

6" ENCAPSULATED HIGH TEMP 90°C MOTOR

FEATURES & BENEFITS

- Encapsulated motor for reliable operation at ambient temperatures up to 90 °C
- High temperature leads
- Double-flange NEMA mounting design
- Water lubricated thrust and radial bearings enable maintenance-free operation.
- Increased thrust capacity up to 30 °C
- Stainless steel splined shaft
- StatorShield™ - Franklin encapsulation system: Franklin Electric encapsulated motors are equipped with hermetically-sealed windings. The stator resin mechanically supports the winding and provides fast heat dissipation.
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Field replaceable lead using Franklin's exclusive Water Bloc technology
- Pressure-equalizing diaphragm, spring pre-loaded
- SandFighter™ sealing system with SIC mechanical seal and sand slinger
- Standard motor: WW- Water well design (stator: 304SS / castings: CI powder coated)

STANDARD SPECIFICATION

- Ratings: 3.7 - 30 kW
- Thrust load: 15.5 kN: 4 - 15 kW | 27.5 kN: 18.5 kW | 45 kN: 22-30 kW
- Max. storage temperature: -15°C - +60°C
- Nominal ambient temperature: 90 °C (with 0.16 m/s cooling flow) No cooling flow in larger wells 12" and open reservoirs.
- Standard voltage: 380-415 V (50 Hz) | 460 V (60 Hz)
- Voltage tolerance U_n : -10% / +6% [380-415V = (380-10%) - (415+6%)] (50 Hz) / ±10 % (60 Hz)
- Protection requirements: DIN/EN 61947-4-1
- protection IP68
- Insulation class F
- Frequency of starts: 20 starts/ hour (with min. 3 minutes resting time), equally distributed
- DOL / YΔ-start (pos. of cables 90 °)
- All motors with factory installed leads
- Installation orientation: Vertical / horizontal (shaft end heightened)
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)
- Stand motor lead: 5 m x 8.4 mm² and 5 m single conductor ground wire round cable mounted on the motor

OPTIONS

- Higher-graded material: 316SS
- Special voltages
- 45 kN High Thrust version 7(Standard in 22 kW and 30 kW)
- Special lead lengths 8 m

High temperature version

Encapsulated motor for reliable operation at ambient temperatures up to 90 °C



High Temp

StatorShield™ - Franklin encapsulation system

Franklin Electric encapsulated motors are equipped with hermetically-sealed windings. The stator resin mechanically supports the winding and provides fast heat dissipation.

Hydrodynamic liquid lubricated radial bearings

100% maintenance free operation

Kingsbury type thrust bearing

High capacity 4 kN Kingsbury type thrust bearing for 100 % maintenance free operation.



Pressure-equalizing diaphragm
spring pre-loaded



6" ENCAPSULATED HIGH TEMP 90°C MOTOR

6CT HIGH TEMP 90°C - MOTOR MODEL NO. | 50 HZ | WW | 316SS

P _N [kW]	P _N [HP]	U _N [V]	Digit 1 - 6		Digit 7 - 10	
			DOL	YΔ	WW	316SS
3.7	5	380 - 415	276 610	276 710	0000	3000
5.5	7.5	380 - 415	276 611	276 711	0000	3000
7.5	10	380 - 415	276 612	276 712	0000	3000
11	15	380 - 415	276 613	276 713	0000	3000
15	20	380 - 415	276 614	276 714	0000	3000
18.5	25	380 - 415	276 615	276 715	0100	3100
22	30	380 - 415	276 616	276 716	0100	3100
30	40	380 - 415	276 617	276 717	0100	3100

6CT HIGH TEMP 90°C - MOTOR MODEL NO. | 60 HZ | WW | 316SS

P _N [kW]	P _N [HP]	U _N [V]	Digit 1 - 6		Digit 7 - 10		
			DOL	YΔ	WW	316SS	45 kN High Thrust version
3.7	4.3	230	276 600	276 720	0000	3000	**63
		380	276 660	276 780	0000	3000	**63
		460	276 610	276 710	0000	3000	**63
5.5	6.3	230	276 601	276 721	0000	3000	**63
		380	276 661	276 781	0000	3000	**63
		460	276 611	276 711	0000	3000	**63
7.5	8.6	230	276 602	276 722	0000	3000	**63
		380	276 662	276 782	0000	3000	**63
		460	276 612	276 712	0000	3000	**63
11	12.7	230	276 603	276 723	0000	3000	**63
		380	276 663	276 783	0000	3000	**63
		460	276 613	276 713	0000	3000	**63
15	17.2	230	276 604	276 724	0000	3000	**63
		380	276 664	276 784	0000	3000	**63
		460	276 614	276 714	0000	3000	**63
18.5	21.3	230	276 605	276 725	0100	3100	**63
		380	276 665	276 785	0100	3100	**63
		460	276 615	276 715	0100	3100	**63
22	25.3	230	276 606	276 726	0100	3100	Standard
		380	276 666	276 786	0100	3100	Standard
		460	276 616	276 716	0100	3100	Standard
30	34.5	230	276 607	276 727	0100	3100	Standard
		380	276 667	276 787	0100	3100	Standard
		460	276 617	276 717	0100	3100	Standard

VFD operation is only allowed up to 400V supply voltage. For higher voltages, please consult Franklin Electric.

WW - Water well design (stator: 304SS | castings: CI powder coated)

6" ENCAPSULATED HIGH TEMP 90°C MOTOR

6CT HIGH TEMP 90°C - MOTOR PERFORMANCE DATA | 3.7-30 KW | 50 HZ

ENCAPSULATED
MOTORS

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		
3.7	15500	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	0.7	0.79	0.84	12.3	34.2
5.5	15500	380	2880	12.7	78.6	70	75	77	0.77	0.85	0.88	18.6	42.8
		400	2890	12.3	83	70	75	77	0.72	0.81	0.86	18.4	48.3
		415	2900	12.3	86	69	75	77	0.67	0.77	0.84	18.4	52.4
7.5	15500	380	2880	16.4	105	74	78	80	0.76	0.84	0.88	24.7	68.1
		400	2890	16	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	15500	380	2880	24.4	152	75	79	80	0.74	0.83	0.85	37	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	15500	380	2865	33.3	195	76	79	80	0.73	0.82	0.87	49.6	143.7
		400	2885	33	205	75	79	80	0.65	0.77	0.83	49.4	161.3
		415	2890	33.3	213	74	78	80	0.6	0.72	0.8	49.2	196.6
18.5	27500	380	2870	40.7	253	79	82	82	0.7	0.8	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	45000	380	2870	49.2	289	76	79	80	0.76	0.83	0.88	74.3	196.6
		400	2885	48	304	75	79	81	0.7	0.8	0.85	74	221
		415	2895	47.9	316	74	79	80	0.65	0.76	0.82	73.8	241.3
30	45000	380	2870	65	419	80	82	83	0.7	0.8	0.86	99.2	267.1
		400	2885	64.5	441	79	82	83	0.63	0.75	0.82	98.7	301
		415	2895	65.6	458	77	81	83	0.58	0.7	0.78	98.4	326.7

6" ENCAPSULATED HIGH TEMP 90°C MOTOR

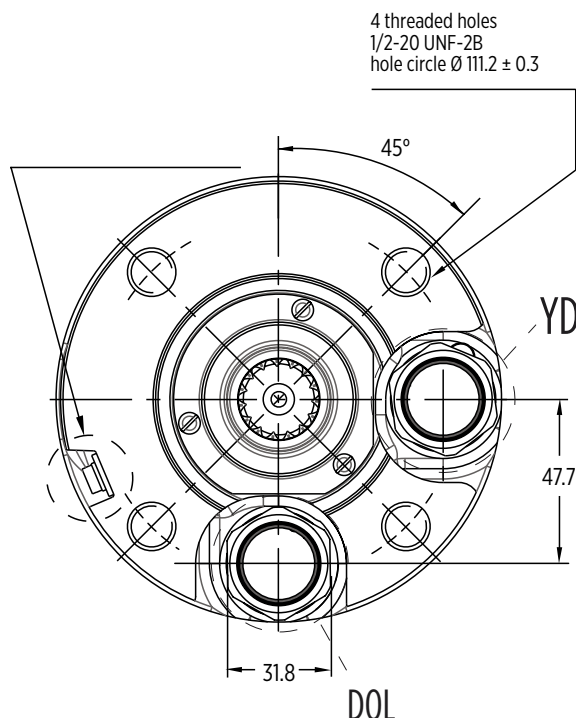
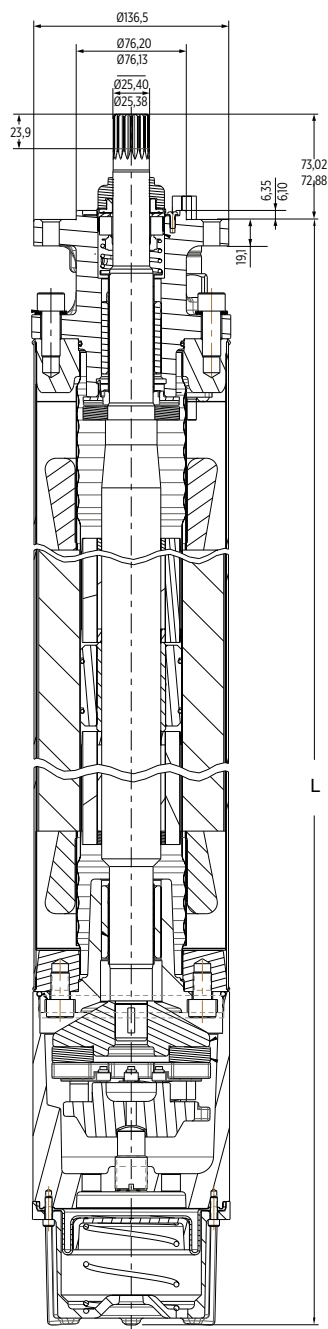
6CT HIGH TEMP 90°C - MOTOR PERFORMANCE DATA | 4-30 KW | 60 HZ

P _N [kW]	P _{MAX} [kW]	Thrust F [N]	U _N [V]	[Hz]	n _N [min ⁻¹]	I _{MAX} [A]	I _N [A]	line to line resistance [Ω]
4	4.6	15500	230	60	3450	17.2	108	.68 - .84
			380	60	3450	10.4	66	2.0 - 2.4
			460	60	3450	8.6	54	2.8 - 3.4
			575	60	3450	6.9	43	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	1.7 - 2.0
			575	60	3450	9.9	67	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	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	142	1.2 - 1.4
15	17.3	15500	230	60	3450	64	418	.14 - .18
			380	60	3450	38.8	253	.41 - .51
			460	60	3450	32	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	45000	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	45000	380	60	3450	76	545	.18 - .23
			460	60	3450	62.8	450	.23 - .29
			575	60	3450	50.2	360	.34 - .43

6" ENCAPSULATED HIGH TEMP 90°C MOTOR

6CT HIGH TEMP 90°C - MOTOR DESIGN | WW | 316SS | 4-30 KW

ENCAPSULATED
MOTORS



6CT HIGH TEMP 90°C - MATERIALS | WW | 316SS

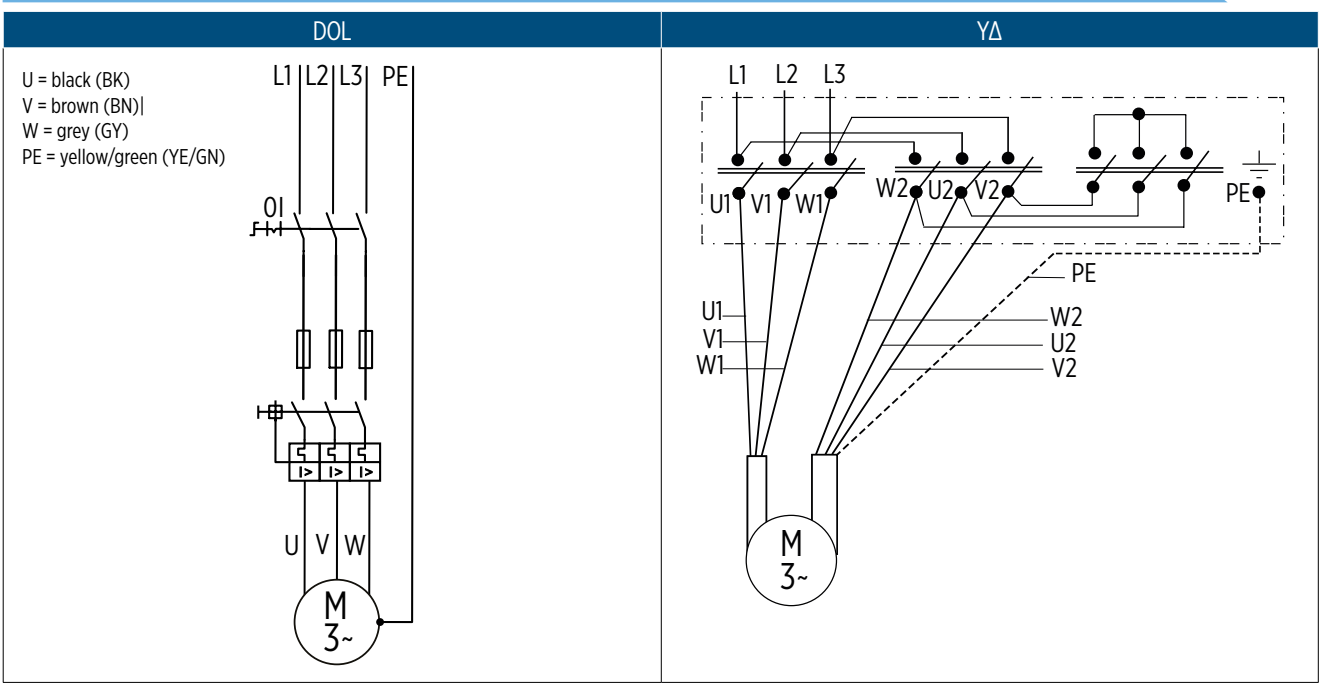
part	WW	316SS
Shell	1.4301	1.4571
Upper end bell	Cast iron powder coated	1.4408
Thrust housing	Cast iron powder coated	1.4408
Mechanical seal	SiC / SiC	SiC / SiC
Seal cover	1.4301	1.4401
Slinger	Viton	Viton
Shaft end	14305	14542
Diaphragm	Viton	Viton
Lead	Special compound based on PVC	
Jam Nut (Lead)	1.4401	1.4401
Lead bushing	1.4401	1.4401

6CT HIGH TEMP 90°C - DIMENSIONS AND WEIGHTS | WW | 316SS

P _N [kW]	length [mm]	motor with lead in single pack	
		dimensions [mm]	weight [kg]
4	670.5	222 x 267 x 876	53
5,5	735.5	222 x 267 x 940	59
7,5	800.6	222 x 267 x 1073	66
11	866	222 x 267 x 1073	71
15	931	222 x 267 x 1302	79
18,5	1061	222 x 267 x 1302	92
22	1429	223 x 267 x 1823	136
30	1581.6	223 x 267 x 1823	150

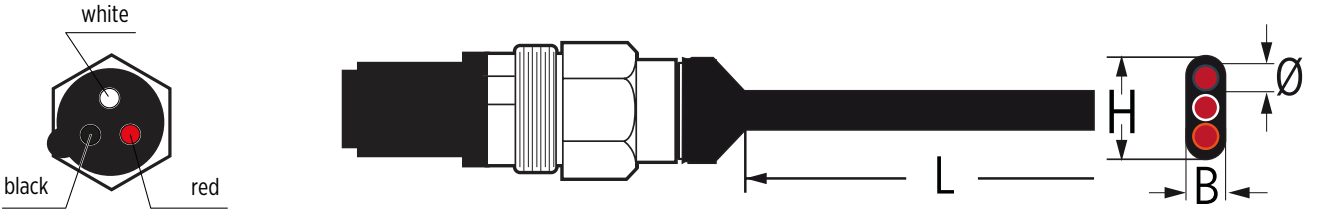
6" ENCAPSULATED HIGH TEMP 90°C MOTOR

6CT HIGH TEMP 90°C - CONNECTIONS



6CT HIGH TEMP 90°C - MOTOR LEADS | WW | 316SS

P _N [kW]	jam nut material	L [m]	Ø [mm²]	H [mm]	B [mm]	part no.
all ratings	316SS	5	3 x 8,4 mm²	23,1 mm (±0,3 mm)	11 mm (±0,3 mm)	305 602 905
		8				305 602 906



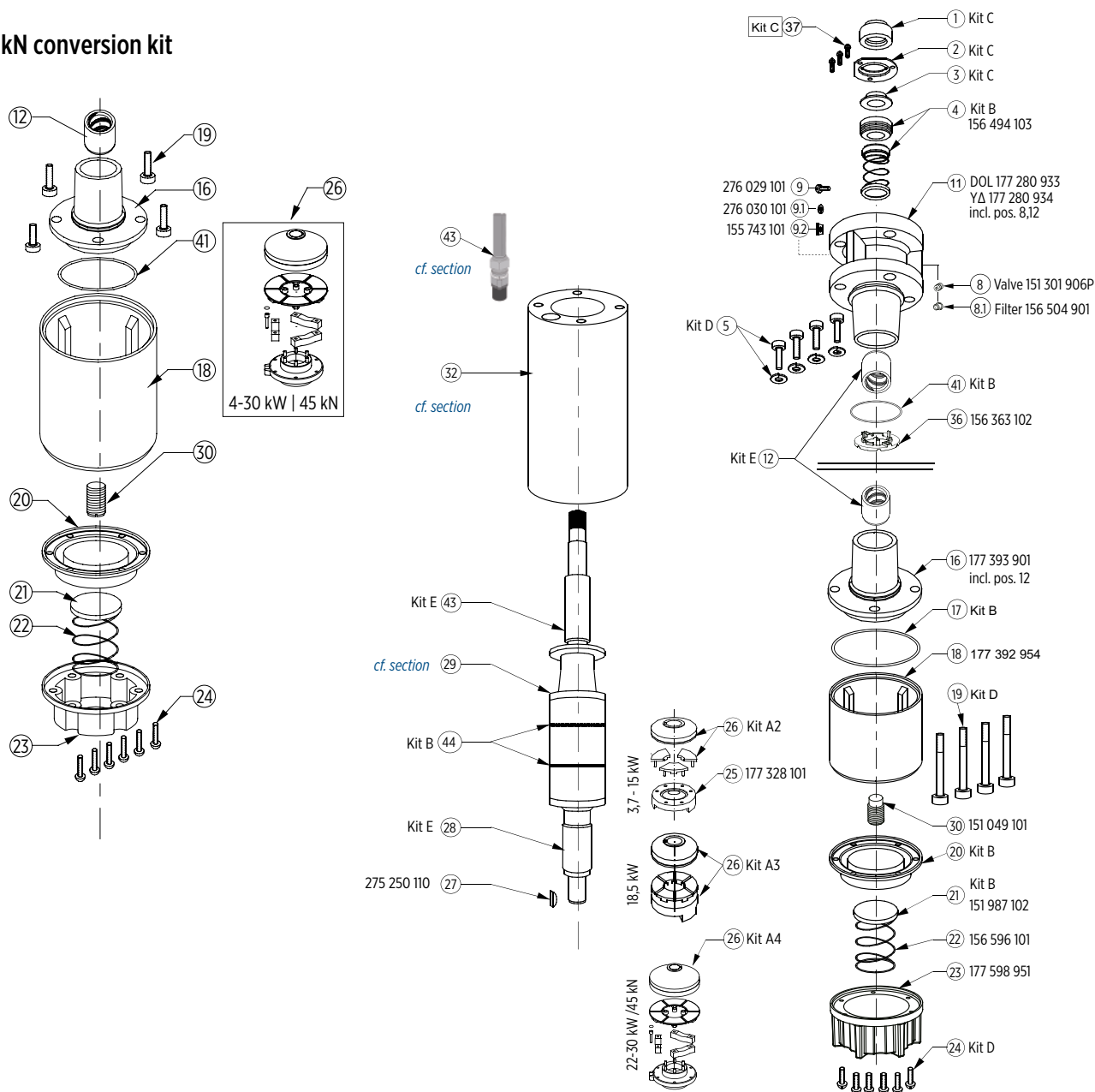
ground lead							
	P _N [kW]	Ø [mm²]	D [mm]	type	qty.	L [m]	model no. WW / 316SS
	4-30	1G 8,4 mm²	7,6 mm (±0,3 mm)	VDE	11 mm (±0,3 mm)	5	152 764 901

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

6" ENCAPSULATED HIGH TEMP 90°C MOTOR

6CT HIGH TEMP 90°C - MOTOR SPARE PARTS - KITS | WW | 4-30 KW

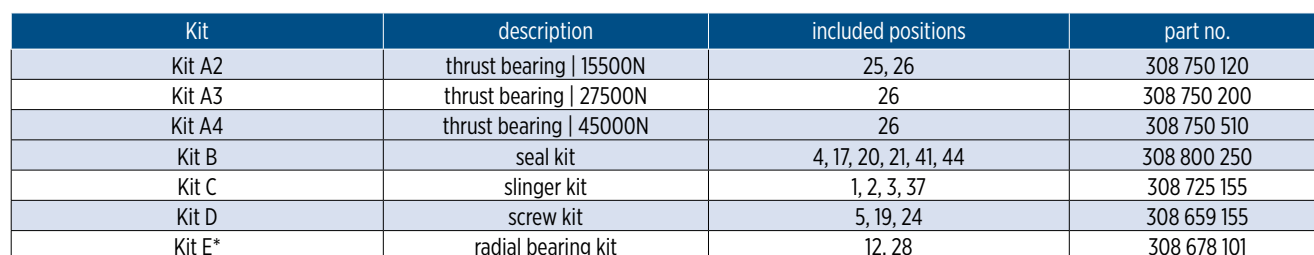
45 kN conversion kit



Kit	description	included positions	part no.
Kit A2	thrust bearing 15500N	25, 26	308 750 120
Kit A3	thrust bearing 27500N	26	308 750 200
Kit A4	thrust bearing 45000N	26	308 750 510
Conversion Kit A4	4-30 kW 45000N	12, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 30	308 750 500
Kit B	seal kit	4, 17, 20, 21, 41, 44	308 800 250
Kit C	slinger kit	1, 2, 3, 37	308 725 155
Kit D	screw kit	5, 19, 24	308 659 155
Kit E*	radial bearing kit	12, 28	308 678 101

* Radial bearing parts are unfinished.

6CT HIGH TEMP 90°C - MOTOR SPARE PARTS - KITS | 316SS | 4-30 KW



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6" ENCAPSULATED HIGH TEMP 90°C MOTOR

6CT HIGH TEMP 90°C - STATOR AND ROTOR | 316SS | 3.7-30 KW | 50 HZ

P _N [kW]	U _N [V]	Thrust F [N]	DOL		YΔ		model no. rotor 316SS
			model no. motor	model no. stator 316SS	model no. motor	model no. stator 316SS	
3.7	380 - 415	45000	276 610 *****	331 634 903	276 710 *****	331 668 902	305 575 901
5.5	380 - 415	45000	276 611 *****	331 635 903	276 711 *****	331 666 902	305 575 902
7.5	380 - 415	45000	276 612 *****	331 636 903	276 712 *****	331 667 902	305 575 903
11	380 - 415	45000	276 613 *****	305 482 974	276 713 *****	331 668 902	305 575 904
15	380 - 415	45000	276 614 *****	331 616 903	276 714 *****	331 617 903	305 575 905
18.5	380 - 415	45000	276 615 *****	305 485 972	276 715 *****	331 669 903	305 575 906
22	380 - 415	45000	276 616 *****	305 486 976	276 716 *****	331 614 903	305 223 920
30	380 - 415	45000	276 617 *****	305 490 913	276 717 *****	331 670 903	305 223 921

6CT HIGH TEMP 90°C - STATOR AND ROTOR | 316SS | 4.3-34.5 KW | 60 HZ

P _N [kW]	U _N [V]	Thrust F [N]	DOL		YΔ		model no. rotor 316SS
			model no. motor	model no. stator 316SS	model no. motor	model no. stator 316SS	
4,3	230	45.000	276 600	331 *** **	276 720	331 *** **	305 575 901
	380	45.000	276 660	331 *** **	276 780	331 *** **	
	460	45.000	276 610	331 *** **	276 710	331 *** **	
6,3	230	45.000	276 601	331 *** **	276 721	331 *** **	305 575 902
	380	45.000	276 661	331 *** **	276 781	331 *** **	
	460	45000	276 611	331 *** **	276 711	331 *** **	
8.6	230	45000	276 602	331 *** **	276 722	331 *** **	305 575 903
	380	45.000	276 662	331 *** **	276 782	331 *** **	
	460	45.000	276 612	331 *** **	276 712	331 *** **	
12,7	230	45.000	276 603	331 *** **	276 723	331 *** **	305 575 904
	380	45.000	276 663	331 *** **	276 783	331 *** **	
	460	45.000	276 613	331 *** **	276 713	331 *** **	
17,2	230	45.000	276 604	331 *** **	276 724	331 *** **	305 575 905
	380	45.000	276 664	331 *** **	276 784	331 *** **	
	460	45.000	276 614	331 *** **	276 714	331 *** **	
21,3	230	45.000	276 605	331 *** **	276 725	331 *** **	305 575 906
	380	45.000	276 665	331 *** **	276 785	331 *** **	
	460	45.000	276 615	305 485 902	276 715	331 *** **	
25,3	230	45.000	276 606	331 *** **	276 726	331 *** **	305 223 920
	380	45.000	276 666	331 *** **	276 786	331 *** **	
	460	45000	276 616	331 *** **	276 716	331 *** **	
34,5	230	45.000	276 607	331 *** **	276 727	331 *** **	305 223 921
	380	45.000	276 667	331 *** **	276 787	331 *** **	
	460	45.000	276 617	305 488 954	276 717	331 *** **	