 230	15.500	236 685 12**	305 485 ***	236 675 12**	305 485 ***	178 122 906K
	380, 400, 415		236 615 12**	305 485 ***	236 715 12**	305 485 ***	
	500		236 705 12**	305 485 ***	236 795 12**	305 485 ***	
22,0	220, 230	15.500	236 686 12**	305 486 ***	236 676 12**	305 486 ***	178 123 906K
	380, 400, 415		236 616 12**	305 486 ***	236 716 12**	305 486 ***	
	500		236 706 12**	305 486 ***	236 796 12**	305 486 ***	
30,0	220, 230	27.500			236 677 12**	305 488 ***	178 115 906K
	380, 400, 415		236 617 12**	305 488 ***	236 717 12**	305 488 ***	
	500		236 707 12**	305 488 ***	236 797 12**	305 488 ***	

(\*) : Kabel 90° versetzt  
Pos. of leads 90°  
Pos. des câbles 90°

Pos. de cavi 90°  
Pos. de los cables 90°  
Pos. dos cabos 90°



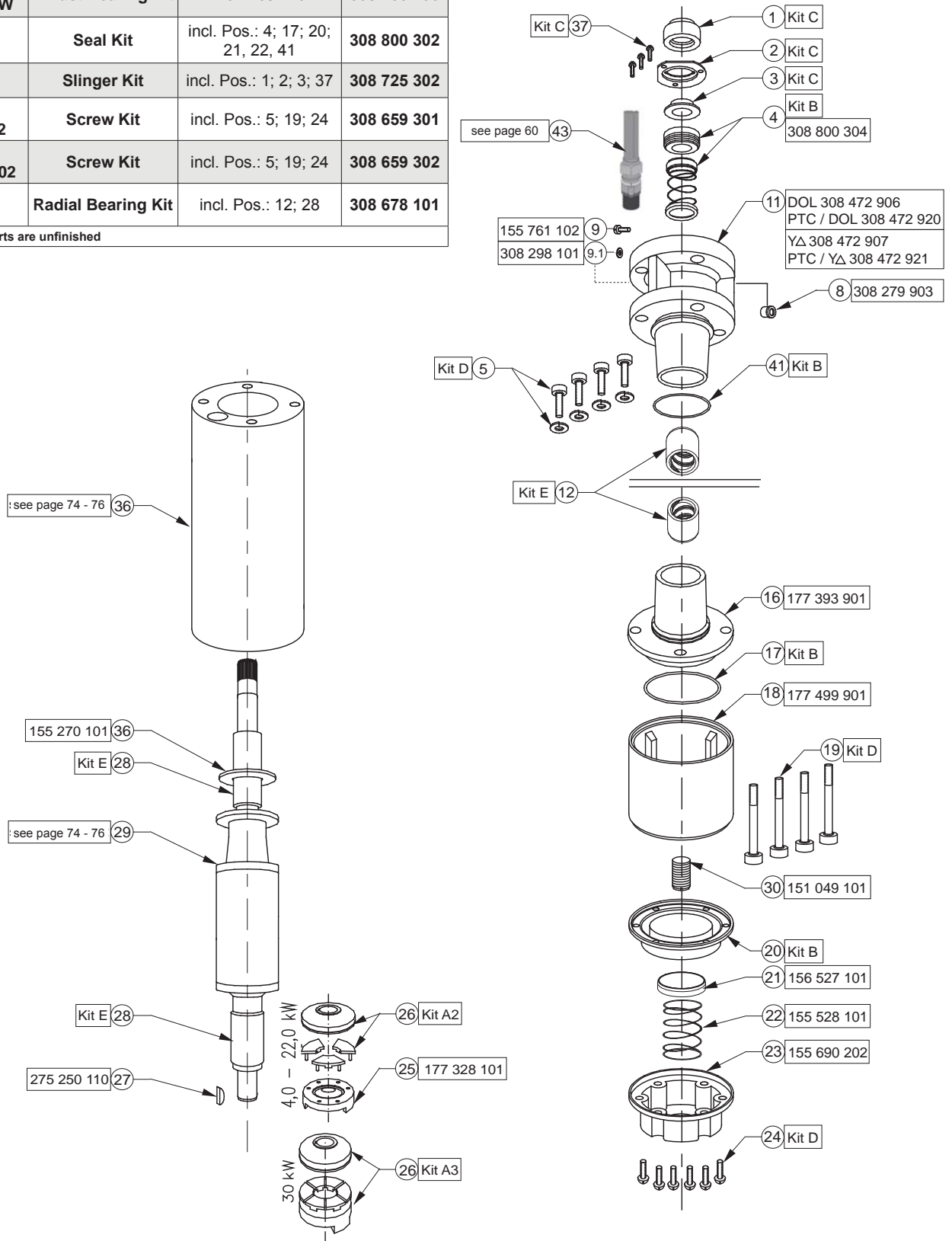
# 6" Encapsulated Motors

## 6" Encapsulated 316SS

4- 30 kW

Rotor Kit 6500N to 15.500N	4,0 kW	incl. Pos.: 25; 26, 29	305 330 911
	5,5 kW	incl. Pos.: 25; 26, 29	305 330 912
Kit A2 15.500N / 4-22kW	Thrust Bearing Kit	incl. Pos.: 26	308 750 120
Kit A3 27.500N / 30kW	Thrust Bearing Kit	incl. Pos.: 26	308 750 200
Kit B2 4 - 30kW	Seal Kit	incl. Pos.: 4; 17; 20; 21, 22, 41	308 800 302
Kit C2	Slinger Kit	incl. Pos.: 1; 2; 3; 37	308 725 302
Kit D3 up to 07.2002	Screw Kit	incl. Pos.: 5; 19; 24	308 659 301
Kit D4 starting 07.2002	Screw Kit	incl. Pos.: 5; 19; 24	308 659 302
Kit E* 4 - 30 kW	Radial Bearing Kit	incl. Pos.: 12; 28	308 678 101

\* Radial Bearing Parts are unfinished



# 6" Encapsulated Motors



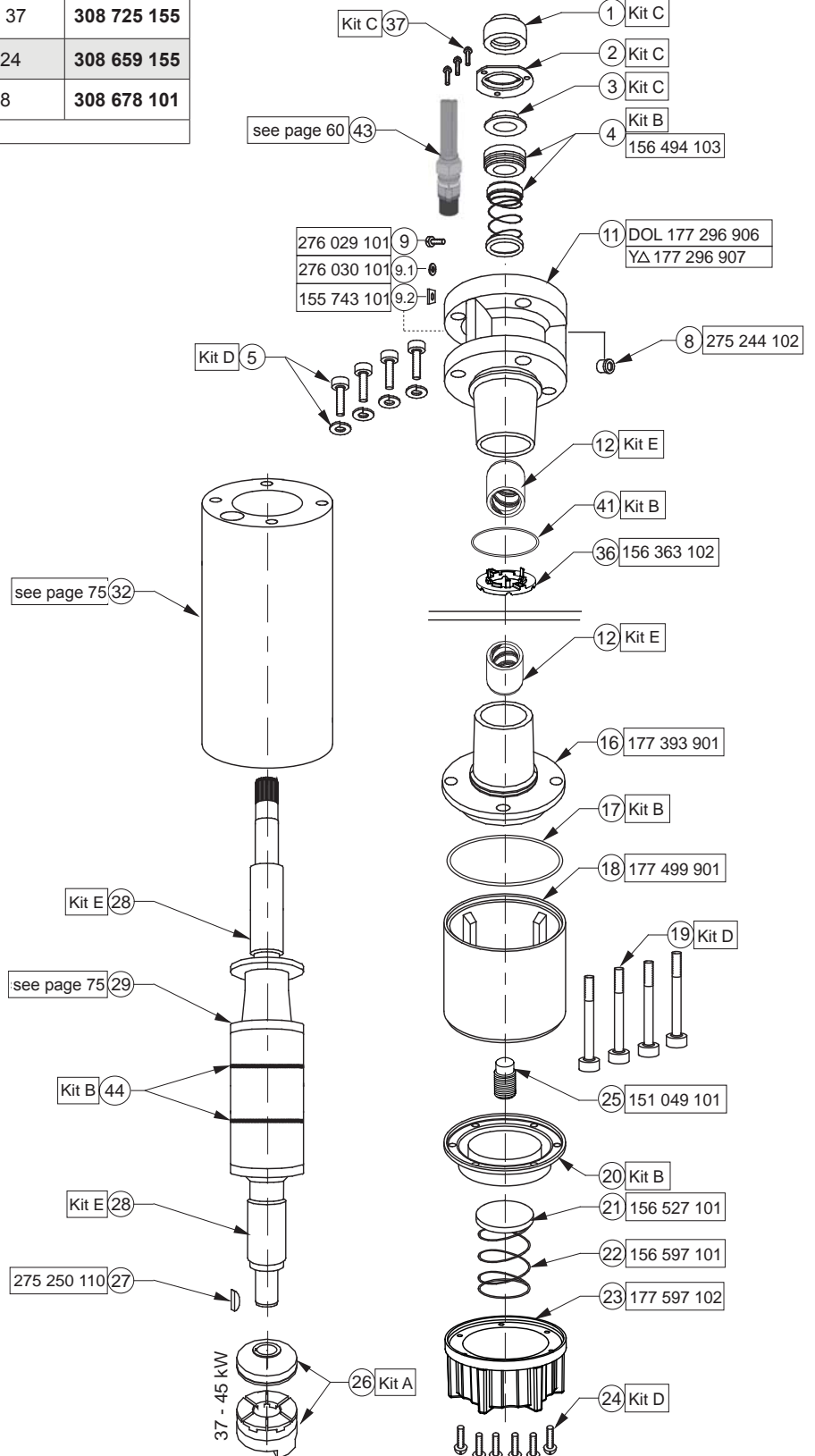
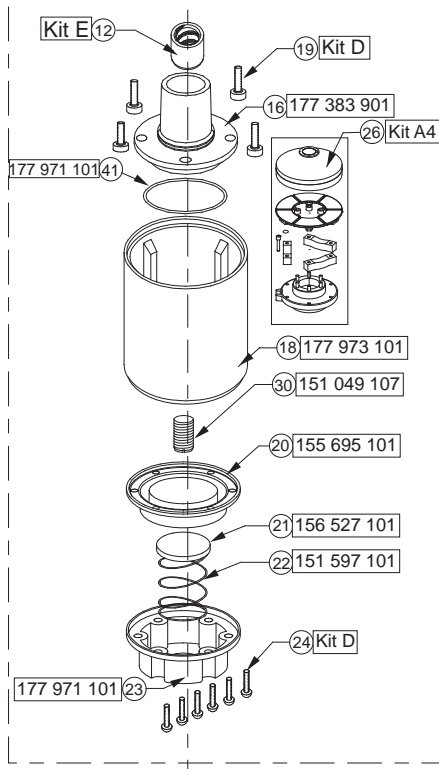
## 6" Encapsulated 316SS

37- 45 kW

Kit A3	Thrust Bearing Kit 27.500N	incl. Pos.: 26	308 750 200
Kit A4	Thrust Bearing Kit 45.000N	incl. Pos.: 26	308 750 510
Kit B3	Seal Kit	incl. Pos.: 4; 17; 20; 41; 44	308 800 250
Kit C4	Slinger Kit	incl. Pos.: 1; 2; 3; 37	308 725 155
Kit D5	Screw Kit	incl. Pos.: 5; 19; 24	308 659 155
Kit E*	Radial Bearing Kit	incl. Pos.: 12; 28	308 678 101

\* Radial Bearing Parts are unfinished

### 45kN Version Conversion Parts





# 6" Encapsulated Motors

## Replacement Stators and Rotors 316SS / 50 Hz

3 ~ ohne SubMonitor Transmitter 3 ~ without SubMonitor Transmitter	3 ~ sans transm. SubMonitor 3 ~ senza trasmettitore SubMonitor	3 ~ sin transmissor SubMonitor 3 ~ sem transmissor SubMonitor
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P <sub>N</sub> [kW]	U <sub>N</sub> [V]	Thrust (N)	DOL		YΔ (*)		Rotor Model No.
			Motor Model No.	Stator Model No.	Motor Model No.	Stator Model No.	
4,0	220, 230	15.500	236 680 39**	305478917	236 670 39**	305478920	178 117 913K
	380 - 415		236 610 39**	305478918	236 710 39**	305478921	
	500		236 700 39**	305478919	236 790 39**	305478922	
5,5	220, 230	15.500	236 681 39**	305479920	236 671 39**	305479923	178 118 912K
	380 - 415		236 611 39**	305479921	236 711 39**	305479924	
	500		236 701 39**	305479922	236 791 39**	305479925	
7,5	220, 230	15.500	236 682 39**	305480922	236 672 39**	305480925	178 119 908K
	380 - 415		236 612 39**	305480923	236 712 39**	305480926	
	500		236 702 39**	305480924	236 792 39**	305480927	
9,3	220, 230	15.500	236 015 39**	305481911	236 005 39**	305481914	178 182 907K
	380 - 415		236 001 39**	305481912	236 011 39**	305481915	
	500		236 008 39**	305481913	236 018 39**	305481916	
11,0	220, 230	15.500	236 683 39**	305482923	236 673 39**	305482926	178 120 908K
	380 - 415		236 613 39**	305482924	236 713 39**	305482927	
	500		236 703 39**	305482925	236 793 39**	305482928	
15,0	220, 230	15.500	236 684 39**	305484923	236 674 39**	305484926	178 121 907K
	380 - 415		236 614 39**	305484924	236 714 39**	305484927	
	500		236 704 39**	305484925	236 794 39**	305484928	
18,5	220, 230	15.500	236 685 39**	305485920	236 675 39**	305485923	178 122 907K
	380 - 415		236 615 39**	305485921	236 715 39**	305485924	
	500		236 705 39**	305485922	236 795 39**	305485926	
22,0	220, 230	15.500	236 686 39**	305486924	236 676 39**	305486927	178 123 907K
	380 - 415		236 616 39**	305486925	236 716 39**	305486928	
	500		236 706 39**	305486926	236 796 39**	305486929	
30,0	220, 230	27.500			236 677 39**	305488915	178 115 906K
	380 - 415		236 617 39**	305488913	236 717 39**	305488916	
	500		236 707 39**	305488914	236 797 39**	305488917	

(\*) : **Kabel 90° versetzt**      **Pos. de cavi 90°**  
**Pos. of leads 90°**        **Pos. de los cables 90°**  
**Pos. des câbles 90°**      **Pos. dos cabos 90°**

# 6" Encapsulated Motors



## Replacement Stators and Rotors 316SS / 50 Hz

3 ~ mit SubMonitor Transmitter 3 ~ with SubMonitor Transmitter	3 ~ avec transm. SubMonitor 3 ~ con trasmettitore SubMonitor	3 ~ con transmissor SubMonitor 3 ~ com transmissor SubMonitor
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P <sub>N</sub> [kW]	U <sub>N</sub> [V]	Thrust F (N)	DOL		YΔ (*)		Rotor Model No.
			Motor Model No.	Stator Model No.	Motor Model No.	Stator Model No.	
4,0	220, 230	15.500	236 680 40**	305 478 947	236 670 40**	305 478 950	178 117 913K
	380 - 415		236 610 40**	305 478 948	236 710 40**	305 478 951	
	500		236 700 40**	305 478 949	236 790 40**	305 478 952	
5,5	220, 230	15.500	236 681 40**	305 479 950	236 671 40**	305 479 953	178 118 912K
	380 - 415		236 611 40**	305 479 951	236 711 40**	305 479 954	
	500		236 701 40**	305 479 952	236 791 40**	305 479 955	
7,5	220, 230	15.500	236 682 40**	305 480 952	236 672 40**	305 480 955	178 119 908K
	380 - 415		236 612 40**	305 480 953	236 712 40**	305 480 956	
	500		236 702 40**	305 480 954	236 792 40**	305 480 957	
9,3	220, 230	15.500	236 015 40**	305 481 941	236 005 40**	305 481 944	178 182 907K
	380 - 415		236 001 40**	305 481 942	236 011 40**	305 481 945	
	500		236 008 40**	305 481 943	236 018 40**	305 481 946	
11,0	220, 230	15.500	236 683 40**	305 482 953	236 673 40**	305 482 956	178 120 908K
	380 - 415		236 613 40**	305 482 954	236 713 40**	305 482 957	
	500		236 703 40**	305 482 955	236 793 40**	305 482 958	
15,0	220, 230	15.500	236 684 40**	305 484 953	236 674 40**	305 484 956	178 121 907K
	380 - 415		236 614 40**	305 484 954	236 714 40**	305 484 957	
	500		236 704 40**	305 484 955	236 794 40**	305 484 958	
18,5	220, 230	15.500	236 685 40**	305 485 950	236 675 40**	305 485 953	178 122 907K
	380 - 415		236 615 40**	305 485 951	236 715 40**	305 485 954	
	500		236 705 40**	305 485 952	236 795 40**	305 485 955	
22,0	220, 230	15.500	236 686 40**	305 486 954	236 676 40**	305 486 957	178 123 907K
	380 - 415		236 616 40**	305 486 955	236 716 40**	305 486 958	
	500		236 706 40**	305 486 956	236 796 40**	305 486 959	
30,0	220, 230	27.500			236 677 40**	305 488 939	178 115 906K
	380 - 415		236 617 40**	305 488 937	236 717 40**	305 488 940	
	500		236 707 40**	305 488 938	236 797 40**	305 488 941	
37,0	380 - 415	45.000	276 618 6361X	338 710 908	276 718 6361X	336 755 906	178 116 922K
45,0	380 - 415	45.000	276 619 6361X	305 490 921	276 719 6361X	336 756 103	178 116 923K

(\*) : **Kabel 90° versetzt**      **Pos. de cavi 90°**  
**Pos. of leads 90°**        **Pos. de los cables 90°**  
**Pos. des câbles 90°**      **Pos. dos cabos 90°**



# 6" Encapsulated Motors

## Replacement Stators and Rotors 316SS / 50 Hz

3 ~ mit PTC 3 ~ with PTC	3 ~ avec PTC 3 ~ con PTC	3 ~ con PTC 3 ~ com PTC
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P <sub>N</sub> [kW]	U <sub>N</sub> [V]	Thrust F (N)	DOL		YΔ (*)		Rotor Model No.
			Motor Model No.	Stator Model No.	Motor Model No.	Stator Model No.	
4,0	220, 230	15.500	236 680 36**	305 478 953	236 670 36**	305 478 956	178 117 913K
	380 - 415		236 610 36**	305 478 954	236 710 36**	305 478 957	
	500		236 700 36**	305 478 955	236 790 36**	305 478 958	
5,5	220, 230	15.500	236 681 36**	305 479 956	236 671 36**	305 479 959	178 118 912K
	380 - 415		236 611 36**	305 479 957	236 711 36**	305 479 960	
	500		236 701 36**	305 479 958	236 791 36**	305 479 961	
7,5	220, 230	15.500	236 682 36**	305 480 958	236 672 36**	305 480 961	178 119 908K
	380 - 415		236 612 36**	305 480 959	236 712 36**	305 480 962	
	500		236 702 36**	305 480 960	236 792 36**	305 480 963	
9,3	220, 230	15.500	236 015 36**	305 481 947	236 005 36**	305 481 950	178 182 907K
	380 - 415		236 001 36**	305 481 948	236 011 36**	305 481 951	
	500		236 008 36**	305 481 949	236 018 36**	305 481 952	
11,0	220, 230	15.500	236 683 36**	305 482 959	236 673 36**	305 482 962	178 120 908K
	380 - 415		236 613 36**	305 482 960	236 713 36**	305 482 963	
	500		236 703 36**	305 482 961	236 793 36**	305 482 964	
15,0	220, 230	15.500	236 684 36**	305 484 959	236 674 36**	305 484 962	178 121 907K
	380 - 415		236 614 36**	305 484 960	236 714 36**	305 484 963	
	500		236 704 36**	305 484 961	236 794 36**	305 484 964	
18,5	220, 230	15.500	236 685 36**	305 485 956	236 675 36**	305 485 959	178 122 907K
	380 - 415		236 615 36**	305 485 957	236 715 36**	305 485 960	
	500		236 705 36**	305 485 958	236 795 36**	305 485 961	
22,0	220, 230	15.500	236 686 36**	305 486 960	236 676 36**	305 486 963	178 123 907K
	380 - 415		236 616 36**	305 486 961	236 716 36**	305 486 964	
	500		236 706 36**	305 486 962	236 796 36**	305 486 965	
30,0	220, 230	27.500			236 677 36**	305 488 944	178 115 906K
	380 - 415		236 617 36**	305 488 942	236 717 36**	305 488 945	
	500		236 707 36**	305 488 943	236 797 36**	305 488 946	

(\*) : **Kabel 90° versetzt**      **Pos. de cavi 90°**  
**Pos. of leads 90°**        **Pos. de los cables 90°**  
**Pos. des câbles 90°**      **Pos. dos cabos 90°**



## 6" Encapsulated Motor

„HighTemp 90°C“

Standard:



### Submersible Motors

#### Quality in the Well

These 6" encapsulated motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 6" diameter or larger water wells with ambient temperature up to 90°C.

Water lubricated thrust and radial bearings enable a maintenance free operation. A special diaphragm ensures pressure compensation inside the motor. The motor is filled with a special FES92 fluid, providing frost protection down to -15°C storage temperature.

The Sand fighter® SiC seal system is standard.

#### Product advantages:

- Up to 90°C ambient temperature
- Increase thrust capacity up to 30°C
- No cooling flow in larger wells (12" / open reservoirs) up to 30°C ambient
- Hermetically sealed encapsulated stator, anti track, self healing stator resin
- Removable "Water Bloc" lead connector
- „Sand fighter®“ Motor with SiC-Mechanical Seal
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested. Max. storage temperature -15°C - + 60°C
- High temperature leads
- Non contaminating FES92 -filled design
- 45kN Version Motors (22kW and 30kW standard in 45kN Thrust Version)

#### Technical Specifications

##### Standard Motor:

- 3,7 ... 30 kW
- 6" NEMA double flange
- Protection: IP 68
- Starts per hour: 20
- Installation: vertical/horizontal
- Standard Voltage: 380-415V/50Hz, 460V/60Hz
- Voltage tolerance 50Hz: -10% / +6%  $U_N$  [380-415V = (380-10%) – (415+6%)]
- Voltage tolerance 60Hz:  $\pm 10\% U_N$
- Motor protection: Select thermal overloads according to DIN 61947-4-1
- Insulation: Class F
- Rated ambient temperature: 90°C
- Cooling flow: min. 0,16 m/s
- Motor lead in 4m length

##### Options

- Other voltages
- Y $\Delta$  - start (pos. of cables 90°)
- 45kN High Thrust version (22kW and 30kW standard in 45kN Thrust Version)
- Motors complete in 316 SS







# 6" Encapsulated Motors

## 6" HighTemp90 Model Numbers 50 Hz

P <sub>N</sub> [kW]	P <sub>N</sub> [Hp]	U <sub>N</sub> [V]	Model Number Digit 1 – 6		Model Number Digit 7 - 11		
			DOL	Y <sub>Δ</sub>	304	316SS	High Thrust 45000N Motor Version
3,7	5	380 - 415	276 610	276 710	0000X	3000X	**63X
5,5	7,5	380 - 415	276 611	276 711	0000X	3000X	**63X
7,5	10	380 - 415	276 612	276 712	0000X	3000X	**63X
11	15	380 - 415	276 613	276 713	0000X	3000X	**63X
15	20	380 - 415	276 614	276 714	0000X	3000X	**63X
18,5	25	380 - 415	276 615	276 715	0100X	3100X	**63X
22	30	380 - 415	276 616	276 716	0100X	3100X	Standard
30	40	380 - 415	276 617	276 717	0100X	3100X	Standard

## 6" HighTemp90 Model Numbers 60 Hz

P <sub>N</sub> [kW]	P <sub>max.</sub> [kW]	U <sub>N</sub> [V]	Model Number Digit 1 – 6		Model Number Digit 7 - 11		
			DOL	Y <sub>Δ</sub>	304	316SS	High Thrust 45000N Motor Version
3,7	4,3	230	276 600	276 720	0000X	3000X	**63X
		380	276 660	276 780	0000X	3000X	**63X
		460	276 610	276 710	0000X	3000X	**63X
5,5	6,3	230	276 601	276 721	0000X	3000X	**63X
		380	276 661	276 781	0000X	3000X	**63X
		460	276 611	276 711	0000X	3000X	**63X
7,5	8,6	230	276 602	276 722	0000X	3000X	**63X
		380	276 662	276 782	0000X	3000X	**63X
		460	276 612	276 712	0000X	3000X	**63X
11	12,6	230	276 603	276 723	0000X	3000X	**63X
		380	276 663	276 783	0000X	3000X	**63X
		460	276 613	276 713	0000X	3000X	**63X
15	17,2	230	276 604	276 724	0000X	3000X	**63X
		380	276 664	276 784	0000X	3000X	**63X
		460	276 614	276 714	0000X	3000X	**63X
18,5	21,3	230	276 605	276 725	0100X	3100X	**63X
		380	276 665	276 785	0100X	3100X	**63X
		460	276 615	276 715	0100X	3100X	**63X
22	25,3	230	276 606	276 726	0100X	3100X	Standard
		380	276 666	276 786	0100X	3100X	Standard
		460	276 616	276 716	0100X	3100X	Standard
30	34,5	230	276 607	276 727	0100X	3100X	Standard
		380	276 667	276 787	0100X	3100X	Standard
		460	276 617	276 717	0100X	3100X	Standard

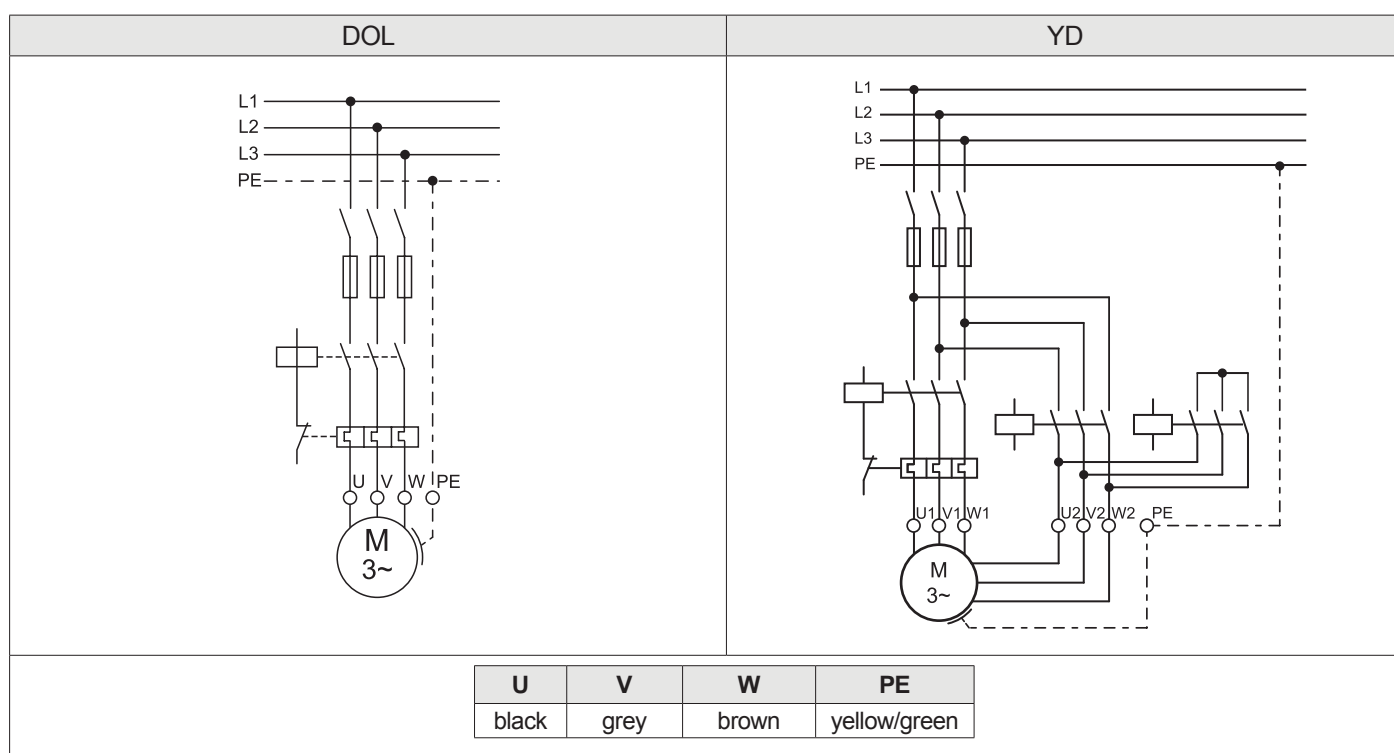
# 6" Encapsulated Motors



## 6" HighTemp 90 Performance Data 50 Hz

P <sub>N</sub> [kW]	Thrust F [N]	U <sub>N</sub> [V]	n <sub>N</sub> [min <sup>-1</sup> ]	I <sub>N</sub> [A]	I <sub>A</sub> [A]	η (Eff.) [%] at % load			cos φ (Pf.) at % load			T <sub>N</sub> [Nm]	T <sub>A</sub> [Nm]
						50	75	100	50	75	100		
3,7	15.500	380	2865	8,8	49,9	66	72	74	0,78	0,85	0,88	12,4	27,9
		400	2880	8,5	52,5	66	72	75	0,74	0,82	0,86	12,3	31,4
		415	2890	8,4	54,5	65	72	75	0,70	0,79	0,84	12,3	34,2
5,5	15.500	380	2880	12,7	78,6	70	75	77	0,77	0,85	0,88	18,6	42,8
		400	2890	12,3	83,0	70	75	77	0,72	0,81	0,86	18,4	48,3
		415	2900	12,3	86,0	69	75	77	0,67	0,77	0,84	18,4	52,4
7,5	15.500	380	2880	16,4	105	74	78	80	0,76	0,84	0,88	24,7	68,1
		400	2890	16,0	110	74	79	81	0,69	0,79	0,85	24,5	76,6
		415	2900	16,1	114	71	77	80	0,65	0,76	0,83	24,5	83,4
11,0	15.500	380	2880	24,4	152	75	79	80	0,74	0,83	0,85	37,0	99,1
		400	2890	24,2	160	74	79	80	0,67	0,77	0,82	36,9	111,4
		415	2895	24,4	166	73	78	79	0,61	0,73	0,79	36,7	123,5
15,0	15.500	380	2865	33,3	195	76	79	80	0,73	0,82	0,87	49,6	143,7
		400	2885	33,0	205	75	79	80	0,65	0,77	0,83	49,4	161,3
		415	2890	33,3	213	74	78	80	0,60	0,72	0,80	49,2	196,6
18,5	27.500	380	2870	40,7	253	79	82	82	0,70	0,80	0,86	61,9	199,3
		400	2890	40,5	266	78	82	83	0,62	0,74	0,82	61,5	227,8
		415	2895	41,4	276	76	80	82	0,57	0,69	0,78	61,4	248,1
22	45.000	380	2870	49,2	289	76	79	80	0,76	0,83	0,88	74,3	196,6
		400	2885	48,0	304	75	79	81	0,70	0,80	0,85	74,0	221,0
		415	2895	47,9	316	74	79	80	0,65	0,76	0,82	73,8	241,3
30	45.000	380	2870	65,0	419	80	82	83	0,70	0,80	0,86	99,2	267,1
		400	2885	64,5	441	79	82	83	0,63	0,75	0,82	98,7	301,0
		415	2895	65,6	458	77	81	83	0,58	0,70	0,78	98,4	326,7

## Electrical Connection





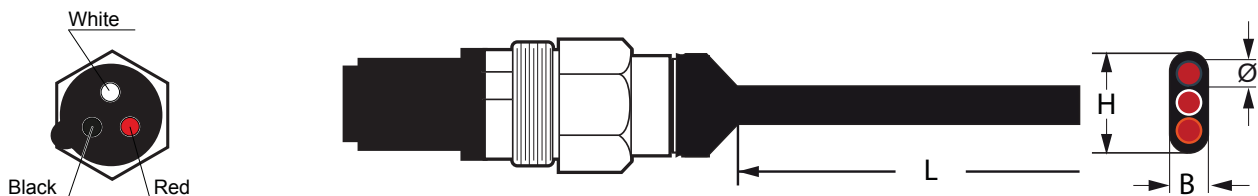
# 6" Encapsulated Motors

## 6" HighTemp 90 Performance Data 60 Hz

$P_N$ [kW]	$P_{max}$ [kW]	Thrust [N]	$U_N$ [V]	Hz	$n_N$ [min <sup>-1</sup> ]	$I_{max}$ [A]	$I_A$ [A]	LINE TO LINE RESISTANCE OHMS
4,0	4,6	15500	230	60	3450	17.2	108	.68 - .84
			380	60	3450	10.4	66.0	2.0 - 2.4
			460	60	3450	8.6	54.0	2.8 - 3.4
			575	60	3450	6.9	43.0	4.7 - 5.7
5,5	6,3	15500	230	60	3450	24.6	168	.41 - .50
			380	60	3450	14.9	102	1.1 - 1.4
			460	60	3450	12.3	84.0	1.7 - 2.0
			575	60	3450	9.9	67.0	2.6 - 3.2
7,5	8,6	15500	230	60	3450	31.6	238	.28 - .35
			380	60	3450	19.2	144	.80 - .98
			460	60	3450	15.8	119	1.2 - 1.4
			575	60	3450	12.7	95.0	1.8 - 2.2
11	12,7	15500	230	60	3450	47.4	354	.19 - .24
			380	60	3450	28.7	214	.52 - .65
			460	60	3450	23.7	177	.78 - .96
			575	60	3450	19.0	142	1.2 - 1.4
15	17,3	15500	230	60	3450	64.0	418	.14 - .18
			380	60	3450	38.8	253	.41 - .51
			460	60	3450	32.0	209	.58 - .72
			575	60	3450	25.6	167	.93 - 1.15
18,5	21,3	27500	230	60	3450	78.8	578	.11 - .14
			380	60	3450	47.7	350	.27 - .34
			460	60	3450	39.4	289	.41 - .51
			575	60	3450	31.6	231	.70 - .86
22	25,3	45.000	230	60	3450	94.4	640	.09 - .12
			380	60	3450	57.2	387	.23 - .29
			460	60	3450	47.2	320	.34 - .42
			575	60	3450	37.8	256	.52 - .65
30	34,5	45.000	380	60	3450	76.0	545	.18 - .23
			460	60	3450	62.8	450	.23 - .29
			575	60	3450	50.2	360	.34 - .43

## 6" High Temp 90 Motor Leads\* 304 / 316SS

$P_N$ [kW]	Jam Nut Material	L (m)	$\varnothing$ (mm <sup>2</sup> )	H (mm)	B (mm)	Part numbers
All Ratings	316 SS	4	3 x 8,4 mm <sup>2</sup>	21,5 mm (±0,3mm)	9,4 mm (±0,3mm)	156 625 902



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

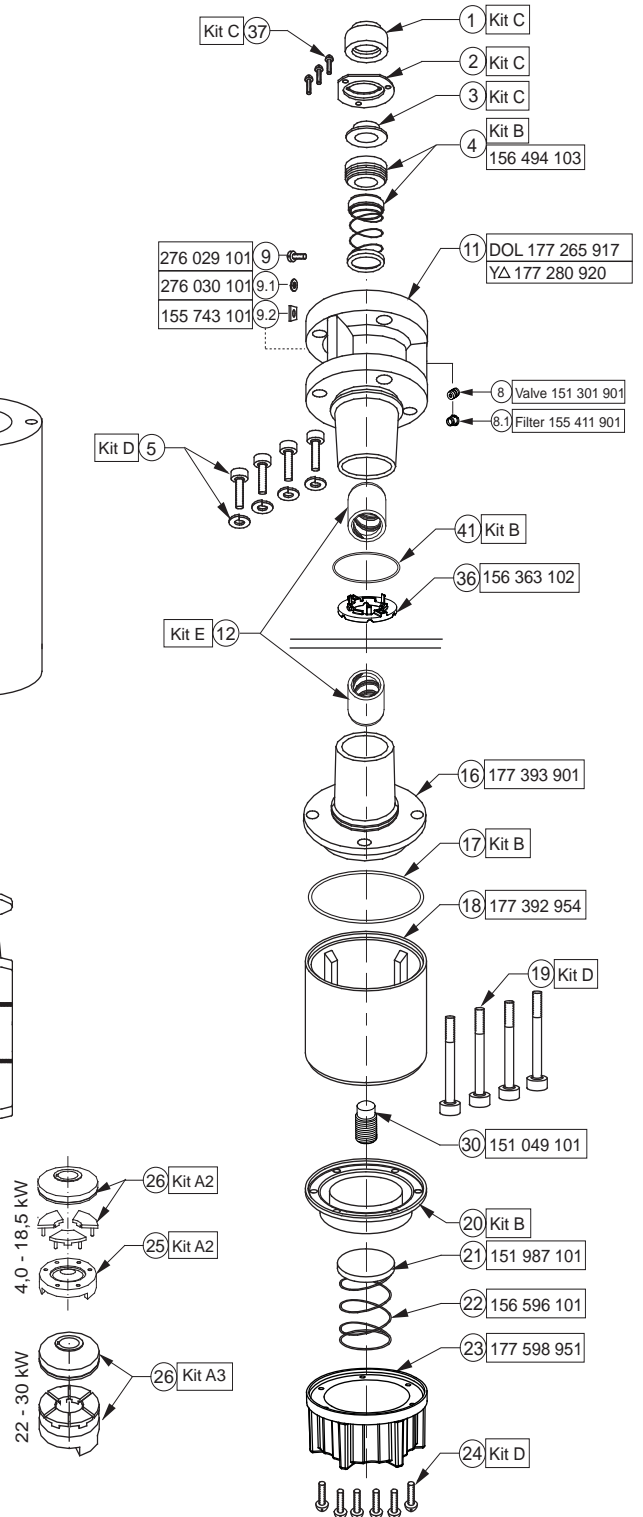
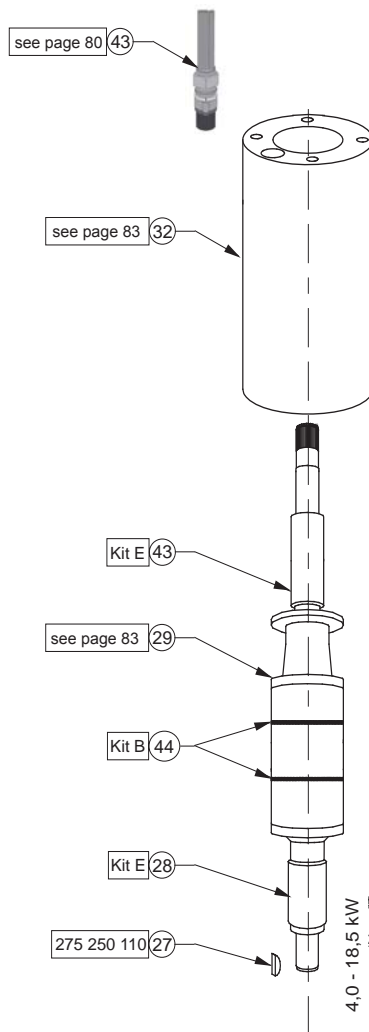
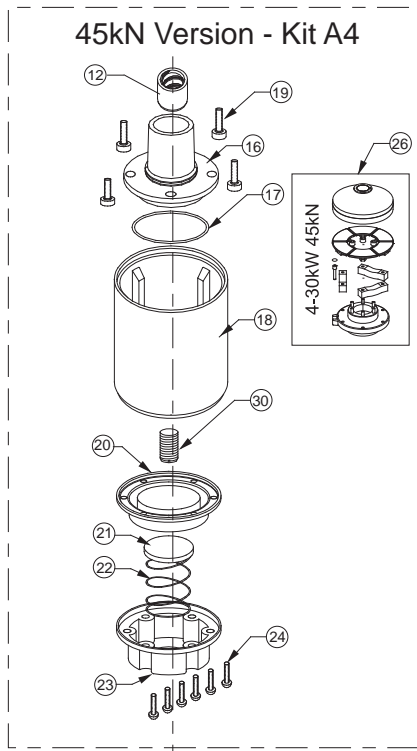
# 6" Encapsulated Motors



## 6" HighTemp 90 Encapsulated Cast Iron Version 4 - 30 kW

Kit A2	Thrust Bearing 15.500N	Incl.Pos.: 25; 26	308 750 120
Kit A3	Thrust Bearing 27.500N	Incl.Pos.: 26	308 750 200
45kN Conversion Kit A4 4,0 - 30kW		incl. Pos.: 12; 16; 17; 18; 19 ; 20; 21; 22; 23; 24; 26; 30	308 750 500
Kit B3	Seal Kit	Incl.Pos.: 4; 17; 20; 41; 44	308 800 250
Kit C4	Slinger Kit	Incl.Pos.: 1; 2; 3; 37	308 725 155
Kit D5	Screw Kit	Incl.Pos.: 5; 19; 24	308 659 155
Kit E*	Radial Bearing Kit	Incl.Pos.: 12; 28	308 678 101

\* Parts are unfinished



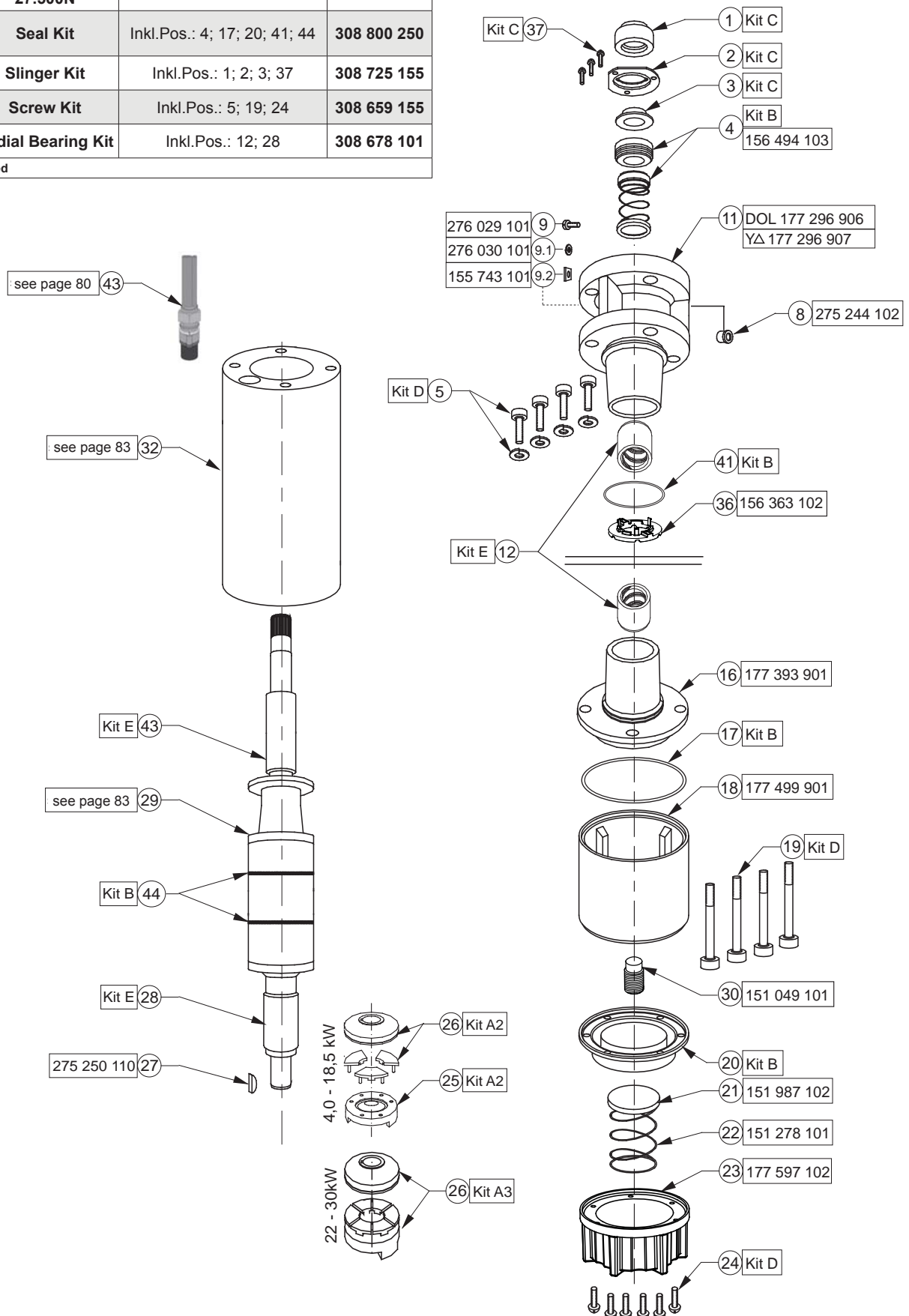


# 6" Encapsulated Motors

## 6" HighTemp 90 Encapsulated 316SS 4-30 kW

Kit A2	Thrust Bearing 15.500N	Inkl.Pos.: 25; 26	308 750 120
Kit A3	Thrust Bearing 27.500N	Inkl.Pos.: 26	308 750 200
Kit B3	Seal Kit	Inkl.Pos.: 4; 17; 20; 41; 44	308 800 250
Kit C4	Slinger Kit	Inkl.Pos.: 1; 2; 3; 37	308 725 155
Kit D5	Screw Kit	Inkl.Pos.: 5; 19; 24	308 659 155
Kit E*	Radial Bearing Kit	Inkl.Pos.: 12; 28	308 678 101

\* Parts are unfinished



# 6" Encapsulated Motors



## 6" HighTemp 90 Replacement Stators and Rotors 50 Hz

P <sub>N</sub> [kW]	U <sub>N</sub> [V]	Thrust F [N]	DOL		YΔ		Rotor 316 Model No.
			Motor Model No.	Stator 316 Model No.	Motor Model No.	Stator 316 Model No.	
3,7	380 - 415	15.500	276 610 *****	331 634 903	276 710 *****	331 668 902	178 119 915K
5,5	380 - 415	15.500	276 611 *****	331 635 903	276 711 *****	331 666 902	178 120 918K
7,5	380 - 415	15.500	276 612 *****	331 636 903	276 712 *****	331 667 902	178 121 916K
11,0	380 - 415	15.500	276 613 *****	305 482 974	276 713 *****	331 668 902	178 122 915K
15,0	380 - 415	15.500	276 614 *****	331 616 903	276 714 *****	331 617 903	178 123 916K
18,5	380 - 415	27.500	276 615 *****	305 485 972	276 715 *****	331 669 903	178 115 903K
22,0	380 - 415	45.000	276 616 *****	305 486 976	276 716 *****	331 614 903	178 116 909K
30,0	380 - 415	45.000	276 617 *****	305 488 954	276 717 *****	331 670 903	178 116 909K

## 6" HighTemp 90 Replacement Stators and Rotors 60 Hz

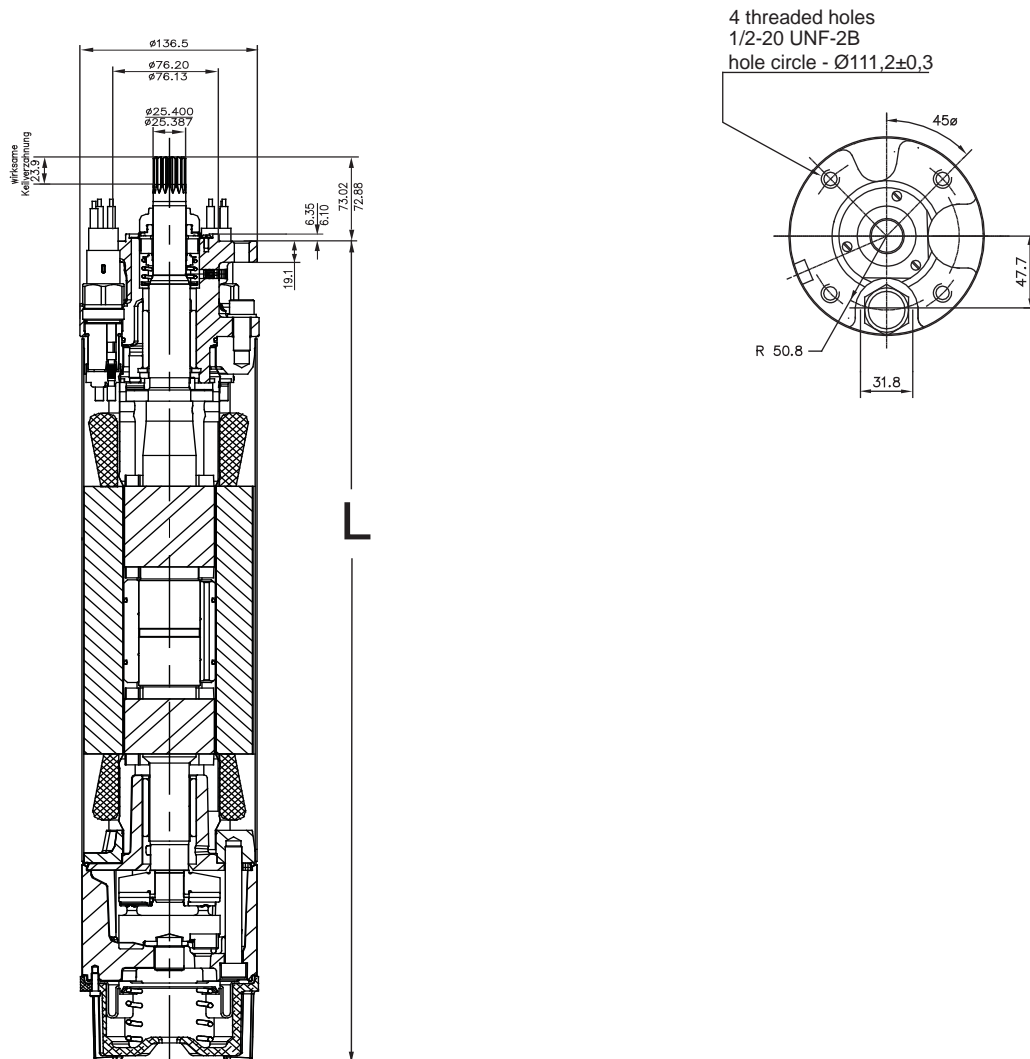
P <sub>max</sub> [kW]	U <sub>N</sub> [V]	Thrust F [N]	DOL		YΔ		Rotor 316 Model No.
			Motor Model No.	Stator 316 Model No.	Motor Model No.	Stator 316 Model No.	
4,3	230	15.500	276 600	331 *** **	276 720	331 *** **	178 119 915K
	380	15.500	276 660	331 *** **	276 780	331 *** **	
	460	15.500	276 610	331 *** **	276 710	331 *** **	
6,3	230	15.500	276 601	331 *** **	276 721	331 *** **	178 120 918K
	380	15.500	276 661	331 *** **	276 781	331 *** **	
	460	15.500	276 611	331 *** **	276 711	331 *** **	
8,6	230	15.500	276 602	331 *** **	276 722	331 *** **	178 121 916K
	380	15.500	276 662	331 *** **	276 782	331 *** **	
	460	15.500	276 612	331 *** **	276 712	331 *** **	
12,6	230	15.500	276 603	331 *** **	276 723	331 *** **	178 122 915K
	380	15.500	276 663	331 *** **	276 783	331 *** **	
	460	15.500	276 613	331 *** **	276 713	331 *** **	
17,2	230	15.500	276 604	331 *** **	276 724	331 *** **	178 123 916K
	380	15.500	276 664	331 *** **	276 784	331 *** **	
	460	15.500	276 614	331 *** **	276 714	331 *** **	
21,3	230	27.500	276 605	331 *** **	276 725	331 *** **	178 115 903K
	380	27.500	276 665	331 *** **	276 785	331 *** **	
	460	27.500	276 615	305 485 902	276 715	331 *** **	
25,3	230	45.000	276 606	331 *** **	276 726	331 *** **	178 116 909K
	380	45.000	276 666	331 *** **	276 786	331 *** **	
	460	45.000	276 616	331 *** **	276 716	331 *** **	
34,5	230	45.000	276 607	331 *** **	276 727	331 *** **	178 147 903K
	380	45.000	276 667	331 *** **	276 787	331 *** **	
	460	45.000	276 617	331 *** **	276 717	331 *** **	



# 6" Encapsulated Motors

## 6" HighTemp 90 Motor Design 4 - 30 kW

304 / 316SS



### Material DIN / AISI

Part	304	316 SS
Shell	1.4301	1.4571
Upper end bell	Cast iron powder coated	1.4408
Lower end bell	Cast iron	1.4401
Thrust housing	Cast iron powder coated	1.4408
Mechanical seal	SiC / SiC	SiC / SiC
Seal cover	1.4301	1.4401
Slinger	Viton	Viton
Shaft end	1.4305	1.4542
Diaphragm	Viton	Viton
Lead	EPR	EPR
Jam Nut (Lead)	1.4401	1.4401
Lead bushing	1.4401	1.4401

### Motor Sizes

$P_N$ [kW]	304 L [mm]	316 L [mm]	Motor Package Size [mm]	Shipping Weight [kg]
4	716	716	222 x 267 x 876	53
5,5	752	752	222 x 267 x 940	59
7,5	780	780	222 x 267 x 1073	66
11	846	846	222 x 267 x 1073	71
15	909	909	222 x 267 x 1302	79
18,5	1041	1041	222 x 267 x 1302	92
22	1476,7	1476,7	223 x 267 x 1823	140
30	1629,2	1629,2	223 x 267 x 1823	156