PRODUCT CATALOG

Franklin Electric

SUBMERSIBLE MOTORS

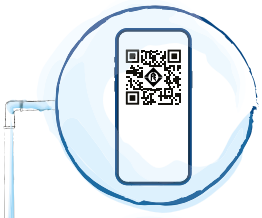
SUBMERSIBLE MOTORS | ELECTRONICS | ACCESSORIES



franklinwater.eu

Franklin Electric

Get more product information through media contents!



QR CODES

Scan or click the QR code to discover more product details and technical information.

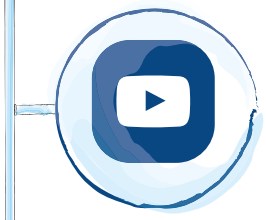
You'll be directed to the product website, where you can access a wide range of useful resources, including catalogs, manuals, installation instructions or certifications.



CERTIFICATIONS

Click on the certification symbol for direct access to certifications.

You'll be directed to the Franklin Electric website where you can find the complete document.



YOUTUBE VIDEOS

Click the video icon or scan the QR code to access our video content on YouTube.

You'll be directed to the Franklin Electric YouTube channel, where you can explore product videos, installation tutorials, and technical training content.



PRODUCT SELECTION

Click the icon or scan the QR code to access our Pump Selector software

Products with this icon can be configured in the Franklin Electric Pump Selector. You can select products and dowload the related data sheets.





APP FE UNYCONNECT FOR DRIVE-TECH

Unyconnect App to control DrivE-Tech series devices!

When this symbol is next to the product it means it can be controlled by the Unyconnect App. Download the application to your mobile device for an advanced user experience.



Google Play Store



Apple App Store



APP FE CONNECT FOR X-DRIVE

FE Connect App to control X-DrivE devices!

When this symbol is next to the product it means it can be controlled by the FE Connect App.



Google Play Store



Apple App Store

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Serving every sector with tailored solutions

Franklin Electric is a leading global provider of water system solutions, delivering advanced technology and engineering excellence to customers around the world. Our extensive portfolio is designed to meet the evolving demands of industries, municipalities, agriculture, and households, offering superior performance, long-term reliability, and innovative design across all applications.





OUR PRODUCT PORTFOLIO

Pumping Solutions

At the heart of our offering is a complete selection of hydraulic equipment for both surface and submersible applications. For surface needs, we provide vertical and horizontal multistage configurations, pressure boosting systems, and end suction options. Each solution is engineered to deliver dependable performance in residential, agricultural, commercial, and industrial settings.

Our submersible range covers sizes from 4 inches to 14 inches, including compact 5-inch close-coupled models. These products are ideal for water wells and other demanding environments, built to operate reliably even under the most challenging conditions.

We also offer dedicated drainage and wastewater pumps, developed to handle demanding conditions such as flood control, greywater management, and effluent transfer with efficiency and durability.

Submersible Motors

Franklin Electric's core business is the world's first reliable submersible electric motor for water systems, which remains an integral part of the well industry.

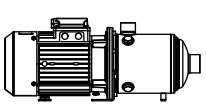
Our submersible range covers sizes from 4 inches to 14 inches, including compact 5-inch close-coupled models. These products are ideal for water wells and other demanding environments, built to operate reliably even under the most challenging conditions.

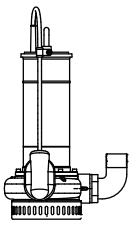
High Efficiency Systems - Empower Efficiency, Elevate Savings

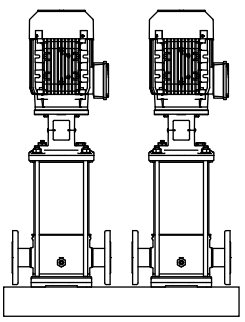
Franklin Electric's High Efficiency Systems combine permanent magnet motors, smart variable frequency drives, and precisely matched pumping equipment. These advanced systems are capable of operating at power levels up to 250 kilowatts and are specifically developed for installations where reducing energy consumption, remote system management, constant pressure and extending service life are key priorities. These solutions offer a modern approach to sustainable water management while delivering significant cost savings.

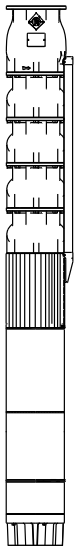
Variable Frequency Drives and Accessories

To complement our core systems, we offer a wide range of intelligent control technologies and accessories that enhance system performance and monitoring. From variable frequency drives to control units, these components ensure smooth operation, improved water quality, and simplified maintenance for installations of any size or complexity.



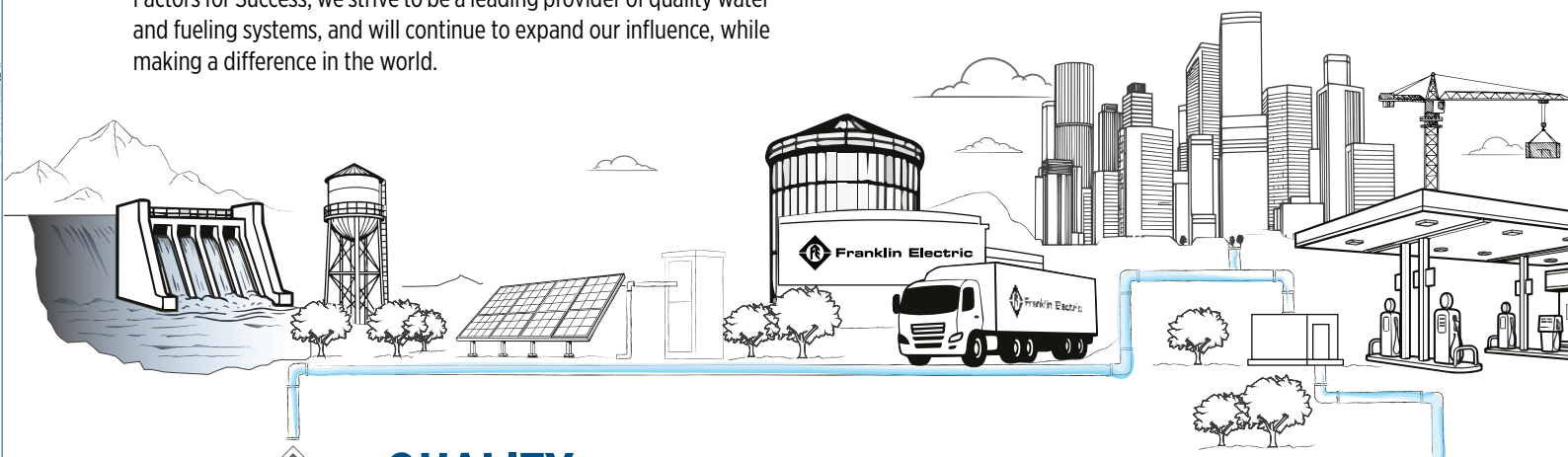






Key factors for success

Focusing on a culture of continuous improvement, driven by our Key Factors for Success, we strive to be a leading provider of quality water and fueling systems, and will continue to expand our influence, while making a difference in the world.



QUALITY:

Products and components are developed, manufactured and fully tested according to the highest industry standards.

INNOVATION:

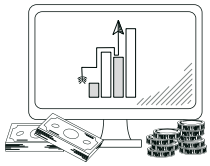
We adopt proven technologies and practical innovations that improve our products, processes and customer value.



SERVICE:

Our technical experts provide fast, reliable support, troubleshooting, training and assistance throughout the system's lifecycle.





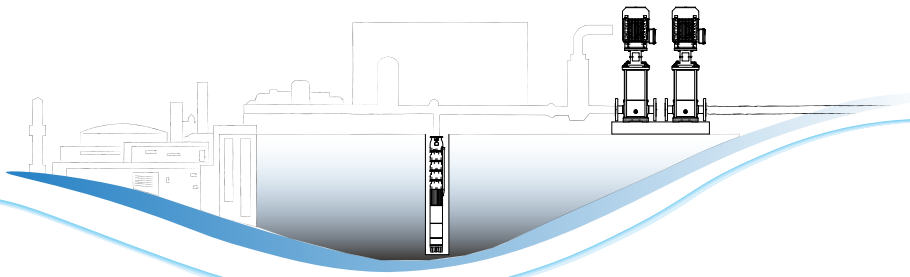


AVAILABILITY:

We are committed to delivering our products and services when and where our customer needs them.

COST:

We consider cost in every decision we make. We strive to control cost for the benefit of all our stakeholders.





4" / 6" / 8" ENCAPSULATED MOTORS

High-quality encapsulated motor with hermetically-sealed windings

Named after Benjamin Franklin, a pioneer in electrical engineering, Franklin Electric's core is the world's first reliable submersible electric motor for water systems, which has remained a staple of the water well industry.

More than 80 years after the establishment of Franklin Electric, we continue to manufacture and distribute improved versions of this unrivaled motor design all around the world, and have expanded our expertise to create innovative solutions, including pumps, electronics, and adjacent products, addressing modern industry challenges and serving our customers' needs.

Drinking water approvals

ACS · DE-UBA · kiwa

SandFighter® sealing system

with SiC/SiC mechanical seal and sand slinger (6-12")

SAND FIGHTER

NEMA mounting design

High efficiency electrical design

for low operation costs

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 for all Franklin Electric encapsulated and rewindable motors

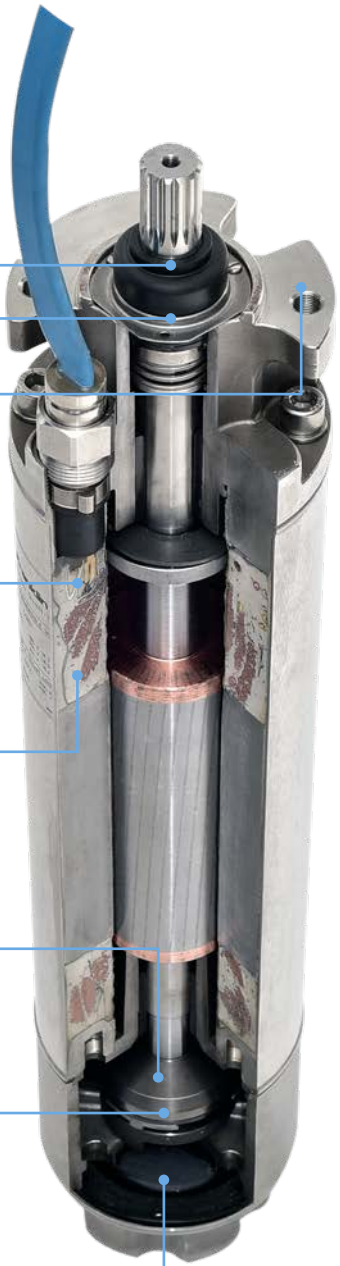
Kingsbury type thrust bearing

Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation

Special lead lengths up to 50 m

Higher-graded materials

STAINLESS STEEL 304 · STAINLESS STEEL 316



Pressure-equalizing diaphragm

4" / 6" / 8" ENCAPSULATED MOTORS

Many variants and options available

Pollution Recovery version

- Fluorelastomere (Viton®) rubber parts
- Special Polyuretane (PUR) lead assemblies
- 304SS (316SS stator) graded Stainless Steel as Standard

Available versions:

» *4" encapsulated motor - PSC design*
» *4" encapsulated motor - 1-phase | 3-wire design*
» *4" encapsulated motor - 3-phase*

Heat Pump motor version

Many modern heating systems extract heat that is stored in aquifer / river water. Such so-called two-pit or open systems require low-power, high efficiency 3-phase submersible motors. To meet the demands of this niche market, Franklin Electric has developed a special 4" encapsulated submersible motor range optimized for shallow settings and low power consumption available from 0.25 kW to 1.1 kW.

Available versions:

» *4" encapsulated Heat pump motor - 3-phase*

High temperature version

90°C
High Temp

» *6" encapsulated High Temp 90°C motor*
» *8" encapsulated High Temp 75°C motor*

Solar

Suitable for operation in solar applications

Available versions:

» *4" encapsulated Solar motor - 3-phase*



4" Encapsulated motors

High Thrust versions

- Thrust load: 6.5 kN

Available versions:

» *4" encapsulated High Thrust motor - 1-phase | 3-wire design*
» *4" encapsulated High Thrust motor - 3-phase*

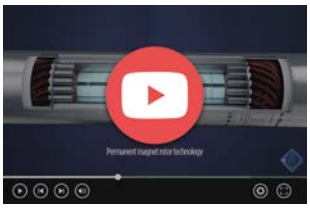
Permanent Magnet Technology

HIGH EFFICIENCY

- The permanent magnet synchronous motor provides superior efficiency, excellent energy savings and strong reliability.
- Instead of a short-circuit induction type rotor, the high efficiency motor contains a permanent magnet rotor design with buried magnets and magnetic core segments.
- The permanent magnet motor design eliminates electrical rotor losses resulting in lower motor amps, improved partial load behavior and reduced temperature heat rise.
- The PM motor has a lower weight, a reduced length and requires lower Amps to run at the same pump load.

Available versions:

» *4" encapsulated permanent magnet (PM) motor*
» *6" encapsulated permanent magnet (PM) motor*
» *8" rewindable permanent magnet (PM) motor*
» *10" rewindable permanent magnet (PM) motor*



Permanent Magnet Technology



Energy savings with permanent magnet technology

4" ENCAPSULATED MOTOR – PSC DESIGN

High-quality encapsulated motor with hermetically-sealed windings

FEATURES & BENEFITS

PSC = Permanent Split Capacitor motor

- NEMA mounting design with metric studs [M8]
- 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.
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Field replaceable round plug lead using Franklin's exclusive Water Bloc technology with extended jam nut in Stainless steel
- Stator shell in 316SS as standard (suitable for use in water with increased salinity)
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Drinking water approvals

STANDARD SPECIFICATION

- Ratings: 0.25 - 2.2 kW
- Thrust load: 4 kN
- Standard voltage: 1~ 220-230 V / 230-240 V - 50 Hz
- Max. storage temperature: -15 °C to +60 °C
- Nominal ambient temperature: 30 °C (with 0.08 m/s cooling flow)
- Voltage tolerance U_N: -10 % / +6 % (50 Hz)
- protection IP68
- insulation class B
- Frequency of starts: 20 starts/ hour (with min. 3 minutes resting time), equally distributed
- All motors with factory installed leads
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (1 phase motors CW upon request)
- Optimized performance and protection with Franklin SubStart/ SubTronic control boxes

OPTIONS

- Built in lightning arrestors
- Special lead lengths

Pollution Recovery version

- Fluorelastomere (Viton®) rubber parts
- Special Polyuretane (PUR) lead assemblies
- 304SS (316SS stator) graded Stainless Steel as Standard

STAINLESS STEEL 304



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



4" encapsulated motors

Kingsbury type thrust bearing

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

Pressure-equalizing diaphragm

4" ENCAPSULATED MOTOR - PSC DESIGN

4CT PSC MOTOR - MOTOR MODEL NO. | 50 HZ

P_N [kW]	U_N [V]	Digit 1 - 6	Digit 7 - 10		
			single pack, with lead	motors in 40 motors packing unit	Pollution Recovery motors single pack, with lead
0.25	220-230	254 803	6721L	6721	6723L
	230-240	254 813	6721L	6721	6723L
0.37	220-230	254 805	6721L	6721	6723L
	230-240	254 815	6721L	6721	6723L
0.55	220-230	254 807	6721L	6721	6723L
	230-240	254 817	6721L	6721	6723L
0.75	220-230	254 808	6721L	6721	6723L
	230-240	254 818	6721L	6721	6723L
1.1	220-230	254 809	6721L	6721	6723L
	230-240	254 819	6721L	6721	6723L
1.5	220-230	254 810	6721L	6721	6723L
	230-240	254 820	6721L	6721	6723L
2.2	220-230	254 811	6721L	6721	6723L
	230-240	254 821	6721L	6721	6723L

4CT PSC MOTOR - MOTOR PERFORMANCE DATA | 220-230 V | 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]	Capacitor µF [U_C=450 V]
						50	75	100	50	75	100			
0.25	4000	220	2865	2.3	9	33	45	51	0.91	0.93	0.96	0.82	0.73	12.5
		230	2875	2.4	9.4	28	42	50	0.8	0.88	0.92	0.83	0.8	
0.37	4000	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	4000	220	2840	4.2	16.9	46	57	63	0.94	0.97	0.98	1.85	1.5	20
		230	2850	4.3	17.7	45	57	63	0.86	0.91	0.94	1.9	1.63	
0.75	4000	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	4000	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	4000	220	2820	10.4	39.9	52	63	68	0.9	0.95	0.98	5.1	3.6	50
		230	2830	10.7	41.7	48	59	66	0.82	0.9	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	70
		230	2840	14.7	61.8	51	62	68	0.86	0.93	0.97	7.4	5.5	

4" ENCAPSULATED MOTOR – PSC DESIGN

4CT PSC MOTOR - MOTOR PERFORMANCE DATA | 230-240 V | 50 HZ

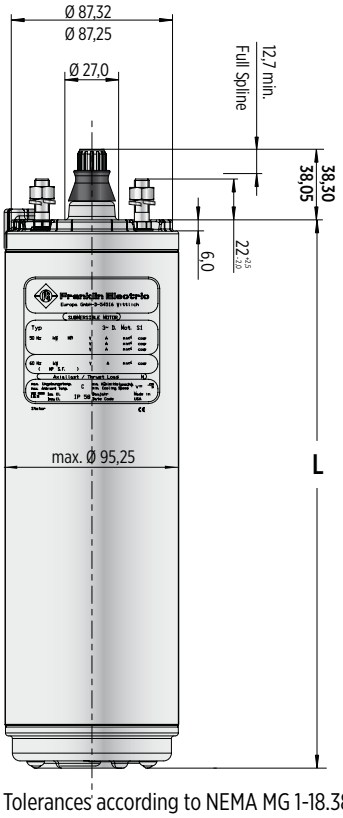
P_N [kW]	Thrust F [N]	U_N [V]	n_N [min^{-1}]	I_N [A]	I_A [A]	η (Eff.) at % load			cos φ (Pf.) at % load			T_N [Nm]	T_A [Nm]	Capacitor µF [U_C=450 V]
						50	75	100	50	75	100			
0.25	4000	230	2865	2.2	8.6	33	45	51	0.91	0.93	0.96	0.82	0.73	12.5
		240	2875	2.3	9	28	42	50	0.8	0.88	0.92	0.83	0.8	
0.37	4000	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	4000	230	2840	4	16.2	46	57	63	0.94	0.97	0.98	1.85	1.5	20
		240	2850	4.1	16.9	45	57	63	0.86	0.91	0.94	1.9	1.63	
0.75	4000	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	4000	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	4000	230	2820	10	38.3	52	63	68	0.9	0.95	0.98	5.1	3.6	50
		240	2830	10.2	40	48	59	66	0.82	0.9	0.95	5.1	3.9	
2.2	4000	230	2825	14	56.7	55	65	70	0.93	0.98	0.99	7.4	5	70
		240	2840	14.1	59.3	51	62	68	0.86	0.93	0.97	7.4	5.5	

4CT PSC MOTOR - WINDING RESISTANCE DATA

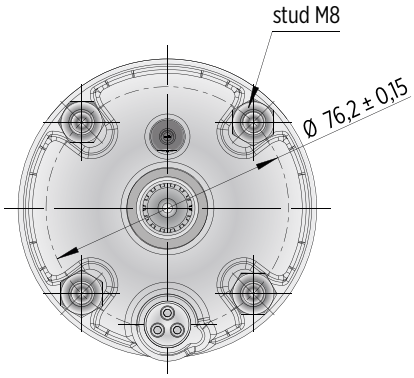
P_N [kW]	U_N [V]	stator reference no.	main phase [Ohm]	start phase [Ohm]
0.25	220 - 230	326 738 ***	8,2 - 10,0	31,1 - 38,1
	230 - 240	326 800 ***	8,9 - 10,9	26,7 - 32,6
0.37	220 - 230	326 739 ***	6,7 - 8,1	21,7 - 26,5
	230 - 240	326 801 ***	7,2 - 8,8	20,8 - 25,4
0.55	220 - 230	326 740 ***	4,4 - 5,4	13,6 - 16,6
	230 - 240	326 802 ***	4,8 - 5,8	13,1 - 16,0
0.75	220 - 230	326 741 ***	3,3 - 4,1	8,1 - 9,9
	230 - 240	326 803 ***	3,7 - 4,6	7,7 - 9,4
1.1	220 - 230	326 742 ***	2,3 - 2,8	6,8 - 8,3
	230 - 240	326 804 ***	2,5 - 3,0	6,5 - 7,9
1.5	220 - 230	326 743 ***	1,8 - 2,2	4,7 - 5,7
	230 - 240	326 805 ***	1,9 - 2,4	4,4 - 5,4
2.2	220 - 230	326 744 ***	1,2 - 1,5	3,2 - 3,9
	230 - 240	326 806 ***	1,3 - 1,6	3,0 - 3,6

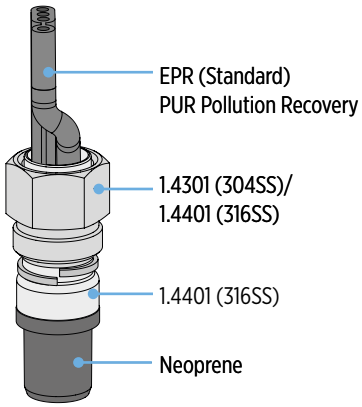
4" ENCAPSULATED MOTOR - PSC DESIGN

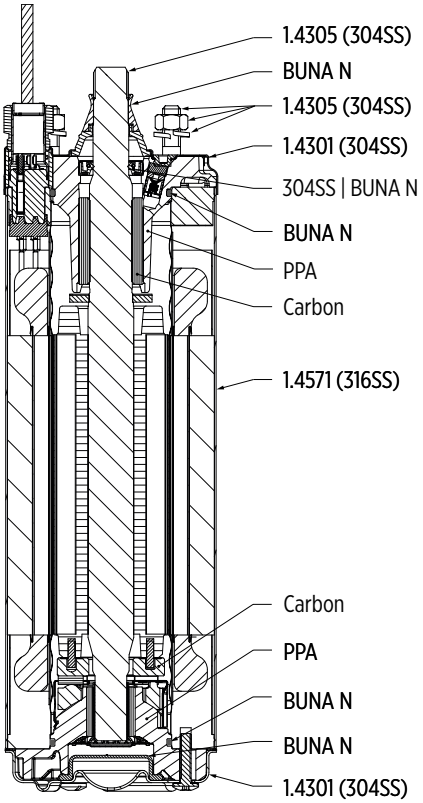
4CT PSC MOTOR - MOTOR DESIGN



Tolerances according to NEMA MG 1-18.388

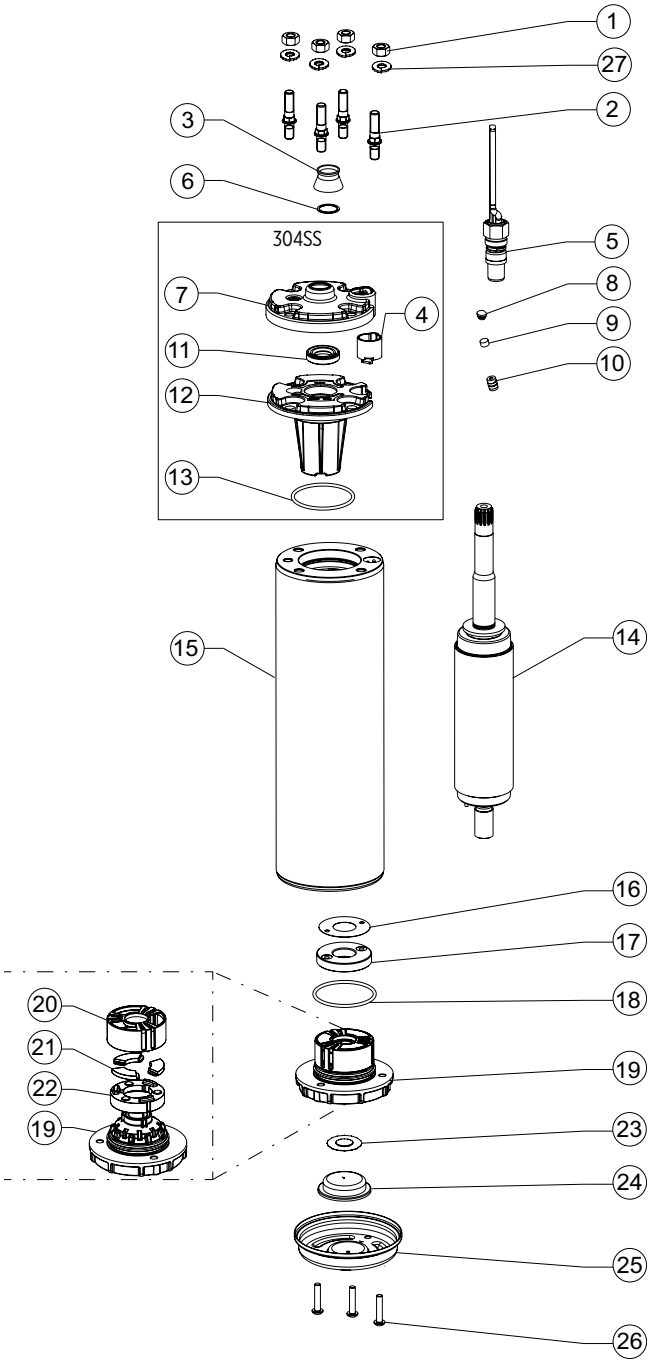






4" ENCAPSULATED MOTOR – PSC DESIGN

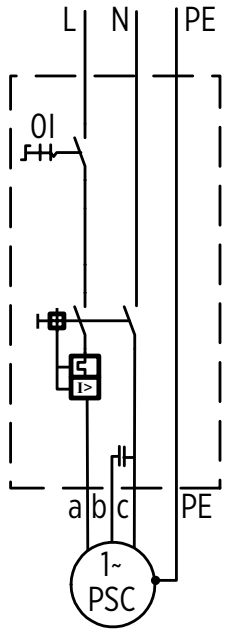
4CT PSC MOTOR - MOTOR PART DESCRIPTION



Pos.	part description	qty.	part no.
1	nut	4	Kit C
2	stud	4	Kit C
3	protector (spline)	1	Kit B
4	connector boss	1	151 820 103
5	motor lead	1	*cf. section*
6	washer	1	Kit B
7	top endbell, cover 304SS	1	150 262 151
8	filter plug	1	Kit
9	filter	1	Kit
10	valve	1	Kit
11	shaft seal	1	Kit B
12	top endbell	1	KIt
13	O-ring	1	Kit B
14	rotor	1	*cf. section*
15	stator	1	*cf. section*
16	level washer	1	Kit A2
17	thrust disc assy	1	Kit A2
18	O-ring	1	Kit B / Kit A2
19	bottom endbell	1	Kit A2
20	bearing cage	1	Kit A2
21	segments	3	Kit A2
22	gasket	1	Kit A2
23	diaphragm washer	1	151 314 101 / Kit A2
24	diaphragm	1	Kit B / KitA2
25	bottom endbell cover 304SS	1	156 414 201 / Kit A2
26	screw, cover	3	Kit C
27	lock washer	4	Kit C

4" ENCAPSULATED MOTOR - PSC DESIGN

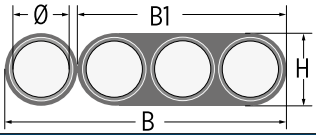
4CT PSC MOTOR - CONNECTIONS

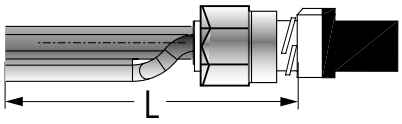


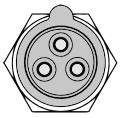
a = black (BK) | b = brown (BN)
c = grey (GY) | PE = yellow/green (YE/GN)

4CT PSC MOTOR - MOTOR LEADS

Ø [mm²]	B [mm]	B1 [mm]	H [mm]
3X1,5 + 1G1,5	16.8	10.7	5







length L [m]	model no.	
	304SS	316SS
1.5	310 113 401	310 113 501
2.5	310 113 402	310 113 502
5	310 113 405	310 113 505
10	310 113 410	310 113 510
15	310 113 415	310 113 515
20	310 113 420	310 113 520
30	310 113 430	310 113 530
40	310 113 440	310 113 540
50	310 113 450	310 113 550

4CT PSC MOTOR - DIMENSIONS AND WEIGHTS

P_N		motor		motor with lead in single pack	
[kW]	[HP]	length [mm]	weight [kg]	dimensions [mm]	weight [kg]
0.25	0.33	237.2	6.55	400 x 100 x 110	7.25
0.37	0.5	251.1	7.2	400 x 100 x 110	7.9
0.55	0.75	276.2	8.35	530 x 100 x 110	9.05
0.75	1	297.2	9.3	530 x 100 x 110	10
1.1	1.5	321.2	10.45	530 x 100 x 110	11.15
1.5	2	353.2	11.9	796 x 100 x 110	12.6
2.2	3	451.2	16.65	796 x 100 x 110	17.35

4" ENCAPSULATED MOTOR – PSC DESIGN

4CT PSC MOTOR - SPARE PARTS - KITS

Kit	description	included positions	part no.
Kit A2	Top endbell 304SS	4, 7, 8, 9, 10, 11 , 12, 13	308 462 902
	Top endbell 316SS		308 462 952
Kit A2	bottom endbell 304SS incl. thrust bearing kit 4000N	16 - 22	308 464 911
Kit B	Seal kit Standard 304SS	3, 6, 8, 9, 11, 13, 18, 23, 24	308 650 201
	Seal kit Pollution Recovery 304SS		308 650 202
Kit C	fastener kit 304SS	1, 2, 26, 27	308 656 202

4CT PSC MOTOR - STATOR AND ROTOR

P_N [kW]	U_N [V]	model no. stator 304SS | 316SS	model no. rotor 304SS	model no. rotor 316SS
0.25	220 / 230	305 491 801	178 165 901K	178 164 921K
	230 / 240	305 491 821		
0.37	220 / 230	305 491 802	178 165 902K	178 164 922K
	230 / 240	305 491 822		
0.55	220 / 230	305 491 803	178 165 903K	178 164 923K
	230 / 240	305 491 823		
0.75	220 / 230	305 491 804	178 165 904K	178 164 925K
	230 / 240	305 491 824		
1.1	220 / 230	305 491 805	178 165 905K	178 164 928K
	230 / 240	305 491 825		
1.5	220 / 230	305 491 806	178 165 906K	178 164 929K
	230 / 240	305 491 826		
2.2	220 / 230	305 491 807	178 165 907K	178 164 931K
	230 / 240	305 491 827		

4" ENCAPSULATED MOTOR – 1-PHASE | 2-WIRE DESIGN

FEATURES & BENEFITS

- NEMA mounting design with metric studs [M8]
- 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.
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Field replaceable round plug lead using Franklin's exclusive Water Bloc technology with extended jam nut in Stainless steel
- Stator shell in 316SS as standard (suitable for use in water with increased salinity)
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Drinking water approvals
- Internal Automatic reset overload
- Built-in surge arresters and lightning arresters
- Reverse impact torque for loosening sand-locked pumps

STANDARD SPECIFICATION

- Ratings: 0.37 - 1.1 kW
- Thrust load: 4 kN
- Frequency: 50 Hz
- Standard voltage: 1~ 220-230 V (50 Hz)
- Max. storage temperature: -15 °C to +50 °C
- Nominal ambient temperature: 30 °C (with 0.08 m/s cooling flow)
- Voltage tolerance U_N: -10 % / +6 % (50 Hz), ±10 % (60 Hz)
- Protection IP68
- insulation class B
- Frequency of starts: 20 starts/ hour (with min. 3 minutes resting time), equally distributed
- All motors with factory installed leads (1.50 m / 2.50 m)
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (1 phase motors CW upon request)

OPTIONS

- Special lead lengths

STAINLESS STEEL 304



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



4" encapsulated motors

Kingsbury type thrust bearing

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

Pressure-equalizing diaphragm

4" ENCAPSULATED MOTOR – 1-PHASE | 2-WIRE DESIGN

2-WIRE DESIGN FUNCTION DESCRIPTION

BIAC switch operation / 2-wire motor solid state controls

- Power-On: When power is applied to the motor the bi-metal switch contacts are closed so that the TRIAC is conducting. This allows current to pass to the start winding, thus starting the motor.
- The BIAC switch responds to voltage from a sensor coil located inside the motor. This sensor coil voltage is proportional to motor speed (RPM).
- As speed increases, the increased voltage in the sensor coil generates heat in the bi-metal, causing it to open the start winding circuit. This cuts the starting winding current and the motor continues to run on the main winding only .
- Power-off: Approximately 5 seconds after power is cut from the motor, the bi-metal strip cools sufficiently to return into its NC position, and the motor is ready for the next start cycle. If during operation, the motor speed drops for some reason, the lowered voltage in the sensor coil allows the bi-metal contacts to re-close, supplying start winding current to bring the motor back to operation speed.

Extreme fast cycling (Due to water-logged tank)

- The BIAC starting switch will reset within approximately 5 seconds after the motor is stopped. If an attempt is made to restart the motor before the starting switch has reset, the motor may not start; however, there will be current flow through the main winding until the overload protector interrupts the circuit. The reset time for the protector is longer than the reset of the starting switch. So, the start winding switch will have closed and the motor will operate. The repeated on-off cycle will continue until the overload will trip again.
- When a severely water – logged condition does occur, the user will be alerted to the problem during the off time (overload reset time), since the pressure will drop dramatically. When a water – logged tank condition is detected, the condition should be corrected to prevent nuisance tripping of the overload protector.

Reverse impact torque

- This unique torque reversing feature will minimize the problems of polluted environments. In a locked rotor condition, the BIAC switch will supply full start winding current for approximately one second. Then the switch begins to open and close rapidly. This action chops the start winding current, switching it between leading and lagging the run winding current. This produces impact torque in both forward and reverse directions. The BIAC switch responds to voltage from a sensor coil located inside the motor. This sensor coil voltage is proportional to motor speed (RPM).
- This reverse impact torque will literally shake and loosen many obstructions. Once cleared, the motor will run in proper rotation.

Bound pump (sand-locked)

- When the motor is not free to turn, as with a sand-locked pump, the BIAC switch creates a “reverse impact torque “ as described above. This is a unique feature, particularly interesting in sandy environments or applications where long stand-still periods are to be expected (seasonal usage of water).

4" ENCAPSULATED MOTOR - 1-PHASE | 2-WIRE DESIGN

4CT MOTOR - 1-PHASE | 2-WIRE - MOTOR MODEL NO.

P_N [kW]	U_N [V]	Digit 1 - 6	Digit 7 - 10	
			single pack, with lead	motors in 40 motors packing unit
0.37	220-230	244 755	6721L	6721
0.55	220-230	244 757	6721L	6721
0.75	220-230	244 758	6721L	6721
1.1	220-230	244 759	6721L	6721

lead lengths motors: „L“ with 2.50 m pre-mounted cable

4CT MOTOR - 1-PHASE | 2-WIRE - MOTOR PERFORMANCE DATA

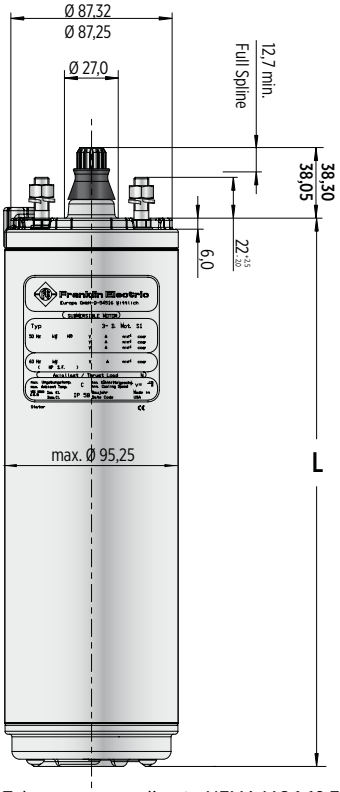
P_N [kW]	Thrust F [N]	U_N [V]	n_N [min^{-1}]	I_N [A]	I_A [A]	η (Eff.) at % load			cos φ (Pf.) at % load			T_N [Nm]	T_A [Nm]
						50	75	100	50	75	100		
0.37	4000	220	2875	4.1	24.4	48	55	57	0.57	0.68	0.76	1.24	1.18
		230	2890	4.1	25.5	47	54	57	0.53	0.64	0.73	1.23	1.29
0.55	4000	220	2870	5.7	35	50	57	59	0.55	0.67	0.77	1.85	1.7
		230	2890	5.8	36.6	47	55	59	0.51	0.63	0.73	1.85	1.9
0.75	4000	220	2875	7.2	46.6	54	61	62	0.57	0.69	0.78	2.5	2.1
		230	2890	7.3	48.7	51	59	61	0.53	0.65	0.75	2.5	2.3
1.1	4000	220	2880	10.6	57.9	56	62	63	0.56	0.68	0.77	3.7	2.7
		230	2895	10.8	59.7	52	60	63	0.51	0.63	0.73	3.7	2.9

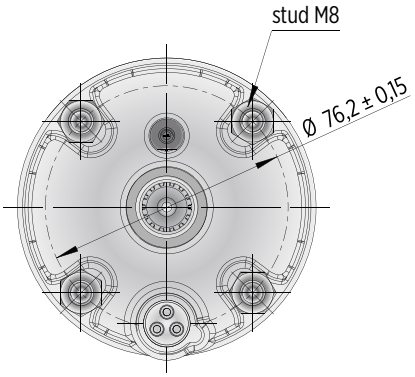
4CT MOTOR - 1-PHASE | 2-WIRE - WINDING RESISTANCE DATA

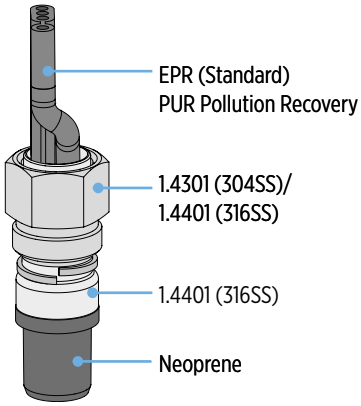
P_N [kW]	U_N [V]	stator reference no. 304SS	Main phase [Ohm]
0.37	220 - 230	326 821 ***	7,2 - 8,8
0.55	220 - 230	326 822 ***	5,0 - 6,1
0.75	220 - 230	326 823 ***	3,6 - 4,4
1.1	220 - 230	326 823 ***	2,3 - 2,8

4" ENCAPSULATED MOTOR - 1-PHASE | 2-WIRE DESIGN

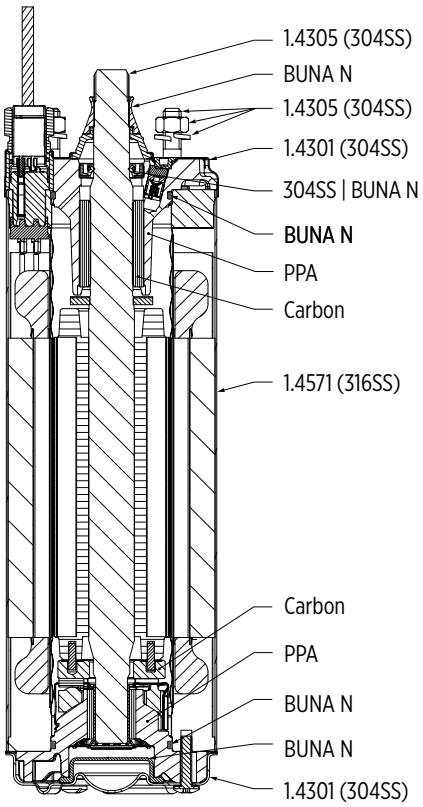
4CT MOTOR - 1-PHASE | 2-WIRE - MOTOR DESIGN





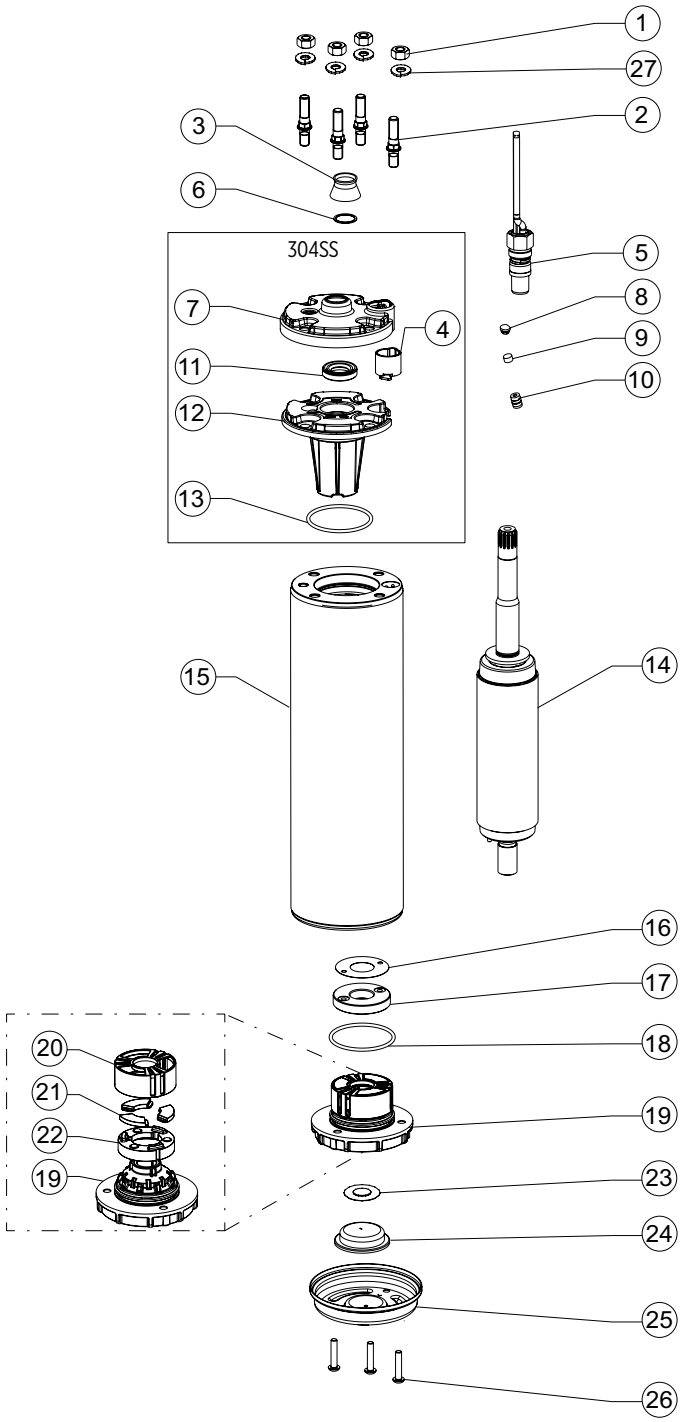


Tolerances according to NEMA MG 1-18.388



4" ENCAPSULATED MOTOR - 1-PHASE | 2-WIRE DESIGN

4CT MOTOR - 1-PHASE | 2-WIRE - MOTOR PART DESCRIPTION



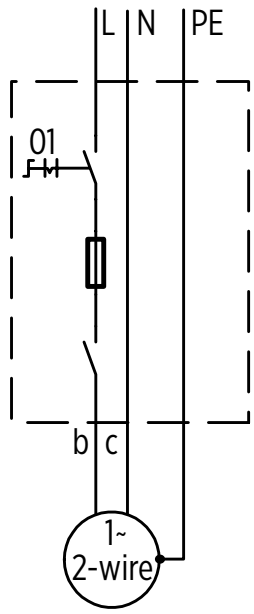
Pos.	part description	qty.	part no.
1	nut	4	Kit C
2	stud	4	Kit C
3	protector (spline)	1	Kit B
4	connector boss	1	151 820 103
5	motor lead	1	*see page 16*
6	washer	1	Kit B
7	top endbell, cover 304SS	1	150 262 151
8	filter plug	1	Kit
9	filter	1	Kit
10	valve	1	Kit
11	shaft seal	1	Kit B
12	top endbell	1	KIt
13	O-ring	1	Kit B
14	rotor	1	*cf. section*
15	stator	1	*cf. section*
16	level washer	1	Kit A2
17	thrust disc assy	1	Kit A2
18	O-ring	1	Kit B / Kit A2
19	bottom endbell	1	Kit A2
20	bearing cage	1	Kit A2
21	segments	3	Kit A2
22	gasket	1	Kit A2
23	diaphragm washer	1	151 314 101 / Kit A2
24	diaphragm	1	Kit B / KitA2
25	bottom endbell cover 304SS	1	156 414 201 / Kit A2
26	screw, cover	3	Kit C
27	lock washer	4	Kit C

4" ENCAPSULATED MOTOR – 1-PHASE | 2-WIRE DESIGN

4CT MOTOR - 1-PHASE | 2-WIRE - DIMENSIONS AND WEIGHTS

P_N		motor		motor with lead in single pack	
[kW]	[HP]	length [mm]	weight [kg]	dimensions [mm]	weight [kg]
0.37	0.5	228.2	6.7	400 x 100 x 110	7.1
0.55	0.75	248.2	7.6	400 x 100 x 110	7.9
0.75	1	282.6	8.8	530 x 100 x 110	9.1
1.1	1.5	338.6	11.3	530 x 100 x 110	11.6

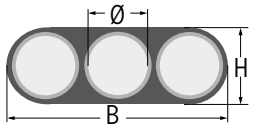
4CT MOTOR - 1-PHASE | 2-WIRE - CONNECTIONS

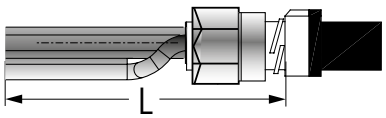


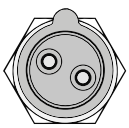
a = black (BK) | b = brown (BN)
c = grey (GY) |PE = yellow/green (YE/GN

4CT MOTOR - 1-PHASE | 2-WIRE - MOTOR LEADS

Ø [mm²]	B [mm]
3X1,5	10,7 ± 0,3







length [m]	model no. 304SS
1.5	310 134 401
2.5	311 134 402
5	312 134 405
10	313 134 410
15	314 134 415
20	315 134 420
30	316 134 430

4" ENCAPSULATED MOTOR - 1-PHASE | 2-WIRE DESIGN

4CT MOTOR - 1-PHASE | 2-WIRE - MOTOR SPARE PARTS - KITS

Kit	description	included positions	part no.
Kit A1	Top endbell 304SS	4, 7, 8, 9, 10, 11 , 12, 13	308 462 902
Kit A2	bottom endbell 304SS incl. thrust bearing kit 4000N	16 - 22	308 464 911
Kit B	Seal kit Standard 304SS	3, 6, 8, 9, 11, 13, 18, 23, 24	308 650 201
	Seal kit Pollution Recovery 304SS		308 650 202
Kit C	fastener kit 304SS	1, 2, 26, 27	308 656 202

4CT MOTOR - 1-PHASE | 2-WIRE - MOTOR SPARE PARTS - STATOR AND ROTOR

P_N [kW]	U_N [V]	model no. stator 304SS	model no. rotor 304SS
0.37	220 / 230	305 491 881	178 164 902K
0.55	220 / 230	305 491 882	178 164 903K
0.75	220 / 230	305 491 883	178 164 905K
1.1	220 / 230	305 491 884	178 164 908K

4" ENCAPSULATED MOTOR – 1-PHASE | 3-WIRE DESIGN

FEATURES & BENEFITS

- NEMA mounting design with metric studs [M8]
- 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.
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Field replaceable round plug lead using Franklin's exclusive Water Bloc technology with extended jam nut in Stainless steel
- Stator shell in 316SS (suitable for use in water with increased salinity)
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Drinking water approvals
- Ideally combined with FE 3-wire control boxes for maximum system performance, protection and warranty

STANDARD SPECIFICATION

- Ratings: 0.25 - 2.2 kW
- Thrust load: 4 kN
- Standard voltage: 1~ 220-230 V (50 Hz) | 230 V (60 Hz)
- Max. storage temperature: -15 °C - +50 °C
- Nominal ambient temperature: 30 °C (with 0.08 m/s cooling flow)
- Voltage tolerance U_N: -10 % / +6 % (50 Hz), ±10 % (60 Hz)
- protection IP68
- insulation class B
- Frequency of starts: 20 starts/ hour (with min. 3 minutes resting time), equally distributed
- All motors with factory installed leads (1.50 m / 2.50 m)
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (1 phase motors CW upon request)

Pollution Recovery version

- Fluorelastomere (Viton®) rubber parts
- Special Polyuretane (PUR) lead assemblies
- 304SS (316SS stator) graded Stainless Steel as Standard

OPTIONS

- Higher-graded material: 316SS
- Built in lightning arrestors
- Special lead lengths

STAINLESS STEEL 304 STAINLESS STEEL 316



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



4" encapsulated motors

Kingsbury type thrust bearing

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

Pressure-equalizing diaphragm

4" ENCAPSULATED MOTOR – 1-PHASE | 3-WIRE DESIGN

4CT MOTOR - 1-PHASE | 3-WIRE - MOTOR MODEL NO. | 220-230 V | 50 HZ

P_N [kW]	U_N [V]	Digit 1 - 6	Digit 7 - 10							
			304SS Standard		304SS Pollution Recovery		316SS Standard		316SS Pollution Recovery	
			single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit
0.25	220-230	214 753	6721L	6721	6723L	6723	6821L	6821	6823L	6823
0.37	220-230	214 755	6721L	6721	6723L	6723	6821L	6821	6823L	6823
0.55	220-230	214 757	6721L	6721	6723L	6723	6821L	6821	6823L	6823
0.75	220-230	214 758	6721L	6721	6723L	6723	6821L	6821	6823L	6823
1.1	220-230	224 750	6721L	6721	6723L	6723	6821L	6821	6823L	6823
1.5	220-230	224 751	6721L	6721	6723L	6723	6821L	6821	6823L	6823
2.2	220-230	224 752	6721L	6721	6723L	6723	6821L	6821	6823L	6823

lead lengths motors: „L“: up to 1.5 kW with 1.50 m preassembled cable, starting at 2.2 kW with 2.50 m pre-mounted cable

4CT MOTOR - 1-PHASE | 3-WIRE - MOTOR MODEL NO. | 230 V | 60 HZ

P_N [kW]	P_{MAX} [kW]	U_N [V]	Digit 1 - 6	Digit 7 - 10							
				304SS Standard		304SS Pollution Recovery		316SS Standard		316SS Pollution Recovery	
				single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit
0.25	0.33	230	214 70*	6721L	6721	6723L	6723	6821L	6821	6823L	6823
0.37	0.59	230	214 705	6721L	6721	6723L	6723	6821L	6821	6823L	6823
0.55	0.83	230	214 707	6721L	6721	6723L	6723	6821L	6821	6823L	6823
0.75	1	230	214 708	6721L	6721	6723L	6723	6821L	6821	6823L	6823
1.1	1.4	230	224 700	6721L	6721	6723L	6723	6821L	6821	6823L	6823
1.5	1.8	230	224 701	6721L	6721	6723L	6723	6821L	6821	6823L	6823
2.2	2.5	230	224 702	6721L	6721	6723L	6723	6821L	6821	6823L	6823

lead lengths motors: „L“: up to 1.5 kW with 1.50 m preassembled cable, starting at 2.2 kW with 2.50 m pre-mounted cable

4CT MOTOR - 1-PHASE | 3-WIRE - MOTOR PERFORMANCE DATA | 220-230 V | 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	4000	220	2850	2.8	9.3	43	50	53	0.61	0.7	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	4000	220	2855	3.9	13.1	48	55	56	0.58	0.69	0.77	1.23	1.9
		230	2870	4	13.7	46	53	56	0.55	0.65	0.74	1.23	2.05
0.55	4000	220	2860	5.9	20.6	46	53	56	0.58	0.69	0.77	1.84	3
		230	2880	5.9	21.6	45	53	56	0.53	0.64	0.73	1.82	3.2
0.75	4000	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	4000	220	2875	8.6	41.3	63	68	69	0.69	0.8	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	4000	220	2860	10.6	55.4	66	71	71	0.75	0.85	0.91	5	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	0.8	0.88	7.3	15

4" ENCAPSULATED MOTOR - 1-PHASE | 3-WIRE DESIGN

4CT MOTOR - 1-PHASE | 3-WIRE - MOTOR PERFORMANCE DATA | 230 V | 60 HZ

P_N [kW]	P_{MAX} [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	0.33	4000												
0.37	0.59	4000	230	3470	5.6	21.6	53	59	62	0.64	0.69	0.78	1	2.7
0.55	0.83	4000	230	3470	7.6	30.4	54	60	62	0.59	0.71	0.79	1.5	3.7
0.75	1	4000	230	3470	9.2	37	56	62	64	0.6	0.72	0.8	2	4.9
1.1	1.4	4000	230	3460	10.2	46	60	67	70	0.75	0.83	0.88	3.9	5.5
1.5	1.8	4000	230	3425	12.2	51	66	71	72	0.82	0.89	0.92	5	5.6
2.2	2.5	4000	230	3440	15.1	68	66	73	75	0.98	0.98	0.98	7	11.7

4CT MOTOR - 1-PHASE | 3-WIRE - WINDING RESISTANCE DATA | 220-230 V | 50 HZ

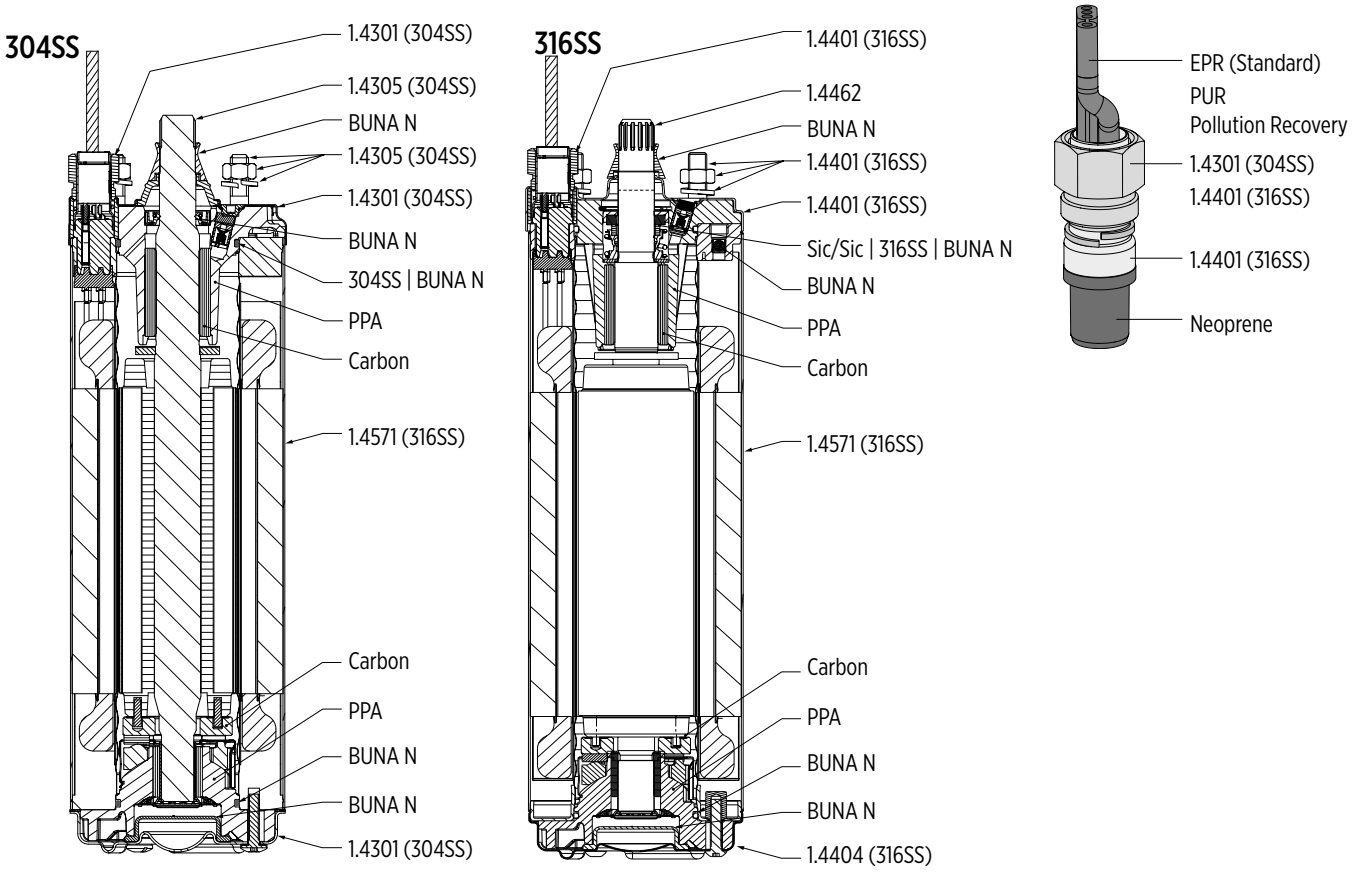
P_N [kW]	U_N [V]	stator reference no. 304SS	main phase [Ohm]	start phase [Ohm]
0.25	220 / 230	326 807 ***	10,6 - 13,0	38,3 - 46,8
0.37	220 / 230	326 808 948	7,3 - 8,9	23,9 - 29,3
0.55	220 / 230	326 809 948	4,8 - 5,8	18,5 - 22,7
0.75	220 / 230	326 810 948	3,5 - 4,3	14,8 - 18,0
1.1	220 / 230	326 811 948	2,6 - 3,2	6,9 - 8,4
1.5	220 / 230	326 812 948	2,0 - 2,4	5,3 - 6,4
2.2	220 / 230	326 813 948	1,3 - 1,6	3,8 - 4,6

4CT MOTOR - 1-PHASE | 3-WIRE - WINDING RESISTANCE DATA | 230 V | 60 HZ

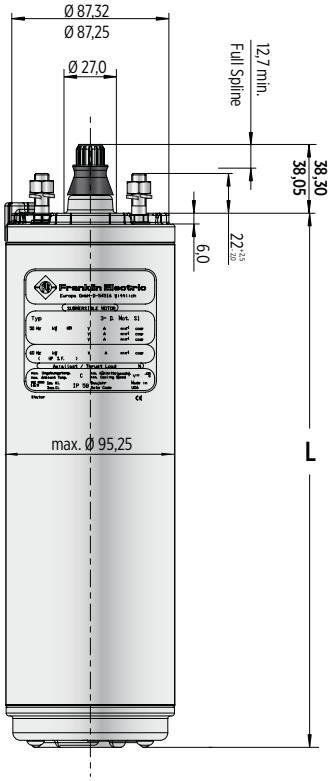
P_N [kW]	P_{MAX} [kW]	U_N [V]	stator reference no. 304SS	main phase [Ohm]	start phase [Ohm]
0.25	0.33	230			
0.37	0.59	230	326 892 ***	4,5 - 5,5	14,4 - 17,6
0.55	0.83	230	326 893	3,3 - 4,0	10,7 - 13,1
0.75	1	230	326 894	2,6 - 3,1	8,7 - 10,7
1.1	1.4	230	326 895	2,0 - 2,5	6,8 - 8,3
1.5	1.8	230	326 896	1,7 - 2,1	5,9 - 7,2
2.2	2.5	230	326 897	1,3 - 1,6	3,5 - 4,3

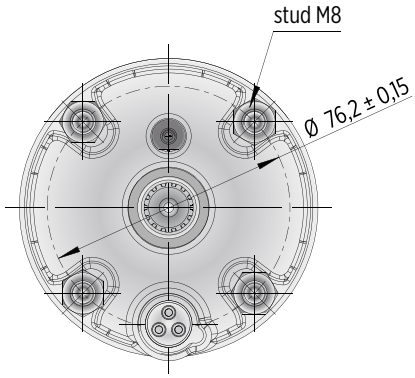
4" ENCAPSULATED MOTOR - 1-PHASE | 3-WIRE DESIGN

4CT MOTOR - 1-PHASE | 3-WIRE - MOTOR DESIGN



4CT MOTOR - 1-PHASE | 3-WIRE - DIMENSIONS AND WEIGHTS



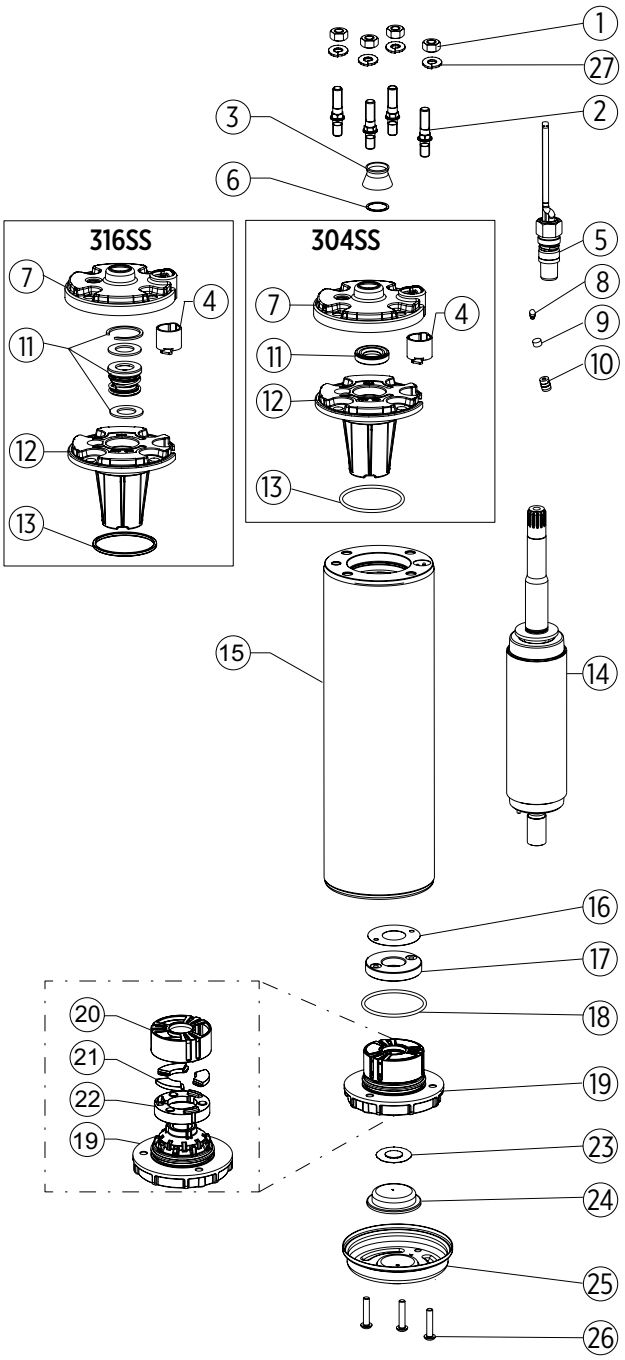


P_N		motor		motor with lead in single pack	
[kW]	[HP]	length [mm]	weight [kg]	dimensions [mm]	weight [kg]
0.25	0.33	237.2	6.55	400 x 100 x 110	7.25
0.37	0.5	251.1	7.2	400 x 100 x 110	7.9
0.55	0.75	271.2	8.35	530 x 100 x 110	9.05
0.75	1	297.2	9.3	530 x 100 x 110	10
1.1	1.5	353.2	10.45	530 x 100 x 110	11.15
1.5	2	364.2	11.9	796 x 100 x 110	12.6
2.2	3	451.2	16.65	796 x 100 x 110	17.35

Tolerances according to NEMA MG 1-18.388

4" ENCAPSULATED MOTOR – 1-PHASE | 3-WIRE DESIGN

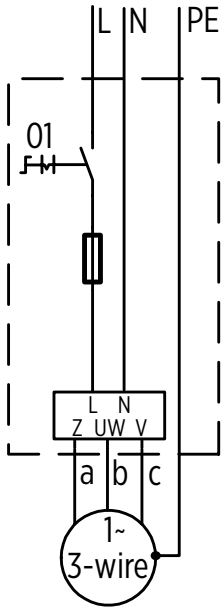
4CT MOTOR - 1-PHASE | 3-WIRE - PART DESCRIPTION



Pos.	part description	qty.	part no.
1	nut	4	Kit C
2	stud	4	Kit C
3	protector (spline)	1	Kit B
4	connector boss	1	151 820 103
5	motor lead	1	*cf. section*
6	washer	1	Kit B
7	top endbell, cover 304SS	1	150 262 151
	top endbell, cover 316SS	1	150 262 251
8	filter plug	1	Kit
9	filter	1	Kit
10	valve	1	Kit
11	shaft seal	1	Kit B
12	top endbell	1	KIt
13	O-ring	1	Kit B
14	rotor	1	*cf. section*
15	stator	1	*cf. section*
16	level washer	1	Kit A2
17	thrust disc assy	1	Kit A2
18	O-ring	1	Kit B / Kit A2
19	bottom endbell	1	Kit A2
20	bearing cage	1	Kit A2
21	segments	3	Kit A2
22	gasket	1	Kit A2
23	diaphragm washer	1	151 314 101 / Kit A2
24	diaphragm	1	Kit B / KitA2
25	bottom endbell cover 304SS	1	156 414 201 / Kit A2
	bottom endbell cover 316SS	1	156 414 301 / Kit A2
26	screw, cover	3	Kit C
27	lock washer	4	Kit C

4" ENCAPSULATED MOTOR - 1-PHASE | 3-WIRE DESIGN

4CT MOTOR - 1-PHASE | 3-WIRE - CONNECTIONS

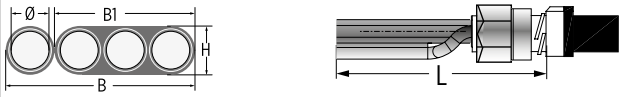


a = black (BK) | b = brown (BN) |
c = grey (GY) | PE = yellow/green (YE/GN)

4CT MOTOR - 1-PHASE | 3-WIRE - MOTOR LEADS

motor leads 3-wire

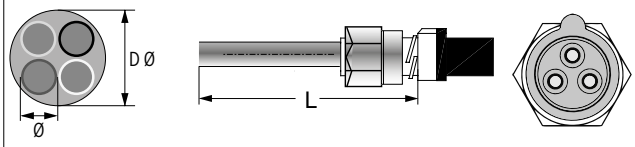
Ø [mm²]	B [mm]	B1 [mm]	H [mm]
3X1,5 + 1G1,5	16.8	10.7	5



L [m]	model no.	
	304SS	316SS
1.5	310 113 401	310 113 501
2.5	310 113 402	310 113 502
5	310 113 405	310 113 505
10	310 113 410	310 113 510
15	310 113 415	310 113 515
20	310 113 420	310 113 520
30	310 113 430	310 113 530
40	310 113 440	310 113 540
50	310 113 450	310 113 550

motor leads 3-wire Pollution Recovery

Ø [mm²]	D [mm]
1.5	9.8



length [m]	model no.
	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 MOTOR – 1-PHASE | 3-WIRE DESIGN

4CT MOTOR - 1-PHASE | 3-WIRE - MOTOR SPARE PARTS - KITS

Kit	description	included positions	part no.
Kit A1	Top endbell 304SS	4, 7, 8, 9, 10, 11 , 12, 13	308 462 902
	Top endbell 316SS		308 462 952
Kit A2	bottom endbell 304SS incl. thrust bearing kit 4000N	16 - 22	308 464 911
	bottom endbell 316SS incl. thrust bearing kit 4000N		308 464 912
Kit B	Seal kit Standard 304SS	3, 6, 8, 9, 11, 13, 18, 23, 24	308 650 201
	Seal kit Standard 316SS		308 650 251
	Seal kit Pollution Recovery 304SS		308 650 202
	Seal kit Pollution Recovery 316SS		308 650 252
Kit C	fastener kit 304SS	1, 2, 26, 27	308 656 202
	fastener kit 316SS		308 656 252

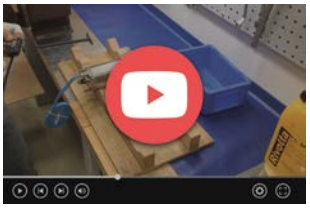
4CT MOTOR - 1-PHASE | 3-WIRE - MOTOR SPARE PARTS - STATOR AND ROTOR | 50 HZ

P_N [kW]	U_N [V]	model no. stator 304SS | 316SS	model no. rotor 304SS	model no. rotor 316SS
0.25	220 / 230	305 491 841	178 164 901K	178 164 921K
0.37	220 / 230	305 491 842	178 164 902K	178 164 922K
0.55	220 / 230	305 491 843	178 164 903K	178 164 923K
0.75	220 / 230	305 491 844	178 164 905K	178 164 925K
1.1	220 / 230	305 491 845	178 164 908K	178 164 928K
1.5	220 / 230	305 491 846	178 164 909K	178 164 929K
2.2	220 / 230	305 491 847	178 164 911K	178 164 931K

4CT MOTOR - 1-PHASE | 3-WIRE - MOTOR SPARE PARTS - STATOR AND ROTOR | 60 HZ

P_N [kW]	P_{MAX} [kW]	U_N [V]	model no. stator 304SS | 316SS	model no. rotor 304SS	model no. rotor 316SS
0.37	0.59	230	305 491 931	178 164 902 K	178 164 923K
0.55	0.83	230	305 491 932	178 164 903 K	178 164 925K
0.75	1	230	305 491 933	178 164 905 K	178 164 927K
1.1	1.4	230	305 491 934	178 164 908K	178 164 928K
1.5	1.8	230	305 491 935	178 164 909K	178 164 929K
2.2	2.5	230	305 491 936	178 164 911K	178 164 931K

YOUTUBE TUTORIALS


Tutorial 4CT cable mounting


Tutorial 4CT cable installation


Tutorial 4" termination kit assembly

4" ENCAPSULATED HIGH THRUST MOTOR – 1-PHASE | 3-WIRE DESIGN

FEATURES & BENEFITS

- NEMA mounting design with studs [5/16-24 UNF]
- 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.
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Field replaceable round plug lead using Franklin's exclusive Water Bloc technology with extended jam nut in Stainless steel
- Pressure-equalizing diaphragm
- Stator shell in 304SS
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Drinking water approvals
- Best performance and protection in combination with Franklin Electric 3-wire control boxes

Pollution Recovery version

- Fluorelastomere (Viton®) rubber parts
- Special Polyuretane (PUR) lead assemblies
- 304SS (316SS stator) graded Stainless Steel as Standard

OPTIONS

- Built-in surge arrestors
- Special lead lengths up to 50 m
- Motors with factory-installed lead in single packing
- Moteur 4CT - Monophasé | 2 fils - stator et rotor
- Stator shell in 316SS
  (Suitable for use in water with increased salinity)
- Special voltages
- Franklin Electric 3-wire control boxes for maximum system performance, protection and warranty



4" encapsulated motors

STANDARD SPECIFICATION

- Ratings: 2.2 - 3.7 kW
- Thrust load: 6.5 kN
- Standard voltage: 1~ 220-230 V (50 Hz) | 230 V (60 Hz)
- Max. storage temperature -15 °C - +50 °C
- Nominal ambient temperature: 30 °C (with 0.08 m/s cooling flow)
- Voltage tolerance U_N: -10 % / +6 % (50 Hz), ±10 % (60 Hz)
- Protection IP68
- insulation class B
- Frequency of starts: 20 starts/ hour
  (with min. 3 minutes resting time), equally distributed
- All motors with factory installed leads
  (1.50 m / 2.50 m)
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end
  (1 phase motors CW upon request)

STAINLESS STEEL 304 | STAINLESS STEEL 316



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

6.5 kN High Thrust Kingsbury type thrust bearing

High capacity 6.5 kN Kingsbury type thrust bearing for 100 % maintenance free operation.

Pressure-equalizing diaphragm

4" ENCAPSULATED HIGH THRUST MOTOR – 1-PHASE | 3-WIRE DESIGN

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - MOTOR MODEL NO. | 220-230 V | 50 HZ

P_N [kW]	U_N [V]	Digit 1 - 6	Digit 7 - 10							
			304SS Standard		304SS Pollution Recovery		316SS Standard		316SS Pollution Recovery	
			single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit
2.2	220-230	224 752	3421L	3421	3422L	3422	3521L	3521	3522L	3522
3.7	220-230	224 753	3421L	3421	3422L	3422	3521L	3521	3522L	3522

lead lengths motors: „L“ with 2.50 m pre-mounted cable

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - MOTOR MODEL NO. | 230 V | 60 HZ

P_N [kW]	P_{MAX} [kW]	U_N [V]	Digit 1 - 6	Digit 7 - 10			
				304SS		316SS	
				single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit
2.2	2.5	230	214 70*	3421	3421L	3521	3521L
3.7	4.2	230	214 705	3421	3421L	3521	3521L

lead lengths motors: „L“ with 2.50 m pre-mounted cable

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - MOTOR PERFORMANCE DATA | 220-230 V | 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	0.8	0.88	7.3	15
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

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - MOTOR PERFORMANCE DATA | 230 V | 60 HZ

P_N [kW]	P_{MAX} [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	2.5	6500	230	3440	15.1	68	66	73	75	0.98	0.98	0.98	7	11.7
3.7	4.2	6500	230	3450	24.5	102	70	76	77	0.98	0.99	0.99	11.7	16.1

4" ENCAPSULATED HIGH THRUST MOTOR – 1-PHASE | 3-WIRE DESIGN

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - WINDING RESISTANCE DATA | 220-230 V | 50 HZ

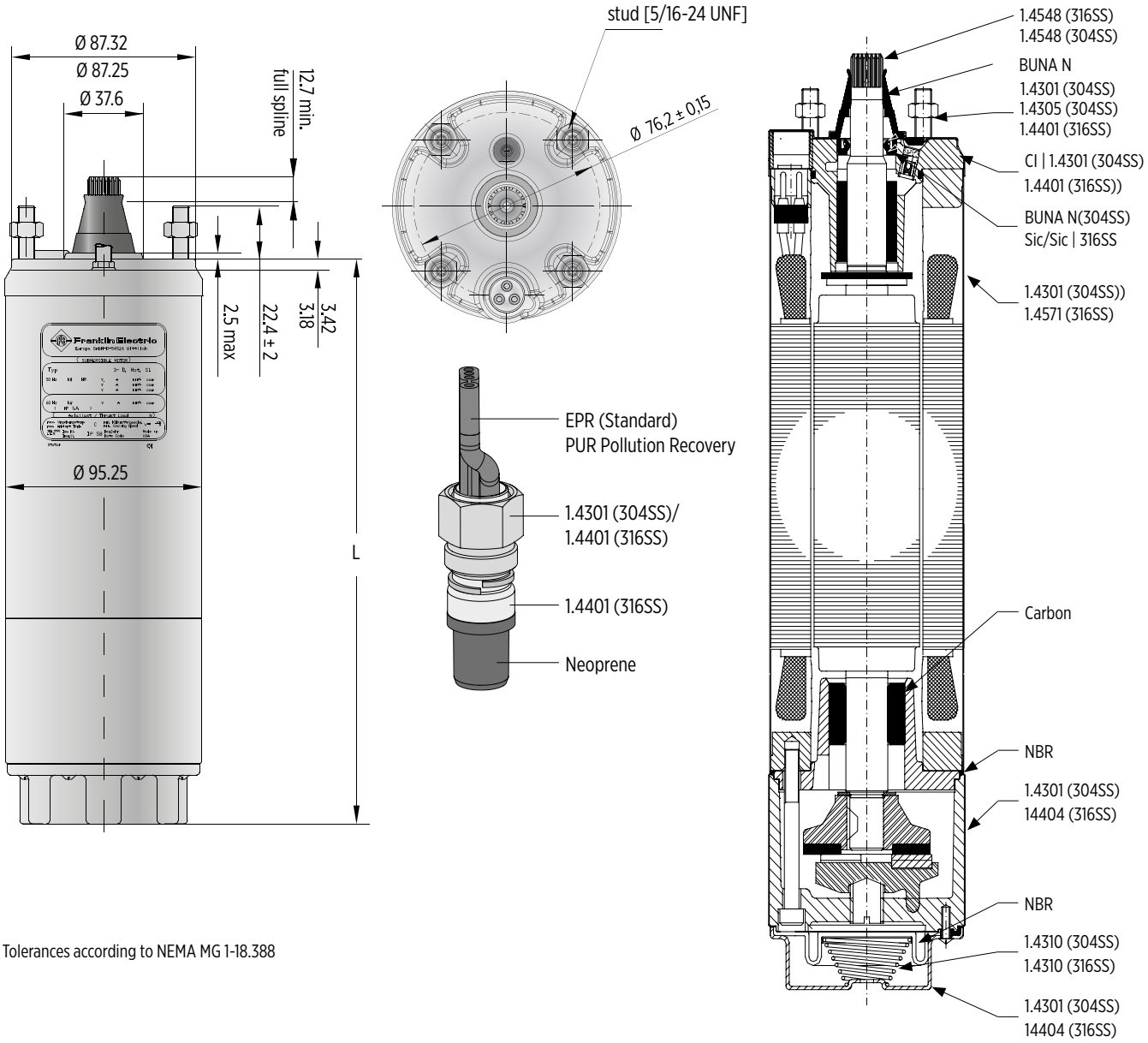
P_N [kW]	U_N [V]	stator reference no.	main phase [Ohm]	start phase [Ohm]
2.2	220 / 230	326 813 912	1,3 - 1,6	3,8 - 4,6
3.7	220 / 230	326 813 912	1,0 - 1,3	2,5 - 3,1

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - WINDING RESISTANCE DATA | 230 V | 60 HZ

P_N [kW]	P_{MAX} [kW]	U_N [V]	stator reference no.	main phase [Ohm]	start phase [Ohm]
2.2	2.5	230	326 897	1,3 - 1,6	3,5 - 4,3
3.7	4.2	230	326 898	0,9 - 1,1	1,7 - 2,1

4" ENCAPSULATED HIGH THRUST MOTOR – 1-PHASE | 3-WIRE DESIGN

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - MOTOR DESIGN | 304SS



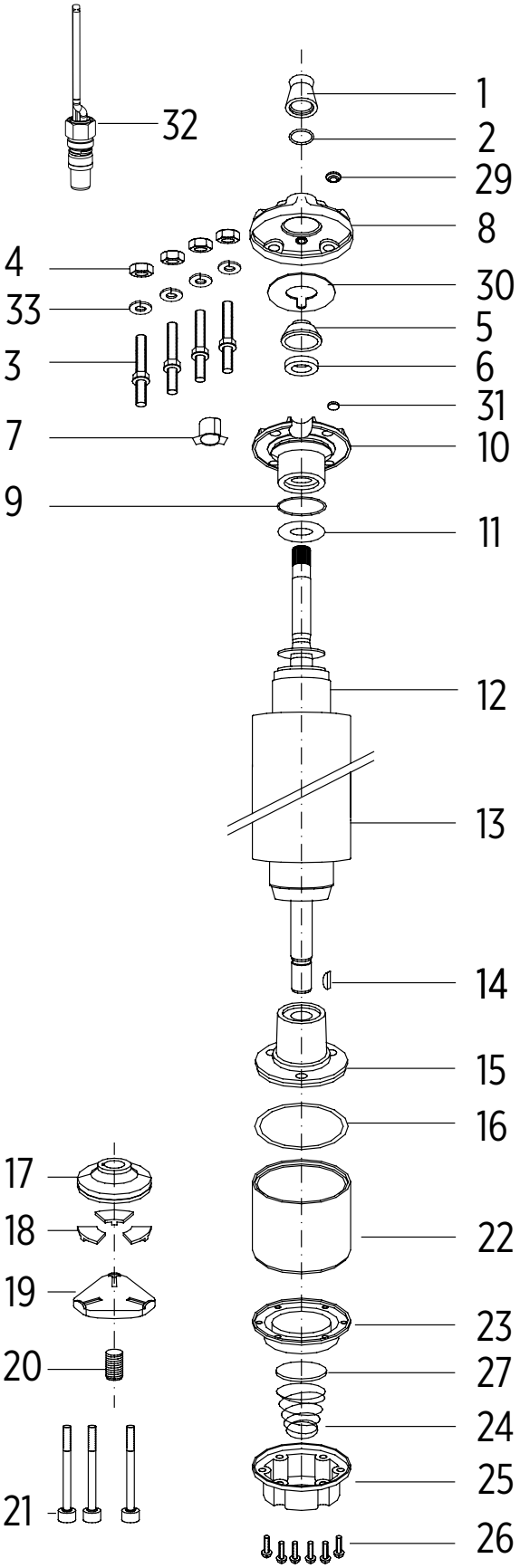
Tolerances according to NEMA MG 1-18.388

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - DIMENSIONS AND WEIGHTS

P_N		motor				motor with lead in single pack		
[kW]	[HP]	length [mm]		weight [kg]		dimensions [mm]	weight [kg]	
		304SS	316SS	304SS	316SS		304SS	316SS
2.2	2.5	520.2	529.4	21.3	21.8	796 x 100 x 110	23.1	23.6
3.7	4.2	652.5	661.7	26.4	27.3	904 x 100 x 110	28.5	29.4

4" ENCAPSULATED HIGH THRUST MOTOR – 1-PHASE | 3-WIRE DESIGN

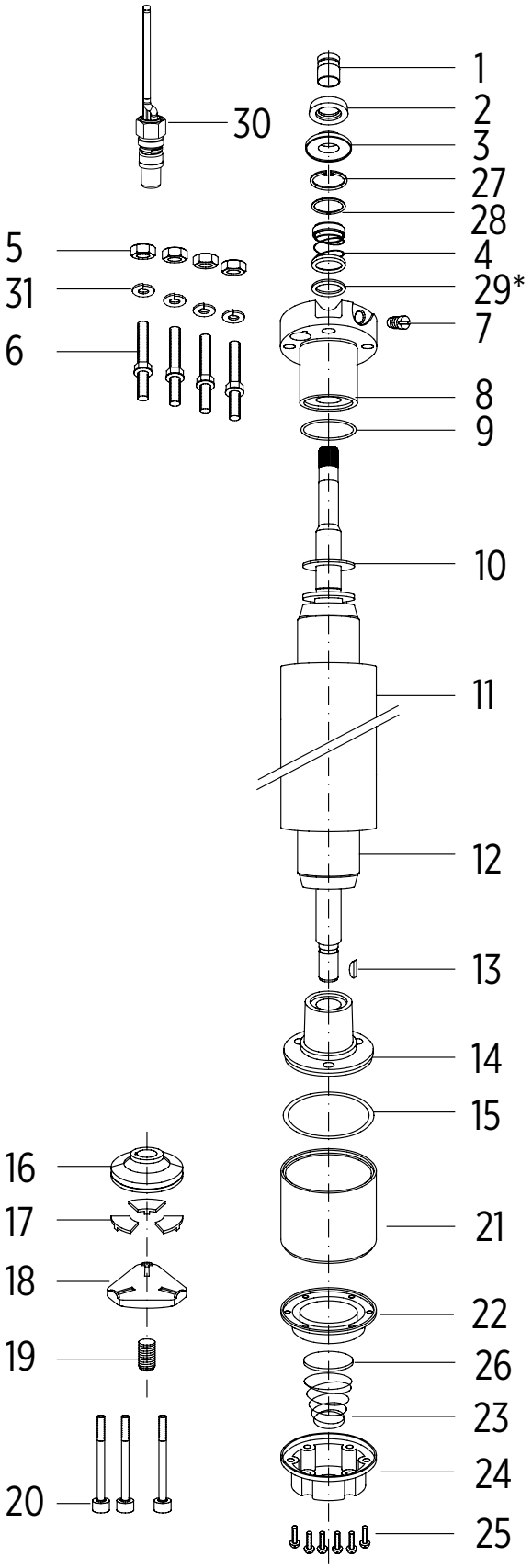
4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - MOTOR PART DESCRIPTION | 304SS



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 2.2 kW	1	308 268 104
	Upthrust washer 3.7 kW		308 317 901
12	rotor	1	*cf. section*
13	stator	1	*cf. section*
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	segments	1	Kit A
19	leveling disc	1	155 660 101
20	screw adjusted	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	164 100 50
26	screw	6	Kit C
27	cup spring, diaphragm	1	151 448 201
29	sealing stopper	1	Kit B+D
30	seal	1	Kit D
31	filter	1	Kit B+D
32	motor lead	1	*cf. section*
33	lock washer	4	Kit C

4" ENCAPSULATED HIGH THRUST MOTOR – 1-PHASE | 3-WIRE DESIGN

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - MOTOR PART DESCRIPTION | 316SS

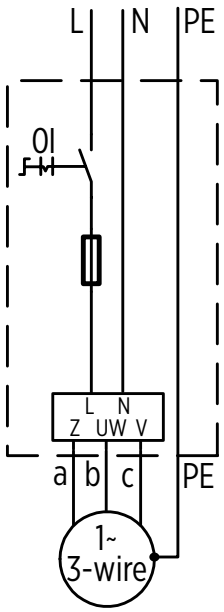


Pos.	part description	qty.	part no.
1	protector (spline)	1	Kit C
2	sand slinger	1	Kit C
3	seal cover	1	Kit B + C
4	shaft seal	1	Kit B
5	nut	4	Kit D
6	stud	4	Kit D
7	sealing screw	1	308 279 903
8	top endbell	1	Kit
9	O-ring	1	Kit B
10	Upthrust washer 2.2 kW	1	308 268 104
	Upthrust washer 3.7 kW		308 317 901
11	stator	1	*cf. section*
12	rotor	1	*cf. section*
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 adjusted	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	364 100 50
25	screw	6	Kit C
26	cup spring, diaphragm	1	151 448 201
27	ring	1	Kit B
28	retain ring	1	Kit B
29*	washer	1	308 747 201
30	motor lead	1	*cf. section*
31	lock washer	4	Kit C

*only for 2.2 - 3 kW

4" ENCAPSULATED HIGH THRUST MOTOR – 1-PHASE | 3-WIRE DESIGN

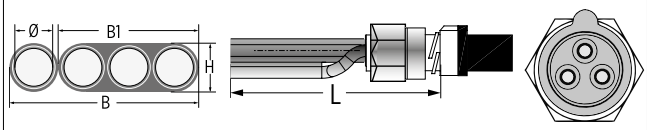
4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - CONNECTIONS



a = black (BK) | b = brown (BN) |
c = grey (GY) | PE = yellow/green (YE/GN)

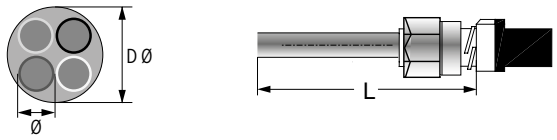
4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - MOTOR LEADS

4CT High Thrust motor - 3-phase			
Ø [mm²]	B [mm]	B1 [mm]	H [mm]
3X1,5 + 1G1,5	16.8	10.7	5



length [m]	model no.	
	304SS	316SS
1.5	310 113 401	310 113 501
2.5	310 113 402	310 113 502
5	310 113 405	310 113 505
10	310 113 410	310 113 510
15	310 113 415	310 113 515
20	310 113 420	310 113 520
30	310 113 430	310 113 530
40	310 113 440	310 113 540

4CT High Thrust motor - 3-phase - Pollution Recove	
Ø [mm²]	D [mm]
1.5	9.8



length [m]	model no.
	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 HIGH THRUST MOTOR – 1-PHASE | 3-WIRE DESIGN

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - MOTOR SPARE PARTS - KITS

Kit	description	included positions	part no.
Kit	End bell, upper | 304SS | 2,2 kW	5, 6, 7, 8, 9, 10, 29,30, 31	308 462 902
	End bell, upper | 316SS | 2,2 kW	8	177 390 955
Kit	End bell, upper | 304SS | 3,7 kW	5, 6, 7, 8, 9, 10, 29, 30, 31	308 434 501
	End bell, upper | 316SS | 3,7 kW	8	177 390 955
Kit A	thrust bearing kit 6500N	17, 18	308 700 301
Kit B	seal kit 304SS	1, 2, 6, 9, 16, 23, 29, 31	308 900 351
	seal kit 316SS	4, 9, 15, 22, 27, 28	308 900 302
Kit B1	Seal kit Pollution Recovery 304SS	1, 2, 6, 9, 16, 23,29, 31	308 900 401
Kit B2	sand slinger kit 316SS motors	1, 2, 3	308 825 201
Kit C	screw kit 304SS	3, 4, 21, 26, 33	308 658 351
	screw kit 316SS	5, 6, 20, 25, 31	308 658 301

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - STATOR AND ROTOR | 304SS | 50 HZ

P_N [kW]	U_N [V]	model no.	
		stator 304SS[50 Hz]	rotor 304SS [50 Hz]
2.2	220 / 230	305 491 181	178 126 903K
3.7	220 / 230	305 491 182	178 133 903K

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - STATOR AND ROTOR | 316SS | 50 HZ

P_N [kW]	U_N [V]	model no.	
		stator 316SS [50 Hz]	rotor 316SS [50 Hz]
2.2	220 / 230	305 491 541	178 126 913K
3.7	220 / 230	305 491 542	178 133 913K

4CT HIGH THRUST MOTOR - 1-PHASE | 3-WIRE - STATOR AND ROTOR | 316SS | 60 HZ

P_N [kW]	P_{MAX} [kW]	U_N [V]	model no.	
			stator 316SS [60 Hz]	rotor 316SS [60 Hz]
2.2	2.5	230	326 897 ***	178 126 903K
3.7	4.2	230	326 898 ***	178 135 903K

4" ENCAPSULATED MOTOR – 3-PHASE

FEATURES & BENEFITS

- NEMA mounting design with metric studs [M8]
- 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.
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Field replaceable round plug lead using Franklin's exclusive Water Bloc technology with extended jam nut in Stainless steel
- Stator shell in 316SS (suitable for use in water with increased salinity)
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Drinking water approvals
- VFD operation up to a rated voltage of 400 V (in compliance with the application guidelines in the motor operating instructions and the VFD manufacturer). For VFD operation with higher voltages, please consult Franklin Electric.

STANDARD SPECIFICATION

- Ratings: 0.25 - 3.0 kW
- Thrust load: 4 kN
- Standard voltage: 3~ 230/380-415 V (50 Hz) | 230/380/460 V (60 Hz)
- Max. storage temperature: -15 °C - +50 °C
- Nominal ambient temperature: 30 °C (with 0.08 m/s cooling flow)
- Voltage tolerance $U_{N:}$ -10 % / +6 % (50 Hz), ±10 % (60 Hz)
- protection IP68
- insulation class B
- Frequency of starts: 20 starts/ hour (with min. 3 minutes resting time), equally distributed
- All motors with factory installed leads (1.50 m / 2.50 m)
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)

Pollution Recovery version

- Fluorelastomere (Viton®) rubber parts
- Special Polyuretane (PUR) lead assemblies
- 304SS (316SS stator) graded Stainless Steel as Standard

OPTIONS

- Built in lightning arrestors
- Higher-graded material: 316SS
- Special lead lengths up to 50 m
- Motors with factory-installed lead in single packing
- Special voltages

STAINLESS STEEL 304

STAINLESS STEEL 316



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



4" encapsulated motors

Kingsbury type thrust bearing

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

Pressure-equalizing diaphragm

4" ENCAPSULATED MOTOR – 3-PHASE

4CT MOTOR - 3-PHASE - MOTOR MODEL NO. | 50 HZ

P_N [kW]	U_N [V]	Digit 1 - 6	Digit 7 - 10							
			304SS Standard		304SS Pollution Recovery		316SS Standard		316SS Pollution Recovery	
			single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit
0.37	220, 230	234 751	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	380 - 415	234 761	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	500	234 791	6721L	6721	6723L	6723	6821L	6821	6823L	6823
0.55	220, 230	234 752	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	380 - 415	234 762	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	500	234 792	6721L	6721	6723L	6723	6821L	6821	6823L	6823
0.75	220, 230	234 753	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	380 - 415	234 763	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	500	234 793	6721L	6721	6723L	6723	6821L	6821	6823L	6823
1.1	220, 230	234 754	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	380 - 415	234 724	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	500	234 794	6721L	6721	6723L	6723	6821L	6821	6823L	6823
1.5	220, 230	234 755	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	380 - 415	234 725	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	500	234 795	6721L	6721	6723L	6723	6821L	6821	6823L	6823
2.2	220, 230	234 756	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	380 - 415	234 726	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	500	234 796	6721L	6721	6723L	6723	6821L	6821	6823L	6823
3	220, 230	234 766	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	380 - 415	234 764	6721L	6721	6723L	6723	6821L	6821	6823L	6823
	500	234 768	6721L	6721	6723L	6723	6821L	6821	6823L	6823

VFD operation is only allowed up to 400V supply voltage. For higher voltages, please consult Franklin Electric.
lead lengths motors: „L“: up to 1.5 kW with 1.50 m preassembled cable, starting at 2.2 kW with 2.50 m pre-mounted cable

4" ENCAPSULATED MOTOR - 3-PHASE

4CT MOTOR - 3-PHASE - MOTOR MODEL NO. | 60 HZ

P_N [kW]	P_{MAX} [kW]	U_N [V]	Digit 1 - 6	Digit 7 - 10							
				304SS Standard		304SS Pollution Recovery		316SS Standard		316SS Pollution Recovery	
				single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit
0.37	0.59	230	234 711	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		380	234 741	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		460	234 761	6721L	6721	6723L	6723	6821L	6821	6823L	6823
0.55	0.83	230	234 712	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		380	234 742	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		460	234 762	6721L	6721	6723L	6723	6821L	6821	6823L	6823
0.75	1	230	234 713	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		380	234 743	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		460	234 763	6721L	6721	6723L	6723	6821L	6821	6823L	6823
1.1	1.4	230	234 714	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		380	234 744	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		460	234 724	6721L	6721	6723L	6723	6821L	6821	6823L	6823
1.5	1.8	230	234 715	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		380	234 745	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		460	234 725	6721L	6721	6723L	6723	6821L	6821	6823L	6823
2.2	2.5	230	234 716	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		380	234 746	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		460	234 726	6721L	6721	6723L	6723	6821L	6821	6823L	6823
3	3.4	230	234 776	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		380	234 774	6721L	6721	6723L	6723	6821L	6821	6823L	6823
		460	234 764	6721L	6721	6723L	6723	6821L	6821	6823L	6823

VFD operation is only allowed up to 400V supply voltage. For higher voltages, please consult Franklin Electric.
lead lengths motors: „L“: up to 1.5 kW with 1.50 m preassembled cable, starting at 2.2 kW with 2.50 m pre-mounted cable

4" ENCAPSULATED MOTOR - 3-PHASE

4CT MOTOR - 3-PHASE - MOTOR 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		
0.37	4000	220	2850	1.91	8.83	55	63	66	0.6	0.71	0.79	1.23	2.7
		230	2870	1.9	9.36	54	63	66	0.55	0.66	0.74	1.22	3
		380	2850	1.1	5.1	55	63	66	0.6	0.71	0.79	1.23	2.7
		400	2870	1.1	5.41	54	63	66	0.55	0.66	0.74	1.22	3
		415	2880	1.14	5.61	53	61	65	0.51	0.62	0.71	1.23	3.2
		500	2830	0.84	3.88	55	63	68	0.6	0.71	0.79	1.23	2.7
0.55	4000	220	2855	2.7	12.2	57	64	68	0.6	0.71	0.79	1.84	3.8
		230	2870	2.8	12.9	55	63	68	0.53	0.65	0.74	1.82	4.2
		380	2855	1.6	7	57	64	68	0.6	0.71	0.79	1.84	3.8
		400	2870	1.6	7.4	55	63	68	0.53	0.65	0.74	1.82	4.2
		415	2880	1.7	7.7	50	60	65	0.5	0.61	0.7	1.82	4.6
		500	2855	1.2	5.3	57	64	68	0.6	0.71	0.79	1.84	3.8
0.75	4000	220	2840	3.5	17.4	63	69	70	0.61	0.73	0.81	2.51	6.05
		230	2865	3.5	18.3	61	68	70	0.55	0.68	0.77	2.49	6.7
		380	2840	2	10.1	63	69	70	0.61	0.73	0.81	2.51	6.05
		400	2865	2	10.6	61	68	70	0.55	0.68	0.77	2.49	6.7
		415	2875	2.1	10.9	58	66	69	0.51	0.63	0.73	2.48	7.2
		500	2840	1.5	7.6	63	69	70	0.61	0.73	0.81	2.51	6.05
1.1	4000	220	2830	4.9	26.4	68	73	74	0.63	0.75	0.82	3.71	10.23
		230	2850	4.9	27.8	66	72	74	0.57	0.69	0.78	3.67	11.33
		380	2830	2.8	15.3	68	73	74	0.63	0.75	0.82	3.71	10.23
		400	2850	2.8	16	66	72	74	0.57	0.69	0.78	3.67	11.33
		415	2865	2.9	16.7	64	70	73	0.52	0.65	0.74	3.64	12.2
		500	2830	2.1	11.6	68	73	74	0.63	0.75	0.82	3.71	10.23
1.5	4000	220	2830	6.7	34	67	72	73	0.62	0.74	0.83	5.04	12.77
		230	2855	6.7	35.9	65	71	73	0.55	0.68	0.78	5	14.1
		380	2830	3.9	19.7	67	72	73	0.62	0.74	0.83	5.04	12.77
		400	2855	3.9	20.7	65	71	73	0.55	0.68	0.78	5	14.1
		415	2865	4	21.5	62	69	72	0.5	0.63	0.73	5	15.2
		500	2830	2.9	14.9	67	72	73	0.62	0.74	0.83	5.04	12.77
2.2	4000	220	2820	9.3	49	71	75	75	0.6	0.74	0.82	7.42	19.87
		230	2845	9.5	51.6	69	74	75	0.52	0.66	0.77	7.37	22
		380	2820	5.4	28.3	71	75	75	0.6	0.74	0.82	7.42	19.87
		400	2845	5.5	29.8	69	74	75	0.52	0.66	0.77	7.37	22
		415	2855	5.8	30.9	65	72	74	0.47	0.61	0.72	7.33	23.67
		500	2820	4.1	21.5	71	75	75	0.6	0.74	0.82	7.42	19.87
3	4000	220	2820	12.8	69.1	73	77	77	0.61	0.74	0.82	10.16	28.8
		230	2845	13	72.8	70	76	76	0.53	0.67	0.77	10.06	31.93
		380	2820	7.4	39.9	73	77	77	0.61	0.74	0.82	10.16	28.8
		400	2845	7.5	42	70	76	76	0.53	0.67	0.77	10.06	31.93
		415	2855	7.9	43.6	67	73	75	0.47	0.61	0.72	10.04	34.33
		500	2820	5.6	30.3	73	77	77	0.61	0.74	0.82	10.16	28.8

4" ENCAPSULATED MOTOR - 3-PHASE

4CT MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 60 HZ

P_N [kW]	P_{MAX} [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		
0.37	0.59	4000	230	3455	2.7	14.1	65	71	73	0.56	0.68	0.77	1.6	4
			380	3455	1.6	8.5	65	71	73	0.56	0.68	0.77	1.6	4
			460	3455	1.4	7	65	71	73	0.56	0.68	0.77	1.6	4
0.55	0.83	4000	230	3445	3.7	19.6	60	65	66	0.59	0.71	0.79	2.3	5.6
			380	3445	2.3	11.9	60	65	66	0.59	0.71	0.79	2.3	5.6
			460	3445	1.9	9.8	60	65	66	0.59	0.71	0.79	2.3	5.6
0.75	1	4000	230	3410	4.5	22	61	67	70	0.64	0.75	0.82	2.8	6.4
			380	3410	2.7	13.3	61	67	70	0.64	0.75	0.82	2.8	6.4
			460	3410	2.3	11	61	67	70	0.64	0.75	0.82	2.8	6.4
1.1	1.4	4000	230	3415	6	32.2	66	72	74	0.64	0.75	0.82	3.9	10.2
			380	3415	3.6	19.5	66	72	74	0.64	0.75	0.82	3.9	10.2
			460	3415	3	16.1	66	72	74	0.64	0.75	0.82	3.9	10.2
1.5	1.8	4000	230	3430	7.8	40.8	67	73	75	0.6	0.72	0.8	5	11.5
			380	3430	4.7	24.7	67	73	75	0.6	0.72	0.8	5	11.5
			460	3430	3.9	20.4	67	73	75	0.6	0.72	0.8	5	11.5
2.2	2.5	4000	230	3425	10.8	57.4	69	74	76	0.57	0.7	0.78	7	18
			380	3425	6.5	34.7	69	74	76	0.57	0.7	0.78	7	18
			460	3425	5.4	28.7	69	74	76	0.57	0.7	0.78	7	18
3	3.4	4000	230	3425	14.5	79.4	71	76	77	0.57	0.7	0.79	9.5	23.8
			380	3425	8.8	48.1	71	76	77	0.57	0.7	0.79	9.5	23.8
			460	3425	7.2	39.7	71	76	77	0.57	0.7	0.79	9.5	23.8

4" ENCAPSULATED MOTOR - 3-PHASE

4CT MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 50 HZ

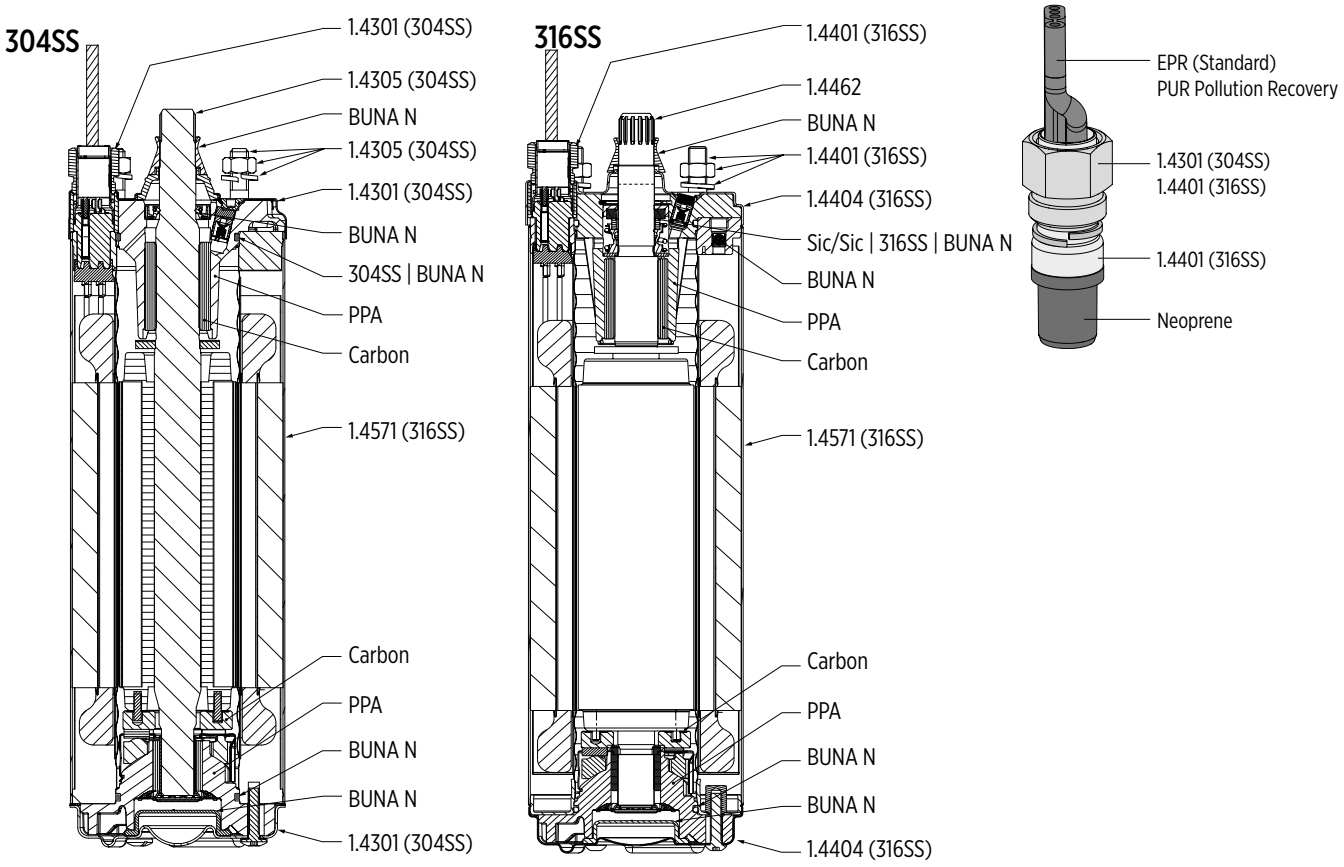
P_N [kW]	U_N [V]	stator reference no.	main phase [Ohm]
0.37	220 - 230	326 775 ***	14,6 - 17,8
	380 - 400 - 415	326 710 ***	44,8 - 54,8
	500	326 787 ***	90,8 - 111,0
0.55	220 - 230	326 776 ***	11,3 - 13,8
	380 - 400 - 415	326 711 ***	34,2 - 41,8
	500	326 788 ***	57,3 - 70,0
0.75	220 - 230	326 777 ***	7,6 - 9,2
	380 - 400 - 415	326 712 ***	23,2 - 28,3
	500	326 789 ***	38,7 - 47,3
1.1	220 - 230	326 778 ***	4,5 - 5,4
	380 - 400 - 415	326 713 ***	13,8 - 16,8
	500	326 790 ***	23,1 - 28,3
1.5	220 - 230	326 779 ***	3,6 - 4,3
	380 - 400 - 415	326 714 ***	10,9 - 13,4
	500	326 791 ***	20,7 - 25,3
2.2	220 - 230	326 780 ***	2,5 - 3,0
	380 - 400 - 415	326 715 ***	7,1 - 8,6
	500	326 792 ***	11,9 - 14,5
3	220 - 230	326 781 ***	1,5 - 1,9
	380 - 400 - 415	326 716 ***	4,7 - 5,8
	500	326 793 ***	8,4 - 10,2

4CT MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 60 HZ

P_N [kW]	P_{MAX} [kW]	U_N [V]	stator reference no.	main phase [Ohm]
0.37	0.59	230	326 828	9,4 - 11,5
		380	326 838	24,1 - 29,5
		460	326 710	
0.55	0.83	230	326 829	6,3 - 7,7
		380	326 839	16,5 - 20,2
		460	326 711	
0.75	1	230	326 830	5,7 - 6,9
		380	326 840	15,5 - 19,0
		460	326 712	23,2 - 28,3
1.1	1.4	230	326 831	3,4 - 4,1
		380	326 841	9,3 - 11,4
		460	326 713	13,8 - 16,8
1.5	1.8	230	326 832	2,7 - 3,3
		380	326 842	7,6 - 9,2
		460	326 714	10,9 - 13,4
2.2	2.5	230	326 833	1,8 - 2,2
		380	326 843	4,9 - 6,0
		460	326 715	7,1 - 8,6
3	3.4	230	326 834	1,2 - 1,4
		380	326 844	3,2 - 4,0
		460	326 716	4,7 - 5,8

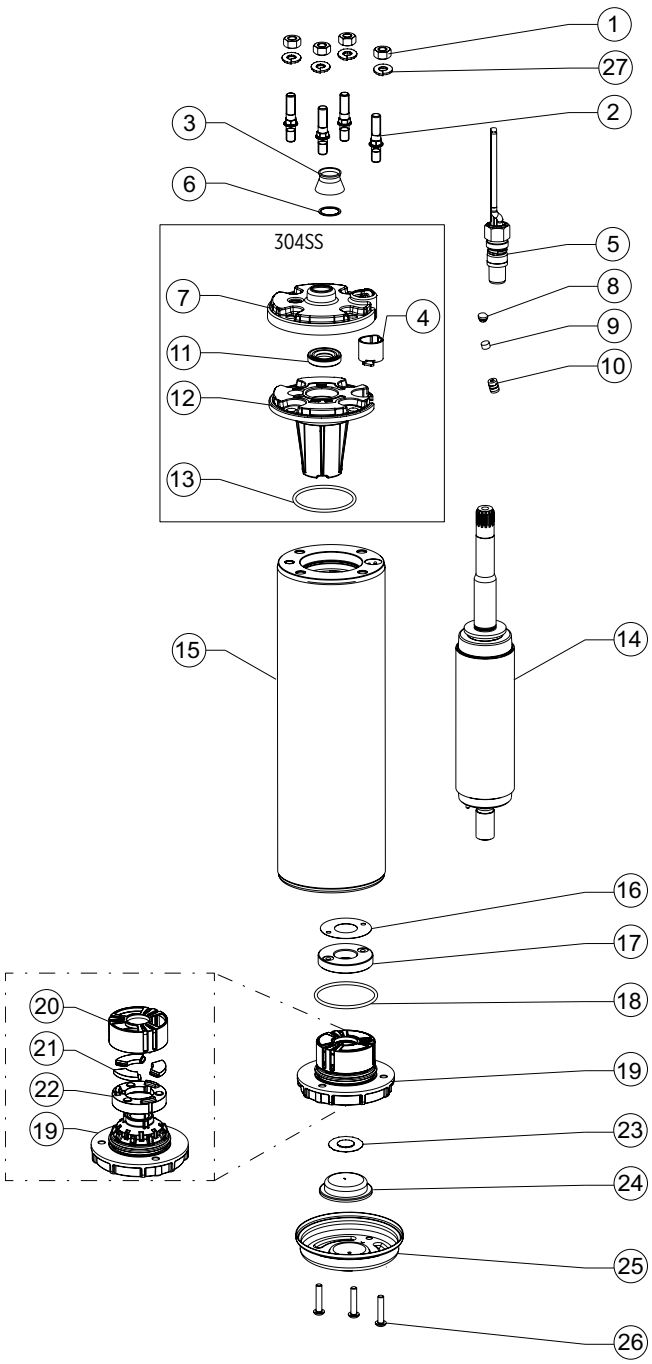
4" ENCAPSULATED MOTOR - 3-PHASE

4CT MOTOR - 3-PHASE - MOTOR DESIGN | 0.37 - 3.0 KW



4" ENCAPSULATED MOTOR - 3-PHASE

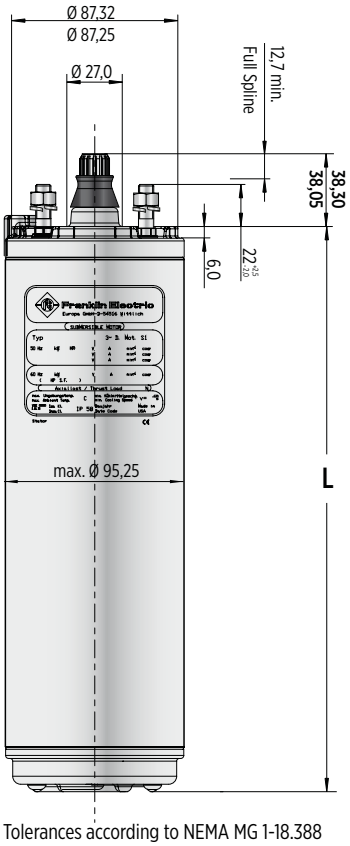
4CT MOTOR - 3-PHASE - PART DESCRIPTION

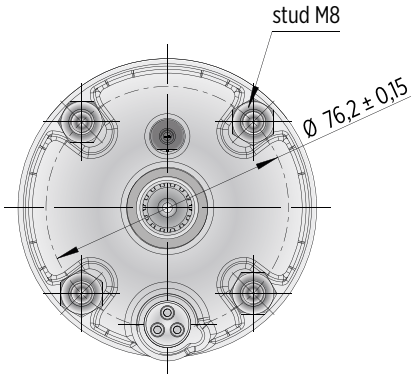


Pos.	part description	qty.	part no.
1	nut	4	Kit C
2	stud	4	Kit C
3	protector (spline)	1	Kit B
4	connector boss	1	151 820 103
5	motor lead	1	*cf. section*
6	washer	1	Kit B
7	top endbell, Cover 304SS	1	150 262 151
	top endbell, Cover 316SS	1	150 262 251
8	filter plug	1	Kit
9	filter	1	Kit
10	valve	1	Kit
11	shaft seal	1	Kit B
12	top endbell	1	KIt
13	O-ring	1	Kit B
14	rotor	1	*cf. section*
15	stator	1	*cf. section*
16	level washer	1	Kit A2
17	thrust disc assy	1	Kit A2
18	O-ring	1	Kit B / Kit A2
19	bottom endbell	1	Kit A2
20	bearing cage	1	Kit A2
21	segments	3	Kit A2
22	gasket	1	Kit A2
23	diaphragm washer	1	151 314 101 / Kit A2
24	diaphragm	1	Kit B / KitA2
25	bottom endbell cover 304SS	1	156 414 201 / Kit A2
	bottom endbelll cover 316SS	1	156 414 301 / Kit A2
26	screw, cover	3	Kit C
27	lock washer	4	Kit C

4" ENCAPSULATED MOTOR - 3-PHASE

4CT MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS



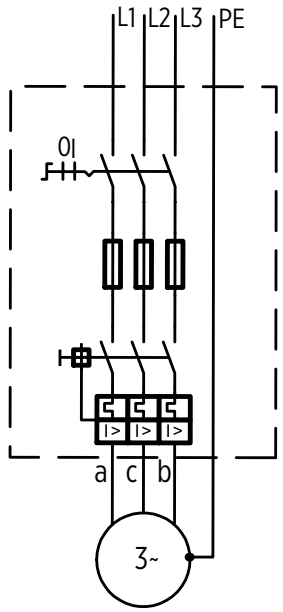


Tolerances according to NEMA MG 1-18.388

P_N		motor		motor with lead in single pack	
[kW]	[HP]	length [mm]	weight [kg]	dimensions [mm]	weight [kg]
0.37	0.5	237.2	5.58	400 x 100 x 110	6.3
0.55	0.75	251.1	6.4	400 x 100 x 110	7.2
0.75	1	271.2	7.25	530 x 100 x 110	8
1.1	1.5	297.2	8.55	530 x 100 x 110	9.3
1.5	2	321.2	9.55	530 x 100 x 110	10.3
2.2	3	353.2	11.05	796 x 100 x 110	11.8
3	4	408.2	13.55	796 x 100 x 110	14.3

4" ENCAPSULATED MOTOR – 3-PHASE

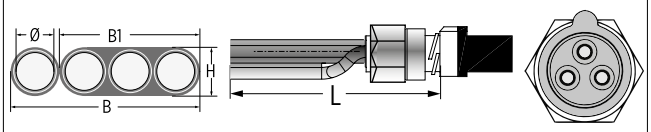
4CT MOTOR - 3-PHASE - CONNECTIONS



a = black (BK) | b = brown (BN)|
c = grey (GY) | PE = yellow/green (YE/GN)

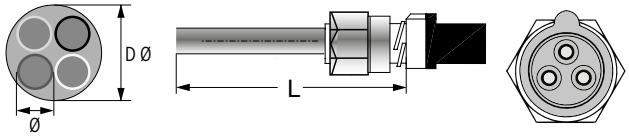
4CT MOTOR - 3-PHASE - MOTOR LEADS

4CT motor leads - 3-phase			
Ø [mm²]	B [mm]	B1 [mm]	H [mm]
3X1,5 + 1G1,5	16.8	10.7	5



length [mm]	model no.	
	304SS	316SS
1.5	310 113 401	310 113 501
2.5	310 113 402	310 113 502
5	310 113 405	310 113 505
10	310 113 410	310 113 510
15	310 113 415	310 113 515
20	310 113 420	310 113 520
30	310 113 430	310 113 530
40	310 113 440	310 113 540
50	310 113 450	310 113 550

4CT motor leads - 3-phase - Pollution recovery	
Ø [mm²]	D Ø [mm]
1.5	9.8



length [mm]	model no.
	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 MOTOR - 3-PHASE

4CT MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS

Kit	description	included positions	part no.
Kit A1	Top endbell 304SS	4, 7, 8, 9, 10, 11 , 12, 13	308 462 902
	Top endbell 316SS		308 462 952
Kit A2	bottom endbell 304SS incl. thrust bearing kit 4000N	16 - 22	308 464 911
	bottom endbell 316SS incl. thrust bearing kit 4000N		308 464 912
Kit B	Seal kit Standard 304SS	3, 6, 8, 9, 11, 13, 18, 23, 24	308 650 201
	Seal kit Standard 316SS		308 650 251
	Seal kit Pollution Recovery 304SS		308 650 202
	Seal kit Pollution Recovery 316SS		308 650 252
Kit C	fastener kit 304SS	1, 2, 26, 27	308 656 202
	fastener kit 316SS		308 656 252

4" ENCAPSULATED MOTOR - 3-PHASE

4CT MOTOR - 3-PHASE - STATOR AND ROTOR | 50 HZ

P_N [kW]	U_N [V]	model no. stator 304SS | 316SS	model no. rotor 304SS	model no. rotor 316SS
0.37	220, 230	305 491 851	178 164 901K	178 164 921K
	380 -415	305 491 861		
	500	305 491 871		
0.55	220, 230	305 491 852	178 164 902 K	178 164 922K
	380 -415	305 491 862		
	500	305 491 872		
0.75	220, 230	305 491 853	178 164 903 K	178 164 923K
	380 -415	305 491 863		
	500	305 491 873		
1.1	220, 230	305 491 854	178 164 905 K	178 164 925K
	380 -415	305 491 864		
	500	305 491 874		
1.5	220, 230	305 491 855	178 164 907K	178 164 927K
	380 -415	305 491 865		
	500	305 491 875		
2.2	220, 230	305 491 856	178 164 908K	178 164 928K
	380 -415	305 491 866		
	500	305 491 876		
3	220, 230	305 491 857	178 164 910K	178 164 920K
	380 -415	305 491 867		
	500	305 491 877		

4CT MOTOR - 3-PHASE - STATOR AND ROTOR | 60 HZ

P_N [kW]	P_{MAX} [kW]	U_N [V]	model no. stator 304SS | 316SS	model no. rotor 304SS	model no. rotor 316SS
0.37	0.59	230	305 491 901	178 164 901K	178 164 921K
		380	305 491 911		
		460	305 491 921E		
0.55	0.83	230	305 491 902	178 164 902 K	178 164 922K
		380	305 491 912		
		460	305 491 922E		
0.75	1	230	305 491 903	178 164 903 K	178 164 923K
		380	305 491 913		
		460	305 491 923E		
1.1	1.4	230	305 491 904	178 164 905 K	178 164 925K
		380	305 491 914		
		460	305 491 924E		
1.5	1.8	230	305 491 905	178 164 907K	178 164 927K
		380	305 491 915		
		460	305 491 925E		
2.2	2.5	230	305 491 906	178 164 908K	178 164 928K
		380	305 491 916		
		460	305 491 926E		
3	3.4	230	305 491 907	178 164 910K	178 164 920K
		380	305 491 917		
		460	305 491 927E		

4" ENCAPSULATED HIGH THRUST MOTOR – 3-PHASE

FEATURES & BENEFITS

- NEMA mounting design with studs [5/16-24 UNF]
- 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.
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Field replaceable round plug lead using Franklin's exclusive Water Bloc technology with extended jam nut in Stainless steel
- Pressure-equalizing diaphragm, spring pre-loaded
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Drinking water approvals
- VFD operation up to a rated voltage of 400 V (in compliance with the application guidelines in the motor operating instructions and the VFD manufacturer). For VFD operation with higher voltages, please consult Franklin Electric.

OPTIONS

- Built in lightning arrestors
- Special lead lengths up to 50 m
- Motors with factory-installed lead in single packing
- Higher-graded materials: Motor complete in 316SS with SiC/SiC seal
- Special voltages
- Stator shell in 316SS (Suitable for use in water with increased salinity)

Pollution Recovery version

- Fluorelastomere (Viton®) rubber parts
- Special Polyuretane (PUR) lead assemblies
- 304SS (316SS stator) graded Stainless Steel as Standard



4" encapsulated motors

STANDARD SPECIFICATION

- Ratings: 2.2 - 9.3 kW
- Thrust load: 6.5 kN
- Standard voltage
  3~ 230/400/500 V (50 Hz) | 230/380/460 V (60 Hz)
- Max. storage temperature: -15 °C - +50 °C
- Nominal ambient temperature: 30 °C with 0.08 m/s cooling flow
- Voltage tolerance UN: -10 % / +6 % (50 Hz) | +/-10% (60 Hz)
- Protection IP68
- insulation class B
- Frequency of starts: 20 starts/ hour
  (with min. 3 minutes resting time), equally distributed
- All motors with factory installed leads
  (1.50 m / 2.50 m)
- Vertical and horizontal operation,
  shaftend heightend
- Rotation counter clock wise facing shaft end
  (Rotation reversible for 3 phase motors)

STAINLESS STEEL 304 STAINLESS STEEL 316



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

6.5 kN High Thrust Kingsbury type thrust bearing

High capacity 6.5 kN Kingsbury type thrust bearing for 100 % maintenance free operation.

Pressure-equalizing diaphragm

4" ENCAPSULATED HIGH THRUST MOTOR – 3-PHASE

4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR MODEL NO. | 50 HZ

P_N [kW]	U_N [V]	Digit 1 - 6	Digit 7 - 10					
			304SS Standard		304SS Pollution Recovery	316SS Standard		Brakish water
			single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit
2.2	220, 230	234 756	3421L	3421	3521L	3521	3422L	3424L
	380 - 415	234 726	3421L	3421	3521L	3521	3422L	3424L
	500	234 796	3421L	3421	3521L	3521	3422L	3424L
3	220, 230	234 766	3421L	3421	3521L	3521	3422L	3424L
	380 - 415	234 764	3421L	3421	3521L	3521	3422L	3424L
	500	234 768	3421L	3421	3521L	3521	3422L	3424L
3.7	220, 230	234 757	3421L	3421	3521L	3521	3422L	3424L
	380 - 415	234 727	3421L	3421	3521L	3521	3422L	3424L
	500	234 797	3421L	3421	3521L	3521	3422L	3424L
4	220, 230	234 767	3421L	3421	3521L	3521	3422L	3424L
	380 - 415	234 765	3421L	3421	3521L	3521	3422L	3424L
	500	234 769	3421L	3421	3521L	3521	3422L	3424L
5.5	220, 230	234 758	3421L	3421	3521L	3521	3422L	3424L
	380 - 415	234 728	3421L	3421	3521L	3521	3422L	3424L
	500	234 798	3421L	3421	3521L	3521	3422L	3424L
7.5	380 - 415	234 729	3421L	3421	3521L	3521	3422L	3424L
	500	234 799	3421L	3421	3521L	3521	3422L	3424L
9.3	380 - 415	234 788	3429L		3529L			

VFD operation is only allowed up to 400V supply voltage. For higher voltages, please consult Franklin Electric.
lead lengths motors: „L“ with 2.50 m pre-mounted cable

4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR MODEL NO. | 60 HZ

P_N [kW]	$P_{N\,max.}$ [kW]	U_N [V]	Digit 1 - 6	Digit 7 - 10			
				304SS Standard		316SS Standard	
				single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit
2.2	2.5	230	234 716	3421	3421L	3521	3521L
		380	234 746	3421	3421L	3521	3521L
		460	234 726	3421E	3421EL	3521E	3521EL
3	3.4	230	234 776	3421	3421L	3521	3521L
		380	234 774	3421	3421L	3521	3521L
		460	234 764	3421E	3421EL	3521E	3521EL
3.7	4.2	230	234 717	3421	3421L	3521	3521L
		380	234 747	3421	3421L	3521	3521L
		460	234 727	3421E	3421EL	3521E	3521EL
4	4.7	230	234 777	3421	3421L	3521	3521L
		380	234 775	3421	3421L	3521	3521L
		460	234 765	3421E	3421EL	3521E	3521EL
5.5	6.4	230	234 718	3421	3421L	3521	3521L
		380	234 748	3421	3421L	3521	3521L
		460	234 728	3421E	3421EL	3521E	3521EL
7.5	8.6	230	234 719	3421	3421L	3521	3521L
		380	234 749	3421	3421L	3521	3521L
		460	234 729	3421E	3421EL	3521E	3521EL

VFD operation is only allowed up to 400V supply voltage. For higher voltages, please consult Franklin Electric.
lead lengths motors: „L“ with 2.50 m pre-mounted cable

4" ENCAPSULATED HIGH THRUST MOTOR – 3-PHASE

4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR 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	2820	9.3	49	71	75	75	0.6	0.74	0.82	7.42	19.87
		230	2845	9.5	51.6	69	74	75	0.52	0.66	0.77	7.37	22
		380	2820	5.4	28.3	71	75	75	0.6	0.74	0.82	7.42	19.87
		400	2845	5.5	29.8	69	74	75	0.52	0.66	0.77	7.37	22
		415	2855	5.8	30.9	65	72	74	0.47	0.61	0.72	7.33	23.67
		500	2820	4.1	21.5	71	75	75	0.6	0.74	0.82	7.42	19.87
3	6500	220	2820	12.8	69.1	73	77	77	0.61	0.74	0.82	10.16	28.8
		230	2845	13	72.8	70	76	76	0.53	0.67	0.77	10.06	31.93
		380	2820	7.4	39.9	73	77	77	0.61	0.74	0.82	10.16	28.8
		400	2845	7.5	42	70	76	76	0.53	0.67	0.77	10.06	31.93
		415	2855	7.9	43.6	67	73	75	0.47	0.61	0.72	10.04	34.33
		500	2820	5.6	30.3	73	77	77	0.61	0.74	0.82	10.16	28.8
3.7	6500	220	2815	15.3	86.1	75	79	78	0.62	0.75	0.83	12.6	37.5
		230	2840	15.5	90.6	73	77	78	0.54	0.69	0.78	12.5	41.5
		380	2815	8.8	49.7	75	79	78	0.62	0.75	0.83	12.6	37.5
		400	2840	9	52.3	73	77	78	0.54	0.69	0.78	12.5	41.5
		415	2850	9.3	54.3	70	76	77	0.49	0.63	0.73	12.4	44.7
		500	2815	6.7	37.8	75	79	78	0.62	0.75	0.83	12.6	37.5
4	6500	220	2820	16.7	93.7	75	78	78	0.6	0.74	0.82	13.5	39.7
		230	2840	17.2	98.7	72	77	78	0.52	0.67	0.77	13.4	44
		380	2820	9.7	54.1	75	78	78	0.6	0.74	0.82	13.5	39.7
		400	2840	9.9	57	72	77	78	0.52	0.67	0.77	13.4	44
		415	2855	10.4	59.1	69	75	77	0.47	0.61	0.72	13.4	47.4
		500	2820	7.3	41.1	75	78	78	0.6	0.74	0.82	13.5	39.7
5.5	6500	220	2845	21.9	127	77	80	79	0.66	0.79	0.85	18.5	51
		230	2865	21.8	133.7	75	79	79	0.59	0.73	0.81	18.3	56.5
		380	2845	12.6	73.3	77	80	79	0.66	0.79	0.85	18.5	51
		400	2865	12.6	77.2	75	79	79	0.59	0.73	0.81	18.3	56.5
		415	2875	12.8	80.1	73	77	79	0.54	0.68	0.77	18.2	60.9
		500	2845	9.6	55.7	77	80	79	0.66	0.79	0.85	18.5	51
7.5	6500	380	2830	17.2	94.3	78	80	79	0.66	0.79	0.86	25.3	65.9
		400	2855	17.1	99.3	75	79	79	0.58	0.72	0.81	25.1	73.1
		415	2865	17.6	103	73	78	79	0.52	0.67	0.77	25	78.6
		500	2830	13.1	71.7	78	80	79	0.66	0.79	0.86	25.3	65.9
9.3	6500	380	2825	21.2	108	77	80	79	0.65	0.78	0.86	31.4	73.8
		400	2850	21.4	113	75	79	79	0.56	0.71	0.81	31.1	81.8
		415	2860	22.1	118	72	77	78	0.47	0.58	0.76	31	88

4" ENCAPSULATED HIGH THRUST MOTOR – 3-PHASE

4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 60 HZ

P_N [kW]	P_{MAX} [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	2.5	6500	230	3425	10.8	57.4	69	74	76	0.57	0.7	0.78	7	18
			380	3425	6.5	34.7	69	74	76	0.57	0.7	0.78	7	18
			460	3425	5.4	28.7	69	74	76	0.57	0.7	0.78	7	18
3	3.4	6500	230	3425	14.5	79.4	71	76	77	0.57	0.7	0.79	9.5	23.8
			380	3425	8.8	48.1	71	76	77	0.57	0.7	0.79	9.5	23.8
			460	3425	7.2	39.7	71	76	77	0.57	0.7	0.79	9.5	23.8
3.7	4.2	6500	230	3425	17.2	104	74	78	79	0.59	0.72	0.8	11.8	32.9
			380	3425	10.4	62.7	74	78	79	0.59	0.72	0.8	11.8	32.9
			460	3425	8.6	51.8	74	78	79	0.59	0.72	0.8	11.8	32.9
4	4.7	6500	230	3420	19.4	114	73	78	79	0.58	0.71	0.79	13.2	38.2
			380	3420	11.7	68.8	73	78	79	0.58	0.71	0.79	13.2	38.2
			460	3420	9.7	56.8	73	78	79	0.58	0.71	0.79	13.2	38.2
5.5	6.4	6500	230	3440	24.7	142	76	80	81	0.64	0.75	0.83	17.9	42.7
			380	3440	15	85.9	76	80	81	0.64	0.75	0.83	17.9	42.7
			460	3440	12.4	71	76	80	81	0.64	0.75	0.83	17.9	42.7
7.5	8.6	6500	380	3435	20.3	121	75	79	80	0.63	0.75	0.83	24.1	62.1
			460	3435	16.8	99.7	75	79	80	0.63	0.75	0.83	24.1	62.1

4" ENCAPSULATED HIGH THRUST MOTOR - 3-PHASE

4CT HIGH THRUST MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 50 HZ

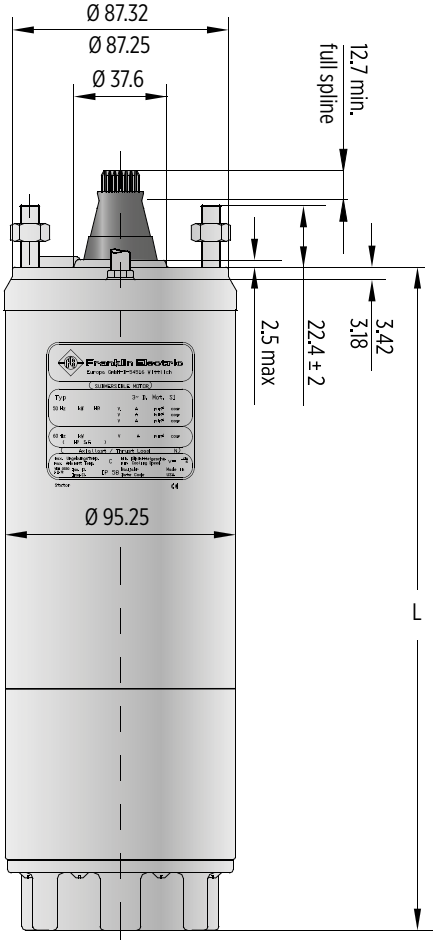
P_N [kW]	U_N [V]	stator reference no.	U - V [Ohm]
2.2	220 - 230	326 780 902	2,5 - 3,0
	380 - 400 - 415	326 715 902	7,1 - 8,6
	500	326 792 902	11,9 - 14,5
3	220 - 230	326 781 902	1,5 - 1,9
	380 - 400 - 415	326 716 902	4,7 - 5,8
	500	326 793 902	8,4 - 10,2
3.7	220 - 230	326 784 902	1,2 - 1,5
	380 - 400 - 415	326 717 902	3,7 - 4,5
	500	326 796 902	6,5 - 7,9
4	220 - 230	326 785 902	1,1 - 1,3
	380 - 400 - 415	326 718 902	3,3 - 4,0
	500	326 797 902	5,8 - 7,1
5.5	220 - 230	326 786 902	0,9 - 1,1
	380 - 400 - 415	326 719 902	2,6 - 3,2
	500	326 798 902	4,6 - 5,7
7.5	380 - 400 - 415	326 720 902	1,9 - 2,3
	500	326 799 902	3,3 - 4,1
9.3	380 - 400 - 415	326 995 920	1,5 - 1,7

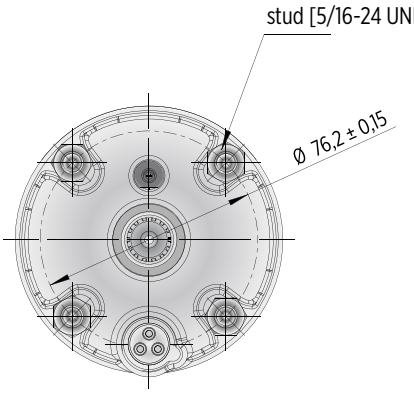
4CT HIGH THRUST MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 60 HZ

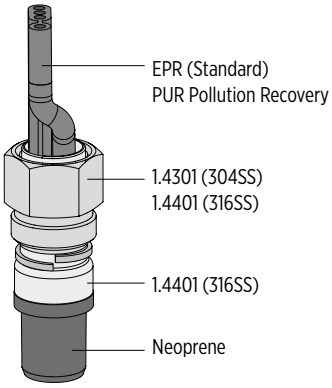
P_N [kW]	P_{MAX} [kW]	U_N [V]	stator reference no.	U - V [Ohm]
2.2	2.5	230	326 833	1,8 - 2,2
		380	326 843	4,9 - 6,0
		460	326 715	7,1 - 8,6
3	3.4	230	326 834	1,2 - 1,4
		380	326 844	3,2 - 4,0
		460	326 716	6,5 - 8,0
3.7	4.2	230	326 835	0,9 - 1,1
		380	326 845	2,6 - 3,1
		460	326 717	3,7 - 4,5
4	4.7	230	326 836	0,8 - 1,0
		380	326 846	2,4 - 2,9
		460	326 718	3,3 - 4,0
5.5	6.4	230	326 837	0,7 - 0,8
		380	326 847	1,8 - 2,2
		460	326 719	2,6 - 3,2
7.5	8.6	380	326 848	1,3 - 1,6
		460	326 720	1,9 - 2,3

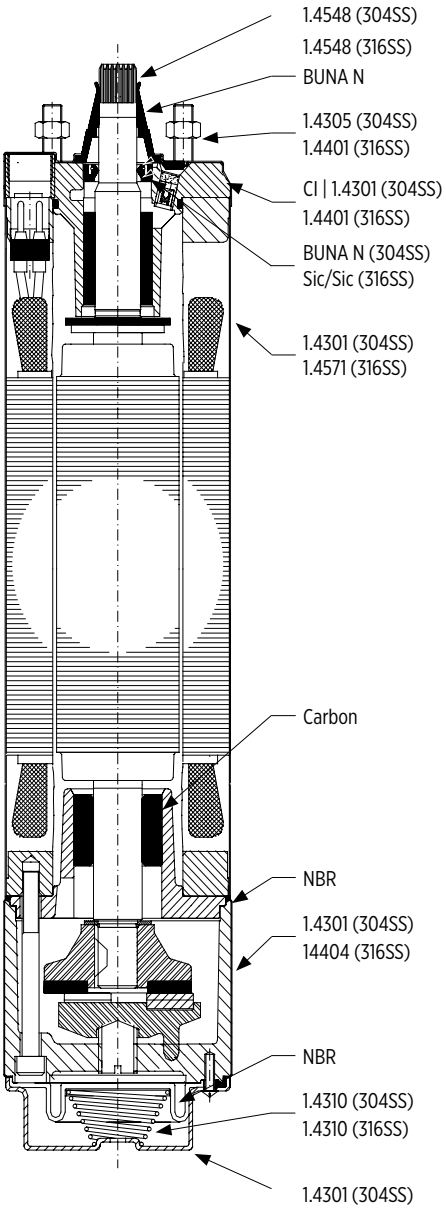
4" ENCAPSULATED HIGH THRUST MOTOR – 3-PHASE

4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR DESIGN | 2.2 - 7.5 KW









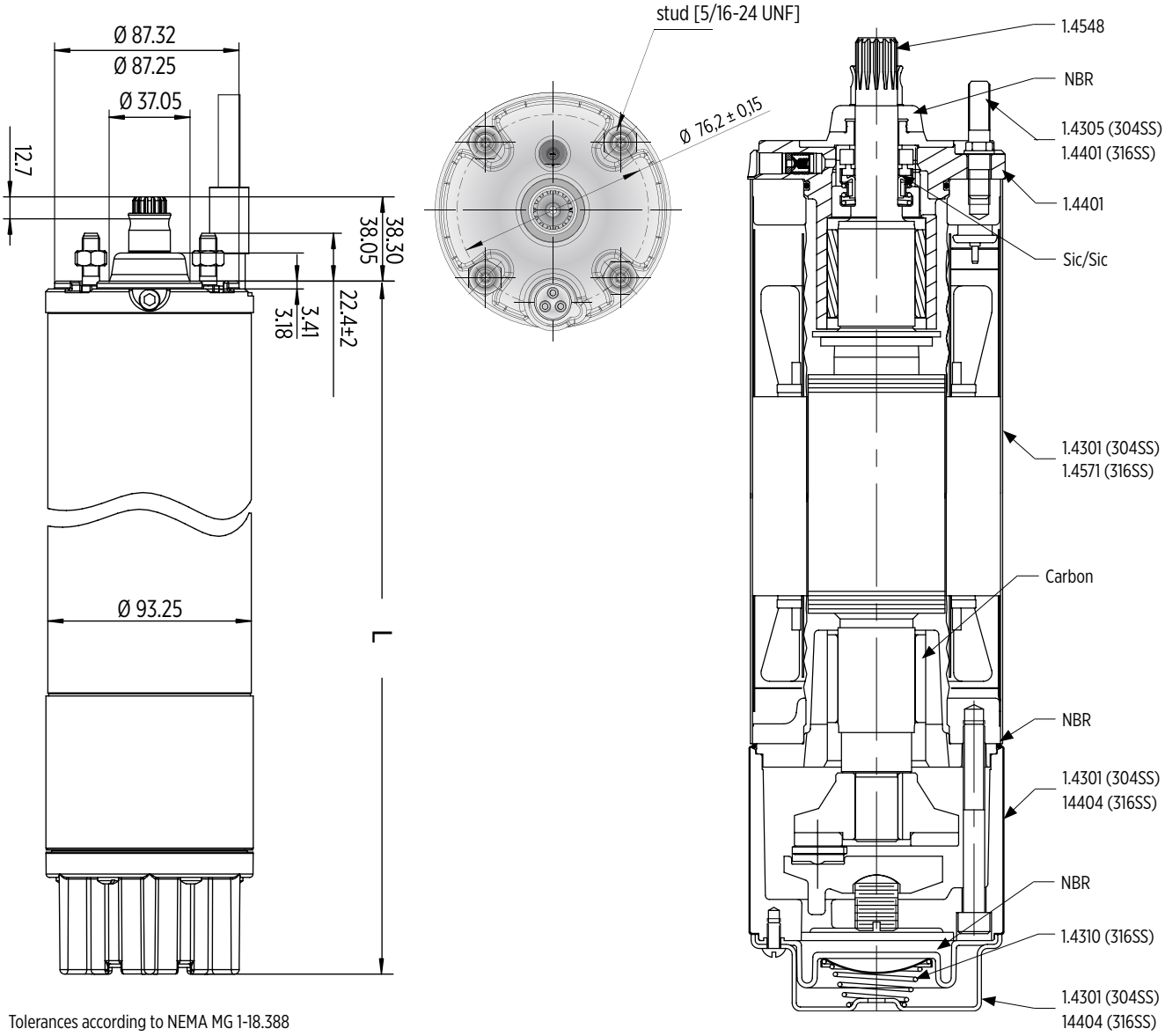
Tolerances according to NEMA MG 1-18.388

4CT HIGH THRUST MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | 2.2 - 7.5 KW

P_N		length [mm]	length [mm]	weight [kg]		motor with lead in single pack 304SS	
[kW]	[HP]	304SS	316SS	304SS	316SS	dimensions [mm]	weight [kg]
2.2	3	422.2	431.4	15	15.5	796 x 100 x 110	16.8
3	4	477.2	486.4	17	17.5	796 x 100 x 110	18.9
3.7	5	520.2	529.4	19.1	19.6	796 x 100 x 110	20.9
4	5.5	543.2	552.4	20	20.5	796 x 100 x 110	21.8
5.5	7.5	652.5	661.7	26.6	27.1	904 x 100 x 110	28.7
7.5	10	730.5	739.7	30.6	31.1	904 x 100 x 110	32.7

4" ENCAPSULATED HIGH THRUST MOTOR - 3-PHASE

4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR DESIGN | 9.3 KW



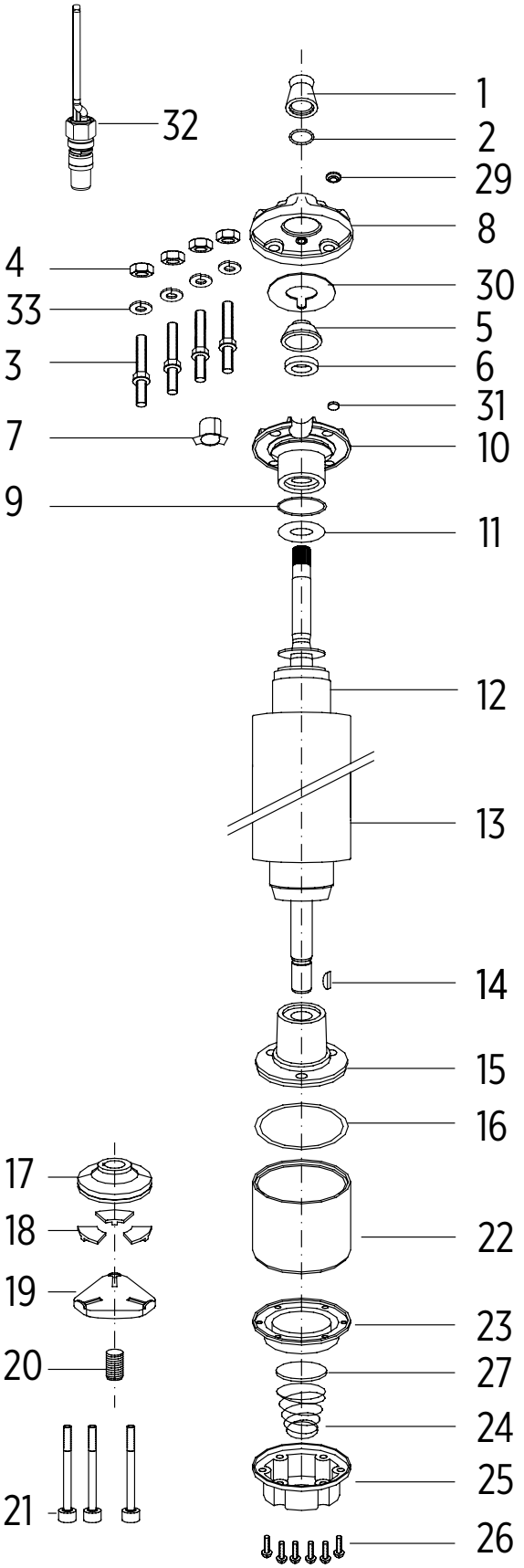
Tolerances according to NEMA MG 1-18.388

4CT HIGH THRUST MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | 9.3 KW

P_N	motor		motor with lead in single pack	
[kW]	length [mm]	weight [kg]	dimensions [mm]	weight [kg]
9.3	855.1	37.9	256700	41.3

4" ENCAPSULATED HIGH THRUST MOTOR – 3-PHASE

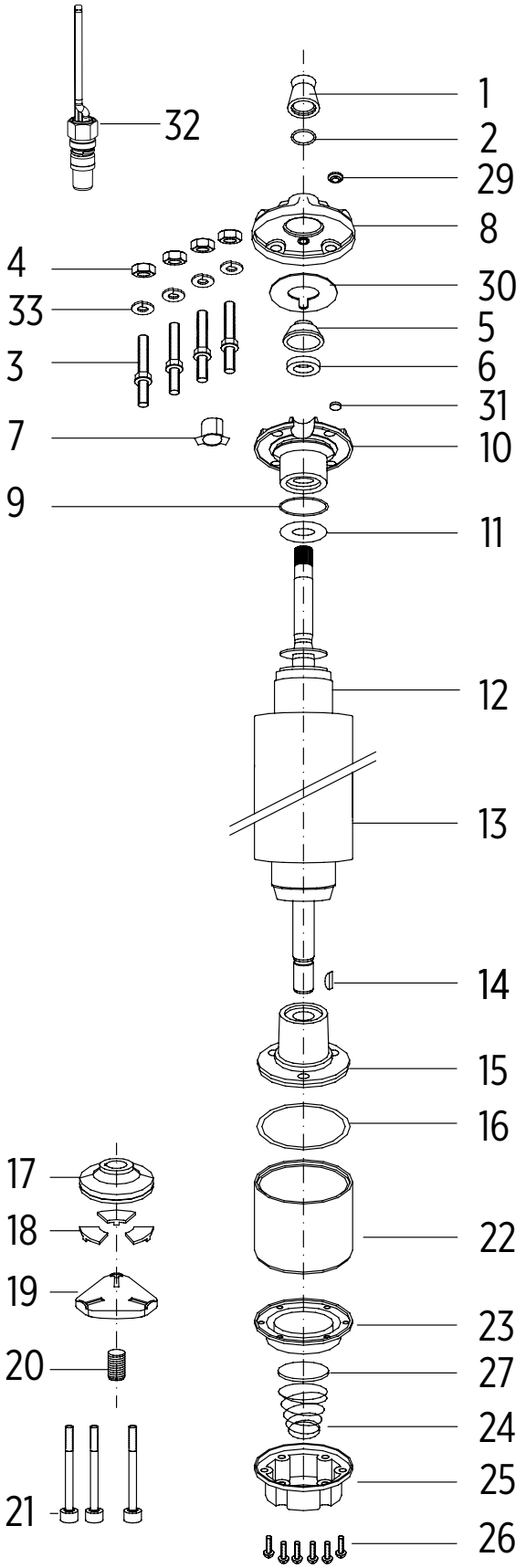
4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR PART DESCRIPTION | 9.3 KW



Pos.	part description	qty.	part no.
1	protector (spline)	1	Kit B
2	washer	1	275 542 102
3	slinger	1	Kit B
4	screw, seal cover	3	Kit C
5	seal cover	1	156 275 102
6	shaft seal	1	Kit B
7	Hexagon nut	4	Kit C
8	stud	4	Kit C
9	plug screw	1	282 230 101
10	top endbell	1	177 553 901
11	O-ring	1	Kit B
12	upthrust washer	1	308 317 901
13	stator	1	*cf. section*
14	rotor	1	*cf. section*
15	woodruff key	1	177 379 901
16	Woodruff key	1	275 250 104
17	thrust disc	1	Kit A
18	segments	3	Kit A
19	leveling disc	1	155 660 101
20	O-ring	1	Kit B
21	thrust housing	1	177 378 901
22	screw adjusted	1	151 048 102
23	screw	3	Kit C
24	diaphragm	1	Kit B
25	cup spring, diaphragm	1	151 448 201
26	Spring	1	151 449 101
27	diaphragm, housing	1	177 965 101
28	screw	6	Kit C
29	filter	1	156 276 101
30	cover, diaphragm	1	156 278 101
31	screw	3	Kit C
32	screw	2	Kit C
33	motor lead 2.50 m	1	*cf. section*
34	lock washer	4	31900

4" ENCAPSULATED HIGH THRUST MOTOR – 3-PHASE

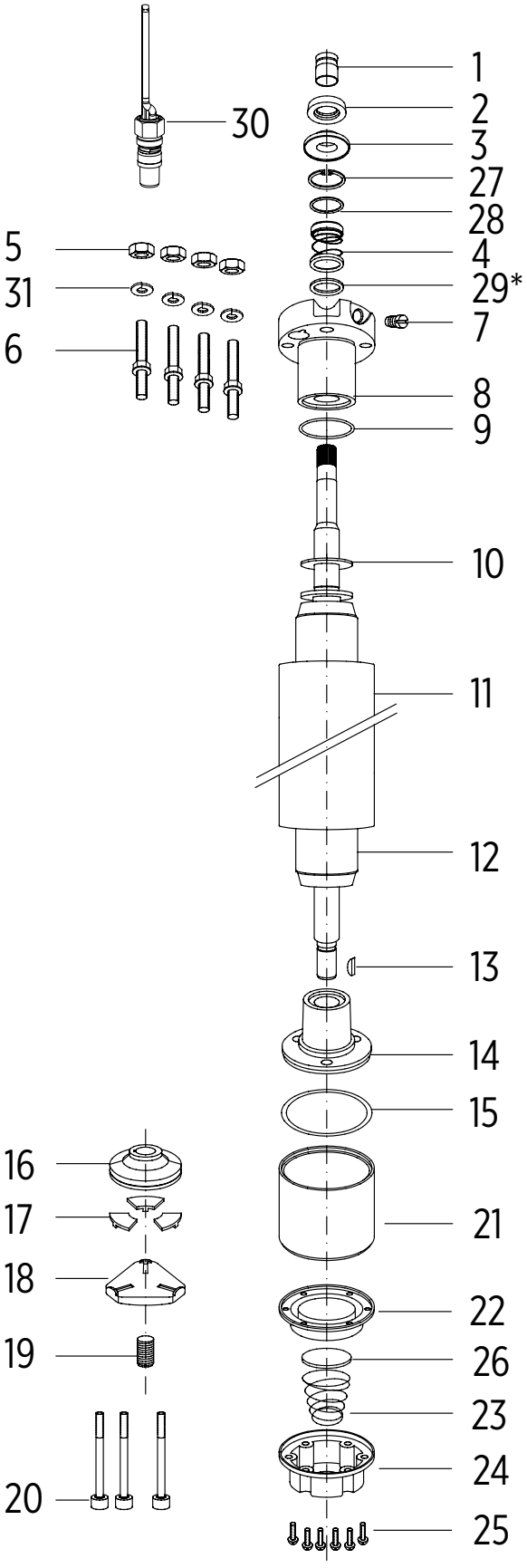
4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR PART DESCRIPTION | 304SS | 2.2 - 7.5 KW



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 2.2 - 4.0 kW	1	308 268 104
	Upthrust washer 5.5 - 7.5 kW	1	308 317 901
12	rotor	1	*cf. section*
13	stator	1	*cf. section*
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 adjusted	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	164 100 50
26	screw	6	Kit C
27	cup spring, diaphragm	1	151 448 201
29	sealing stopper	1	Kit B+D
30	seal	1	Kit D
31	filter	1	Kit B+D
32	motor lead	1	*cf. section*
33	lock washer	4	Kit C

4" ENCAPSULATED HIGH THRUST MOTOR – 3-PHASE

4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR PART DESCRIPTION | 316SS | 2.2 - 7.5 KW



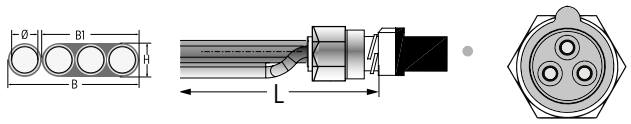
Pos.	part description	qty.	part no.
1	protector (spline)	1	Kit C
2	slinger	1	Kit C
3	seal cover	1	Kit B + C
4	shaft seal	1	Kit B
5	nut	4	Kit D
6	stud	4	Kit D
7	sealing screw	1	308 279 903
8	top endbell	1	Kit
9	O-ring	1	Kit B
10	upthrust washer	1	Kit
11	stator	1	*cf. section*
12	rotor	1	*cf. section*
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	segment	1	Kit A
18	leveling disc	1	155 660 101
19	screw adjusted	1	151 048 103
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	364 100 50
25	screw	6	Kit D
26	cup spring, diaphragm	1	151 448 201
27	ring	1	Kit B
28	retain ring	1	Kit B
29*	washer	1	308 747 201
30	motor lead	1	*cf. section*
31	lock washer	4	Kit C

*only for 2.2 - 3 kW

4" ENCAPSULATED HIGH THRUST MOTOR - 3-PHASE

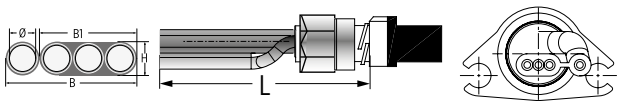
4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR LEADS | 2.2 - 7.5 KW

4CT motor leads - 3-phase - 2.2 - 7.5 kW			
Ø [mm²]	B [mm]	B1 [mm]	H [mm]
3X1,5 + 1G1,5	16.8	10.7	5



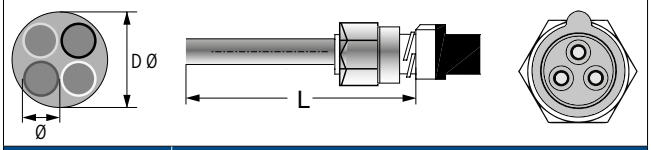
length [m]	model no.	
	304SS	316SS
1.5	310 113 401	310 113 501
2.5	310 113 402	310 113 502
5	310 113 405	310 113 505
10	310 113 410	310 113 510
15	310 113 415	310 113 515
20	310 113 420	310 113 520
30	310 113 430	310 113 530
40	310 113 440	310 113 540
50	310 113 450	310 113 550

4CT motor leads - 3-phase - 9.3 kW			
Ø [mm²]	B [mm]	B1 [mm]	H [mm]
3X1,5 + 1G1,5	16.8	10.7	5



length [m]	model no.
2.5	311 116 502K
5	311 116 505K
10	312 116 510K
20	313 116 520K
30	314 116 530K

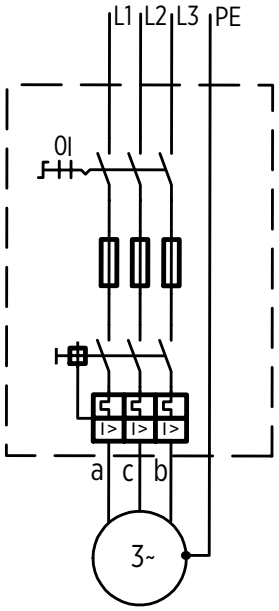
4CT motor leads - 3-phase - Pollution recovery - 2.2 - 7.5 kW	
Ø [mm²]	D [mm]
1.5	9.8



length [m]	model no.
	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.

4CT MOTOR - 3-PHASE - CONNECTIONS



U = black (BK)
c = grey (GY)
W = brown (BN)
PE = yellow/green (YE/GN)

4" ENCAPSULATED HIGH THRUST MOTOR – 3-PHASE

4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | 304SS | 2.2 - 7.5 KW

Kit	description	included positions	part no.
	End bell, upper | 2,2 - 4,0 kW	5, 6, 7, 8, 9, 10, 29, 30, 31	308 233 509
	End bell, lower | 2,2 - 4,0 kW	15	177 379 921
	End bell, upper | 5,5 - 7,5 kW	5, 6, 7, 8, 9, 10, 29, 30, 31	308 434 501
	End bell, lower | 5,5 - 7,5 kW	15	177 379 901
Kit A	thrust bearing kit 6500N	17, 18	308 700 301
Kit B	seal kit 304SS	1, 2, 6, 9, 16, 23, 29, 31	308 900 351
Kit B1	Seal kit Pollution Recovery 304SS	1, 2, 6, 9, 16, 23, 29, 31	308 900 401
Kit C	screw kit 304SS	3, 4, 21, 26, 33	308 658 351

4CT HIGH THRUST MOTOR - 3-PHASE - STATOR AND ROTOR | 304SS | 2.2 - 7.5 KW | 50 HZ

P_N [kW]	U_N [V]	motor model no.	model no. stator 304SS	model no. rotor 304SS
2.2	220, 230	234 756 3421/3422	305 491 361	178 163 903K
	380, 400, 415	234 726 3421/3422	305 491 381	
	500	234 796 3421/3422	305 491 401	
3	220, 230	234 766 3421/3422	305 491 362	178 125 903K
	380, 400, 415	234 764 3421/3422	305 491 382	
	500	234 768 3421/3422	305 491 402	
3.7	220, 230	234 757 3421/3422	305 491 363	178 126 903K
	380, 400, 415	234 727 3421/3422	305 491 383	
	500	234 797 3421/3422	305 491 403	
4	220, 230	234 767 3421/3422	305 491 364	178 127 903K
	380, 400, 415	234 765 3421/3422	305 491 384	
	500	234 769 3421/3422	305 491 404	
5.5	220, 230	234 758 3421/3422	305 491 365	178 133 903K
	380, 400, 415	234 728 3421/3422	305 491 385	
	500	234 798 3421/3422	305 491 405	
7.5	380, 400, 415	234 729 3421/3422	305 491 386	178 134 903K
	500	234 799 3421/3422	305 491 406	

4CT HIGH THRUST MOTOR - 3-PHASE - STATOR AND ROTOR | 304SS | 2.2 - 7.5 KW | 60 HZ

P_N [kW]	P_{MAX} [kW]	U_N [V]	model no. rotor 304SS
2.2	2.5	230	178 163 903K
		380	
		460	
3	3.4	230	178 125 903K
		380	
		460	
3.7	4.2	230	178 126 903K
		380	
		460	
4	4.7	230	178 127 903K
		380	
		460	
5.5	6.4	230	178 133 903K
		380	
		460	
7.5	8.6	380	178 134 903K
		460	

60 Hz stators on request

4" ENCAPSULATED HIGH THRUST MOTOR – 3-PHASE

4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | 316SS | 2.2 - 7.5 KW

Kit	description	included positions	part no.
2,2 - 4,0 kW	End bell, upper | 316SS | 2,2 - 4,0 kW | DOL	8	177 390 955
	lower end bell | 316SS | 2,2 - 4,0 kW | YD	0	177 390 956
5,5 - 7,5 kW	End bell, upper | 316SS | 5,5 - 7,5 kW| DOL	8	177 390 951
	lower end bell | 316SS | 5,5 - 7,5 kW | YD	0	177 390 953
Kit A	thrust bearing kit 6500N	16, 17	308 700 301
Kit B	Seal kit Standard 304SS	4, 9, 15, 22	308 900 302
Kit B1	Seal kit Pollution Recovery 304SS	1, 2, 3, 4, 9 ,15, 22, 27, 28	308 900 402
Kit C	sand slinger kit 316SS motors	1, 2, 3	308 825 201
Kit D	screw kit 316SS	5, 6, 20, 25, 31	308 658 301

4CT HIGH THRUST MOTOR - 3-PHASE - STATOR AND ROTOR | 316SS | 50 HZ

P_N [kW]	U_N [V]	motor model no.	model no. stator 316SS	model no. rotor 316SS
2.2	220, 230	234 756 3521/3522	305 491 641	178 163 913K
	380, 400, 415	234 726 3521/3522	305 491 661	
	500	234 796 3521/3522	305 491 681	
3	220, 230	234 766 3521/3522	305 491 642	178 125 913K
	380, 400, 415	234 764 3521/3522	305 491 662	
	500	234 768 3521/3522	305 491 682	
3.7	220, 230	234 757 3521/3522	305 491 643	178 126 913K
	380, 400, 415	234 727 3521/3522	305 491 663	
	500	234 797 3521/3522	305 491 683	
4	220, 230	234 767 3521/3522	305 491 644	178 127 913K
	380, 400, 415	234 765 3521/3522	305 491 664	
	500	234 769 3521/3522	305 491 684	
5.5	220, 230	234 758 3521/3522	305 491 645	178 133 913K
	380, 400, 415	234 728 3521/3522	305 491 665	
	500	234 798 3521/3522	305 491 685	
7.5	380, 400, 415	234 729 3521/3522	305 491 666	178 134 913K
	500	234 799 3521/3522	305 491 686	

4CT HIGH THRUST MOTOR - 3-PHASE - STATOR AND ROTOR | 316SS | 60 HZ

P_N [kW]	P_{MAX} [kW]	U_N [V]	model no. rotor 316SS
2.2	2.5	230	178 163 913K
		380	
		460	
3	3.4	230	178 125 913K
		380	
		460	
3.7	4.2	230	178 126 913K
		380	
		460	
4	4.7	230	178 127 913K
		380	
		460	
5.5	6.4	230	178 133 913K
		380	
		460	
7.5	8.6	380	178 134 913K
		460	

60 Hz stators on request

4" ENCAPSULATED HIGH THRUST MOTOR – 3-PHASE

4CT HIGH THRUST MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | 9.3 KW

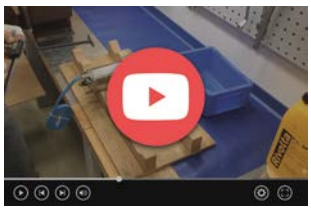
Kit	description	included positions	part no.
Kit A	thrust bearing kit 6500N	17, 18	308 700 301
Kit B	seal kit 304SS | 316SS	1, 3, 6, 11, 20, 24	308 900 501
Kit C	screw kit 304SS | 316SS	4, 7, 8, 23, 28, 31, 32, 34	308 658 501

4CT HIGH THRUST MOTOR - 3-PHASE - STATOR AND ROTOR | 9.3 KW | 316SS | 50 HZ

P_N [kW]	U_N [V]	model no. stator 304SS | 316SS	model no. rotor 304SS | 316SS
9.3	380 - 415	326 995 920K	178 139 915K

60 Hz stators on request

YOUTUBE TUTORIALS



Tutorial 4CT cable mounting



Tutorial 4CT cable installation



Tutorial 4" termination kit assembly

4" ENCAPSULATED HEAT PUMP MOTOR – 3-PHASE

FEATURES & BENEFITS

- Suitable for operation in heating systems that extract heat from groundwater and river water (heat deep wells - or open systems).
- Three motor models cover the range from 160 to 1100 Watts, each motor being capable of driving several pumps within a certain power level range.
- NEMA mounting design with metric studs [M8]
- Stainless steel splined shaft
- Stator shell in 316SS (suitable for use in water with increased salinity)
- 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 and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Field replaceable round plug lead using Franklin's exclusive Water Bloc technology with extended jam nut in Stainless steel
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Drinking water approvals

STANDARD SPECIFICATION

- Ratings: 0.16 - 1.1 kW
- Thrust load: 4 kN
- Standard voltage: 3~ 400 V (50 Hz)
- Max. storage temperature: -15 °C - +50 °C
- Nominal ambient temperature: 30 °C (with 0.08 m/s cooling flow)
- Voltage tolerance U_N: -10 % / +6 % (50 Hz)
- protection IP68
- insulation class B
- Frequency of starts: 20 starts/ hour (with min. 3 minutes resting time), equally distributed
- All motors with factory installed leads (1.50 m / 2.50 m)
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)

STAINLESS STEEL 304 STAINLESS STEEL 316



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

4" ENCAPSULATED HEAT PUMP MOTOR – 3-PHASE

Heat Pump motor version

Many modern heating systems extract heat that is stored in aquifer / river water. Such so-called two-pit or open systems require low-power, high efficiency 3-phase submersible motors. To meet the demands of this niche market, Franklin Electric has developed a special 4" encapsulated submersible motor range optimized for shallow settings and low power consumption available from 0.25 kW to 1.1 kW.

OPTIONS

- Built in lightning arrestors
- Higher-graded material: 316SS



4" encapsulated motors

4CT HEAT PUMP MOTOR - 3-PHASE - MOTOR MODEL NO. | 50 HZ

P_N [kW]	U_N [V]	Digit 1 - 6	Digit 7 - 10			
			304SS		316SS	
			single pack, with lead	motors in 40 motors packing unit	single pack, with lead	motors in 40 motors packing unit
0,16 - 0,32	400	234 870	6721L	6721	6821L	6821
0,30 - 0,60	400	234 871	6721L	6721	6821L	6821
0,55 - 1,1	400	234 872	6721L	6721	6821L	6821

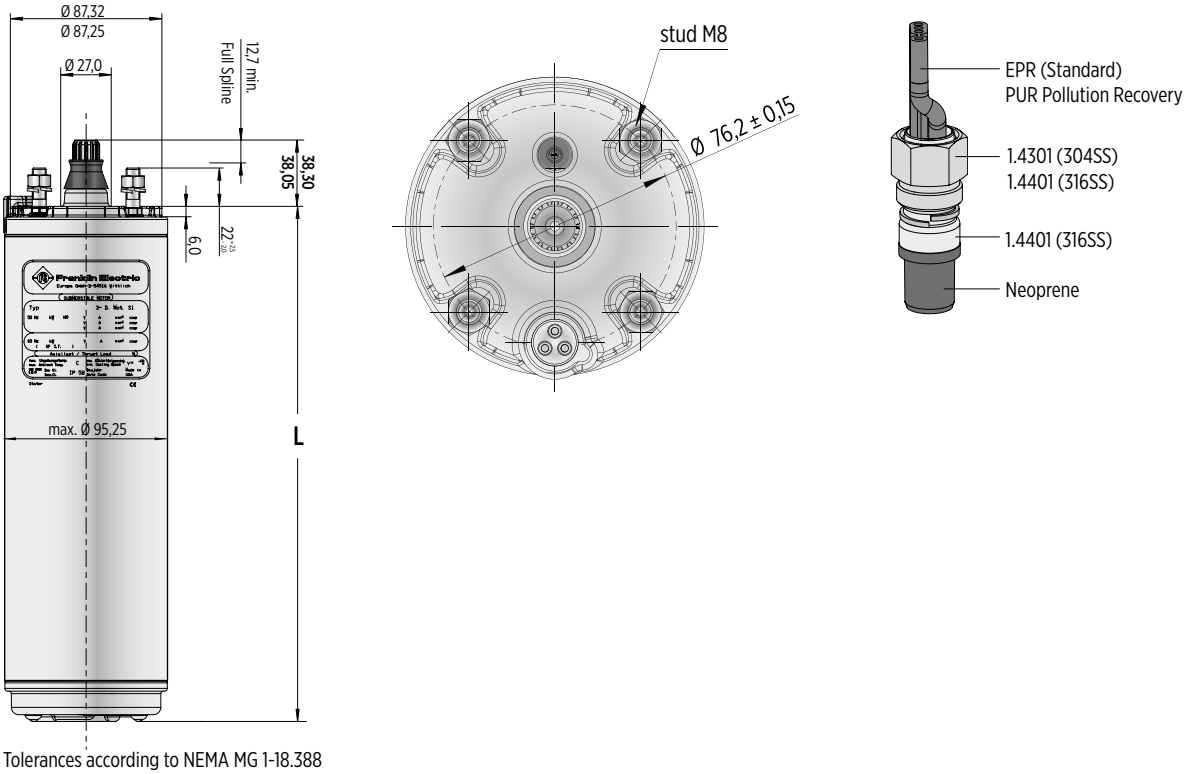
lead lengths motors „L" : up to 1.5 kW with 1.50 m preassembled cable

4CT HEAT PUMP MOTOR - 3-PHASE - MOTOR 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.) [%]	cos ϕ (Pf.)	T_A [Nm]	T_A [Nm]	length [mm]	weight [kg]
0,16 - 0,32	4000	2910	0.56	0.56	3.7	64	0.68	0.52	2.4	237.2	5.6
		2860	0.7	0.7		70	0.78	0.84			
		2820	0.8	0.8		70	0.83	1.08			
0,30 - 0,60	4000	2920	0.95	0.95	7.1	71	0.65	0.98	4.8	271.2	7.3
		2870	1.2	1.2		74	0.78	1.56			
		2830	1.4	1.4		75	0.84	2.02			
0,55 - 1,1	4000	2910	1.7	1.7	12.2	75	0.67	1.8	8.5	297.2	8.6
		2870	1.9	1.9		76	0.76	2.48			
		2800	2.5	2.5		76	0.85	2.74			

4" ENCAPSULATED HEAT PUMP MOTOR – 3-PHASE

4CT HEAT PUMP MOTOR - 3-PHASE - MOTOR DESIGN



Tolerances according to NEMA MG 1-18.388

4CT HEAT PUMP MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS

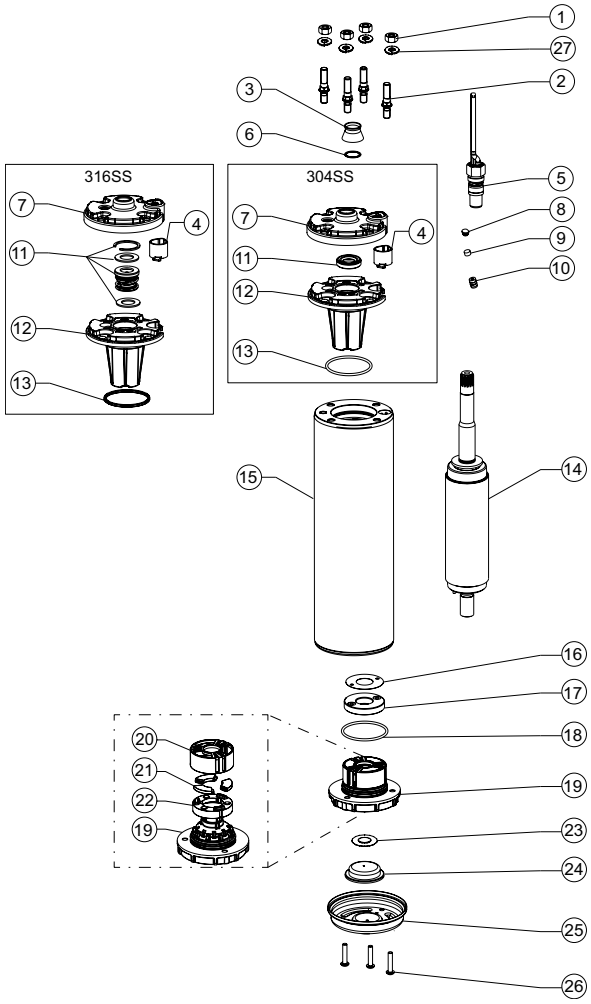
Kit	description	included positions	part no.
Kit A1	Top Endbell 304SS	4, 7, 8, 9, 10, 11 , 12, 13	308 462 902
	Top Endbell 316SS*		308 462 952
Kit A2	Bottom Endbell 304SS incl. Thrust Bearing Kit 4000N	16 - 22	308 464 911
	Bottom Endbell 316SS incl. Thrust Bearing Kit 4000N*		308 464 912
Kit B	Seal Kit Standard 304SS	3, 6, 8, 9, 11, 13, 18, 23, 24	308 650 201
	Seal Kit Standard 316SS*		308 650 251
	Seal Kit Pollution Recovery 304SS		308 650 202
	Seal Kit Pollution Recovery 316SS*		308 650 252
Kit C	Fastener Kit 304SS	1, 2, 26, 27	308 656 202
	Fastener Kit 316SS*		308 656 252

4CT HEAT PUMP MOTOR - 3-PHASE - STATOR AND ROTOR

P_N [kW]	U_N [V]	model no. 304SS	model no. 316SS	model no. stator 304SS / 316SS	model no. rotor 304SS	model no. rotor 316SS
0,16 - 0,32	400	234 870 6721L	234 870 6821L	305 *** ***	178 164 901K	178 164 951K
0,30 - 0,60	400	234 871 6721L	234 871 6821L	305 *** ***	178 164 903K	178 164 953K
0,55 - 1,1	400	234 872 6721L	234 872 6821L	305 *** ***	178 164 905K	178 164 955K

4" ENCAPSULATED HEAT PUMP MOTOR – 3-PHASE

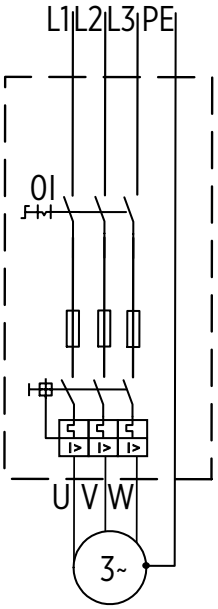
4CT HEAT PUMP MOTOR - 3-PHASE - MOTOR PART DESCRIPTION



Pos.	part description	qty.	part no.
1	Nut	4	Kit C
2	Stud	4	Kit C
3	Protector, Spline	1	Kit B
4	Connector boss	1	151 820 103
5	Motor Lead	1	*cf. section*
6	Washer	1	Kit B
7	Top Endbell, Cover 304SS	1	150 262 151
	Top Endbell, Cover 316SS*	1	150 262 251
8	Filter plug	1	Kit
9	Filter	1	Kit
10	Valve	1	Kit
11	Shaft Seal	1	Kit B
12	Top Endbell	1	KIt
13	O-Ring	1	Kit B
14	Rotor	1	*cf. section*
15	Stator	1	*cf. section*
16	Level washer	1	Kit A2
17	Thrust disk assy	1	Kit A2
18	O-Ring	1	Kit B / Kit A2
19	Bottom Endbell	1	Kit A2
20	Bearing cage	1	Kit A2
21	Segments	3	Kit A2
22	Gasket	1	Kit A2
23	Diaphragm washer	1	151 314 101 / Kit A2
24	Diaphragm	1	Kit B / KitA2
25	Bottom Endbell Cover 304SS	1	156 414 201 / Kit A2
	Bottom Endbell Cover 316SS*	1	156 414 301 / Kit A2
26	Screw, Cover	3	Kit C
27	Lock washer	4	Kit C

4" ENCAPSULATED HEAT PUMP MOTOR – 3-PHASE

4CT HEAT PUMP MOTOR - 3-PHASE - CONNECTIONS

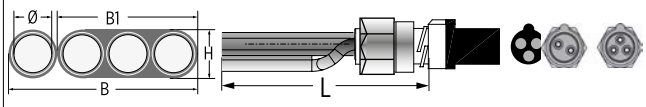


3-phase DOL

U = black (BK)
V = grey (GY)
W = brown (BN)
PE = gelb/grün (YE/GN)

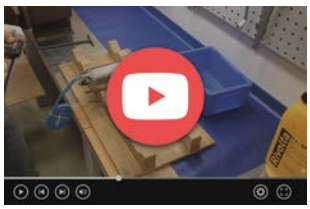
4CT HEAT PUMP MOTOR - 3-PHASE - MOTOR LEADS

3-phase motor leads 0.16 - 1.1 kW			
Ø [mm²]	B [mm]	B1 [mm]	H [mm]
3X1,5 + 1G1,5	16,8	10,7	5,0



L [m]	model no.	
	304SS	316SS
1,5	310 113 401	310 113 501
2,5	310 113 402	310 113 502
5	310 113 405	310 113 505
10	310 113 410	310 113 510
15	310 113 415	310 113 515
20	310 113 420	310 113 520
30	310 113 430	310 113 530
40	310 113 440	310 113 540
50	310 113 450	310 113 550

YOUTUBE TUTORIALS



Tutorial 4CT cable mounting



Tutorial 4CT cable installation



Tutorial 4" termination kit assembly

4" ENCAPSULATED SOLAR MOTOR – 3-PHASE

FEATURES & BENEFITS

- Suitable for operation in solar applications
- NEMA mounting design with metric studs [M8]
- 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.
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Field replaceable round plug lead using Franklin's exclusive Water Bloc technology with extended jam nut in Stainless steel
- Pressure-equalizing diaphragm
- Stator shell in 316SS (suitable for use in water with increased salinity)
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Drinking water approvals

STANDARD SPECIFICATION

- Ratings: 0.75 - 1.1 kW
- Thrust load: 4 kN
- Standard voltage: 3~ 100V / 200V (60 Hz)
- Voltage tolerance U_N: ±10 % (60 Hz)
- Max. storage temperature: -15 °C - +50 °C
- Nominal ambient temperature: 30 °C with 0.08 m/s cooling flow
- Protection IP68
- insulation class B
- Frequency of starts: 20 starts/ hour (with min. 3 minutes resting time), equally distributed
- All motors with factory installed leads (1.50 m / 2.50 m)
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (Rotation reversible for 3 phase motors)

STAINLESS STEEL 304 STAINLESS STEEL 316

OPTIONS

- Built in lightning arrestors
- Higher-graded material: 316SS
- Special voltages



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.

Solar

Suitable for operation in solar applications

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



4" encapsulated motors

4" ENCAPSULATED SOLAR MOTOR – 3-PHASE

4CT SOLAR MOTOR - 3-PHASE - MOTOR MODEL NO. | 60 HZ

P_N [kW]	U_N [V]	Digit 1 - 6	Digit 7 - 10	
			Single pack with lead*	motors in 40 motors packing unit
0,75	100	234 802	6721L	6721
1,1	200	234 703	6721L	6721

*lead lengths motors „L“ : up to 1.5 kW with 1.50 m preassembled cable

4CT SOLAR MOTOR - 3-PHASE - MOTOR + DRIVE-TECH MINI - SYSTEM MODEL NO. | 60 HZ

P_N [kW]	U_N [V]	Set Motor with DrivE-Tech MINI Solar*	DrivE-Tech MINI*	
			model	model no.
0,75	100	308 752 670	FD Solar 0.55 kW N4	581 013 000 86C-62IS000
1,1	200	308 754 670	FD Solar 1.10 kW N4	581 014 200 86C-62IS002

4CT SOLAR MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 60 HZ

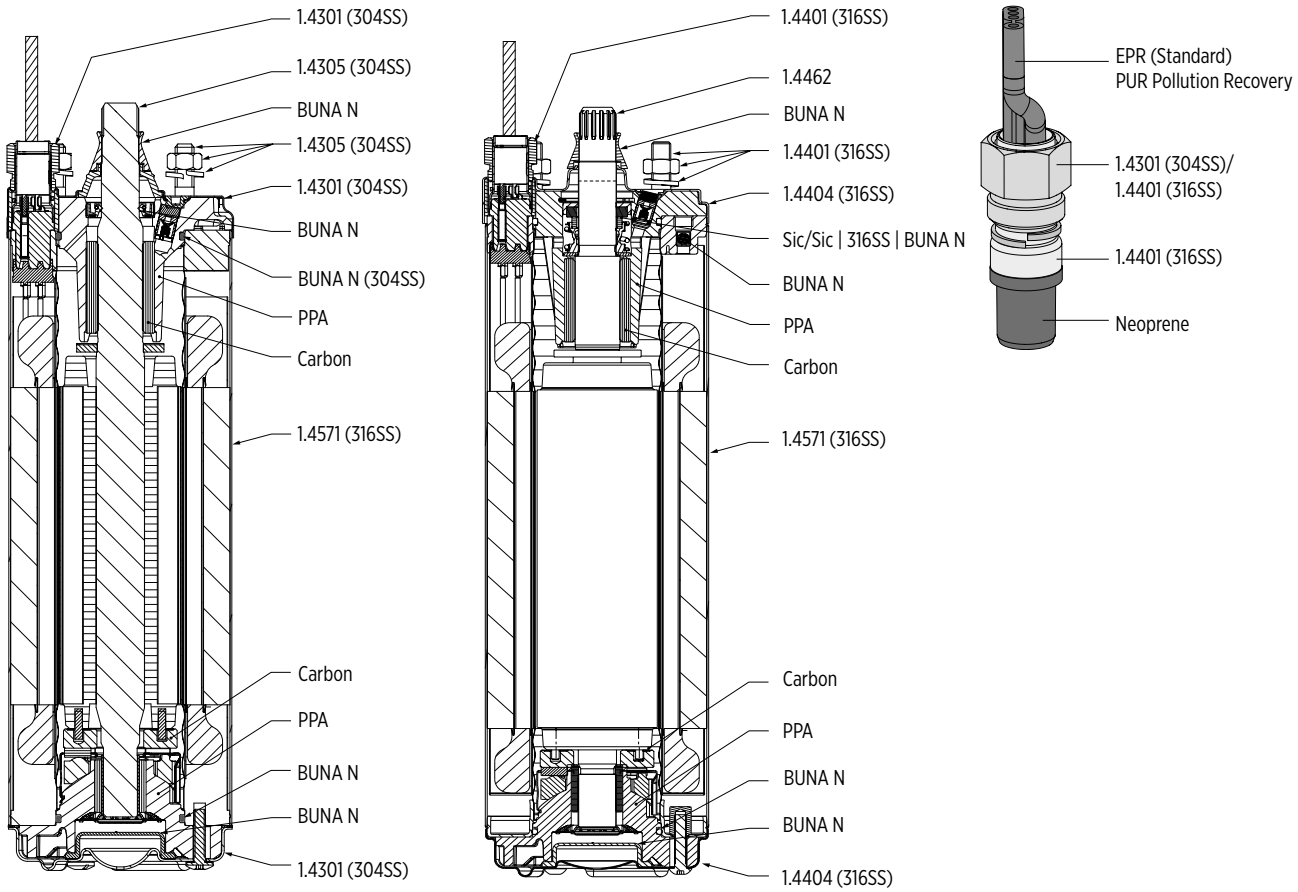
P_N [kW]	Thrust F [N]	U_N [V]	n_N [min^{-1}]	I_N [A]	I_A [A]	η (Eff.) at % load			cos φ (Pf.) at % load			T_N [Nm]	T_A [Nm]
						50	75	100	50	75	100		
0,75	4000	100	3370	6,9	34,0	68	73	74	0,71	0,79	0,85	2,1	5,0
1,1	4000	200	3400	5,0	26,0	72	76	76	0,70	0,78	0,83	3,1	7,0

4CT SOLAR MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 60 HZ

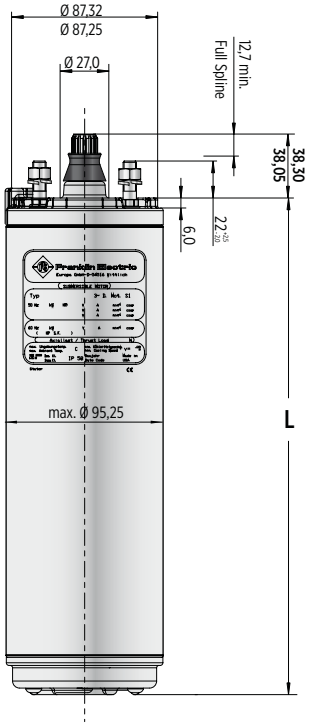
P_N [kW]	U_N [V]	stator reference no.	main phase [Ohm]
0,75	100	327 216 945	1,3 - 1,6
1,1	200	327 051 945	3,1 - 3,7

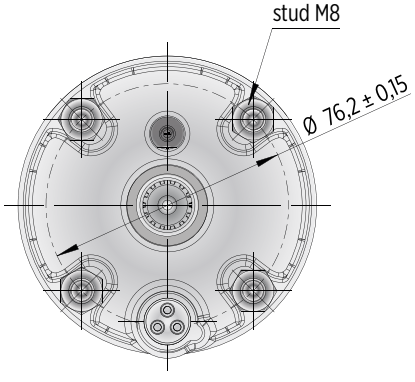
4" ENCAPSULATED SOLAR MOTOR – 3-PHASE

4CT SOLAR MOTOR - 3-PHASE - MOTOR DESIGN



4CT SOLAR MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS



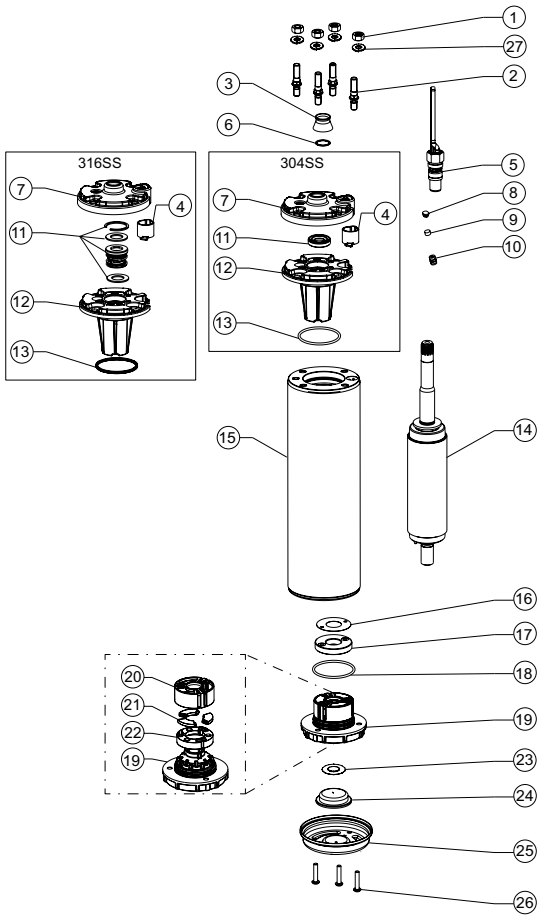


P_N		motor		motor with lead in single pack	
[kW]	[HP]	length [mm]	weight [kg]	dimensions [mm]	weight [kg]
0,75	1,00	271,2	7,25	530 x 100 x 110	8,0
1,10	1,50	297,2	8,55	530 x 100 x 110	9,3

Tolerances according to NEMA MG 1-18.388

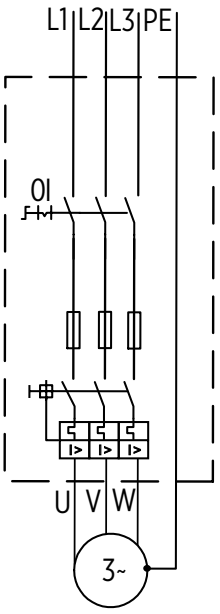
4" ENCAPSULATED SOLAR MOTOR – 3-PHASE

4CT SOLAR MOTOR - 3-PHASE - MOTOR PART DESCRIPTION



Pos.	part description	qty.	part no.
1	Nut	4	Kit C
2	Stud	4	Kit C
3	Protector, Spline	1	Kit B
4	Connector boss	1	151 820 103
5	Motor Lead	1	*cf. section*
6	Washer	1	Kit B
7	Top Endbell, Cover 304SS	1	150 262 151
	Top Endbell, Cover 316SS*	1	150 262 251
8	Filter plug	1	Kit
9	Filter	1	Kit
10	Valve	1	Kit
11	Shaft Seal	1	Kit B
12	Top Endbell	1	KIt
13	O-Ring	1	Kit B
14	Rotor	1	*cf. section*
15	Stator	1	*cf. section*
16	Level washer	1	Kit A2
17	Thrust disk assy	1	Kit A2
18	O-Ring	1	Kit B / Kit A2
19	Bottom Endbell	1	Kit A2
20	Bearing cage	1	Kit A2
21	Segments	3	Kit A2
22	Gasket	1	Kit A2
23	Diaphragm washer	1	151 314 101 / Kit A2
24	Diaphragm	1	Kit B / KitA2
25	Bottom Endbell Cover 304SS	1	156 414 201 / Kit A2
	Bottom Endbell Cover 316SS*	1	156 414 301 / Kit A2
26	Screw, Cover	3	Kit C
27	Lock washer	4	Kit C

4CT SOLAR MOTOR - 3-PHASE - CONNECTIONS | DOL

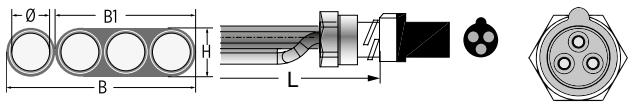


U = black (BK)
V = grey (GY)
W = brown (BN)
PE = yellow/green (YE/GN)

4" ENCAPSULATED SOLAR MOTOR – 3-PHASE

4CT SOLAR MOTOR - 3-PHASE - MOTOR LEADS

Ø [mm²]	B [mm]	B1 [mm]	H [mm]
3x1,5 + 1G1,5	16,8	10,7	5,0



L [m]	model no.	
	304SS	316SS
1,5	310 113 401	310 113 501
2,5	310 113 402	310 113 502
5	310 113 405	310 113 505
10	310 113 410	310 113 510
15	310 113 415	310 113 515
20	310 113 420	310 113 520
30	310 113 430	310 113 530
40	310 113 440	310 113 540
50	310 113 450	310 113 550

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

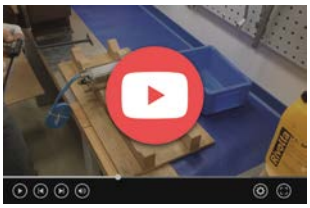
4CT SOLAR MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS

Kit	description	included positions	part no.
Kit A1	Top Endbell 304SS	4, 7, 8, 9, 10, 11 , 12, 13	308 462 902
	Top Endbell 316SS*		308 462 952
Kit A2	Bottom Endbell 304SS incl. Thrust Bearing Kit 4000N	16 - 22	308 464 911
	Bottom Endbell 316SS incl. Thrust Bearing Kit 4000N*		308 464 912
Kit B	Seal Kit Standard 304SS	3, 6, 8, 9, 11, 13, 18, 23, 24	308 650 201
	Seal Kit Standard 316SS*		308 650 251
	Seal Kit Pollution Recovery 304SS		308 650 202
	Seal Kit Pollution Recovery 316SS*		308 650 252
Kit C	Fastener Kit 304SS	1, 2, 26, 27	308 656 202
	Fastener Kit 316SS*		308 656 252

4CT SOLAR MOTOR - 3-PHASE - STATOR AND ROTOR

P_N [kW]	U_N [V]	motor model no. 304SS	motor model no. 316SS	model no. stator 304SS / 316SS	model no. rotor 304SS	model no. rotor 316SS
0,75	100	234 802 6721L	234 802 6821L	305 491 ***	178 164 903K	178 164 953K
1,1	200	234 703 6721L	234 703 6821L	305 491 ***	178 164 905K	178 164 955K

YOUTUBE TUTORIALS



Tutorial 4CT cable mounting



Tutorial 4CT cable installation



Tutorial 4" termination kit assembly

6" ENCAPSULATED MOTOR

FEATURES & BENEFITS

- Double-flange NEMA mounting design
- 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.
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- 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)
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Drinking water approvals

OPTIONS

- Higher-graded material: 304SS, 316SS
- Special voltages
- 45 kN High Thrust version (Standard in 37 kW and 45 kW)
- Retrofitable PT 100 temperature sensor
- Integrated SubMonitor™ sensor (Standard in 37 kW and 45 kW)
- Special lead lengths up to 50 m

STANDARD SPECIFICATION

- Ratings:4 - 45 kW
- Thrust load:
  15.5 kN: 4 - 22 kW| 27.5 kN: 30 kW | 45 kN: 37 - 45 kW
- Max. storage temperature: - 15 °C to + 60 °C
- Nominal ambient temperature: 30 °C (with 0.08 m/s cooling flow)
- Standard voltage: 1~ 220-230V / 230-240 V (50 Hz)
- Voltage tolerance U_N: -10 % / +6 % (50 Hz), ±10 % (60 Hz)
- Protection requirements: DIN/EN 60947-4-1
- protection IP68
- insulation class B
- 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 (1.50 m / 2.50 m)
- Installation orientation: Vertical / horizontal (shaft end heightened)
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)



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

SAND FIGHTER | WATER WELL WW CI PC / 304SS | STAINLESS STEEL 304 | STAINLESS STEEL 316

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - MOTOR MODEL NO. | 50 HZ | WW | 304SS | 316SS

P_N [kW]	U_N [V]	Digit 1 – 6		Digit 7 - 10						
		DOL	YΔ	Standard			with SubMonitor Transmitter			45 kN motor version
				WW**	304SS	316SS	WW**	304SS	316SS	
4	220, 230	236 680	236 670	9061	1061	3961	6061	1161	4061	**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	**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	**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	**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	**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	**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	**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	**63
	380 - 415	236 616	236 716							
	500	236 706	236 796							
30	220, 230		236 677	9061	1061	3961	6061	1161	4061	**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

* 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 MOTOR

6CT MOTOR - 3-PHASE - MOTOR MODEL NO. | 60 HZ | WW | 304SS | 316SS

P_N [kW]	P_N [HP]	U_N [V]	Digit 1 – 6		Digit 7 - 10						45 kN motor version
			DOL	YΔ	Standard			with SubMonitor Transmitter			
					WW**	304SS	316SS	WW**	304SS	316SS	
4	5.5	200	236 650	236 760	9061	1061	3961	6061	1161	4061	**63
		230	236 600	236 720	9061	1061	3961	6061	1161	4061	**63
		380	236 660	236 780	9061	1061	3961	6061	1161	4061	**63
		460	236 610	236 710	9061	1061	3961	6061	1161	4061	**63
		575	236 620	236 400	9061	1061	3961	6061	1161	4061	**63
5.5	7.5	200	236 651	236 761	9061	1061	3961	6061	1161	4061	**63
		230	236 601	236 721	9061	1061	3961	6061	1161	4061	**63
		380	236 661	236 781	9061	1061	3961	6061	1161	4061	**63
		460	236 611	236 711	9061	1061	3961	6061	1161	4061	**63
		575	236 621	236 401	9061	1061	3961	6061	1161	4061	**63
7.5	10	200	236 652	236 762	9061	1061	3961	6061	1161	4061	**63
		230	236 602	236 722	9061	1061	3961	6061	1161	4061	**63
		380	236 662	236 782	9061	1061	3961	6061	1161	4061	**63
		460	236 612	236 011	9061	1061	3961	6061	1161	4061	**63
		575	236 622	236 402	9061	1061	3961	6061	1161	4061	**63
9.3	12.5	200	236 061	236 ***	9061	1061	3961	6061	1161	4061	**63
		230	236 041	236 ***	9061	1061	3961	6061	1161	4061	**63
		380	236 031	236 032	9061	1061	3961	6061	1161	4061	**63
		460	236 001	236 011	9061	1061	3961	6061	1161	4061	**63
		575	236 ***	236 ***	9061	1061	3961	6061	1161	4061	**63
11	15	200	236 653	236 763	9061	1061	3961	6061	1161	4061	**63
		230	236 603	236 723	9061	1061	3961	6061	1161	4061	**63
		380	236 663	236 783	9061	1061	3961	6061	1161	4061	**63
		460	236 613	236 713	9061	1061	3961	6061	1161	4061	**63
		575	236 623	236 403	9061	1061	3961	6061	1161	4061	**63
15	20	200	236 654	236 764	9061	1061	3961	6061	1161	4061	**63
		230	236 604	236 724	9061	1061	3961	6061	1161	4061	**63
		380	236 664	236 784	9061	1061	3961	6061	1161	4061	**63
		460	236 614	236 714	9061	1061	3961	6061	1161	4061	**63
		575	236 624	236 404	9061	1061	3961	6061	1161	4061	**63
18.5	25	200	236 655	236 765	9061	1061	3961	6061	1161	4061	**63
		230	236 605	236 725	9061	1061	3961	6061	1161	4061	**63
		380	236 665	236 785	9061	1061	3961	6061	1161	4061	**63
		460	236 615	236 715	9061	1061	3961	6061	1161	4061	**63
		575	236 625	236 405	9061	1061	3961	6061	1161	4061	**63
22	30	200	236 656	236 766	9061	1061	3961	6061	1161	4061	**63
		230	236 606	236 726	9061	1061	3961	6061	1161	4061	**63
		380	236 666	236 786	9061	1061	3961	6061	1161	4061	**63
		460	236 616	236 716	9061	1061	3961	6061	1161	4061	**63
		575	236 626	236 406	9061	1061	3961	6061	1161	4061	**63
30	40	380	236 667	236 787	9061	1061	3961	6061	1161	4061	**63
		460	236 617	236 717	9061	1061	3961	6061	1161	4061	**63
		575	236 627	236 407	9061	1061	3961	6061	1161	4061	**63
37	50	380	276 668	276 788				6161		6361	Standard
		460	276 618	276 718				6161		6361	Standard
		575	276 628	276 **8				6161		6361	Standard
45	60	380	276 669	276 789				6161		6361	Standard
		460	276 619	276 719				6161		6361	Standard
		575	276 629	276 **9				6161		6361	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 MOTOR

6CT MOTOR - 3-PHASE - MOTOR 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		
4	15500	220	2840	16.4	73	76	78.5	77	0.7	0.8	0.85	12.5	17.9
		230	2860	16.1	75	74	77.5	78	0.62	0.74	0.82	12.3	20.2
		380	2840	9.5	42	76	78.5	77	0.7	0.8	0.85	12.5	17.9
		400	2860	9.3	43	74	77.5	78	0.62	0.74	0.82	12.3	20.2
		415	2880	9.3	46	74.5	78	78.5	0.57	0.7	0.78	12.3	20.8
		500	2840	7.2	32	76	78.5	77	0.7	0.8	0.85	12.5	17.9
5.5	15500	220	2850	22.1	104	77	79	78	0.7	0.8	0.85	18.7	30.3
		230	2870	21.7	106	74	78	79	0.63	0.75	0.82	18.6	35
		380	2850	12.8	60	77	79	78	0.7	0.8	0.85	18.7	30.3
		400	2870	12.5	64	74	78	79	0.63	0.75	0.82	18.6	35
		415	2880	12.8	66	74	77.5	78	0.58	0.7	0.78	18.6	35.9
		500	2850	9.7	46	77	79	78	0.7	0.8	0.85	18.7	30.3
7.5	15500	220	2850	28.2	143	77.5	79.5	79	0.74	0.83	0.87	25	43
		230	2860	27.7	144	75	78.5	79	0.7	0.81	0.86	25	47.7
		380	2850	16.3	83	77.5	79.5	79	0.74	0.83	0.87	25	43
		400	2860	16	83	75	78.5	79	0.7	0.81	0.86	25	47.7
		415	2880	16.2	91	75	78.5	79	0.61	0.74	0.81	24.7	51.3
		500	2850	12.4	63	77.5	79.5	79	0.74	0.83	0.87	25	43
9.3	15500	220	2870	36.4	183	79	81	81	0.71	0.81	0.86	31.1	61.6
		230	2870	36	189	78	81	81	0.58	0.72	0.8	31.1	68.6
		380	2870	21	106	79	81	81	0.71	0.81	0.86	31.1	61.6
		400	2870	20.7	112	78	81	81	0.58	0.72	0.8	31.1	68.2
		415	2890	21	116	74	79	80	0.55	0.7	0.78	30.8	74.1
		500	2870	16	80	79	81	81	0.71	0.81	0.86	31.1	61.6
11	15500	220	2860	41.5	218	80	82	81	0.73	0.82	0.87	37.4	72.8
		230	2860	40.4	224	78.5	81	81	0.68	0.79	0.85	37.3	78.3
		380	2860	24	126	80	82	81	0.73	0.82	0.87	37.4	72.8
		400	2860	23.3	129	78.5	81	81	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	82	81	0.73	0.82	0.87	37.4	72.8
15	15500	220	2850	55	283	81	83	82	0.76	0.84	0.86	50	104
		230	2860	54.2	289	79	81.5	81	0.7	0.8	0.85	49.9	107.3
		380	2850	32	164	81	83	82	0.76	0.84	0.86	50	104
		400	2860	31.3	169	79	81.5	81	0.7	0.8	0.85	49.9	107.3
		415	2870	31	179	77	81	81	0.65	0.77	0.83	49.6	116.6
		500	2850	24.3	124	81	83	82	0.76	0.84	0.86	50	104
18.5	15500	220	2850	69.2	380	82	83	82	0.76	0.84	0.87	62.4	139.7
		230	2860	66.7	392	80	82.5	82	0.68	0.79	0.85	62.4	159.6
		380	2850	40	220	82	83	82	0.76	0.84	0.87	62.4	139.7
		400	2850	38.5	231	80	82.5	82	0.68	0.79	0.85	62.4	154.6
		415	2850	38.5	240	78.5	81.5	82	0.64	0.76	0.83	62.1	166.8
		500	2850	30.5	168	82	83	82	0.76	0.84	0.87	62.4	139.7
22	15500	220	2840	81.2	441	82	83	82	0.78	0.86	0.88	75.3	160
		230	2860	78.5	455	81	83	83	0.71	0.81	0.86	74.7	177.6
		380	2840	47	255	82	83	82	0.78	0.86	0.88	75.3	160
		400	2860	45.3	268	81	83	83	0.71	0.81	0.86	74.7	177.6
		415	2870	45	278	79.5	82.5	82.5	0.66	0.78	0.84	74.5	189.9
		500	2840	35.8	194	82	83	82	0.78	0.86	0.88	75.3	160
30	27500	220	2860	111	645	83	83.5	82.5	0.74	0.82	0.85	99.6	237.4
		230	2860	107	670	80.5	83	83	0.67	0.79	0.84	99.4	263.1
		380	2860	64.1	373	83	83.5	82.5	0.74	0.82	0.85	99.6	237.4
		400	2860	63.5	393	80.5	83	83	0.67	0.79	0.84	99.4	263.1
		415	2880	64.5	407	79	82	82.5	0.62	0.74	0.81	99	283.5
		500	2860	49	283	83	83.5	82.5	0.74	0.82	0.85	99.6	237.4
37	45000	380	2850	80.1	387	77	80	81	0.75	0.82	0.87	124.8	269.8
		400	2870	77.9	411	76	80	81	0.68	0.78	0.85	124.5	269.8
		415	2880	77.9	423	75	79	81	0.64	0.75	0.82	123.8	269.8
45	45000	380	2850	95.5	480	79	81	82	0.76	0.83	0.87	150.5	287.4
		400	2870	93.9	509	78	80	82	0.72	0.79	0.84	149.1	325.4
		415	2880	93.2	531	77	80	82	0.68	0.77	0.82	149.1	355.2

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 60 HZ

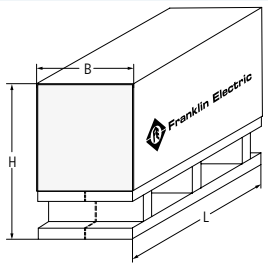
P_N [kW]	P_{MAX} [kW]	Thrust F [N]	U_N [V]	n_N [min^{-1}]	I_{MAX} [A]	I_N [A]	η_{MAX} [%] at 100% load	line to line resistance [Ω]
4	4.6	15500	200	3450	20.0	99	79	.77-.93
			230	3450	17.6	86	79	1.0-1.2
			380	3450	10.7	52	79	2.6-3.2
			460	3450	8.8	43	79	3.9-4.8
			575	3450	7.1	34	79	6.3-7.7
5.5	6,3	15500	200	3450	28.3	150	80	.43-.53
			230	3450	24.6	130	80	.64-.78
			380	3450	15	79	80	1.6-2.1
			460	3450	12.3	65	80	2.4-2.9
			575	3450	9.8	52	80	3.7-4.6
7.5	8,6	15500	200	3450	37	198	79	.37-.45
			230	3450	32.2	172	79	.47-.57
			380	3450	19.6	104	79	1.2-1.5
			460	3450	16.1	86	79	1.9-2.4
			575	3450	12.9	69	79	3.0-3.7
9,3	10.7	15500	200	3450				
			230	3450	38,0	236,0	82	
			380	3450	23,9	142,8	82	
			460	3450	19,5	118,0	82	
			575	3450				
11	12,7	15500	200	3450	54.4	306	81	.24-.29
			230	3450	47.4	266	81	.28-.35
			380	3450	28.9	161	81	.77-.95
			460	3450	23.7	133	81	1.1-1.4
			575	3450	19	106	81	1.8-2.3
15	17.3	15500	200	3450	69.7	416	82	.16-.20
			230	3450	60.6	362	82	.22-.26
			380	3450	37.3	219	82	.55-.68
			460	3450	30.3	181	82	.8-1.0
			575	3450	24.2	145	82	1.3-1.6
18.5	21.3	15500	200	3450	86.3	552	83	.12-.15
			230	3450	75	480	83	.15-.19
			380	3450	46	291	83	.46-.56
			460	3450	37.5	240	83	.63-.77
			575	3450	30	192	83	1.0-1.3
22	25.3	15500	200	3450	104	653	83	.09-.11
			230	3450	90.4	568	83	.14-.17
			380	3450	55.4	317	83	.35-.43
			460	3450	45.2	284	83	.52-.64
			575	3450	36.2	227	83	.78-.95
30	34.5	27500	380	3450	74.6	481	83	.26-.33
			460	3450	61.6	397	83	.34-.42
			575	3450	49.6	318	83	.52-.64
37	42,6	45000	230	3450	157	0	85	.10 - .11
			380	3450	94.5	501	83	.21 - .25
			460	3450	77,0	414	85	.25 - .32
			575	3450	62.5	331	83	.40 - .49
45	51,8	45000	380	3450	111.8	627	84	.15 - .18
			460	3460	91,0	518	85	.22 - .27
			575	3450	73.9	414	84	.35 - .39

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 50 HZ

		3- DOL		3 - YΔ	
P_N [kW]	U_N [V]	Stator ref.	U - V / Ohm V - W / Ohm U - W / Ohm	Stator ref.	U_1 - U_2 / Ohm V_1 - V_2 / Ohm W_1 - W_2 / 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

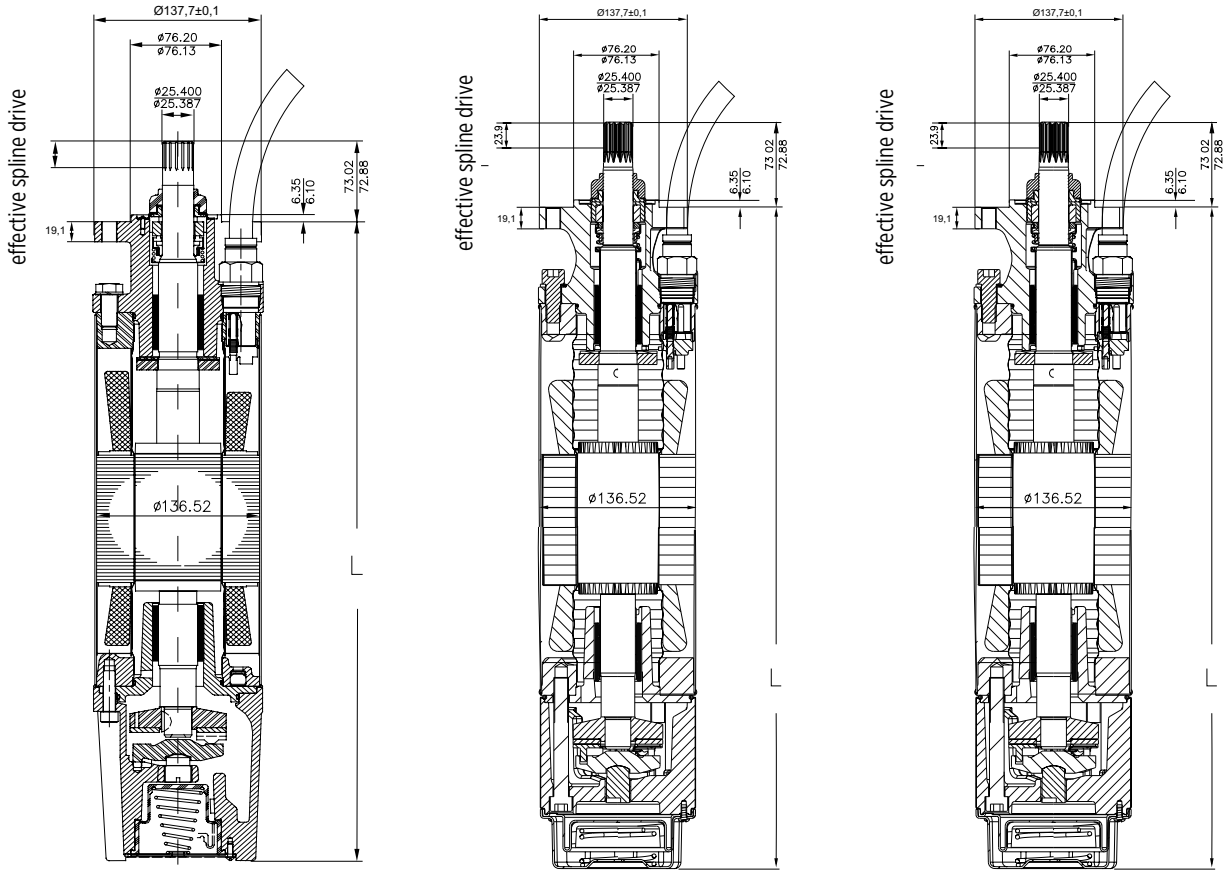
6CT MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | WW | 304SS | 316SS | 4-30 KW

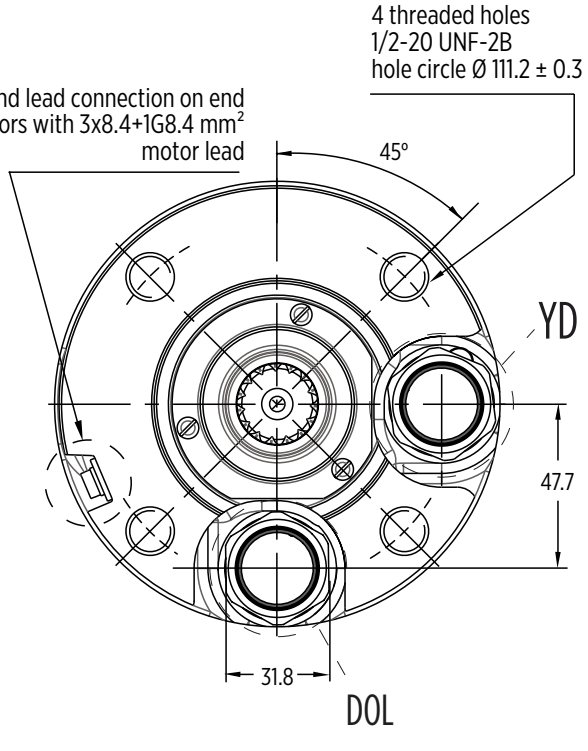
P_N [kW]	length [mm]			dimensions [mm]	weight [kg]		Motor packing
	WW	304SS	316SS		DOL	YΔ	
4	581.2	570.7	570.7	155 x 340 x 800	41.3	40.3	
5.5	614.4	604	604	155 x 340 x 800	44.9	43.9	
7.5	646.2	635.8	635.8	155 x 340 x 800	49	48	
9.3	678.7	668.3	668.3	155 x 340 x 1070	50.3	51.3	
11	711.2	700.8	700.8	155 x 340 x 1070	54.7	53.7	
15	776.2	765.8	765.8	155 x 340 x 1070	60.5	59.5	
18.5	841.5	831.1	831.1	155 x 340 x 1070	67.1	66.1	
22	906.5	896.1	896.1	155 x 340 x 1070	73.1	72.1	
30	1036.6	1026.2	1026.2	155 x 340 x 1200	87.7	87.7	

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - MOTOR DESIGN | WW | 304SS | 316SS | 4-30 KW

WW	304SS	316SS





6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - MATERIALS | WW | 304SS | 316SS | 4-30 KW



part	WW	304SS	316SS
Shell	14301	14301	14571
Upper end bell	Cast iron powder coated	14301	14408
Thrust housing	Cast iron powder coated	14301	14408
Mechanical seal	SiC / SiC	SiC / SiC	SiC / SiC
Seal cover	14301	14301	14401
Slinger	EPDM	EPDM	EPDM
Shaft end	14305	14305	14462
Diaphragm	NBR	NBR	NBR
Lead	EPR	EPR	EPR

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - MATERIALS | WW | 304SS | 316SS | 37-45 KW

WW	316SS



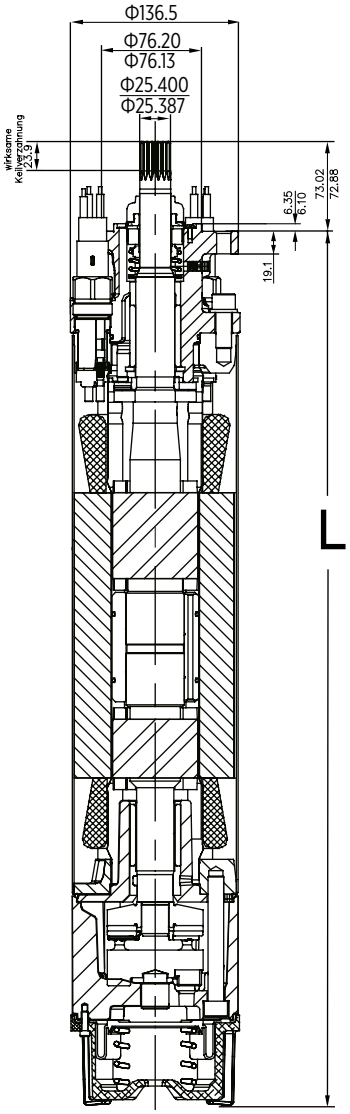


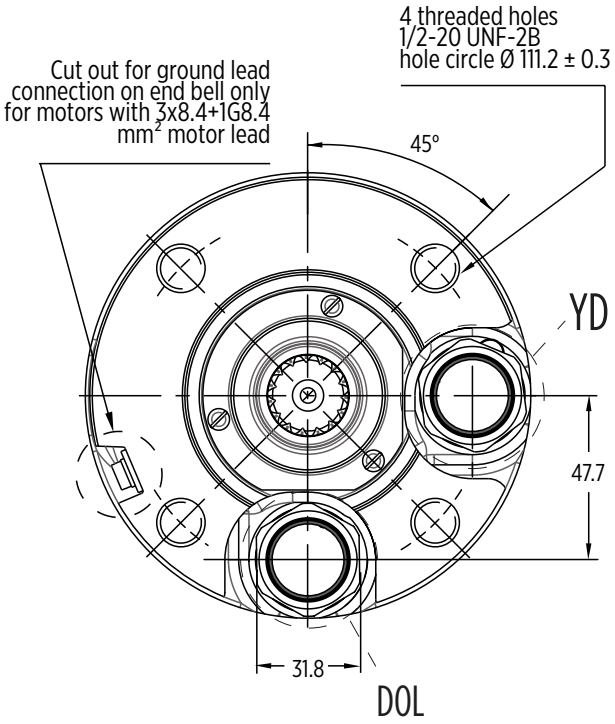
Part	WW	316SS
shell	1.4301	1.4571
upper end bell	Cast Iron/powder coated	14408
thrust housing	Cast Iron/powder coated	14408
mechanical seal	SiC / SiC	SiC / SiC
seal cover	1.4301	1.4401
slinger	Viton	Viton
shaft end	1.4305	1.4542
diaphragm	Viton	Viton
lead	EPR	EPR
jam nut (lead)	Brass	1.4401 (316SS)
lead bushing	rubber	rubber

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | WW | 316SS | 37-45 KW

WW | 316SS





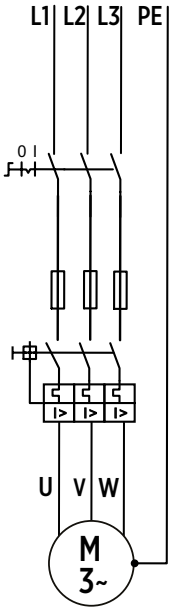
P_N [kW]	length [mm]		motor package size [mm]	shipping weight [kg]
	WW	316SS		
37	1476.7	1476.7	223 x 267 x 1823	140
45	1629.2	1629.2	223 x 267 x 1823	156

6" ENCAPSULATED MOTOR

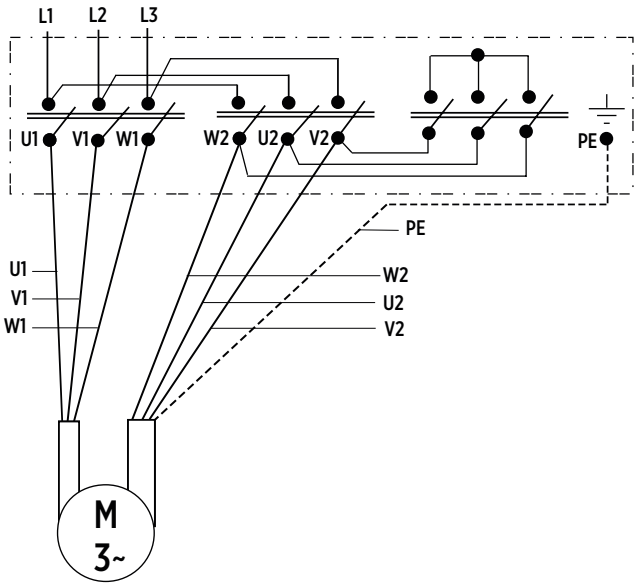
6CT MOTOR - 3-PHASE - CONNECTIONS

DOL

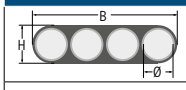
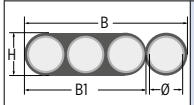
U = black (BK)
V = brown (BN)
W = grey (GY)
PE = yellow/green (YE/GN)

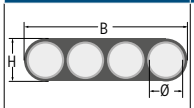
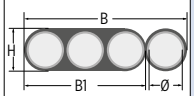
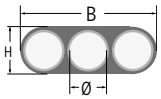


YΔ



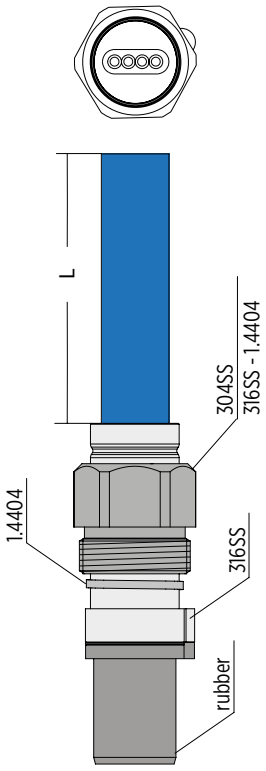
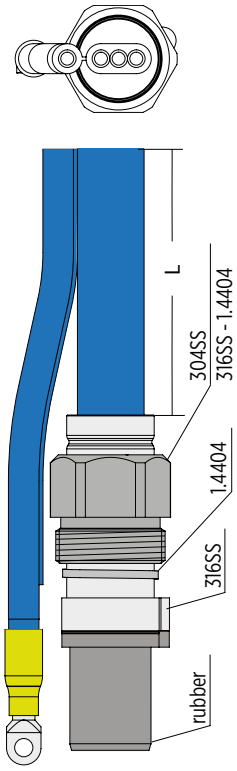
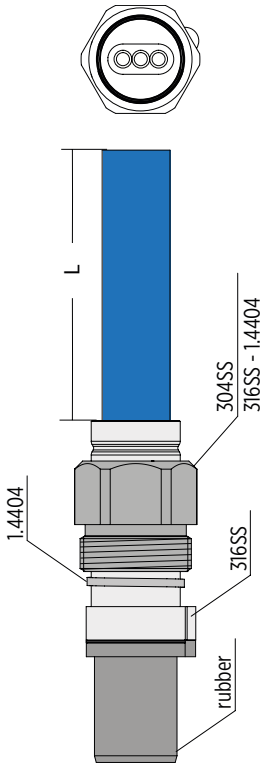
6CT MOTOR - 3-PHASE - MOTOR LEADS

DOL	Ø [mm²]	length [m]	qty.	motor 220V	motor 380 - 415V	motor 500V	B [mm] (± 0,3)	B1 [mm] (±0,3)	H [mm] (± 0,3)
	4G4	4	1	4-11kW	4-22 kW	4-30 kW	19	-	7
	3X8,4+1G8,4	4	1	15-22 kW	30-45 kW	0	29.5	19.5	8.9

YΔ	Ø [mm²]	length [m]	qty.	motor 220V	motor 380 - 415V	motor 500V	B [mm] (± 0,3)	B1 [mm] (±0,3)	H [mm] (± 0,3)
	4G4	4	2	4-22kW	4-30 kW		19		7
	3X8,4+1G8,4	4	1	30-37kW	37-45 kW		29.5	19.5	8.9
	3X8,4		1				19.6	-	8.9

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - MOTOR LEADS DESIGN

4G4 mm²	3X8,4 + 1G 8,4 mm²	3X8,4 mm²
		

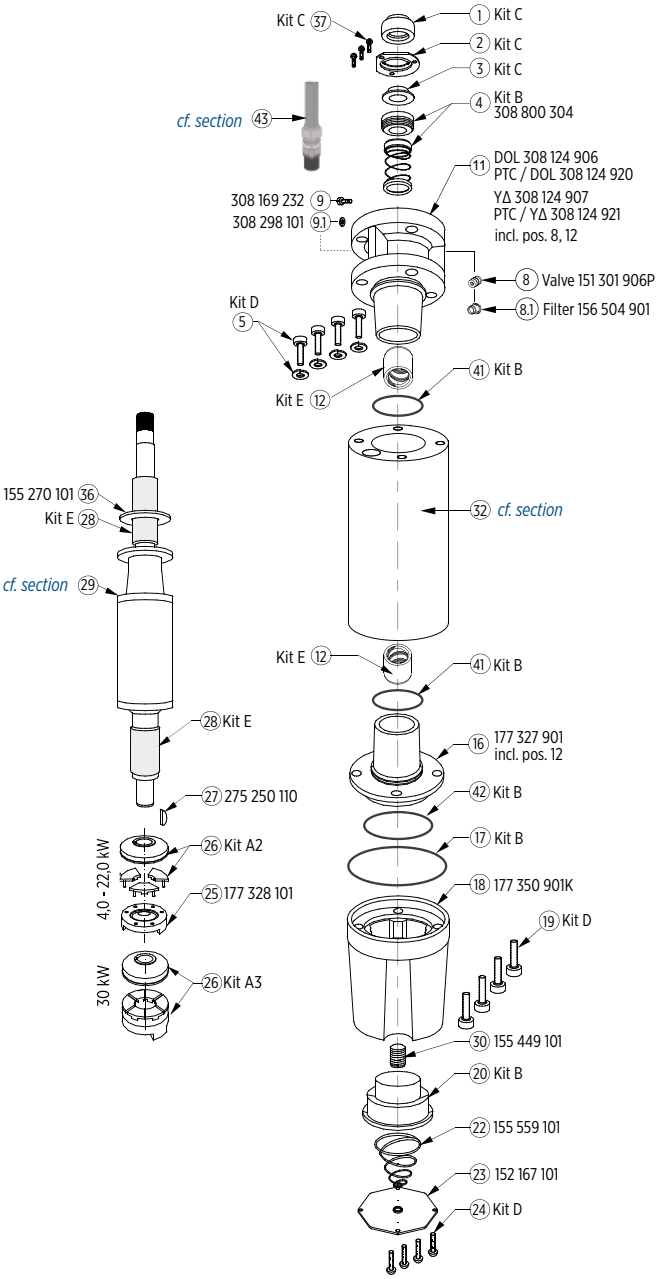
lead part numbers WW motors *			
L [m]	4G4 mm²	3X8,4 + 1G8,4 mm²	3X8,4 mm²
4	310 125 004	310 145 004	310 155 004
8	310 125 008	310 145 008	310 155 008
10	310 125 010	310 145 010	310 155 010
15	310 125 015	310 145 015	310 155 015
20	310 125 020	310 145 020	310 155 020
25	310 125 025	310 145 025	310 155 025
30	310 125 030	310 145 030	310 155 030
35	310 125 035	310 145 035	310 155 035
40	310 125 040	310 145 040	310 155 040
45	310 125 045	310 145 045	310 155 045
50	310 125 050	310 145 050	310 155 050

lead part no. 304SS/316SS motors *			
L [m]	4G4 mm²	3X8,4 + 1G8,4 mm²	3X8,4 mm²
4	310 125 504	310 145 504	310 155 504
8	310 125 508	310 145 508	310 155 508
10	310 125 510	310 145 510	310 155 510
15	310 125 515	310 145 515	310 155 515
20	310 125 520	310 145 520	310 155 520
25	310 125 525	310 145 525	310 155 525
30	310 125 530	310 145 530	310 155 530
35	310 125 535	310 145 535	310 155 535
40	310 125 540	310 145 540	310 155 540
45	310 125 545	310 145 545	310 155 545
50	310 125 550	310 145 550	310 155 550

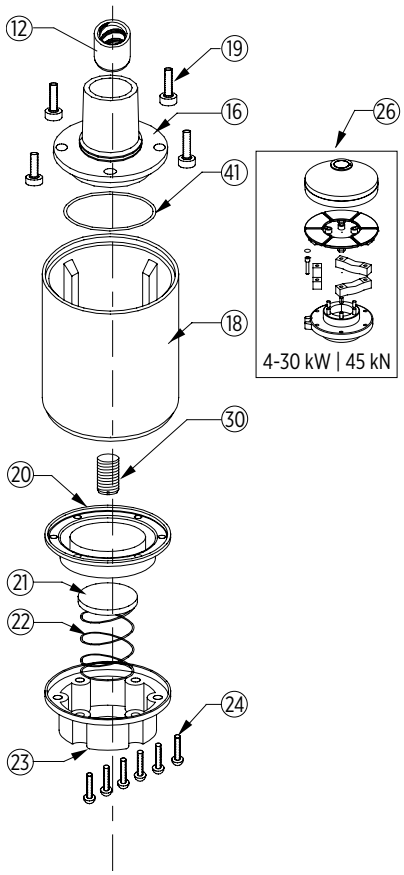
* Cables are designed for submerged operation. For air operation, please consult Franklin Electric.

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | WW | 4-30 KW



45 kN conversion kit

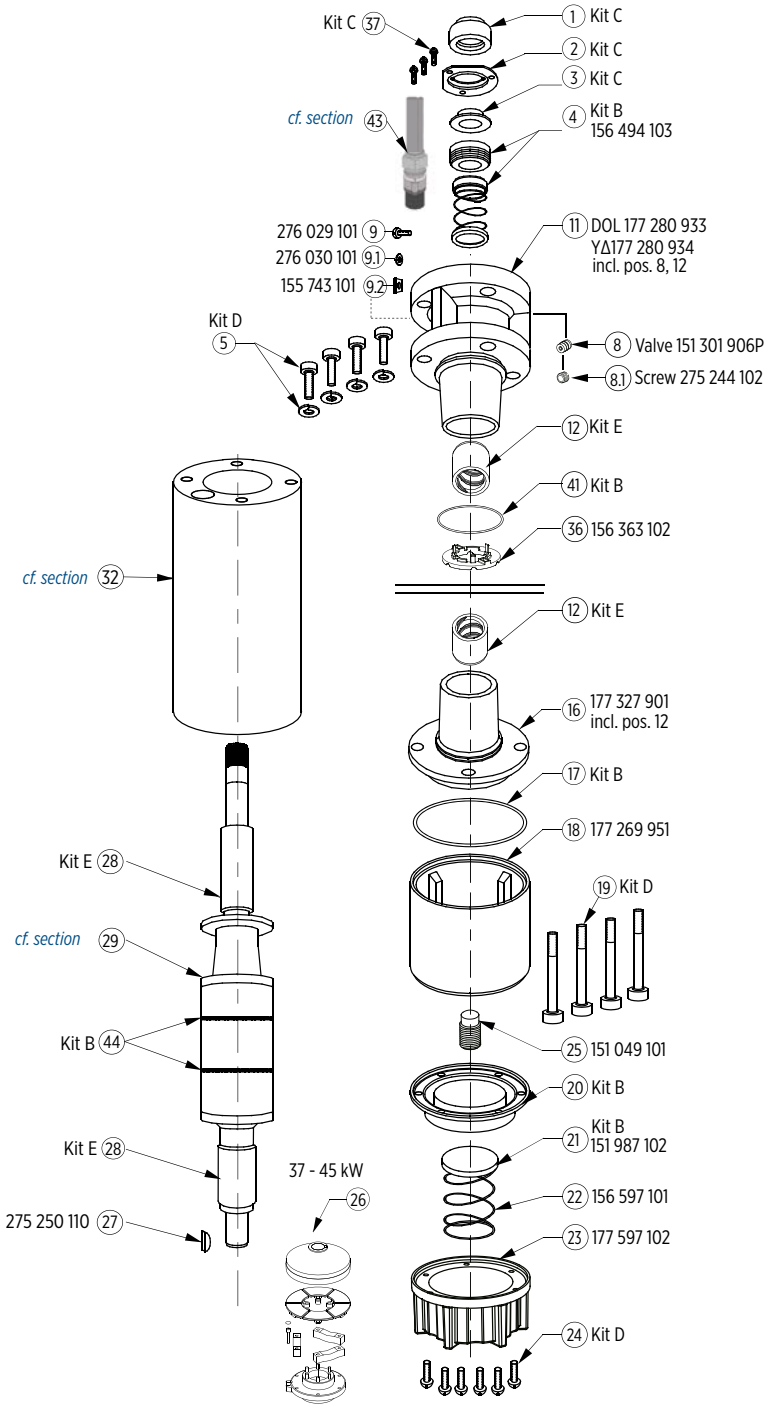


Kit	description	included positions	part no.
rotor kit | 6500N - 15500N	4,0 kW	25, 26, 29	305 330 901
	5,5 kW	25, 26, 29	305 330 902
Kit A2 | 15500N	4 - 22 kW | thrust bearing kit	26	308 750 120
Kit A3 | 27500N	30 kW | thrust bearing kit	26	308 750 200
Kit A4 | 45000N	thrust bearing kit	26	308 750 510
Conversion Kit | 45000N	4 - 30 kW	12, 16, 18, 19, 20, 21, 22, 23, 24, 26, 30, 41	308 750 500
Kit B1	4 - 30 kW	4, 17, 20, 41, 42	308 800 125
Kit C1	Slinger Kit	1, 2, 3, 37	308 725 101
Kit D3 (up to 07-2002)	Screw Kit	5, 19, 24	308 659 120
Kit D4 (starting 07-2002)	Screw Kit	5, 19, 24	308 659 121
Kit E*	4 - 30 kW | radial bearing kit	12, 28	308 678 101

* Radial bearing parts are unfinished.

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | WW | 37-45 KW



Kit	description	included positions	part no.
Kit A3 | 27500N	thrust bearing kit	26	308 750 200
Kit A4 | 45000N	thrust bearing kit	26	308 750 510
Conversion Kit | 45000N	37 - 45 kW	12, 16, 18, 19, 20, 21, 22, 23, 24, 26, 30, 41	308 750 500
Kit B3	Seal Kit	4, 17, 20, 21, 41, 44	308 800 250
Kit C3	Slinger Kit	1, 2, 3, 37	308 725 150
Kit D5	Screw Kit	5, 19, 24	308 659 155
Kit E*	Radial Bearing Kit	12, 28	308 678 101

* Radial bearing parts are unfinished.

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - STATOR AND ROTOR | WW | 4-30 KW | 50 HZ

			DOL		YΔ (*)		
P_N [kW]	U_N [V]	Thrust F [N]	motor model no.	stator model no.	motor model no.	stator model no.	rotor model no.
4,0	220, 230	15500	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	15500	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	15500	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	15500	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	220, 230	15500	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	220, 230	15500	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	15500	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	220, 230	15500	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	23679690**	305486939	
30	220, 230	27500			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	

* Position of leads: 90°
3 ~ without SubMonitor Transmitter

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - STATOR AND ROTOR | WW | 4-45 KW | 50 HZ

			DOL		YΔ (*)		
P_N [kW]	U_N [V]	Thrust F [N]	motor model no.	stator model no.	motor model no.	stator model no.	rotor model no.
4	220, 230	15500	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	15500	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	15500	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	15500	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	220, 230	15500	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	220, 230	15500	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	15500	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	220, 230	15500	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	220, 230	27500			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	380, 400, 415	45000	276 618 6161	305 489 920	276 718 6161	305 489 919	305 223 920
45	380, 400, 415	45000	276 619 6161	305 490 920	276 719 6161	305 490 919	305 223 921

* Position of leads: 90°
3 ~ without SubMonitor Transmitter

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - STATOR AND ROTOR | WW | 4-30 KW | 60 HZ

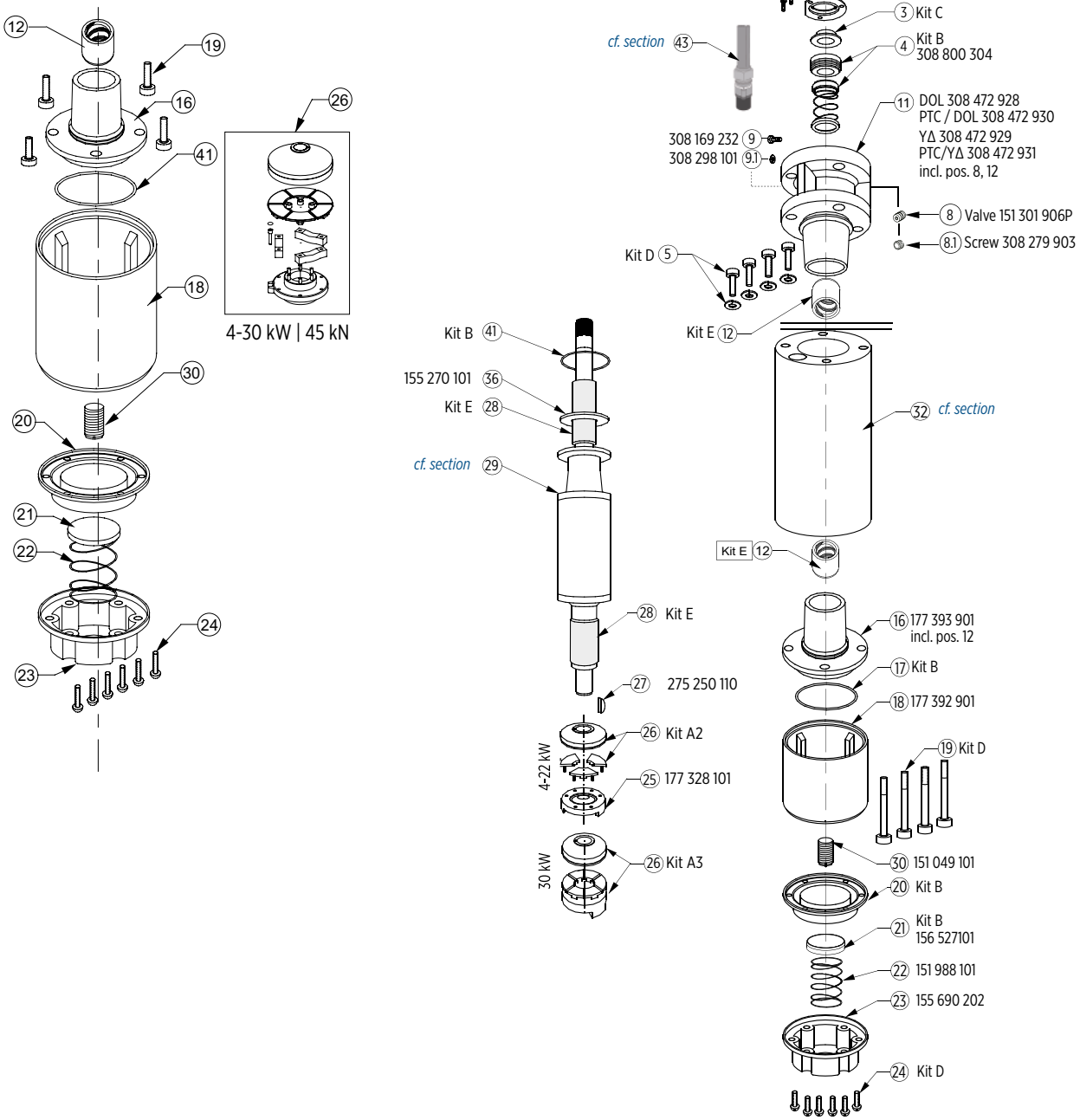
				DOL		YΔ (*)		
P_N [kW]	P_N [HP]	U_N [V]	Thrust F [N]	motor model no.	stator model no.	motor model no.	stator model no.	rotor model no.
4	5.5	200	15500	236 650 60**		236 760 60**		178 117 912K
		230		236 600 60**		236 720 60**		
		380		236 660 60**		236 780 60**		
		460		236 610 60**	305 478 908	236 710 60**	305 478 911	
		575		236 620 60**		236 400 60**		
5.5	7.5	200	15500	236 651 60**		236 761 60**		178 118 911K
		230		236 601 60**		236 721 60**		
		380		236 661 60**		236 781 60**		
		460		236 611 60**	305 479 911	236 711 60**	305 479 914	
		575		236 621 60**		236 401 60**		
7.5	10	200	15500	236 652 60**		236 762 60**		178 119 906K
		230		236 602 60**		236 722 60**		
		380		236 662 60**		236 782 60**		
		460		236 612 60**	305 480 913	236 011 60**	305 480 916	
		575		236 622 60**		236 402 60**		
9.3	12.5	200	15500	236 061 60**		236 *** 60**		178 182 906K
		230		236 041 60**		236 *** 60**		
		380		236 031 60**		236 032 60**		
		460		236 001 60**	305 481 902	236 011 60**	305 481 905	
		575		236 *** 60**		236 *** 60**		
11	15	200	15500	236 653 60**		236 763 60**		178 120 906K
		230		236 603 60**		236 723 60**		
		380		236 663 60**		236 783 60**		
		460		236 613 60**	305 482 914	236 713 60**	305 482 917	
		575		236 623 60**		236 403 60**		
13	20	200	15500	236 654 60**		236 764 60**		178 121 906K
		230		236 604 60**		236 724 60**		
		380		236 664 60**		236 784 60**		
		460		236 614 60**	305 484 914	236 714 60**	305 484 917	
		575		236 624 60**		236 404 60**		
15	25	200	15500	236 655 60**		236 765 60**		178 122 906K
		230		236 605 60**		236 725 60**		
		380		236 665 60**		236 785 60**		
		460		236 615 60**	305 485 911	236 715 60**	305 485 914	
		575		236 625 60**		236 405 60**		
18.5	30	200	15500	236 656 60**		236 766 60**		178 123 906K
		230		236 606 60**		236 726 60**		
		380		236 666 60**		236 786 60**		
		460		236 616 60**	305 486 915	236 716 60**	305 486 918	
		575		236 626 60**		236 406 60**		
22	40	380	27500	236 667 60**		236 787 60**		178 115 906K
		460		236 617 60**	305 488 905	236 717 60**	305 488 908	
		575		236 627 60**		236 407 60**		
37	50	380	45500	276 668 60**		276 788 60**		305 223 920
		460		276 618 60**	305 489 920	276 718 60**	305 489 919	
		575		276 628 60**		276 **8 60**		
45	60	380	45000	276 669 60**		276 789 60**		305 223 921
		460		276 619 60**	305 490 920	276 719 60**	305 490 919	
		575		276 629 60**		276 **9 60**		

* Position of leads: 90°
3 - without SubMonitor Transmitter

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | 304SS | 4-30 KW

Conversion Kit | 45000N



Kit	description	included positions	part no.
Kit A2 | 15500N	4-22 kW | thrust bearing kit	26	308 750 120
Kit A3 | 27500N	30 kW | thrust bearing kit	26	308 750 200
Kit A4 | 45000N	30 kW | thrust bearing kit	26	308 750 510
Conversion Kit | 45000N	4-30 kW	12, 16, 18, 19, 20, 21, 22, 23, 24, 26, 30, 41	308 750 550
Kit B2	4-30 kW | Seal Kit	4, 17, 20, 21, 22, 41	308 800 302
Kit C2	Slinger Kit	1, 2, 3, 37	308 725 302
Kit D4	Screw Kit	5, 19, 24	308 659 302
Kit E*	4-30 kW | Radial Bearing Kit	12, 28	308 678 101

* Radial bearing parts are unfinished.

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - STATOR AND ROTOR | 304SS | 4-30 KW | 50 HZ

			DOL		YΔ (*)		
P_N [kW]	U_N [V]	Thrust F [N]	motor model no.	stator model no.	motor model no.	stator model no.	rotor model no.
4,0	220, 230	15500	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	15500	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	15500	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	15500	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	220, 230	15500	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	220, 230	15500	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	15500	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	220, 230	15500	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	220, 230	27500			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 ***	

* Position of leads: 90°
3 - without SubMonitor Transmitter

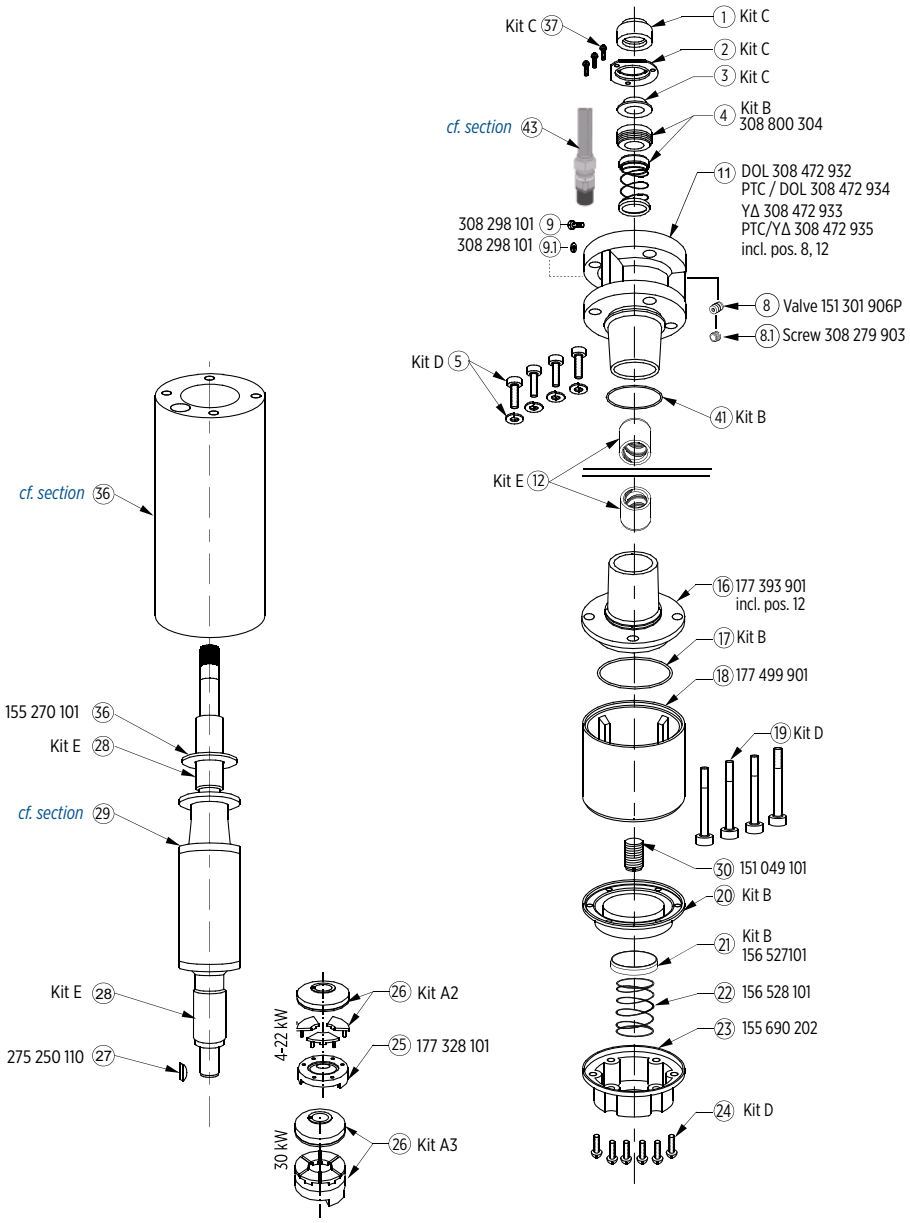
6CT MOTOR - 3-PHASE - STATOR AND ROTOR | 304SS | 4-30 KW | 60 HZ

P_N [kW]	U_N [V]	Thrust F [N]	motor model no.
4,0	220, 230 | 380, 400, 415 | 500	15500	178 117 912K
5.5	220, 230 | 380, 400, 415 | 500	15500	178 118 911K
7.5	220, 230 | 380, 400, 415 | 500	15500	178 119 906K
9.3	220, 230 | 380, 400, 415 | 500	15500	178 182 906K
11	220, 230 | 380, 400, 415 | 500	15500	178 120 906K
15	220, 230 | 380, 400, 415 | 500	15500	178 121 906K
18.5	220, 230 | 380, 400, 415 | 500	15500	178 122 906K
22	220, 230 | 380, 400, 415 | 500	15500	178 123 906K
30	220, 230 | 380, 400, 415 | 500	27500	178 115 906K

stator spare parts on request

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - STATOR AND ROTOR | 316SS | 4-30 KW | 50 HZ

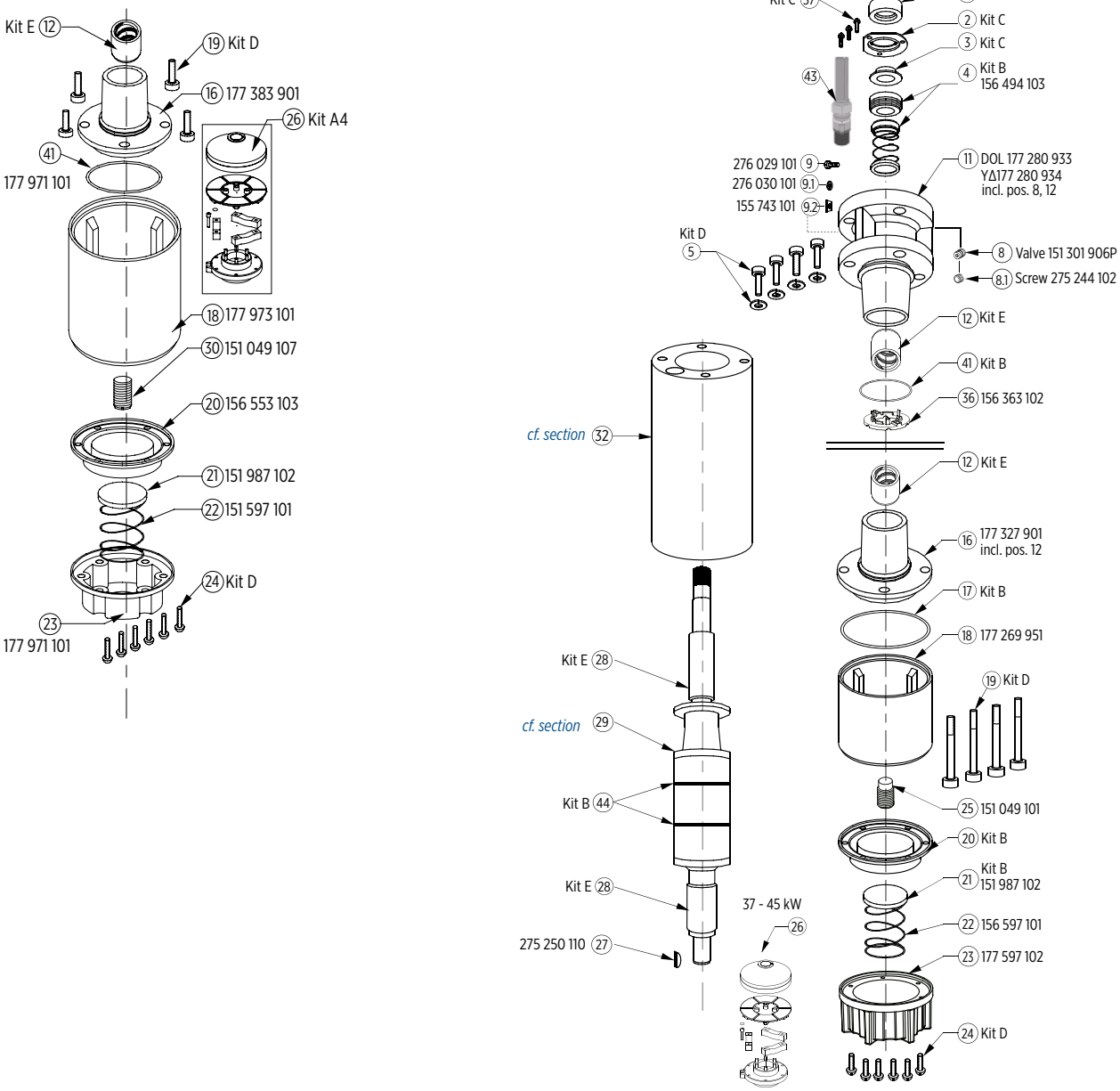


Kit	description	included positions	part no.
Rotor kit | 6500N - 15500N	4,0 kW	25, 26, 29	305 330 911
	5,5 kW	25, 26, 29	305 330 912
Kit A2 | 15500N	4-22 kW | Thrust bearing kit	26	308 750 120
Kit A3 | 27500N	30 kW | Thrust bearing kit	26	308 750 200
Kit A4 | 45000N	Thrust bearing kit	26	308 750 510
Conversion Kit | 45000N	4-30 kW	12, 16, 18, 19, 20, 21, 22, 23, 24, 26, 30, 41	308 750 550
Kit B2	4-30 kW | Seal kit	4, 17, 20, 21, 22, 41	308 800 302
Kit C2	Slinger Kit	1, 2, 3, 37	308 725 302
Kit D3(up to 07-2002)	Screw kit	5, 19, 24	308 659 301
Kit D4 (starting 07-2002)	Screw kit	5, 19, 24	308 659 302
Kit E*	4-30 kW | Radial bearing kit	12, 28	308 678 101

* Radial bearing parts are unfinished.

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - STATOR AND ROTOR | 316SS | 4-30 KW | 50 HZ



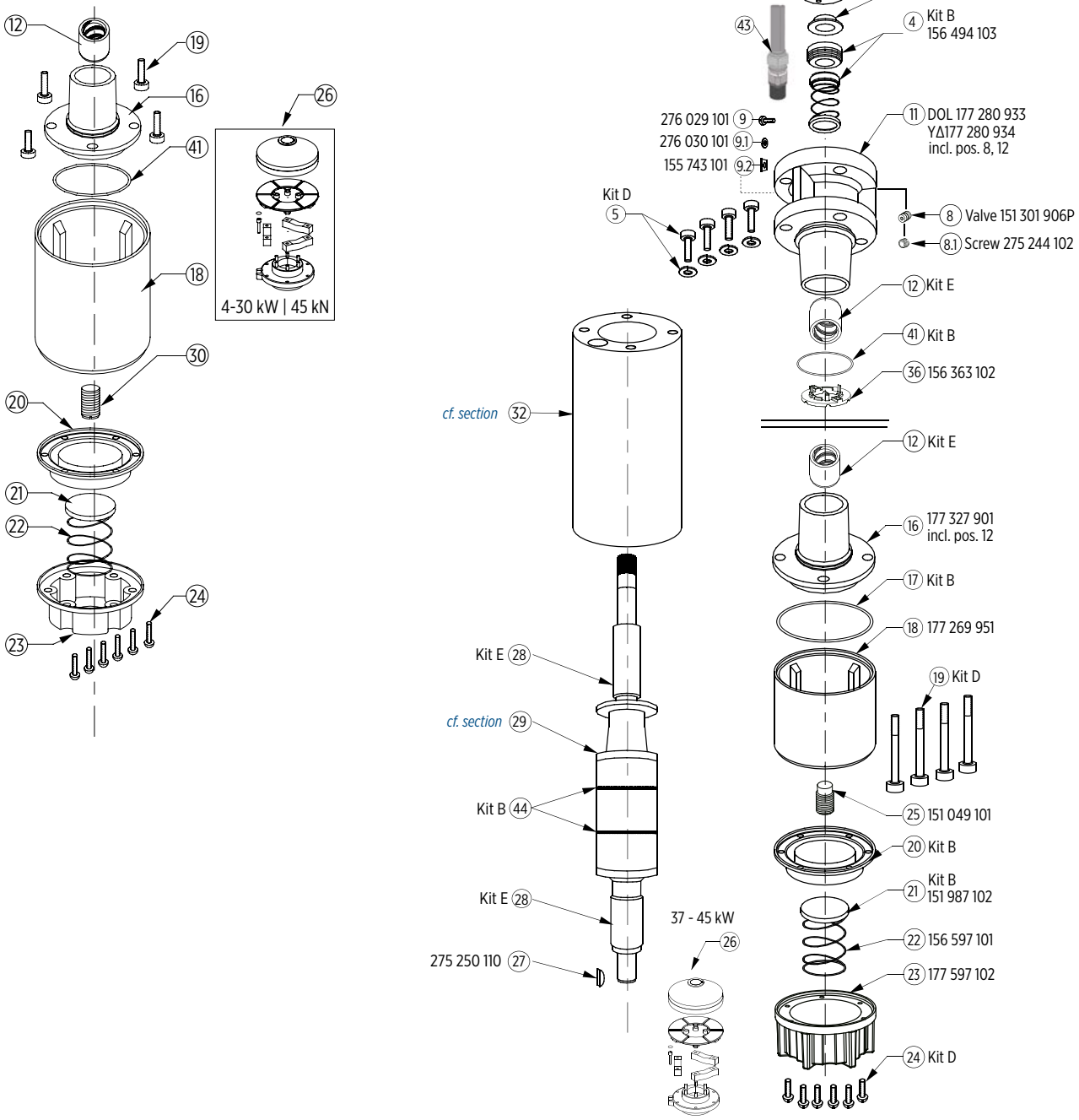
Kit	description	included positions	part no.
Rotor kit | 6500N - 15500N	4,0 kW	25, 26, 29	305 330 911
	5,5 kW	25, 26, 29	305 330 912
Kit A2 | 15500N	4-22 kW | Thrust bearing kit	26	308 750 120
Kit A3 | 27500N	30 kW | Thrust bearing kit	26	308 750 200
Kit A4 | 45000N	Thrust bearing kit	26	308 750 510
Conversion Kit | 45000N	4-30 kW	12, 16, 18, 19, 20, 21, 22, 23, 24, 26, 30, 41	308 750 550
Kit B2	4-30 kW | Seal kit	4, 17, 20, 21, 22, 41	308 800 302
Kit C2	Slinger Kit	1, 2, 3, 37	308 725 302
Kit D3(up to 07-2002)	Screw kit	5, 19, 24	308 659 301
Kit D4 (starting 07-2002)	Screw kit	5, 19, 24	308 659 302
Kit E*	4-30 kW | Radial bearing kit	12, 28	308 678 101

* Radial bearing parts are unfinished.

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | 316SS | 37-45 KW

45 kN conversion kit



Kit	description	included positions	part no.
Kit A3 | 27500N	Thrust bearing kit	26	308 750 200
Kit A4 | 45000N	Thrust bearing kit	26	308 750 510
Kit B3	Seal kit	4, 17, 20, 21, 22, 41	308 800 250
Kit C4	Slinger kit	1, 2, 3, 37	308 725 155
Kit D5	Screw kit	5, 19, 24	308 659 155
Kit E*	Radial Bearing Kit	12, 28	308 678 101

* Radial bearing parts are unfinished.

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - STATOR AND ROTOR | 316SS | 4-30 KW | 50 HZ

			DOL		YΔ (*)		
P_N [kW]	U_N [V]	Thrust F [N]	motor model no.	stator model no.	motor model no.	stator model no.	rotor model no.
4,0	220, 230	15500	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	15500	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	15500	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	15500	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	220, 230	15500	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	220, 230	15500	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	15500	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	220, 230	15500	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	220, 230	27500			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	

* Position of leads: 90°

3 - without SubMonitor Transmitter

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - STATOR AND ROTOR | 316SS | 4-45 KW | 50 HZ

			DOL		YΔ (*)		
P_N [kW]	U_N [V]	Thrust F [N]	motor model no.	stator model no.	motor model no.	stator model no.	rotor model no.
4	220, 230	15500	236 680 40**	305 478 947	236 670 40**	305 478 950	178 117 913K
	380, 400, 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	15500	236 681 40**	305 479 950	236 671 40**	305 479 953	178 118 912K
	380, 400, 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	15500	236 682 40**	305 480 952	236 672 40**	305 480 955	178 119 908K
	380, 400, 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	15500	236 015 40**	305 481 941	236 005 40**	305 481 944	178 182 907K
	380, 400, 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	220, 230	15500	236 683 40**	305 482 953	236 673 40**	305 482 956	178 120 908K
	380, 400, 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	220, 230	15500	236 684 40**	305 484 953	236 674 40**	305 484 956	178 121 907K
	380, 400, 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	15500	236 685 40**	305 485 950	236 675 40**	305 485 953	178 122 907K
	380, 400, 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	220, 230	15500	236 686 40**	305 486 954	236 676 40**	305 486 957	178 123 907K
	380, 400, 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	220, 230	27500			236 677 40**	305 488 939	178 115 906K
	380, 400, 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	380, 400, 415	45000	276 618 6361X	338 710 908	276 718 6361X	336 755 906	305 223 920
45	380, 400, 415	45000	276 619 6361X	305 490 921	276 719 6361X	336 756 103	305 223 921

* Position of leads: 90°
3 - without SubMonitor Transmitter

6" ENCAPSULATED MOTOR

6CT MOTOR - 3-PHASE - STATOR AND ROTOR | 316SS | 4-45 KW | 60 HZ

				DOL		YΔ (*)		
P_N [kW]	P_N [HP]	U_N [V]	Thrust F [N]	motor model no.	stator model no.	motor model no.	stator model no.	rotor model no.
4	5.5	15500	200	236 650 40**		236 760 40**		178 117 913K
			230	236 600 40**		236 720 40**		
			380	236 660 40**		236 780 40**		
			460	236 610 40**	305 478 948	236 710 40**	305 478 951	
			575	236 620 40**		236 400 40**		
5.5	7.5	15500	200	236 651 40**		236 761 40**		178 118 912K
			230	236 601 40**		236 721 40**		
			380	236 661 40**		236 781 40**		
			460	236 611 40**	305 479 951	236 711 40**	305 479 954	
			575	236 621 40**		236 401 40**		
7.5	10	15500	200	236 652 40**		236 762 40**		178 119 908K
			230	236 602 40**		236 722 40**		
			380	236 662 40**		236 782 40**		
			460	236 612 40**	305 480 953	236 011 40**	305 480 956	
			575	236 622 40**		236 402 40**		
9.3	12.5	15500	200	236 061 40**		236 *** 40**		178 182 907K
			230	236 041 40**		236 *** 40**		
			380	236 031 40**		236 032 40**		
			460	236 001 40**	305 481 942	236 011 40**	305 481 945	
			575	236 *** 40**		236 *** 40**		
11	15	15500	200	236 653 40**		236 763 40**		178 120 908K
			230	236 603 40**		236 723 40**		
			380	236 663 40**		236 783 40**		
			460	236 613 40**	305 482 954	236 713 40**	305 482 957	
			575	236 623 40**		236 403 40**		
15	25	15500	200	236 655 40**		236 765 40**		178 122 907K
			230	236 605 40**		236 725 40**		
			380	236 665 40**		236 785 40**		
			460	236 615 40**	305 485 951	236 715 40**	305 485 954	
			575	236 625 40**		236 405 40**		
18.5	30	15500	200	236 656 40**		236 766 40**		178 123 907K
			230	236 606 40**		236 726 40**		
			380	236 666 40**		236 786 40**		
			460	236 616 40**	305 486 955	236 716 40**	305 486 958	
			575	236 626 40**		236 406 40**		
22	40	27500	380	236 667 40**		236 787 40**		178 115 906K
			460	236 617 40**	305 488 937	236 717 40**	305 488 940	
			575	236 627 40**		236 407 40**		
37	50	45000	380	276 668 40**		276 788 40**		305 223 921
			460	276 618 40**	338 710 909	276 718 40**	305 489 ***	
			575	276 628 40**		276 **8 40**		
45	60	45000	380	276 669 40**		276 789 40**		305 223 921
			460	276 619 40**	305 490 921	276 719 40**	305 490 ***	
			575	276 629 40**		276 **9 40**	305 490 ***	

* Position of leads: 90°
3 - without SubMonitor Transmitter

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 3 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



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

SAND FIGHTER | WATER WELL WW CI PC / 304SS | STAINLESS STEEL 316

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

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

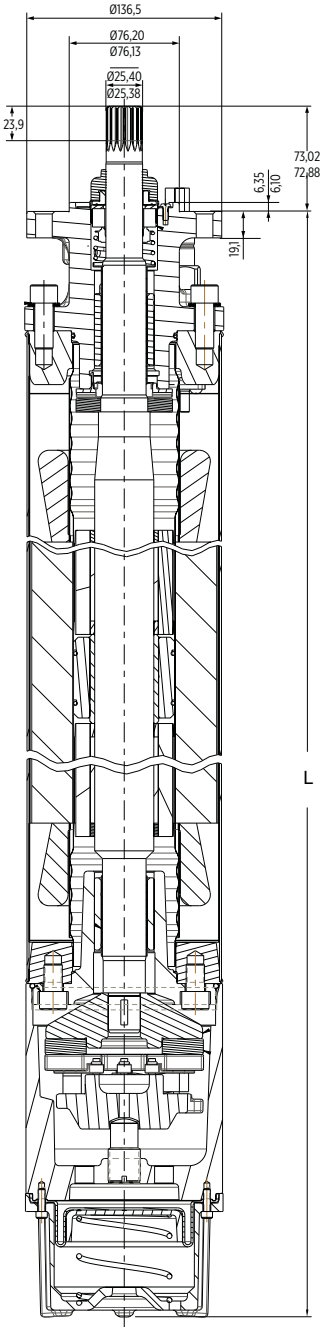
6" ENCAPSULATED HIGH TEMP 90°C MOTOR

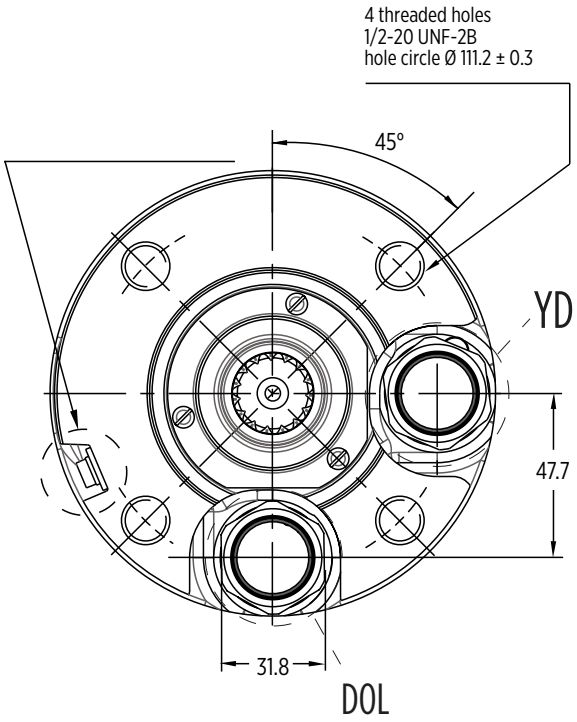
6CT HIGH TEMP 90°C - MOTOR PERFORMANCE DATA | 4-30 KW | 60 HZ

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





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

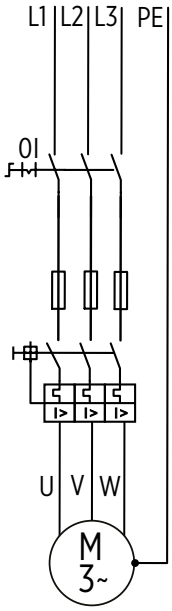
P_N [kW]	length [mm]	motor with lead in single pack	
		dimensions [mm]	weight [kg]
4	670,5	222 x 267 x 876	53
5,5	735,5	222 x 267 x 940	59
7,5	800,6	222 x 267 x 1073	66
11	866	222 x 267 x 1073	71
15	931	222 x 267 x 1302	79
18,5	1061	222 x 267 x 1302	92
22	1429	223 x 267 x 1823	136
30	1581.6	223 x 267 x 1823	150

6" ENCAPSULATED HIGH TEMP 90°C MOTOR

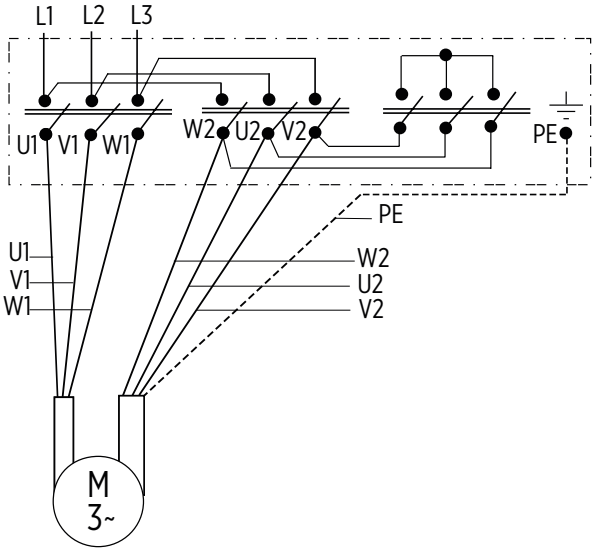
6CT HIGH TEMP 90°C - CONNECTIONS

DOL

U = black (BK)
V = brown (BN)
W = grey (GY)
PE = yellow/green (YE/GN)

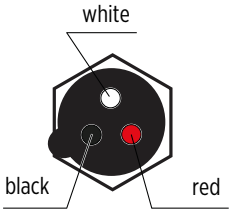


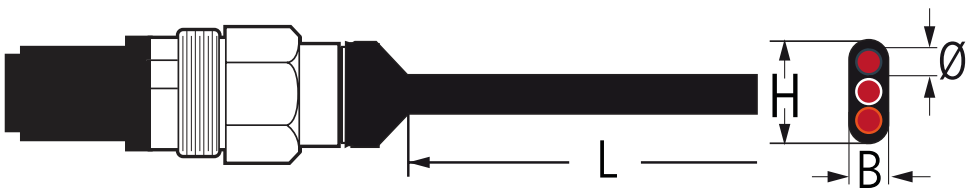
YΔ



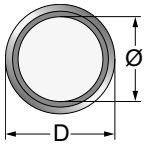
6CT HIGH TEMP 90°C - MOTOR LEADS | WW | 316SS

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

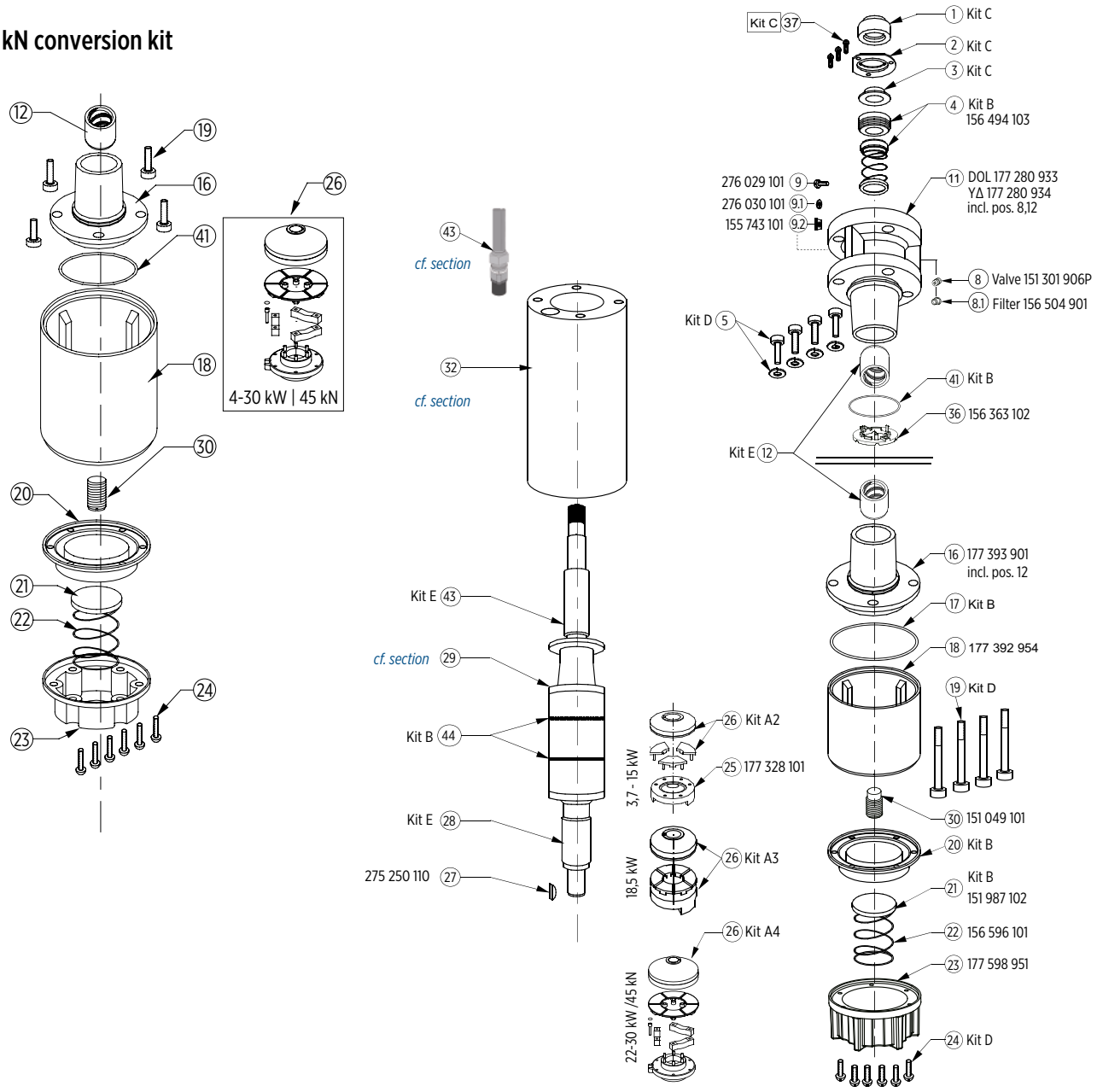
	P_N [kW]	Ø [mm²]	D [mm]	type	qty.	L [m]	model no. WW / 316SS
	4-30	1G 8,4 mm²	7,6 mm (±0,3 mm)	VDE	11 mm (±0,3 mm)	5	152 764 901

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

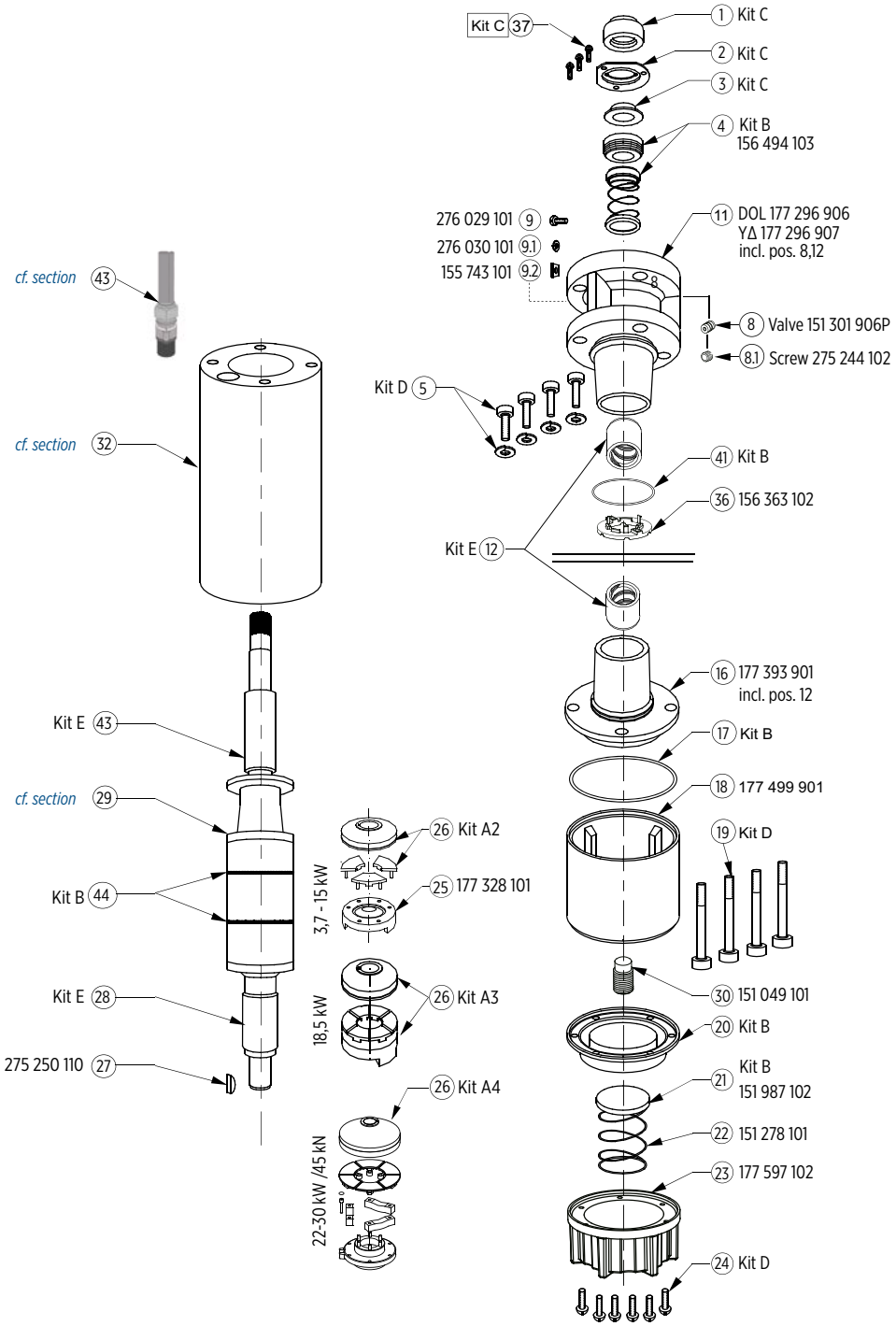


Kit	description	included positions	part no.
Kit A2	thrust bearing | 15500N	25, 26	308 750 120
Kit A3	thrust bearing | 27500N	26	308 750 200
Kit A4	thrust bearing | 45000N	26	308 750 510
Conversion Kit A4	4-30 kW | 45000N	12, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 30	308 750 500
Kit B	seal kit	4, 17, 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.

6" ENCAPSULATED HIGH TEMP 90°C MOTOR

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



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
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.

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. motor	model no. stator 316SS	model no. motor	model no. stator 316SS	model no. rotor 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. motor	model no. stator 316SS	model no. motor	model no. stator 316SS	model no. rotor 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 *** ***	

8" ENCAPSULATED MOTOR

FEATURES & BENEFITS

- Double-flange NEMA mounting design
- Stainless steel splined shaft
- VFD operation up to a rated voltage of 400 V (in compliance with the application guidelines in the motor operating instructions and the VFD manufacturer). For VFD operation with higher voltages, please consult Franklin Electric.
- 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
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Field replaceable round plug lead using Franklin's exclusive Water Bloc technology with extended jam nut in Stainless steel
- 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)
- Drinking water approvals

OPTIONS

- Higher-graded material: 316SS
- Special voltages
- Retrofitable PT 100 temperature sensor

STANDARD SPECIFICATION

- Ratings: 30 - 150 kW
- Thrust load: 45 kN
- Max. storage temperature: - 15 °C to + 60 °C
- Nominal ambient temperature: 30 °C (with 0.16 m/s cooling flow)
- Voltage tolerance U_N:
  50 Hz: - 10 % / + 6 % U_N [(380 - 10 %) – (415 + 6 %)]
  60 Hz: ± 10 % U_N (460 V)
- protection IP68
- Insulation class F
- Protection requirements: DIN/EN 60947-4-1
- Frequency of starts: 10 starts/ hour (with min. 3 minutes resting time), equally distributed
- DOL / YΔ-start (pos. of cables 90 °)
- All motors with factory installed leads
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)
- Integrated sensor for SubMonitor™



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 Kingsbury type thrust bearing for 100 % maintenance free operation

Pressure-equalizing diaphragm
spring pre-loaded

SAND FIGHTER | WATER WELL WW CI PC / 304SS | STAINLESS STEEL 316

8" ENCAPSULATED MOTOR

8CT MOTOR - 3-PHASE - MOTOR MODEL NO. | 50 HZ | WW | 316SS

P_N [kW]	U_N [V]	Digit 1 - 6		Digit 7 - 10 with SubMonitor Transmitter			
		DOL	YΔ	WW		316SS	
				DOL	YΔ	DOL	YΔ
30	380, 400, 415	239 600	239 620	7023	8023	7223	8223
	500, 525	239 670	239 720	7023	8023	-	-
37	380, 400, 415	239 601	239 621	7023	8023	7223	8223
	500, 525	239 671	239 721	7023	8023	-	-
45	380, 400, 415	239 602	239 622	7023	8023	7223	8223
	500, 525	239 672	239 722	7023	8023	-	-
55	380, 400, 415	239 603	239 623	7043	8043	7243	8243
	500, 525	239 673	239 723	7043	8043	-	-
75	380, 400, 415	239 604	239 624	7043	8043	7243	8243
	500, 525	239 674	239 724	7043	8043	-	-
93	380, 400, 415	239 105	239 125	7019	8019	7219	8219
	500, 525	239 175	239 225	7019	8019	-	-
110	380, 400, 415	239 106	239 126	7519	7619	7219	8219
	500, 525	239 176	239 226	7519	7619	-	-
130	380, 400, 415	239 107	239 127	7519	7619	7219	8219
	500, 525	239 177	239 227	7519	7619	-	-
150	380, 400, 415	239 108	239 128	7519	7619	7219	8219
	500, 525	239 178	239 228	7519	7619	-	-

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)

YOUTUBE VIDEOS AND TUTORIALS



Tutorial 6-8CT PT100 installation (sensor design up to 07-2024)



Tutorial 6-8CT PT100 installation (sensor design from 08-2024)

8" ENCAPSULATED MOTOR

8CT MOTOR - 3-PHASE - MOTOR MODEL NO. | 60 HZ | WW | 316SS

P_N [kW]	P_{MAX} [kW]	U_N [V]	Digit 1 - 6		Digit 7 - 10 with SubMonitor Transmitter			
			DOL	YΔ	WW		316SS	
					DOL	YΔ	DOL	YΔ
30	40	230	-	239 650	-	8023	7223	8223
		380	239 660	239 680	7023	8023	7223	8223
		460	239 600	239 620	7023	8023	7223	8223
		575	239 610	-	7023	8023	7223	8223
37	50	230	-	239 651	-	8023	7223	8223
		380	239 661	239 681	7023	8023	7223	8223
		460	239 601	239 621	7023	8023	7223	8223
		575	239 611	-	7023	8023	7223	8223
45	57.8	230	-	239 652	-	8023	7223	8223
		380	239 662	239 682	7023	8023	7223	8223
		460	239 602	239 622	7023	8023	7223	8223
		575	239 612	-	7023	8023	7223	8223
55	64	230	-	239 653	-	8043	7243	8243
		380	239 663	239 683	7043	8043	7243	8243
		460	239 603	239 623	7043	8043	7243	8243
		575	239 613	-	7043	8043	7243	8243
75	86	230	-	239 654	-	8043	7243	8243
		380	239 664	239 684	7023	8043	7243	8243
		460	239 604	239 624	7023	8043	7243	8243
		575	239 614	-	7023	8043	7243	8243
93	107	380	239 165	239 185	7019	8019	7219	8219
		460	239 105	239 125	7019	8019	7219	8219
		575	239 115	-	7019	8019	7219	8219
110	128	380	239 166	239 186	7519	7619	7219	8219
		460	239 106	239 126	7519	7619	7219	8219
		575	239 116	-	7519	7619	7219	8219
130	150	380	239 167	239 187	7519	7619	7219	8219
		460	239 107	239 127	7519	7619	7219	8219
		575	239 117	-	7519	7619	7219	8219
150	170	380	239 168	239 188	7519	7619	7219	8219
		460	239 108	239 128	7519	7619	7219	8219
		575	239 118	-	7519	7619	7219	8219

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)

8" ENCAPSULATED MOTOR

8CT MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 30-150 KW | 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		
30	45 000	380	2890	61	397	85	86	86	0.75	0.84	0.88	98	231
		400	2900	61	418	83	86	86	0.68	0.78	0.84	97	255
		415	2910	62	433	82	85	86	0.62	0.73	0.8	97	275
		500	2890	47	302	85	86	86	0.75	0.84	0.88		
		525	2900	47	318	83	86	86	0.68	0.78	0.84		
37	45 000	380	2905	75	507	85	87	87	0.78	0.85	0.89	122	266
		400	2920	74	534	84	87	87	0.71	0.81	0.86	121	295
		415	2925	74	554	83	86	87	0.66	0.76	0.83	121	317
		500	2905	57	385	85	87	87	0.78	0.85	0.89		
		525	2920	57	404	84	87	87	0.71	0.81	0.86		
45	45 000	380	2910	89	612	86	87	87	0.77	0.85	0.89	146	363
		400	2920	89	645	85	87	87	0.71	0.81	0.85	145	395
		415	2925	89	669	84	86	87	0.65	0.76	0.82	146	428
		500	2910	68	466	86	87	87	0.77	0.85	0.89		
		525	2920	68	494	85	87	87	0.71	0.81	0.85		
55	45 000	380	2910	111	819	86	88	88	0.79	0.86	0.89	182	507
		400	2920	108	862	85	87	88	0.72	0.82	0.87	182	563
		415	2925	108	895	84	87	88	0.67	0.78	0.84	182	605
		500	2910	85	623	86	88	88	0.79	0.86	0.89		
		525	2920	83	661	85	87	88	0.72	0.82	0.87		
75	45 000	380	2920	153	1208	86	87	87	0.71	0.81	0.86	243	637
		400	2930	153	1272	85	87	87	0.63	0.75	0.81	242	706
		415	2935	156	1319	84	87	87	0.57	0.7	0.77	242	760
		500	2920	113	835	86	88	88	0.79	0.86	0.89		
		525	2925	111	861	85	87	87	0.72	0.82	0.87		
93	45 000	380	2920	194	1265	85	87	87	0.75	0.83	0.86	303	511
		400	2930	190	1332	84	86	87	0.68	0.78	0.83	302	567
		415	2935	191	1382	83	86	87	0.63	0.74	0.8	302	610
		500	2920	148	961	85	87	87	0.75	0.83	0.86		
		525	2930	145	1015	84	86	87	0.68	0.78	0.83		
110	45 000	380	2920	226	1517	86	88	88	0.77	0.84	0.87	364	694
		400	2930	222	1597	85	87	88	0.7	0.8	0.84	363	769
		415	2935	223	1657	84	87	88	0.64	0.75	0.81	363	828
		500	2920	172	1153	86	88	88	0.77	0.84	0.87		
		525	2930	170	1217	85	87	88	0.7	0.8	0.84		
130	45 000	380	2910	260	1651	86	87	87	0.83	0.87	0.89	425	837
		400	2920	252	1738	86	87	88	0.79	0.84	0.87	424	927
		415	2930	247	1803	85	87	88	0.74	0.81	0.86	423	1153
		500	2910	198	1255	86	87	87	0.83	0.87	0.89		
		525	2920	192	1324	86	87	88	0.79	0.84	0.87		
150	45 000	380	2910	294	1765	86	88	88	0.83	0.88	0.9	487	933
		400	2920	284	1858	86	88	88	0.79	0.86	0.88	485	1034
		415	2930	277	1928	86	88	88	0.75	0.83	0.87	485	1113
		500	2910	224	1341	86	88	88	0.83	0.88	0.9		
		525	2920	217	1416	86	88	88	0.79	0.86	0.88		

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)

8" ENCAPSULATED MOTOR

8CT MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 30-150 KW | 60 HZ

P_N [kW]	P_{MAX} [kW]	Thrust F [N]	U_N [V]	n_N [min^{-1}]	I_{MAX} [A]	I_A [A]	n_{MAX} [%] at 100% load	line to line resistance [Ω]
30	40	45000	380	60	3525	72	479	86
			460	60	3525	60	396	86
			575	60	3525	48	317	86
37	50	45000	380	60	3525	88	656	87
			460	60	3525	73	542	87
			575	60	3525	59	434	87
45	57.8	45000	380	60	3525	104	797	87
			460	60	3515	86	658	88
			575	60	3525	69	526	87
55	64	45000	380	60	3525	130	1046	88
			460	60	3515	107	864	88
			575	60	3525	86	691	88
75	86	45000	380	60	3525	172	1466	89
			460	60	3520	142	1211	87
			575	60	3525	114	969	89
93	107	45000	380	60	3525	228	1596	86
			460	60	3520	188	1318	84
			575	60	3525	151	1054	86
110	128	45000	380	60	3525	266	1961	87
			460	60	3520	219	1620	86
			575	60	3525	176	1296	87
130	150	45000	380	60	3525	302	1991	88
			460	60	3515	249	1645	88
			575	60	3525	200	1316	88
150	170	45000	380	60	3525	342	2270	88
			460	60	3510	282	1875	89
			575	60	3525	226	1500	88

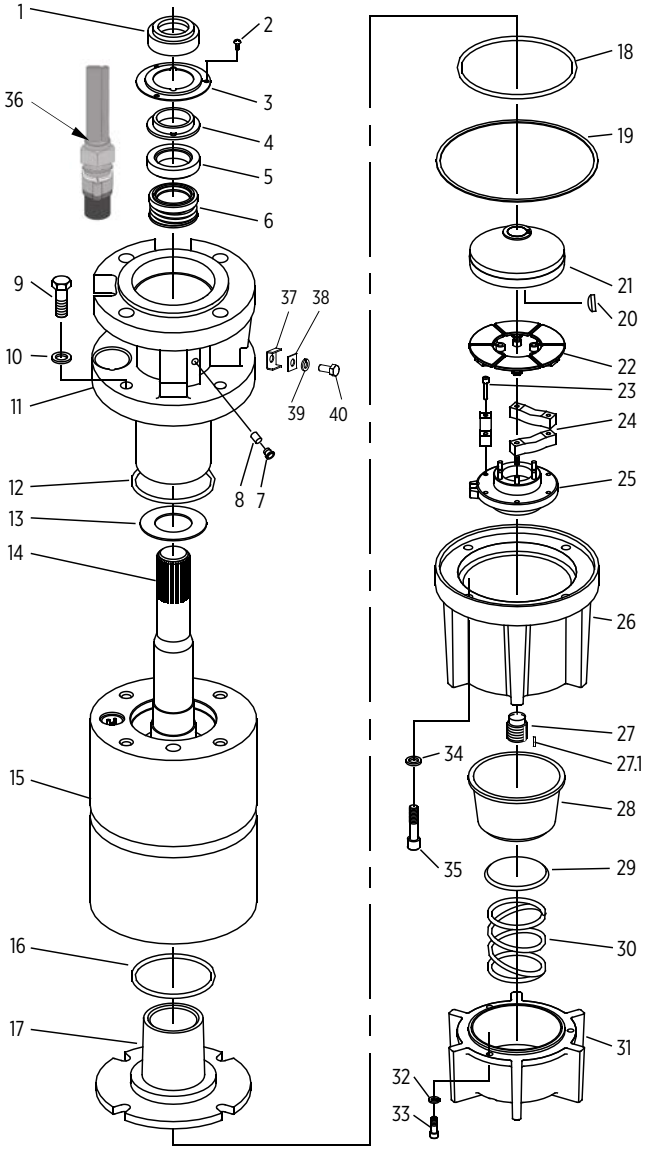
8" ENCAPSULATED MOTOR

8CT MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 50 HZ

P_N [kW]	U_N [V]	DOL		YΔ	
		stator reference no.	U - V / Ohm V - W / Ohm U - W / Ohm	stator reference no.	U_1 - U_2 / Ohm V_1 - V_2 / Ohm W_1 - W_2 / Ohm
30	220	-	-	338 382 ...	0.123 - 0.150
	380, 400, 415	338 382 ...	0.247 - 0.302	338 443 ...	0.345 - 0.423
	500, 525	338 610 ...	0.399 - 0.487	338 610 ...	0.621 - 0.759
37	220	-	-	338 383 ...	0.090 - 0.111
	380, 400, 415	338 383 ...	0.181 - 0.221	338 588 ...	0.272 - 0.332
	500, 525	338 611 ...	0.280 - 0.342	338 611 ...	0.464 - 0.566
45	220	-	-	338 384 ...	0.071 - 0.087
	380, 400, 415	338 384 ...	0.142 - 0.174	338 645 ...	0.210 - 0.257
	500, 525	338 612 ...	0.227 - 0.277	338 612 ...	0.369 - 0.450
55	220	-	-	338 385 ...	0.053 - 0.065
	380, 400, 415	338 385 ...	0.105 - 0.128	338 646 ...	0.164 - 0.200
	500, 525	338 613 ...	0.169 - 0.207	338 613 ...	0.267 - 0.327
75	220	-	-	338 386 ...	0.036 - 0.045
	380, 400, 415	338 386 ...	0.073 - 0.089	338 591 ...	0.102 - 0.125
	500, 525	338 614 ...	0.129 - 0.158	338 614 ...	0.198 - 0.243
93	380,400,415	336 053 ...	0.055 - 0.067	336 053 ...	0.083 - 0.101
	500, 525	338 514 ...	0.091 - 0.112	338 514 ...	0.137 - 0.168
110	380,400,415	336 054 ...	0.046 - 0.056	336 054 ...	0.069 - 0.084
	500, 525	338 515 ...	0.086 - 0.106	338 515 ...	0.129 - 0.159
130	380,400,415	336 524 ...	0.042 - 0.052	336 524 ...	0.063 - 0.078
	500, 525	338 516 ...	0.073 - 0.090	338 516 ...	0.110 - 0.135
150	380,400,415	336 055 ...	0.036 - 0.044	336 055 ...	0.054 - 0.066
	500, 525	337 071 ...	0.057 - 0.070	337 071 ...	0.086 - 0.105

8" ENCAPSULATED MOTOR

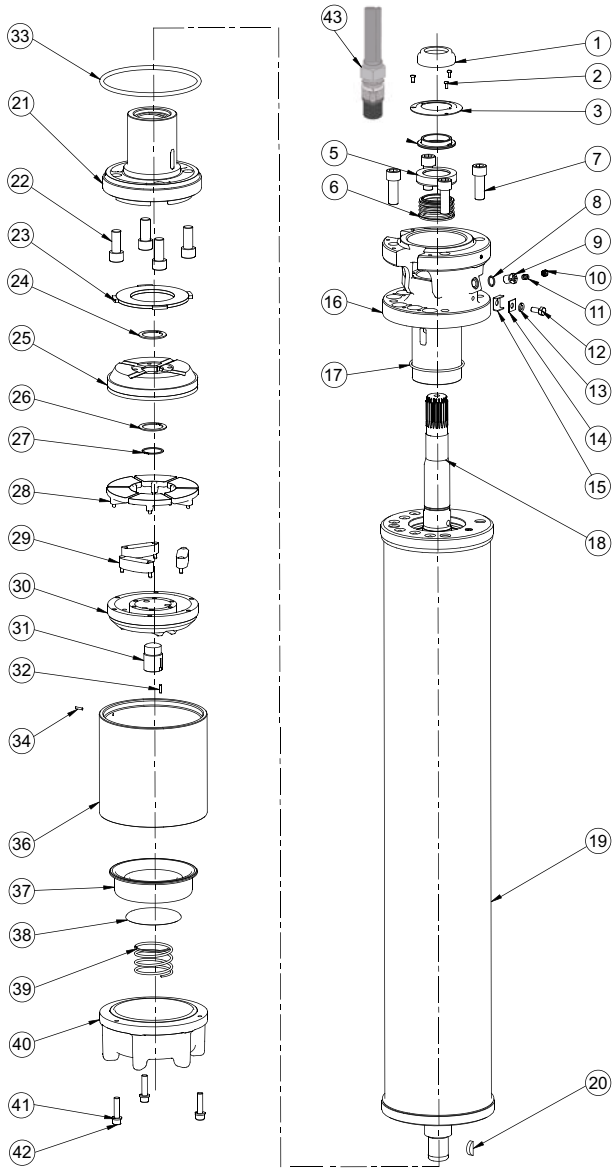
8CT MOTOR - 3-PHASE - MATERIALS | TYPE 2.1 | WW | 30-45 KW



Pos.	part description	qty.	part no.
1	Rubber Slinger	1	B
2	Bushing Cover Screw	3	B, F
3	Bushing Cover	1	B
4	Slinger Bushing	1	B
5, 6	Shaft Seal	1	B
7	Filter Assembly	1	B
8	Valve Assembly	1	B
9, 10	Screw/Lockwasher	4	C, D, F
11	end bell, upper with radial bearing	1	C, D
12	O-Ring	1	B, C, D
13	Upthrust Washer	1	A
14	Rotor	1	*cf. section*
15	Stator	1	*cf. section*
16	O-Ring	1	B, E
17	Lower end bell with radial bearing	1	E
18	O-Ring	1	B, E
19	slinger bushing	1	B
20	Woodruff Key	1	A
21	thrust disc	1	A
22, 23, 24, 25	thrust segment	1	A
26	Thrust Housing	1	G
27	Adjusting Screw	1	A
27.1	Pin (Brass)	1	A
28	Diaphragm	1	B
29	Spring Plate	1	B
30	Diaphragm Spring	1	B
31	Diaphragm Cover	1	H
32, 33	Screw/Lockwasher	3	F, H
34, 35	Screw/Lockwasher	4	F, G
36	Lead	1/2	*cf. section*
37	U - Clip	1	152 283 101
38	Washer	1	275 609 101
39	Lockwasher	1	275 606 110
40	Ground screw	1	276 015 102

8" ENCAPSULATED MOTOR

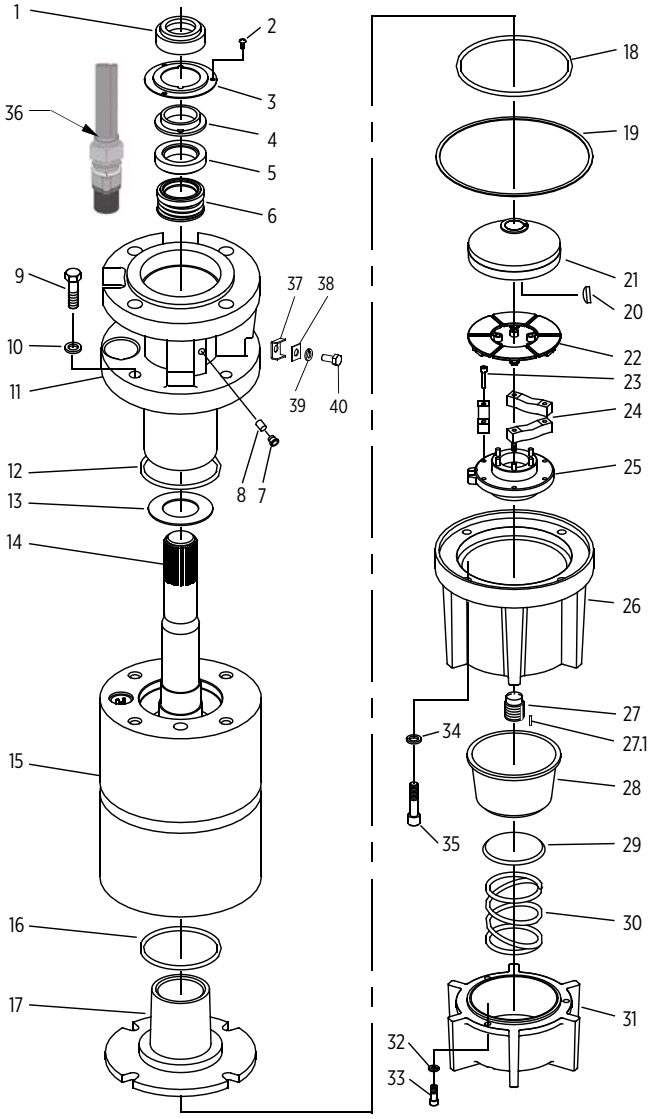
8CT MOTOR - 3-PHASE - MATERIALS | TYPE 1 | WW | 55-150 KW



Pos.	part description	qty.	part no.
1	Rubber Slinger	1	B
2	Bushing Cover Screw	3	B, F
3	Bushing Cover	1	B
4	Slinger Bushing	1	B
5, 6	Shaft Seal	1	B
7	Screw/Lockwasher	4	C, D, F
8, 9, 11	Valve Assembly	1	B, C, D
10	Filter Assembly	1	B
12, 13, 14, 15	Ground Lug Asm	1	C, D
16	End Bell, Upper w/Radial Brg	1	C, D
17	O-Ring	1	B, C, D
18	Rotor	1	*cf. section*
19	Stator	1	*cf. section*
20	Woodruff Key	1	A
21	End Bell, Lower w/Radial Brg	1	E
22	Screw	4	E, F
23	Upthrust Washer	1	A - 155 318 201K
24, 26, 27	Shim/Retainer Ring	1	A
25	Thrust Disc Asm	1	A
28, 29, 30	Thrust Segment Asm	1	A
31	Adjusting Screw	1	A
32	Pin	1	A
33	O-Ring	1	A, E
34	Pin (Brass) Ø5 x 14mm	1	G
36	Thrust Housing	1	G
35	Plug	1	--
37	Diaphragm	1	B
38	Spring Plate	1	B
39	Diaphragm Spring	1	B
40	Diaphragm Cover	1	H
41, 42	Screw/Lockwasher	3	F, H
43	Lead	3 / 6	*cf. section*

8" ENCAPSULATED MOTOR

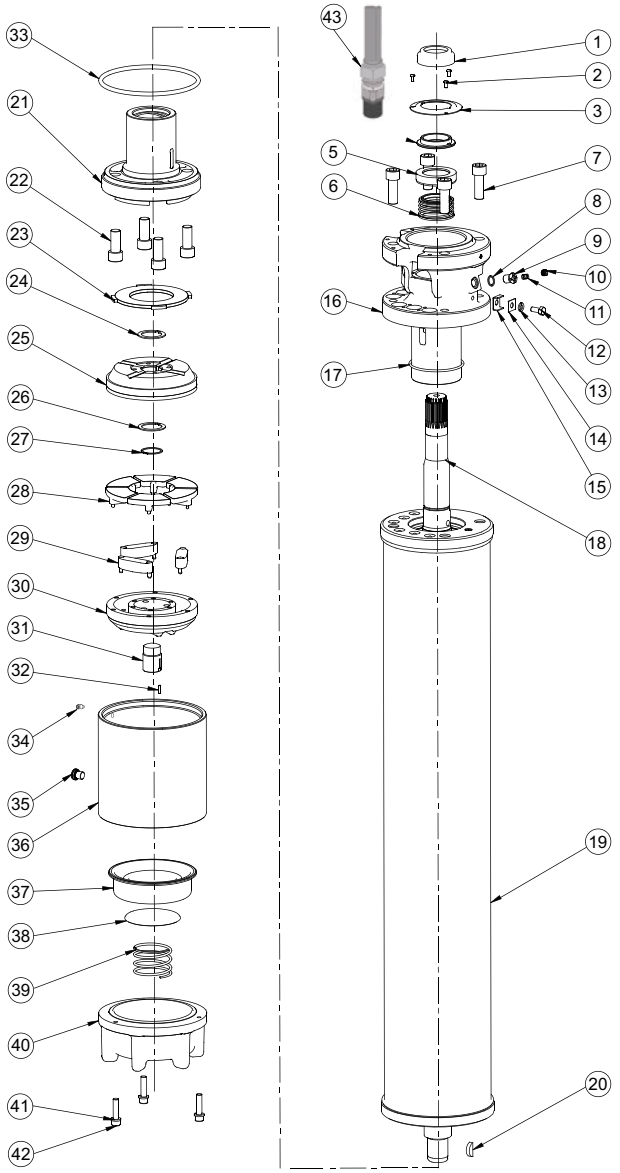
8CT MOTOR - 3-PHASE - MATERIALS | TYPE 2.1 | 316SS | 30-45 KW



Pos.	part description	qty.	part no.
1	Rubber Slinger	1	B
2	Bushing Cover Screw	3	B, F
3	Bushing Cover	1	B
4	Slinger Bushing	1	B
5, 6	Shaft Seal	1	B
7	Filter Assembly	1	B
8	Valve Assembly	1	B
9, 10	Screw/Lockwasher	4	C, D, F
11	End Bell, Upper w/Radial Brg	1	C, D
12	O-Ring	1	B, C, D
13	Upthrust Washer	1	A, B1 - 155 941 101
14	Rotor	1	*cf. section*
15	Stator	1	*cf. section*
16	O-Ring	1	B, E
17	End Bell, Lower w/Radial Brg	1	E
18	O-Ring	1	B, E
19	Gasket	1	B
20	Woodruff Key	1	A
21	Thrust Disc Asm	1	A
22, 23, 24, 25	Thrust Segment Asm	1	A
26	Thrust Housing	1	G
27	Adjusting Screw	1	A
27.1	Pin (Brass)	1	A
28	Diaphragm	1	B
29	Spring Plate	1	B
30	Diaphragm Spring	1	B
31	Diaphragm Cover	1	H
32, 33	Screw/Lockwasher	3	F, H
34, 35	Screw/Lockwasher	4	F, G
36	Lead	1/2	*cf. section*
37	U - Clip	1	152 283 101
38	Washer	1	275 609 101
39	Lockwasher	1	275 606 110
40	ground screw	1	276 015 102

8" ENCAPSULATED MOTOR

8CT MOTOR - 3-PHASE - MATERIALS | TYPE 1 | 316SS | 55-150 KW



Pos.	part description	qty.	part no.
1	Rubber Slinger	1	B
2	Bushing Cover Screw	3	B, F
3	Bushing Cover	1	B
4	Slinger Bushing	1	B
5, 6	Shaft Seal	1	B
7	Screw/Lockwasher	4	C, D, F
8, 9, 11	Valve Assembly	1	B, C, D
10	Filter Assembly	1	B
12, 13, 14, 15	Ground Lug Asm	1	C, D
16	End Bell, Upper w/Radial Brg	1	C, D
17	O-Ring	1	B, C, D
18	Rotor	1	*cf. section*
19	Stator	1	*cf. section*
20	Woodruff Key	1	A
21	End Bell, Lower w/Radial Brg	1	E
22	Screw	4	E, F
23	Upthrust Washer	1	A
24, 26, 27	Shim/Retainer Ring	1	A
25	Thrust Disc Asm	1	A
28, 29, 30	Thrust Segment Asm	1	A
31	Adjusting Screw	1	A
32	Pin	1	A
33	O-Ring	1	A, E
34	position screw	1	282 560 101 / G
35	position screw (only 316SS)	1	156 409 101
36	Thrust Housing	1	G
37	Diaphragm	1	B
38	Spring Plate	1	B
39	Diaphragm Spring	1	B
40	Diaphragm Cover	1	H
41, 42	Screw/Lockwasher	3	F, H
43	Lead	3 / 6	*cf. section*

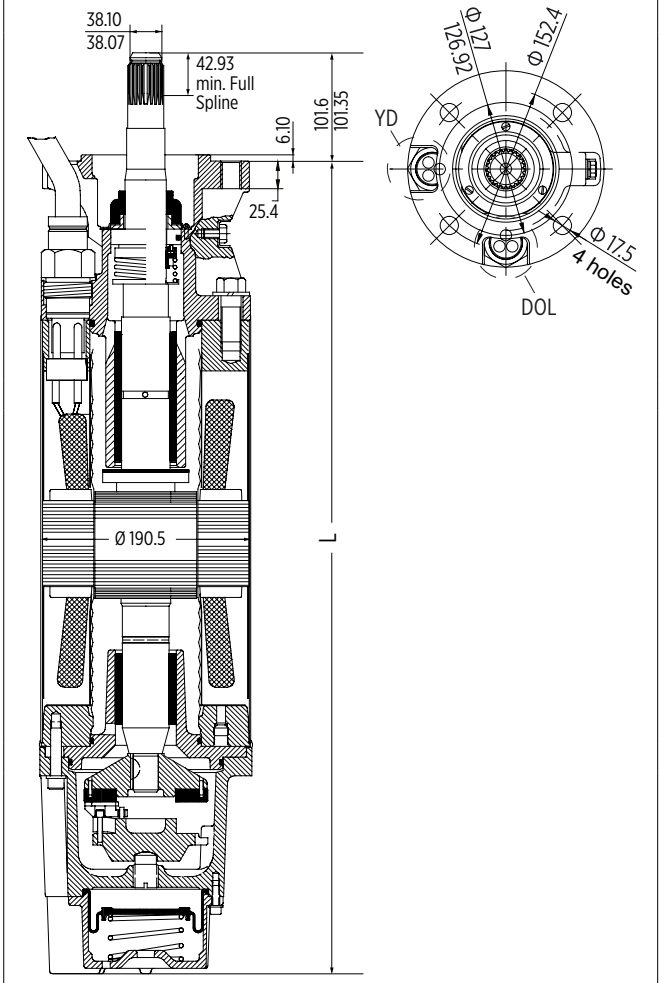
8CT MOTOR - 3-PHASE - MATERIALS

part	WW	316SS
Shell	14301	14571
Upper end bell	Cast iron powder coated	14408
Lower end bell	Cast iron 20	14401
Thrust housing	Cast iron powder coated	14408
Mechanical seal	SiC	SiC
Seal cover	14301	14401
Slinger	BUNA N	Hydrin 100
Shaft end	14305	14542
Diaphragm	BUNA N	Hydrin
Cable	EPR	EPR
Cap screw (cable)	Brass	14401
Lead sleeve	Brass , Ni - plated	14401
Lead bushing	Rubber	Rubber
Other seals	BUNA N	BUNA N

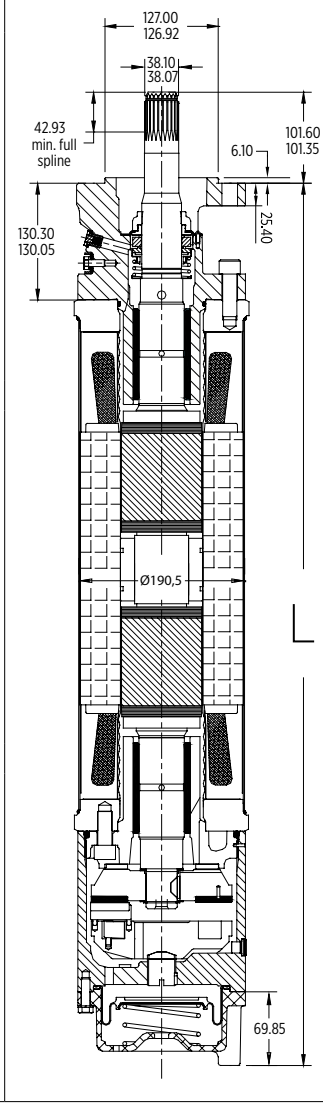
8" ENCAPSULATED MOTOR

8CT MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | WW | 316SS

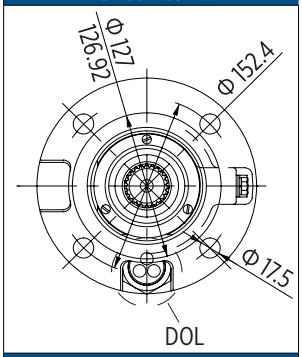
TYPE 2.1 | 30 - 45 kW



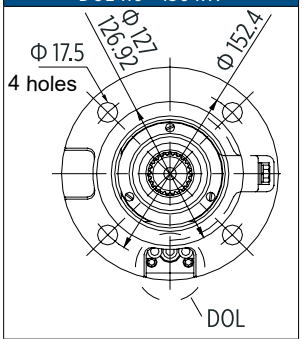
TYPE 1 | 55 - 150 kW



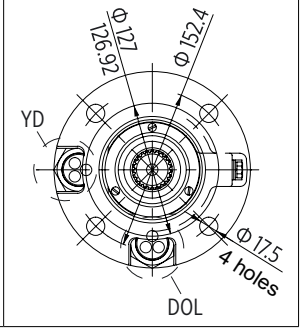
DOL 55 - 93 kW



DOL 110 - 150 kW



YΔ 55 - 150 kW



8CT MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS

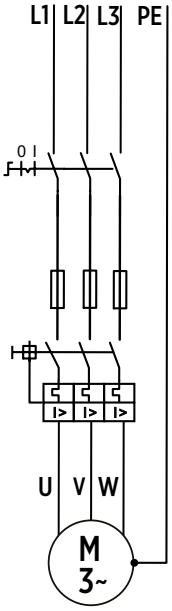
P_N [kW]	length [mm]	shipping weight [kg]	shipping dimensions [mm]
30	925	145	228 x 430 x 1308
37	1000	157	228 x 430 x 1308
45	1077	172	228 x 430 x 1308
55	1264	227	228 x 430 x 1632
75	1455	265	228 x 447 x 1981
93	1748	318	228 x 447 x 1981
110	1976	381	228 x 447 x 2438
130	2179	420	228 x 447 x 2438
150	2408	494	228 x 447 x 2438

8" ENCAPSULATED MOTOR

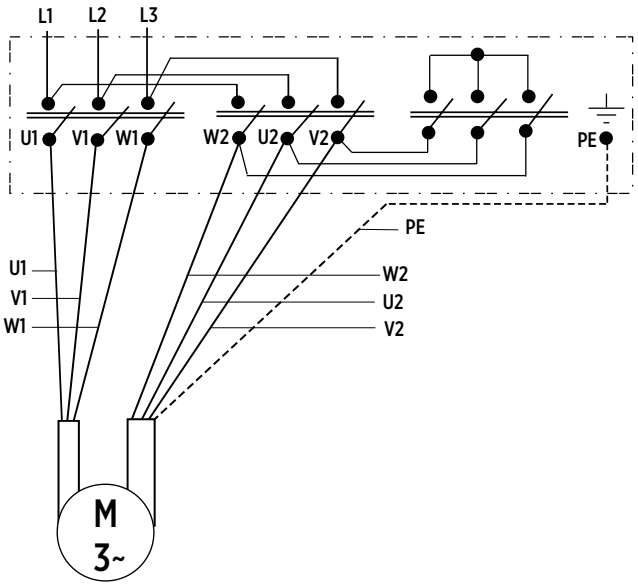
8CT MOTOR - 3-PHASE - CONNECTIONS

DOL

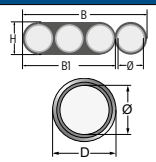
U = black (BK)
V = brown (BN)
W = grey (GY)
PE = yellow/green (YE/GN)

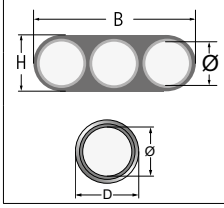


YΔ



8CT MOTOR - 3-PHASE - MOTOR LEADS DESIGN | WW | 316SS

DOL								
	P_N [kW]	Ø [mm²]	size [mm]	certification*	qty.	L [m]	part no. WW	part no. 316SS
	30 - 45	3X8,4 + 1G8,4 mm²	B 29,5 / H 8,9	VDE/KTW	1	8	305 312 901	305 312 911
	55 - 93	3 x (1x16 mm²)	D 11,6 (±0,2)	VDE/KTW	1	8	305 310 901	305 310 951
	110 –150*	3 x (1x35 mm²)	Ø 14,5 (±0,3)	VDE/KTW	1	8	305 309 901	

DOL / YΔ - start (pos. of cables 90 °)								
	P_N [kW]	Ø [mm²]	size [mm]	certification	qty.	L [m]	part no. WW	part no. 316SS
	30 - 45	3x8,4 + 1G8,4 mm²	B 29,5 / H 8,9	VDE/KTW	1	8	305 312 902	305 312 912
		1x 3x8,4 mm²	B 19,6 / H 8,9		1			
	55 –150	3 x (1x16 mm²)	D 11,6 (±0,2)	VDE/KTW	2	8	305 310 901	305 310 951

ground lead							
	P_N [kW]	Ø [mm²]	size [mm]	certification	qty.	L [m]	part no. WW | 316SS
	5 - 150	1G25	13 (±0,3)	VDE/KTW	1	8	308 053 080

Cables are designed for submerged operation. For air operation, please consult Franklin Electric.
* 3 leads with single conductors

8" ENCAPSULATED MOTOR

8CT MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | TYPE 2.1 | WW | 30-45 KW

Kit	description	included positions	part no.
Kit A | 40-60 HP	Thrust Bearing	13, 19-25, 27, 27.1	305 428 001
Kit B1 | 40-60 HP	Sic/Sic seal	1-8, 12, 16, 18, 19, 28-30	305 428 011
Kit C1 | 40-60 HP | 3 lead	End Bell, Upper	9-12	305 428 003
Kit D1 | 40-60 HP | 6 lead	End Bell, Upper	9-12	305 428 005
Kit E | 40-60 HP	End Bell, Lower*	16-18	305 428 007
Kit F | 40-60 HP	Fasteners*	2, 9, 10, 32-35	305 428 017
Kit G | 40-60 HP	Thrust Housing	26, 34, 35	305 428 009
Kit H | 40-60 HP	Diaphragm Cover	31-33	305 428 010
Kit I | type 2.1 motors	Radial Bearing**	SS Sleeve & Carbon Bushing	305 428 054

* suitable for WW and 316SS motors
** parts are semi-finished
For spare parts for motors build up to 06-2015, please contact Franklin Electric

8CT MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | TYPE 1 | WW | 50-150 KW

Kit	description	included positions	part no.
Kit A | 75-200 HP	Thrust Bearing	20, 23 - 33	305 428 020
Kit B1 | 75-200 HP	Seal Kit	1 – 6, 10, 11, 17, 32, 33, 37 - 39	305 428 021
Kit B2 | 75-200 HP	Seal SiC ***	1 – 6, 10, 11, 17, 32, 33, 37 - 39	305 428 022
Kit C1 | 75 HP | 3 lead	End Bell, Upper	7, 11 - 17	305 428 023
Kit C2 | 150-200 HP | 3 lead	End Bell, Upper	7, 11 - 17	305 428 024
Kit D | 75-200 HP | 6 lead	End Bell, Upper	7, 11 - 17	305 428 025
Kit E | 75-200 HP	End Bell, Lower*	21, 22, 32, 33	305 428 037
Kit F | 75-200 HP	Fasteners*	2, 7, 22, 41, 42	305 428 039
Kit G | 75-200 HP	Thrust Housing	34, 36	305 428 029
Kit H | 75-200 HP	Diaphragm Cover	40 - 42	305 428 030
Kit I | type 1 motors	Radial Bearing**	SS Sleeve & Carbon Bushing	305 428 055

* suitable for WW and 316SS motors
** parts are semi-finished
*** spring DM 62.7 mm for 125 - 200 HP only

8CT MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | TYPE 2.1 | 316SS | 30-45 KW

Kit	description	included positions	part no.
Kit A | 40-60 HP	Thrust Bearing*	13, 19 - 25, 27, 27.1	305 428 001
Kit B | 40-60 HP	Seal Kit	1 - 8, 12, 16, 18, 19, 28 - 30	305 428 012
Kit C1 | 40-60 HP | 3 lead	End Bell, Upper	45269	305 428 013
Kit D1 | 40-60 HP | 6 lead	End Bell, Upper	45269	305 428 015
Kit E | 40-60 HP	End Bell, Lower*	16 - 18	305 428 007
Kit F | 40-60 HP	Fasteners*	2, 9, 10, 32 - 35	305 428 017
Kit G | 40-60 HP	Thrust Housing	26, 34, 35	305 428 018
Kit H | 40-60 HP	Diaphragm Cover	31 - 33	305 428 019
Kit I | type 2.1 motors	Radial Bearing**	SS Sleeve & Carbon Bushing	305 428 054

* suitable for WW and 316SS motors
**parts are semi-finished
*** For spare parts for motors build up to 06-2015, please contact Franklin Electric

8" ENCAPSULATED MOTOR

8CT MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | TYPE 1 | 316SS | 30-45 KW

Kit	description	included positions	part no.
Kit A | 75-200 HP	Thrust Bearing	20, 23 - 33	305 428 020
Kit B | 75-200 HP	Seal SiC***	1 – 6, 10, 11, 17, 32, 33, 37 - 39	305 428 033
Kit C1 | 75 HP | 3 lead	End Bell, Upper	7, 11 - 17	305 428 034
Kit C2 | 150-200 HP | 3 lead	End Bell, Upper	7, 11 - 17	305 428 035
Kit D | 75-200 HP | 6 lead	End Bell, Upper	7, 11 - 17	305 428 036
Kit E | 75-200 HP	End Bell, Lower*	21, 22, 32, 33	305 428 037
Kit F | 75-200 HP	Fasteners*	2, 7, 22, 41, 42	305 428 039
Kit G | 75-200 HP	Thrust Housing	34, 35, 36	305 428 040
Kit H | 75-200 HP	Diaphragm Cover	40 - 42	305 428 041
Kit I | type 1 motors	Radial Bearing**	SS Sleeve & Carbon Bushing	305 428 055

* suitable for WW and 316SS motors
**parts are semi-finished
*** For spare parts for motors build up to 06-2015, please contact Franklin Electric

8" ENCAPSULATED MOTOR

8CT MOTOR - 3-PHASE - STATOR AND ROTOR | WW | 30-150 KW | DOL | 50 HZ

8CT motor - 3-phase - stator and rotor | WW | 30-150 kW | YΔ | 50 Hz | with Submonitor transmitter				
P_N [kW]	U_N [V]	motor model no.	model no. stator	model no. rotor
30	380, 400, 415	239 600 7023	305 500 901	575 122 925
	500, 525	239 670 7023	338 610 902	
37	380, 400, 415	239 601 7023	305 501 901	575 122 930
	500, 525	239 671 7023	338 611 903	
45	380, 400, 415	239 602 7023	305 502 901	575 122 931
	500, 525	239 672 7023	338 612 904	
55	380, 400, 415	239 603 7043	338 386 915	575 122 920
	500, 525	239 673 7043	338 613 902	
75	380, 400, 415	239 604 7043	338 386 915	575 122 921
	500, 525	239 674 7043	338 614 907	
93	380, 400, 415	239 105 7019	305 505 901	575 122 922
	500, 525	239 175 7019	338 514 951	
110	380, 400, 415	239 106 7519	305 506 902	575 122 923
	500, 525	239 176 7519	338 515 951	
130	380, 400, 415	239 107 7519	336 524 101	575 122 924
	500, 525	239 177 7519	*	
150	380, 400, 415	239 108 7519	336 055 905	575 122 918
	500, 525	239 178 7519	337 071 912	

8CT MOTOR - 3-PHASE - STATOR AND ROTOR | WW | 30-150 KW | YΔ | 50 HZ

8CT motor - 3-phase - stator and rotor | WW | 30-150 kW | DOL | 60 Hz | with Submonitor transmitter				
P_N [kW]	U_N [V]	motor model no.	model no. stator	model no. rotor
30	220	239 400 8023	338 382 911	575 122 925
	380, 400, 415	239 620 8023	305 500 503	
	500, 525	239 720 8023	338 610 904	
37	220	239 401 8023	305 501 903	575 122 930
	380, 400, 415	239 621 8023	305 501 904	
	500, 525	239 721 8023	338 611 906	
45	220	239 402 8023	305 502 902	575 122 931
	380, 400, 415	239 622 8023	305 502 905	
	500, 525	239 722 8023	338 612 906	
55	220	239 403 8043	305 503 904	575 122 920
	380, 400, 415	239 623 8043	305 503 909	
	500, 525	239 723 8043	338 613 906	
75	220	239 404 8043	338 386 904	575 122 921
	380, 400, 415	239 624 8043	305 504 904	
	500, 525	239 724 8043	305 504 908	
93	380, 400, 415	239 125 8019	305 505 903	575 122 922
	500, 525	239 225 8019	305 505 910	
110	380, 400, 415	239 126 7619	305 506 903	575 122 923
	500, 525	239 226 7619	338 515 952	
130	380, 400, 415	239 127 7619	336 524 917	575 122 924
	500, 525	239 227 7619	338 516 902	
150	380, 400, 415	239 128 7619	336 055 919	575 122 918
	500, 525	239 228 7619	337 071 914	

8" ENCAPSULATED MOTOR

8CT MOTOR - 3-PHASE - STATOR AND ROTOR | WW | 30-150 KW | DOL | 60 HZ

8CT motor - 3-phase - stator and rotor | WW | 30-150 kW | DOL | 60 Hz | with Submonitor transmitter			
P_N [kW]	P_{MAX} [kW]	U_N [V]	model no. rotor
30	40	230	575 122 925
		380	
		460	
		575	
37	50	230	575 122 930
		380	
		460	
		575	
45	57,8	230	575 122 931
		380	
		460	
		575	
55	64	230	575 122 932
		380	
		460	
		575	
75	86	230	575 122 917
		380	
		460	
		575	
93	107	380	575 122 922
		460	
		575	
110	128	380	575 122 923
		460	
		575	
130	150	380	575 122 924
		460	
		575	
150	170	380	575 122 918
		460	

spare parts stators 60 Hz on request

8" ENCAPSULATED MOTOR

8CT MOTOR - 3-PHASE - STATOR AND ROTOR | 316SS | 30-150 KW | DOL | 50 HZ

3 ~ Direct start with SubMonitor Transmitter				
P_N [kW]	U_N [V]	motor model no.	model no. stator	model no. rotor
30	380, 400, 415	239 600 7223	305 500 902	575 122 925
37	380, 400, 415	239 601 7223	305 501 902	575 122 930
45	380, 400, 415	239 602 7223	305 502 903	575 122 931
55	380, 400, 415	239 603 7243	338 385 915	575 122 920
75	380, 400, 415	239 604 7243	338 386 915	575 122 921
93	380, 400, 415	239 105 7219	305 505 902	575 122 922
110	380, 400, 415	239 106 7219	305 506 906	575 122 923
130	380, 400, 415	239 107 7219	336 524 915	575 122 924
150	380, 400, 415	239 108 7219	336 055 916	575 122 918

8CT MOTOR - 3-PHASE - STATOR AND ROTOR | 316SS | 30-150 KW | YΔ | 50 HZ

3 ~ YΔ Start with SubMonitor Transmitter (Pos. of cabels 90°)				
P_N [kW]	U_N [V]	motor model no.	model no. stator	model no. rotor
30	380, 400, 415	239 620 8223	338 443 904	575 122 925
37	380, 400, 415	239 621 8223	338 588 904	575 122 930
45	380, 400, 415	239 622 8223	305 502 906	575 122 931
55	380, 400, 415	239 623 8223	305 503 910	575 122 920
75	380, 400, 415	239 624 8223	305 504 905	575 122 921
93	380, 400, 415	239 125 8219	305 505 904	575 122 922
110	380, 400, 415	239 126 8219	305 506 905	575 122 923
130	380, 400, 415	239 127 8219	336 524 918	575 122 924
150	380, 400, 415	239 128 8219	305 508 904	575 122 918

8CT MOTOR - 3-PHASE - STATOR AND ROTOR | 316SS | 30-150 KW | YΔ | 60 HZ

P_N [kW]	P_{MAX} [kW]	U_N [V]	model no. rotor
30	40	230 | 380 | 460 | 575	575 122 925
37	50	230 | 380 | 460 | 575	575 122 930
45	57,8	230 | 380 | 460 | 575	575 122 931
55	64	230 | 380 | 460 | 575	575 122 932
75	86	230 | 380 | 460 | 575	575 122 917
93	107	380 | 460 | 575	575 122 922
110	128	380 | 460 | 575	575 122 923
130	150	380 | 460 | 575	575 122 924
150	170	380 | 460	575 122 918

spare parts stators 60 Hz on request

8" ENCAPSULATED HIGH TEMP 75°C MOTOR



FEATURES & BENEFITS

- Encapsulated motor for reliable operation at ambient temperatures up to 75 °C
- High temperature leads
- Double-flange NEMA mounting design
- 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
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Increased thrust capacity up to 30 °C
- Field replaceable round plug lead using Franklin's exclusive Water Bloc technology with extended jam nut in Stainless steel
- 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: 30-110 kW
- Thrust load: 45 kN
- Max. storage temperature: -15 °C - +60 °C
- Nominal ambient temperature: 75 °C (with 0.16 m/s cooling flow) No cooling flow in larger wells 12" and open reservoirs.
- Standard voltage: 380-415V (50 Hz), 460V (60 Hz)
- Voltage tolerance U_N:
  50 Hz: -10 % / +6 % UN [(380-10 %) – (415+6 %)]
  60 Hz: ±10 % UN (460 V)
- protection IP68
- Insulation class F
- Protection requirements: DIN/EN 61947-4-1
- Frequency of starts: 10 starts/ hour (with min. 3 minutes resting time), equally distributed
- DOL / YΔ-start (pos. of cables 90 °)
- All motors with factory installed leads
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)

OPTIONS

- Higher-graded material: 316SS
- Special voltages
- Retrofitable PT 100 temperature sensor
- Special lead lengths 8 m

8" ENCAPSULATED HIGH TEMP 75°C MOTOR

SAND FIGHTER | WATER WELL WW CI PC / 304SS | STAINLESS STEEL 316



High temperature version

Encapsulated motor for reliable operation at ambient temperatures up to 75 °C



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 Kingsbury type thrust bearing for 100 % maintenance free operation

Pressure-equalizing diaphragm

spring pre-loaded

8" ENCAPSULATED HIGH TEMP 75°C MOTOR

8CT HIGH TEMP 75°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
30	40	380 - 415	279 100	279 120	9004X	9204X
37	50	380 - 415	279 101	279 121	9004X	9204X
45	60	380 - 415	279 102	279 122	9004X	9204X
55	75	380 - 415	279 103	279 123	9004X	9204X
75	100	380 - 415	279 104	279 124	9004X	9204X
93	125	380 - 415	279 105	279 125	9004X	9204X
110	150	380 - 415		279 126	9004X	9204X

8CT HIGH TEMP 75°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
30	34.5	380	279 160	279 180	9004X	9204X
		460	279 100	279 120	9004X	9204X
		575	279 110	279 190	9004X	9204X
37	42.5	380	279 161	279 181	9004X	9204X
		460	279 101	279 121	9004X	9204X
		575	279 111	279 191	9004X	9204X
45	51.7	380	279 162	279 182	9004X	9204X
		460	279 102	279 122	9004X	9204X
		575	279 112	279 192	9004X	9204X
55	64	380	279 163	279 183	9004X	9204X
		460	279 103	279 123	9004X	9204X
		575	279 113	279 193	9004X	9204X
75	86.2	380	279 164	279 184	9004X	9204X
		460	279 104	279 124	9004X	9204X
		575	279 114	279 194	9004X	9204X
93	106.9	380	279 165	279 185	9004X	9204X
		460	279 105	279 125	9004X	9204X
		575	279 115	279 195	9004X	9204X
110	126.5	380		279 186	9004X	9204X
		460		279 126	9004X	9204X
		575		279 196	9004X	9204X

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)

8" ENCAPSULATED HIGH TEMP 75°C MOTOR

8CT HIGH TEMP 75°C - MOTOR PERFORMANCE DATA | 30-110 KW | 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		
30	45000	380	2920	66.8	474	72	78	80	0.76	0.82	0.86	98.1	265
		400	2930	65.5	499	72	78	80	0.7	0.78	0.83	97.8	298
		415	2935	65.8	518	71	77	80	0.65	0.74	0.8	97.6	324
37	45000	380	2930	80.7	654	75	80	83	0.76	0.83	0.87	121	354
		400	2940	79.6	692	74	80	82	0.7	0.79	0.84	120	398
		415	2945	80.1	720	73	79	82	0.65	0.75	0.81	120	429
45	45000	380	2935	94.3	835	78	83	85	0.75	0.82	0.87	146	413
		400	2945	93.1	884	77	82	84	0.69	0.78	0.84	146	465
		415	2950	93	920	76	82	84	0.64	0.74	0.81	146	501
55	45000	380	2920	118	876	78	82	84	0.77	0.84	0.87	183	467
		400	2930	115	927	78	82	84	0.72	0.81	0.85	182	526
		415	2935	113	965	77	82	84	0.69	0.78	0.83	182	566
75	45000	380	2925	155	1185	81	84	85	0.76	0.83	0.87	244	617
		400	2935	151	1254	80	84	86	0.71	0.8	0.85	244	695
		415	2940	150	1306	80	84	85	0.66	0.76	0.82	243	748
93	45000	380	2915	191	1404	81	85	86	0.78	0.85	0.88	304	843
		400	2925	186	1482	81	84	86	0.73	0.8	0.86	304	949
		415	2930	184	1544	80	84	86	0.69	0.76	0.84	303	1021
110	45000	380	2925	231	1596	81	84	85	0.77	0.84	0.88	359	890
		400	2935	224	1690	81	84	86	0.72	0.81	0.85	358	1002
		415	2940	222	1760	80	84	86	0.68	0.77	0.83	357	1078

8CT HIGH TEMP 75°C - MOTOR PERFORMANCE DATA | 30-110 KW | 60 HZ

P_N [kW]	P_{MAX} [kW]	Thrust F [N]	U_N [V]	n_N [min^{-1}]	I_{MAX} [A]	I_N [A]	n_{MAX} [%] at 100% load	line to line resistance [Ω]
30	34.5	45000	380	3450	78.7	616	78	.11 - .14
			460	3450	65	509	78	.16 - .19
			575	3450	52	407	78	.25 - .31
37	42.5	45000	380	3450	95.4	832	80	.07 - .09
			460	3450	78.8	687	80	.11 - .14
			575	3450	63	550	80	.18 - .22
45	51.7	45000	380	3450	112	1081	82	.06 - .07
			460	3450	92.1	893	82	.09 - .11
			575	3450	73.7	715	82	.13 - .16
55	64	45000	380	3450	141	1175	82	.05 - .06
			460	3450	114	922	82	.07 - .09
			575	3450	92	738	82	.11 - .14
75	86.2	45000	380	3450	181	1508	85	.04 - .05
			460	3450	149	1246	85	.05 - .07
			575	3450	119	997	85	.08 - .10
93	106.9	45000	380	3450	223	1793	85	.03 - .04
			460	3450	184	1481	85	.04 - .06
			575	3450	148	1185	85	.07 - .09
110	126.5	45000	380	3450	269	2012	84	.02 - .03
			460	3450	222	1662	84	.03 - .05
			575	3450	178	1330	84	.05 - .07

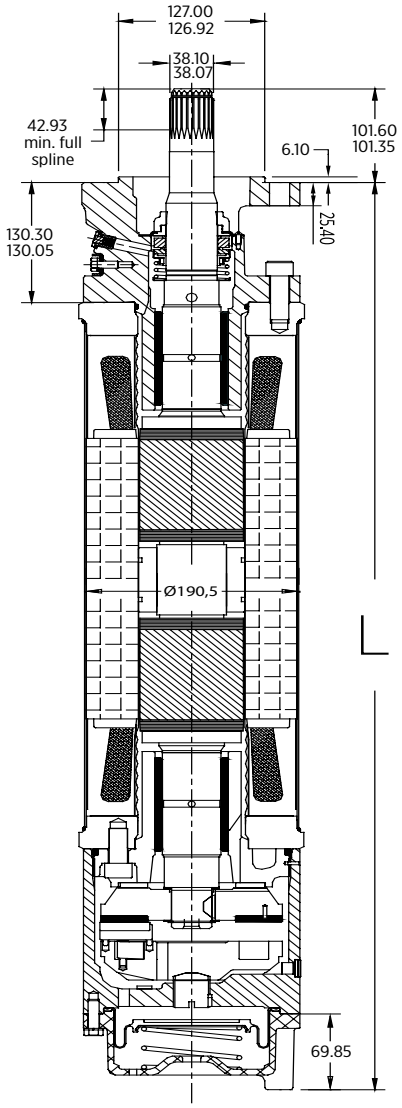
VFD operation is only allowed up to 400V supply voltage. For higher voltages, please consult Franklin Electric.
WW - Water well design (stator: 304SS | castings: CI powder coated)

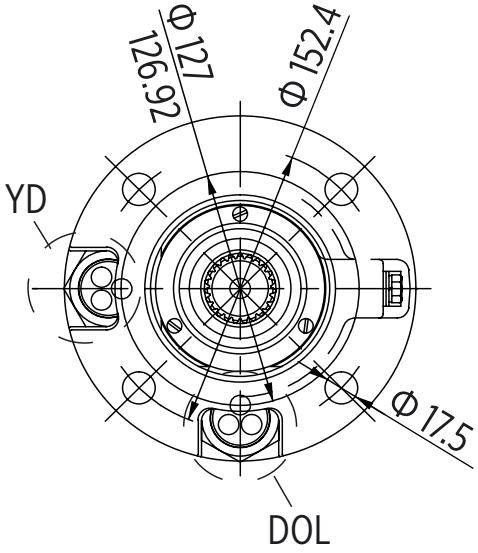
8" ENCAPSULATED HIGH TEMP 75°C MOTOR

8CT HIGH TEMP 75°C - WINDING RESISTANCE DATA | 50 HZ | 20 °C

P_N [kW]	U_N [V]	stator reference no.	line to line Resistance [ohms]
30	380 - 415	331 659 ...	0,25 - 0,27
	500	0	0
37	380 - 415	331 677 ...	0,17 - 0,19
	500	326 558 ...	0,09 - 0,01
45	380 - 415	331 678 ...	0,13 - 0,15
	500	326 687 ...	0,20 - 0,22
55	380 - 415	331 679 ...	0,11 - 0,12
	500	0	0
75	380 - 415	331 680 ...	0,08 - 0,09
	500	326 512 ...	0,12 - 0,14
93	380 - 415	331 681 ...	0,14 - 0,15
	500	326 683 ...	0,10 - 0,12
110	380 - 415	331 660 ...	0,05 - 0,06
	500	326 598 ...	0,09 - 0,10

8CT HIGH TEMP 75°C - DIMENSIONS AND WEIGHTS | WW | 316SS





P_N [kW]	length [mm]	shipping weight [kg]	shipping size [mm]
30	1138	182	228 x 430 x 1632
37	1265	207	228 x 430 x 1632
45	1455	252	228 x 447 x 1981
55	1748	318	228 x 447 x 1981
75	1976	382	228 x 447 x 2438
93	2179	421	228 x 447 x 2438
110	2408	473	228 x 447 x 2438

8" ENCAPSULATED HIGH TEMP 75°C MOTOR

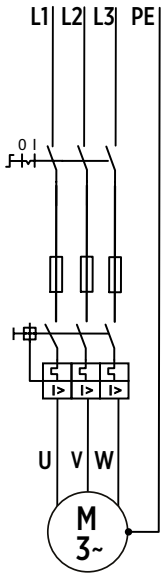
8CT HIGH TEMP 75°C - MATERIALS | WW | 316SS

Parts	WW	316SS
Castings	Cast Iron /powder coated	316 SS
Stator Shell	304 SS	316 SS
Stator Ends	Low Carbon Steel	316 SS
Shaft Extensions	17-4 SS	17-4 SS
Fasteners	300 & 400 Series SS	316 SS
Seal Cover	304SS & Sintered Bronce	316 SS
Seal	SiC/SiC	SiC/SiC
Diaphragm Spring	302 SS	316 SS & 25-6 MO SS
Slinger	FKM	FKM
Lead Wire (or Cable)	XLPO	XLPO
Lead Potting	Epoxy	Epoxy
Pipe Plug	316 SS	316 SS
Thrust Bearing	Carbon	Carbon
Other seals	BUNA N	BUNA N

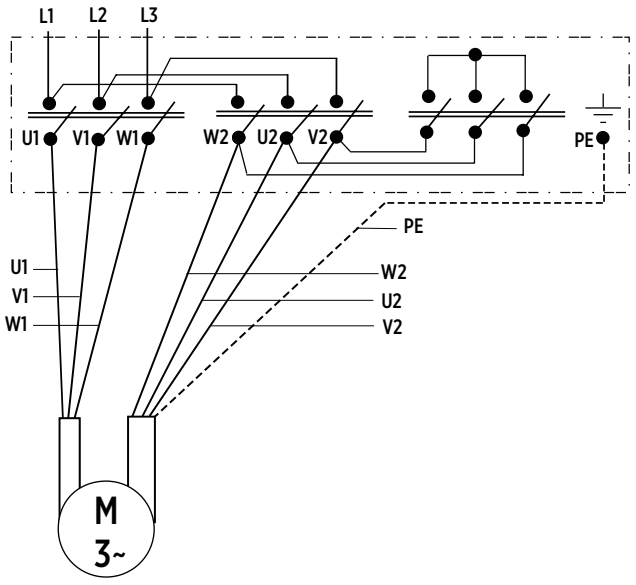
8CT HIGH TEMP 75°C - CONNECTIONS

DOL

U = black (BK)
V = brown (BN)|
W = grey (GY)
PE = yellow/green (YE/GN)

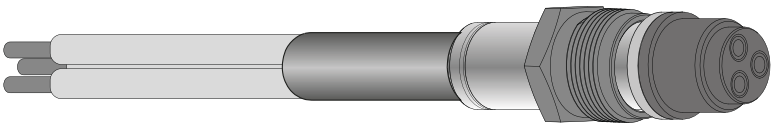


YΔ



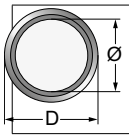
8CT HIGH TEMP 75°C - MOTOR LEADS | WW | 316SS | DOL

P_N [kW]	Jam Nut Material	L [m]	Ø [mm²]	Part numbers
all ratings	316SS	4	1 x (3 x 21 mm²)	10000018731
		8		10000018732



For YD motors please order 2 pieces.

8CT HIGH TEMP 75°C - MOTOR GROUND LEADS | WW | 316SS



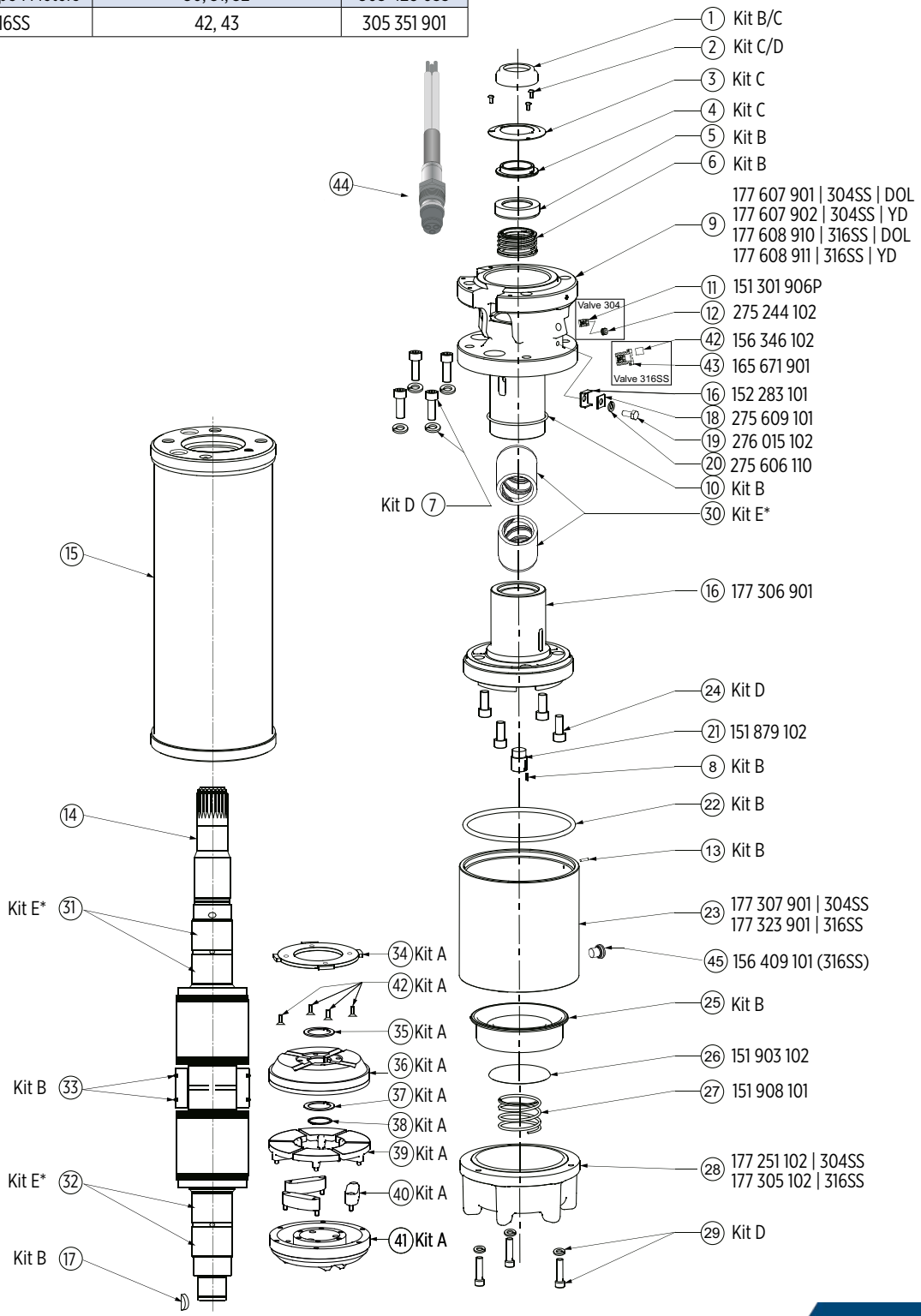
P_N [kW]	L [m]	Ø [mm²]	D [mm]	part no.
all ratings	8	1G25 mm²	13	308 053 080

8" ENCAPSULATED HIGH TEMP 75°C MOTOR

8CT HIGH TEMP 75°C - MOTOR SPARE PARTS - KITS | WW | 316SS

Kit	description	included positions	part no.
Kit A	Thrust Bearing	34, 35, 36, 37, 38, 39, 40, 41, 42	305 428 020
Kit B	Seal Kit	1, 5, 6, 8, 10, 13, 22, 25, 33	308 018 435
Kit C1	Slinger Kit WW	1, 2, 3, 4	308 018 436
Kit C2	Slinger kit 316SS	1, 2, 3, 4	308 018 437
Kit D	Screw Kit WW/316SS	2, 7, 24, 29	308 659 150
Kit E*	Radial Bearing Type 1 Motors	30, 31, 32	305 428 055
Kit F	Valve Kit 316SS	42, 43	305 351 901

*parts are semi-finished



8" ENCAPSULATED HIGH TEMP 75°C MOTOR

8CT HIGH TEMP 75°C - STATOR AND ROTOR | 316SS | WW | DOL

P_N [kW]	P_N [HP]	U_N [V] / f [Hz]	motor model no. WW	motor model no. 316SS	model no. rotor
30	40	380-415 / 50	2791009004X	2791009204X	575 122 919
		460 / 60			
		380 / 60	2791609004X	2791609204X	
37	50	380-415 / 50	2791019004X	2791019204X	575 122 920
		460 / 60			
		380 / 60	2791619004X	2791619204X	
45	60	380-415 / 50	2791029004X	2791029204X	575 122 921
		460 / 60			
		380 / 60	2791629004X	2791629204X	
55	75	380-415 / 50	2791039004X	2791039204X	575 122 922
		460 / 60			
		380 / 60	2791639004X	2791639204X	
75	100	380-415 / 50	2791049004X	2791049204X	575 122 923
		460 / 60			
		380 / 60	2791649004X	2791649204X	
93	125	380-415 / 50	2791059004X	2791059204X	575 122 924
		460 / 60			
		380 / 60	2791659004X	2791659204X	
110	150	380-415 / 50	2791069004X	2791069204X	575 122 918
		460 / 60			
		380 / 60	2791669004X	2791669204X	

8CT HIGH TEMP 75°C - STATOR AND ROTOR | 316SS | WW | YΔ

P_N [kW]	P_N [HP]	U_N [V] / f [Hz]	motor model no. WW	motor model no. 316SS	model no. rotor
30	34,5	380-415 / 50	2791209004X	2791209204X	575 122 919
		460 / 60			
		380 / 60	2791809004X	2791809204X	
37	42,5	380-415 / 50	2791219004X	2791219204X	575 122 920
		460 / 60			
		380 / 60	2791819004X	2791819204X	
45	51,7	380-415 / 50	2791229004X	2791229204X	575 122 921
		460 / 60			
		380 / 60	2791829004X	2791829204X	
55	64	380-415 / 50	2791239004X	2791239204X	575 122 922
		460 / 60			
		380 / 60	2791839004X	2791839204X	
75	86.2	380-415 / 50	2791249004X	2791249204X	575 122 923
		460 / 60			
		380 / 60	2791849004X	2791849204X	
93	106,9	380-415 / 50	2791259004X	2791259204X	575 122 924
		460 / 60			
		380 / 60	2791859004X	2791859204X	
110	126,5	380-415 / 50	2791269004X	2791269204X	575 122 918
		460 / 60			
		380 / 60	2791869004X	2791869204X	

spare part stators on request

6" / 8" / 10" / 12" REWINDABLE MOTORS

- Ratings: 4 - 400 kW
- DOL Start / YΔ-Start (Kabelposition 90°)
- Drinking water approvals
- Max. storage temperature:
- Trinkwasser-Zulassungen
- Max. Lagertemperatur: - 15 °C to + 60 °C
- Standard voltage: 380 - 415 V (50 Hz), 460 V (60 Hz)
- Voltage tolerance U_N: 50 Hz: -10 % / +6 % U_N [380 - 415 V = (380 - 10 %) – (415 + 6 %)] 60 Hz: ±10 % U_N
- protection IP68
- Protection requirements: DIN/EN 61947-4-1
- All motors with factory installed leads (4 m)
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)

Available versions:

» *6" rewindable motor*
» *8" rewindable motor*
» *10" rewindable motor*
» *12" rewindable motor*
» *8" rewindable permanent magnet (PM) motor*
» *10" rewindable permanent magnet (PM) motor*

Best class winding wires in rewindable motors

The rewindable motors are equipped with best class winding wires. The windings can easily be replaced.
The Franklin motors are factory filled with Franklin's FES non-toxic water soluble fill solution.

Stainless steel shaft

SandFighter™ sealing system
with SIC mechanical seal and sand slinger

SAND FIGHTER

Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing
for 100 % maintenance free operation

STAINLESS STEEL 304 | STAINLESS STEEL 316 | STAINLESS STEEL 904L



8"/10"/12" rewindable motors
Franklin Electric



Pressure-equalizing diaphragm

6" REWINDABLE MOTOR

FEATURES & BENEFITS

- NEMA mounting design with metric studs
- Stainless steel splined shaft
- VFD operation up to a rated voltage of 400 V (in compliance with the application guidelines in the motor operating instructions and the VFD manufacturer). For VFD operation with higher voltages, please consult Franklin Electric.
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Pressure-equalizing diaphragm, spring pre-loaded
- SandFighter™ sealing system with SIC mechanical seal and sand slinger
- Standard motor in 304SS
- Drinking water approvals

OPTIONS

- Higher-graded material: 316SS, 904L
- Special voltages
- Retrofitable PT 100 temperature sensor
- Special lead lengths up to 50 m
- Motors up to 30 kW with PE2/PA winding insulation (Standard cooling flows, 37 kW: max. 45 °C)

STANDARD SPECIFICATION

- Ratings: 4-37 kW
- Thrust load: 15.5 kN: 4-26 kW; 27.5 kN: 30-37 kW
- Max. storage temperature: - 15 °C to + 60 °C
- Nominal ambient temperature: 50 °C
  with 0.2 m/s cooling flow (4 - 15 kW)
  with 0.5 m/s cooling flow (18.5 - 37 kW)
- Standard voltage: 380 - 415 V (50 Hz), 460 V (60 Hz)
- Voltage tolerance U_N: 50 Hz: -10 % / +6 % U_N
  [380 - 415 V = (380 - 10 %) – (415 + 6 %)] 60 Hz: ±10 % U_N
- Standard motor with PPC winding insulation
  (37 kW Standard with PE2/PA insulation)
- protection IP68
- Protection requirements: DIN/EN 61947-4-1
- 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 (4 m)
- Vertical and horizontal operation,
  shaftend heightend
- 37 kW motors may not be installed
  in horizontal position (if required please
  contact Franklin Electric).
- Rotation counter clock wise facing shaft
  end (rotation reversible for 3 phase motors)



SAND FIGHTER | STAINLESS STEEL 304 | STAINLESS STEEL 316 | STAINLESS STEEL 904L

6" REWINDABLE MOTOR

Best class winding wires in rewindable motors

The rewindable motors are equipped with best class winding wires.
The windings can easily be replaced.
The Franklin motors are factory filled with Franklin's FES non-toxic water soluble fill solution.



NEMA mounting design



YOUTUBE VIDEOS AND TUTORIALS



Tutorial 6REW PT100 installation



Tutorial 8-10REW PT100 installation (sensor design starting 08-2025)

6" REWINDABLE MOTOR

6REW MOTOR - 3-PHASE - MOTOR MODEL NO. | 304SS | 316SS | 904L

P_N [kW]	U_N [V] / f [Hz]	Digit 1 - 6		Digit 7 - 10			
		DOL	YΔ	304SS	316SS	904L	PE2/PA**
4	380 - 415 / 50	262 610	262 710	8611	6611	7611	*7** (ONLY DOL)
	460 / 60	262 610	262 710				
	380/ 60	262 660	262 780				
	230 / 60	262 600	262 700				
5.5	380 - 415 / 50	262 611	262 711	8611	6611	7611	*7** (ONLY DOL)
	460 / 60	262 611	262 711				
	500 / 50	262 511	262 811				
	380/ 60	262 661	262 781				
	230 / 60	262 601	262 701				
7.5	380 - 415 / 50	262 612	262 712	8611	6611	7611	*7** (ONLY DOL)
	460 / 60	262 612	262 712				
	500 / 50	262 512	262 812				
	380/ 60	262 662	262 782				
	230 / 60	262 602	262 702				
9.3	380 - 415 / 50	262 231	262 331	8611	6611	7611	*7** (ONLY DOL)
	460 / 60	262 231	262 331				
	500 / 50	262 271	262 371				
	380/ 60	262 221	262 321				
	230 / 60	262 211	262 311				
11	380 - 415 / 50	262 613	262 713	8611	6611	7611	*7** (ONLY DOL)
	460 / 60	262 613	262 713				
	500 / 50	262 513	262 813				*7**
	380/ 60	262 663	262 783				
	230 / 60	262 603	262 703				
13	380 - 415 / 50	262 232	262 332	8611	6611	7611	*7** (ONLY DOL)
	460 / 60	262 232	262 332				
	500 / 50	262 272	262 372				
	380/ 60	262 222	262 322				*7**
	230 / 60	262 212	262 312				
15	380 - 415 / 50	262 614	262 714	8611	6611	7611	*7**
	460 / 60	262 614	262 714				
	500 / 50	262 514	262 814				
	380/ 60	262 664	262 784				
	230 / 60	262 604	262 704				
18.5	380 - 415 / 50	262 615	262 715	8611	6611	7611	*7**
	460 / 60	262 615	262 715				
	500 / 50	262 515	262 815				
	380/ 60	262 665	262 785				
	230 / 60	262 605	262 705				
22	380 - 415 / 50	262 616	262 716	8611	6611	7611	*7**
	460 / 60	262 615	262 715				
	500 / 50	262 516	262 816				
	380/ 60	262 666	262 786				
	230 / 60	262 606	262 706				
26	380 - 415 / 50	262 233	262 333	8611	6611	7611	*7**
	460 / 60	262 233	262 333				
	500 / 50	262 273	262 373				
	380/ 60	-	262 323				
30	380 - 415 / 50	262 617	262 717	8611	6611	7611	*7**
	460 / 60	262 617	262 717				
	500 / 50	262 517	262 817				
	380/ 60	262 667	262 787				
	230 / 60	-	262 727				
37	381 - 415 / 50	262 618	262 718	8711	6711	7711	STANDARD
	460 / 60	262 618	262 718				
	501 / 50	262 518	262 818				
	380/ 61	262 668	262 788				
	231 / 60	-	262 728				

6" REWINDABLE MOTOR

6REW MOTOR - 3-PHASE - MOTOR 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		
4	15500	380	2910	10.4	48	71	75	76	0.59	0.71	0.78	13.1	15.5
		400	2930	10.6	51	68	73	76	0.53	0.65	0.73	13.1	17.3
		415	2930	10.9	53	65	72	76	0.5	0.61	0.69	13	18.8
5.5	15500	380	2860	13.7	48	74	76	75	0.67	0.78	0.83	18.3	15.5
		400	2890	13.3	51	72	76	76	0.62	0.74	0.81	18.2	17.3
		415	2890	13.4	53	71	75	75	0.59	0.71	0.78	18.1	18.8
		500	2890	10.6	41	72	76	76	0.62	0.74	0.81	17	18
7.5	15500	380	2860	18.3	59	77	78	76	0.7	0.8	0.84	25	19.2
		400	2880	17.7	63	75	78	77	0.65	0.76	0.82	24.8	21.5
		415	2890	17.7	65	73	77	77	0.61	0.73	0.8	24.7	23.4
		500	2880	14	50	75	78	77	0.65	0.76	0.82	22	25
9.3	15500	380	2850	22	74	79	80	78	0.71	0.8	0.84	31.1	25.9
		400	2870	21.4	78	78	79	78	0.64	0.76	0.82	31	29
		415	2880	21.2	81	76	79	78	0.6	0.72	0.8	30.9	31.4
		500	2870	17.1	62	78	79	78	0.64	0.76	0.82	29	31
11	15500	380	2860	25.8	93	78	80	78	0.71	0.8	0.85	36.7	31.5
		400	2880	25.2	98	77	80	79	0.65	0.76	0.83	36.4	35.3
		415	2890	25.1	102	75	78	79	0.61	0.73	0.8	36.3	38.2
		500	2880	20	79	77	80	79	0.65	0.76	0.82	35	36
13	15500	380	2880	30.1	118	80	81	80	0.68	0.79	0.84	43.1	45
		400	2900	29.6	125	78	80	80	0.61	0.74	0.81	42.8	50.3
		415	2900	29.7	130	76	79	80	0.57	0.7	0.78	42.7	54.6
		500	2900	23.7	100	78	80	80	0.61	0.74	0.81	50	43
15	15500	380	2880	33.9	140	81	82	81	0.71	0.81	0.85	49.7	53.9
		400	2890	33.1	148	79	81	81	0.65	0.77	0.83	49.4	60.4
		415	2900	33	154	77	80	81	0.6	0.73	0.81	49.3	65.5
		500	2890	26.4	119	79	81	81	0.65	0.77	0.83	60	49
18.5	15500	380	2860	42.3	172	81	82	81	0.68	0.78	0.84	61.7	75.2
		400	2880	42	182	78	81	81	0.61	0.74	0.8	61.2	84.3
		415	2890	42.5	189	76	79	80	0.57	0.7	0.77	61.1	91.3
		500	2880	33.6	146	78	81	81	0.61	0.74	0.8	84	61
22	15500	380	2880	49.1	218	82	84	83	0.68	0.78	0.84	72.6	91.2
		400	2900	49	231	80	82	82	0.61	0.73	0.8	72.5	102.2
		415	2910	49.6	240	77	81	82	0.56	0.69	0.77	72.2	110.7
		500	2900	39.2	185	80	82	82	0.61	0.73	0.8	102	72
26	15500	380	2880	57.5	268	83	84	83	0.68	0.79	0.86	86	120.4
		400	2900	56.7	284	81	83	83	0.61	0.74	0.83	85.6	134.7
		415	2910	57.3	296	78	82	82	0.56	0.69	0.8	85.3	146.1
		500	2900	45.7	227	80	83	83	0.61	0.74	0.81	135	86
30	27500	380	2900	66.4	328	82	84	83	0.67	0.78	0.84	98.8	135
		400	2910	66.4	347	80	83	83	0.6	0.73	0.8	98.4	151
		415	2910	67.5	361	77	81	82	0.55	0.68	0.77	98.2	163
		500	2910	53.2	277	80	83	83	0.6	0.73	0.8	151	98
37	27500	380	2890	82	409	83	84	83	0.67	0.78	0.85	122.1	192.8
		400	2900	81.9	433	80	83	83	0.6	0.72	0.8	121.6	215.8
		415	2910	83.9	450	77	81	82	0.55	0.68	0.76	121.3	234
		500	2900	65.6	346	80	83	83	0.6	0.72	0.8	216	122

6" REWINDABLE MOTOR

6REW MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 60 HZ

P_N [kW]	P_{MAX} [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		
4	4.6	15500	230	3520	21	106	70	75	77	0.52	0.64	0.73	12.5	18.6
			380	3530	13.3	61	66	72	77	0.51	0.63	0.71	12.4	15
			460	3520	10.1	51	70	76	78	0.56	0.67	0.75	12.5	15.3
5.5	6.3	15500	230	3490	26.1	106	74	78	78	0.61	0.73	0.8	17.3	15.9
			380	3480	15.4	61	76	78	78	0.64	0.75	0.81	17.3	15
			460	3480	12.9	51	74	77	77	0.65	0.76	0.82	17.3	15.1
7.5	8.6	15500	230	3490	35.9	146	75	79	79	0.58	0.71	0.78	23.6	22.4
			380	3480	20.8	81	76	79	79	0.64	0.75	0.81	23.6	20.2
			460	3470	17.2	64	75	78	78	0.67	0.77	0.82	23.7	19.4
9.3	10.7	15500	230	3490	44.4	183	75	79	79	0.59	0.71	0.78	29.3	28.9
			380	3470	25.6	100	77	80	80	0.64	0.75	0.81	29.4	25.9
			460	3460	20.8	78	78	80	80	0.67	0.78	0.82	29.4	24.4
11	12.7	15500	230	3490	51.2	220	77	80	81	0.6	0.72	0.79	34.6	35.6
			380	3490	30.3	129	77	81	81	0.62	0.74	0.8	34.5	34.3
			460	3480	25	98	78	81	80	0.68	0.77	0.83	34.7	31.5
13	15	15500	230	3500	62.4	288	76	80	81	0.55	0.68	0.76	40.7	50.5
			380	3500	36.3	164	77	81	82	0.59	0.71	0.78	40.7	47.2
			460	3490	29	125	78	81	81	0.65	0.76	0.82	40.9	43.3
15	17.3	15500	230	3500	65.9	325	80	83	83	0.63	0.74	0.81	47	59.5
			380	3490	39.1	188	81	83	83	0.66	0.77	0.82	47.2	56.5
			460	3490	32.1	151	80	83	83	0.68	0.78	0.84	47.1	55.6
18.5	21.3	15500	230	3490	85.4	402	77	81	82	0.59	0.71	0.78	58.1	81.8
			380	3490	52.5	249	76	80	81	0.58	0.7	0.77	58.1	83.6
			460	3480	40.6	184	80	82	82	0.65	0.76	0.81	58.4	74.5
22	25.3	15500	230	3510	100.2	520	82	84	84	0.65	0.74	0.77	68.8	96.6
			380	3510	59.9	309	82	84	84	0.67	0.75	0.78	68.8	94.9
			460	3500	47.1	232	83	84	84	0.72	0.79	0.82	69.1	85.8
26	29.9	15500	230	3510	118.3	657	83	85	85	0.63	0.72	0.76	81.3	135
			380	3500	67.5	360	83	85	85	0.62	0.74	0.81	81.6	121.4
			460	3500	55.7	287	83	85	85	0.64	0.76	0.84	81.6	117.2
30	34.5	27500	230	3510	135.7	758	78	82	83	0.58	0.71	0.78	93.8	139.6
			380	3510	79.6	436	79	83	84	0.62	0.74	0.81	93.9	132.9
			460	3500	64.4	346	81	84	84	0.64	0.75	0.82	94	126.4
37	42.6	27500	230	3510	169.9	937	77	81	82	0.59	0.71	0.78	115.8	193.6
			380	3510	102.8	567	77	81	82	0.59	0.71	0.78	115.8	193.6
			460	3500	79.1	430	82	84	85	0.63	0.75	0.81	116	177.8

6" REWINDABLE MOTOR

6REW MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 380 – 415 V (50 HZ) - 460 V (60 HZ) | PPC

PPC Insulation Standard Windings 380–415 V (50 Hz) | 460 V (60 Hz)

P_N [kW]	model no. Winding kit	Turns per coil	Wire diameter [mm]	Type of Isolation	Group connection	Total Wire length [m]	Resistance coil [Ω]	Resistance YD (U1-U2) [Ω]	Resistance Dol (U1-V1) [Ω]
4	326 364 999	53+53+53+53	0,9 / 1,6	PPC	Serie	540	4.88	5.17	3.5
5.5	326 364 999	53+53+53+53	0,9 / 1,6	PPC	Serie	540	4.88	5.17	3.5
7.5	326 375 999	47+47+47+47	1,0 / 1,7	PPC	Serie	500	3.671	4.04	2.72
9.3	326 374 999	41+41+41+41	1,1 / 1,8	PPC	Serie	466	2.827	3.02	2.06
11	326 373 999	36+36+36+36	1,2 / 1,9	PPC	Serie	436	2.22	2.35	1.606
13	326 372 999	30+30+30+30	1,3 / 2,0	PPC	Serie	400	1.733	1.88	1.243
15	326 366 999	27+27+27+27	1,4 / 2,2	PPC	Serie	395	1.455	1.526	1.016
18.5	326 371 999	23+23+23+23	1,5 / 2,3	PPC	Serie	362	1.161	1.222	0.825
22	326 370 999	19+19+19+19	1,7 / 2,5	PPC	Serie	342	0.852	0.92	0.713
26	326 378 999	16+16+16+16	1,9 /2,7	PPC	Serie	330	0.657	0.698	0.47
30	326 369 999	27+27	1,4 / 2,2	PPC	Parallel	624	0.381	0.61	0.412
37	326 377 999	12+12+12+12	2,0/ 2,9 / 3,1	PE2/PA	Serie	302	0,5420	0,5900	0,3840

6REW MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 380 – 415 V (50 HZ) - 460 V (60 HZ) | PE2/PA

PE2/PA Insulation Standard Windings 380–415 V (50 Hz) | 460 V (60 Hz)

P_N [kW]	model no. Winding kit	Turns per coil	Wire diameter [mm]	Type of Isolation	Group connection	Total Wire length [m]	Resistance coil [Ω]	Resistance YD (U1-U2) [Ω]	Resistance Dol (U1-V1) [Ω]
4	326 461 999	30+30+30+30	1,1 / 2,0	PE2/PA	Serie Y	311	1,8500	-	3,7000
5,5	326 461 999	30+30+30+30	1,1 / 2,0	PE2/PA	Serie Y	311	1,8500	-	3,7000
7,5	326 428 999	27+27+27+27	1,3 / 2,2	PE2/PA	Serie Y	295	1,2480	-	2,4960
9,3	326 429 999	23+24+24+23	1,4 / 2,4	PE2/PA	Serie Y	274	1,0060	-	2,3200
11	326 430 999	20+21+21+20	1,4 / 2,4	PE2/PA	Serie Y	255	0,9280	-	1,8560
13	326 431 999	17+18+18+17	1,6 / 2,6	PE2/PA	Serie Y	240	0,6670	-	1,3340
15	326 432 999	27+27+27+27	1,3 / 2,2	PE2/PA	Serie	395	1,6870	1,6870	1,2466
18,5	326 433 999	23+23+23+23	1,3 / 2,2	PE2/PA	Serie	362	1,5500	1,5500	1,0333
22	326 434 999	19+19+19+19	1,5 / 2,5	PE2/PA	Serie	342	1,0940	1,0940	0,7293
26	326 435 999	16+16+16+16	1,7 / 2,7	PE2/PA	Serie	330	0,8210	0,8210	0,5473
30	326 436 999	27+27	1,3 / 2,2	PE2/PA	Parallel	624	1,3260	0,6630	0,4420
37	326 377 999	12+12+12+12	2,0/ 2,9 / 3,1	PE2/PA	Serie	302	0,5420	0,5900	0,3840

6REW MOTOR - 3-PHASE - INSULATION RESISTANCE DATA | 20 °C | 500 VDC

Insulation resistance (20 °C / 500 VDC)		
new motor without drop cable	400 >	MΩ
used motor without drop cable	20 >	MΩ
new motor with drop cable	4 >	MΩ
used motor with drop cable	1	MΩ

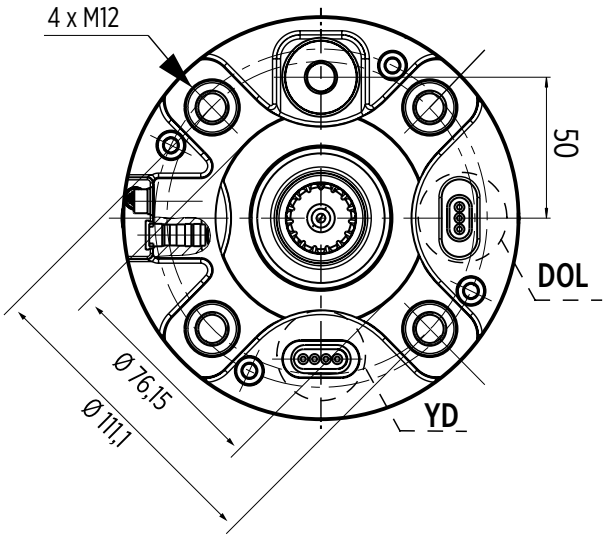
6REW MOTOR - 3-PHASE - REPAIR INSTRUCTIONS

Pictured motor repair instruction		
material	motor design	model no.
WW	motor design up to 12-2012	308 018 460
316SS | 904L		308 018 ***
304SS | 316SS | 904L	motor design starting 01-2013	308 018 607

6" REWINDABLE MOTOR

6REW MOTOR - 3-PHASE - MATERIALS | WW | 316SS | 904L





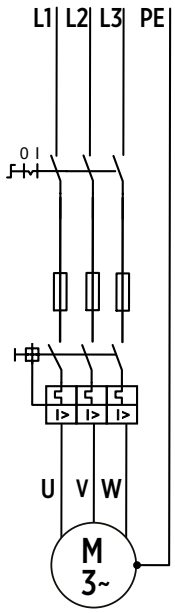
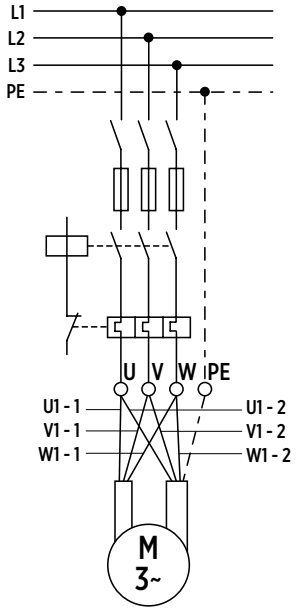
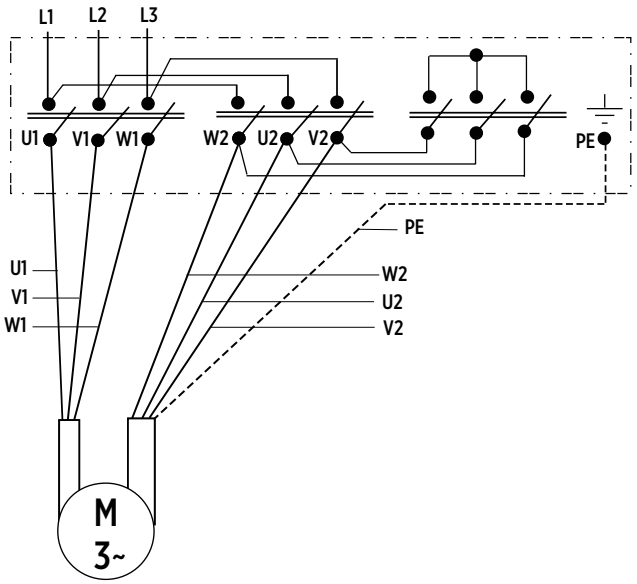
part	WW	316SS	904L
Shaft end gear	1.4462	1.4462	1.4462
Slinger	EPDM	EPDM	EPDM
Seal	SiC/SiC	SiC/SiC	SiC/SiC
End bell, NEMA	1.4308	1.4408	1.4539
Stator Shell	1.4301	1.4571	1.4539
Diaphragm	EPDM	EPDM	EPDM
Diaphragm Cover	1.4301	1.4404	1.4539

6REW MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | 304SS | 316SS | 904L

P_N [kW]	motor length 304SS / 316SS /904L	motor weight [kg] 304SS / 316SS /904L		motor shipping size [mm]		
	L [mm]	motor	incl. package	B [mm]	H [mm]	L [mm]
4	679	43	49	158	316	908
5.5	679	43	49			
7.5	699	45	51			
9.3	729	49	55			
11	759	53	59			
13	809	57	64	158	316	1138
15	854	61	68			
18.5	899	66	73			
22	989	77	84			
26	1094	88	97	158	316	1438
30	1194	98	107			
37	1274	105	114			

6" REWINDABLE MOTOR

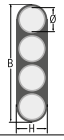
6REW MOTOR - 3-PHASE - CONNECTIONS

DOL	DOL II	YΔ
		

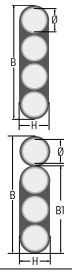
U = black (BK) | W = brown (BN) | V = grey (GY) | PE = yellow/green (YE/GN)

6" REWINDABLE MOTOR

6REW MOTOR - 3-PHASE - MOTOR LEADS | WW | 316SS | 904L | DOL

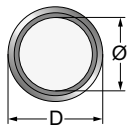
DOL	P_N [kW]	qty.	Ø [mm²]	H x W [mm]	length [m]	model no.	lead seal kit
	4 - 13	1	4G2,5	7,0 x 19,0	4	308 710 100	308 660 811
	15 - 22	1	4G4	8,2 x 23,0	4	308 710 101	308 660 812
	26 - 37	1	4G6	9,0 x 25,0	4	308 710 103	308 660 813

6REW MOTOR - 3-PHASE - MOTOR LEADS | WW | 316SS | 904L | YΔ

YΔ	P_N [kW]	qty.	Ø [mm²]	H x W [mm]	length [m]	model no.	lead seal kit
	4 - 22	1	3X2,5	7,3 x 15,3	4	308 710 104	308 660 816
		1	4G2,5	7,0 x 19,0	4		
	26 - 30	1	3X4	8,5 x 17,8	4	308 710 105	308 660 817
		1	4G4	8,2 x 23,0	4		
	37	1	3X4	8,5 x 17,8	4	308 710 106	308 660 817
		1	4G4	8,2 x 23,0	4		

For PE2/PA motors, the special tape 700 541 688 is also required.
Cables are designed for submerged operation. For air operation, please consult Franklin Electric.

6REW MOTOR - 3-PHASE - GROUND LEADS | 304SS | 316SS

	P_N [kW]	Ø [mm²]	size [mm]	type	qty.	L [m]	model no.
	all ratings	1G10 mm²	D 6,1 mm (±0,3)	VDE/KTW	1	4	308 055 040

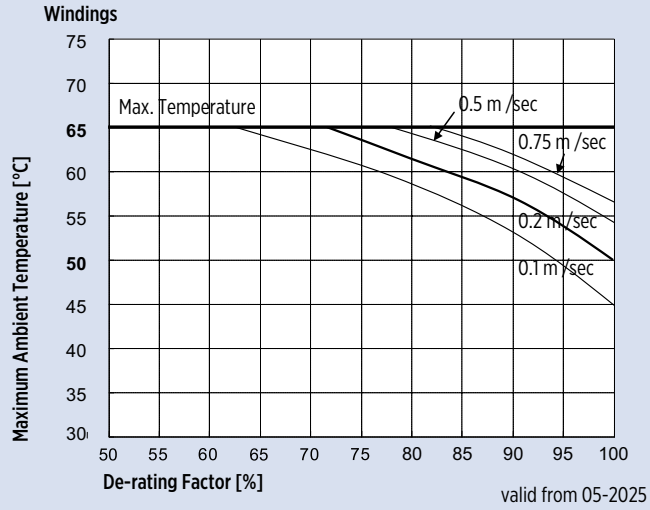
6REW MOTOR - 3-PHASE - LEAD OPENING SEAL KIT

lead opening seal kit	motors starting 08/2017
4 - 37 kW DOL / YΔ	308 660 815

6" REWINDABLE MOTOR

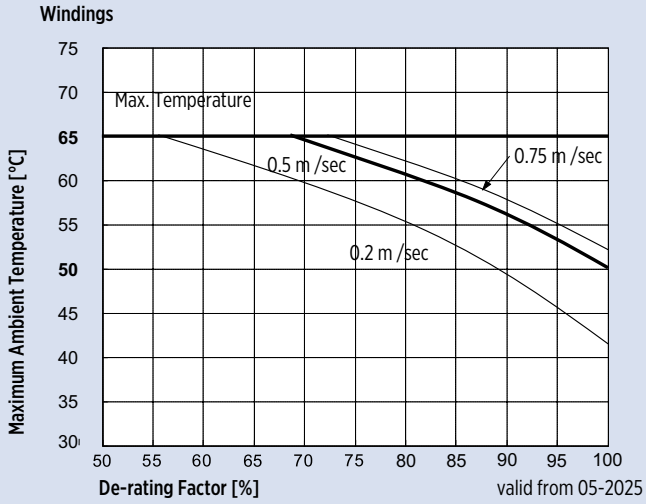
6REW MOTOR - 3-PHASE - DERATING CURVES

De-rating of 6" rewindable motors | 4-15 kW



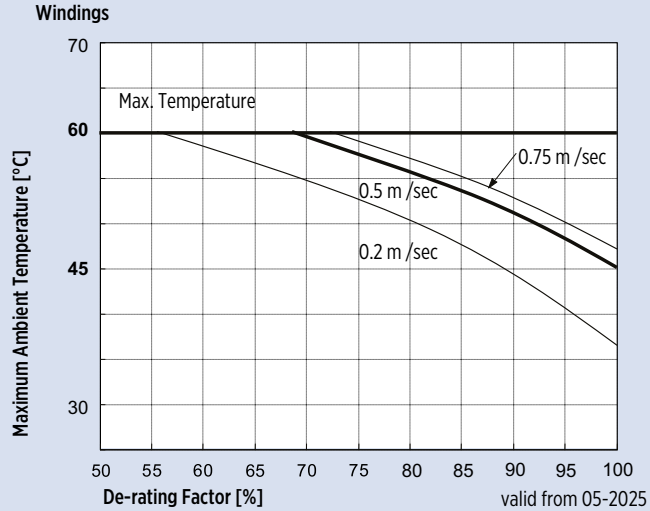
valid from 05-2025

De-rating of 6" rewindable motors | 18,5-30 kW



valid from 05-2025

De-rating of 6" rewindable motors | 37 kW



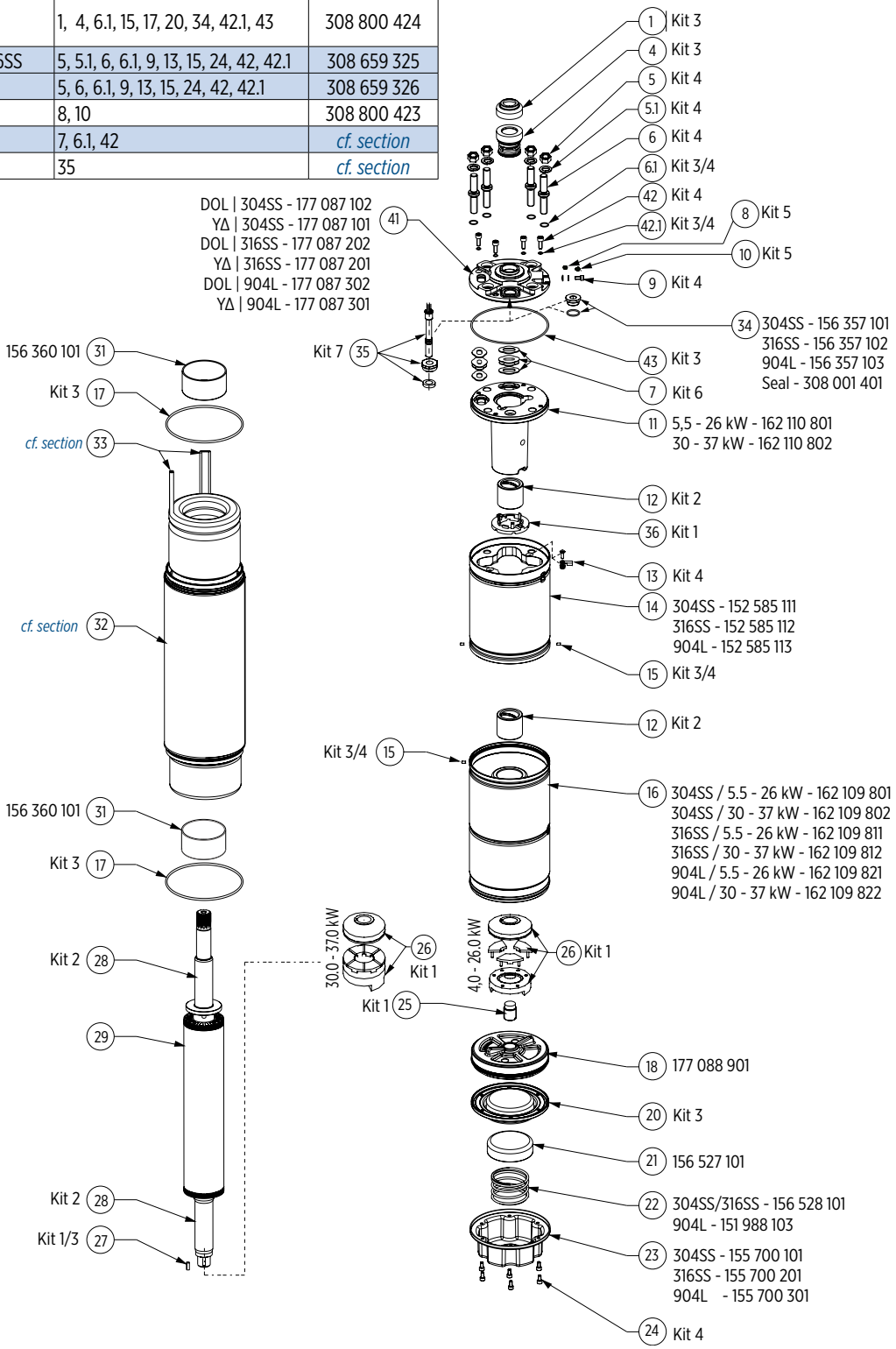
valid from 05-2025

If these conditions are not met please contact Franklin Electric.

6" REWINDABLE MOTOR

6REW MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | WW | 316SS | 904L

Kit	description	included positions	part no.
Kit 1	thrust bearing kit | 4-26 kW	17, 25, 26, 27, 36	308 750 301
	thrust bearing kit | 30-37 kW	17, 25, 26, 27, 36	308 750 302
Kit 2	radial bearing kit | 4-26 kW	12, 28	308 750 401
	radial bearing kit | 30-37 kW	12, 28	308 750 402
Kit 3A	seal kit Standard	1, 4, 6.1, 15, 17, 20, 34, 42.1, 43	308 800 422
Kit 3B	seal Kit Viton	1, 4, 6.1, 15, 17, 20, 34, 42.1, 43	308 800 424
Kit 4	screw kit 304SS / 316SS	5, 5.1, 6, 6.1, 9, 13, 15, 24, 42, 42.1	308 659 325
	screw kit 904L	5, 6, 6.1, 9, 13, 15, 24, 42, 42.1	308 659 326
Kit 5	valve kit	8, 10	308 800 423
Kit 6	lead seal kit	7, 6.1, 42	*cf. section*
Kit 7	PT100 kit	35	*cf. section*



6" REWINDABLE MOTOR

6REW MOTOR - 3-PHASE - STATOR AND ROTOR | 304SS

P_N [kW]	stator (incl. winding and 4 m motor lead)				rotor
	DOL 304SS		YΔ 304SS		
	PPC	PE2/PA	PPC	PE2/PA	
4	326 364 811	326 461 811	326 364 861		161 177 801K
5,5	326 364 811	326 461 811	326 364 861		161 177 801K
7,5	326 375 811	326 428 811	326 375 861		161 177 802K
9,3	326 374 811	326 429 811	326 374 861		161 177 803K
11	326 373 811	326 430 811	326 373 861		161 177 804K
13	326 372 811	326 431 811	326 372 861		161 177 805K
15	326 366 811	326 432 811	326 366 861	326 432 861	161 177 806K
18,5	326 371 811	326 433 811	326 371 861	326 433 861	161 177 807K
22	326 370 811	326 434 811	326 370 861	326 434 861	161 176 804K
26	326 378 811	326 435 811	326 378 861	326 435 861	161 176 803K
30	326 369 811	326 436 811	326 369 861	326 436 861	161 176 802K
37		326 377 811		326 377 861	161 176 801K

6REW MOTOR - 3-PHASE - STATOR AND ROTOR | 316SS

P_N [kW]	stator (incl. winding and 4 m motor lead)				rotor
	DOL 316SS		YΔ 316SS		
	PPC	PE2/PA	PPC	PE2/PA	
4	326 364 821	326 461 821	326 364 871		161 177 801K
5,5	326 364 821	326 461 821	326 364 871		161 177 801K
7,5	326 375 821	326 428 821	326 375 871		161 177 802K
9,3	326 374 821	326 429 821	326 374 871		161 177 803K
11	326 373 821	326 430 821	326 373 871		161 177 804K
13	326 372 821	326 431 821	326 372 871		161 177 805K
15	326 366 821	326 432 821	326 366 871	326 432 871	161 177 806K
18,5	326 371 821	326 433 821	326 371 871	326 433 871	161 177 807K
22	326 370 821	326 434 821	326 370 871	326 434 871	161 176 804K
26	326 378 821	326 435 821	326 378 871	326 435 871	161 176 803K
30	326 369 821	326 436 821	326 369 871	326 436 871	161 176 802K
37		326 377 821		326 377 871	161 176 801K

6REW MOTOR - 3-PHASE - STATOR AND ROTOR | 904L

P_N [kW]	stator (incl. winding and 4 m motor lead)				rotor
	DOL 904L		YΔ 904L		
	PPC	PE2/PA	PPC	PE2/PA	
4	326 364 831	326 461 831	326 364 881		161 177 801K
5,5	326 364 831	326 461 831	326 364 881		161 177 801K
7,5	326 375 831	326 428 831	326 375 881		161 177 802K
9,3	326 374 831	326 429 831	326 374 881		161 177 803K
11	326 373 831	326 430 831	326 373 881		161 177 804K
13	326 372 831	326 431 831	326 372 881		161 177 805K
15	326 366 831	326 432 831	326 366 881	326 432 881	161 177 806K
18,5	326 371 831	326 433 831	326 371 881	326 433 881	161 177 807K
22	326 370 831	326 434 831	326 370 881	326 434 881	161 176 804K
26	326 378 831	326 435 831	326 378 881	326 435 881	161 176 803K
30	326 369 831	326 436 831	326 369 881	326 436 881	161 176 802K
37		326 377 831		326 377 881	161 176 801K

8" REWINDABLE MOTOR

FEATURES & BENEFITS

- Double-flange NEMA mounting design
- Stainless steel splined shaft
- VFD operation up to a rated voltage of 460 V (in compliance with the application guidelines in the motor operating instructions and the VFD manufacturer). For VFD operation with higher voltages, please consult Franklin Electric.
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- 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)
- Drinking water approvals

STANDARD SPECIFICATION

- Ratings: 30-93 kW
- Thrust load: 45 kN
- Max. storage temperature: -15 °C - +60 °C
- Nominal ambient temperature: 50 °C
  30-52 kW: with 0.2 m/s cooling flow
  55-93 kW: with 0.5 m/s cooling flow
- Standard voltage: 380-415 V (50 Hz),
  460 V (60 Hz)
- Voltage tolerance U_N: 50 Hz: -10 % / +6 % U_N
  [380 - 415 V = (380-10 %) – (415 + 6 %)]
  60 Hz: ±10 % U_N
- Standard motor with PPC winding insulation
- protection IP68
- Protection requirements: DIN/EN 61947-4-1
- Frequency of starts: 10 starts/ hour (with min. 3 minutes resting time), equally distributed
- DOL / YΔ-start (pos. of cables 90 °)
- All motors with factory installed leads
- Motor lead length: 6 m
- Vertical and horizontal operation, shaftend heightend
  83/93 kW motors may not be installed in horizontal position
  (if required please contact Franklin Electric)
- Rotation counter clock wise facing shaft end
  (rotation reversible for 3 phase motors)



SAND FIGHTER | WATER WELL WW CI PC / 304SS | STAINLESS STEEL 304 | STAINLESS STEEL 316 | STAINLESS STEEL 904L

8" REWINDABLE MOTOR

OPTIONS

- Higher-graded materials: 304SS, 316SS, 904L
- Special voltages
- Retrofitable PT 100 temperature sensor
- Special lead lengths
- PE2/PA winding insulation for max. ambient temperature of 50 °C (Standard cooling flows)

Best class winding wires in rewindable motors

The rewindable motors are equipped with best class winding wires.
The windings can easily be replaced.
The Franklin motors are factory filled with
Franklin's FES non-toxic water soluble fill solution.



NEMA mounting design



YOUTUBE VIDEOS AND TUTORIALS



8"/10"/12" rewindable motors
Franklin Electric



Tutorial 8-10REW PT100 installation
(sensor design starting 08-2025)

8" REWINDABLE MOTOR

8REW MOTOR - 3-PHASE - MOTOR MODEL NO. | WW | 304SS | 316SS | 904L | 380-415 V | 460 V

P_N [kW]	U_N [V] / f [Hz]	Digit 1 – 6		Digit 7 – 10							
		DOL	YΔ	WW	304SS	316SS	904L	PE2/PA			
								WW	304SS	316SS	904L
30	380 - 415 / 50 460 / 60	263 610	263 710	5111	8111	6111	7111	5311	8311	6311	7311
	380 / 60	263 660	263 780								
37	380 - 415 / 50 460 / 60	263 611	263 711	5111	8111	6111	7111	5311	8311	6311	7311
	380 / 60	263 661	263 781								
45	380 - 415 / 50 460 / 60	263 612	263 712	5111	8111	6111	7111	5311	8311	6311	7311
	380 / 60	263 662	263 782								
52	380 - 415 / 50 460 / 60	263 260	263 270	5111	8111	6111	7111	5311	8311	6311	7311
	380 / 60	263 310	263 360								
55	380 - 415 / 50 460 / 60	263 613	263 713	5111	8111	6111	7111	5311	8311	6311	7311
	380 / 60	263 663	263 783								
60	380 - 415 / 50 460 / 60	263 261	263 271	5111	8111	6111	7111	5311	8311	6311	7311
	380 / 60	263 311	263 361								
67	380 - 415 / 50 460 / 60	263 262	263 272	5111	8111	6111	7111	5311	8311	6311	7311
	380 / 60	263 312	263 362								
75	380 - 415 / 50 460 / 60	263 614	263 714	5111	8111	6111	7111	5311	8311	6311	7311
	380 / 60	263 664	263 784								
83	380 - 415 / 50 460 / 60	263 263	263 273	5111	8111	6111	7111	5311	8311	6311	7311
	380 / 60	263 313	263 363								
93	380 - 415 / 50 460 / 60	263 615	263 715	5111	8111	6111	7111	5311	8311	6311	7311
	380 / 60	263 665	263 785								

8REW MOTOR - 3-PHASE - MOTOR MODEL NO. | WW | 304SS | 316SS | 904L | 500 V

P_N [kW]	U_N [V] / f [Hz]	Digit 1 – 6		Digit 7 – 10							
		DOL	YΔ	WW	304SS	316SS	904L	PE2/PA			
								WW	304SS	316SS	904L
30	500/ 50	263 620	263 790	5111	8111	6111	7111	5311	8311	6311	7311
37	500/ 50	263 621	263 791	5111	8111	6111	7111	5311	8311	6311	7311
45	500/ 50	263 622	263 792	5111	8111	6111	7111	5311	8311	6311	7311
52	500/ 50	263 240	263 340	5111	8111	6111	7111	5311	8311	6311	7311
55	500/ 50	263 623	263 793	5111	8111	6111	7111	5311	8311	6311	7311
60	500/ 50	263 241	263 341	5111	8111	6111	7111	5311	8311	6311	7311
67	500/ 50	263 242	263 342	5111	8111	6111	7111	5311	8311	6311	7311
75	500/ 50	263 624	263 794	5111	8111	6111	7111	5311	8311	6311	7311
83	500/ 50	263 243	263 343	5111	8111	6111	7111	5311	8311	6311	7311
93	500/ 50	263 625	263 795	5111	8111	6111	7111	5311	8311	6311	7311

VFD operation is only allowed up to 460V supply voltage. For higher voltages, please consult Franklin Electric.
WW - Water well design (brackets CI powder coated)

8" REWINDABLE MOTOR

8REW MOTOR - 3-PHASE - MOTOR 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	0	380	2880	63	300	83.5	84.4	83.1	0.89	0.88	0.89	99	126
		400	2900	60	318	83.6	85	84.3	0.8	0.86	0.89	99	141
		415	2910	58	332	83.5	85.2	84.9	0.77	0.89	0.88	98	151
		500	2880	48	228	84	84	83	0.84	0.88	0.89	0	0
37	45000	380	2890	79	378	84.6	85.3	83.9	0.8	0.86	0.88	122	156
		400	2900	76	400	83.9	85.2	84.6	0.74	0.82	0.86	122	176
		415	2910	75	412	82.6	84.5	84.3	0.7	0.8	0.84	121	190
		500	2890	60	287	85	85	84	0.8	0.86	0.88	0	0
45	45000	380	2900	93	491	85.8	86.4	85.2	0.79	0.86	0.88	149	218
		400	2910	90	520	85.3	86.5	85.9	0.74	0.82	0.86	148	241
		415	2910	89	541	84.5	86.2	85.8	0.69	0.79	0.84	148	263
		500	2905	73	393	85	87	86	0.74	0.82	0.86	0	0
		1000	2910	35	208	85	88	87	0.81	0.87	0.89	0	0
52	45000	380	2900	107	575	86.5	86.7	85.3	0.81	0.87	0.89	175	284
		400	2910	103	608	86.4	87.1	86.2	0.76	0.84	0.87	175	318
		415	2920	101	633	85.6	87	86.7	0.71	0.8	0.85	174	345
		500	2915	84	437	87	87	85	0.81	0.87	0.85	170	338
55	45000	380	2900	114	624	86.5	86.9	85.7	0.78	0.85	0.88	182	301
		400	2915	110	660	85.9	87	86.4	0.72	0.82	0.86	181	340
		415	2920	109	688	84.8	86.4	86.2	0.67	0.78	0.83	181	366
		500	2910	88	474	86	87	86	0.78	0.85	0.86	0	0
		1000	2910	45	250	76	87	86	0.76	0.83	0.87	181	301
60	45000	380	2900	122	698	87.2	87.6	86.5	0.81	0.87	0.89	198	319
		400	2910	116	725	86.8	87.7	87	0.77	0.84	0.88	197	357
		415	2920	115	768	86.1	87.4	87.1	0.73	0.82	0.86	197	387
		500	2910	93	530	86	87	86	0.78	0.85	0.88	0	0
		1000	2920	46	300	87	88	87	0.77	0.84	0.88	0	0
67	45000	380	2900	137	759	87.2	87.6	86.4	0.79	0.86	0.89	220	352
		400	2910	133	797	86.5	87.5	86.9	0.74	0.82	0.86	220	395
		415	2920	131	828	85.6	87	86.6	0.69	0.79	0.84	219	427
		500	2900	104	576	87	88	86	0.79	0.86	0.89	220	392
		1000	2910	52	330	87	88	87	0.74	0.82	0.86	0	0
75	45000	380	2900	154	892	86.7	87.1	85.9	0.79	0.86	0.89	247	419
		400	2910	148	942	86.2	87.3	86.7	0.74	0.83	0.87	246	472
		415	2920	147	982	85.4	86.9	86.6	0.69	0.79	0.84	245	510
		500	2910	118	678	87	87	86	0.79	0.86	0.86	246	472
		1000	2910	60	377	74	83	87	0.86	0.87	0.87	246	472
83	45000	380	2910	166	1019	87.8	88.3	87.2	0.81	0.87	0.9	275	483
		400	2920	160	1077	87.5	88.4	87.6	0.77	0.84	0.88	273	544
		415	2925	156	1120	87.2	88.4	88	0.73	0.82	0.86	273	586
		500	2915	128	775	88	88	87	0.81	0.87	0.88	0	0
93	45000	380	2910	188	1186	87.8	88.4	87.5	0.77	0.85	0.88	306	557
		400	2920	183	1276	87.2	88.3	87.8	0.71	0.81	0.86	305	626
		415	2930	184	1308	86.2	87.8	87.7	0.65	0.76	0.83	305	676
		500	2910	144	902	88	88	87	0.77	0.85	0.87	0	0
		1000	2920	73.7	508	87	88	88	0.72	0.8	0.85	304	622

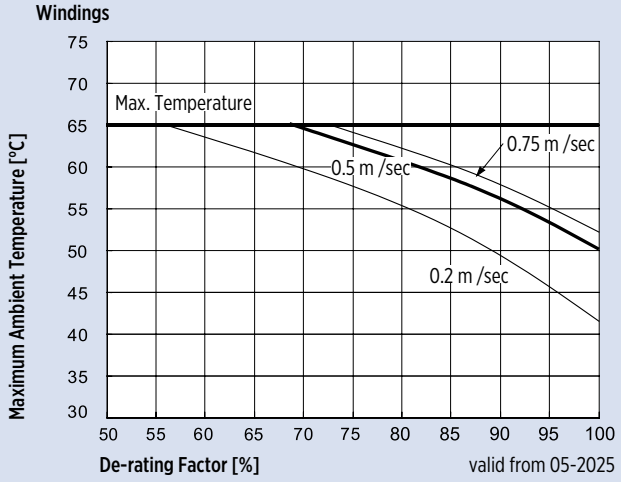
8" REWINDABLE MOTOR

8REW MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 60 HZ

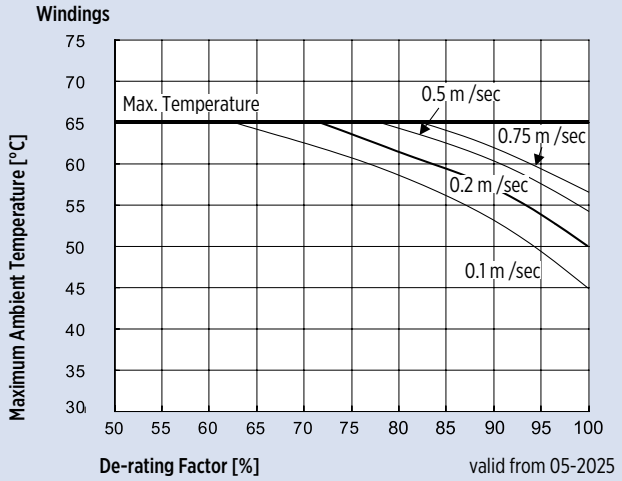
P_N [kW]	P_{MAX} [kW]	Thrust F [N]	U_N [V]	n_N [min^{-1}]	I_{MAX} [A]	I_N [A]	η (Eff.) at % load			cos φ (Pf.) at % load			T_N [Nm]	T_A [Nm]
							50	75	100	50	75	100		
30	34.5	45000	380	3500	74	394	82.4	84.6	84.5	0.8	0.86	0.88	99	141
			460	3490	61	324	81.5	83.6	83.5	0.82	0.87	0.89	99	130
37	42.6	45000	380	3510	92	514	83	85.2	85.4	0.72	0.81	0.85	122	178
			460	3490	75	407	83.8	85.3	84.8	0.77	0.84	0.87	123	162
45	51.8	45000	380	3500	108	660	83.6	85.7	85.8	0.73	0.81	0.86	149	240
			460	3500	89	524	85	86.6	86.3	0.77	0.84	0.87	149	221
52	59.5	45000	380	3510	125	765	85.4	87	86.9	0.75	0.83	0.87	175	300
			460	3505	102	606	85	86.6	86.2	0.79	0.86	0.88	175	276
55	63	45000	380	3510	132	842	84.4	86.5	86.5	0.71	0.8	0.87	182	321
			460	3510	109	657	85.8	87.1	86.7	0.77	0.84	0.87	181	287
60	69	45000	380	3510	141	931	86.2	87.7	87.7	0.77	0.84	0.87	198	362
			460	3510	116	734	85.4	86.9	86.7	0.8	0.86	0.88	198	332
67	77	45000	380	3520	142	1037	84.4	86.4	86.7	0.73	0.82	0.84	220	396
			460	3510	131	803	85.7	87.2	86.9	0.77	0.85	0.87	220	366
75	86	45000	380	3510	175	1143	86.3	87.8	87.4	0.77	0.85	0.88	247	427
			460	3510	145	947	86.3	87.8	87.4	0.77	0.85	0.88	247	427
83	95	45000	380	3510	191	1377	86	88	88	0.75	0.83	0.89	274	532
			460	3510	158	1090	86.5	87.9	87.7	0.8	0.86	0.89	275	489
93	107	45000	380	3510	218	1586	88	88.6	88.4	0.77	0.83	0.87	306	613
			460	3510	180	1256	86.7	88.3	88.3	0.76	0.83	0.87	306	561

8REW MOTOR - 3-PHASE - DERATING CURVES

De-rating of 8" rewindable motors | 55 - 93 kW



De-rating of 8" rewindable motors | 30 - 52 kW



If these conditions are not met please contact Franklin Electric.

8" REWINDABLE MOTOR

8REW MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 380 – 415 V | 50 HZ | PPC

PPC insulation windings (380 – 415 V | 50 Hz)

P_N [kW]	model no. winding kit	turns per coil	wire diameter [mm]	type of isolation	group connection	total wire length [m]	resistance coil [Ω]	resistance YD (U1-U2) [Ω]	resistance DOL (U1-V1) [Ω]
30	326 349 999	9+10+9+10	2,2 / 3,1	PPC	Series	450,00	0,2640	0,5400	0,3700
37	326 101 999	17+17+17+17	1,6 / 2,4	PPC	Parallel	630,00	0,8930	0,4750	0,3110
45	326 110 999	14+14+14+14	1,8 / 2,6	PPC	Parallel	582,48	0,6545	0,3480	0,2350
52	326 120 999	12+12+12+12	1,9 / 2,7	PPC	Parallel	655,00	0,5695	0,3130	0,1900
55	326 119 999	11+12+11+12	2,0 / 2,9	PPC	Parallel	542,40	0,4925	0,2720	0,1730
60	326 129 999	10+10+10+10	2,2 / 3,1	PPC	Parallel	536,40	0,4024	0,2170	0,1430
67	326 128 999	9+10+9+10	2,2 / 3,1	PPC	Parallel	510,48	0,3823	0,2090	0,1390
75	326 135 999	8+9+8+9	1,6 / 2,4 2DR.II	PPC	Parallel	990,72	0,3503	0,1930	0,1240
83	326 142 999	7+8+7+8	1,7 / 2,5 2DR.II	PPC	Parallel	1008,00	0,3159	0,1670	0,1053
93	326 141 999	7+7+7+7	1,8 / 2,6 2DR.II	PPC	Parallel	943,20	0,2630	0,1400	0,0940

8REW MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 380 – 415 V | 50 HZ | PE2/PA

PE2/PA insulation windings (380 – 415 V | 50 Hz)

P_N [kW]	model no. winding kit	turns per coil	wire diameter [mm]	type of isolation	group connection	total wire length [m]	resistance coil [Ω]	resistance YD (U1-U2) [Ω]	resistance DOL (U1-V1) [Ω]
30	326 514 999	9+10+9+10	2,0 / 3,1	PE2/PA	Series	360	0,3212	0,6424	0,4282
37	326 239 999	8+9+8+9	2,0 / 3,1	PE2/PA	Series	315	0,2874	0,5748	0,3832
45	326 248 999	14+14+14+14	1,6 / 2,6	PE2/PA	Parallel	582	0,8283	0,4141	0,2761
52	326 259 999	12+12+12+12	1,7 / 2,7	PE2/PA	Parallel	565	0,7113	0,3556	0,2371
55	326 258 999	11+12+11+12	1,9 / 2,9	PE2/PA	Parallel	542	0,5457	0,2728	0,1819
60	326 269 999	10+10+10+10	2,0 / 3,1	PE2/PA	Parallel	536	0,4868	0,2434	0,1622
67	326 268 999	9+10+9+10	2,0 / 3,1	PE2/PA	Parallel	510	0,4625	0,2312	0,1541
75	326 275 999	8+9+8+9	2,0 / 3,1	PE2/PA	Parallel	495	0,4483	0,2241	0,1494
83	326 283 999	7+8+7+8	1,5 / 2,5 2DR.II	PE2/PA	Parallel	1008	0,4057	0,2028	0,1352
93	326 282 999	7+7+7+7	1,6 / 2,6 2DR.II	PE2/PA	Parallel	943	0,3328	0,1664	0,1109

8REW MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 500V | 50 HZ | PE2/PA

PE2/PA insulation windings (500 V | 50 Hz)

P_N [kW]	model no. winding kit	turns per coil	wire diameter [mm]	type of isolation	group connection	total wire length [m]	resistance coil [Ω]
37	326 240 999	10+11+10+11	1,9 / 2,7 / 2,9	PE2/PA	Series	387	0,3934
45	326 250 999	9+9+9+9	2,0 / 2,9 / 3,1	PE2/PA	Series	371	0,3408
55	326 260 999	14+15+14+15	1,6 / 2,4 / 2,6	PE2/PA	Parallel	679	0,9703
67	326 270 999	12+12+12+12	1,7 / 2,5 / 2,7	PE2/PA	Parallel	640	0,8087
75	326 277 999	10+11+10+11	1,9 / 2,7 / 2,9	PE2/PA	Parallel	607	0,6137
93	326 284 999	9+9+9+9	2,0 / 2,9 / 3,1	PE2/PA	Parallel	601	0,5478

8" REWINDABLE MOTOR

8REW MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 380V | 60 HZ | PE2/PA

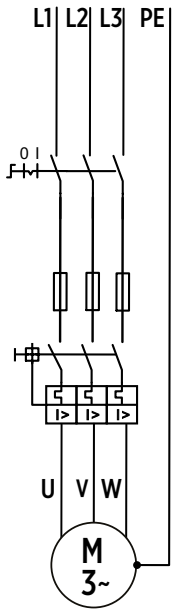
PE2/PA insulation windings (380 V | 60 Hz)							
P_N [kW]	model no. winding kit	turns per coil	wire diameter [mm]	type of isolation	group connection	total wire length [m]	resistance coil [Ω]
37	326 237 999	13+14+13+14	1,7 / 2,5 / 2,7	PE2/PA	Parallel	504	0,6318
45	326 246 999	11+11+11+11	1,9 / 2,7 / 2,9	PE2/PA	Parallel	461	0,4616
52	326 585 999	9+10+9+10	2,0 / 2,9 / 3,1	PE2/PA	Parallel	451	0,4125
55	326 256 999	9+9+9+9	2,0 / 2,9 / 3,1	PE2/PA	Parallel	428	0,3855
60	326 586 999	8+8+8+8	1,5 / 2,3 / 2,5	PE2/PA	Parallel	865	0,3473
67	326 266 999	7+8+7+8	1,5 / 2,3 / 2,5	PE2/PA	Parallel	813	0,3246
75	326 273 999	6+7+6+7	1,7 / 2,5 / 2,7	PE2/PA	Parallel	766	0.2373
83	327 153 999	6+6+6+6	1,8 / 2,6 / 2,8	PE2/PA	Parallel	994	0.224
93	326 280 999	5+6+5+6	1,9 / 2,7 / 2,9	PE2/PA	Parallel	748	0.1854

8REW MOTOR - 3-PHASE - INSULATION RESISTANCE DATA | 20 °C | 500 VDC

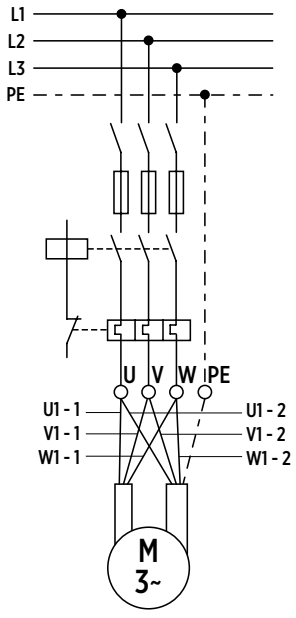
insulation resistance (20 °C | 500 VDC)		
new motor without drop cable	400 >	MΩ
used motor without drop cable	20 >	MΩ
new motor with drop cable	4 >	MΩ
used motor with drop cable	1	MΩ

8REW MOTOR - 3-PHASE - CONNECTIONS

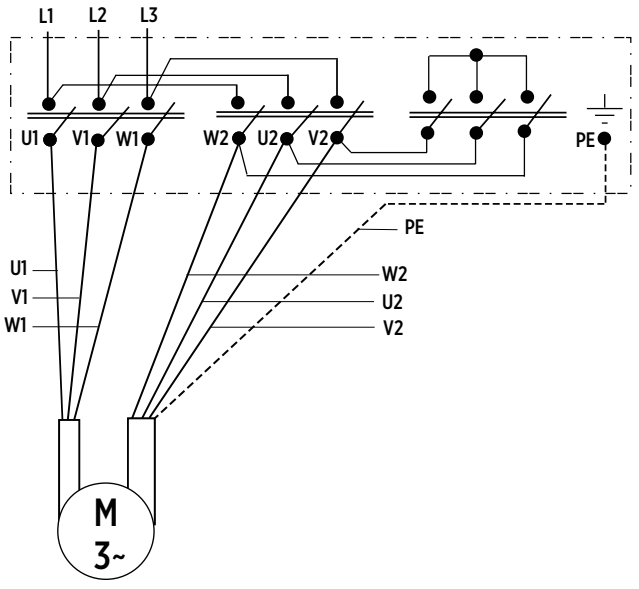
DOL



DOL II



YΔ



U = black (BK) | W = brown (BN) | V = grey (GY) | PE = yellow/green (YE/GN)

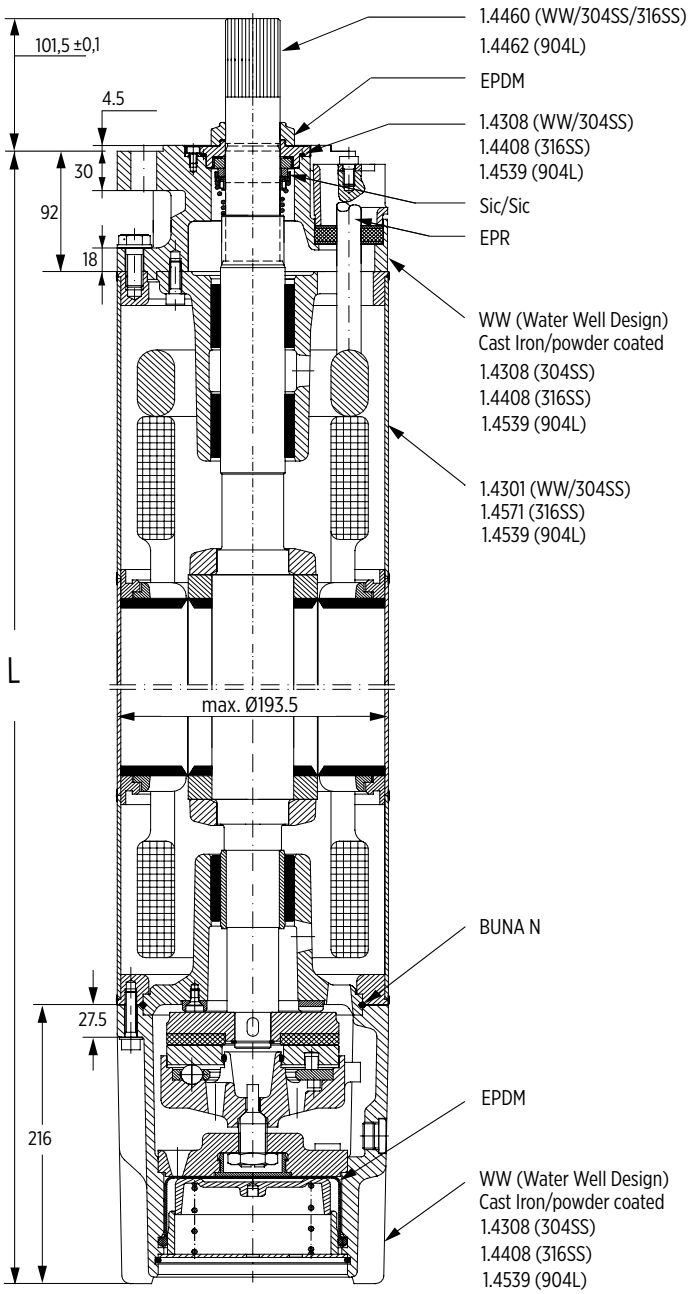
8" REWINDABLE MOTOR

8REW MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | WW | 316SS | 904L

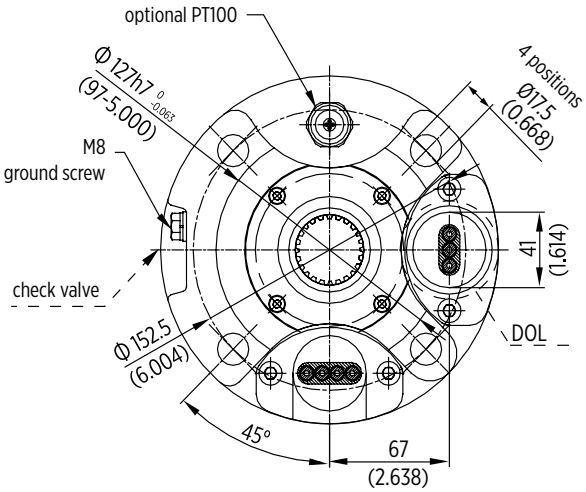
P_N [kW]	motor length L [mm]	weight [kg]		motor shipping size [mm]		
		motor [kg]	incl. motor box [kg]	B	H	L
30	1140	140	169	301	448	1596
37	1140	140	169			
45	1230	156	185			
52	1340	179	208			
55	1340	179	208			
60	1470	198	235	301	448	1996
67	1470	198	235			
75	1560	215	252			
83	1740	247	284			
93	1740	247	284			

8" REWINDABLE MOTOR

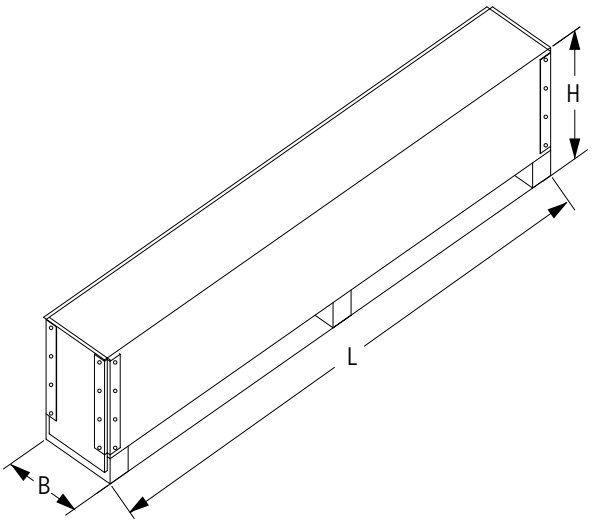
8REW MOTOR - 3-PHASE - MATERIALS | WW | 304SS | 316SS | 904L



End bell, upper

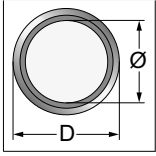


motor box



8" REWINDABLE MOTOR

8REW MOTOR - 3-PHASE - GROUND LEADS | WW | 304SS | 316SS

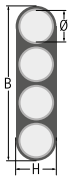
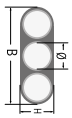
ground lead (optional)	P_N [kW]	Ø [mm²]	D [mm]	length [m]	qty..	model no.
	all ratings	1G25	13,0 (±0,3)	8	1	308 053 080

8REW MOTOR - 3-PHASE - LEAD OPENING SEAL KIT | DOL | YΔ

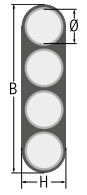
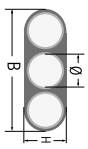
lead opening seal kit	WW | 304SS | 316SS	904L
30 – 93 kW - DOL | YΔ	308 660 617	308 660 625

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

8REW MOTOR - 3-PHASE - MOTOR LEADS | WW | 304SS | 316SS | 904L | DOL

DOL	P_N [kW]	Ø [mm²]	H x W [mm]		length [m]	qty..	model no.	lead seal kit WW | 304SS | 316SS	lead seal kit 904L
	30 – 45	4G10	B	30	30	16	308 710 107	308 660 612	308 660 619
			H	10.5					
	52 – 93	4G16	B	38	6	1	308 710 108	308 660 618	308 660 620
			H	12.8					
	93 (PE2/PA)	3X25	B	37.5	6	1	308 710 109	308 660 613	308 660 621
			H	16					

8REW MOTOR - 3-PHASE - MOTOR LEADS | WW | 304SS | 316SS | 904L | YΔ

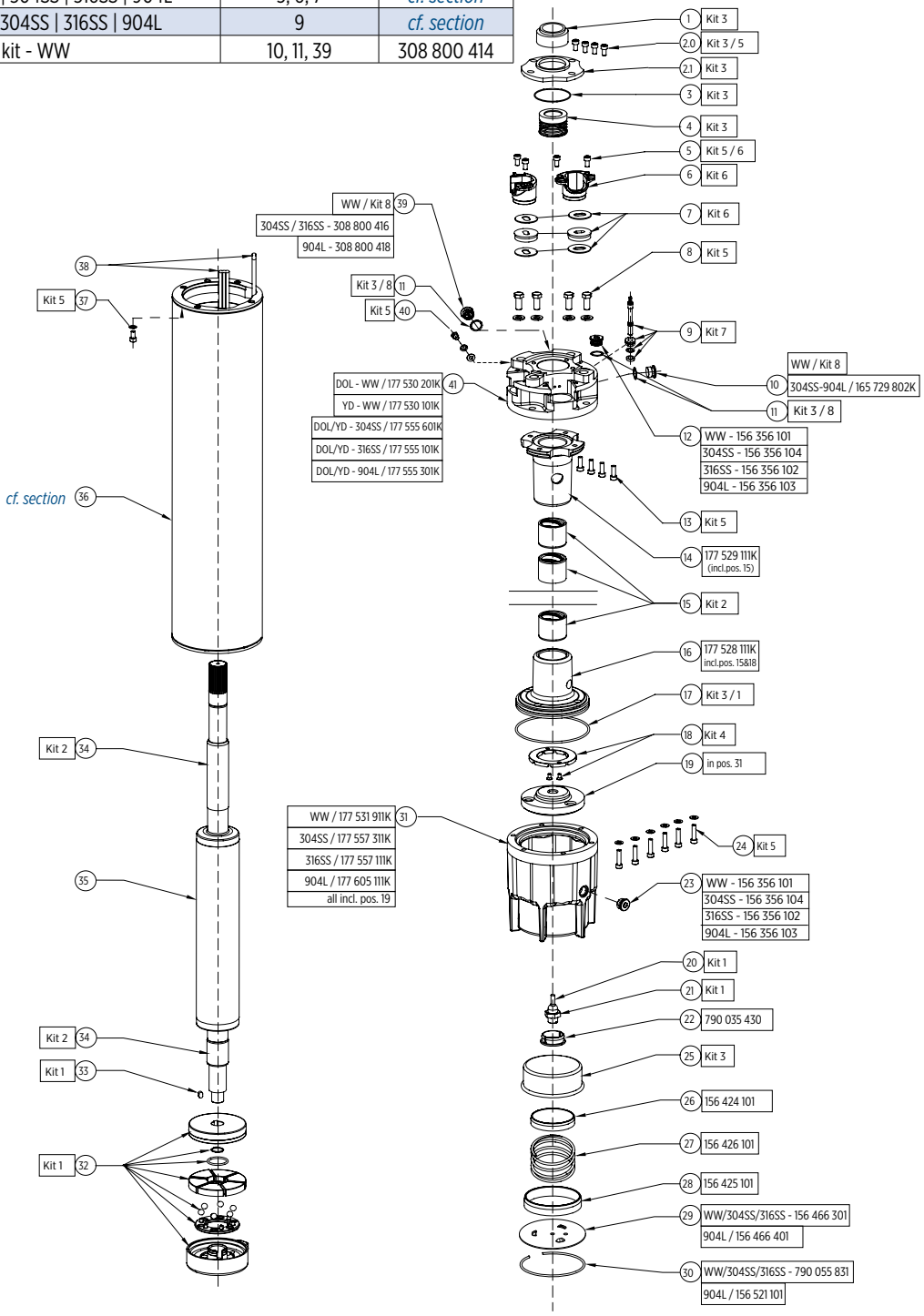
YΔ	P_N [kW]	Ø [mm²]	H x W [mm]		length [m]	qty..	model no.	lead seal kit WW | 304SS | 316SS	lead seal kit 904L
	30 - 60	3X6	B	19.5	6	1	308 710 110	308 660 614	308 660 622
			H	9.5					
		4G6	B	25		1			
			H	9					
	65 - 83	3X10	B	24.5	6	1	308 710 111	308 660 615	308 660 623
			H	11.5					
		4G10	B	30		1			
			H	10.5					
	93	3X16	B	30.3	6	1	308 710 112	308 660 616	308 660 624
			H	13.2					
		4G16	B	38		1			
			H	12.8					

For PE2/PA motors, the special tape 700 541 688 is also required.

8" REWINDABLE MOTOR

8REW MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | WW | 304SS | 316SS | 904L

Kit	description	included positions	part no.
Kit 1	thrust bearing kit - WW | 304SS | 316SS | 904L	17, 20, 21, 32, 3	308 750 601
Kit 2	radial bearing kit - WW | 304SS | 316SS | 904L	15, 34	308 751 601
Kit 3	seal kit - WW | 304SS | 316SS	1-4, 11, 17, 25	308 800 603
	seal kit | 904L		308 800 604
Kit 4	up-thrust bearing kit - WW | 304SS | 316SS | 904L	18	308 751 602
Kit 5	screw kit - WW | 316SS	2.0, 5, 8, 13, 24, 37, 40	308 660 601
	screw kit - 904L		308 660 602
Kit 6	lead seal kit - WW | 304SS | 316SS | 904L	5, 6, 7	*cf. section*
Kit 7	PT100 kit - WW | 304SS | 316SS | 904L	9	*cf. section*
Kit 8	valve kit - WW	10, 11, 39	308 800 414



8" REWINDABLE MOTOR

8REW MOTOR - 3-PHASE - STATOR AND ROTOR | WW | 304SS | 316SS

P_N [kW]	stator (incl. windings and 6 m motor lead)				rotor
	DOL PPC	DOL PE2/PA	YΔ PPC	YΔ PE2/PA	
30	326 349 931	326 514 931	326 349 981	326 514 981	161 580 801K
37	326 101 931	326 239 931	326 101 981	326 239 981	161 580 801K
45	326 110 931	326 248 931	326 110 981	326 248 981	161 580 802K
52	326 120 931	326 259 931	326 120 981	326 259 981	161 580 803K
55	326 119 931	326 258 931	326 119 981	326 258 981	161 580 803K
60	326 129 931	326 269 931	326 129 981	326 269 981	161 580 804K
67	326 128 931	326 268 931	326 128 981	326 268 981	161 580 804K
75	326 135 931	326 275 931	326 135 981	326 275 981	161 580 805K
83	326 142 931	326 283 931	326 142 981	326 283 981	161 580 806K
93	326 141 931	326 282 931	326 141 981	326 282 981	161 580 806K

8REW MOTOR - 3-PHASE - STATOR AND ROTOR | 904L

P_N [kW]	stator (incl. windings and 6 m motor lead)				rotor
	DOL PPC	DOL PE2/PA	YΔ PPC	YΔ PE2/PA	
30	326 349 921	326 514 921	326 349 971	326 514 971	161 580 811K
37	326 101 921	326 239 921	326 101 971	326 239 971	161 580 811K
45	326 110 921	326 248 921	326 110 971	326 248 971	161 580 812K
52	326 120 921	326 259 921	326 120 971	326 259 971	161 580 813K
55	326 119 921	326 258 921	326 119 971	326 258 971	161 580 813K
60	326 129 921	326 269 921	326 129 971	326 269 971	161 580 814K
67	326 128 921	326 268 921	326 128 971	326 268 971	161 580 814K
75	326 135 921	326 275 921	326 135 971	326 275 971	161 580 815K
83	326 142 921	326 283 921	326 142 971	326 283 971	161 580 816K
93	326 141 921	326 282 921	326 141 971	326 282 971	161 580 816K

10" REWINDABLE MOTOR

FEATURES & BENEFITS

- 10" Double-flange mounting design
- Stainless steel keyed shaft
- VFD operation up to a rated voltage of 460 V (in compliance with the application guidelines in the motor operating instructions and the VFD manufacturer). For VFD operation with higher voltages, please consult Franklin Electric.
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- 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)
- Drinking water approvals

STANDARD SPECIFICATION

- Ratings: 85-185 kW
- Thrust load: 60 kN
- Max. storage temperature: -15 °C - +60 °C
- Nominal ambient temperature: 45 °C (with 0.5 m/s cooling flow)
- Standard voltage: 380-415 V (50 Hz), 460 V (60 Hz)
- Voltage tolerance UN: 50 Hz: -10 % / +6 % UN [380-415 V = (380 - 10 %) – (415 + 6 %)] 60 Hz: ±10 % UN
- Standard motor with PPC winding insulation
- protection IP68
- Protection requirements: DIN/EN 61947-4-1
- Frequency of starts: 10 starts/ hour (with min. 3 minutes resting time), equally distributed
- DOL / YΔ-start (pos. of cables 90 °)
- Motor lead length: 6 m
- All motors with factory installed leads
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)

OPTIONS

- Higher-graded material: WW, 304SS, 316SS, 904L
- Special voltages
- Retrofitable PT 100 temperature sensor
- Special lead lengths
- PE2/PA winding insulation for max. ambient temperature of 50 °C (Standard cooling flows)

Best class winding wires in rewindable motors

The rewindable motors are equipped with best class winding wires.
The windings can easily be replaced.
The Franklin motors are factory filled with
Franklin's FES non-toxic water soluble fill solution.



SAND FIGHTER | WATER WELL WW CI PC / 304SS | STAINLESS STEEL 304 | STAINLESS STEEL 316 | STAINLESS STEEL 904L

10" REWINDABLE MOTOR

10REW MOTOR - 3-PHASE - MOTOR MODEL NO. | WW | 304SS | 316SS | 904L

P_N [kW]	U_N / f [V] / [Hz]	Digit 1 – 6		Digit 7 – 10							
				PPC				PE2/PA			
		DOL	YΔ	WW	304SS	316SS	904L	WW	304SS	316SS	904L
85	380 - 415 / 50 460 / 60	264 131	264 231	5111	811	6111	7111	5311	8311	6311	7311
	380 / 60	264 661	264 761								
110	380 - 415 / 50 460 / 60	264 133	264 233	5111	811	6111	7111	5311	8311	6311	7311
	380 / 60	264 663	264 763								
130	380 - 415 / 50 460 / 60	264 134	264 234	5111	811	6111	7111	5311	8311	6311	7311
	380 / 60	264 664	264 764								
150	380 - 415 / 50 460 / 60	264 135	264 235	5111	811	6111	7111	5311	8311	6311	7311
	380 / 60	264 665	264 765								
185	380 - 415 / 50 460 / 60	264 136	264 236	5111	811	6111	7111	5311	8311	6311	7311
	380 / 60		264 766								

VFD operation is only allowed up to 460V supply voltage. For higher voltages, please consult Franklin Electric.
WW - Water well design (brackets CI powder coated)

YOUTUBE VIDEOS AND TUTORIALS



8"/10"/12" rewindable motors
Franklin Electric



Tutorial 8-10REW PT100 installation
(sensor design starting 08-2025)

10" REWINDABLE MOTOR

10REW MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 50 HZ

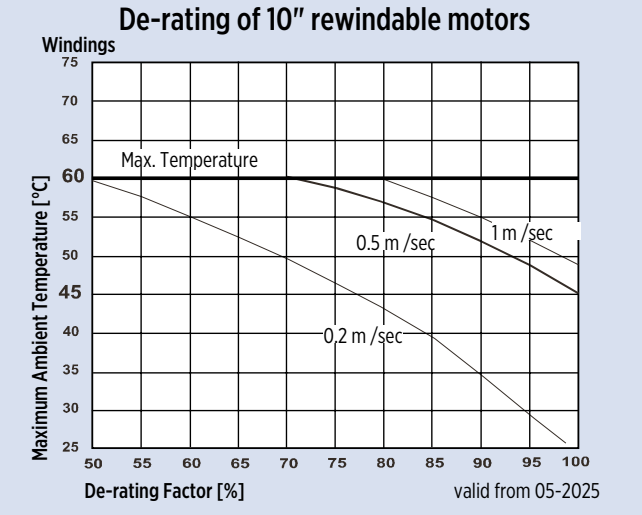
P_N [kW]	Thrust F [N]	U_N [V]	n_N [min^{-1}]	I_N [A]	I_A [A]	η (Eff.) at % load			cos φ (Pf.) at % load			T_N [Nm]	T_A [Nm]
						50	75	100	50	75	100		
85	60000	380	2890	179	783	85	86	85	0.78	0.85	0.87	281	282
		400	2900	174	828	83	85	85	0.72	0.81	0.85	280	316
		415	2910	171	863	83	85	85	0.68	0.78	0.83	279	342
		500	2890	136	595	84	85	84	0.78	0.84	0.87	281	282
		525	2900	133	631	83	85	85	0.72	0.81	0.85	280	316
		1000	2900	68	331	83	85	85	0.72	0.81	0.85	280	316
110	60000	380	2910	235	1095	86	87	86	0.72	0.81	0.85	361	418
		400	2920	232	1158	84	86	86	0.65	0.76	0.82	360	467
		415	2920	233	1206	83	85	86	0.59	0.71	0.79	360	507
		500	2910	180	875	86	87	86	0.69	0.79	0.83	360	432
		525	2920	179	923	85	86	86	0.62	0.73	0.8	359	482
		1000	2920	89	463	84	86	86	0.65	0.76	0.82	360	467
130	60000	380	2900	266	1271	88	88	87	0.79	0.85	0.87	428	487
		400	2920	256	1344	87	88	88	0.74	0.82	0.86	425	546
		415	2920	255	1400	87	88	87	0.69	0.78	0.83	425	592
		500	2900	202	966	87	88	87	0.79	0.85	0.87	428	487
		525	2920	195	1024	87	88	87	0.73	0.81	0.85	425	546
		1000	2910	104	523	87	88	87	0.76	0.83	0.86	426	516
150	60000	380	2910	307	1502	87	87	86	0.79	0.85	0.88	492	568
		400	2920	298	1590	86	88	87	0.73	0.81	0.85	491	635
		415	2930	296	1655	86	87	87	0.67	0.77	0.83	489	689
		500	2910	233	1142	87	87	86	0.79	0.85	0.88	492	568
		525	2920	227	1211	86	87	87	0.73	0.81	0.85	491	635
		1000	2920	117	636	86	88	87	0.73	0.81	0.85	491	635
185	60000	380	2900	390	2030	87	88	87	0.72	0.81	0.85	609	913
		400	2920	384	2148	86	88	88	0.64	0.75	0.81	605	1022
		415	2920	389	2237	84	86	86	0.57	0.7	0.79	605	1109
		500	2900	294	1500	87	88	87	0.72	0.81	0.85	610	888
		525	2910	289	1580	86	87	87	0.65	0.76	0.82	607	988
		1000	2900	148	859	87	88	87	0.72	0.81	0.85	609	913

10REW MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 60 HZ

P_N [kW]	P_{MAX} [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		
85	98	60 000	460	3500	172	803	83	85	85	0.76	0.83	0.86	267	281
			380	3510	216	1120	82	84	85	0.69	0.78	0.83	267	325
110	127	60 000	460	3510	225	1160	84	86	86	0.71	0.8	0.84	345	375
			380	3510	273	1430	84	86	86	0.7	0.79	0.84	346	382
130	149	60 000	460	3510	254	1308	86	87	87	0.77	0.84	0.87	408	437
			380	3510	309	1710	85	87	86	0.73	0.82	0.86	408	474
150	173	60 000	460	3510	294	1557	85	87	87	0.77	0.84	0.87	469	508
			380	3510	362	1980	85	87	87	0.75	0.83	0.86	468	535
185	213	60 000	460	3510	377	2130	85	87	87	0.7	0.79	0.84	585	858
			380	3510	448	2690	84	87	87	0.66	0.77	0.87	583	896

10" REWINDABLE MOTOR

10REW MOTOR - 3-PHASE - DERATING CURVES



If these conditions are not met please contact Franklin Electric.

10REW MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 380 – 415 V | PPC

PPC insulation windings Standard 380 – 415V (50 Hz) | 460 V (60 Hz)									
P_N [kW]	model no. winding kit	turns per coil	wire diameter [mm]	type of isolation	group connection	total wire length [m]	resistance coil [Ω]	resistance YD (U1-U2) [Ω]	resistance DOL (U1-V1) [Ω]
85	326 150 999	11+11+11+11	2,5 / 3,6	PVC	Parallel	487,92	0,2825	0,141	0,094
110	326 158 999	8+9+8+9	2,8 / 4,0	PVC	Parallel	426,00	0,1955	0,1080	0,0680
130	326 168 999	7+8+7+8	2,2 / 3,1 2DR.II	PVC	Parallel	849,60	0,1579	0,0789	0,0570
150	326 177 999	6+7+6+7	2,3 / 3,3 2DR.II	PVC	Parallel	809,76	0,1374	0,0730	0,0458
185	326 360 999	5+5+6+5	2,5 / 3,6 2DR.II	PVC	Parallel	736,56	0,1050	0,0570	0,035

10REW MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 380 – 415 V | PE2/PA

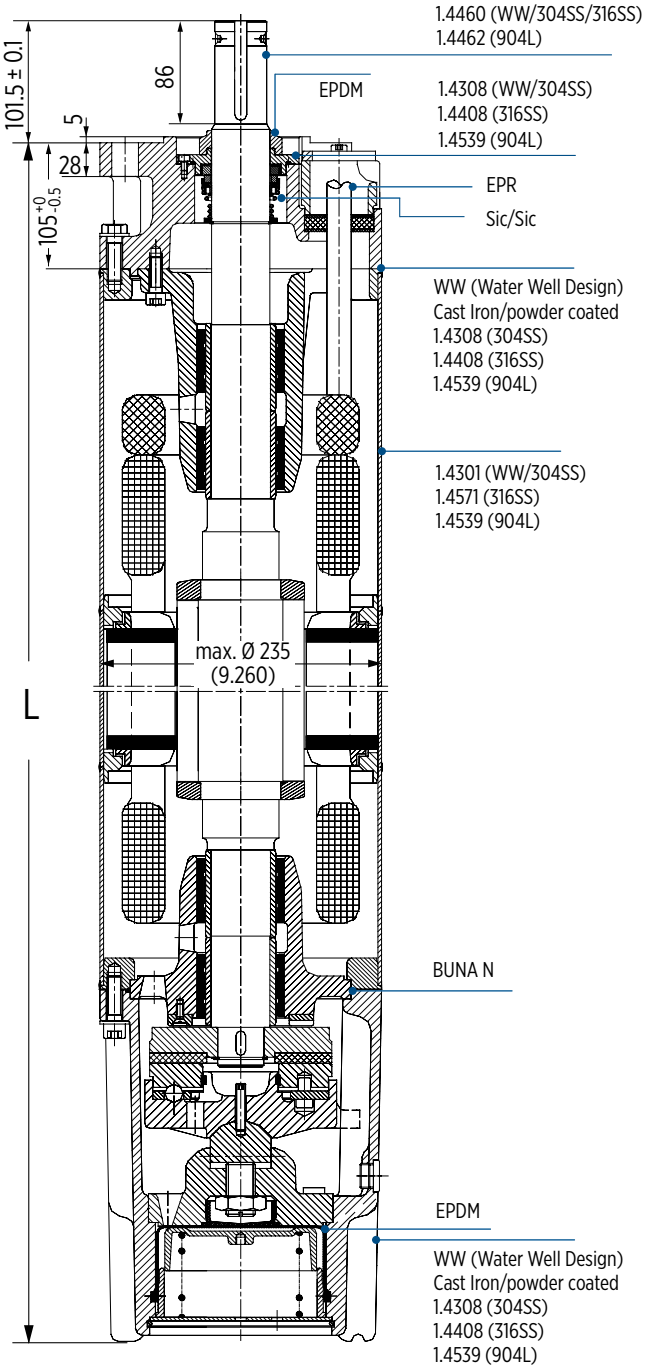
PE2/PA insulation windings Standard 380 – 415V (50 Hz) | 460 V (60 Hz)									
P_N [kW]	model no. winding kit	turns per coil	wire diameter [mm]	type of isolation	group connection	total wire length [m]	resistance coil [Ω]	resistance YD (U1-U2) [Ω]	resistance DOL (U1-V1) [Ω]
85	326 292 999	11+11+11+11	2,3 / 3,5	PE2/PA	Parallel	488	0,3337	0,1668	0,1112
110	326 302 999	8+9+8+9	2,6 / 3,9	PE2/PA	Parallel	426	0,2267	0,1133	0,0755
130	326 314 999	7+8+7+8	2,0 / 3,1 2DR.II	PE2/PA	Parallel	850	0,1910	0,0955	0,0636
150	326 325 999	6+7+6+7	2,1 / 3,3 2DR.II	PE2/PA	Parallel	810	0,1647	0,0823	0,0549
185	326 448 999	5+5+6+5	2,3 / 3,5 2DR.II	PE2/PA	Parallel	735	0,1240	0,0620	0,0413

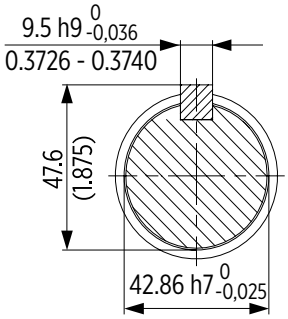
10REW MOTOR - 3-PHASE - INSULATION RESISTANCE DATA | 20 °C | 500 VDC

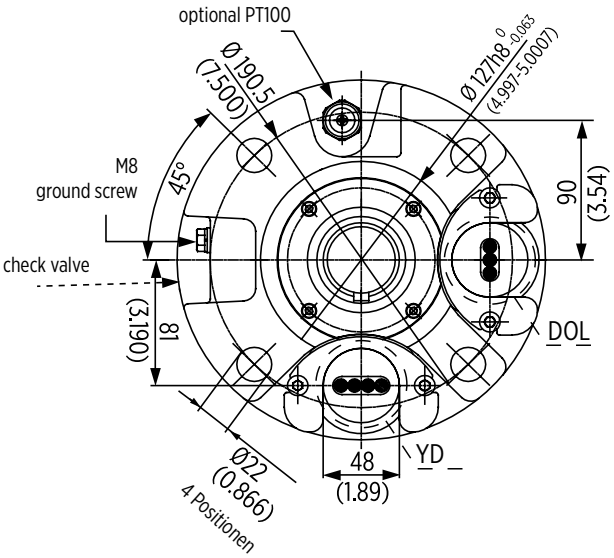
insulation resistance (20 °C | 500 VDC)		
new motor without drop cable	400 >	MΩ
used motor without drop cable	20 >	MΩ
new motor with drop cable	4 >	MΩ
used motor with drop cable	1	MΩ

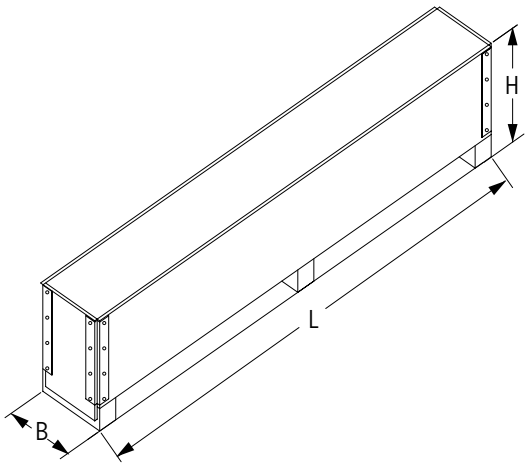
10" REWINDABLE MOTOR

10REW MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | WW | 304SS | 316SS | 904L





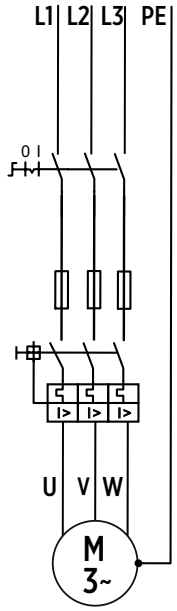
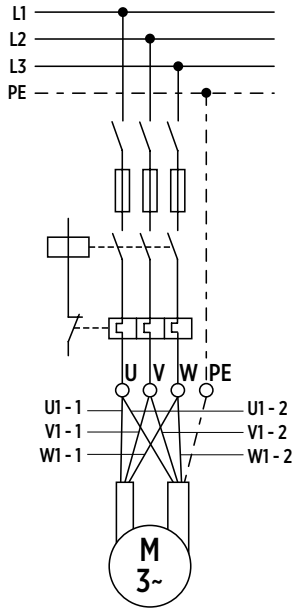
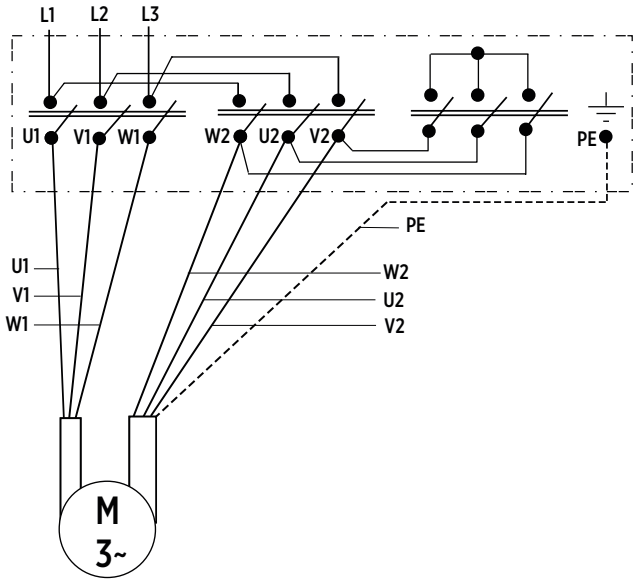




P_N [kW]	motor length L [mm]	weight [kg]		motor shipping size [mm]		
		motor [kg]	incl. motor box [kg]	B	H	L
85	1419	280	326	341	514	1896
110	1529	315	361			
130	1659	362	412	341	514	2246
150	1769	413	463			
185	1919	449	499			

10" REWINDABLE MOTOR

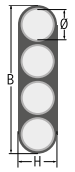
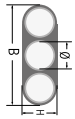
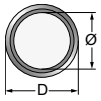
10REW MOTOR - 3-PHASE - CONNECTIONS

DOL	DOL II	YΔ
		

U = black (BK) | W = brown (BN) | V = grey (GY) | PE = yellow/green (YE/GN)

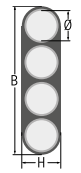
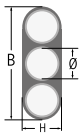
10" REWINDABLE MOTOR

10REW MOTOR - 3-PHASE - MOTOR LEADS | WW | 304SS | 316SS | 904L | DOL

lead	P_N [kW]	Ø [mm²]	B / H [mm]		length [m]	qty.	lead model no.	model no. lead seal kit WW | 304SS | 316SS	model no. lead seal kit 904L
	85	4G25	B	44.3	6	1	308 710 116	308 660 720	308 660 724
			H	14.5					
	110 – 130	4G35	B	48.5	6	1	308 710 117	308 660 721	308 660 725
			H	16.5					
	130 - 150 (PE2/PA)	3X50	B	46.5	6	1	308 710 113	308 660 712	308 660 726
			H	19.5					
	185	1X70	D	20.7	6	3	308 711 100	308 660 732	308 660 733

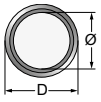
Ground cable (1G35 mm²) in separate order

10REW MOTOR - 3-PHASE - MOTOR LEADS | WW | 304SS | 316SS | 904L | YΔ

lead	P_N [kW]	Ø [mm²]	B / H [mm]		length [m]	qty.	lead model no.	model no. lead seal kit WW | 304SS |316SS	model no. lead seal kit 904L
	85	3X16	B	28.8	6	1	308 710 118	308 660 722	308 660 727
			H	12.2					
		4G16	B	38		1			
			H	12.8					
	110 - 150	3X25	B	37.5	6	1	308 710 114	308 660 713	308 660 728
			H	16					
		4G25	B	44.3		1			
			H	14.5					
	185	4G35	B	48.5	6	1	308 710 121	308 660 723	308 660 729
			H	16.5					
		3X35	B	38.5		1			
			H	16.5					

10REW MOTOR - 3-PHASE - GROUND LEADS | WW | 304SS | 316SS

For PE2/PA motors, the special tape 700 541 688 is essential.

ground lead (optional)*	Ø [mm²]	Size D [mm]	length [m]	qty.	model no.
	1G25	13,0	8	1	308 053 080
	1G35	15.3	6	1	308 056 060

*suitable for WW and 316SS motors

10REW MOTOR - 3-PHASE - LEAD OPENING SEAL KIT | DOL | YΔ

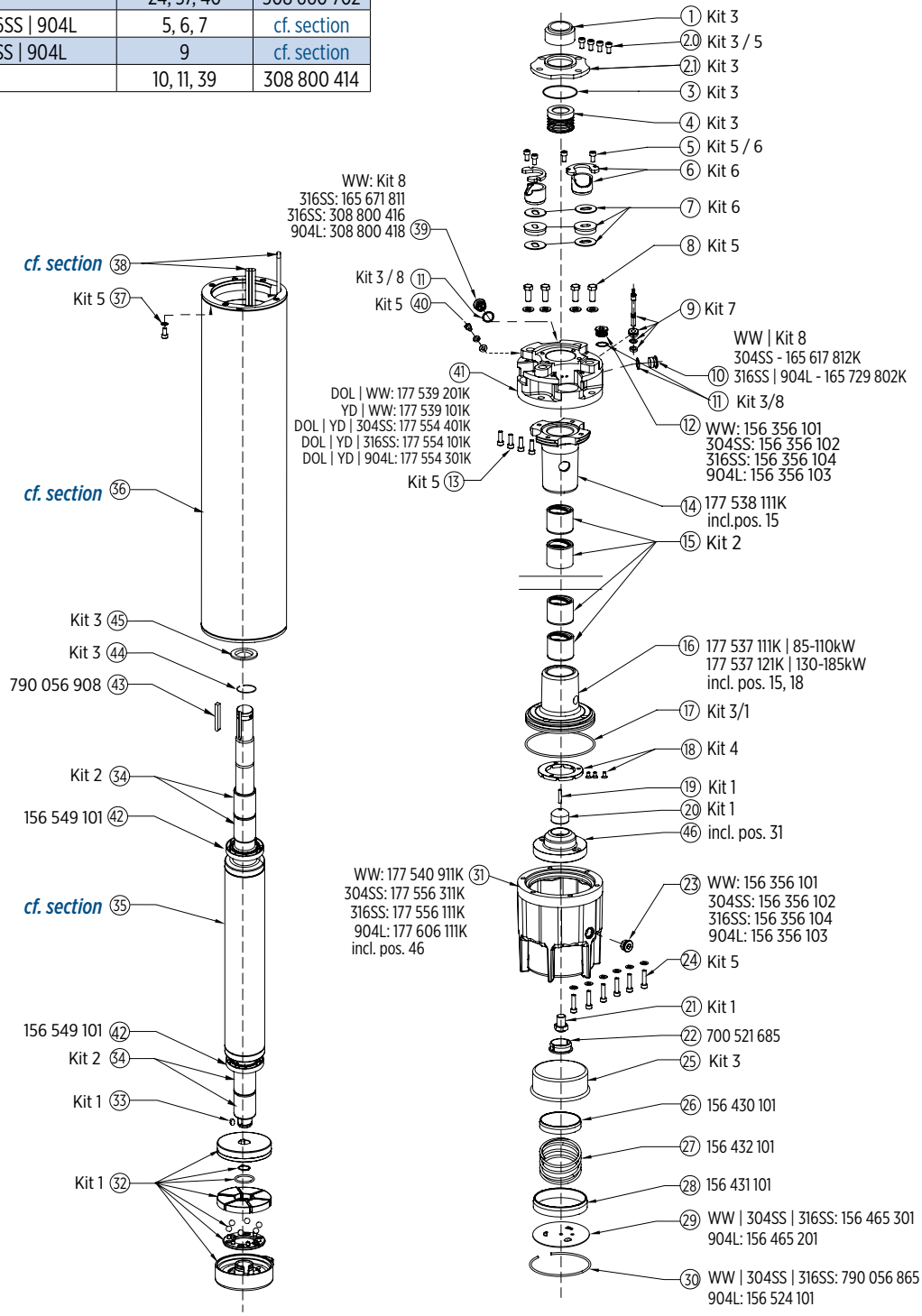
P_N [kW]	material	model no.
85 - 185 kW	WW | 304SS | 316SS	308 660 715
	904L	308 660 730

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

10" REWINDABLE MOTOR

10REW MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | WW | 304SS | 316SS | 904L

Kit	description	included positions	part no.
Kit 1	thrust bearing kit WW | 304SS | 316SS | 904L	17, 20, 21, 32, 33	308 750 701
Kit 2	radial bearing kit WW | 304SS | 316SS | 904L	15, 34	308 751 701
Kit 3	seal kit WW | 304SS | 316SS	1-4, 11, 17, 25	308 800 703
	seal kit 904L	1-4, 11, 17, 25	308 800 704
Kit 4	up-thrust bearing kit WW | 304SS | 316SS | 904L	18	308 751 702
Kit 5	screw kit WW | 304SS | 316SS	2.0, 5, 8, 13, 24, 37, 40	308 660 701
	screw kit 904L		308 660 702
Kit 6	lead seal kit WW | 304SS | 316SS | 904L	5, 6, 7	cf. section
Kit 7	PT100 kit WW | 304SS | 316SS | 904L	9	cf. section
Kit 8	valve kit WW	10, 11, 39	308 800 414



10" REWINDABLE MOTOR

10REW MOTOR - 3-PHASE - STATOR AND ROTOR | WW | 304SS | 316SS | 904L

P_N [kW]	U_N / f [V] / [Hz]	stator (incl. winding and 6 m motor lead)								Rotor
		DOL				YΔ				
		WW | 316SS		904L		WW | 304SS | 316SS		904L		
		PPC	PE2/PA	PPC	PE2/PA	PPC	PE2/PA	PPC	PE2/PA	
85	380 - 415/50 460/60	326 150 931	326 292 931	326 150 921	326 292 921	326 150 981	326 292 981	326 150 971	326 292 971	176 379 801K
110	380 - 415/50 460/60	326 158 931	326 302 931	326 158 921	326 302 921	326 158 981	326 302 981	326 158 971	326 302 971	176 379 802K
130	380 - 415/50 460/60	326 168 931	326 314 931	326 168 921	326 314 921	326 168 981	326 314 981	326 168 971	326 314 971	176 379 803K
150	380 - 415/50 460/60					326 177 981	326 325 981	326 177 971	326 325 971	176 379 804K
185	380 - 415/50 460/60		326 448 931			326 360 981	326 448 981	326 360 971	326 448 971	176 379 805K

12" REWINDABLE MOTOR

FEATURES & BENEFITS

- 12" Double-flange mounting design
- Stainless steel keyed shaft
- VFD operation up to a rated voltage of 460 V (in compliance with the application guidelines in the motor operating instructions and the VFD manufacturer). For VFD operation with higher voltages, please consult Franklin Electric.
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Pressure-equalizing diaphragm
- SandFighter™ sealing system with SIC mechanical seal and sand slinger
- Standard motor: WW- Water well design (stator: 304SS / castings: CI powder coated)
- Drinking water approvals

STANDARD SPECIFICATION

- Ratings: 185-400 kW
- Thrust load: 60 kN
- Max. storage temperature: -15 °C - +60 °C
- Nominal ambient temperature: 30 °C (with 0.5 m/s cooling flow)
- Standard voltage: 380 - 415 V (50 Hz), 460 V (60 Hz), 500 V (50 Hz), 1000 V (50 Hz)
- Voltage tolerance U_N: 50 Hz: -10 % / +6 % U_N [380-415 V = (380 - 10 %) – (415 + 6 %)] 60 Hz: ±10 % U_N
- Standard motor with PE2/PA winding insulation
- protection IP68
- Protection requirements: DIN/EN 61947-4-1
- Frequency of starts: 5 starts/hour (with min. 3 minutes resting time), equally distributed
- DOL-start
- Motor lead length: 6 m
- All motors with factory installed leads
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)



OPTIONS

- Higher-graded material: 316SS
- Special voltages
- Retrofitable PT 100 temperature sensor
- Special lead lengths
- 80 kN Thrust load version

SAND FIGHTER | STAINLESS STEEL 304 | STAINLESS STEEL 316

12" REWINDABLE MOTOR

12REW MOTOR - 3-PHASE - MOTOR MODEL NO. | WW | 316SS

P_N [kW]	U_N [V] / [Hz]	Model Numbers Digit 1 – 6		Model Numbers Digit 7 – 10			
		DOL	YΔ	WW**	316SS	High Thrust 80kN	
						WW**	316SS
185	380 - 415 / 50 460 / 60	265 610	265 710	5011	6011	5111	6111
	500 / 50	265 620	265 790				
	1000 / 50	265 510					
220	380 - 415 / 50 460 / 60	265 611	265 711	5011	6011	5111	6111
	500 / 50	265 621	265 791				
	1000 / 50	265 511					
250	380 - 415 / 50 460 / 60	265 612	265 712	5011	6011	5111	6111
	500 / 50	265 622	265 792				
	1000 / 50	265 512					
300	380 - 415 / 50 460 / 60	265 614	265 714	5011	6011	5111	6111
	500 / 50	265 624	265 794				
	1000 / 50	265 514					
350	380 - 415 / 50 460 / 60		265 716	5011	6011	5111	6111
	500 / 50	265 626	265 796				
	1000 / 50	265 516					
400	380 - 415 / 50 460 / 60		265 717	5011	6011	5111	6111
	500 / 50	265 627	265 797				
	1000 / 50	265 517					

VFD operation is only allowed up to 460V supply voltage. For higher voltages, please consult Franklin Electric.
** WW - Water well design (brackets CI powder coated)

YOUTUBE VIDEOS AND TUTORIALS



8"/10"/12" rewindable motors
Franklin Electric

12" REWINDABLE MOTOR

12REW MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 50 HZ

P_N [kW]	Thrust F [N]	U_N [V]	n_N [min^{-1}]	I_N [A]	I_A/I_N [A]	η (Eff.) [%] at % load			cos φ (Pf.) at % load			T_N [Nm]	T_A/T_N [Nm]
						50	75	100	50	75	100		
185	60000	380	2940	368	4.7	88	88	87	0.82	0.87	0.88	602	0.81
		400	2945	351	5.3	87	88	87	0.79	0.85	0.86	600	0.9
		415	2950	344	5.76	87	88	88	0.76	0.84	0.84	599	0.97
		500	2940	286	5.3	87	88	87	0.79	0.85	0.87	600	0.9
		1000	2945	141	5.3	87	88	87	0.79	0.85	0.86	600	0.9
220	60000	380	2930	448	4.79	88	88	87	0.83	0.87	0.88	716	0.77
		400	2935	430	5.4	88	89	88	0.8	0.86	0.87	714	0.84
		415	2940	427	5.85	88	89	88	0.77	0.85	0.84	712	0.94
		500	2940	334	5.4	88	89	88	0.8	0.86	0.88	714	0.84
		1000	2945	177	5.4	88	89	88	0.8	0.86	0.87	714	0.84
250	60000	380	2930	507	4.7	87	87	86	0.85	0.88	0.85	815	0.85
		400	2935	481	5.2	88	89	88	0.8	0.85	0.8	812	0.95
		415	2940	471	5.6	88	89	88	0.76	0.83	0.76	812	1.02
		500	2935	385	5.2	88	89	88	0.8	0.85	0.88	812	0.95
		1000	2930	193	5.2	88	89	88	0.8	0.85	0.85	812	0.95
300	60000	380	2940	586	4.9	88	89	87	0.87	0.9	0.88	974	0.83
		400	2945	551	5.6	88	89	88	0.85	0.89	0.88	971	0.94
		415	2950	532	6	88	89	88	0.83	0.88	0.89	970	1.03
		500	2945	435	5.6	88	89	88	0.85	0.89	0.88	971	0.94
		1000	2945	217	5.6	88	89	88	0.85	0.89	0.88	971	0.94
350	60000	380	2920	720	4.7	88	88	86	0.85	0.88	0.87	1140	0.8
		400	2930	676	5.2	88	88	87	0.82	0.87	0.88	1137	0.9
		415	2935	652	5.4	87	88	87	0.79	0.86	0.87	1135	0.95
		500	2930	541	5.2	88	88	87	0.82	0.87	0.87	1137	0.9
		1000	2930	270	5.2	88	88	87	0.82	0.87	0.87	1137	0.9
400	60000	380	2920	795	4.2	90	90	89	0.85	0.88	0.87	1306	0.73
		400	2930	750	4.8	90	90	90	0.82	0.87	0.87	1301	0.84
		415	2940	719	5.2	89	90	90	0.8	0.85	0.87	1299	0.92
		500	2930	600	4.8	90	90	90	0.82	0.87	0.87	1301	0.84
		1000	2935	289	4.8	90	90	90	0.82	0.87	0.87	1301	0.84

12REW MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 60 HZ

P_N [kW]	P_{MAX} [kW]	Thrust F [N]	n_N [min^{-1}]	I_{max} [A]	I_A/I_N [A]	η (Eff.) [%] at % load			cos ϕ (Pf.) at % load			T_N [Nm]	T_A/T_N [Nm]
						50	75	100	50	75	100		
185	212	60 000	460	3540	339	0	0	0	0	0	0	0.87	0
220	252	60 000	460	3530	425	5.44	90	91	91	0.81	0.84	0.86	776
250	287	60 000	460	3530	462	5.44	90	91	91	0.81	0.84	0.84	776
300	345	60 000	460	3530	533	5.85	90	91	91	0.85	0.89	0.89	928
350	402	60 000	460	3530	647	5.13	89	90	90	0.83	0.87	0.88	1085
400	460	60 000	460	3520	745	4.79	89	90	90	0.84	0.87	0.87	1243

12" REWINDABLE MOTOR

12REW MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 380 – 415 V | PE2/PA

Insulation Standard Windings 380–415 V | 50 Hz

P_N [kW]	Mod.-No. Winding-kits	Turns per coil	Wire diameter [mm]	Type of Isolation	Group connection	Total Wire length [m]	Resistance coil [Ω]	Resistance YΔ (U1-U2) [Ω]	Resistance DoI (U1-V1) [Ω]
185	327 013 999	6+6+6+6	2,6 / 3,9 (2GrII)	PE2/PA	Parallel Delta	794	0,1061		
220	326 639 999	5+6+5+6	2,7 / 4,1 (2GrII)	PE2/PA	Parallel Delta	770	0,0235		
250	326 639 999	5+6+5+6	2,7 / 4,1 (2GrII)	PE2/PA	Parallel Delta	770	0,0235		
300	326 640 999	4+5+4+5	3,0 / 4,5 (2GrII)	PE2/PA	Parallel Delta	720	0,0178		
350	326 696 999	4+4+4+5	3,0 / 4,5 (2GrII)	PE2/PA	Parallel Delta	706	0,0175		
400	326 641 999	4+4+4+4	3,4 / 5,0 (2GrII)	PE2/PA	Parallel Delta	700	0,0133		

Insulation Standard Windings 500 V | 50 Hz

P_N [kW]	Mod.-No. Winding-kits	Turns per coil	Wire diameter [mm]	Type of Isolation	Group connection	Total Wire length [m]	Resistance coil [Ω]	Resistance YΔ (U1-U2) [Ω]	Resistance DoI (U1-V1) [Ω]
185	326 *** 999								
220	326 701 999	7+7+7+7	2,5 / 3,8 (2GrII)	PE2/PA	Parallel Delta	889	0,0244		
250	326 702 999	6+7+7+7	2,5 / 3,8 (2GrII)	PE2/PA	Parallel Delta	924	0,0331		
300	326 703 999	5+6+5+6	2,7 / 4,1 (2GrII)	PE2/PA	Parallel Delta	861	0,0265		
350	326 697 999	5+5+5+6	2,7 / 4,1 (2GrII)	PE2/PA	Parallel Delta	856	0,0263		
400	326 704 999	5+5+5+5	3,0 / 4,5 (2GrII)	PE2/PA	Parallel Delta	848	0,0221		

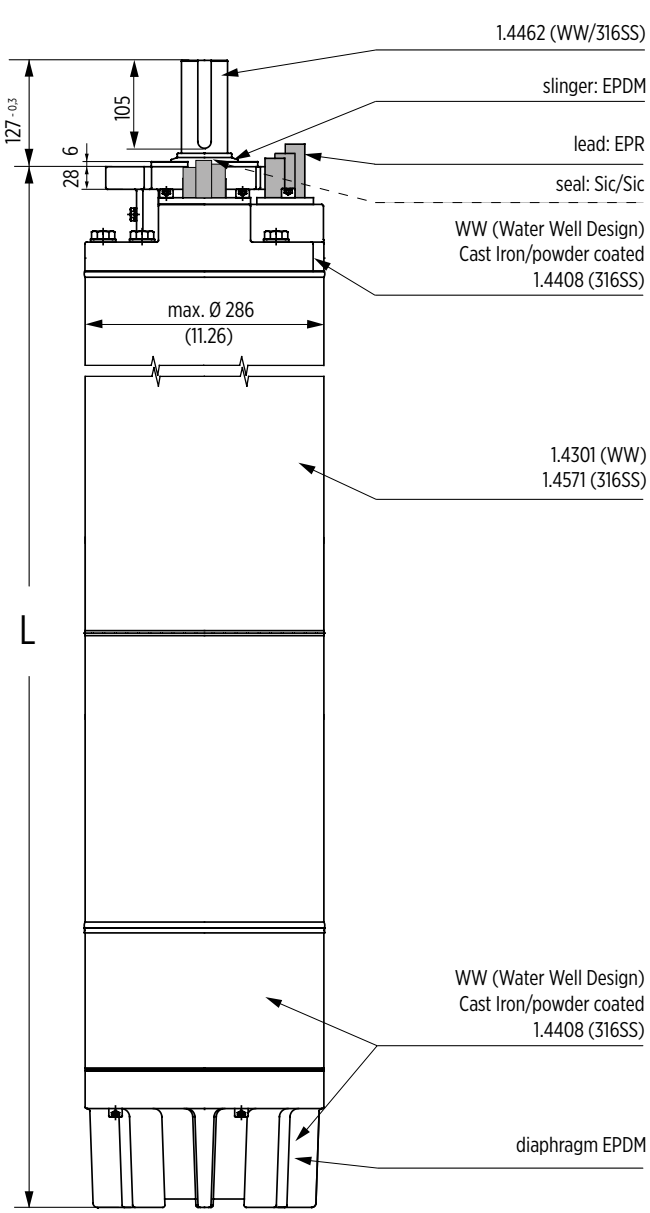
Insulation Standard Windings 1000 V | 50 Hz

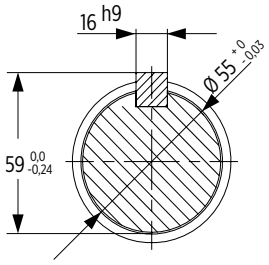
P_N [kW]	Mod.-No. Winding-kits	Turns per coil	Wire diameter [mm]	Type of Isolation	Group connection	Total Wire length [m]	Resistance coil [Ω]	Resistance YΔ (U1-U2) [Ω]	Resistance DoI (U1-V1) [Ω]
185	327 016 999	15+15+15+15	2,3 / 3,5	PE2/PA	Parallel Delta	1138	0,7836		0,221
220	326 928 999	14+14+14+14	2,5 / 3,8	PE2/PA	Parallel Delta	902	0,5251		0,177
250	326 699 999	13+14+13+14	2,5 / 3,8	PE2/PA	Parallel Delta	888	0,1290		0,165
300	326 700 999	11+11+11+11	2,7 / 4,1	PE2/PA	Parallel Delta	825	0,1024		0,135
350	326 698 999	10+11+10+11	2,7 / 4,1	PE2/PA	Parallel Delta	820	0,1017		0,136
400	326 674 999	10+10+10+10	3,0 / 4,5	PE2/PA	Parallel Delta	812	0,0815		0,106

Insulation resistance (20 °C / 500 VDC)		
new motor without drop cable	400 >	MΩ
used motor without drop cable	20 >	MΩ
new motor with drop cable	4 >	MΩ
used motor with drop cable	1	MΩ

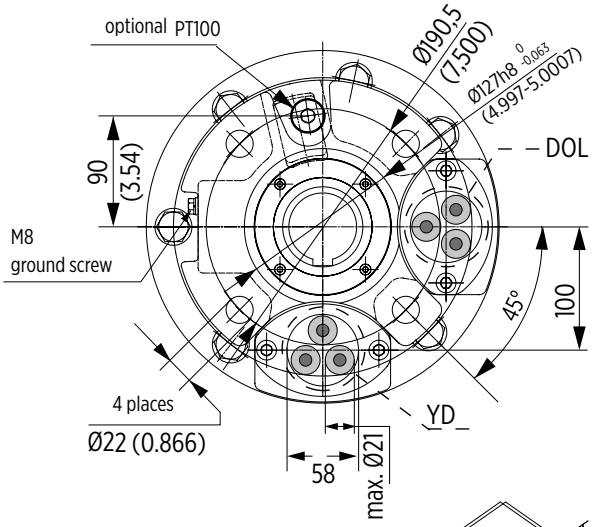
12" REWINDABLE MOTOR

12REW MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | WW | 316SS

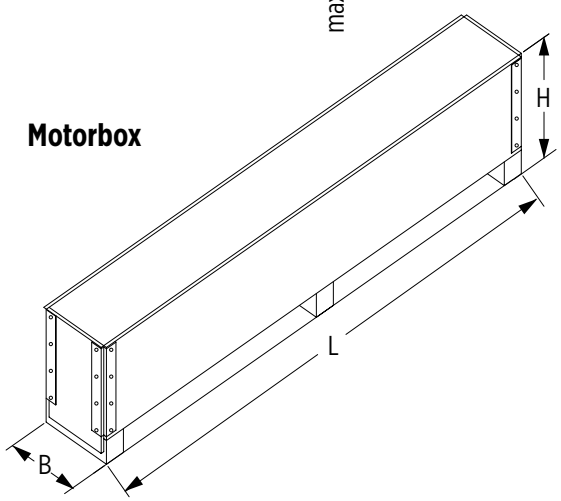




Oberes Lagerschild



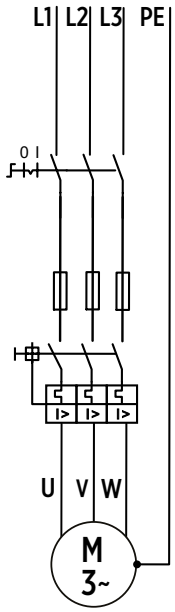
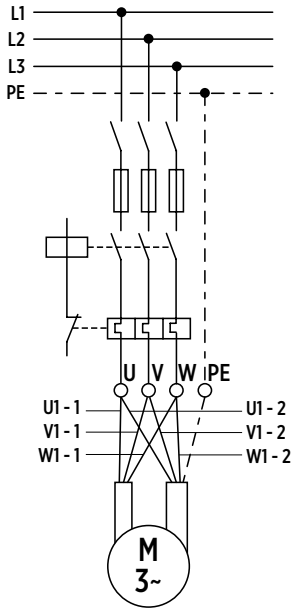
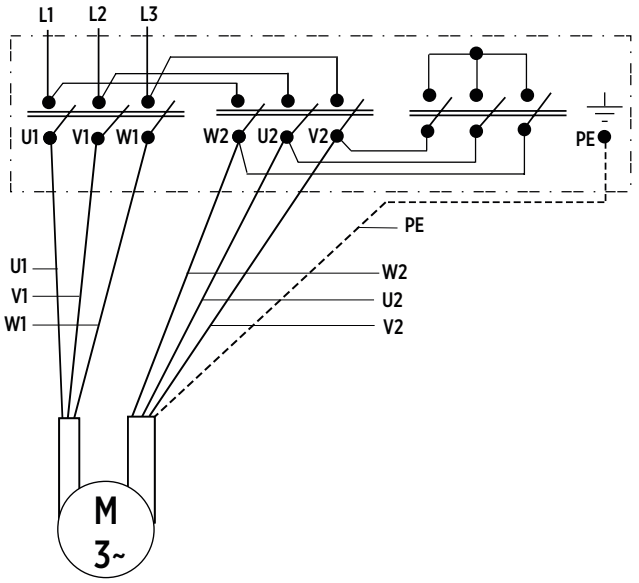
Motorbox



P_N [kW]	Motor Lengths	Weights		Motor Shipping Size [mm]		
	L [mm]	Motor [kg]	incl. Pack [kg]	B	H	L
185	1893	663	743	396	572	2296
220	1893	663	743			
250	1893	663	743			
300	2043	726	806	396	572	2596
350	2143	769	849			
400	2193	794	874			

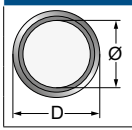
12" REWINDABLE MOTOR

12REW MOTOR - 3-PHASE - CONNECTIONS

DOL	DOL II	YΔ
		

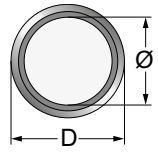
U = black (BK) | W = brown (BN) | V = grey (GY) | PE = yellow/green (YE/GN)

12REW MOTOR - 3-PHASE - MOTOR LEADS | DOL | YΔ

Lead	Ø [mm²]	D [mm]	Lengths [m]	Motor [kW]				Lead Kit (3 Single Leads)	lead seal kit
				380-415V | 50Hz 460V | 60Hz	500V | 50Hz	1000V | 50Hz			
	1X70	20.7	6	185 - 300 DOL 300 -400 YΔ*	185 - 400 DOL	-	DOL 1 YΔ 2	308 711 100	308 661 120
	1X35	15.3	6	185 - 250 YΔ*	185 - 400 YΔ	185-400 DOL	DOL 1 YΔ 2	308 711 101	308 661 121

*For YΔ motors, please order two lead (sealing) kits

12REW MOTOR - 3-PHASE - GROUND LEADS | WW | 316SS

Ground lead* (optional)	Ø [mm²]	D Ø [mm]	Lengths [m]	qty.	model no.
	1G25	13,0	8	1	308 053 080
	1G35	15.3	6	1	308 056 060
	1G70	20.3	6	1	308 057 060

*suitable for WW and 316SS motors

12REW MOTOR - 3-PHASE - LEAD OPENING SEAL KIT | DOL | YΔ

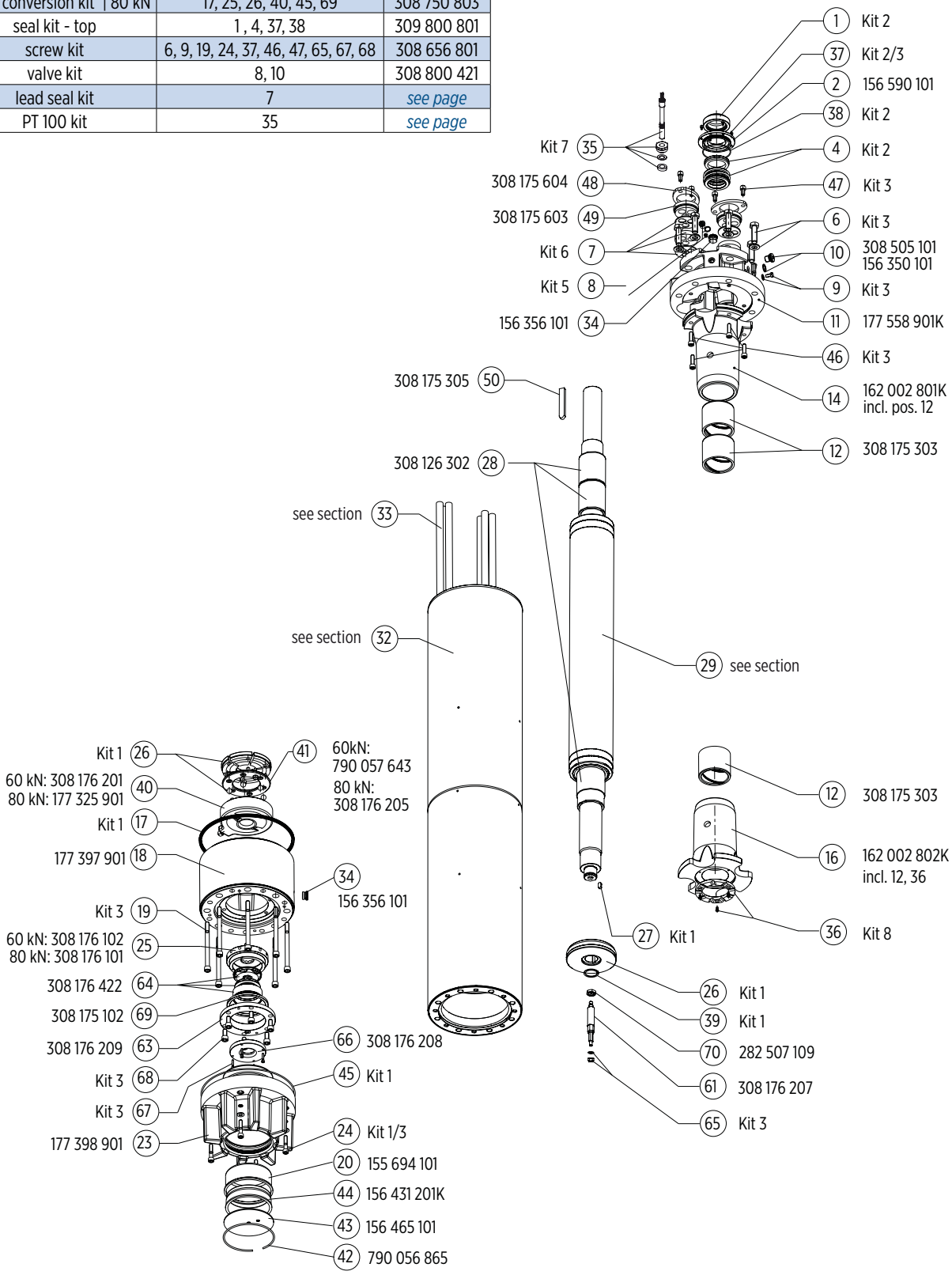
kW	model no.
250 - 400 kW	308 661 122

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

12" REWINDABLE MOTOR

12REW MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | WW

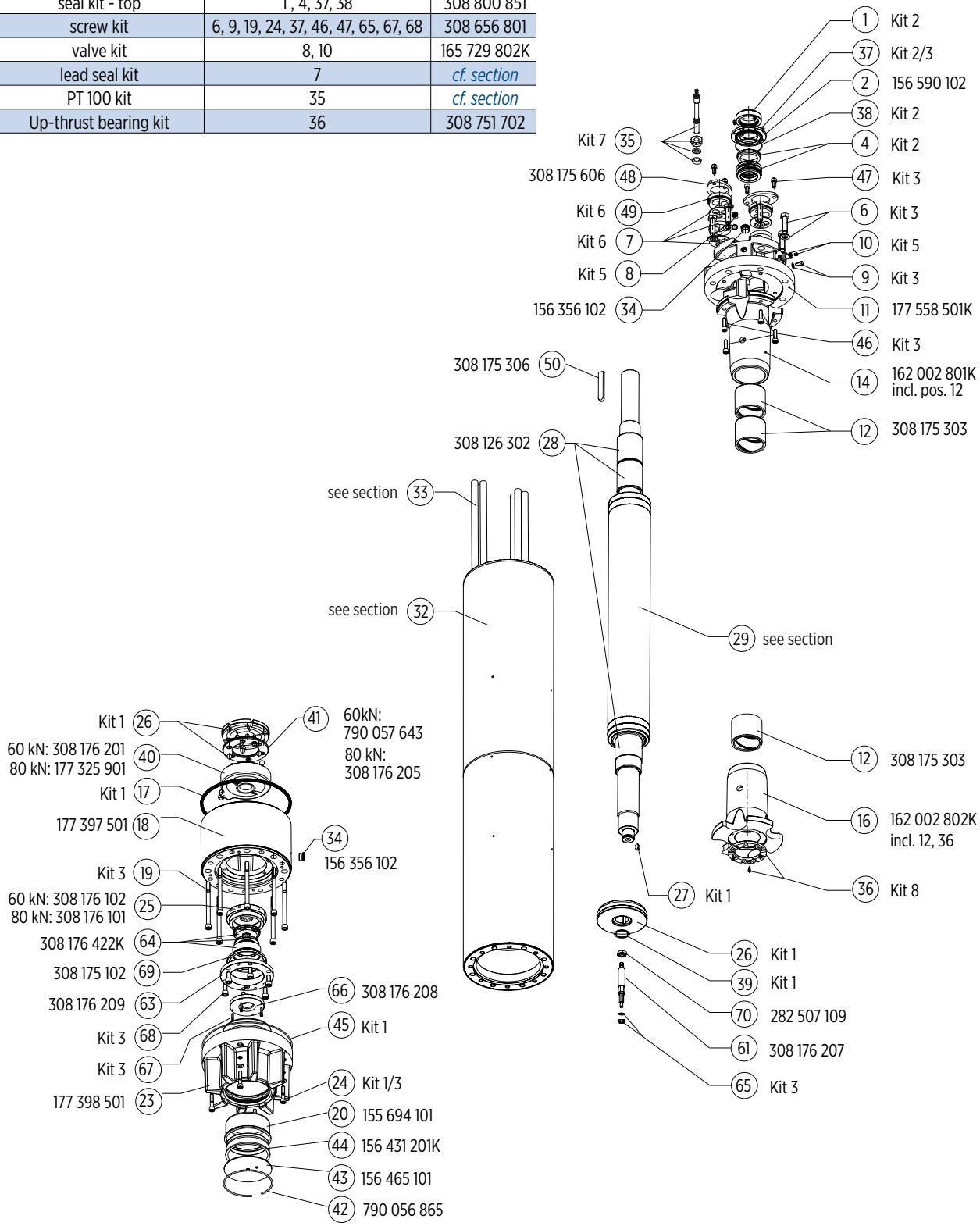
Kit	Kit description	included positions	order no
Kit 1	Thrust bearing kit | 60 kN	17, 24, 26, 27, 39, 45	308 750 801
	Thrust bearing kit | 80 kN	17, 26, 27, 39, 45	308 750 802
	Motor conversion kit | 80 kN	17, 25, 26, 40, 45, 69	308 750 803
Kit 2	seal kit - top	1 , 4, 37, 38	309 800 801
Kit 3	screw kit	6, 9, 19, 24, 37, 46, 47, 65, 67, 68	308 656 801
Kit 5	valve kit	8, 10	308 800 421
Kit 6	lead seal kit	7	*see page*
Kit 7	PT 100 kit	35	*see page*



12" REWINDABLE MOTOR

12REW MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | 316SS

Kit	Kit description	included positions	order no
Kit 1	Thrust bearing kit | 60 kN	17, 24, 26, 27, 39, 45	308 750 801
	Thrust bearing kit | 80 kN	17, 26, 27, 39, 45	308 750 802
	Motor conversion kit | 80 kN	17, 25, 26, 40, 45, 69	308 750 803
Kit 2	seal kit - top	1 , 4, 37, 38	308 800 851
Kit 3	screw kit	6, 9, 19, 24, 37, 46, 47, 65, 67, 68	308 656 801
Kit 5	valve kit	8, 10	165 729 802K
Kit 6	lead seal kit	7	*cf. section*
Kit 7	PT 100 kit	35	*cf. section*
Kit 8	Up-thrust bearing kit	36	308 751 702



12" REWINDABLE MOTOR

12REW MOTOR - 3-PHASE - STATOR AND ROTOR | WW | 316SS

P_N [kW]	U_N / f [V] / [Hz]	stator (incl. winding and 6 m motor lead)				Rotor
		DOL		YΔ		
		PPC	PE2/PA	PPC	PE2/PA	
185	380 - 415/50 460/60		327 013 902K		326 013 952K	176 381 501K
220	380 - 415/50 460/60		326 639 902K		326 639 952K	176 381 501K
250	380 - 415/50 460/60		326 639 902K		326 639 952K	176 381 501K
300	380 - 415/50 460/60		326 640 902K		326 640 952K	176 381 502K
350	380 - 415/50 460/60				326 696 952K	176 381 504K
400	380 - 415/50 460/60				326 641 952K	176 381 503K

4"/6"/8 "/10" PERMANENT MAGNET (PM) MOTORS

Available versions:

- *4" encapsulated permanent magnet (PM) motor*
- *6" encapsulated permanent magnet (PM) motor*
- *8" rewindable permanent magnet (PM) motor*
- *10" rewindable permanent magnet (PM) motor*

HIGH EFFICIENCY
PERMANENT MAGNET TECHNOLOGY



High Efficiency System



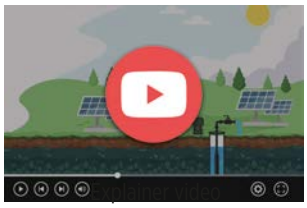
Variable Frequency drives & Accessories



permanent magnet technology



Energy savings with High Efficiency System



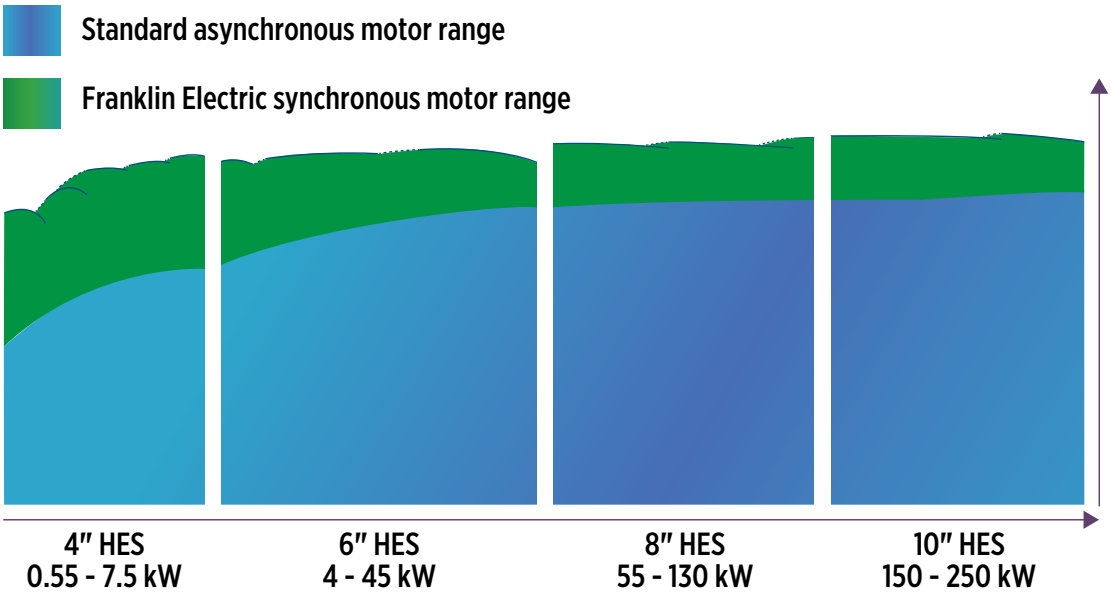
High Efficiency System



4" High Efficiency System



4"/6"/8 "/10" PERMANENT MAGNET (PM) MOTORS



- ✓ No electrical rotor losses with permanent magnet motors
- ✓ unmatched efficiency
- ✓ Reduced motor current / cable cross-section
- ✓ Synchronous speed (no slip)
- ✓ Excellent partial load behaviour (Reduced stock levels)

EASY INSTALLATION & SUPPORT

- Operation with grid or solar supply
- Easy and fast commissioning due to initial configuration wizard
- Remote control and real-time monitoring via Mobile App
- Remote assistance / Trouble shooting from the Franklin Electric support team

4"/6"/8"/10" HIGH EFFICIENCY SOLAR SYSTEMS

- ✓ One-stop shop and perfectly matching components guarantee first-class performance/efficiency
- ✓ Direct DC feeding, AC power source compatible
- ✓ Suitable for the use in remote areas and harsh environments
- ✓ Robust Electronics enclosure designs
- ✓ The special MPPT algorithm for borehole applications maximizes the system performance.
- ✓ 4" Solar Voltage Boost (up to 2.2 kW)
  - ▶ Sizing in power rather than voltage
  - ▶ Less panels, more water respectively
  - ▶ Saving of investments and installation work

4" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

HIGH EFFICIENCY

FEATURES & BENEFITS

- The permanent magnet synchronous motor provides superior efficiency, excellent energy savings and strong reliability.
- Instead of a short-circuit induction type rotor, the high efficiency motor contains a permanent magnet rotor design with buried magnets and magnetic core segments.
- The permanent magnet motor design eliminates electrical rotor losses resulting in lower motor amps, improved partial load behavior and reduced temperature heat rise.
- The PM motor has a lower weight, a reduced length and requires lower Amps to run at the same pump load.
- For operation with Variable frequency drive (VFD)
- NEMA mounting design with metric studs
- 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.
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Field replaceable round plug lead using Franklin's exclusive Water Bloc technology with extended jam nut in Stainless steel
- Pressure-equalizing diaphragm (only in 6500N motors)
- Stator shell in 316SS (suitable for use in water with increased salinity)
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Drinking water approvals

STANDARD SPECIFICATION

- Ratings 0.55 - 3.0 kW (Thrust load: 4 kN)
  3.0 - 7.5 kW (Thrust load: 6.5 kN)
- Standard voltage: 220V / 380V (100 Hz - 3000 rpm, 120 Hz - 3600 rpm)
- Voltage tolerance U_N: ±10 %
- Max. storage temperature: 0 °C - +50 °C
- Nominal ambient temperature: 30 °C (with 0.08 m/s cooling flow)
- protection IP68
- insulation class B
- Protection requirements: DIN/EN 60947-4-1
- Frequency of starts: 20 starts/ hour (with min. 3 minutes resting time), equally distributed
- All motors with factory installed leads (≤ 2.2 kW: 1.50 m; ≥ 3 kW: 2.50 m)
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)

OPTIONS

- Higher-graded material: 316SS
- 120 Hz electrical design
- Special lead lengths

STAINLESS STEEL 304 STAINLESS STEEL 316



High efficiency electrical design for low operation costs

The permanent magnet synchronous motor provides superior efficiency, excellent energy savings and strong reliability.



Reduced motor length and weight

The PM motor has a lower weight, a reduced length and requires lower Amps to run at the same pump load.

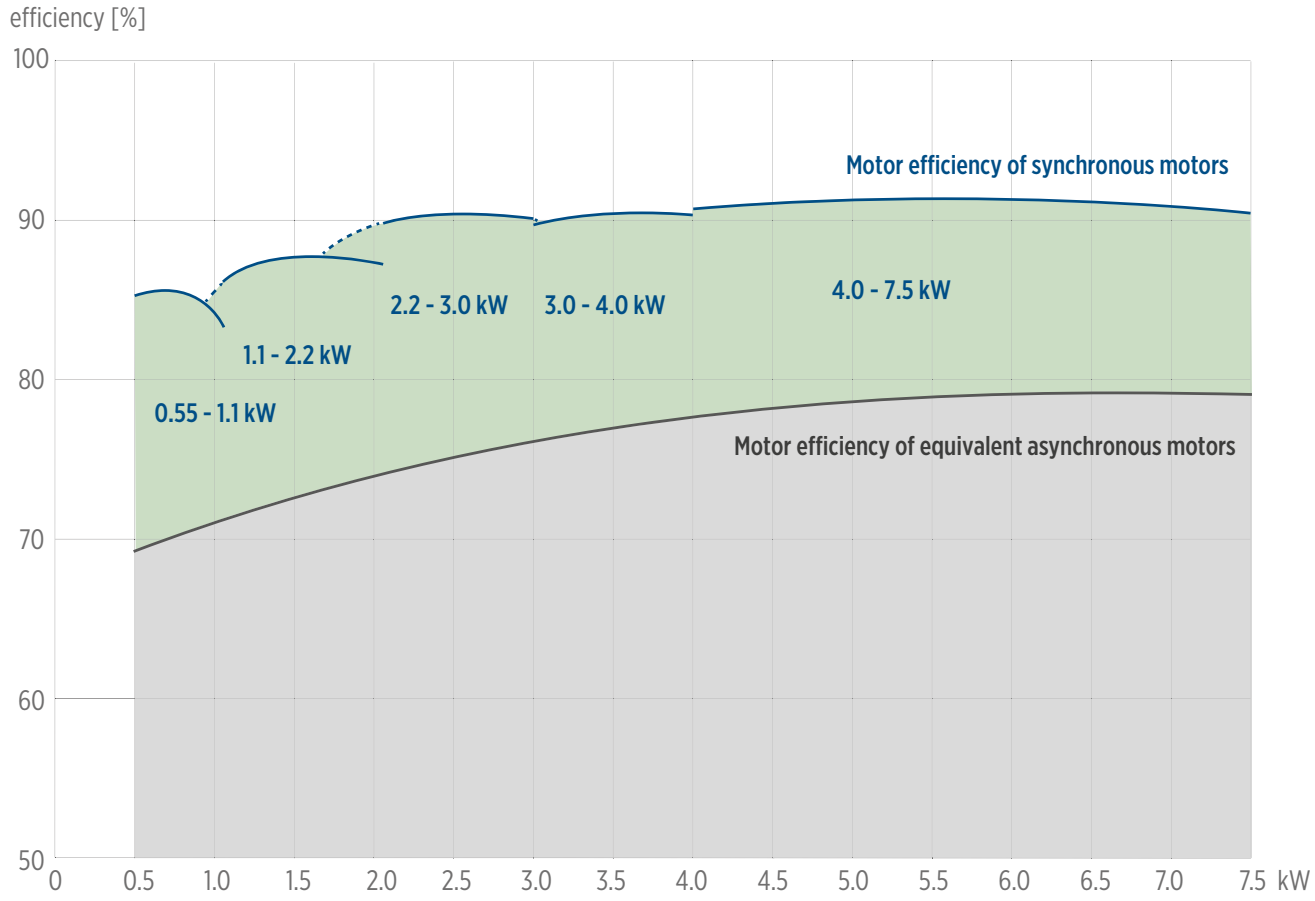
Permanent Magnet Technology

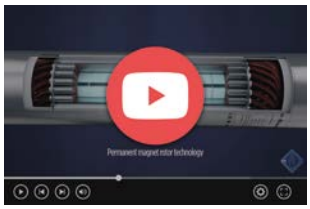
Instead of a short-circuit induction type rotor, the high efficiency motor contains a permanent magnet rotor design with buried magnets and magnetic core segments.

No electrical rotor losses

The permanent magnet motor design eliminates electrical rotor losses resulting in lower motor amps, improved partial load behavior and reduced temperature heat rise.

4" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

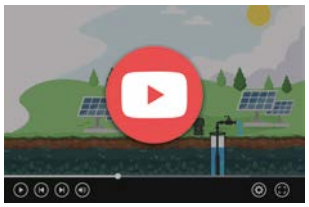




permanent magnet technology



Energy savings with
High Efficiency System



Explainer video
High Efficiency System



4" High Efficiency System



High Efficiency System



Variable Frequency drives
& Accessories

4" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

4CT PM MOTOR - 3-PHASE - MOTOR MODEL NO. | 220V | 100-120 HZ | 304SS | 316SS

P_N [kW]	U_N [V]	Thrust F [N]	f [Hz]	Digit 1 - 6	Digit 7 - 10	
					304SS Single pack with lead*	316SS Single pack with lead*
0.55 - 1.1	220	4000	100	234 071	6721L	6821L
			120	234 051		
1.1 - 2.2	220	4000	100	234 072	6721L	6821L
			120	234 052		
2.2 - 3.0	220	4000	100	234 073	6721L	6821L
			120	234 053		
3.0 - 4.0	220	6500	100	234 074	3421L	3521L
			120	234 054		

4CT PM MOTOR - 3-PHASE - MOTOR MODEL NO. | 380V | 100 HZ | 304SS | 316SS

P_N [kW]	U_N [V]	Thrust F [N]	Digit 1 - 6	Digit 7 - 10	
				304SS Single pack with lead*	316SS Single pack with lead*
1.1 - 2.2	380	4000	234 062	6721L	6821L
2.2 - 3.0	380	4000	234 063	6721L	6821L
3.0 - 4.0	380	6500	234 064	3421L	3521L
4.0 - 7.5	380	6500	234 066	3421L	3521L

*lead lengths motors: "L" : with pre-mounted cable 1.50 m | 6500N: 2.50 m
PM motors must be operated with a variable frequency drive (VFD).

4CT PM MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 220V | 100 HZ

System model no.	motor model no.	P_N [kW]	Thrust F [N]	U_N [V]	n_N [min^{-1}]	I_N [A]	I_A/I_N [A]	η [%]	cos phi	T_N [Nm]	T_A/T_N* [Nm]
308 071 001	234 071 ***	0.55	4000	220	3000	1.8	1	85.1	0.95	1.8	1
		0.75				2.4		85.6	0.97	2.4	
		1.1				3.8		83.5	0.99	3.5	
308 072 001	234 072 ***	1.1	4000	220	3000	3.4	1	86.4	0.96	3.5	1
		1.5				4.8		88.0	0.97	4.8	
		2.2				7.0		87.0	0.99	7.0	
308 073 001	234 073 ***	2.2	4000	220	3000	6.9	1	90.3	0.96	7.0	1
		3.0				9.4		90.2	0.97	9.6	
308 074 001	234 074 ***	3.0	6500	220	3000	10.2	1	90.7	0.94	9.6	1
		3.7				12.0		91.0	0.96	11.8	
		4.0				13.0		91.0	0.97	12.7	

4" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

4CT PM MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 380V | 100 HZ

System model no.	motor model no.	P_N [kW]	Thrust F [N]	U_N [V]	n [min-1]	I_N [A]	I_A / I_N [A]	η [%]	cos phi	T_N [Nm]	T_A / T_N* [Nm]
308 062 00X	234 062 ***	1.1	4000	380	3000	2.2	1	86.4	0.95	3.5	1
		1.5				2.8		88.0	0.96	4.8	
		2.2				4.0		87.0	0.97	7.0	
308 063 00X	234 063 ***	2.2	4000	380	3000	4.0	1	89.6	0.95	7.0	1
		3.0				5.4		90.0	0.97	9.6	
308 064 00X	234 064 ***	3.0	6500	380	3000	5.7	1	89.7	0.96	9.6	1
		3.7				6.7		90.2	0.97	11.8	
		4.0				7.3		90.2	0.98	12.7	
308 066 00x	234 066 ***	4.0	6500	380	3000	7.3	1	90.7	0.95	12.7	1
		5.5				9.7		91.0	0.95	17.5	
		7.5				13.1		90.5	0.96	23.9	

Performance data are based on measurements with Franklin Electric original equipment.
*Since this is an integrated system (motor and electronics), these specifications refer to the VFD input.

HIGH EFFICIENCY

4CT PM MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 220V | 60 HZ

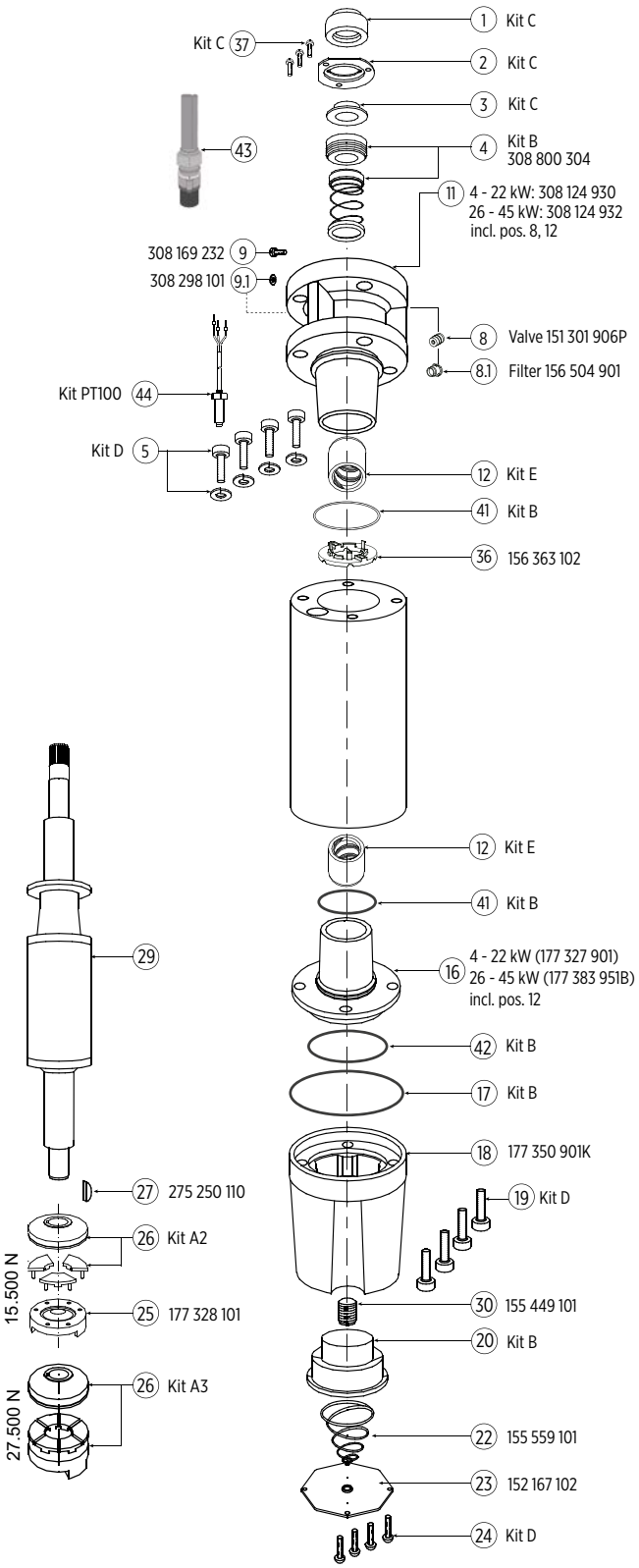
P_N [kW]	U_N [V]	stator reference no.	U - V [Ohm]	rotor reference no.
0.55 - 1.1	220	327 460 ***	7.7 - 8.14	178 172 901
1.1 - 2.2	220	327 461 ***	2.30 - 2.40	178 172 903
2.2 - 3.0	220	327 462 ***	1.45 - 1.54	178 172 904
3.0 - 4.0	220	327 463 ***	0.78 - 0.82	178 173 921

4CT PM MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 380V | 100 HZ

P_N [kW]	U_N [V]	stator reference no.	U - V [Ohm]	rotor reference no.
1.1 - 2.2	380	327 451 ***	8.0 - 8.4	178 172 903
2.2 - 3.0	380	327 452 ***	4.4 - 4.62	178 172 904
3.0 - 4.0	380	327 453 ***	2.7 - 2.9	178 173 921
4.0 - 7.5	380	327 454 ***	1.88 - 2.07	178 141 901

4" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

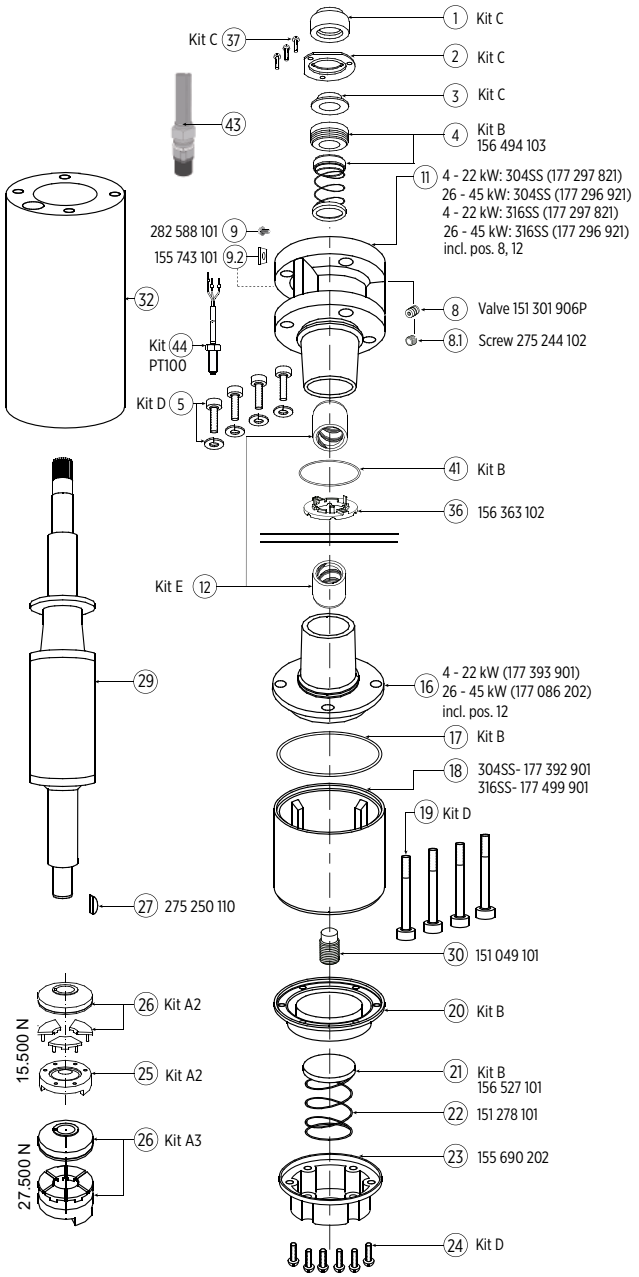
4CT PM MOTOR - 3-PHASE - MOTOR PART DESCRIPTION | 0.55 - 3.0 KW | 4000N



Pos.	part description	qty.	part no.
1	nut M8	4	Kit C
2	stud M8	4	Kit C
3	protector (spline)	1	Kit B
4	connector boss	1	Kit A1 151820103
5	motor lead	1	cf. section
6	washer	1	Kit B
7	top endbell, cover 304SS	1	Kit A1 150262151
	top endbell, cover 316SS	1	Kit A1 150262251
8	plug	1	Kit B
9	filter	1	Kit B
10	valve	1	Kit A
11	shaft seal	1	Kit B
12	top endbell	1	Kit A
13	O-ring	1	Kit B
14	rotor	1	cf. section
15	stator	1	cf. section
16	level washer	1	Kit A
17	thrust disc assy	1	Kit A
18	O-ring	1	Kit B
19	bottom endbell	1	Kit A2
20	bearing cage	1	Kit A
21	segments	3	Kit A
22	rocking disc	1	Kit A
23	diaphragm washer	1	Kit B 151314101
24	diaphragm	1	Kit B
25	bottom endbell cover 304SS	1	156 414 201
	bottom endbell cover 316SS		156 414 301
26	screw, cover	3	Kit C

4" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

4CT PM MOTOR - 3-PHASE - MOTOR PART DESCRIPTION | 3.0 - 7.5 KW | 6500N

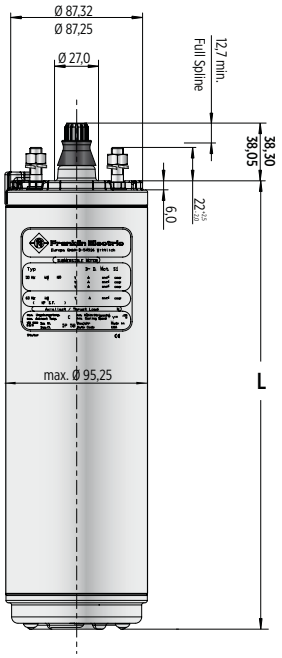


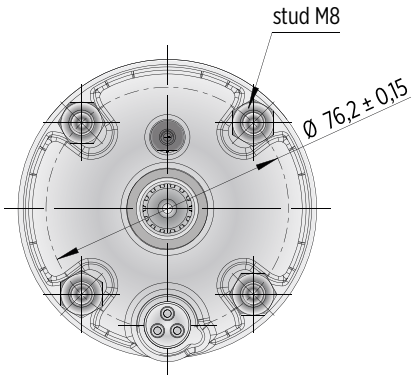
Pos.	part description	qty.	part no.
1	protector, spline	1	Kit B
2	washer	1	Kit B
3	stud	4	Kit C
4	nut	4	Kit C
5	seal cover	1	Kit D
6	shaft seal	1	Kit B+D
7	connector boss	1	Kit D
8	top endbell, cover	1	Kit D
9	O-ring	1	Kit B+D
10	top endbell	1	Kit D
11	upthrust washer	1	Kit
12	rotor	1	*cf. section*
13	stator	1	*cf. section*
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	adjusting screw	1	151 048 103
21	screws	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	screws	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
32	motor lead	1	*cf. section*
33	sand slinger (316SS)	1	Kit B
34	seal cover (316SS)	1	Kit B
35	ring	1	Kit B
36	spring ring	1	Kit B
37	support disc seal	1	Kit B

4" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

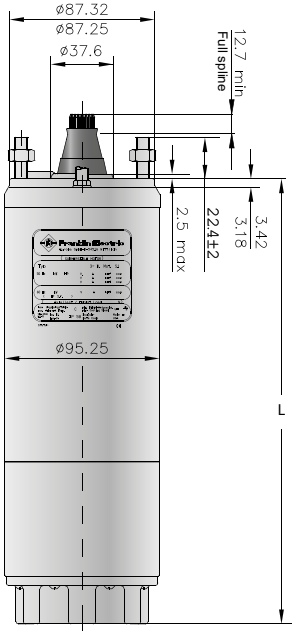
4CT PM MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS

0.55 - 3.0 kW [4000 N]





3.0 - 7.5 kW [6500 N]



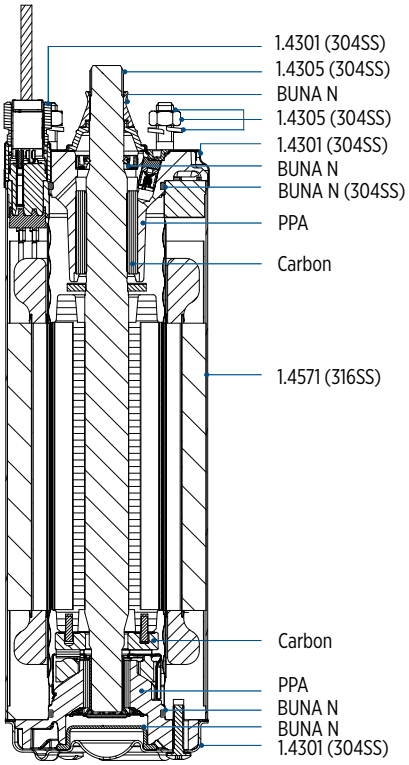
P_N [kW]	U_N [V]	Thrust F [N]	L [mm]	M [kg]	Single pack with lead*	
					[mm]	[kg]
0.55 - 1.1	220	4000	218	5.2	530 x 100 x 110	6
1.1 - 2.2	220	4000	263	7.2	530 x 100 x 110	8
2.2 - 3.0	220	4000	353	9.2	560 x 100 x 110	10
3.0 - 4.0	220	6500	429	15.2	560 x 100 x 110	16
1.1 - 2.2	380	4000	263	7.2	560 x 100 x 110	8
2.2 - 3.0	380	4000	353	9.2	560 x 100 x 110	10
3.0 - 4.0	380	6500	429	15.2	796 x 100 x 110	16
7.5	380	6500	531	19.8	796 x 100 x 110	20

Tolerances according to NEMA MG 1-18.388

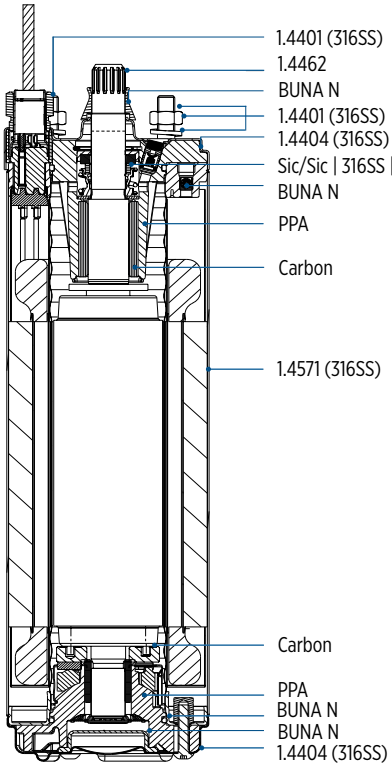
4" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

4CT PM MOTOR - 3-PHASE - MATERIALS | 4000N

304SS

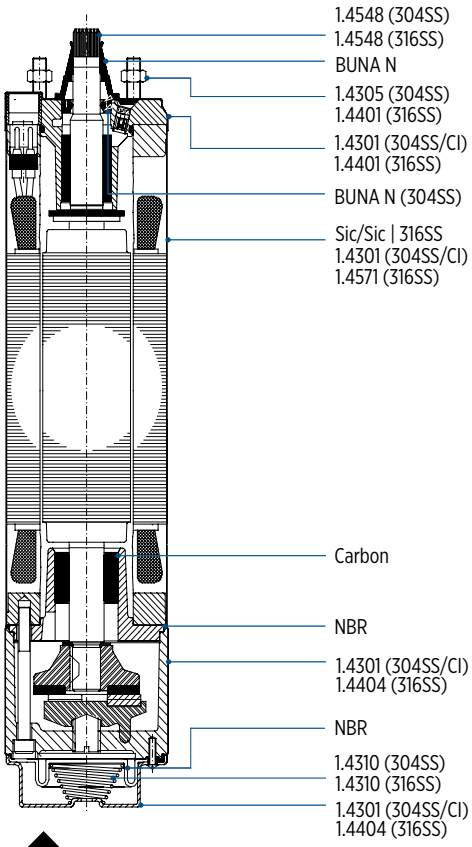


316SS



4CT PM MOTOR - 3-PHASE - MATERIALS | 6500N

304SS /316SS



HIGH EFFICIENCY

4" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

4CT PM MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | 4000N

Kit	description	included positions	part no.
Kit A1	upper end bell 304SS	4, 7 - 13	308 462 901
	upper end bell 316SS		308 462 951
Kit A2	lower end bell incl. thrust bearing kit 4000N	16 - 22	308 464 911
Kit B	seal kit Standard 304SS	3, 6, 8, 9, 11, 13, 18, 23	308 650 201
	seal kit Standard 316SS		308 650 251
Kit C	fastener kit 304SS	1, 2, 26	308 656 201
	fastener kit 316SS		308 656 251

4CT PM MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | 6500N

Kit	description	included positions	part no.
Kit A	thrust bearing kit 6500N	17, 18	308 700 301
Kit B	seal kit 304SS	1, 2, 6, 9, 16, 23, 29, 31	308 900 351
	seal kit 316SS	6, 9, 16, 23, 34, 36	308 900 302
Kit D	fastener kit 304SS	3, 4, 21, 26	308 658 351
	fastener kit 316SS		308 658 301

P_N [kW]	material	upper end bell (Pos. 10)	lower end bell (Pos. 15)	upthrust washer (Pos. 11)
3.0 - 7.5	304SS	308 233 509	177 379 921	308 268 104
3.0 - 4.0	316SS	177 390 957	177 390 957	308 747 101
4.0 - 7.5	316SS	177 390 959	177 379 901	275 540 163

4CT PM MOTOR - 3-PHASE - STATOR AND ROTOR | 0.55 - 4 KW | 220V

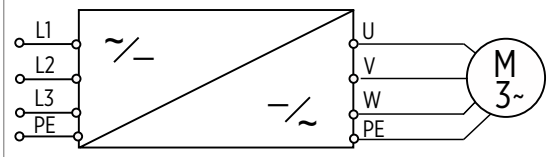
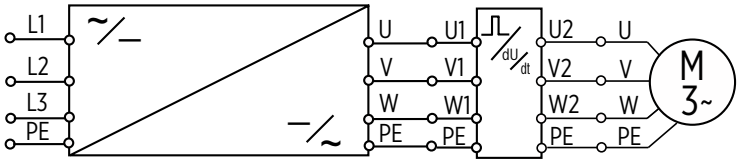
P_N [kW]	U_N [V]	Thrust F [N]	model no.	model no. stator	model no. rotor
0.55 - 1.1	220	4000	234 071 ****	305 491 951	178 172 901 K
1.1 - 2.2	220	4000	234 072 ****	305 491 952	178 172 903 K
2.2 - 3.0	220	4000	234 073 ****	305 491 953	178 172 904 K
3.0 - 4.0	220	6500	234 074 ****	305 491 957	178 173 921 K

4CT PM MOTOR - 3-PHASE - STATOR AND ROTOR | 1.1 - 7.5 KW | 380V

P_N [kW]	U_N [V]	Thrust F [N]	model no..	model no. stator	model no. rotor
1.1 - 2.2	380	4000	234 062 ****	305 491 954	178 172 903 K
2.2 - 3.0	380	4000	234 063 ****	305 491 955	178 172 904 K
3.0 - 4.0	380	6500	234 064 ****	305 491 958	178 173 921 K
7.5	380	6500	234 066 ****	305 491 959	178 141 921 K

4" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

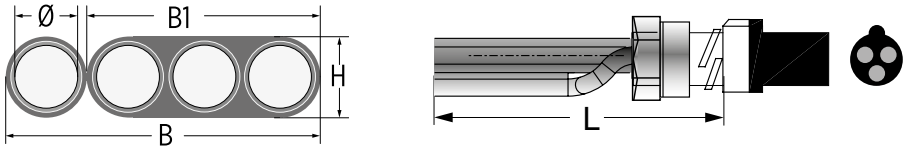
4CT PM MOTOR - 3-PHASE - CONNECTIONS

wiring diagram 230 V | 3~	wiring diagram 380 V | 3~
	

U = black (BK) | W = brown (BN) | V = grey (GY) | PE = yellow/green (YE/GN)

4CT PM MOTOR - 3-PHASE - MOTOR LEADS | 0.55 - 7.5 KW

0.55 - 7.5 kW			
Ø [mm²]	B [mm]	B1 [mm]	H [mm]
3 x 1.5 + 1G 1.5	16.8	10.7	5.0



length L [m]	model no. 304SS/ 316SS
1.50	310 178 501
2.50	310 113 502
5	310 113 505
10	310 113 510
15	310 113 515
20	310 113 520

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



Tutorial 4CT cable installation



Tutorial 4" termination kit assembly

6" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

HIGH EFFICIENCY

FEATURES & BENEFITS

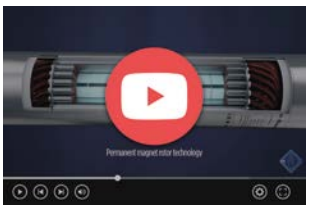
- The permanent magnet synchronous motor provides superior efficiency, excellent energy savings and strong reliability.
- Instead of a short-circuit induction type rotor, the high efficiency motor contains a permanent magnet rotor design with buried magnets and magnetic core segments.
- The permanent magnet motor design eliminates electrical rotor losses resulting in lower motor amps, improved partial load behavior and reduced temperature heat rise.
- The PM motor has a lower weight, a reduced length and requires lower Amps to run at the same pump load.
- For operation with Variable frequency drive (VFD)
- Double-flange NEMA mounting design
- 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.
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- 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)
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Drinking water approvals

STANDARD SPECIFICATION

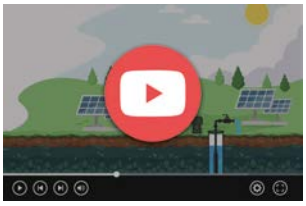
- Ratings: 4 - 45 kW (100 Hz - 3000 rpm)
- Thrust load: 15.5 kN: 4-22 kW; 27.5 kN: 26-45 kW
- Max. storage temperature: -15°C - +60°C
- Nominal ambient temperature: 30 °C
  4-22 kW (with 0.16 m/s cooling flow)
  > 22 kW (with 0.5 m/s cooling flow)
- System Supply Voltage: 380 V (100 Hz)
- Voltage tolerance U_N: ±10 %
- protection IP68
- Insulation class F
- Protection requirements: DIN/EN 60947-4-1
- Frequency of starts: 20 starts/ hour (with min. 3 minutes resting time), equally distributed)
- DOL-start
- 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)

OPTIONS

- Higher-graded material: 304SS, 316SS
- Special voltages
- 45 kN High Thrust version
- Retrofitable PT 100 temperature sensor
- Special lead lengths
- 120 Hz electrical design
- High Efficiency system solution



Permanent magnet technology in submersible motors



Cost savings of Franklin Electric High Efficiency Systems

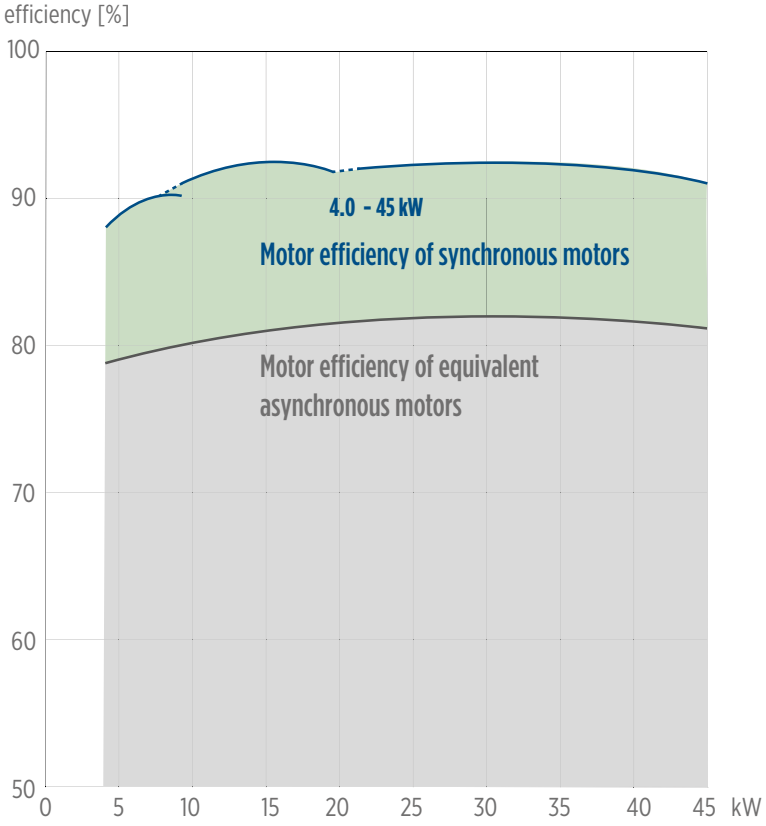


High Efficiency System



Variable Frequency drives & Accessories

6" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR



SAND FIGHTER

STAINLESS STEEL 304

STAINLESS STEEL 316



HIGH EFFICIENCY

Permanent Magnet Technology

Instead of a short-circuit induction type rotor, the high efficiency motor contains a permanent magnet rotor design with buried magnets and magnetic core segments.



High efficiency electrical design for low operation costs

The permanent magnet synchronous motor provides superior efficiency, excellent energy savings and strong reliability.

Reduced motor length and weight

The PM motor has a lower weight, a reduced length and requires lower Amps to run at the same pump load.

No electrical rotor losses

The permanent magnet motor design eliminates electrical rotor losses resulting in lower motor amps, improved partial load behavior and reduced temperature heat rise.

6" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

6CT PM MOTOR - 3-PHASE - MOTOR MODEL NO. | DOL | 100 HZ | 380V

P_N [kW]	U_N [V]	Thrust F [N]	Digit 1 - 6	Digit 7 - 10 Single pack with pre-installed lead		
				WW	304SS	Standard 316SS
4 - 11	380	15500	236 080	9561	1461	1561
13 - 22	380	15500	236 084	9561	1461	1561
26 - 45	380	27500	236 086	9561	1461	1561

6CT PM MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 4-45 KW | 100 HZ

motor model no.	P_N [kW]	Thrust F [N]	U_N [V]	n_N [min^{-1}]	I_N [A]	I_A/I_N [A]	η [%]	cos phi	T_N [Nm]	T_A/T_N [Nm]
236 080 xxxx	4	15500	380	3000	9,2	1	87,1	0,95	12,7	1
	5.5				11,0	1	89,8	0,95	17,5	1
	7.5				14,1	1	90,9	0,95	23,9	1
236 080 xxxx	9.3	15500	380	3000	17,2	1	91,2	0,95	29,6	1
	11				20,5	1	90,9	0,95	35,0	1
236 084 xxxx	13	15500	380	3000	25,3	1	91,4	0,95	41,4	1
	15				28,3	1	91.8	0,95	47.7	1
236 084 xxxx	18.5	15500	380	3000	34,1	1	92.1	0,95	58.9	1
236 084 xxxx	22	15500	380	3000	40,7	1	92	0,95	70	1
236 086 xxxx	26	27500	380	3000	51,2	1	92.3	0,95	82.8	1
	30				57,8	1	92,5	0,95	95,5	1
236 086 xxxx	37	27500	380	3000	71,3	1	92,1	0,95	117,8	1
236 086 xxxx	45	27500	380	3000	90,0	1	90,8	0,95	143,2	1

6CT PM MOTOR - 3-PHASE - MOTOR PART DESCRIPTION | WW | 304SS | 316SS

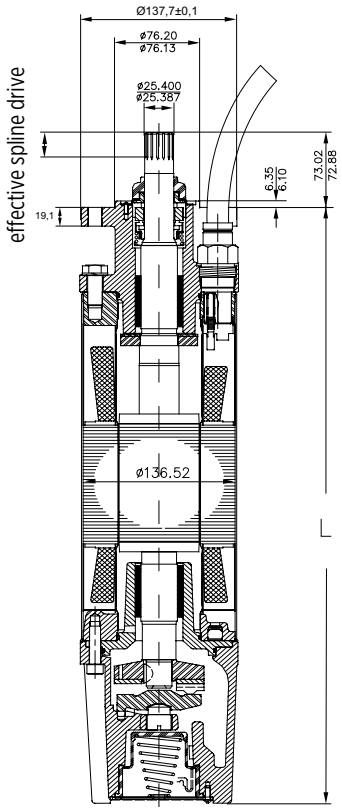
part	WW	304SS	316SS
Shell	1.4301	1.4301	1.4571
Upper end bell	Cast iron powder coated	1.4301	1.4408
Thrust housing	Cast iron powder coated	1.4301	1.4408
Mechanical seal	SiC / SiC	SiC / SiC	SiC / SiC
Seal cover	1.4301	1.4301	1.4401
Slinger	EPDM	EPDM	EPDM
Shaft end*	14021	14021	14462
Diaphragm	EPDM	EPDM	EPDM
Lead	EPR	EPR	EPR

* running change to 1.4462 (WIP)

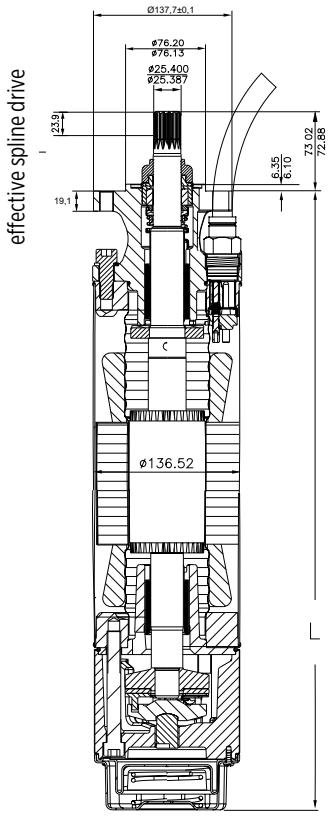
6" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

6CT PM MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | WW | 304SS | 316SS

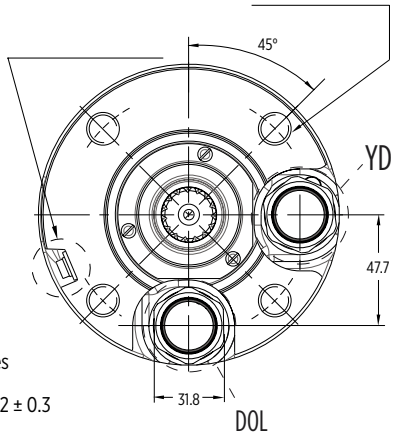
WW



304SS | 316SS

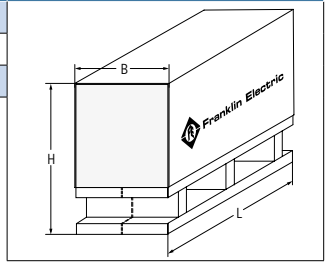


upper end bell WW | 304SS | 316SS



4 threaded holes
1/2-20 UNF-2B
hole circle Ø 111.2 ± 0.3

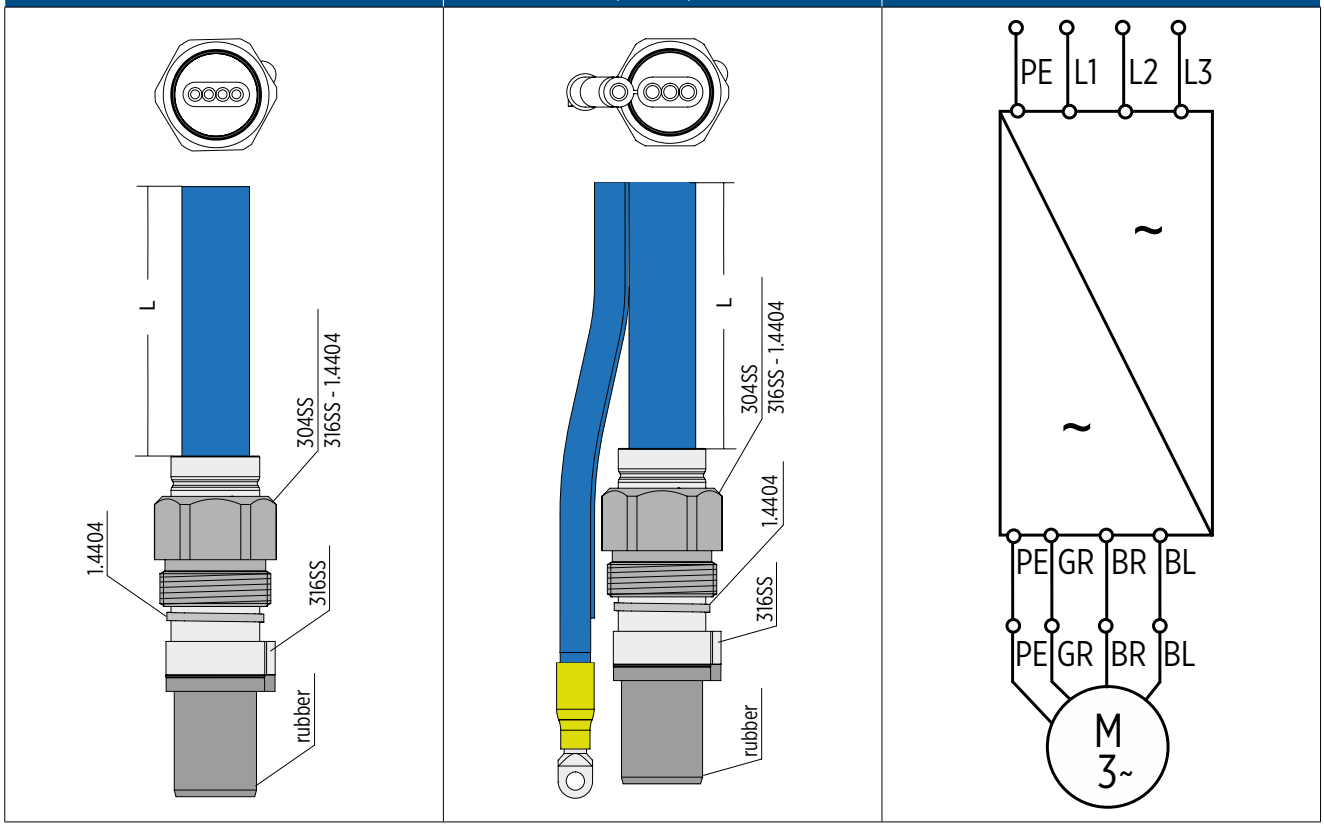
Tolerances according to NEMA MG 1-18.388

P_N [kW]	U_N [V]	Thrust F [N]	length [mm]		weight [kg]	motor with lead in single pack		motor packaging
			WW	314SS | 316SS		B x H x L [mm]	weight [kg]	
4 - 11	380	15500	634.5	625.2	43	155 x 340 x 800	45	
13 - 22	380	15500	793,5	784,2	57,4	155 x 340 x 1070	61	
26 - 45	380	27500	1020,5	1011,2	78,0	155 x 340 x 1070	84	

6" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

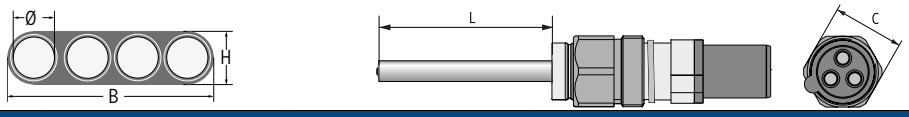
6CT PM MOTOR - 3-PHASE - MOTOR LEADS | CONNECTIONS

4G4 mm²	3 x 8,4 + 1G 8,4 mm²	Electrical connection

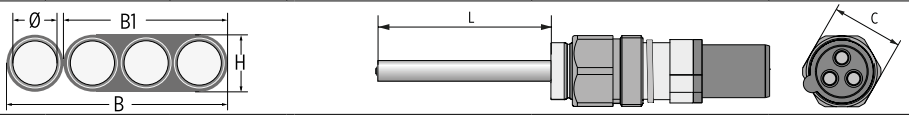


U = black (BK)|V = grey (GY)|W = brown (BN)|PE = yellow/green (YE/GN)

Motor leads 4 - 22 kW						
Ø [mm²]	C [mm]	B [mm]	H [mm]	length L [m]	WW	316SS
4G4	32	19	7	4	310 125 004	310 125 504



Motor leads 26 - 45 kW							
Ø [mm²]	C [mm]	B [mm]	B1 [mm]	B1 [mm]	H [mm]	WW	316SS
3x8,4 + 1G8,4	32	29.5	19.5	19.5	8.9	310 145 004	310 145 504



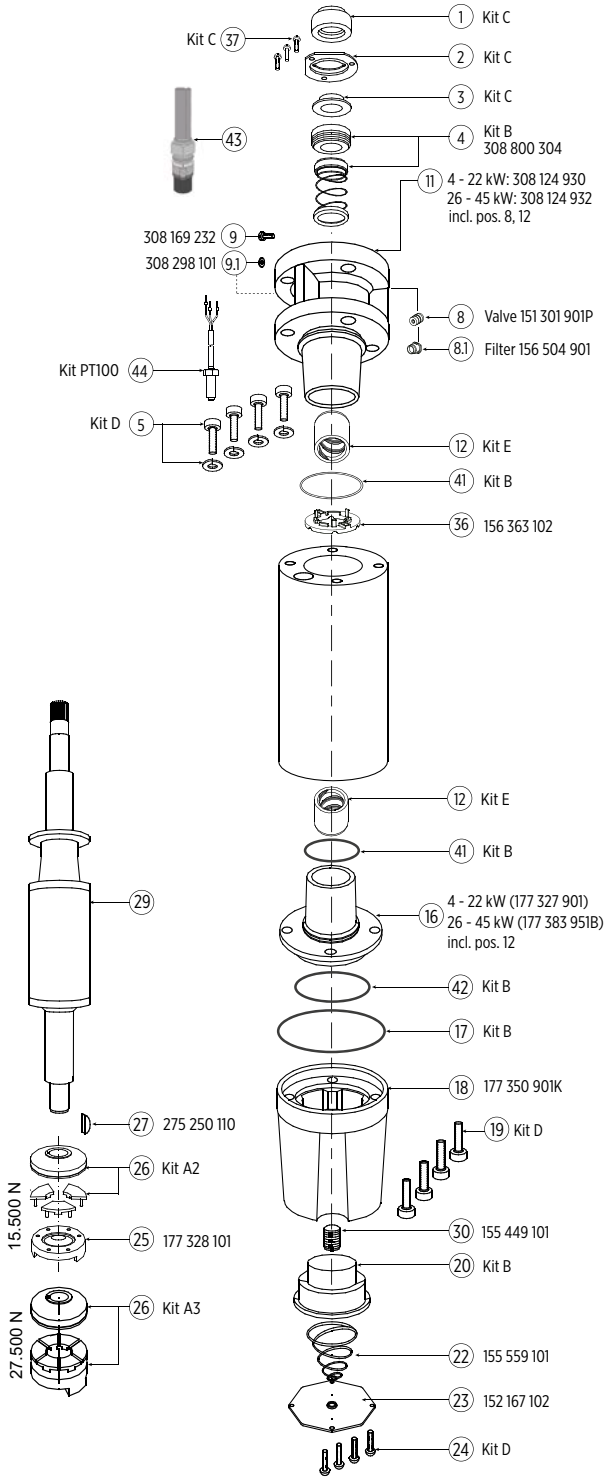
Cables are designed for submerged operation. For air operation, please consult Franklin Electric.

6CT PM MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 380V | 100 HZ

P_N [kW]	U_N [V]	stator reference no.	U - V [Ohm]*	rotor reference no.
4 - 11	380	327 245 ...	0,86	178 130 921
13 - 22	380	327 250 ...	0,33	178 130 923
26 - 45	380	327 257 ...	0,19	178 130 925

6" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

6CT PM MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | WW



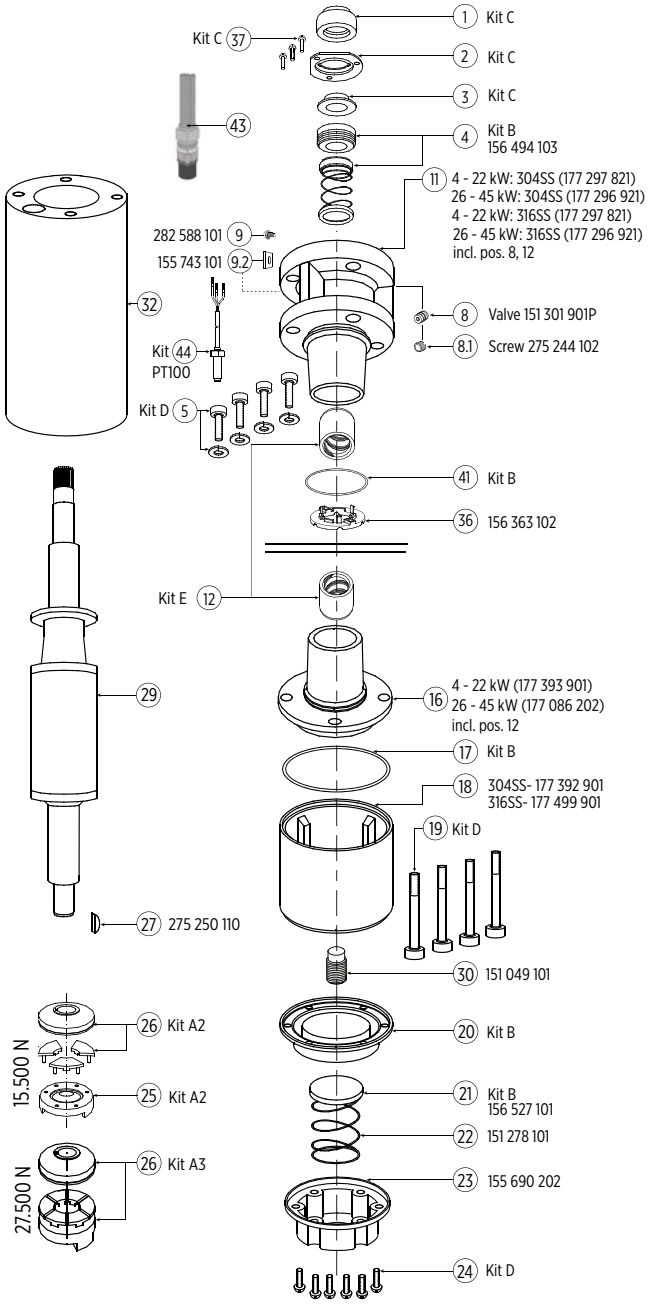
Kit	description	included positions	part no.
Kit A2	Thrust bearing kit | 15500N up to 22 kW	26	308 750 120
Kit A3	Thrust bearing kit | 27500N 26 - 45 kW	26	308 750 120
Kit B1	seal kit	4, 17, 20, 41, 42	308 800 125
Kit C1	slinger kit	1, 2, 3, 37	308 725 101
Kit D1	screw kit	5, 19, 24	308 659 121
Kit E1*	radial bearing kit up to 22 kW	12	308 678 103
Kit E2	radial bearing kit 26 - 45 kW	12	308 678 110
PT100 kit		44	*cf. section*

6CT PM MOTOR - 3-PHASE - STATOR AND ROTOR | 4-45 KW | WW | 100 HZ

P_N [kW]	U_N [V]	Thrust F [N]	model no. motor	model no. stator WW	model no. rotor WW
4 - 11	380	15500	236 080 9561	327 245 963K	178 130 901K
13 - 22	380	15500	236 084 9561	327 250 963K	178 130 903K
26 - 45	380	27500	236 086 9561	327 257 963K	178 130 905K

6" ENCAPSULATED PERMANENT MAGNET (PM) MOTOR

6CT PM MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | 304SS | 316SS



Kit	description	included positions	part no.
Kit A2	Thrust bearing kit | 15500N up to 22 kW	26	308 750 120
Kit A3	Thrust bearing kit | 27500N 26 - 45 kW	26	308 750 200
Kit B3	seal kit	4, 17, 20, 21, 41, 44	308 800 250
Kit C3	slinger kit	1, 2, 3, 37	308 725 150
Kit D5	screw kit	5, 19, 24	308 659 155
Kit E1*	Radial bearing kit up to 22 kW	12	308 678 103
Kit E2	Radial bearing kit 26 - 45 kW	12	308 678 110
PT100 Kit	0	44	*cf. section*

* kit without rotor shaft sleeves, flange replacement bushings are unfinished

6CT PM MOTOR - 3-PHASE - STATOR AND ROTOR | 4-45 KW | 304SS | 316SS | 100 HZ

P_N [kW]	U_N [V]	Thrust F [N]	motor model no.		model no.	model no.
			304SS	316SS	stator 304SS | 316SS	rotor 304SS | 316SS
4 - 11	380	15500	236 080 1461	236 080 1561	327 245 983K	178 130 921K
13 - 22	380	15500	236 084 1461	236 084 1561	327 250 983K	178 130 923K
26 - 45	380	27500	236 086 1461	236 086 1561	327 257 983K	178 130 925K

8" REWINDABLE PERMANENT MAGNET (PM) MOTOR

HIGH EFFICIENCY

FEATURES & BENEFITS

- Permanent Magnet Technology
- The permanent magnet synchronous motor provides superior efficiency, excellent energy savings and strong reliability.
- Instead of a short-circuit induction type rotor, the high efficiency motor contains a permanent magnet rotor design with buried magnets and magnetic core segments.
- The permanent magnet motor design eliminates electrical rotor losses resulting in lower motor amps, improved partial load behavior and reduced temperature heat rise.
- The PM motor has a lower weight, a reduced length and requires lower Amps to run at the same pump load.
- For operation with Variable frequency drive (VFD)
- Double-flange NEMA mounting design
- Stainless steel splined shaft
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- 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)
- Drinking water approvals

STANDARD SPECIFICATION

- Ratings: 75 / 100 / 130 kW (100 Hz - 3000 rpm, 120 Hz - 3600 rpm)
- Thrust load: 45 kN
- Max. storage temperature: -15 °C - +60 °C
- Nominal ambient temperature: 30 °C (with 0.5 m/s cooling flow)
- Standard voltage: 400 V (100 Hz) / 460 V (120 Hz)
- Voltage tolerance U_N: ±10 %
- Standard motor with PE2/PA winding insulation
- protection IP68
- Protection requirements: DIN/EN 61947-4-1
- Frequency of starts: 10 starts/ hour (with min. 3 minutes resting time), equally distributed
- DOL-start
- All motors with factory installed leads
- Motor lead length: 6 m
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)



OPTIONS

- Higher-graded material: 316SS, 904L
- Special voltages
- Retrofitable PT 100 temperature sensor
- Special lead lengths
- High Efficiency system solution





Permanentmagnet-Technologie



Kosteneinsparungen von bis zu 21 % mit dem Franklin Electric High Efficiency System

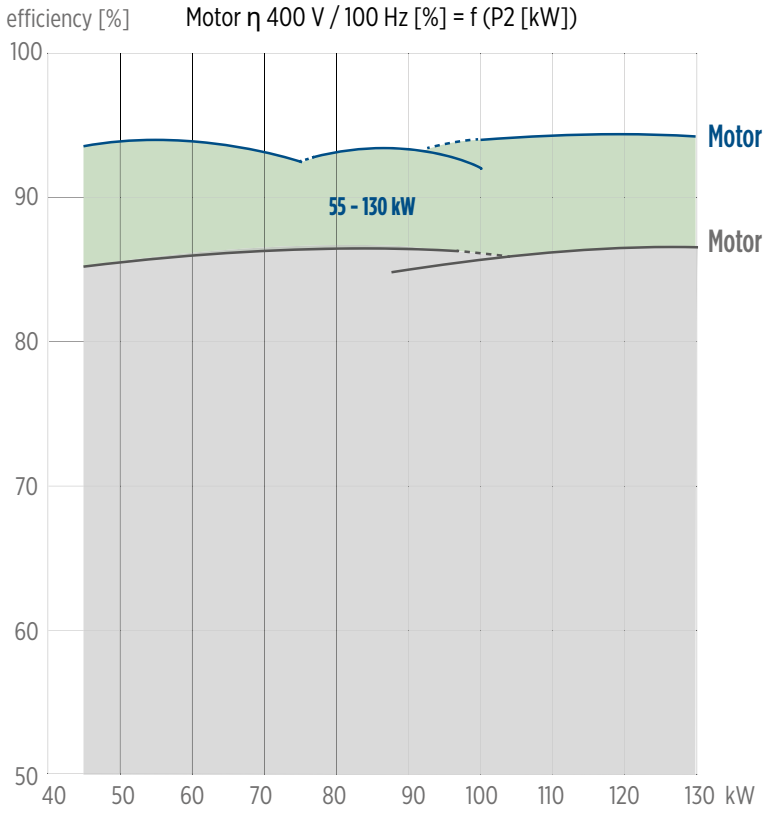


High Efficiency System

SAND FIGHTER | WATER WELL WW CI PC / 304SS | STAINLESS STEEL 316 | STAINLESS STEEL 904L

8" REWINDABLE PERMANENT MAGNET (PM) MOTOR

8REW PM MOTOR - 3-PHASE - EFFICIENCY CURVE AT 3000 RPM



HIGH EFFICIENCY

Permanent Magnet Technology

Instead of a short-circuit induction type rotor, the high efficiency motor contains a permanent magnet rotor design with buried magnets and magnetic core segments.



High efficiency electrical design for low operation costs

The permanent magnet synchronous motor provides superior efficiency, excellent energy savings and strong reliability.

No electrical rotor losses

The permanent magnet motor design eliminates electrical rotor losses resulting in lower motor amps, improved partial load behavior and reduced temperature heat rise.

Reduced motor length and weight

The PM motor has a lower weight, a reduced length and requires lower Amps to run at the same pump load.

8" REWINDABLE PERMANENT MAGNET (PM) MOTOR

8REW PM MOTOR - 3-PHASE - MOTOR MODEL NO. | DOL | 100 HZ | 400V

P_N [kW]	motor model no.		
	WW	316SS	904L
75	263 014 5311	263 014 6311	263 014 7311
100	263 016 5311	263 016 6311	263 016 7311
130	263 018 5311	263 018 6311	263 018 7311

WW - Water well design (stator: 304SS | castings: CI powder coated)
PM motors must be operated with a variable frequency drive (VFD).

HIGH EFFICIENCY

8REW PM MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 400V | 100 HZ

motor model no.	P_N [kW]	Thrust F [kN]	n_N [min^{-1}]	I_N [A]	I_A/I_N [A]	η [%]	cos phi	T_N [Nm]	T_A/T_N * [Nm]
263 014 xxxx	45	45	3000	74	1	93.3	0.96	143	1
	55	45	3000	91	1	93.3	0.96	175	1
	67	45	3000	112	1	93.0	0.96	213	1
	75	45	3000	128	1	92.5	0.96	239	1
263 016 xxxx	75	45	3000	129	1	93.5	0.95	239	1
	83	45	3000	143	1	93.3	0.95	264	1
	93	45	3000	162	1	93.0	0.95	296	1
	100	45	3000	178	1	92.7	0.95	319	1
263 018 xxxx	75	45	3000	125	1	93.8	0.97	239	1
	93	45	3000	153	1	93.7	0.97	296	1
	110	45	3000	186	1	93.3	0.97	350	1
	130	45	3000	225	1	92.6	0.96	414	1

8REW PM MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 500V | 100 HZ

motor model no.	P_N [kW]	Thrust F [kN]	n_N [min^{-1}]	I_N [A]	I_A/I_N [A]	η [%]	cos phi	T_N [Nm]	T_A/T_N * [Nm]
263 024 xxxx	45	45	3000	60	1	93.2	0.95	143	1
	55	45	3000	74	1	93.2	0.95	175	1
	67	45	3000	91	1	93.0	0.95	213	1
	75	45	3000	103	1	92.5	0.95	239	1
263 026 xxxx	75	45	3000	105	1	93.5	0.94	239	1
	83	45	3000	116	1	93.3	0.94	264	1
	93	45	3000	131	1	93.2	0.94	296	1
	100	45	3000	143	1	92.9	0.94	319	1
263 028 xxxx	75	45	3000	102	1	93.8	0.96	239	1
	93	45	3000	124	1	93.7	0.96	296	1
	110	45	3000	151	1	93.3	0.96	350	1
	130	45	3000	183	1	92.6	0.96	414	1

Performance data are based on measurements with Franklin Electric original equipment.
*Since this is an integrated system (motor and electronics), these specifications refer to the VFD input.

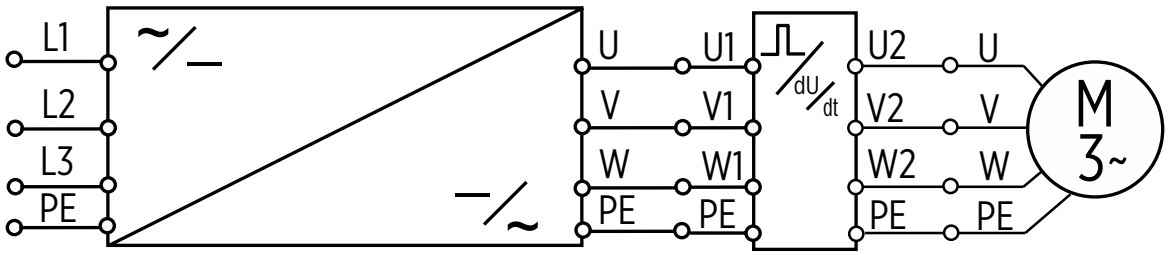
8" REWINDABLE PERMANENT MAGNET (PM) MOTOR

8REW PM MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 100 HZ | 400-500V | PE2/PA

P_N [kW]	U_N [V]	model no. winding kit	turns per coil	wire diameter [mm]	type of isolation	group connection	total wire length [m]	resistance coil [Ω]	resistance DOL (U1-V1) [Ω]
75	400	327 154 999	16	1.9/2.1 & 1.8/2.8 (2GR II)	PE2/PA	Parallel Y	290	0.146	0.167
	500	327 151 999	20	2.3/3.5 (2GR II)			350	0.235	0.235
100	400	327 155 999	12	2.0/3.1 & 2.1./3.3 (2GR II)	PE2/PA	Parallel Y	260	0.103	0.167
	500	327 144 999	17	2.5/3.8 (2GR II)			350	0.213	0.213
130	400	327 156 999	20	2.3/3.2/3.5 (4GR II)	PE2/PA	Parallel Y	486	0.115	0.121
	500								

insulation resistance (20 °C | 500 VDC)		
new motor without drop cable	400 >	MΩ
used motor without drop cable	20 >	MΩ
new motor with drop cable	4 >	MΩ
used motor with drop cable	1	MΩ

8REW PM MOTOR - 3-PHASE - CONNECTIONS | DOL

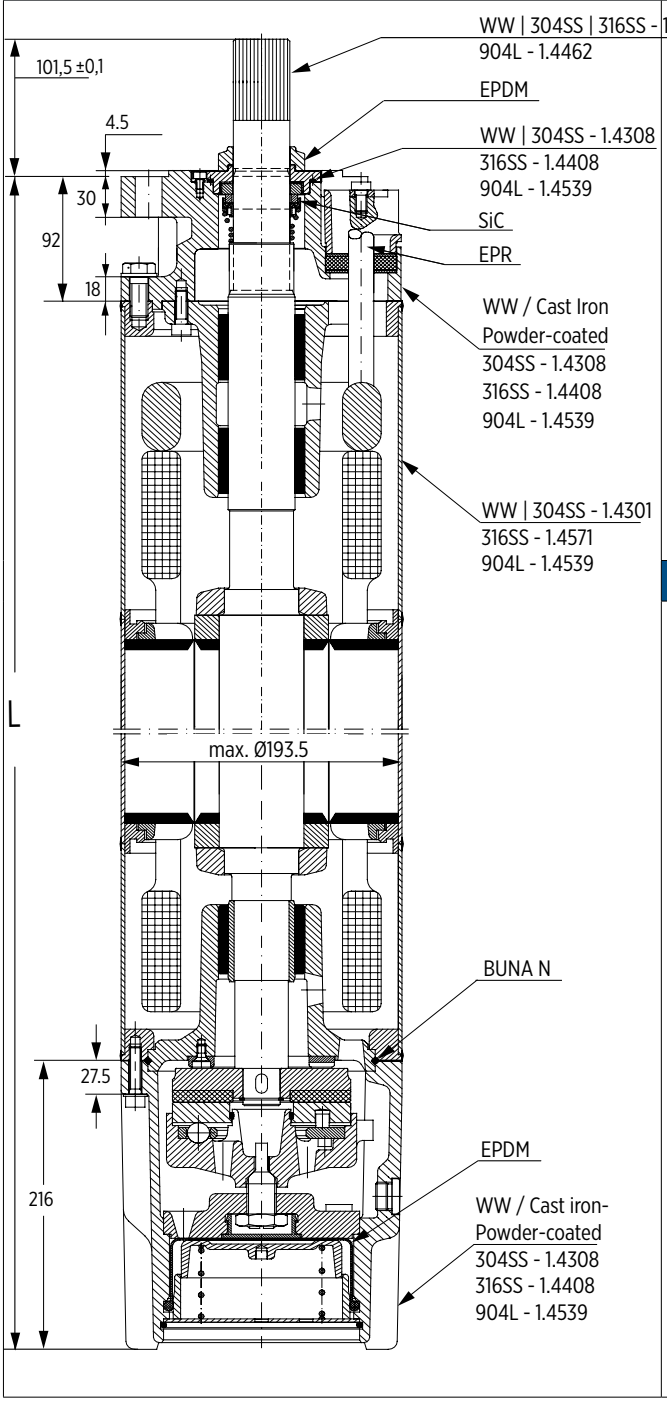


U = black (BK) | V = grey (GY) | W = brown (BN) | PE = yellow/green (YE/GN)

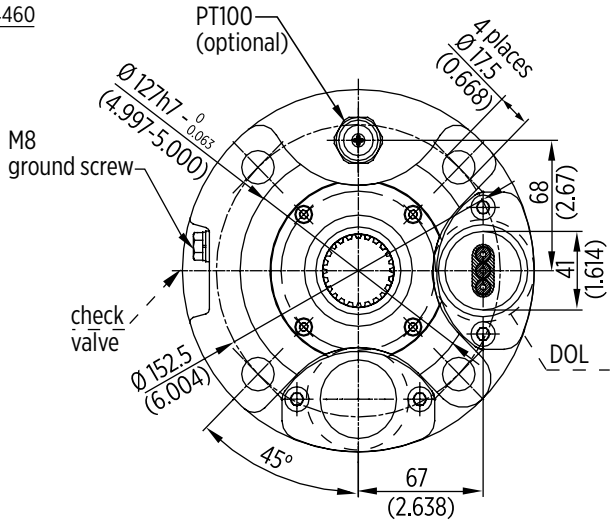
8" REWINDABLE PERMANENT MAGNET (PM) MOTOR

8REW PM MOTOR - 3-PHASE - MATERIALS | WW | 316SS | 904L

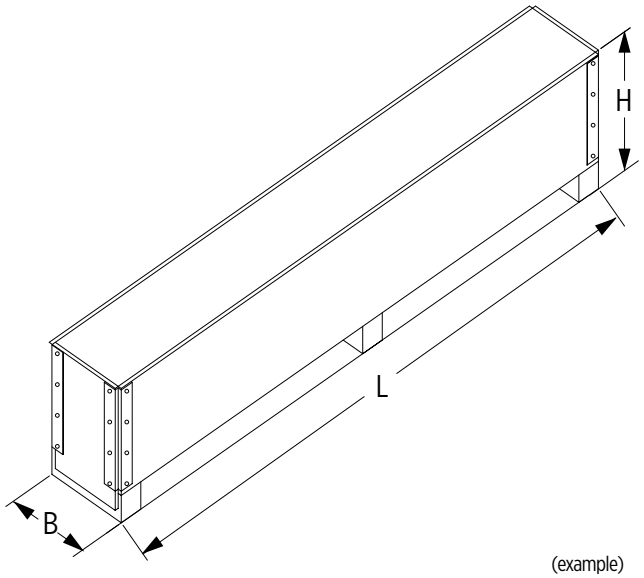
motor - WW | 316SS | 904L



upper end bell



motor box



(example)

8REW PM MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | WW | 316SS | 904L

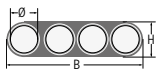
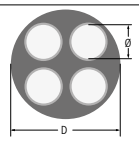
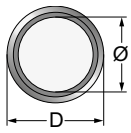
P_N [kW]	motor length L [mm]	weight [kg]		motor shipping size [mm]		
		motor [kg]	incl. motor box [kg]	B	H	L
75	1205	150	179	301	448	1596
100	1316	169	198			1596
130	1482	205	237			1996

8" REWINDABLE PERMANENT MAGNET (PM) MOTOR

8REW PM MOTOR - 3-PHASE - STATOR AND ROTOR | WW | 316SS

P_N [kW]	model no. stator WW | 316SS (incl. windings and 6 m motor lead)			model no. rotor WW | 316SS	
	U_N [V]	DOL | PE2/PA			
		motors up to 07/2017	motors starting 08/2017	motors up to 07/2017	motors starting 08/2017
75	400 V	327 154 702K	327 154 901K	161 123 811K	161 123 801K
100	400 V	327 155 702K	327 155 901K	161 123 812K	161 123 802K
130	400 V	327 156 701K	-	161 123 814K	-

8REW PM MOTOR - 3-PHASE - MOTOR LEADS | CONNECTIONS | DOL

motor lead	P_N [kW]	Ø [mm²]	dimensions H / B [mm]		length [m]	qty.	lead model no.	lead seal kit WW | 316SS	lead seal kit 904L
	75	4G16	B	38	6	1	308 710 108	308 660 618	308 660 620
			H	12.8					
	100	4G25	D	32	6	1	308 710 140	308 660 633	308 660 634
	130	3RD 1X35 + ground lead 1x35	D	15.3	6	1	308 710 151	308 660 641	308 660 642

8REW PM MOTOR - 3-PHASE - LEAD OPENING SEAL KIT

lead opening seal kit	qty.	model no.
WW | 316SS	1	308 660 617
904L	1	308 660 625

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

8REW PM MOTOR - 3-PHASE - MOTOR DROP LEADS

P_N [kW]	cable size [mm²], copper wire - 90 °C rated insulation											
	16	25	35	50	70	95	120	150	185	240	300	400
45	65	100	140	200	280	370	460					
55		85	120	170	230	300	370	450				
67			90	130	180	240	300	360	420			
75			80	115	160	200	260	310	370	460		
83				100	140	190	235	285	340	420		
93					115	160	200	240	290	350	410	
110					100	140	170	210	250	305	360	440
130						115	145	175	210	260	305	370

For lead lenghts > 120 m please consult Franklin Electric.
Further potential energy savings due to more conservative lead sizing (< 3 % voltage drop) at 50 °C ambient.

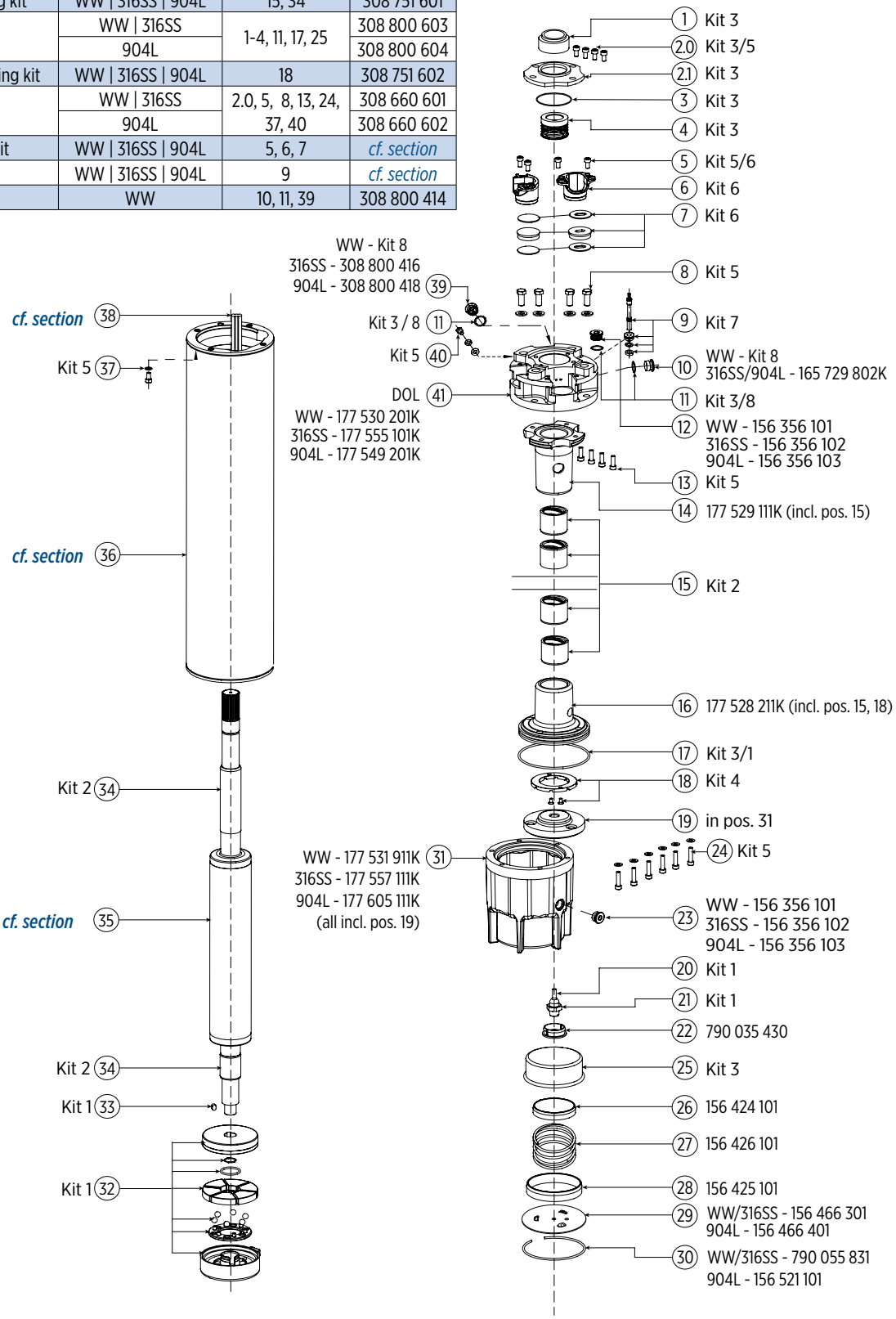
8REW PM MOTOR - 3-PHASE - REPAIR INSTRUCTIONS

- Pictured motor repair instruction WW / 316SS / 904L (model no. 308 018 697)

8" REWINDABLE PERMANENT MAGNET (PM) MOTOR

8REW PM MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | WW | 316SS | 904L

Kit	description	material	included positions	part no.
Kit 1	thrust bearing kit	WW | 316SS | 904L	17, 20, 21, 32, 33	308 750 601
Kit 2	radial bearing kit	WW | 316SS | 904L	15, 34	308 751 601
Kit 3	seal kit	WW | 316SS	1-4, 11, 17, 25	308 800 603
		904L		308 800 604
Kit 4	up-thrust bearing kit	WW | 316SS | 904L	18	308 751 602
Kit 5	screw kit	WW | 316SS	2.0, 5, 8, 13, 24, 37, 40	308 660 601
		904L		308 660 602
Kit 6	lead seal kit	WW | 316SS | 904L	5, 6, 7	*cf. section*
Kit 7	PT100 kit	WW | 316SS | 904L	9	*cf. section*
Kit 8	valve kit	WW	10, 11, 39	308 800 414



10" REWINDABLE PERMANENT MAGNET (PM) MOTOR

HIGH EFFICIENCY

FEATURES & BENEFITS

- The permanent magnet synchronous motor provides superior efficiency, excellent energy savings and strong reliability.
- Instead of a short-circuit induction type rotor, the high efficiency motor contains a permanent magnet rotor design with buried magnets and magnetic core segments.
- The permanent magnet motor design eliminates electrical rotor losses resulting in lower motor amps, improved partial load behavior and reduced temperature heat rise.
- The PM motor has a lower weight, a reduced length and requires lower Amps to run at the same pump load.
- For operation with Variable frequency drive (VFD)
- Double-flange NEMA mounting design
- Stainless steel splined shaft
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- 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)
- Drinking water approvals

STANDARD SPECIFICATION

- Ratings
  150 kW - 200 kW - 250 kW (100 Hz - 3000 rpm)
  173 kW - 230 kW - 290 kW (120 Hz - 3600 rpm)
- Max. storage temperature: -15 °C - +60 °C
- Nominal ambient temperature: 30 °C (with 0.5 m/s cooling flow)
- Standard voltage: 400 V (100 Hz), 460 V (120 Hz)
- Voltage tolerance U_N: ±10 %
- Standard motor with PE2/PA winding insulation
- protection IP68
- Protection requirements: DIN/EN 61947-4-1
- Frequency of starts: 10 starts/ hour
  (with min. 3 minutes resting time), equally distributed
- DOL-start
- All motors with factory installed leads
- Motor lead length: 6 m
- Vertical and horizontal operation, shaftend heightend
- 250 kW motors may not be installed in horizontal position (if required please contact Franklin Electric).
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)

OPTIONS

- Higher-graded material: 316SS, 904L
- Special voltages
- Retrofitable PT 100 temperature sensor
- Special lead lengths
- High Efficiency system solution





High Efficiency System

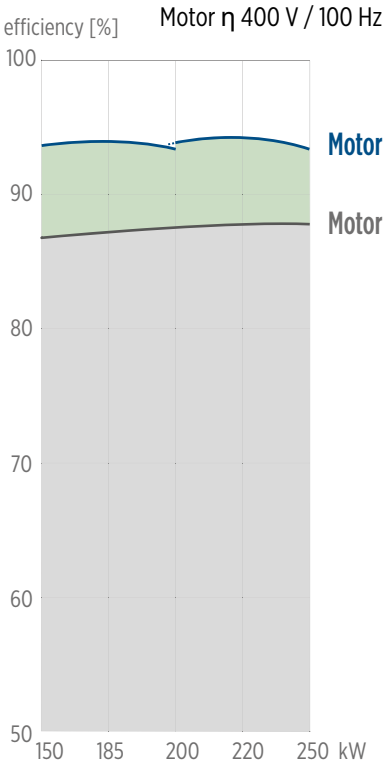


Variable Frequency drives & Accessories



10" REWINDABLE PERMANENT MAGNET (PM) MOTOR

10REW PM MOTOR - 3-PHASE - EFFICIENCY CURVE AT 3000 RPM



WATER WELL WW CI PC / 304SS | STAINLESS STEEL 316 | STAINLESS STEEL 904L



HIGH EFFICIENCY

Permanent Magnet Technology

Instead of a short-circuit induction type rotor, the high efficiency motor contains a permanent magnet rotor design with buried magnets and magnetic core segments.

High efficiency electrical design for low operation costs

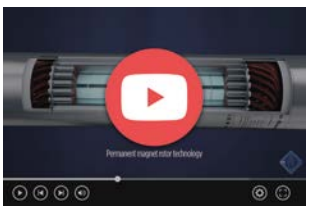
The permanent magnet synchronous motor provides superior efficiency, excellent energy savings and strong reliability.

No electrical rotor losses

The permanent magnet motor design eliminates electrical rotor losses resulting in lower motor amps, improved partial load behavior and reduced temperature heat rise.

Reduced motor length and weight

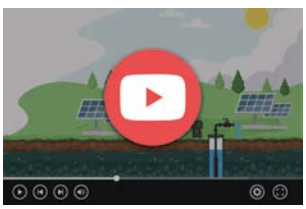
The PM motor has a lower weight, a reduced length and requires lower Amps to run at the same pump load.



permanent magnet technology



Energy savings with
High Efficiency System



Explainer video
High Efficiency System

10" REWINDABLE PERMANENT MAGNET (PM) MOTOR

10REW PM MOTOR - 3-PHASE - MOTOR MODEL NO. | DOL | 100 HZ | 400V

P_N [kW]	U_N [V]	WW	316SS	904L
150	400	264 025 5311	264 025 6311	264 025 6311
200	400	264 028 5311	264 028 6311	264 028 7311
250	400	264 029 5311	264 029 6311	264 029 7311

WW - Water well design (stator: 304SS | castings: CI powder coated)
PM motors must be operated with a variable frequency drive (VFD).

10REW PM MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 400V | 100 HZ

motor model no.	P_N [kW]	Thrust F [kN]	n_N [min^{-1}]	I_N [A]	I_A/I_N [A]	η [%]	cos phi	T_N [Nm]	T_A/T_N * [Nm]
264 025 xxxx	110	60	3000	199.5	1	93	0.93	353	1
	130	60	3000	236.1	1	93	0.93	415	1
	150	60	3000	274	1	93	0.93	478	1
264 028 xxxx	150	60	3000	284	1	94.3	0.95	478	1
	185	60	3000	354	1	94.1	0.96	589	1
	200	60	3000	389	1	93.8	0.96	637	1
264 029 xxxx	200	60	3000	377	1	94.5	0.95	637	1
	220	60	3000	423	1	94.3	0.96	701	1
	250	60	3000	497	1	93.8	0.96	796	1

10REW PM MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 460V | 120 HZ

motor model no.	P_{MAX} [kW]	n_N [min-1]	Thrust F [kN]	IMAX [A]	η [%]	cos phi	T_N [Nm]	T_N/T_A * [Nm]	T_N/T_A * [Nm]	T_A/T_N * [Nm]
264 025 xxxx	110	127	60	3600	199.5	1	93	0.93	353	1
	130	150	60	3600	236.1	1	93	0.93	415	1
	150	173	60	3600	274	1	93	0.93	478	1
264 028 xxxx	150	173	60	3600	284	1	94.3	0.95	478	1
	185	213	60	3600	354	1	94.1	0.96	589	1
	200	230	60	3600	389	1	93.6	0.96	637	1
264 029 xxxx	200	230	60	3600	377	1	94.5	0.95	637	1
	220	253	60	3600	423	1	94.3	0.96	701	1
	250	287	60	3600	497	1	93.6	0.96	796	1

Performance data are based on measurements with Franklin Electric original equipment.
* Since this is an integrated system (motor and electronics), these specifications refer to the VFD input.

10REW PM MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 100 HZ | 400-500V | PE2/PA

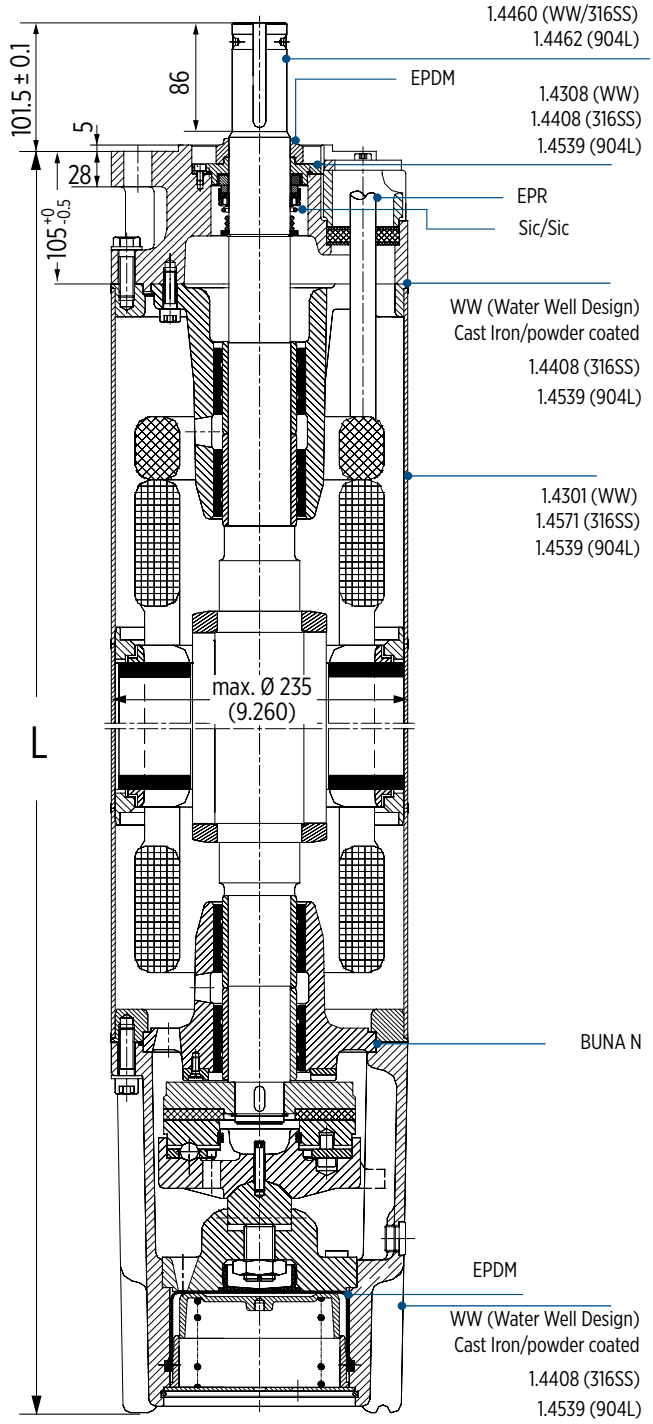
P_N [kW]	U_N [V]	model no. winding kit	turns per coil	wire diameter [mm]	type of isolation	group connection	total wire length [m]	resistance coil [Ω]	resistance DOL (U1-V1) [Ω]
150	400	327 6** ***	0	0	PE2/PA	Parallel Star	0	0	0
200	400	327 640 999	7 - 7	2,4 / 3,7 / 3,9	PE2/PA	Parallel Star	780	0,0305	0,0305
250	400	327 641 999	6 - 6	3,0 / 4,5 / 4,8	PE2/PA	Parallel Star	560	0,0265	0,0265

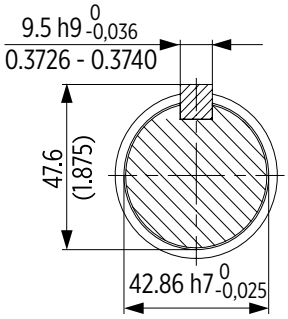
10REW PM MOTOR - 3-PHASE - INSULATION RESISTANCE DATA | 20 °C | 500 VDC

insulation resistance (20 °C | 500 VDC)		
new motor without drop cable	400 >	MΩ
used motor without drop cable	20 >	MΩ
new motor with drop cable	4 >	MΩ
used motor with drop cable	1	MΩ

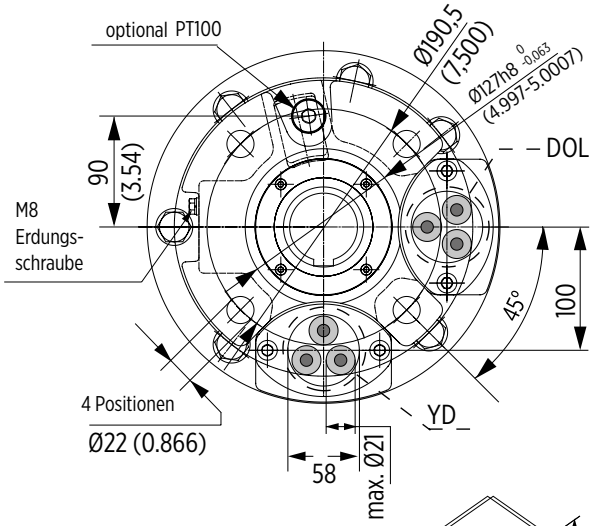
10" REWINDABLE PERMANENT MAGNET (PM) MOTOR

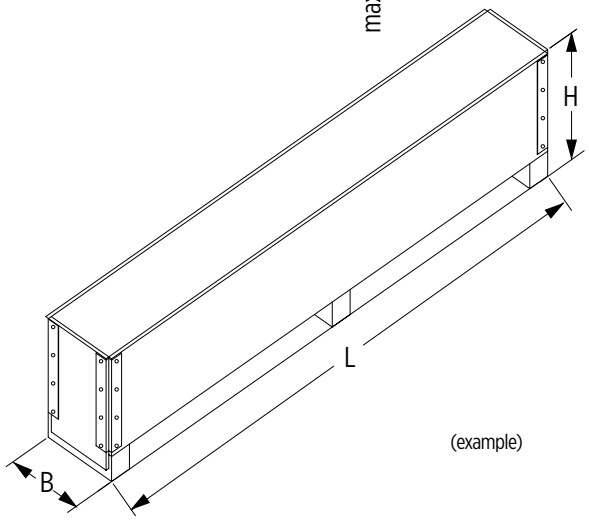
10REW PM MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | WW | 316SS | 904L





Oberes Lagerschild





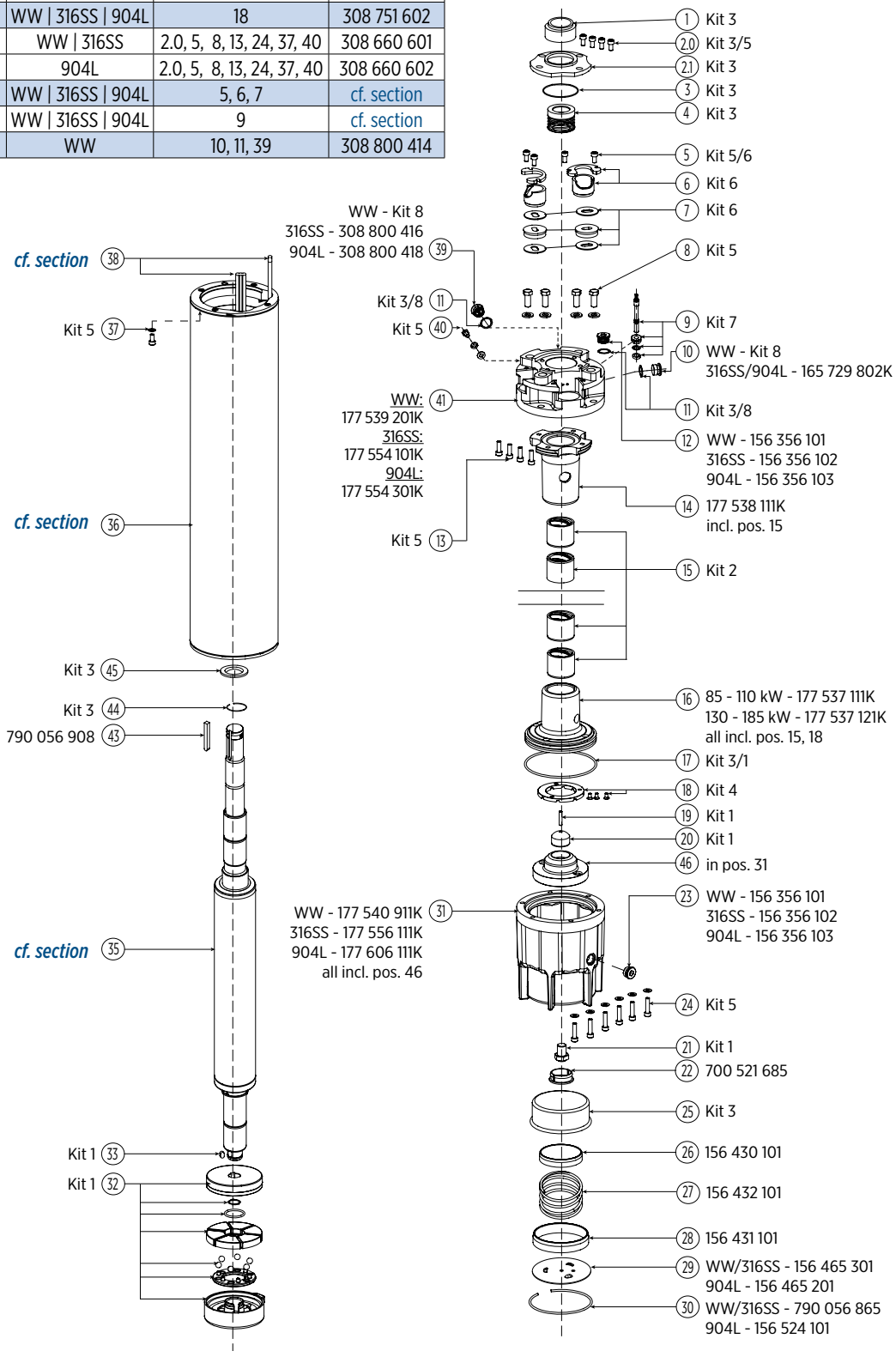
(example)

P_N [kW]	motor length L [mm]	weight [kg]		motor shipping size [mm]		
		motor [kg]	incl. motor box [kg]	B	H	L
150	1549	311	361	341	514	2246
200	1659	331	381			
250	1769	350	400			

10" REWINDABLE PERMANENT MAGNET (PM) MOTOR

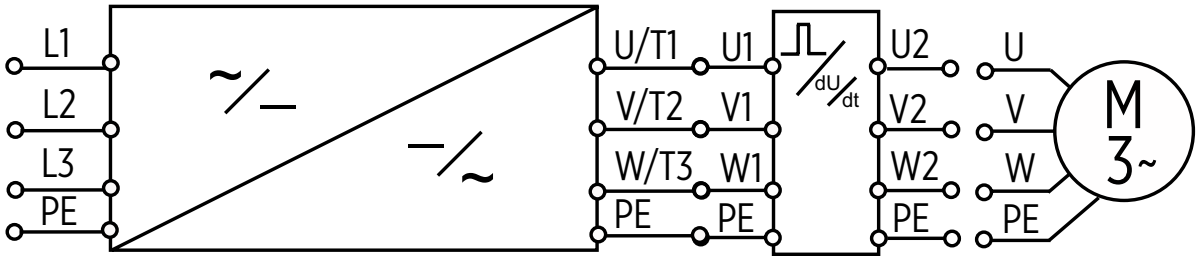
10REW PM MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | WW | 316SS | 904L

Kit	description	material	included positions	part no.
Kit 1	thrust bearing kit	WW | 316SS | 904L	17, 20, 21, 32, 33	308 750 601
Kit 2	radial bearing kit	WW | 316SS | 904L	15	308 751 601
Kit 3	seal kit	WW | 316SS	1-4, 11, 17, 25	308 800 603
	seal kit	904L	1-4, 11, 17, 25	308 800 604
Kit 4	up-thrust bearing kit	WW | 316SS | 904L	18	308 751 602
Kit 5	screw kit	WW | 316SS	2.0, 5, 8, 13, 24, 37, 40	308 660 601
	screw kit	904L	2.0, 5, 8, 13, 24, 37, 40	308 660 602
Kit 6	lead seal kit	WW | 316SS | 904L	5, 6, 7	cf. section
Kit 7	PT100 kit	WW | 316SS | 904L	9	cf. section
Kit 8	valve kit	WW	10, 11, 39	308 800 414



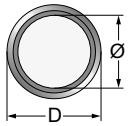
10" REWINDABLE PERMANENT MAGNET (PM) MOTOR

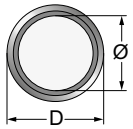
10REW PM MOTOR - 3-PHASE - CONNECTIONS



U = black (BK) | V = grey (GY) | W = brown (BN) | PE = yellow/green (YE/GN)

10REW PM MOTOR - 3-PHASE - MOTOR LEADS | CONNECTIONS | DOL

lead	P_N [kW]	U_N [V]	Ø [mm²]	D [mm]	length L [m]	qty.	model no. lead set (3 single wire lead)	model no. lead seal kit
	all ratings	400	3 x 1X70	20,7	6	1	308 711 100	308 660 740

ground lead (optional)	Ø [mm²]	D [mm]	length L [m]	qty.	lead model no.
	1G35	15,3	6	1	308 056 060
	1G70	20.3	6	1	308057 060

lead opening seal kit	qty.	model no.
WW | 316SS	1	308 660 715
904L	1	308 660 730

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

10REW PM MOTOR - 3-PHASE - STATOR AND ROTOR | WW | 316SS

P_N [kW]	U_N [V]	stator WW | 316SS incl. winding and 6 m motor lead	Rotor WW | 316SS
150	400	327 *** ***	1000000*****K
200	400	327 640 931	10000005599K
250	400	327 641 931	10000005857K

YOUTUBE VIDEOS AND TUTORIALS

- 10REW PM motor - 3-phase - repair instructions (model no.10000006792)



Tutorial 8-10 REW PT100 installation (sensor design starting 08-2025)

HIGH EFFICIENCY

ACCESSORIES

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VARIABLE FREQUENCY DRIVES (VFD)

Franklin Electric Variable Frequency Drives are designed to work in a wide range of submersible and surface pumping applications. They are offering great flexibilty, state of the art motor protection, energy savings and enhanced pump speed control while remaining easy to use.

The innovative and reliable design allows multi-purpose use across many industries and key applications such as residential constant water pressure, municipal water supply, agriculture and irrigation, dewatering and mining.



DrivE-Tech MINI

IP66 wall mounted/
Pump mounted drive



DrivE-Tech COMPACT

IP66 wall mounted/
Pump mounted drive



DrivE-Tech

IP66/65/54 wall mounted/
Pump mounted drive



Cerus X-Drive

IP20/00/
Pump mounted drive

DrivE-Tech Series
0.55 - 130 kW

CERUS X-Drive
4.0 - 250 kW

FEATURES & BENEFITS

The DrivE-Tech and Cerus X-Drive are variable frequency drives designed to control and protect three phase asynchronous and permanent magnet synchronous motors in residential, industrial, municipal, and agricultural applications. They are easy to integrate into existing infrastructure or to be used as stand-alone drive modules for individual pumping applications.

- Enhanced pump speed control
- State of the art motor and pump protection features
- Operation of induction type asynchronous motors and permanent magnet synchronous motors
- Wide performance range up to 250 kW
- Compact, innovative and reliable design
- Bluetooth connectivity and Mobile App control
- Remote Support, commissioning, and support
- CE approved



Variable Frequency drives
& Accessories



Download our comparison sheets from our website
franklinwater.eu

VARIABLE FREQUENCY DRIVES (VFD)

EASY INSTALLATION & SUPPORT

- Intuitive start-up experience with application-specific parameter pre-sets
- Setup/commissioning through user-friendly Mobile App or keypad
- Copy-paste parameter setup between multiple drives through keypad data storage or Mobile App

Unyconnect App for DrivE-Tech Series:

Google Playstore

Apple App Store

FE CONNECT App for X-Drive Series:

Google Playstore

Apple App Store



Technical Bulletin FE CONNECT One-to-One™



FE CONNECT One-to-One™



X-Drive
Variable Frequency Converter



Cerus X-Drive features



One-to-One™
Remote control feature



FE CONNECT



Tutorial DrivE-Tech COMPACT
dV/dt plug-in card mounting

VARIABLE FREQUENCY DRIVES (VFD)

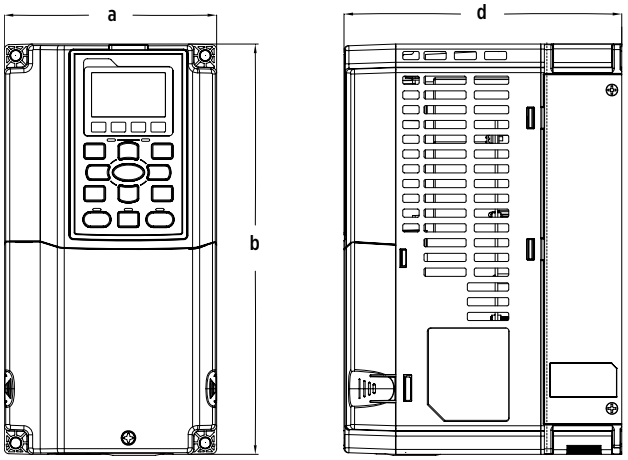
CERUS X-DRIVE

Model numbers

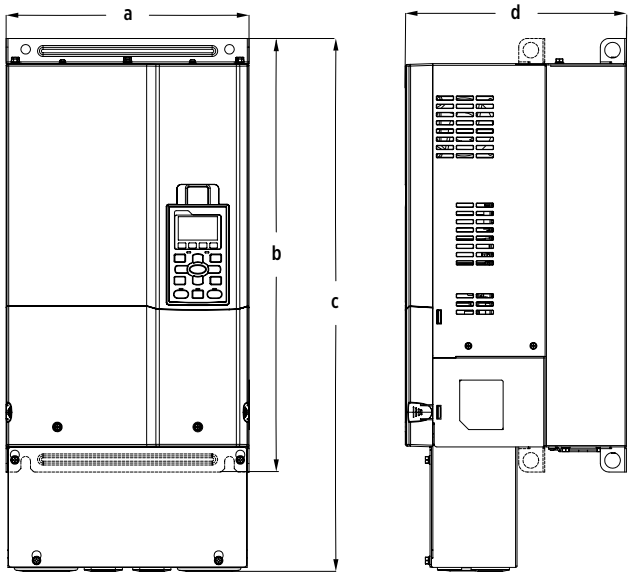
drive model no.	drive type	IP	V_{IN} [V]	I_{OUT} [A]	dimensions				weight [kg]	Frame size
					a	b	c	d		
CXD-013A-4V-K	X-Drive 13A	IP	3x380-500	13	130	250		170	3	A
CXD-018A-4V-K	X-Drive 18A	20	3x380-500	18	130	250		170	3	A
CXD-024A-4V-K	X-Drive 24A	20	3x380-500	24	190	320		190	5.5	B
CXD-032A-4V-K	X-Drive 32A	20	3x380-500	32	190	320		190	5.5	B
CXD-038A-4V-K	X-Drive 38A	20	3x380-500	38	190	320		190	5.5	B
CXD-045A-4V-K	X-Drive 45A	20	3x380-500	45	250	400		210	10	C
CXD-060A-4V-K	X-Drive 60A	20	3x380-500	60	250	400		210	10	C
CXD-073A-4V-K	X-Drive 73A	20	3x380-500	73	250	400		210	10	C
CXD-091A-4V-K	X-Drive 91A	20	3x380-500	91	280	500	614	255	27	D0
CXD-110A-4V-K	X-Drive 110A	20	3x380-500	110	280	500	614	255	27	D0
CXD-150A-4V-K	X-Drive 150A	20	3x380-500	150	330	550	688	275	40	D
CXD-180A-4V-K	X-Drive 180A	20	3x380-500	180	330	550	688	275	40	D
CXD-220A-4V-K	X-Drive 220A	20	3x380-500	220	370	589	716	300	65	E
CXD-260A-4V-K	X-Drive 260A	20	3x380-500	260	370	589	716	300	65	E
CXD-310A-4V-K	X-Drive 310A	20	3x380-500	310	420	800	940	300	87	F
CXD-370A-4V-K	X-Drive 370A	20	3x380-500	370	420	800	940	300	87	F
CXD-460A-4V-K	X-Drive 460A	20	3x380-500	460	500	1000	1240	397	135	G
CXD-530A-4V-K	X-Drive 530A	20	3x380-500	530	500	1000	1240	397	135	G

* Optional input filter on request (X-Drive 13A - 73A)

Dimensions



Cerus X-Drive
Frame A, Frame B, Frame C



Cerus X-Drive
Frame D, Frame DO, Frame E, Frame F, Frame G

VARIABLE FREQUENCY DRIVES (VFD)

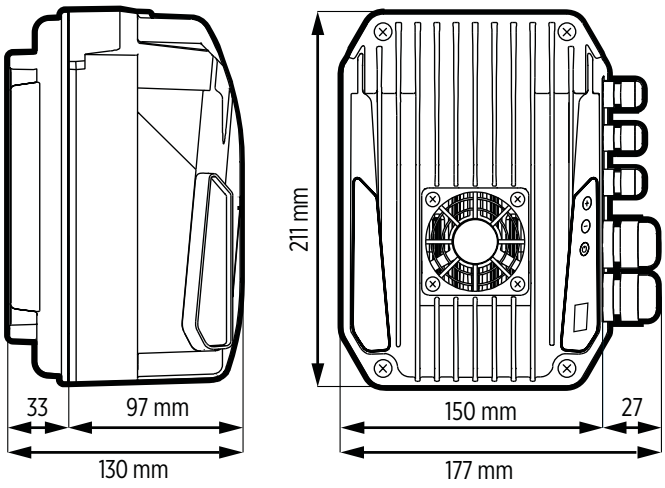
DRIVE-TECH MINI

Model numbers

Drive model no.	drive type	IP	V_{IN} [V]	I_{OUT} [A]	dimensions [mm]	weight [kg]
002149005	DT MINI 2.005 M/T	66	1x220-240	3	150 x 211 x 130	2.5
002149112	DT MINI 2.011 M/T	66	1x220-240	5	150 x 211 x 130	2.5
002149152	DT MINI 2.015 M/T	66	1x220-240	7.5	150 x 211 x 130	2.5
314000170	DT MINI 2.022 M/T	66	1x220-240	8.5	150 x 211 x 130	2.5
314000162	DT MINI 4.011 T/T	66	3x380-460	4	150 x 211 x 130	2.5
314000163	DT MINI 4.022 T/T	66	3x380-460	6	150 x 211 x 130	2.5
314000164	DT MINI 4.040 T/T	66	3x380-460	10.5	150 x 211 x 130	2.5

drive model no.	drive type	IP	V_{IN} [V]	VDC_{IN} [V]	I_{OUT} [A]	dimensions [mm]	weight [kg]
314000165	DT MINI Solar 2.005 M/T	66	1x220-240	400	3	150 x 211 x 130	2.5
314000166	DT MINI Solar 2.011 M/T	66	1x220-240	400	5	150 x 211 x 130	2.5
314000167	DT MINI Solar 2.015 M/T	66	1x220-240	400	7.5	150 x 211 x 130	2.5

Dimensions



VARIABLE FREQUENCY DRIVES (VFD)

DRIVE-TECH COMPACT

Model numbers

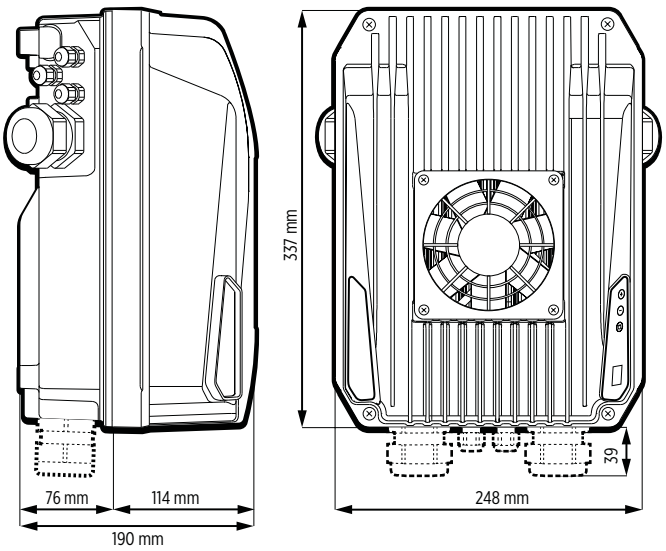
drive model no.	drive type	IP	V_{IN} [V]	I_{OUT} [A]	dimensions [mm]	weight [kg]
002152090	DT COMPACT 2.022 M/T	66	1x220-240	9.5	248 x 337 x 190	10
002152120	DT COMPACT 2.030 M/T	66	1x220-240	12.5	248 x 337 x 190	10
002152180	DT COMPACT 2.040 M/T	66	1x220-240	18.5	248 x 337 x 190	10
002150140	DT COMPACT 4.055 T/T	66	3x380-460	14	248 x 337 x 190	10
002150180	DT COMPACT 4.075 T/T	66	3x380-460	18	248 x 337 x 190	10
002150250	DT COMPACT 4.110 T/T	66	3x380-460	25	248 x 337 x 190	10
002150300	DT COMPACT 4.150 T/T	66	3x380-460	30	248 x 337 x 190	10
002150380	DT COMPACT 4.185 T/T	66	3x380-460	38	248 x 337 x 190	10
002150440	DT COMPACT 4.220 T/T	66	3x380-460	44	248 x 337 x 190	10

drive model no.	drive type	IP	V_{IN} [V]	I_{OUT} [A]	dimensions [mm]	weight [kg]
002150141	DT COMPACT Solar 4.055 T/T	66	3x380-460	14	248 x 337 x 190	10
002150181	DT COMPACT Solar 4.075 T/T	66	3x380-460	18	248 x 337 x 190	10
002150251	DT COMPACT Solar 4.110 T/T	66	3x380-460	25	248 x 337 x 190	10
002150301	DT COMPACT Solar 4.150 T/T	66	3x380-460	30	248 x 337 x 190	10
002150381	DT COMPACT Solar 4.185 T/T	66	3x380-460	38	248 x 337 x 190	10
002150441	DT COMPACT Solar 4.220 T/T	66	3x380-460	44	248 x 337 x 190	10

drive model no.	drive type	IP	V_{IN} [V]	I_{OUT} [A]	dimensions [mm]	weight [kg]
002150142	DT COMPACT 4.055 T/T PT100	66	3x380-460	14	248 x 337 x 190	10
002150182	DT COMPACT 4.075 T/T PT100	66	3x380-460	18	248 x 337 x 190	10
002150252	DT COMPACT 4.110 T/T PT100	66	3x380-460	25	248 x 337 x 190	10
002150302	DT COMPACT 4.150 T/T PT100	66	3x380-460	30	248 x 337 x 190	10
002150382	DT COMPACT 4.185 T/T PT100	66	3x380-460	38	248 x 337 x 190	10
002150442	DT COMPACT 4.220 T/T PT100	66	3x380-460	44	248 x 337 x 190	10

* supports PT100 motor temperature protection

Dimensions



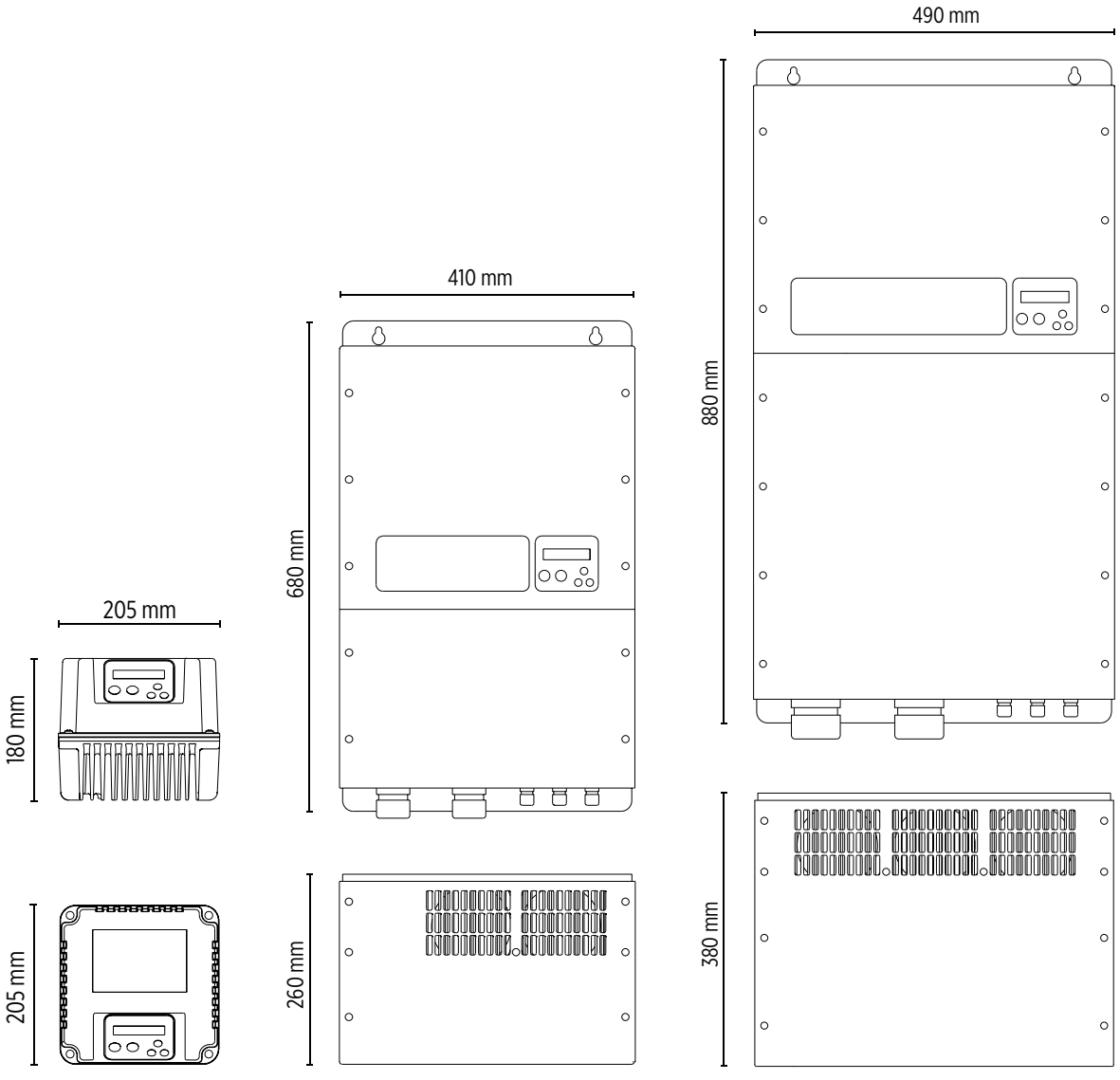
VARIABLE FREQUENCY DRIVES (VFD)

DRIVE-TECH

Model numbers

drive model no.	drive type	IP	V_{IN} [V]	I_{OUT} [A]	dimensions [mm]	weight [kg]	Frame size
002149115	DRIVE-TECH 2.015 M/T 7A - M/M 9A	66	1x220-240	7	180 x 180 x 205	5	1
002149131	DRIVE-TECH 2.030 M/T 11A - M/M9A	66	1x220-240	11	180 x 180 x 205	5	1
002149185	DRIVE-TECH 4.185 T/T 38A	54	3x380-460	38	410 x 680 x 260	40	3
002149220	DRIVE-TECH 4.220 T/T 48A	54	3x380-460	48	410 x 680 x 260	40	3
002149300	DRIVE-TECH 4.300 T/T 65A	54	3x380-460	65	410 x 680 x 260	40	3
002149370	DRIVE-TECH 4.370 T/T 75A	54	3x380-460	75	410 x 680 x 260	40	3
002149450	DRIVE-TECH 4.450 T/T 85A	54	3x380-460	85	410 x 680 x 260	40	3
002149550	DRIVE-TECH 4.550 T/T 118A	54	3x380-460	118	490 x 880 x 380	80	4
002149750	DRIVE-TECH 4.750 T/T 158A	54	3x380-460	158	490 x 880 x 380	80	4
002149900	DRIVE-TECH 4.900 T/T 185A	54	3x380-460	185	490 x 880 x 380	80	4
002151100	DRIVE-TECH 4.1100 T/T 215A	54	3x380-460	215	490 x 880 x 380	80	4
002151320	DRIVE-TECH 4.1320 T/T 268A	54	3x380-460	268	490 x 880 x 380	80	4

Dimensions



VARIABLE FREQUENCY SOLAR DRIVES

DRIVE-TECH SOLAR MP / DRIVE-TECH MINI SOLAR MP / DRIVE-TECH COMPACT SOLAR MP

Specific Drive-Tech, Drive-Tech MINI and Drive-Tech COMPACT variable frequency drives are available for use in solar powered water pumping applications. These drive models can be directly supplied by a VDC solar array without the need of additional equipment and offer the same features as AC grid supplied models. An advanced MPPT algorithm offers best performance during times with less sunlight available, increases water output and ensures a reliable and steady pump operation.



DrivE-Tech MINI Solar MP

IP66 wall mounted / Pump mounted solar drive



Drive-Tech COMPACT Solar MP

IP66 wall mounted / Pump mounted solar drive



Drive-Tech Solar MP

IP65/54 wall mounted / Pump mounted solar drive

PV Solar Supply [VDC]	AC Grid Supply [VAC]	Input f [Hz]	Max V_{OUT} [VAC]	DTm Solar MP	DTC Solar MP	DT Solar MP
90-400 (650)	1- 90-265	50/60	3x 250	0,55-2,2 kW	(2,2-4,0 kW)	-
320-850	3- 190-520	50/60	(3x250) 3x400	-	4,0-22 kW	(4,0) - 130 kW

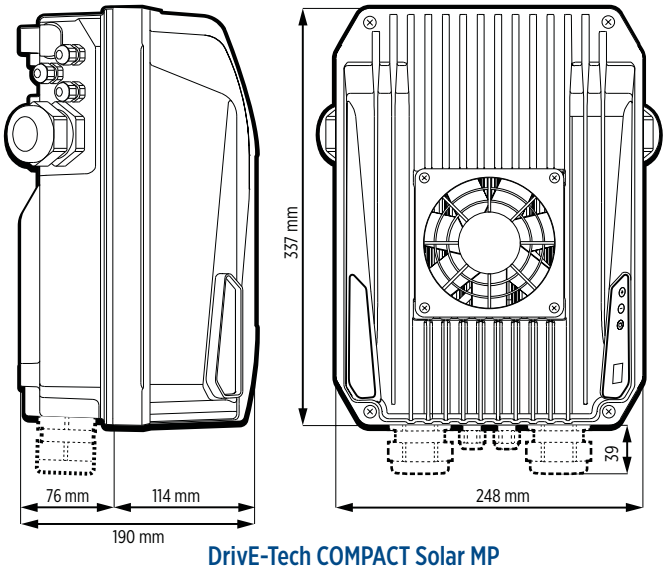
Model numbers

Drive PN	drive type	IP	VAC_{IN} [V]	Max VDC_{IN} [V]	I out [A]	dimensions [mm]	weight [kg]
314000165	DT MINI Solar 2.005 MP 3A	66	1x220-240	400	3		2.5
314000166	DT MINI Solar 2.011 MP 5A	66	1x220-240	400	5	150 x 211 x 130	2.5
314000167	DT MINI Solar 2.015 MP 7,5A	66	1x220-240	400	7.5	150 x 211 x 130	2.5
314000210	DT COMPACT Solar 2.022 MP 9,5A	66	1x220-240	650	9.5	248 x 337 x 190	10
314000211	DT COMPACT Solar 2.030 MP 12,5A	66	1x220-240	650	12.5	248 x 337 x 190	10
314000212	DT COMPACT Solar 2.040 MP 18,5A	66	1x220-240	650	18.5	248 x 337 x 190	10
002150141	DT COMPACT Solar 4.055 MP 14A	66	3x380-460	850	14	248 x 337 x 190	10
002150181	DT COMPACT Solar 4.075 MP 18A	66	3x380-460	850	18	248 x 337 x 190	10
002150251	DT COMPACT Solar 4.110 MP 25A	66	3x380-460	850	25	248 x 337 x 190	10
002150301	DT COMPACT Solar 4.150 MP 30A	66	3x380-460	850	30	248 x 337 x 190	10
002150381	DT COMPACT Solar 4.185 MP 38A	66	3x380-460	850	38	248 x 337 x 190	10
002150441	DT COMPACT Solar 4.220 MP 44A	66	3x380-460	850	44	248 x 337 x 190	10
314000161	DT Solar 3.030 MP 14A	66	3x380-460	850	14	260 x 260 x 180	9
002149A08	DT Solar 4.220 MP 48A	54	3x380-460	850	48	410 x 680 x 260	40
002149A09	DT Solar 4.300 MP 65A	54	3x380-460	850	65	410 x 680 x 260	40
002149A10	DT Solar 4.370 MP 75A	54	3x380-460	850	75	410 x 680 x 260	40
002149A11	DT Solar 4.450 MP 85A	54	3x380-460	850	85	410 x 680 x 260	40
002149A12	DT Solar 4.550 MP 118A	54	3x380-460	850	118	490 x 880 x 380	80
002149A13	DT Solar 4.750 MP 158A	54	3x380-460	850	158	490 x 880 x 380	80
002149A14	DT Solar 4.900 MP 185A	54	3x380-460	850	185	490 x 880 x 380	80
002149A15	DT Solar 4.1100 MP 215A	54	3x380-460	850	215	490 x 880 x 380	80
002149A16	DT Solar 4.1320 MP 268A	54	3x380-460	850	268	490 x 880 x 380	80

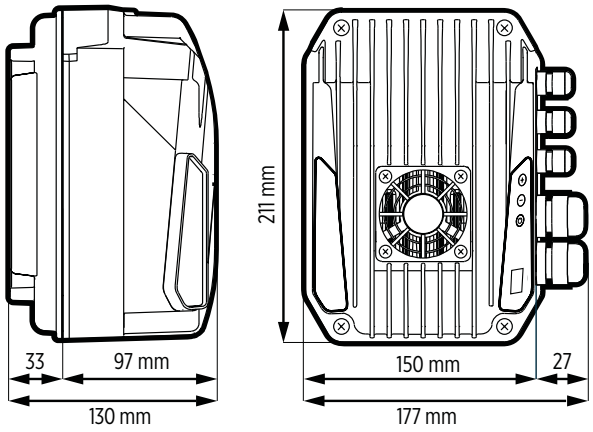
* DrivE-Tech Solar 4.220 - 4.1320 on request (non-stock item)

VARIABLE FREQUENCY SOLAR DRIVES

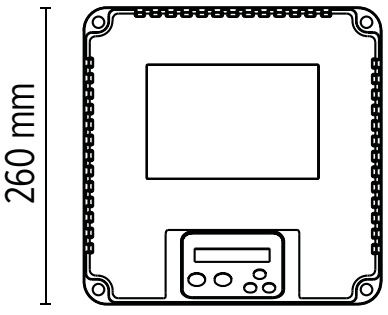
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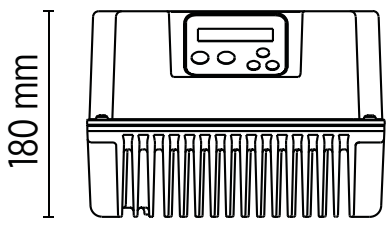


DrivE-Tech COMPACT Solar MP

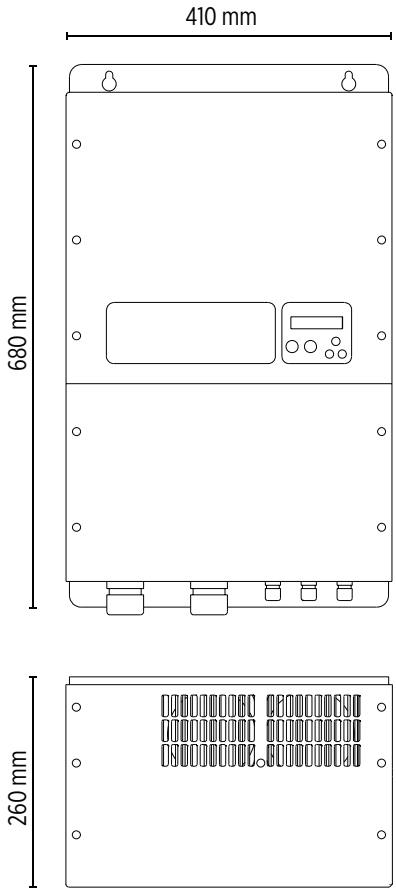


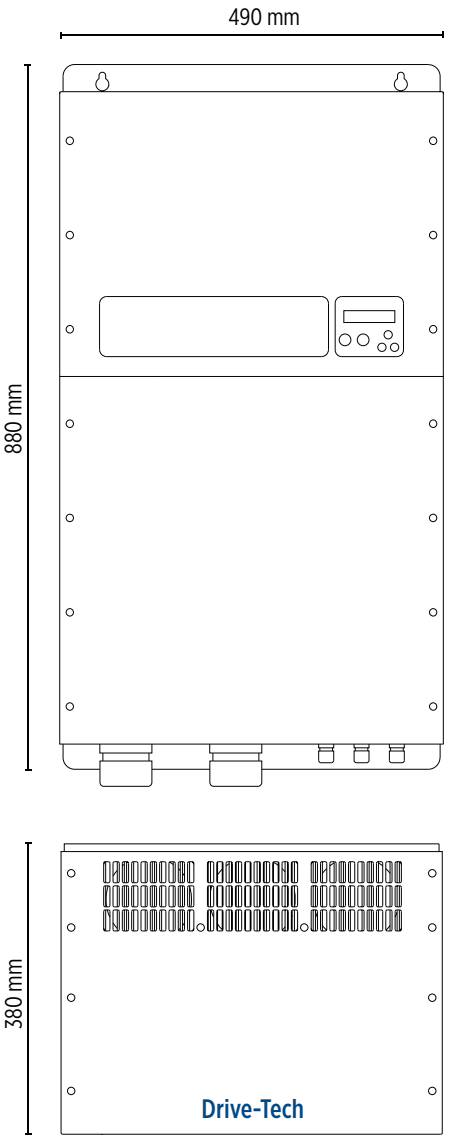
DrivE-Tech MINI Solar MP





Drive-Tech Solar MP





Drive-Tech

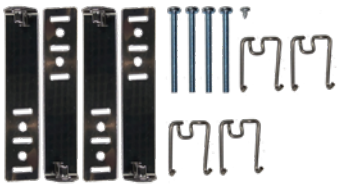
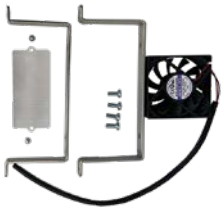
VARIABLE FREQUENCY DRIVE ACCESSORIES

PRESSURE TRANSDUCER

Transducer part no.	Type	Range	Signal [mA]	Material	
002851075	Pressure sensor without cable	0-10 Bar	4-20	304SS	
002851080	Pressure sensor without cable	0-16 Bar	4-20	304SS	
002851085	Pressure sensor without cable	0-25 Bar	4-20	304SS	
002852211	Pressure sensor with 2m shielded cable	0-16 Bar	4-20	304SS	
002851088	Pressure sensor with 2m shielded cable	0-16 Bar	4-20	316SS	

MOTOR AND WALL MOUNTING KITS

DrivE-Tech

Type	Kit model no.	
Motor Mounting Kit for DrivE-Tech 2.015, 2.030, 4.022, 4.040 ■ Screws and connectors ■ Motor mounting frames	14211110	
Wall installation kit for 2.015, 2.030, 4.022, 4.040 ■ Fan with protective grid ■ Screws and connectors ■ Wall mounting plate	14211121	
Wall installation kit for DT 4.055 - 4.150 ■ Fan 2x ■ Screws and connectors ■ Wall mounting frames ■ cover plate	14211030	

DrivE-Tech COMPACT

Type	Kit model no.	
Wall installation kit for DT Compact 2.022 - 4.221 ■ Screws and connectors ■ Wall mounting plate	002150WK0	

VARIABLE FREQUENCY DRIVE ACCESSORIES

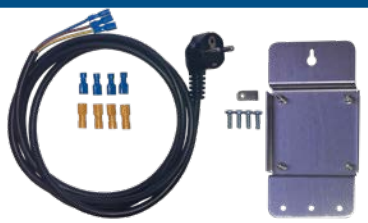
PLUG-IN OUTPUT FILTER CARD

DrivE-Tech COMPACT

Kit part no.	Type	
002150FC0	DTC plug-In dV/dt filter card 32A DTC 4.055 - 4.150	

QUICK SETUP ACCESSORY KIT

DrivE-Tech MINI

part no.	Type	
002150AP0	Wall mounting plate 1.50 m SCHUKO supply cable FASTON cable connectors	

DRIVE-TECH ACCESSORIES

DrivE-Tech

part no.	Type	
308216110	KIT IOT WIFI DRIVE-TECH ■ Remote control / monitoring via WIFI ■ 32 GB SD storage card ■ High-performance antenna	
308206110	KIT IOT GSM DRIVE-TECH ■ Remote control / monitoring vis GSM ■ 32 GB SD storage card ■ High-performance antenna ■ SIM card not included	

VARIABLE FREQUENCY DRIVE ACCESSORIES

X-DRIVE ACCESSORIES

Cerus X-Drive

part no.	Type	
10000004840	Bluetooth communications card for X-Drive	
CXD-KPD	X-Drive replacement keypad	
CMC-EIP01 CMC-EIP02	Modbus TCP / Ethernet Card	
MKC-KPPK	X-Drive control panel door mounting kit	

CERUS X-DRIVE PUMP CONTROL PANEL

3~ Intelligent motor/pump control & protection

Designed for demanding applications in water supply, pressure boosting and irrigation, the X-Drive control panel delivers precise speed control, reliable protection and optimal performance for modern pumping applications.

All-in-one: Compact and reliable control panel with preconfigured CERUS X-Drive, ready for operation.

Flexible control: Integrated HAND-OFF-AUTO switch to easily select between manual and automatic pump control mode

Intuitive operation: Preinstalled user keypad with LCD display, Bluetooth connectivity and remote control via mobile app

Robust & durable: Robust IP54 rated control panel to be used in harsh environments

Easy installation: Reduced commissioning time due to preprogrammed CERUS X-Drive



Specification

Pump & Motor Control Cerus X-Drive pump control panel	
Applications	Water supply, Irrigation, Dewatering, Pressure Control
power range	4 - 150 kW
Enclosure rating	IP54
Standard voltage	3-phase | 380/400 V | 50/60 Hz
Compatibility	3-phase synchronous and asynchronous motors
Input Voltage	380 (-15%) - 460 V (+10%)
Maximum ambient temperature	-25 °C - 40 °C
Ambient Humidity	20% - 90% RH, non-condensing
Automatic Motor tuning	Yes
Remote control	Bluetooth Connectivity FE Connect App
Application Settings	Selectable Application Presets
Dry Run Protection	Sensorless
User Keypad	Yes - Removable
User Mode	Manual and Automatic Mode
Analog Input	3 analog input (4 - 20 mA) / 0-10 V
No. of pumps	1
No. of level probes	up to 3
Dimensions	Frame size A (B|C|D|E|F)
Mounting	wall / floor mounting
Start-up procedure	Speed controlled ramp
Protective functions	sensorless dry-running detection blocked pump/shaft overload protection undervoltage protection surge protection water level phase loss / failure

Model no.

part no.	P [kW]*	V_{IN} [V]	$I_{NOMINAL}$ [A]	Output Filter
CXP013A4VB	4-5,5	380-460	13	built-in
CXP018A4VB	7,5-9,3	380-460	18	built-in
CXP024A4VB	11	380-460	24	built-in
CXP032A4VB	15	380-460	32	built-in
CXP038A4VB	18.5	380-460	38	optional
CXP045A4VB	22	380-460	45	optional
CXP060A4VB	30	380-460	60	optional
CXP073A4VB	37	380-460	73	optional
CXP091A4VB	45	380-460	91	optional
CXP110A4VB	55	380-460	110	optional
CXP150A4VB	75-83	380-460	150	optional
CXP180A4VB	93-100	380-460	180	optional
CXP220A4VB	110	380-460	220	optional
CXP260A4VB	130	380-460	260	optional
CXP310A4VB	150	380-460	310	optional

Identification code

CXP	150A	4V	B

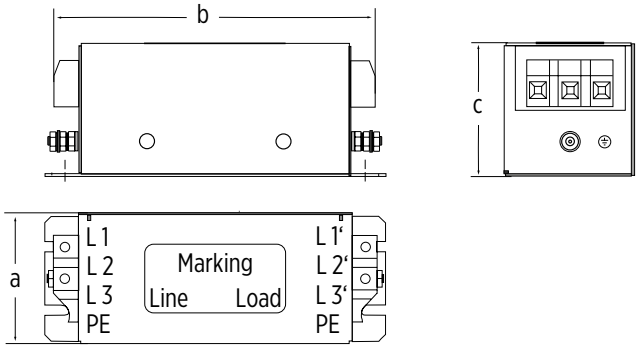
- B — Basic Configuration
- 4V — Phases | Output voltage 3PH | 380 - 460 V
- 150A — Output current 13 - 310 A
- CXP — Cerus X-Drive pump control panel

INPUT FILTER

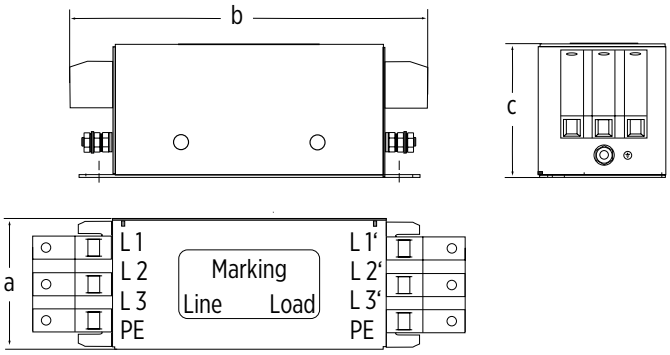
- A VFD input filter or EMI/EMC filter reduces the transfer of electromagnetic noise between the drive and mains power supply. Input filters can be used to improve electromagnetic compatibility in certain environements or if a higher level of filtering is desired.
- Required when using 3x400 V AC induction and permanent magnet motors with VFD
- The size of the input filter is selected according to the VFD nominal input current [A].
- For use with 3ph input VFD (e.g. 3x400V)

filter model no.	Type	IP	$V_{NOMINAL}$ [V]	$I_{NOMINAL}$ [A]	dimensions [mm]	weight [kg]
On Request	EMI/EMC	20	380 - 520	20	58 x 150 x 58	1
On Request	EMI/EMC	20	380 - 520	50	85 x 217 x 80	1.5
On Request	EMI/EMC	20	380 - 520	80	95 x 256 x 90	2.5

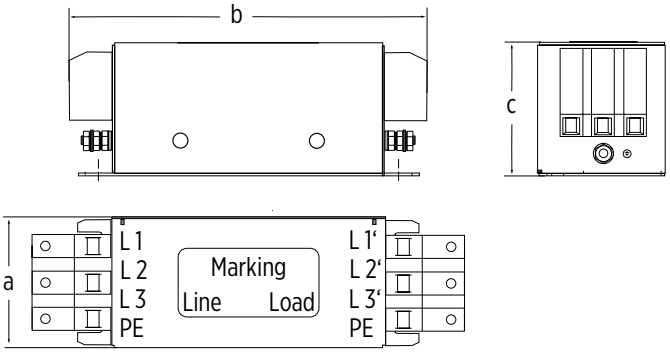
B84143A0010R106, B84143A0020R106 (10 A, 20 A)



B84143A0050R106, B84143A0065R106 (50 A, 65 A)



B84143A0080R106 (80 A)



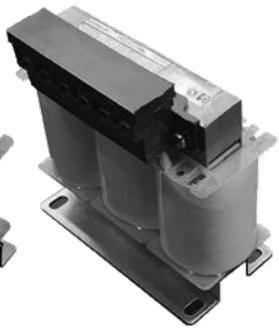
input filter REV.00 08-2023

DV/DT OUTPUT FILTER

- A VFD output filter or load reactor acts as an additional impedance between VFD and motor. It protects the motor winding and reduces the voltage stress by decreasing the voltage rise time (dV/dt) and tampering the output voltage waveform of the VFD. Optimizing the VFD output voltage waveform into a more suitable profile prevents the risk of high voltage reflexion caused by long motor cable length.
- Required when using 3x400 V AC induction and permanent magnet motors with VFD
- Use dV/dt output filter for motor cable lengths of 4 - 120 m.
- Use Sinus output filter for motor cable lengths greater than 120 m.
- The size of a dV/dt or Sinus filter must be selected according to the nominal motor current [A]
- For use with 3x400 V AC induction and permanent magnet motors
- Protects motor winding against high voltage peaks and increases lifetime
- Reduces motor noise
- Improves EMC and reduces emissions



Sinus output filter



dV/dt output filter

Model no. dV/dt output filter IP00

filter model no.	Type	IP	$V_{NOMINAL}$ [V]	$I_{NOMINAL}$ [A]	fs [kHz]	Dimensions a x b x c [mm]	Mounting	weight [kg]
*002352414	dV/dt	00	380 - 460	14	4	120 x 67 x 115	wall / floor	2.7
*002352432	dV/dt	00	380 - 460	32	4	140 x 75 x 150	wall / floor	3.5
*002352490	dV/dt	00	380 - 460	90	4	180 x 120 x 200	wall / floor	8
314005301	dV/dt	00	380 - 460	38	2-6	155 x 80 x 165	wall / floor	3.5
314005302	dV/dt	00	380 - 460	105	2-6	230 x 145 x 210	wall / floor	11.5
314005303	dV/dt	00	380 - 460	140	2-6	230 x 145 x 210	wall / floor	12
314005304	dV/dt	00	380 - 460	150	2-6	230 x 145 x 210	wall / floor	12
314005305	dV/dt	00	380 - 460	205	2-6	230 x 155 x 210	wall / floor	13
308005306	dV/dt	00	380 - 460	310	2-6	265 x 200 x 235	wall / floor	28
314005307	dV/dt	00	380 - 460	460	2-6	300 x 200 x 280	wall / floor	30
314005308	dV/dt	00	380 - 460	590	2-6	300 x 240 x 285	floor	40

* Mountable filter (optional filter box available)

Model no. dV/dt output filter IP54

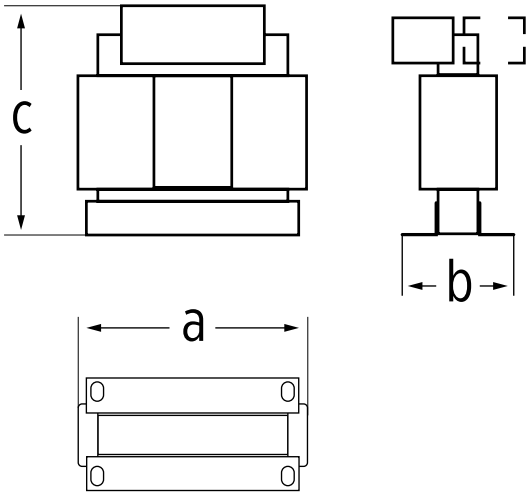
filter model no.	type	IP	$V_{NOMINAL}$ [V]	$I_{NOMINAL}$ [A]	fs [kHz]	Dimensions a x b x c [mm]	Mounting	weight [kg]
*002352414	dV/dt	54	380 - 460	14	4	164 x 196 x 141	wall	4.2
*002352432	dV/dt	54	380 - 460	32	4	164 x 196 x 141	wall	5
*002352490	dV/dt	54	380 - 460	45	4	264 x 339 x 211	wall	11.5
314005309	dV/dt	54	380 - 460	62	2-6	400 x 250 x 500	wall	18
314005310	dV/dt	54	380 - 460	88	2-6	400 x 250 x 500	wall	21
314005311	dV/dt	54	380 - 460	140	2-6	400 x 250 x 500	wall	25
314005312	dV/dt	54	380 - 460	205	2-6	400 x 500 x 250	wall	29
314005313	dV/dt	54	380 - 460	310	2-6	500 x 500 x 250	floor	40

* Mountable filter (optional filter box available)

Franklin Electric

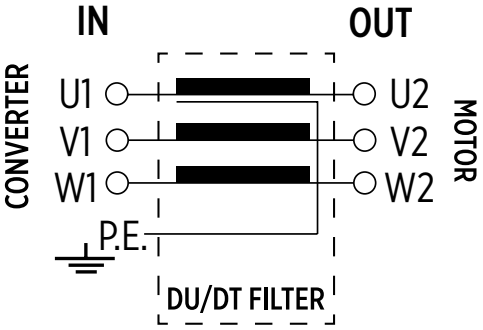
DV/DT OUTPUT FILTER

IP00 dV/dt filter outlines

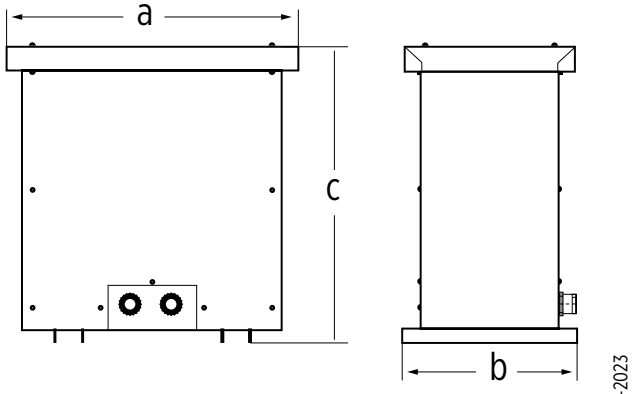


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filter connection plan

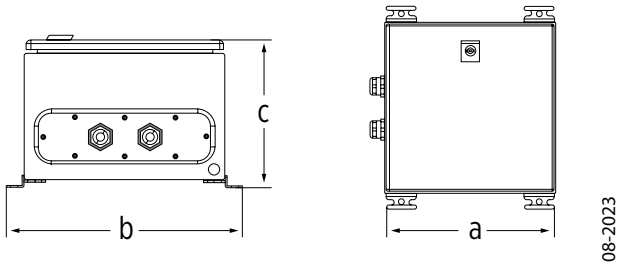


IP54 filter outlines floor mount



08-2023

IP54 filter outlines wall mount



08-2023

ACCESSORIES

Plug-In Output Filter Card

DrivE-Tech COMPACT
DTC plug-In dV/dt filter card
32A DTC 4.055 - 4.150



Kitv part no.
002150FC0

SINUS OUTPUT FILTER

Model no. Sinus output filter IP00

filter model no.	type	IP	$V_{NOMINAL}$ [V]	$I_{NOMINAL}$ [A]	fs [kHz]	Dimensions a x b x c [mm]	Mounting	weight [kg]
*002347013	Sinus	00	380 - 460	14	4	180 x 105 x 210	wall / floor	10
*002347011	Sinus	00	380 - 460	32	4	240 x 115 x 280	wall / floor	17.5
*002347012	Sinus	00	380 - 460	115	4	300 x 150 x 285	floor	42
314005325	Sinus	00	380 - 460	38	≥4	240 x 200 x 270	wall / floor	17
314005326	Sinus	00	380 - 460	105	≥4	360 x2 80 x 320	floor	43
314005327	Sinus	00	380 - 460	140	≥4	360 x 280 x 320	floor	55
314005328	Sinus	00	380 - 460	205	≥4	420 x 330 x 380	floor	85
314005329	Sinus	00	380 - 460	261	≥4	420 x 380 x 380	floor	120
314005330	Sinus	00	380 - 460	310	≥4	480 x 500 x 430	floor	120
314005331	Sinus	00	380 - 460	460	≥4	480 x 550 x 430	floor	175
314005332	Sinus	00	380 - 460	590	≥4	480 x 600 x 560	floor	235

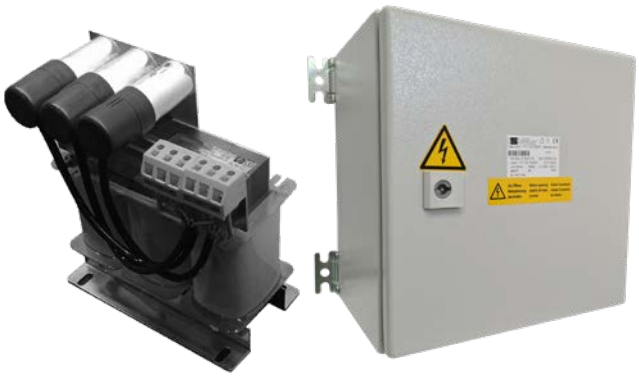
* Mountable filter (optional filter box available)

Model no. Sinus output filter IP54

filter model no.	type	IP	$V_{NOMINAL}$ [V]	$I_{NOMINAL}$ [A]	fs [kHz]	Dimensions a x b x c [mm]	Mounting	weight [kg]
*002347013	Sinus	54	380 - 460	14	4	264 x 339 x 211	wall	13.5
*002347011	Sinus	54	380 - 460	32	4	264 x 339 x 211	wall	21
314005333	Sinus	54	380 - 460	38	≥4	400 x 250 x 500	floor	30
314005334	Sinus	54	380 - 460	105	≥4	600 x 350 x 750	floor	78
314005335	Sinus	54	380 - 460	140	≥4	600 x 350 x 760	floor	85
314005336	Sinus	54	380 - 460	205	≥4	855 x 630 x 670	floor	130
314005337	Sinus	54	380 - 460	261	≥4	1050 x 760 x 750	floor	180
314005338	Sinus	54	380 - 460	310	≥4	1050 x 760 x 750	floor	180

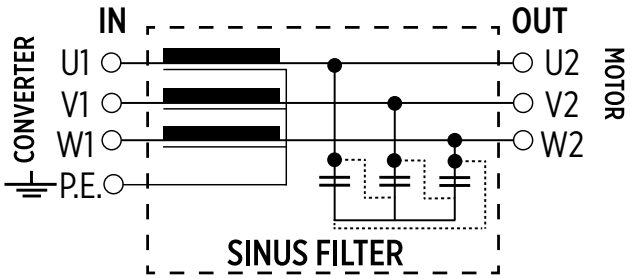
* Mountable filter (optional filter box available)

SINUS OUTPUT FILTER

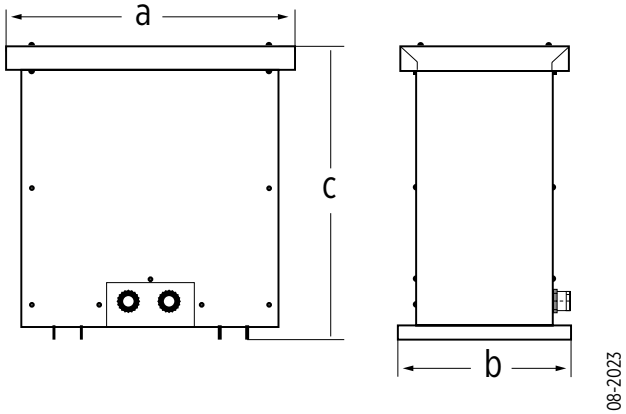


Sinus output filter

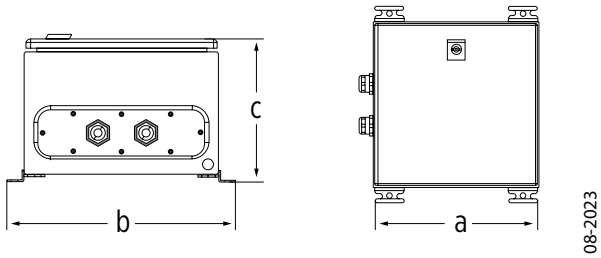
filter connection plan



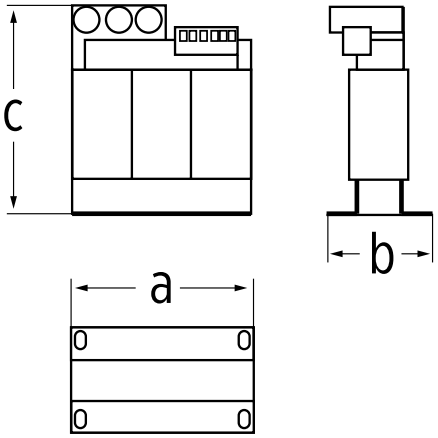
IP54 filter outlines wall mount



IP54 filter outlines wall mount



IP00 Sinus filter outlines



OUTPUT FILTER ACCESSORIES

filter housing

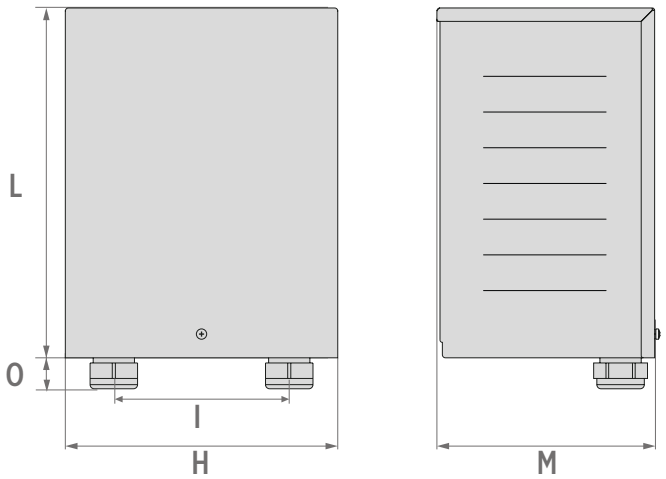


- Optional output filter boxes can be used in combination with dedicated output filter models to increase the IP enclosure rating and protect the output filter when installed outside of a control panel.
- Please refer to the below table to select the correct output filter box. Due to the thermal characteristics and heat dissipation of an output filter it is required to apply a 50% output filter current [A] derating when IP 54 rated filter boxes are used.
- Example: Installing the 32A dV/dt output filter model (002352432) in the IP54 rated filter box (box size 1) will limit the max. output filter current to 50% = 16A max. output filter current.

			IP23		IP54		
			Box Size		Box Size		
			1	2	1	2	3
filter type	[A]	part no.	002150FB0	002150FB1	002150FB2	002150FB3	002150FB4
dV/dt	14	002352414	✓	✓	✓	✓	✓
	32	002352432	✓	✓	50% derating	✓	✓
	90	002352490	x	✓	x	50% derating	✓
Sinus	14	002347013	x	✓	x	✓	✓
	32	002347011	x	✓	x	✓	✓
	115	002347012	x	x	x	x	✓

Box Size	part no.	Dimensions [mm]				
		L	H	M	O	I
1	002150FB0	196	164	141	29	100
1	002150FB2	196	164	141	29	100
2	002150FB1	339	264	211	30	170
2	002150FB3	339	264	211	30	170
3	002150FB4	800	600	400		

Dimensions



MOTOR CONTROLS

SMART CONTROL BOX (SCB)

Intelligent pump protection with the Smart Control Box (SCB)

- **Reliable protection**: Integrated protection functions such as sensorless dry-running detection, overload, under- and overvoltage protection, phase failure and direction of rotation detection ensure maximum operational reliability.
- **Flexible control**: Whether via level or pressure switches, level probes or time control – the SCB adapts to your application.
- **Intuitive operation**: Dynamic LCD display, easy switching between operating modes and automatic pump calibration
- **Robust & durable**: With an IP65-rated housing, a temperature range of -25 °C to +55 °C and wall mounting, the SCB is designed for use in the harshest conditions.
- **Easy installation**: Removable plug-in terminals and cable lengths of up to 1000 m for sensor connections facilitate integration into existing systems.

Protective functions

- sensorless dry-running detection
- blocked pump/shaft
- overload protection
- undervoltage protection
- surge protection
- phase failure
- Phase reversal - Direction of rotation

Technical Specification	
power range	0.37 – 2.2 kW (1ph) | 0.75 – 15 kW (3ph)
motor type	1-phase 230V PSC motor (permanent split capacitor) / 3-phase 400V asynchronous motor
voltage	1-phase, 220/230 V | 50/60 Hz 3-phase, 380/400 V | 50/60 Hz
number of pumps	1
start-up procedure	direct-on-line start (DOL)
No. of Level probes	up to 6
Automatic pump calibration	Yes
ambient temperature	-25 °C - 55 °C
humidity	20% - 90% RH, non-condensing
degree of protection	IP65
Mounting	wall mounting,
Typical areas of application	Domestic water supply, Irrigation, Tank level control, Pressure boosting, Wastewater
Automatic and Manual Mode	Yes
External Sensor Connection	Yes



Model No.	Type	P [kW]	V_{IN} [V]	$I_{NOMINAL}$ [A]	$I_{FULL\ LOAD}$ [A]	Capacitor [µF]
284 630 3512	SCB55	0,37 - 0,55	230	4	20	20
284 632 3512	SCB11	0,75 - 1,1	230	7.8	20	35
284 633 3512	SCB15	1.5	230	10	20	50
284 634 3512	SCB22	2.2	230	14	20	70
284 634 4612	SCB*	0,37 - 2,2	230	14	20	-

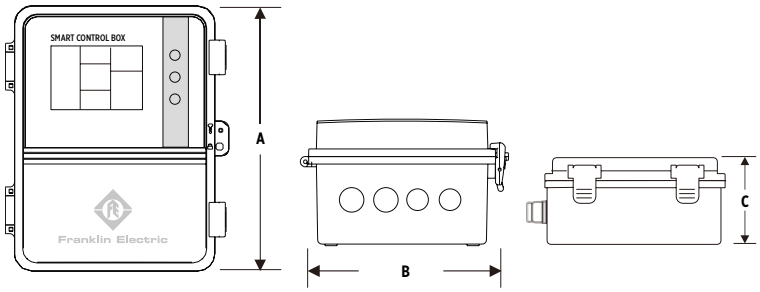
* Typical asynchronous motor

Model No.	Type	P [kW]	V_{IN} [V]	$I_{NOMINAL}$ [A]	$I_{FULL\ LOAD}$ [A]
288 520 3512	SCB340	0.55	400	1.6	12
		0.75	400	2	12
		1.1	400	3	12
		1.5	400	4	12
		2.2	400	5.5	12
		3	400	7.5	12
		4	400	10	12
SCB375	288 521 3512	5.5	400	13	18
SCB375	288 521 3512	7.5	400	18	18
SCB311	288 522 3512	11	400	23.5	25
SCB315	288 523 3512	15	400	31.3	32

MOTOR CONTROLS

SMART CONTROL BOX (SCB)

Dimensions | Weight



Length [A]	Width [B]	Height [C]	Weight [kg]
229	193	116	1~ > 1,6 / 3~ > 1,8

Cable Glands

Cable Glands	Tightening Torque [Nm]	Cable Diameter Ø [mm]
M20	6	7-13
M20	6	7-13
M22	6	10-16
M22	6	10-16

MOTOR CONTROLS

SMART CONTROL BOX DUO (SCBD)

Smart Control Box Duo (SCBD) | Intelligent Control for Dual-Pump Systems

The Smart Control Box Duo (SCBD) from Franklin Electric is the intelligent solution for controlling, monitoring, and protecting two pumps. Designed for demanding applications in water supply, pressure boosting, and wastewater treatment, the SCBD combines state-of-the-art control technology, comprehensive protection features, and maximum flexibility in a rugged enclosure.

Technical specification	
Power range:	0.37 – 2.2 kW (1-phase) 0.55 – 15 kW (3-phase)
Motor type:	230 V PSC motors (1-phase) 400 V Asynchrone motors (3-phase)
Supply Voltage:	1PH 230V / 3PH 400 V (50/60 Hz)
Number of pumps:	Up to 2 pumps
Start-up procedure:	direct-on-line start (DOL)
Analog Sensor Inputs:	4-20 mA
Digital level inputs:	Up to 6 level switches or level sensors
Communication:	Modbus
Alerting:	Audible Alarm, Alarm Light
Enclosure Protection Rating:	IP65
Protective functions:	Sensorless dry-run detection Pump/shaft jam Overload protection Undervoltage protection Overvoltage protection Phase failure Phase reversal - direction of rotation

- **Intelligent control of two pumps:** Alternating and parallel operation of up to two pumps
- **Precise control with 4–20 mA sensors:** Connection of analog 4–20 mA transducers (such as pressure or level sensors)
- **Flexible level monitoring:** Connection of up to six single-pole level probes or four 2-wire level switches
- **Modbus communication:** Integrated Modbus interface for easy integration of the controller into building management systems and remote monitoring solutions
- **Visual and audible alarms:** Integrated audible alarm and highly visible alarm light for quick and unambiguous signaling of malfunctions
- **Easy operation:** Reduced installation effort thanks to automatic pump calibration
- **Robustness and durability:** Reliable operation even under demanding operating conditions



Models and Performance Ranges

SCBD 3-Phase | 380/400 V | 50/60 Hz					
Type	model no.	P_N [kW]	Description	V_{IN} [V]	$I_{MAX.}$ [A]
SCBD340	288 520 6512	0,55 - 4,0	SCBD340-0.55-4.0-400-3PH-2PUMP	400	25
SCBD375	288 521 6512	5,5 - 7,5	SCBD375-5.5-7.5-400-3PH-2PUMP	400	25
SCBD311	288 522 6512	11	SCBD311-11-400-3PH-2PUMP	400	25
SCBD315	288 523 6512	15	SCBD315-15-400-3PH-2PUMP	400	50

SCBD 1-Phase | 220/230 V | 50/60 Hz					
Type	model no.	P_N [kW]	Description	V_{IN} [V]	$I_{MAX.}$ [A]
SCBD22	284 634 6512	0,37 - 2,2	SCBD22-0.37-2.2-230-1PH-2PUMP	230	25

Cable Glands

Screw Connection	Tightening Torque	Cable Diameter
M24	6	10-16
M24	6	10-16
M24	6	10-16
M16	6	3-8
M16	6	3-8
M16	6	3-8

Dimensions

Length L [mm]	Width [[mm]	Altitude [mm]
342	253	130

Dimensions Package

Length L [mm]	Width [mm]	Altitude [mm]
450	310	140

Weight

Weight [kg]
3.3

MOTOR CONTROLS

SUBMONITOR MOTOR PROTECTION

Reliable protection for 3-phase pumps and motors in the power range of 2.2 to 150 kW

- Monitoring of motor current, voltage, and motor temperature via three integrated current transformers
- Underload and overload monitoring
- Undervoltage and overvoltage monitoring
- Current unbalance monitoring
- Detection of motor overheating on motors equipped with a SubMonitor sensor
- Detection of false starts (chattering)
- Phase reversal detection

Technical Specification	
Input Voltage	190 – 600 VAC
Frequency	50/60 Hz
Motor Service Factor Amps	3 to 359 Amps
Maximum conductor size through sensors	
Max. diameter	0.920 in. (23 mm)
Trip response	
Underload, Overload, Undervoltage, Overvoltage, Overheat, Unbalance	3 seconds
Control Circuit Rating	1.5 Amp AC, Up to 600 volts
Signal Circuit Rating	1 Amp AC, up to 250 volts
Wiring Terminals	
Wire Gauge	#12 to #18 AWG
Tighten to	4.5 in-lbs
Weight | Dimensions	
Weight	2.75 kg
Package size	197 mm x 292 mm x 171 mm
Shipping Weight	3.1 kg

Wide Operating Range
- Suitable for motors with rated currents from 3 to 359 A
- One protection device covers the entire voltage range from 190 to 600 V

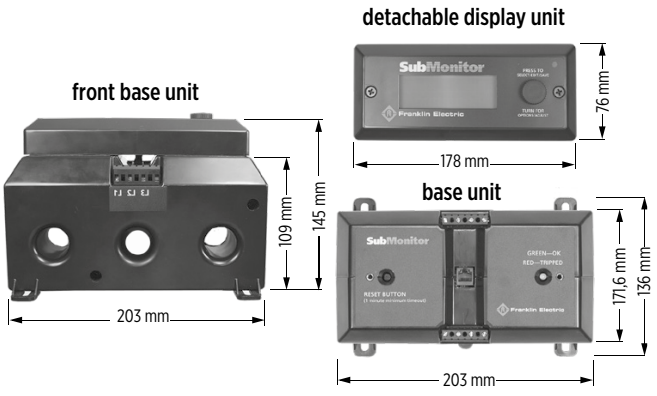
Easy Setup and Operation
- Quick and easy setup by directly entering rated frequency, rated voltage, and motor current
- Easy setup via the digital display
- Optional password protection

Clear Operating and Fault Indication
- Display of current and voltage readings for all three phases
- Display of the current operating status and possible fault causes
- Stored data can be accessed directly via the display

Operating Data Storage
- Storage of up to 500 events and setting changes
- Storage of pump run times

Flexible Mounting
- 35 mm DIN rail mounting
- Detachable NEMA 3R display for external mounting, e.g. in the control cabinet

Approvals
- UL 508 / CE approved
- Integrated lightning protection





part no.
586 000 5100

D3 Data Download Tool



- D3 is a service tool that provides the capability to download data from SubMonitor and transfer that data to a PC.
- includes: D3 unit, Transfer software, USB cable

part no.
585 001 1100

MOTOR CONTROL

SUBSTART SC

Single-phase Submersible Motor Starter

- Covers all PSC motors from 0.25 kW to 2.2 kW for all voltages
- Easy installation / Wall mounting
- Housing in PVC / polycarbonate, protection according to IP54
- Voltage Tolerance: 220 - 240 V; -6 / +10 %; 50 Hz single phase
- Reliable protection features
- Integrated thermal circuit breaker
- High-quality motor run capacitor for long-life endurance
- Thermal overload circuit brake with manual reset

Technical Specification	
Range	0.25 - 2.2 kW
Input Voltage	220 - 240 V, -6/+10 %, 50 Hz, single phase
Current [A]	2.2 - 16 A
Protection degree	IP54 protection
Housing	PVC / Polycarbonate
Mounting	wall mounting
Temperature	-5°C - +55 °C
Ambient Humidity	50 % at 55°C (without condensation)
Standard	IEC 60439-1

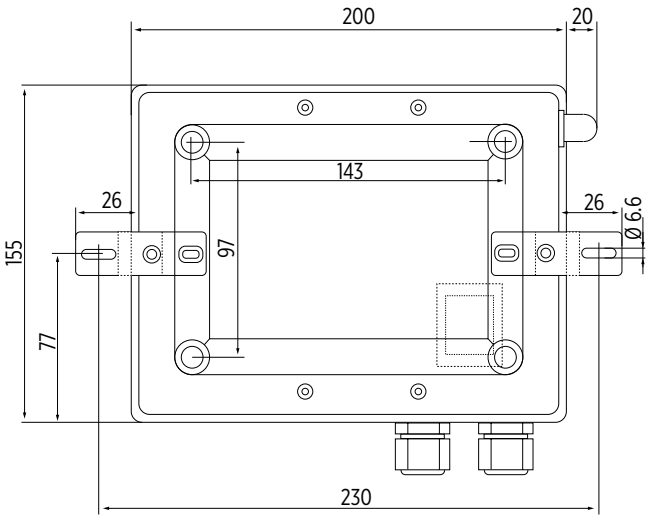
Model No.

part no. [1]	type [2]	Ratings [3] [kW]	Nominal current [4] [A]	Max. expected current [5] [A]	Capacitor [µF] 450 V AC
284 623 3510	SS025SC	0.25	2.4	9.4	12.5
284 624 3510	SS037SC	0.37	3.3	12.6	16
284 625 3510	SS055SC	0.55	4.3	17.7	20
284 626 3510	SS075SC	0.75	5.7	22.7	35
284 627 3510	SS110SC	1.1	8.4	33.9	40
284 628 3510	SS150SC	1.5	10.7	41.7	50
284 629 3510	SS220SC	2.2	14.7	61.8	70

[1] Can be used with both 220-230V and 230-240V PSC motor ranges.
[2] Type indicates motor power rating and motor type.
[3] Nominal supply current at nominal voltage
[4] Motor starting current under nominal conditions

Dimensions | Weight

dimensions [mm]			shipping dimensions [mm]			Weight [kg]
Length [A]	Width [B]	Depth [C]	Length [A]	Width [B]	Depth [C]	
195	168	85	240	180	100	1

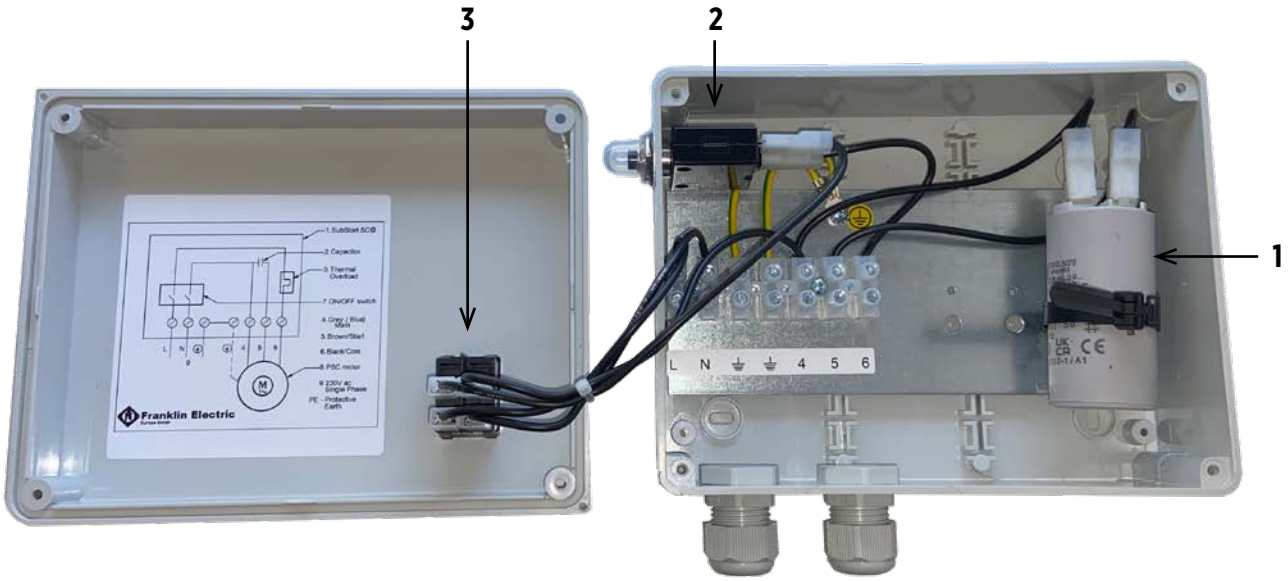




ACCESSORIES

MOTOR CONTROL

SUBSTART SC ACCESSORIES



1 SubStart SC Capacitor Kit



Ratings [kW]	model no.	Capacitor [µF]
0.25	308 005 801	12.5
0.37	308 005 802	16
0.55	308 005 803	20
0.75	308 005 804	35
1.1	308 005 805	40
1.5	308 005 806	50
2.2	308 005 807	70

2 SubStart SC Overload Kit



Ratings [kW]	model no.	Ampere
0.25	308 005 811	3
0.37	308 005 812	5
0.55	308 005 813	6
0.75	308 005 814	8
1.1	308 005 815	10
1.5	308 005 816	13
2.2	308 005 817	18

3 SubStart SC Rotary Switch Kit



part no.
308 005 822

SubStart Rocker Switch Kit



part no.
308 005 821

MOTOR CONTROL

MOTOR CONTROL BOXES 1~ 3- WIRE

Control and Protection of Franklin Electric 3-wire single phase motors

Technical Specification	
Input Voltage	50 Hz: 220 / 230 V 60 Hz: 115 / 230 V
Protection degree	IP 23
Housing	Metal version
Maximum ambient temperature	-20 °C - +40 °C
Ambient Humidity	50 % at 55°C (without condensation)
Starting capacitor included	
Manual reset overload	



Motor Control Boxes 1~ 3- wire | 50 Hz

3-wire motors		Control Box 50 Hz	
[kW]	[V]	model no.	Weight [kg]
0.25	220 / 230	280 355 2115	1.8
0.37			1.8
0.55	220 / 230	280 357 2115	1.8
0.75	220 / 230	280 358 2115	1.8
1.1	220 / 230	282 350 8114	2.3
1.5	220 / 230	282 351 8114	2.3
2.2	220 / 230	282 352 8114	3.2
3.7	220 / 230	282 253 4014	5.1

P_N [kW]	Control Box model no.	Relay-Kit	Qty.	Start Capacitor		Qty.	Run Capacitor		Qty.	Overload relay main phases	Qty.	Overload relay start phases	Qty.
0.37	280 355 2115	305 213 912	1	305 218 957	48µF | 220V	1	-	-	0	•	1	0	0
0.55	280 357 2115	305 213 912	1	305 218 906	65µF | 220V	1	-	-	0	•	1	0	0
0.75	280 358 2115	305 213 912	1	305 218 918	95µF | 220V	1	-	-	0	•	1	0	0
1.1	282 350 8114	305 213 912	1	305 207 913	115µ | 220V	1	305 204 902	10µF | 370V	1	305 215 914	1	0	0
1.5	282 351 8114	305 213 912	1	305 208 915	208µF | 220V	1	305 204 903	20µF | 370V	1	305 215 902	1	305 215 906	1
2.2	282 352 8114	305 213 912	1	305 208 919	300µF | 220V	1	305 203 902	35µF | 370V	1	305 215 915	1	305 215 918	1
3.7	282 253 4014	305 213 912	1	305 208 915	208µF | 220V	2	305 203 909	45µF | 370V	1	305 214 902	1	305 215 902	1
							305 203 901	30µF | 370V	1				

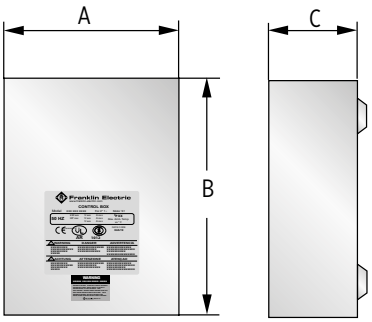
Motor Control Boxes 1~ 3- wire | 60 Hz

3-wire motors		Control Box 50 Hz	
[kW]	[V]	model no.	Weight [kg]
0.44	115	280 102 4915	1.8
	230	280 103 4915	1.8
0.59	115	280 104 4915	1.8
	230	280 105 4915	1.8
0.83	230	280 107 4915	1.8
1	230	280 108 4915	1.8
1.4	230	282 300 8110	2.3
1.8	230	282 301 8110	2.3
2.5	230	282 302 8110	3.2
4.2	230	282 113 8110	5.1

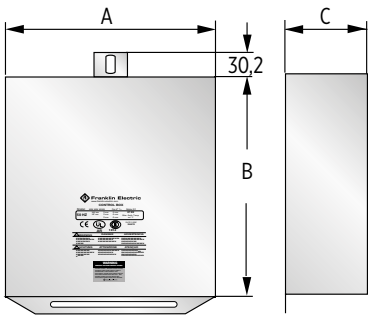
MOTOR CONTROL

MOTOR CONTROL BOXES 1~ 3- WIRE

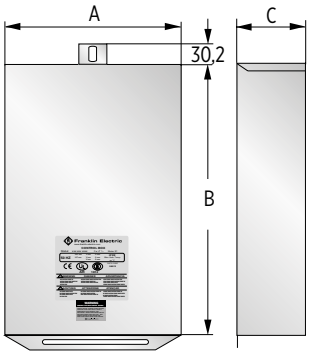
P_N [kW]	Control Box model no.	Relay-Kit	Qty.	Start Capacitor		Qty.	Run Capacitor		Qty.	Overload relay main phases	Qty.	Overload relay start phases	Qty.
0.44	115	305 101 905	1	305 207 905	159-191µF 110V	1	-	-	0	-	0	-	0
	230	305 101 901	1	305 207 905	159-191µF 110V	1	-	-	0	-	0	-	0
0.59	115	305 101 906	1	305 207 951	250-300µF 125V	1	-	-	0	-	0	-	0
	230	305 101 902	1	305 207 905	59-71µF 220V	1	-	-	0	-	0	-	0
0.83	230	305 101 903	1	305 207 918	86-103µF 220V	1	-	-	0	-	0	-	0
1	230	305 101 904	1	305 207 913	105-126µF 220V	1	-	-	0	-	0	-	0
1.4	230	155 031 102	1	305 207 937	105-126µF 220V	1	155 328 101	15µF 370V	1	275 411 113	1	275 411 114	1
1.8	230	155 031 102	1	305 207 937	105-126µF 220V	1	155 328 103	20µF 370V	1	275 411 113	1	275 411 114	1
2.5	230	155 031 102	1	305 206 923	208-250µF 220V	1	155 327 109	45µF 370V	1	275 411 115	1	275 411 118	1
4.2	230	155 031 601	1	275 468 118	216-259µF 330V	1	155 327 114	40µF 370V	1	275 406 102	1	275 411 119	1



Dimensions [mm] 0,25 (0,44) – 0,75 (1,0) kW		
A	B	C
125	215	68



Dimensions [mm] 1,1 (1,4) kW / 1,5 (1,8) kW / 2,2 (2,5) kW		
A	B	C
205	216	154



Dimensions [mm] 3,7 (4,2) kW		
A	B	C
205	384	154

MOTOR COOLING SLEEVES

COOLING SLEEVE FOR SUBMERSIBLE MOTOR PUMPS 4"/6"/8"/10"/12"

The cooling jacket is the ideal solution for vertical and horizontal installations of submersible motor pumps in rainwater cisterns and deep wells to ensure the cooling flow along the motor

The heat loss generated by the submersible motor must be dissipated to the pumped medium by means of convection. If the minimum cooling speed along the submersible motor cannot be guaranteed, it is mandatory to install a cooling jacket in order to generate sufficient cooling.

To provide cooling, the pump-motor unit is supplemented by a cooling sleeve. This separate „sheet metal jacket" is sealed above the pump inlet. The pumped medium is thus sucked in from below and directed past the motor in order to dissipate the generated motor heat loss (convection).

It guarantees sufficient cooling of the motor.

It is supplied with a filter that prevents leaves or small stones from being sucked in.





Components cooling sleeve kit:

- Cooling sleeve tube (Stainless-steel)
- Pump sealing ring (EPDM) with drinking water approval
- Motor spacer
- Pipe clamps
- Filter strainer (accessories)
- Console (accessory for horizontal mounting)

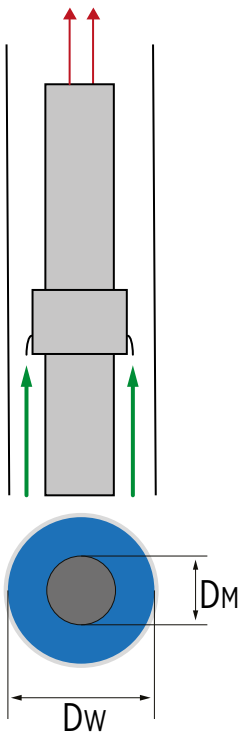
Cooling Flow Calculation

$$\text{Cooling flow} = \frac{\text{Delivery Rate}}{\text{Ring Surface}}$$

$$V[m/s] = \frac{Q[m^3/h] \times 353.68}{(D_W[mm]^2 - (D_M{}^2[mm])}$$

$$D_W[mm] = \frac{Q[m^3/h] \times 353.68}{(D_W[mm]^2 - (D_M{}^2[mm])}$$

Q = Delivery Rate



ACCESSORIES

MOTOR COOLING SLEEVES

model no. cooling sleeves VS 4"

FE Pump type	FE motors				strainer		support brackets	
	type	P_N [kW]	dimensions [mm] Ø D [D1] x L	cooling sleeve 304SS	model no.	dimensions [mm]	model no.	pieces per Set
VS 1 | VS 2 | VS 3 | VS 4 | VS 6 |VS 7 | VS 8 | VS 10 | VS 15	4" CT 4 kN	1~ / 0,37 - 0,75	Ø 115 [130] x 400	309 005 101	309 005 161	Ø 115 x 117	309 005 601	2
	4" CT 4 kN	3~ / 0,37 - 0,1,5	Ø 115 [130] x 400	309 005 101	309 005 161	Ø 115 x 117	309 005 601	2
	4" CT PM 4 kN	3~ / 0,55 - 2,2	Ø 115 [130] x 400	309 005 101	309 005 161	Ø 115 x 117	309 005 601	2
	4" CT 4 kN	1~ / 1,1 - 1,5	Ø 115 [130] x 500	309 005 102	309 005 161	Ø 115 x 117	309 005 601	2
	4" CT 4 kN	3~ / 2,2 - 3,0	Ø 115 [130] x 500	309 005 102	309 005 161	Ø 115 x 117	309 005 601	2
	4" CT PM 4 kN	3~ / 2,2 - 3,0	Ø 115 [130] x 500	309 005 102	309 005 161	Ø 115 x 117	309 005 601	2
	4" CT 4 kN	1~ / 2,2	Ø 115 [130] x 800	309 005 103	309 005 161	Ø 115 x 117	309 005 602	2
	4" CT 6,5 kN	3~ / 3,7 - 5,5	Ø 115 [130] x 800	309 005 103	309 005 161	Ø 115 x 117	309 005 602	2
	4" CT PM 6,5 kN	3~ / 4,0 - 7,5	Ø 115 [130] x 800	309 005 103	309 005 161	Ø 115 x 117	309 005 602	2
	4" CT 6,5 kN	3~ / 7,5 - 9,3	Ø 115 [130] x 1000	309 005 104	309 005 161	Ø 115 x 117	309 005 602	2

model no. cooling sleeves VS 6"

FE Pump type	FE motors				strainer		support brackets	
	type	P_N [kW]	dimensions [mm] Ø D [D1] x L	cooling sleeve 304SS	model no.	dimensions [mm]	model no.	pieces per Set
VS 14 VS 19	4" CT 4kN	3~ / 0,75 - 3,0	Ø 160 [180] x 500	309 005 325	309 005 361	Ø 160 mm x 158 mm	309 005 611	2
	4" CT 6,5kN	3~ / 2,2						
	4" CT PM 4kN	3~ / 2,2 - 4,0						
	4" CT 6,5kN	3~ / 3,0 - 3,7	Ø 160 [180] x 625	309 005 301				
	4" CT PM 6,5kN	3~ / 4,0 - 7,5						
	4" CT 6,5kN	3~ / 5,5 - 7,5	Ø 160 [180] x 800	309 005 302				
VS 30	4" CT 4kN	3~ / 0,75 - 1,5	Ø 160 [180] x 625	309 005 301				
	4" CT 6,5kN	3~ / 3,0						
	4" CT PM 4kN	3~ / 2,2 - 4,0						
	4" CT 6,5kN	3~ / 3,7 - 5,5	Ø 160 [180] x 800	309 005 302				
	4" CT PM 6,5kN	3~ / 7,5						
	4" CT 6,5kN	3~ / 7,5 - 9,3	Ø 160 [180] x 1000	309 005 303				
VS 14 VS 19 VS 30	6" CT	4,0 - 7,5	Ø 180 [200] x 800	309 005 305	309 005 461	Ø 180 mm x 192 mm	309 005 611	2
	6" CT PM	4,0 - 11						
	6" CT	9,3 - 15	Ø 180 [200] x 1000	309 005 307				
	6" CT HT	4,0 - 11						
	6" CT PM	13 - 22						
	6" REW	4,0 - 15						
	6" CT	18,5 - 30	Ø 180 [200] x 1250	309 005 309				
	6" CT HT	18,5						
	6" CT PM	26 - 45						
	6" REW	18,5 - 22						
	6" CT	37 - 45	Ø 180 [200] x 1700	309 005 313			309 005 613	3
	6" CT HT	22 - 30						
	6" REW	26 - 37						
VS 46 VS 65	4" CT 4kN	3~ / 0,75 - 3,0	Ø 180 [200] x 625	309 005 326	309 005 461	Ø 180 mm x 192 mm	309 005 612	2
	4" CT 6,5kN	3~ / 2,2 - 3,0						
	4" CT PM 4kN	3~ / 3,0 - 4,0						
	4" CT 6,5kN	3~ / 3,7 - 5,5	Ø 180 [200] x 800	309 005 314				
	4" CT PM 4kN	3~ / 7,5						
	4" CT 6,5kN	3~ / 7,5 - 9,3	Ø 180 [200] x 1000	309 005 315				
	6" CT	4,0 - 7,5	Ø 200(220) x 800	309 005 316	309 005 471	Ø 200 mm x 192 mm	309 005 622	2
	6" CT HT	4						
	6" CT PM	4,0 - 11						
	6" REW	4,0 - 7,5						

MOTOR COOLING SLEEVES

model no. cooling sleeves VS 6"

FE Pump type	FE motors				strainer		support brackets	
	type	P_N [kW]	dimensions [mm] Ø D [D1] x L	cooling sleeve 304SS	model no.	dimensions [mm]	model no.	pieces per Set
VS 46 VS 65	6" CT HT	4	Ø 200(220) x 800	309 005 316	309 005 471	Ø 200 mm x 192 mm	309 005 622	2
	6" CT PM	4,0 - 11						
	6" REW	4,0 - 7,5						
	6" CT	9,3 - 18,5	Ø 200(220) x 1000	309 005 318				
	6" CT HT	5,5 - 11						
	6" CT PM	13 - 22						
	6" REW	9,3 - 15						
	6" CT	22 - 30	Ø 200(220) x 1250	309 005 320				
	6" CT HT	15 - 18,5						
	6" CT PM	26 - 45						
	6" REW	18,5 - 26						
VS 30 VS 46 VS 65	8" CT	55	Ø 256(270) x 1500	309 005 324	309 005 481	Ø 256 mm x 325 mm	309 005 624	2
	8" CT HT	45 - 55						
	8" REW	45 - 55						
	8" REW PM	45 - 75	Ø 256(270) x 2000	309 005 327				

model no. cooling sleeves VS 8"

FE Pump type	FE motors				strainer		support brackets	
	type	P_N [kW]	dimensions [mm] Ø D [D1] x L	cooling sleeve 304SS	model no.	dimensions [mm]	model no.	pieces per Set
VS 78	6" CT	4,0 - 7,5	Ø 225 [245] x 800	309 005 528	309 005 491	Ø 225 mm x 240 mm	309 005 631	2
	6" CT PM	4,0 - 11						
	6" CT	9,3 - 15	Ø 225 [245] x 1000	309 005 501				
	6" CT HT	7,5 - 11						
	6" CT PM	13 - 22						
	6" REW	7,5 - 18,5						
	6" CT	22 - 30	Ø 225 [245] x 1250	309 005 503				
	6" CT HT	15 - 18,5						
	6" CT PM	26 - 45						
	6" REW	22 - 26						
	6" CT	37 - 45	Ø 225 [245] x 1700	309 005 505			309 005 632	3
	6" CT HT	22 - 30						
	6" REW	30 - 37						
	8" CT	45	Ø 254 [275] x 1250	309 005 507	309 005 481	Ø 256 mm x 325 mm	309 005 633	2
	8" REW	30 - 37						
	8" CT	55	Ø 254 [275] x 1500	309 005 509			309 005 634	3
	8" CT HT	52 - 55						
	8" REW PM	45 - 75 | 75 - 100						
	8" CT	75	Ø 254 [275] x 1700	309 005 510				
	8" CT HT	45						
	8" REW	60 - 75						
	8" CT	93	Ø 254 [275] x 2000	309 005 511				
	8" CT HT	55						
	8" CT HT	75 - 93	Ø 254 [275] x 2250	309 005 529				

CT: encapsulated motors
CT HT: encapsulated High Temp Motors
CT PM: encapsulated Permanent Magnet motors
REW: rewindable motors
REW PM: rewindable Permanent Magnet motors

316SS version: "N" added to model no.
904L version: "R" added to model no.
Ø D= Diameter cooling sleeve
[D1]= Diameter cooling sleeve with pipe clamps
L= Length cooling sleeve

MOTOR COOLING SLEEVES

model no. cooling sleeves VS 8"

FE Pump type	FE motors				strainer		support brackets	
	type	P_N [kW]	dimensions [mm] Ø D [D1] x L	cooling sleeve 304SS	model no.	dimensions [mm]	model no.	pieces per Set
VS 97	6" CT	4,0 - 7,5	Ø 254 [275] x 800	309 005 530	309 005 481	Ø 256 mm x 325 mm	309 005 633	2
	6" CT PM	4,0 - 11						
	6" CT	9,3 - 15	Ø 254 [275] x 1000	309 005 512				
	6" CT HT	4,0 - 11						
	6" CT PM	13 - 22						
	6" REW	9,3 - 15						
	6" CT	30	Ø 254 [275] x 1250	309 005 514				
	6" CT HT	18,5						
	6" CT PM	26 - 45						
	6" REW	18,5 - 26						
	6" CT	9,3 - 15	Ø 254 [275] x 1700	309 005 516			309 005 634	3
	6" CT HT	4 - 11						
	6" REW	18,5 - 26						
	8" CT	30 - 45	Ø 285 [305] x 1250	309 005 518	309 005 526	Ø 285 mm x 325 mm	309 005 637	2
	8" CT HT	30						
	8" REW	30 - 37						
	8" CT	45 - 55	Ø 285 [305] x 1500	309 005 520			309 005 638	3
	8" CT HT	37						
	8" REW	45 - 55						
	8" CT	75	Ø 285 [305] x 1700	309 005 521				
	8" CT HT	45						
	8" REW	60 - 75						
	8" CT	93	Ø 285 [305] x 2000	309 005 522				
	8" CT HT	55						
	8" REW	83 - 93						
	8" CT	110	Ø 285 [305] x 2250	309 005 531				
	8" CT HT	75						
	8" CT HT	93 - 110	Ø 285 [305] x 2500	309 005 532				

CT: encapsulated motors
CT HT: encapsulated High Temp Motors
CT PM: encapsulated Permanent Magnet motors
REW: rewindable motors
REW PM: rewindable Permanent Magnet motors

316SS version: "N" added to model no.
904L version: "R" added to model no.
Ø D= Diameter cooling sleeve
[D1]= Diameter cooling sleeve with pipe clamps
L= Length cooling sleeve

MOTOR COOLING SLEEVES

model no. cooling sleeves VSI 8"

FE Pump type	FE motors				strainer		support brackets	
	type	P_N [kW]	dimensions [mm] Ø D [D1] x L	cooling sleeve 304SS	model no.	dimensions [mm]	model no.	pieces per Set
VSI 74 VSI 104 VSI 134	6" CT	4 - 5,5	Ø 254 [275] x 800	309 008 002	309 005 481	Ø 256 mm x 325 mm	309 005 640	2
	6" CT PM	4 - 11						
	6" CT	9,3 - 15	Ø 254 [275] x 1000	309 008 001				
	6" CT HT	11						
	6" CT PM	13 - 22						
	6" REW	9,3 - 13						
	6" CT	22 - 30	Ø 254 [275] x 1250	309 008 003				
	6" CT HT	15 - 18,5						
	6" CT PM	26 - 45						
	6" REW	15 - 22						
	6" CT	37 - 45	Ø 254 [275] x 1800	309 008 004			309 005 641	3
	6" CT HT	22 - 30						
	6" REW	26 - 37						
	8" CT	45	Ø 285 [305] x 1250	309 008 032	309 005 526	Ø 285 mm x 325 mm	309 005 648	2
	8" REW	37						
	8" CT	55	Ø 285 [305] x 1500	309 008 009			309 005 642	3
	8" REW	45						
	8" REW PM	75 - 100						
	8" CT	75	Ø 285 [305] x 1700	309 008 010				
	8" REW	55 - 67						
	8" REW PM	75 - 130						
	8" CT	93	Ø 285 [305] x 2000	309 008 012				
	8" CT HT	55						
	8" REW PM	75 - 93						
	8" CT	110	Ø 285 [305] x 2200	309 008 013				
	8" CT HT	75						
	8" CT	130	Ø 285 [305] x 2400	309 008 014				
	8" CT HT	93						
	8" CT	150	Ø 285 [305] x 2600	309 008 015				
	8" CT HT	110						
	10" REW	85 - 110	Ø 330 [350] x 1750	309 008 016	309 005 523	Ø 330 mm x 385 mm	309 005 643	3
	10" REW	130 - 150	Ø 330 [350] x 2000	309 008 017				
	10" REW PM	150 - 200						

CT: encapsulated motors
CT HT: encapsulated High Temp Motors
CT PM: encapsulated Permanent Magnet motors
REW: rewindable motors
REW PM: rewindable Permanent Magnet motors

316SS version: "N" added to model no.
904L version: "R" added to model no.
Ø D= Diameter cooling sleeve
[D1]= Diameter cooling sleeve with pipe clamps
L= Length cooling sleeve

MOTOR COOLING SLEEVES

model no. cooling sleeves VSI 10"

FE Pump type	FE motors				strainer		support brackets	
	type	P_N [kW]	dimensions [mm] Ø D [D1] x L	cooling sleeve 304SS	model no.	dimensions [mm]	model no.	pieces per Set
VSI 184 VSI 254	6" CT	9,3 - 11	Ø 330 [350] x 1000	309 008 033	309 005 523	Ø 330 mm x 385 mm	309 005 644	2
	6" CT	15 - 18,5	Ø 330 [350] x 1250	309 008 035				
	6" CT HT	15						
	6" CT PM	13 - 22						
	6" REW	13 - 18,5						
	6" CT HT	18,5	Ø 330 [350] x 1400	309 008 036			309 005 645	3
	6" CT PM	26 - 45						
	6" REW	22 - 26						
	6" REW	30 - 37	Ø 330 [350] x 1600	309 008 041				
	6" CT	37	Ø 330 [350] x 1800	309 008 037				
	6" CT HT	22						
	6" REW	37						
	6" CT	45	Ø 330 [350] x 2000	309 008 038				
	6" CT HT	30						
	8" CT	37	Ø 330 [350] x 1250	309 008 018			309 005 644	2
	8" CT	45	Ø 330 [350] x 1500	309 008 019			309 005 645	3
	8" CT HT	30						
	8" REW	37 - 45						
	8" REW PM	45 - 75						
	8" CT	55 - 75	Ø 330 [350] x 1750	309 008 020				
	8" CT HT	45						
	8" REW	55 - 67						
	8" REW PM	75 - 100						
	8" CT HT	55	Ø 330 [350] x 2000	309 008 022				
	8" REW	75 - 93						
	8" REW PM	75 - 130						
	8" CT HT	75	Ø 330 [350] x 2250	309 008 023				
	8" CT	130	Ø 330 [350] x 2500	309 008 024				
	8" CT HT	93						
	8" CT	150	Ø 330 [350] x 2700	309 008 039				
	8" CT HT	110						
	10" REW	85 - 110	Ø 380 [400] x 1750	309 008 026	309 005 524	Ø 380 mm x 385 mm	309 005 646	3
	10" REW	130	Ø 380 [400] x 2000	309 008 027				
	10" REW PM	150 - 200						
	10" REW	185	Ø 380 [400] x 2250	309 008 040				
	10" REW PM	200 - 250						
	12 REW	220 - 250	Ø 380 [400] x 2250	309 008 028			309 005 649	3
	12 REW	300	Ø 380 [400] x 2500	309 008 029				
	12 REW	220 - 250	Ø 420 [445] x 2250	309 008 030	309 005 525	Ø 420 mm x 400 mm	309 005 647	3
	12 REW	300 - 400	Ø 420 [445] x 2500	309 008 031				

CT: encapsulated motors
CT HT: encapsulated High Temp Motors
CT PM: encapsulated Permanent Magnet motors
REW: rewindable motors
REW PM: rewindable Permanent Magnet motors

316SS version: "N" added to model no.
904L version: "R" added to model no.
Ø D= Diameter cooling sleeve
[D1]= Diameter cooling sleeve with pipe clamps
L= Length cooling sleeve

MOTOR COOLING SLEEVES

model no. cooling sleeves VSI 12"

FE Pump type	FE motors				strainer		support brackets	
	type	P_N [kW]	dimensions [mm] Ø D [D1] x L	cooling sleeve 304SS	model no.	dimensions [mm]	model no.	pieces per Set
VSI 344	8" CT	30	Ø 380 [400] x 1250	309 008 109	309 005 524	Ø 380 mm x 385 mm	309 005 650	2
	8" CT	37 - 45	Ø 380 [400] x 1500	309 008 101			309 005 651	3
	8" REW	30 - 37						
	8" REW PM	45 - 75						
	8" CT	55	Ø 380 [400] x 1700	309 008 102				
	8" REW	55						
	8" REW PM	75 - 100						
	8" CT	75	Ø 380 [400] x 2000	309 008 110				
	8" CT HT	45						
	8" REW	75						
	8" REW PM	75 - 130						
	8" CT	110	Ø 380 [400] x 2250	309 008 103				
	8" CT HT	75						
	8" CT	130	Ø 380 [400] x 2500	309 008 111				
	8" CT HT	93						
	8" CT	150	Ø 380 [400] x 2700	309 008 104				
	8" CT HT	110						
	10" REW	110	Ø 420 [445] x 1850	309 008 105	309 005 525	Ø 420 mm x 400 mm	309 005 652	3
	10" REW PM	110 - 150						
	10" REW	110 - 185	Ø 420 [445] x 2250	309 008 106				
	10" REW PM	200 - 250						
	12" REW	220 - 250	Ø 450 [475] x 2250	309 008 107	309 005 527	Ø 450 mm x 450 mm	309 005 653	3
	12" REW	300 - 350	Ø 450 [475] x 2500	309 008 108				
VSI 454	8" CT	45	Ø 420 [445] x 1500	309 008 118	309 005 525	Ø 420 mm x 400 mm	309 005 652	
	8" REW	37						
	8" REW PM	45 - 75						
	8" CT	75	Ø 420 [445] x 1750	309 008 119				
	8" CT HT	45						
	8" REW	60 - 67						
	8" REW PM	75 - 100 | 75 - 130						
	8" REW	75	Ø 420 [445] x 2000	309 008 120				
	8" CT	93	Ø 420 [445] x 2250	309 008 121				
	8" CT HT	55						
	8" CT	110 - 130	Ø 420 [445] x 2500	309 008 112				
	8" CT HT	75 - 93						
	8" CT	150	Ø 420 [445] x 2700	309 008 113				
	8" CT HT	110						
	10" REW	85 - 110	Ø 450 [475] x 1850	309 008 114	309 005 527	Ø 450 mm x 450 mm	309 005 654	
	10" REW PM	110 - 150						
	10" REW	130	Ø 450 [475] x 2000	309 008 122				
	10" REW PM	150 - 200						
	10" REW	150 - 185	Ø 450 [475] x 2250	309 008 115				
	10" REW PM	200 - 250						
	12" REW	185 - 250	Ø 480 [505] x 2250	309 008 116	309 005 533	Ø 480 mm x 480 mm	309 005 655	
	12" REW	300 - 400	Ø 480 [505] x 2500	309 008 117				

CT: encapsulated motors
CT HT: encapsulated High Temp Motors
CT PM: encapsulated Permanent Magnet motors
REW: rewindable motors
REW PM: rewindable Permanent Magnet motors

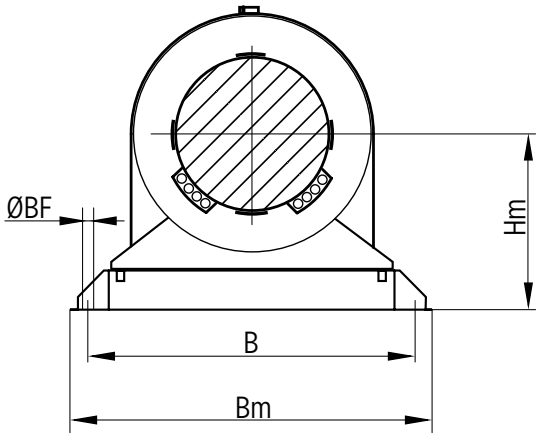
316SS version: "N" added to model no.
904L version: "R" added to model no.
Ø D= Diameter cooling sleeve
[D1]= Diameter cooling sleeve with pipe clamps
L= Length cooling sleeve

MOTOR COOLING SLEEVES

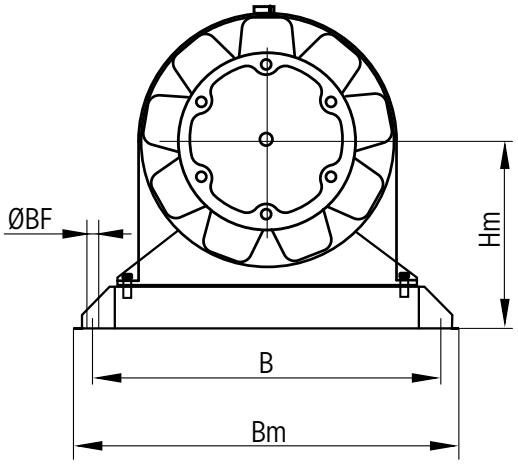
support brackets cooling sleeves

pump size	support brackets model no.	middle height	support pump			support flow sleeve / motor		
		Hm [mm]	B [mm]	Bm [mm]	Ø BF [mm]	B [mm]	Bm [mm]	Ø BF [mm]
4"	309 005 601	100	185	220	11	185	220	11
	309 005 602	100	235	275	11	235	275	11
6"	309 005 611	125	280	330	11	280	330	11
	309 005 612	140	260	310	11	300	350	11
	309 005 613	140	260	310	11	300	350	11
	309 005 622	150	320	370	11	320	370	11
	309 005 623	150	320	370	11	320	370	11
	309 005 624	200	280	330	15	380	430	15
8"	309 005 631	200	320	370	15	360	410	15
	309 005 632	200	320	370	15	360	410	15
	309 005 633	200	320	370	15	380	430	15
	309 005 634	200	320	370	15	380	430	15
	309 005 637	225	320	370	15	410	460	15
	309 005 638	225	320	370	15	410	460	15
	309 005 640	200	320	370	15	380	430	15
	309 005 641	200	320	370	15	380	430	15
	309 005 642	225	320	370	15	410	460	15
	309 005 643	250	320	370	15	450	500	15
	309 005 648	225	320	370	15	410	460	15
10"	309 005 644	250	380	430	15	450	500	15
	309 005 645	250	380	430	15	450	500	15
	309 005 646	270	390	440	15	500	550	15
	309 005 647	300	380	430	15	550	600	15
	309 005 649	270	380	430	15	500	550	15
12"	309 005 650	270	420	470	15	500	550	15
	309 005 651	270	420	470	15	500	550	15
	309 005 652	300	420	470	15	550	600	15
	309 005 653	315	420	470	15	575	625	15
	309 005 654	315	420	470	15	575	625	15
	309 005 655	330	420	470	15	600	650	15

support pump



support flow sleeve / motor

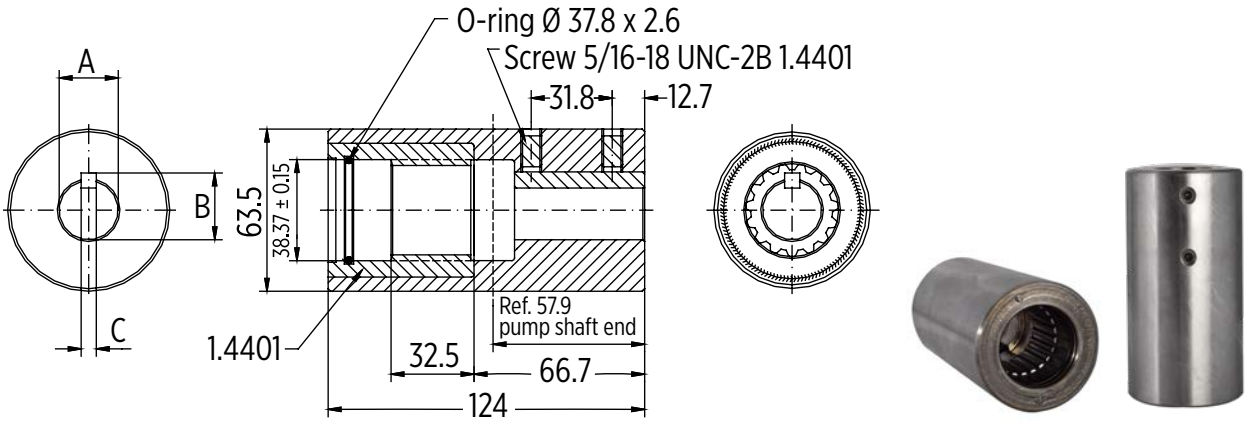


MOTOR/PUMP-COUPLINGS

Couplings are designed to transmit the pump thrust to the motor in order to provide maximum benefits from the Franklin internal thrust bearing construction.

- Hardened Stainless-steel spacer discs in the 4" and 6" couplings assure positive bearing between motor and pump shafts and assure full support for downward thrust created by the pump. (8" couplings DO NOT contain hardened spacer discs, since the motor shaft itself is hardened.)
- Material: 304SS / 316SS
- NEMA standard measuring on motor shaft
- Separate washer between motor and pump shafts

8" Motor/Pump-Couplings

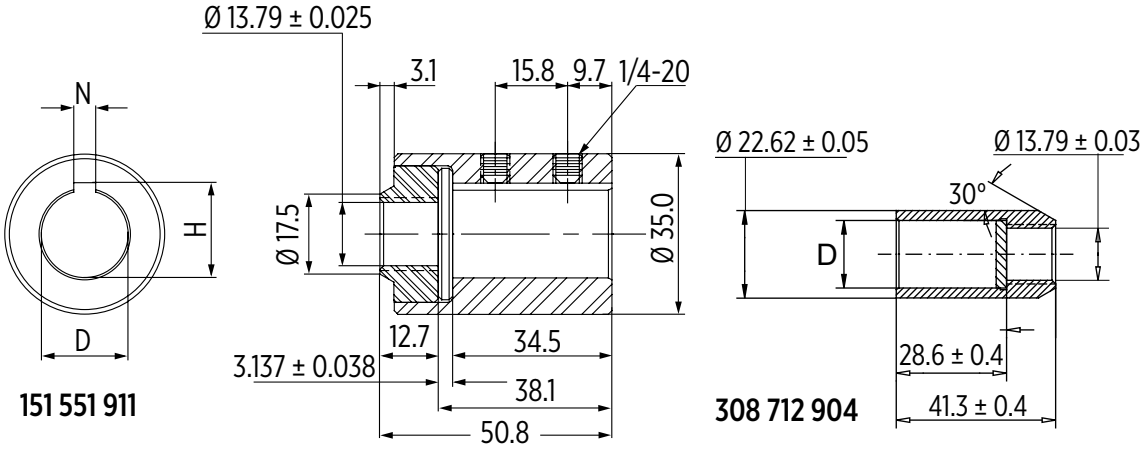


model no.	coupling material DIN (AISI)	Dimensions A [mm] Max./Min.	Dimensions B [mm] Max./Min.	Dimensions C [mm] Max./Min.
156 563 901	1.4005 (304SS)	25.425 / 25.413	28.27 / 28.17	6.38 / 6.32
156 563 921	1.4404 (316SS)			
156 563 902	1.4005 (304SS)	30.188 / 30.175	33.73 / 33.63	7.96 / 7.91
156 563 922	1.4404 (316SS)			
156 563 903	1.4005 (304SS)	31.775 / 31.763	35.36 / 35.26	7.96 / 7.91
156 563 923	1.4404 (316SS)	38.125 / 38.113		
156 563 904	1.4005 (304SS)	38.125 / 38.113	42.37 / 42.27	9.55 / 9.50
156 563 924	1.4404 (316SS)	38.125 / 38.113		
156 563 905	1.4005 (304SS)	19.085 / 19.063	20.70 / 20.52	4.84 / 4.79
156 563 906	1.4005 (304SS)	30.188 / 30.175	33.02 / 32.92	6.38 / 6.32
156 563 926	1.4404 (316SS)	30.188 / 30.175	33.02 / 32.92	6.38 / 6.32
156 563 907	1.4005 (304SS)	22.250 / 22.238	24.54 / 24.36	6.43 / 6.38
156 563 908	1.4005 (304SS)	22.024 / 22.011	25.53 / 25.32	8.03 / 7.98
156 563 931	1.4404 (316SS)			
156 563 929	1.4404 (316SS)	42.888 / 42.850	47.12 / 47.04	9.55 / 9.50

MOTOR/PUMP-COUPLINGS

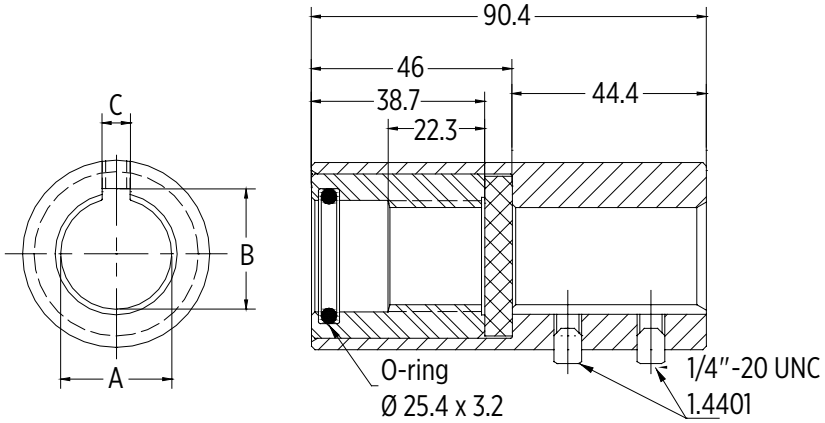
4" Motor/Pump-Couplings





model no.	coupling material DIN (AISI)	Dimensions D [mm] Max./Min.	Dimensions N [mm] Max./Min.	Dimensions H [mm] Max./Min.
151 551 911	304SS	19.075 / 19.063	4.838 / 4.788	20.70 / 20.53
308 712 904	316SS	17.50 / 17.48		

6" Motor/Pump-Couplings



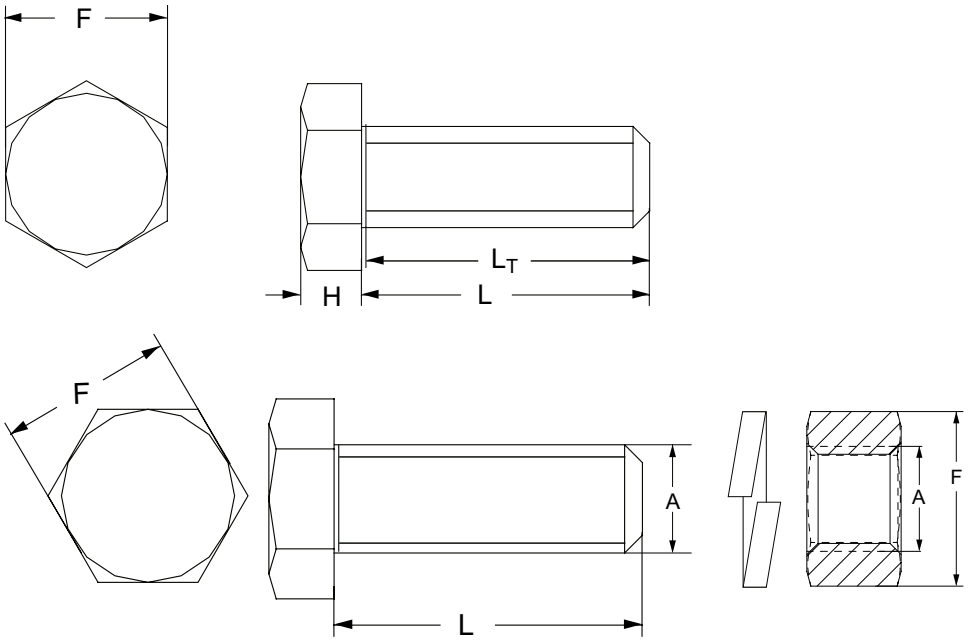


model no.	coupling materialDIN (AISI)	Dimensions A [mm] Max./Min.	Dimensions B [mm] Max./Min.	Dimensions C [mm] Max./Min.	Dimensions D [mm]
151 935 902	1.4005 (304SS)	19,07 / 19,06	20,70 / 20,52	4,84 / 4,79	43
151 935 922	1.4401 (316SS)				
151 935 910	1.4005 (304SS)	20,02/ 20,01	22,76 / 22,60	6,05 / 6,00	43
151 935 927	1.4401 (316SS)				
151 935 908	1.4005 (304SS)	22,02/ 22,01	25,53 / 25,32	8,03 / 7,98	43
151 935 928	1.4401 (316SS)				
151 935 901	1.4005 (304SS)	22,25 / 22,24	24,54 / 24,36	6,43 / 6,38	43
151 935 921	1.4401 (316SS)				
151 935 906	1.4005 (304SS)	25,02 / 25,01	28,70 / 28,30	8,03 / 7,98	43
151 935 926	1.4401 (316SS)				
151 935 909	1.4005 (304SS)	25,42 / 25,41	27,74 / 27,56	6,43 / 6,38	43
151 935 929	1.4401 (316SS)				

PUMP CONNECTION SCREW KITS

Pump connection screw kits for 6" / 8" encapsulated motors and 8"/10"/12" rewindable motors

motor type	Material	L / L_T [mm]	Thread type	F [mm]	model no.
6" CT	316SS	38.1	1/2-20UNF	19	308 659 318
8" CT / 8" REW	316SS	70	M16	24	308 659 327
10" / 12" REW	316SS	80	M20	30	308 659 319



MOTOR LEADS ACCESSORIES

Double plug lead for 4" Termination kit



Required for use of lead termination kits. Connection between termination kit and 4" motor.

- Max. current: 18 Ampere in air at max. 50 °C ambient temperature
- Max. current: 23 Ampere submersed in water at max. 30 °C ambient temperature
- Max. Voltage: 750 V AC
- PSC / 2-wire / 3-wire motors and 3 ~ motors
- with or without strain relief
- KTW approval

2- wire Motors				PSC / 3-wire/ 3-phase motor			
Model No.	Material	Description		Model No.	Material	description	
310 131 001	304SS	3x 1.5 mm²	1,50 m without strain relief	310 111 401	304SS	3x1.5 / 1G 1.5 mm²	1,50 m without strain relief
310 131 002	304SS	3x 1.5 mm²	1,50 m without strain relief	310 111 402	304SS	3x1.5 / 1G 1.5 mm²	2,50 m without strain relief
310 132 001	304SS	3x 1.5 mm²	1,50 m with strain relief (brass)	310 112 001	304SS	3x1.5 / 1G 1.5 mm²	1,50 m with strain relief (brass)
310 132 002	304SS	3x 1.5 mm²	2,50 m with strain relief (brass)	310 112 002	304SS	3x1.5 / 1G 1.5 mm²	2,50 m with strain relief (brass)

4" Motor Design with round lead plug 9.3 kW



Lead length [m]	Material	Model No.	Description	
1.5	316SS	309 116 501	3x 1.5 | 1G 1.5mm²	1,50 m without strain relief
2.5	316SS	309 116 502	3x 1.5 | 1G 1.5mm²	1,50 m without strain relief

Termination Kit for 4" motors

This proven, sturdy solution is your choice of cable splicing in temporary pump applications or when reusing drop cable. The flexibility and safety it provides for under field service conditions makes it the preferred choice over conventional, not breakable splicing kits.

- For PSC / 2-wire / 3-wire motors and 3~ motors
- Max. current 18 Ampere in air at max. 50 °C ambient temperature
- Max. current 23 Ampere submersed in water at max. 30 °C ambient temperature
- Max. voltage: 750 V
- Optional strain relief
- Cable plug in 304SS



Kit-Type	model no.	description
Standard 304SS	308 090 901	without strain relief
Strain Relief 304SS	308 090 902	with strain relief

MOTOR LEADS ACCESSORIES

Splicing Kit 1.5 - 25 mm²

This kit allows the connection of a motor short cable with an extension cable in the range up to 25 mm².

- Suitable for all common cable materials
- Long durability
- High electrical insulation values and mechanical strength
- Quick and easy assembly
- 4 wire
- up to 1.2 kV
- Components: Transparent plastic shell, Ready-to-mix cast resin, insulation tape, assembly instruction



model no.	description	for cross-sections up to [mm²]	L [mm]	Ø [mm]	H [mm]	Max. cable Ø [mm]
308 090 930	splicing kit 10	1,5 - 10	190	36	50	26
308 090 931	splicing kit 25	10 - 25	260	47	63	34

PT100 TEMPERATURE SENSORS

The PT100 is a precision platinum wire resistor that is specified occasionally as a temperature input for process control equipment. A jacketed control lead must be run from the PT100 lead to the above-ground equipment.

- Easy, quick and secure installation
- Shielded cable (can be installed close to the motor cable)
- Quick and easy to replace
- The enclosed adaptor screw only needed for installation in 6" and 8" encapsulated standard and permanent magnet motors is now separated from the PT100 sensor allowing for an easy, quick and secure installation.

STANDARD



HIGH TEMP



- The PT100 is not a motor overload protector, which means the warranty will be voided if a separate motor protector is not installed as required by the Franklin Electric Application Installation Maintenance Manual (AIM).
- To install the PT100 sensor bolt, remove the top end bell bolt that is opposite of the lead and replace it with the PT100 screw. Tighten the sensor bolt to the torque values shown below. PT100 sensor retrofit kits from Franklin Electric come with complete instructions and allow easy field installation.

PT100 sensor for encapsulated motors (Standard / PM)

The PT100 is a precision platinum wire resistor that is specifi as a temperature input for process control equipment. The sensor is inserted in a adapter screw and is equipped with a 10 m / 20 m / 30 m or 50 m cable.



PT100 sensor



½ - 13 UNC

Screw 6" CT



5/8 - 11 UNC

Screw 8" CT

Tightening torque PT 100 screw

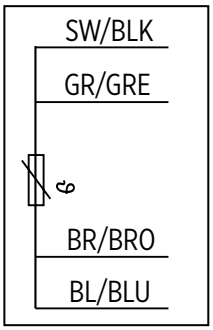
[mm]	Sensor type	[kW]	[kW]	[Nm]
19	6" PT100	4 - 45	54 - 61	54 - 61
24	8" PT100	30 - 45	54 - 61	54 - 61
		55 - 150	115 - 122	115 - 122

Tightening torque PT 100 Inbus-screw M4

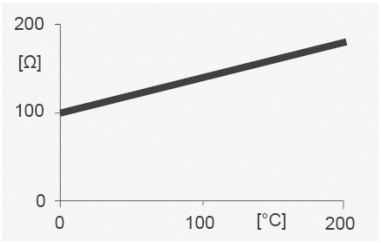
[mm]	[Nm]
3	3 - 4

Standard Motors setting values PT100 controller

Conditions	Water temperature without motor operation	Max. Trip temp./ Resistance setting (for standard lead lengths)
Motor operating at nameplate output with 0.16 m/sec flow past the motor	10 °C	40 °C / 115,5 Ω
	15 °C	44 °C / 117,0 Ω
	20 °C	48 °C / 118,6 Ω
	25 °C	51 °C / 119,7 Ω
	30 °C	55 °C / 121,3 Ω
Motor that has been derated with 1 m/sec flow past the motor	35 °C	59 °C / 122,8 Ω
	40 °C	63 °C / 124,3 Ω
	45 °C	66 °C / 125,5 Ω
	50 °C	70 °C / 127,0 Ω
	55 °C	74 °C / 128,6 Ω
	60 °C	78 °C / 130,1 Ω



Trip Points:
PVC = 55 °C
PE2/PA = 75 °C



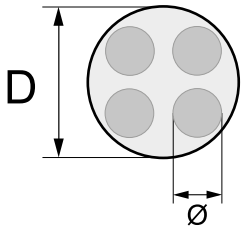
PT 100 sensor- 6" CT PM motor settings

6" CT PM motor rating [kW]	Maximum Ambient Temperature [°C]	Cooling flow along the motor [m/s]	Max. Trip temp./ Resistance setting (for standard lead lengths)
11	30	0.2	47 °C / 121,3 Ω
22	30	0.2	47 °C / 121,3 Ω
45	30	0.5	47 °C / 121,3 Ω

PT100 TEMPERATURE SENSORS

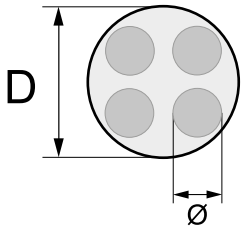
PT100 Sensor Kit numbers - 6" CT Standard and PM Motors

Kit no.	lead length [m]	motor type	wire insulation	screw material	Max. medium temperature [°C]	Lead Ø [mm²]	D [mm]
305 327 951	10	6" all Ratings	Rubber, shielded	A4	Standard Motors - 60°C PM Motors - 30°C	4X0,5	8
305 327 952	20						
305 327 953	30						
305 327 954	50						



PT100 Sensor Kit numbers - 8" CT Standard and PM Motors

Kit no.	lead length [m]	motor type	wire insulation	screw material	Max. medium temperature [°C]	Lead Ø [mm²]	D [mm]
305 326 951	10	6" all Ratings	Rubber, shielded	A4	60 °C	4X0,5	7
305 326 952	20						
305 326 953	30						
305 326 954	50						



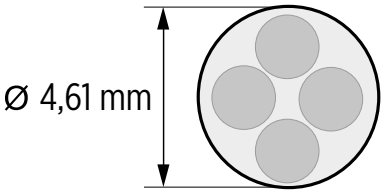
PT100 for encapsulated HighTemp motors

It's ohmic resistance is proportional to the sensed temperature. The FE field replaceable PT100 is potted into a screw holding the upper end bell. Because of his remote position relative to the windings, the sensing relay should be adjusted according to the below table.

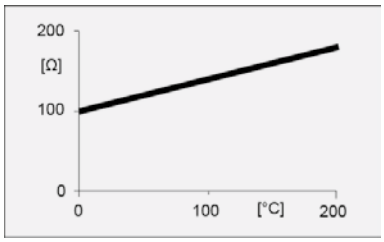


Tightening torque PT 100 screw

Sensor type	[kW]	[Nm]
6" PT100	4 - 45	54 - 61
8" PT100	30 - 110	115 - 122



Conditions	Water temperature without motor operation	Max. Trip temp. / Resistance setting
Motor operating at nameplate output with 0.16 m/sec flow past the motor	50 °C	60 °C
	60 °C	70 °C
	70 °C	80 °C
	75 °C	85 °C
	80 °C	90 °C
	90 °C	100 °C



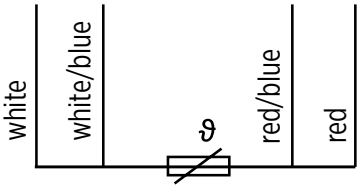
6" CT HighTemp 90°C Motors

Kit no.	motor type	wire insulation	screw material	Max. medium temperature [°C]	Lead Ø [mm²]	lead length [m]
156 098 111K	4 - 30 kW	Silicon	14571	90°C	4X0,35	10
156 098 112K		Silicon	14571	90°C	4X0,35	130

6" CT HighTemp 75°C Motors

Kit no.	motor type	wire insulation	screw material	Max. medium temperature [°C]	Lead Ø [mm²]	lead length [m]
156 098 116K	30 - 110 kW (Type 1)	Silicon	14571	90°C	4X0,35	10
156 098 117K		Silicon	14571	90°C	4X0,35	130

PT100 connection



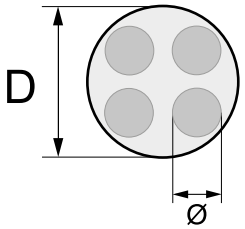
PT100 TEMPERATURE SENSORS

PT100 sensor for rewindable motors

- Continuous monitoring of the temperature of the filling liquid above the winding head
- Fitted into the upper end bell flange, all 6"/8"/10"/12" Std. rewindable motors are prepared for the PT100 installation
- Measurement of the temperature of the filling liquid
- Conductor with a resistance proportional to the temperature

(The above-ground equipment is not available from Franklin Electric and is typically part of a custom panel or data acquisition system.)





lead length [m]	motor type [6" - 12"]	model no.	Ø [mm²]	D [mm]	Setting Temperature	
					Standard motors	PM motors
10	WW/304SS/316SS	308016601	4X0,5	8	PPC = 75 °C PE2/PA = 75°C	8" REW PM motors: 55 °C 10" REW PM motors: 65 °C
	904L	308016701				
20	WW/304SS/316SS	308016602	4X0,5	8		
	904L	308016702				
30	WW/304SS/316SS	308016603	4X0,5	8		
	904L	308016703				
40	WW/304SS/316SS	308016604	4X0,5	8		
	904L	308016704				
50	WW/304SS/316SS	308016605	4X0,5	8		
	904L	308016705				

MOTOR ACCESSORIES

Corrosion Protection 4"

For use in more aggressive media
- Mounting on the bottom of the motors
- Material: GG 25

System of operation: Wells with extremely high levels of chlorides and other elements combined with high temperatures will attack almost any type of metal, including Stainless-steel. When in contact with a more noble metal, the less noble metal becomes the anode of a galvanic cell. Oxidation occurs at the anode. It slowly dissolves (sacrificial anode), leaving the more noble metal unaffected. The result is a longer service life of the motor/pump unit in more aggressive media.

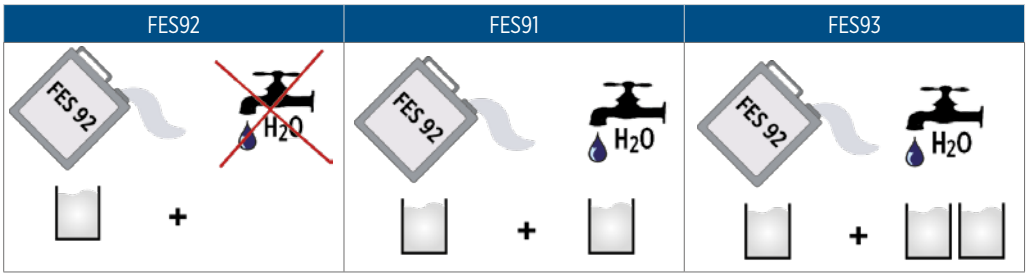


4000N 6500N

Thrust F	part no.
4000N	308 250 914
6500N	308 250 913

Motor filling liquid

5 litre container with FES 92 to mix the required filling version (FES91 / FES93 / FES92).





part no.
308 353 941

motor type	required motor filling
4" encapsulated Standard / PM motor	FES93
6" encapsulated Standard / PM motor	FES91
6" encapsulated High Temp 90 °C motor	FES92

motor type	required motor filling
8" encapsulated Standard motor	FES91
8" encapsulated High Temp 75 °C motor	FES92
6"/8"/10"/12" rewindable Standard / PM motor	FES93

Motor Filling tool kit

This kit contains all necessary tools to check and replenish Franklin Electric submersible motors with FES91, FES92 or FES93 filling liquid.
(fill solution/concentrate must be ordered separately.)



part no.
308 726 103

MOTOR ACCESSORIES

DC Disconnect

To disconnect the drive even under load safely from the solar generator, Franklin Electric offers suitable DC disconnect switches for different power ratings.



	part no.
0 - 11A/800 V DC	308 170 313
12 - 22A/800 V DC	308 170 325
25A/800V DC	308 170 325

Surge Arrestors

Surge arresters protect the submersible motor from a variety of commonly occurring high voltage spikes, which can permanently damage the insulation system and thus cause motor winding failures. The surge arrestors are not suitable for discharging direct lightning strikes



part no.
155 440 902

Star plug for 6" encapsulated motors

For specific applications it is necessary to permanently run a star-delta submersible motor in star connection. This may be achieved by using the permanent star plug. This connector short-circuits all three pins in one of the two motor sockets and is designed to replace one lead.



Material	part no.
304SS	308 065 901
316SS	308 065 951

Flow Switch

- The flow switch utilizes the force of liquid flow to propel its paddle and to detect the incoming flow or movement of the existing liquid in the pipe.
- Required part for some High Efficiency Solar Systems
- For flow rates above 4 m^3/h
- connection: G1"



part no.
226 019 101

Inline Flow Switch

- The Inline Flow Switch operates magnetically. The piston within the switch body should be a free fit and spring back to its off position as soon as flow stops.
- For flow rates above 4 m^3/h
- connection: G1"



part no.
226 014 101

Level Switch

- A float switch is a device used to detect the level of liquid within a tank.
- Required part for some High Efficiency Solar Systems



part no.
308 170 209

SubDrive Pressure Switch

- The pressure switch continuously monitors the pressure in the water supply system and feeds the information to the SubDrive controller.
- The factory setting of the desired pressure is 3.4 bar (can be changed).



part no.
223 995 901

RELATED CATALOGS



High Efficiency System



Variable Frequency drives & Accessories



SSI 6" submersible pumps



Franklin Electric VSI SS Cast submersible pumps



VS 4" Submersible pumps



Franklin Electric Submersible borehole pumps 6" and 8"



VN/VL submersible pumps



ES 5" close-coupled pumps



product portfolio

RELATED VIDEOS



Energy savings with permanent magnet technology



Cost savings of Franklin Electric High Efficiency Systems



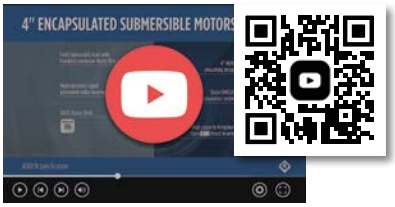
Permanent magnet technology in submersible motors



8"/10"/12" rewindable motors Franklin Electric



Coverco 4 inch oil-filled motor



4" encapsulated motors



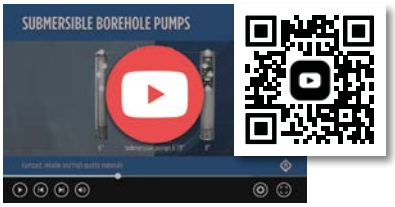
Franklin Electric VSI SS Cast submersible pumps



Franklin Electric SS cast submersible pumps 8"/10"/12"



Franklin Electric Close coupled 5" pumps



Franklin Electric Submersible borehole pumps 6" and 8"



VS 4" Submersible pumps

YOUTUBE VIDEOS AND TUTORIALS



Tutorial 4" CT cable mounting



Tutorial 4" CT cable installation



Tutorial 6-8" CT PT100 installation (sensor design up to 07-2024)



Tutorial 6-8" CT PT100 installation (sensor design from 08-2024)



Tutorial 4" termination kit assembly



Tutorial 6" CT permanent star plug mounting



Tutorial 6" REW PT100 installation



Tutorial 8-10" REW PT100 installation (sensor design starting 08-2025)



Tutorial FE Pump Selector



Tutorial DrivE-Tech COMPACT dV/dt plug-in card mounting



X-Drive
Variable Frequency Converter



Cerus X-Drive features



franklinwater.eu

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10000029192 EN REV.00_10-2026

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