

Submersible Motors

Product Overview



Franklin Electric

QUALITY IN THE WELL

POWERED BY



Franklin Electric



QUALITY



AVAILABILITY



SERVICE



INNOVATION



Submersible Motors



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4" Encapsulated Motors



4" Super Stainless 1~ PSC

Submersible Motors Quality in the Well

Franklin Electric 4" encapsulated PSC single Phase Motors, manufactured in ISO 9001 certified facilities, for operation with permanent split capacitor and overload.

This motors is built for dependable operation in 4" diameter or larger water wells, with excellent low voltage behavior and a high starting torque. It is fitted with water lubricated radial and thrust bearings for maintenance-free operation. The motor is filled with a special FES93 fluid, providing frost protection down to -40°C storage temperature.

A special diaphragm ensures pressure compensation inside the motor.

Product advantages standard:

- Hermetically sealed stator. anti track, self healing stator resin prevents motor burn out
- High efficiency electrical design (low operation cost, cooler winding temperature)
- Removable "Water bloc" lead connector
- Cable material in accordance with regulations for drinking water (KTW approved)
- Water lubricated radial and thrust bearings
- All motors pre-filled and 100% tested. Non contaminating, FES93-filled design.

Brackish Water version Specifications:

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



Pollution Recovery version Specifications:

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

Technical Specifications

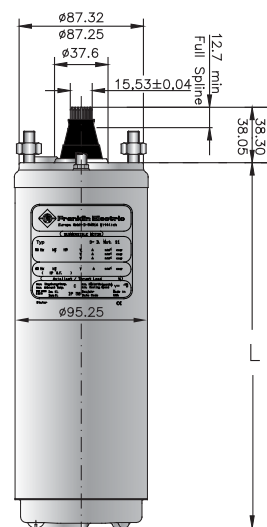
Standard Motor:

- 0,25 - 2,2kW
- 4" NEMA flange
- Rotation: CCW facing shaft end
- Degree of protection: IP 68
- Insulation: Cl. B
- Rated Ambient temp.: 30°C
- Cooling flow: min. 8cm/s
- Starts / h: 20
- Mounting: vertical/horizontal
- Voltage tolerance: +6% / -10% UN
- Motor protection: Select thermal overloads according to EN 60947-4-1. Trip time ≤ 10 s at 5 x I_N

Options

- Motor Cable VDE/ACS/KTW approved (1,5m, special lengths available)
- Special lengths available
- Built-in lightning arrestor
- Built-in overload protection
- Motors with factory- installed lead in Single Packing

1~ 4" Encapsulated Motors PSC / 220- 230V / 50Hz												
P _N [kW]	Thrust F [N]	U _N [V]	n _N [min ⁻¹]	I _N [A]	I _A [A]	η [%]	cos φ [%]	T _N [Nm]	T _A [Nm]	C [μF] 450V	L [mm]	m [kg]
0,25	3000	220	2865	2,3	9,0	51	0,96	0,82	0,73	12,5	214,2	7,4
		230	2875	2,4	9,4	50	0,92	0,83	0,80			
0,37	3000	220	2850	3,2	12,1	54	0,97	1,21	1,07	16	228,2	8,0
		230	2860	3,3	12,6	54	0,91	1,24	1,17			
0,55	3000	220	2840	4,2	16,9	63	0,98	1,85	1,50	20	253,2	9,2
		230	2850	4,3	17,7	63	0,94	1,90	1,63			
0,75	3000	220	2825	5,7	21,7	61	0,99	2,5	2,3	35	282,6	10,4
		230	2845	5,7	22,7	59	0,98	2,5	2,5			
1,1	3000	220	2830	8,1	32,5	65	0,97	3,7	2,9	40	306,6	11,8
		230	2845	8,4	33,9	63	0,92	3,7	3,1			
1,5	3000	220	2820	10,4	39,9	68	0,98	5,1	3,6	50	338,6	12,9
		230	2830	10,7	41,7	66	0,95	5,1	3,9			
2,2	4000	220	2825	14,7	59,2	70	0,99	7,4	5,0	70	436,6	17,3
		230	2840	14,7	61,8	68	0,97	7,4	5,5			



4" Encapsulated Motors



4" Super Stainless 1~ 2- wire

Submersible Motors Quality in the Well

Franklin Electric 4" 2- wire Motors, manufactured in ISO 9001 certified facilities, for the direct connection to the single phase power supply, are built for dependable operation in 4" diameter or larger water wells. Integrated starting components and automatic reversal torque in the case of locked pump offer you a maintenance free long life drive with low installation costs.

The motor is fitted with water lubricated radial and thrust bearings for maintenance-free operation. The motor is filled with a special FES93 fluid, providing frost protection down to -40°C storage temperature.

A special diaphragm ensures pressure compensation inside the motor.

Product advantages standard:

- Hermetically sealed stator. anti track, self healing stator resin prevents motor burn out
- High efficiency electrical design (low operation cost, cooler winding temperature)
- Removable "Water bloc" lead connector
- Cable material in accordance with regulations for drinking water (KTW approved)
- Water lubricated radial and thrust bearings
- All motors pre-filled and 100% tested. Non contaminating, FES93-filled design.
- No control box required, built-in overload and surge arrestor

Brackish Water version Specifications:

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



Technical Specifications

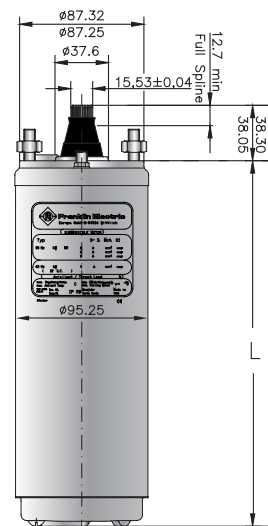
Standard Motor:

- 0,37 - 1,10kW
- 4" NEMA Flange
- Rotation: CCW facing shaft end
- Degree of protection: IP 68
- Insulation: Cl. B
- Rated Ambient temp.: 30°C
- Cooling flow: min 8 cm/sec.
- Starts / h: 20
- Mounting: vertical/horizontal
- Standard voltage: 220/230 V
- Voltage tolerance 50Hz: -10%/+6% U_N
- Voltage tolerance 60Hz: $\pm 10\% U_N$
- Motor protection: Built-in

Options

- Motor Cable VDE / ACS / KTW approved (1,5m, special lengths available)
- Special lengths available
- Motors with factory- installed lead in Single Packing

4"											
1~ 2wire / 230 V / 50 Hz											
P _N [kW]	Thrust F[N]	U _N [V]	n _N [min ⁻¹]	I _N [A]	I _A [A]	η [%]	cos φ [%]	T _N [Nm]	T _A [Nm]	L [mm]	m [kg]
0,37	3000	220	2875	4,1	24,4	57	0,76	1,24	1,18	228,2	7,8
		230	2890	4,1	25,5	57	0,73	1,23	1,29	228,2	7,8
0,55	3000	220	2870	5,7	35,0	59	0,77	1,85	1,7	248,2	8,5
		230	2890	5,8	36,6	59	0,73	1,85	1,9	248,2	8,5
0,75	3000	220	2875	7,2	46,6	62	0,78	2,5	2,1	282,6	9,9
		230	2890	7,3	48,7	61	0,75	2,5	2,3	282,6	9,9
1,10	3000	220	2880	10,6	57,9	63	0,77	3,7	2,7	338,6	12,3
		230	2895	10,8	59,7	63	0,73	3,7	2,9	338,6	12,3



4" Encapsulated Motors



4" Super Stainless 3-wire

Submersible Motors Quality in the Well

Franklin Electric 4" encapsulated 3-wire capacitor single phase Motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 4" diameter or larger water wells.

Together with the Franklin Electric Control Boxes, they offer you a maintenance free long life operation by high starting torque and included motor protection. The motor is filled with a special FES93 fluid, providing frost protection down to -40°C storage temperature.

A special diaphragm ensures pressure compensation inside the motor.

Product advantages standard:

- Hermetically sealed stator. anti track, self healing stator resin prevents motor burn out
- High efficiency electrical design (low operation cost, cooler winding temperature)
- Removable "Water bloc" lead connector
- Cable material in accordance with regulations for drinking water (KTW approved)
- Water lubricated radial and thrust bearings
- All motors pre-filled and 100% tested. Non contaminating, FES93-filled design.
- For use with Franklin Electric control box
- Offer highest starting torque of all single phase motors

Brackish Water version Specifications:

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



Technical Specifications

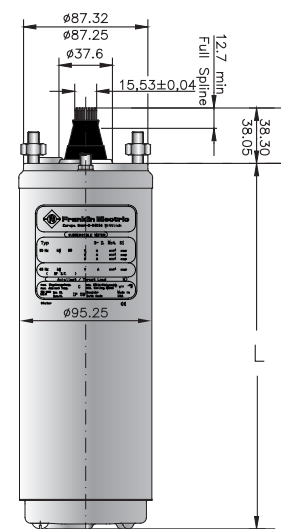
Standard Motor:

- 0,25 - 3,7kW
- 4" NEMA flange
- Rotation: CCW facing shaft end
- Degree of protection: IP68
- Insulation: Cl. B
- Rated Ambient temp.: 30°C
- Cooling flow: min 8 cm/sec
- Starts/h: 20
- Mounting: vertical/horizontal
- Standard voltage: 220/230 V
- Voltage tolerance 50Hz: -10% / +6% U_N
- Voltage tolerance 60Hz: $\pm 10\% U_N$
- Motor protection: included Franklin Electric Control Boxes

Options

- Motor cable VDE / ACS / KTW approved (1,5m; special lengths available)
- Motors with factory- installed lead in Single Packing
- Complete 316 SS Motor with SiC seal
- Built-in lightning arrestor

1~ 4" Encapsulated Motors										
3 wire / 230 V / 50 Hz										
P _N [kW]	Thrust [N]	N _N [min ⁻¹]	I _N [A]	I _A [A]	η [%]	cos φ [%]	T _N [Nm]	T _A [Nm]	L [mm]	m [kg]
0,25	3000	2870	2,8	9,7	53	0,75	0,8	1,6	214,2	7,2
0,37	3000	2870	4,0	13,7	56	0,74	1,2	2,0	228,2	7,8
0,55	3000	2870	5,9	21,6	56	0,73	1,8	3,2	248,2	8,7
0,75	3000	2870	7,3	27,8	61	0,76	2,5	4,2	282,6	10,0
1,1	3000	2885	8,6	41,2	68	0,84	3,7	6,8	338,6	12,6
1,5	3000	2875	10,4	53,3	71	0,88	4,9	9,5	349,6	13,0
2,2	4000	2885	15,3	74,5	73	0,88	7,3	15,0	436,6	16,9
	*6500	2885	15,3	74,5	73	0,88	7,3	15,0	520,2	21,3
3,7	*6500	2895	21,4	101	77	0,99	12,2	17,6	652,5	26,4
*	High Thrust Version									



4" Encapsulated Motors



4" Super Stainless 3 Phase

Submersible Motors Quality in the Well

These 4" encapsulated three phase motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 4" diameter or larger water wells. The motor offers you a maintenance free long life submersible pump application.

The motor is filled with a special FES93 fluid, providing frost protection down to -40°C storage temperature.

A special diaphragm ensures pressure compensation inside the motor.

Product advantages standard:

- Hermetically sealed stator. anti track, self healing stator resin prevents motor burn out
- High efficiency electrical design (low operation cost, cooler winding temperature)
- Removable "Water Bloc™" lead connector
- Cable material according to drinking water regulations (KTW approved)
- Water lubricated radial and thrust bearings
- All motors prefilled and 100% tested. Non contaminating, FES93-filled design

Brackish Water version Specifications:

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

Heat Pump version Specifications:

- 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 optimized for shallow settings and low power consumption available in 0,25kW; 380-415V/50Hz.



Pollution Recovery version Specifications:

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

Technical Specifications Standard Motor:

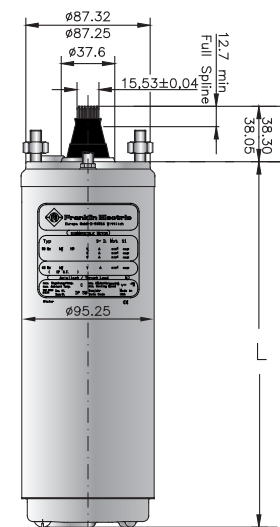
- 0,37 - 7,5kW
- 4" NEMA flange
- Degree of protection: IP68
- Insulation: Cl. B
- Rated ambient temp.: 30°C
- Cooling flow: min. 8cm/s
- Starts/h: 20
- Mounting: vertical/horizontal
- Standard Voltage: 380-415V/50Hz, 460V/60Hz
- Voltage tolerance 50Hz: -10% / +6% U_N [380-415V = (380-10%) – (415+6%)]
- Voltage tolerance 60Hz: $\pm 10\% U_N$
- Motor protection: Select thermal overloads according to EN 60947-4-1, Trip time <10 s at $5 \times I_N$

Options

- Motor cable VDE / ACS / KTW approved (1,5m; 2,5m; special lengths available)
- Motors with factory- installed lead in Single Packing
- Special voltages on request
- YΔ - start (pos. of cables 90°) in motors 316SS on request
- Motor complete in AISI 316SS with SiC seal

3- 4" Encapsulated Motors 400V / 50Hz											
P _N [kW]	Thrust F [N]	U _N [V]	n _N [min ⁻¹]	I _N [A]	I _A [A]	η [%]	cos φ [%]	T _N [Nm]	T _A [Nm]	L [mm]	m [kg]
0,37	3000	400	2870	1,1	5,41	66	0,74	1,22	3,00	214,2	7,2
0,55	3000	400	2870	1,6	7,4	68	0,74	1,82	4,20	228,2	7,7
0,75	3000	400	2865	2,0	10,6	70	0,77	2,49	6,70	248,2	8,7
1,1	3000	400	2850	2,8	16,0	74	0,78	3,67	11,33	282,6	10,2
1,5	3000	400	2855	3,9	20,7	73	0,78	5,00	14,10	306,6	11,2
2,2	4000	400	2845	5,5	29,8	75	0,77	7,37	22,0	338,6	12,6
	6500*	400	2845	5,5	29,8	75	0,77	7,37	22,0	422,2	15,0
3,0	4000	400	2845	7,5	42,0	76	0,77	10,06	31,93	393,6	15,0
	6500*	400	2845	7,5	42,0	76	0,77	10,06	31,93	477,2	17,0
3,7	6500*	400	2840	9,0	52,3	78	0,78	12,5	41,5	520,2	19,1
4,0	6500*	400	2840	9,9	57,0	78	0,77	13,4	44,0	543,2	20,0
5,5	6500*	400	2865	12,6	77,2	79	0,81	18,3	56,5	652,5	26,6
7,5	6500*	400	2855	17,1	99,3	79	0,81	25,1	73,1	730,5	30,6

* High Thrust Version



4" Encapsulated Motor Set



4" Super Stainless PSC Motor Set

Submersible Motor Set Quality in the Well

In an effort to ease our customers ordering, stock holding and inventory management, Franklin Electric Europa GmbH is introducing the PSC Motor Kit.

Consisting of the submersible motor, control box, motor short lead and splicing kit all packaged into one compact yet sturdy box, this kit is the ideal stock item to drive your pump.



Product advantages:

- One stop shop – no hassle selecting different components to work together
- Everything available at the same time
- All components matched and warranted by Franklin Electric
- Maximum flexibility – one motor kit can drive as many as 5 different pump models
- Any practical drop cable length (up to 10mm²) can be spliced using included kit

Technical Specifications

- Motor range 0,25 - 2,2kW
- 4" PSC Motor with NEMA flange
- Motor protection level: IP 68
- Box protection level: IP 54
- Voltage: 220 - 240V; - 6 / +10 %; 50Hz single phase

Options

- Motor cable VDE, KTW approved (1,5m; special lengths available)

PSC Motor Set Model numbers		
P _N [kW]	U _N [V]	Model No.
0,25	220-230	254 803 1621C
	230-240	254 813 1621C
0,37	220-230	254 805 1621C
	230-240	254 815 1621C
0,55	220-230	254 807 1621C
	230-240	254 817 1621C
0,75	220-230	254 808 1621C
	230-240	254 818 1621C
1,10	220-230	254 809 1621C
	230-240	254 819 1621C
1,50	220-230	254 810 1621C
	230-240	254 820 1621C
2,20	220-230	254 811 2521C
	230-240	254 821 2521C

4" Encapsulated Motor Set



PSC Motor Set Description

The PSC Motor

Submersible Motors

Quality in the Well

Franklin Electric 4" encapsulated PSC single Phase Motors, manufactured in ISO 9001 certified facilities, for operation with permanent split capacitor and overload.

This motor is built for dependable operation in 4" diameter or larger water wells, with excellent low voltage behavior and a high starting torque. It is fitted with water lubricated radial and thrust bearings for maintenance-free operation. The motor is filled with a special FES93 fluid, providing frost protection down to -40°C storage temperature.

A special diaphragm ensures pressure compensation inside the motor.



Product advantages:

- Hermetically sealed stator, anti track, self healing stator resin prevents motor burn out
- High efficiency electrical design (low operation cost, cooler winding temperature)
- Removable "Water bloc" lead connector
- Cable material in accordance with regulations for drinking water (KTW approved)
- Water lubricated radial and thrust bearings
- All motors pre-filled and 100% tested. Non contaminating, FES93-filled design.

Technical Specifications

Standard Motor:

- 0,25 - 2,2kW
- 4" NEMA flange
- Rotation: CCW facing shaft end
- Degree of protection: IP 68
- Insulation: Cl. B
- Rated Ambient temp.: 30°C
- Cooling flow: min. 8cm/s
- Starts / h: 20
- Mounting: vertical/horizontal
- Voltage tolerance: +6% / -10% UN
- Motor protection: Select thermal overloads according to EN 60947-4-1. Trip time ≤ 10 s at $5 \times I_N$

The SubStartSC® Single phase Submersible Motor Starter

The SubStartSC® range covers all PSC motors from 0.25kW to 2.2kW for all voltages. Ergonomic design, attention to detail and unique features make the SubStartSC® motor starter range your first choice when considering submersible motor protection. In conjunction with Franklin Electric submersible motors you now have an tangible water system advantage resulting in ease of installation and reliable protection.

Product features:

- Attention to detail – every aspect engineered for the application
- The complete package – The device is 100% compatible with the motor characteristics
- All in one name – Reliability backed by the leader in submersible motors



The Lead Termination Kit 1,5 - 10mm²

- 3M Quality
- 4 wire
- 1,5 - 10mm²
- up to 1,1kV



6" Encapsulated Motors



6" Encapsulated Motors

Submersible Motors Quality in the Well

These 6" encapsulated motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 6" diameter or larger water wells.

Water lubricated thrust and radial bearings enable a maintenance free operation. A special diaphragm ensures pressure compensation inside the motor. The motor is filled with a special FES91 fluid, providing frost protection down to -15°C storage temperature. The Sand fighter® SiC seal system is standard.

Product advantages:

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



Technical Specifications Standard Motor:

- 4 ... 45 kW
- 6" NEMA flange
- Protection: IP 68
- Starts per hour: 20
- Installation: vertical/horizontal
- Standard Voltage: 380-415V/50Hz, 460V/60Hz
- Voltage tolerance 50Hz: -10% / +6% U_N [380-415V = (380-10%) – (415+6%)]
- Voltage tolerance 60Hz: $\pm 10\% U_N$
- Motor protection: Select thermal overloads according to DIN 60947-4-1, trip class 10 or 10A, trip time < 10 s at $5 \times I_N$
- Insulation: Class F
- YΔ - start (pos. of cables 90°)
- „Sand fighter®“ Motor with SiC-Mechanical Seal
- Rated ambient temperature: 4- 30kW up to 30°C; 37 & 45 kW up to 50°C
- Cooling flow: min. 0,16 m/s
- Motor lead in 4m length (KTW approved)

Options

- Other voltages
- 45kN High Thrust Version on request (standard in 37kW and 45kW motors)
- Motors complete in 304SS and 316 SS
- PT 100 temperature sensor (sold separately)
- Special Lead lengths up to 50m
- Built-in PTC temperature sensor
- Built-in SubMonitor Transmitter (standard for 37&45kW)



6"										
3~ / 400 V / 50 Hz										
P _N [kW]	Thrust [N]	n _N [min ⁻¹]	I _N [A]	I _A [A]	η [%]	cos φ [%]	T _N [Nm]	T _A [Nm]	L [mm]	m [kg]
4,0	15.500	2860	9,3	43	78,0	0,82	12,3	20,2	581,2	37,5
5,5	15.500	2870	12,5	64	79,0	0,82	18,6	35,0	614,4	41,1
7,5	15.500	2860	16,0	83	79,0	0,86	25,0	47,7	646,2	45,2
9,3	15.500	2870	20,7	112	81,0	0,80	31,1	68,2	678,7	47,5
11,0	15.500	2860	23,3	129	81,0	0,85	37,3	78,3	711,2	50,9
15,0	15.500	2860	31,3	169	81,0	0,85	49,9	107,3	776,2	56,7
18,5	15.500	2860	38,5	231	82,0	0,85	62,4	154,6	841,5	63,3
22,0	15.500	2860	45,3	268	83,0	0,86	74,7	177,6	906,5	69,3
30,0	27.500	2860	63,5	393	83,0	0,84	99,4	263,1	1036,6	83,9
37,0	45.000	2875	79,0	411	81,0	0,85	123,6	280,8	1476,7	136
45,0	45.000	2875	95,2	509	82,0	0,84	148,4	332,3	1629,2	154



6" Encapsulated Motors



6" Encapsulated Motors „HighTemp 90°C“



Submersible Motors Quality in the Well

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

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



Product advantages:

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

Technical Specifications Standard Motor:

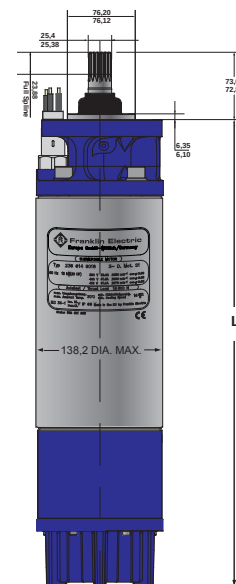
- 3,7 ... 30 kW
- 6" NEMA double flange
- Protection: IP 68
- Starts per hour: 20
- Installation: vertical/horizontal
- Standard Voltage: 380-415V/50Hz, 460V/60Hz
- Voltage tolerance 50Hz: -10% / +6% U_N [380-415V = (380-10%) – (415+6%)]
- Voltage tolerance 60Hz: $\pm 10\% U_N$
- Motor protection: Select thermal overloads according to DIN 60947-4-1, trip class 10 or 10A, trip time < 10 s at $5 \times I_N$
- Insulation: Class F
- Rated ambient temperature: 90°C
- Cooling flow: min. 0,16 m/s
- DOL / YΔ - start (pos. of cables 90°)
- Motor lead in 4m length

Options

- Other voltages
- 45kN High Thrust version on request (standard in 22kW and 30kW motors)
- Motors complete in 316 SS

6" Encapsulated Motor HighTemp 90°C
3~ / 400V / 50 Hz

P_N [kW]	Thrust F [N]	U_N [V]	n_N [min ⁻¹]	I_N [A]	I_A [A]	η [%]	$\cos \varphi$ [%]	T_N [Nm]	L [mm]	m [kg]
3,7	15.500	400	2880	8,5	52,5	75	0,86	12,3	716	53
5,5	15.500	400	2890	12,3	83,0	77	0,86	18,3	752	59
7,5	15.500	400	2890	16,0	110	81	0,85	24,9	780	66
11,0	15.500	400	2890	24,2	160	80	0,82	36,6	846	71
15,0	15.500	400	2885	33,0	205	80	0,83	49,9	909	79
18,5	27.500	400	2890	40,5	266	83	0,82	61,5	1041	92
22	45.500	400	2885	48,0	304	81	0,85	73,2	1476,7	136
30	45.500	400	2885	64,5	441	83	0,82	99,8	1629,2	154



6" Rewindable Motors



Submersible Motors Quality in the Well

These 6" rewindable motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 6" diameter or larger water wells. Water lubricated thrust and radial bearings enable a maintenance free operation. A special diaphragm ensures pressure compensation inside the motor. The motor is filled with a special FES93 fluid, providing frost protection down to -15°C storage temperature.

The Sand fighter® SiC seal system is the option for sandy applications. For applications in aggressive media, motors made of 316SS and 904L are available.

Product advantages:

- Cable material according to drinking water regulations (KTW approved)
- Sand slinger and mechanical seal for high performance in sand
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested
- Max. storage temperature -15°C - + 60°C
- Design for retrofitable PT100 sensor
- Approved Franklin Electric „Kingsbury Type“ thrust bearing
- Non contaminating FES 93 -filled design
- Sand fighter® SiC seal system is standard
- Motors complete 304SS

Technical Specifications

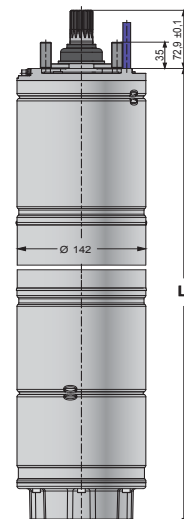
Standard Motor:

- 4,0 - 37,0kW
- 6" NEMA flange with Studs (M 12)
- Protection: IP 68
- Starts per hour: max. 20
- Installation position: vertical / horizontal (37 kW motors may not be installed horizontally)
- Motor Lead in 4m length (KTW approved)
- Standard Voltage: 380-415V/50Hz, 460V/60Hz
- Voltage tolerance 50Hz: -10% / +6% U_N [380-415V = (380-10%) – (415+6%)]
- Voltage tolerance 60Hz: $\pm 10\% U_N$
- Motor protection: Select thermal overloads according to EN 60947-4-1, trip class 10 or 10A, trip time < 10 s at $5 \times I_N$
- YΔ - start (pos. of cables 90°)
- Standard motor with PVC winding insulation (37kW in standard with PE2/PA insulation) for max. ambient temp. of 30°C with a min. cooling flow:
 - 4 kW - 15 kW $v = 0,2 \text{ m/s}$
 - 18,5 kW - 37 kW $v = 0,5 \text{ m/s}$

Options

- Other voltages
- Motors in complete GG-304SS, 316 SS and 904 L on request
- Motors up to 30kW with PE2/PA winding insulation for max. ambient temp. of 50°C at the same cooling conditions as standard (37 kW max. 45°C)
- PT 100 temperature sensor (sold separately)
- Sand fighter® Motor with SiC-Shaft Seal (Standard in 304SS, 316SS and 904L)
- Lead in different lengths up to 50m

6" Rewindable Motors										
3~ /400 V / 50 HZ										
P _N [kW]	Thrust [N]	n _N [min-1]	I _N [A]	I _A [A]	η [%]	cos φ [%]	T _N [Nm]	T _A [Nm]	L [mm]	m [kg]
4	15500	2930	10,6	51	0,76	0,73	13,1	17,3	679	43
5,5	15500	2890	13,3	51	0,76	0,81	18,2	17,3	679	43
7,5	15500	2880	17,7	63	0,77	0,82	24,8	21,5	699	45
9,3	15500	2870	21,4	78	0,78	0,82	31,0	29,0	729	48
11	15500	2880	25,2	98	0,79	0,83	36,4	35,3	759	51
13	15500	2900	29,6	125	0,80	0,81	42,8	50,3	809	56
15	15500	2890	33,1	148	0,81	0,83	49,4	60,4	854	61
18,5	15500	2880	42,0	182	0,81	0,80	61,2	84,3	899	65
22	15500	2900	49,0	231	0,82	0,80	72,5	102,2	989	74
26	15500	2900	56,7	284	0,83	0,83	85,6	134,7	1094	85
30	27500	2910	66,4	347	0,83	0,80	98,4	151,0	1194	95
37	27500	2900	81,9	433	0,83	0,80	121,6	215,8	1294	102



8" Encapsulated Motors



8" Encapsulated Motors



Submersible Motors Quality in the Well

These 8" encapsulated motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 8" diameter or larger water wells.

It is fitted with water lubricated radial and thrust bearings for maintenance-free operation. A special diaphragm ensures pressure compensation inside the motor. The motor is filled with a special FES91 fluid, providing frost protection down to -15°C storage temperature. The Sand fighter® SiC seal system is the option for sandy applications.

Product advantages:

- Hermetically sealed stator, anti track, self healing stator resin prevents motor burn out
- Removable "Water Bloc" lead connector
- Cable material according to drinking water regulations (KTW approved)
- Sand slinger and Mechanical seal for high performance in sand
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested
Max. storage temperature -15°C - + 60°C
- Non contaminating FES91 -filled design

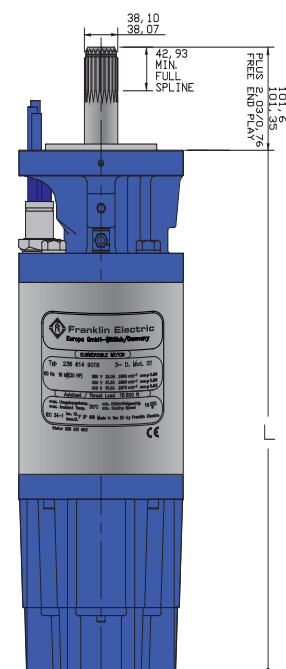
Technical Specifications Standard Motor:

- 30 ... 150 kW
- 8" NEMA flange
- Protection: IP 68
- Starts per hour: 20
- Installation: vertical/horizontal
- Standard Voltage: 380-415V/50Hz, 460V/60Hz
- Voltage tolerance 50Hz: -10% / +6% U_N [380-415V = (380-10%) – (415+6%)]
- Voltage tolerance 60Hz: $\pm 10\% U_N$
- Motor protection: Select thermal overloads according to DIN 60947-4-1, trip class 10 or 10A, trip time < 10 s at 5 x I_N
- Insulation: Class F
- DOL / YΔ - start (pos. of cables 90°)
- Rated ambient temperature: 30°C
- Cooling flow: min. 0,16 m/s
- Built-in Subtrol Heat Sensor
- Motor lead in 8 m length (KTW approved)

Options

- Other voltages
- Motors complete in 316 SS
- PT 100 temperature sensor (sold separately)
- „Sand fighter®“ Motor with SiC- Mechanical seal

P _N [kW]	Thrust F [N]	n _N [min ⁻¹]	I _N [A]	I _A [A]	η [%]	cos φ [%]	T _N [Nm]	T _A [Nm]	L [mm]	m [kg]
30	45000	2900	61	418	86	0,84	97	255	925	145
37	45000	2920	74	534	87	0,86	121	295	1000	157
45	45000	2920	89	645	87	0,85	145	395	1077	172
55	45000	2920	108	862	88	0,87	182	563	1394	202
75	45000	2925	145	1157	87	0,87	242	561	1496	240
93	45000	2930	190	1332	87	0,83	302	567	1748	318
110	45000	2930	222	1597	88	0,84	363	769	1976	381
130	45000	2920	252	1738	88	0,87	424	927	2179	420
150	45000	2920	284	1858	88	0,88	485	1034	2408	494



8" Encapsulated Motors



8" Encapsulated Motors „HighTemp 75°C“



Submersible Motors Quality in the Well

These 8" encapsulated motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 8" diameter or larger water wells with ambient temperature up to 75°C.

It is fitted with water lubricated radial and thrust bearings for maintenance-free operation. The motor is filled with a special FES92 fluid, providing frost protection down to -15°C storage temperature.

A special diaphragm ensures pressure compensation inside the motor. The Sand fighter® SiC seal system is standard.

Product advantages:

- Up to 75°C ambient temperature
- Increase thrust capacity up to 30°C
- No cooling flow in larger wells (open reservoirs) up to 30°C ambient
- Hermetically sealed encapsulated stator, anti track, self healing stator resin
- Removable "Water Bloc" lead connector
- „Sand fighter®“ Motor with SiC-Mechanical Seal
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested. Max. storage temperature -15°C - + 60°C
- High temperature leads
- Non contaminating FES 92 filled design

Technical Specifications

Standard Motor:

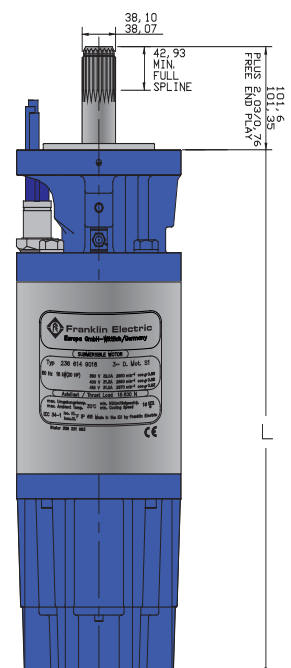
- 30 ... 110 kW
- 8" NEMA double flange
- Protection: IP 68
- Starts per hour: 20
- Installation: vertical/horizontal
- Standard Voltage: 380-415V/50Hz, 460V/60Hz
- Voltage tolerance 50Hz: -10% / +6% U_N [380-415V = (380-10%) – (415+6%)]
- Voltage tolerance 60Hz: $\pm 10\% U_N$
- Motor protection: Select thermal overloads according to DIN 60947-4-1, trip class 10 or 10A, trip time < 10 s at $5 \times I_N$
- Insulation: Class F
- Rated ambient temperature: 75°C
- Cooling flow: min. 0,16 m/s
- DOL / YΔ - start (pos. of cables 90°)
- Motor lead in 4m length

Options

- Other voltages
- Motors complete in 316 SS
- Motor lead in 8m length



8" Encapsulated HighTemp 75 3~ / 400V / 50Hz											
P_N [kW]	Thrust [N]	U_N [V]	n_N [min ⁻¹]	I_N [A]	I_A [A]	η [%]	$\cos \varphi$ [%]	T_N [Nm]	T_A [Nm]	L [mm]	m [kg]
30	45000	400	2930	65,5	499	80	0,83	97,8	298	1138	182
37	45000	400	2940	79,6	692	82	0,84	120	398	1265	207
45	45000	400	2945	93,1	884	84	0,84	146	465	1455	252
56	45000	400	2930	115	927	84	0,85	182	526	1748	318
75	45000	400	2935	151	1254	86	0,85	244	695	1976	382
93	45000	400	2925	186	1482	86	0,86	304	949	2179	421
110	45000	400	2935	224	1690	86	0,85	358	1002	2408	473



8" Rewindable Motors



Submersible Motors Quality in the Well

These 8" rewindable motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 8" diameter or larger water wells. It is fitted with water lubricated radial and thrust bearings for maintenance-free operation. The motor is filled with a special FES93 fluid, providing frost protection down to -15°C storage temperature.

A special diaphragm ensures pressure compensation inside the motor. The Sand fighter® SiC seal system is standard. For applications in aggressive media, motors made of 316SS and 904L are available.

Product advantages:

- Easy to assemble with double flange
- Cable material according to drinking water regulations (KTW approved)
- Sand fighter® SiC seal system for high performance in sand
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested
- Max. storage temperature -15°C - + 60°C
- Design for retrofitable PT100 sensor
- Non contaminating FES 93 filled design

Technical Specifications

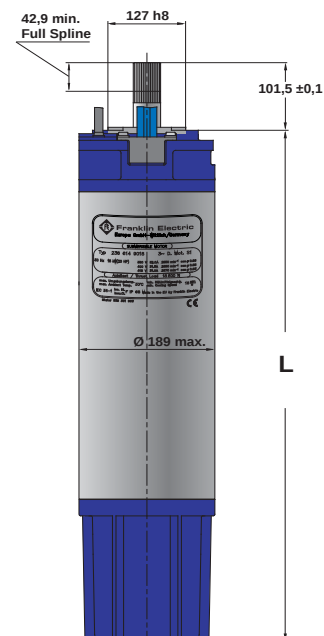
Standard Motor:

- 30,0 - 93,0kW
- 8" NEMA flange
- Protection: IP 68
- Starts per hour: max. 20
- Installation position: vertical / horizontal (**93 kW** motors may not be installed horizontally)
- Motor Lead in 6 m length (KTW approved)
- Standard Voltage: 380-415V/50Hz, 460V/60Hz
- Voltage tolerance 50Hz: -10% / +6% U_N [380-415V = (380-10%) - (415+6%)]
- Voltage tolerance 60Hz: $\pm 10\% U_N$
- Motor protection: Select thermal overloads according to EN 60947-4-1, trip class 10 or 10A,
- trip time < 10 s at $5 \times I_N$
- DOL / YΔ - start (pos. of cables 90°)
- Standard motor with PVC winding insulation
- for max. ambient temp. of 30°C with a min. cooling flow:
 - 30 kW - 52 kW $v = 0,2$ m/s
 - 55 kW - 93 kW $v = 0,5$ m/s

Options

- Other voltages
- Motors in complete 316 SS and 904 L
- YΔ - start (pos. of cables 90°)
- PE2/PA winding insulation for max. ambient temp. of 50°C at the same cooling conditions as standard
- PT 100 temperature sensor (sold separately)
- Lead in different lengths up to 50m

8" Rewindable Motors 3~400 V / 50 Hz										
P_N [kW]	Thrust [N]	n_N [min ⁻¹]	I_N [A]	I_A [A]	η [%]	$\cos \varphi$ [%]	T_N [Nm]	T_A [Nm]	L [mm]	m [kg]
30	45 000	2900	60	318	0,84	0,89	99	141	1140	140
37	45 000	2900	76	400	0,84	0,86	122	176	1140	140
45	45 000	2910	90	520	0,86	0,86	148	241	1230	156
52	45 000	2910	103	608	0,86	0,87	175	318	1340	179
55	45 000	2915	110	660	0,86	0,86	181	340	1340	179
60	45 000	2910	116	725	0,87	0,88	197	357	1470	198
67	45 000	2910	133	797	0,87	0,86	220	359	1470	198
75	45 000	2910	148	942	0,87	0,87	246	472	1560	215
83	45 000	2920	160	1077	0,88	0,88	273	544	1560	247
93	45 000	2920	183	1276	0,88	0,86	305	626	1740	247



10" Rewindable Motors



Submersible Motors

Quality in the Well

These 10" rewindable motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 10" diameter or larger water wells.

It is fitted with water lubricated radial and thrust bearings for maintenance-free operation. The motor is filled with a special FES93 fluid, providing frost protection down to -15°C storage temperature.

A special diaphragm ensures pressure compensation inside the motor. The Sand fighter® SiC seal system is standard. For applications in aggressive media, motors made of 316SS and 904L are available.

Product advantages:

- Easy to assemble with double flange
- Cable material according to drinking water regulations (KTW approved)
- Sand fighter® SiC seal system for high performance in sand
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested
- Max. storage temperature -15°C - + 60°C
- Design for retrofitable PT100 sensor
- Non contaminating FES 93 filled design

Technical Specifications

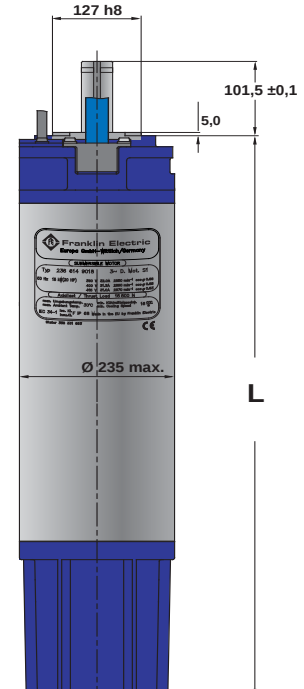
Standard Motor:

- 85,0 - 185,0kW
- 10" flange
- Protection: IP 68
- Starts per hour: max. 10
- Installation position: vertical / horizontal (185 kW motors may not be installed horizontally)
- Motor Lead in 6 m length (KTW approved)
- Standard Voltage: 380-415V/50Hz, 460V/60Hz
- Voltage tolerance 50Hz: -10% / +6% U_N [380-415V = (380-10%) – (415+6%)]
- Voltage tolerance 60Hz: $\pm 10\% U_N$
- Motor protection: Select thermal overloads according to EN 60947-4-1, trip class 10 or 10A,
- trip time < 10 s at $5 \times I_N$
- DOL / YΔ - start (pos. of cables 90°)
- Standard motor with PVC winding insulation for max. ambient temperature of 25°C with a min. cooling flow: $v = 0,5 \text{ m/s}$

Options

- Other voltages
- Motors in complete 316 SS and 904 L
- PE2/PA winding insulation for max. ambient temp. of 45°C at the same cooling conditions as standard
- PT 100 temperature sensor (sold separately)
- Lead in different lengths up to 50m

10" Rewindable Motors										
3-/400 V / 50 Hz										
P_N [kW]	Thrust [N]	n_N [min ⁻¹]	I_N [A]	I_A [A]	η [%]	$\cos \varphi$ [%]	T_N [Nm]	T_A [Nm]	L [mm]	m [kg]
85	60 000	2900	174	828	0,85	0,85	280	316	1419	280
110	60 000	2920	232	1158	0,86	0,82	360	467	1529	315
130	60 000	2920	256	1344	0,88	0,86	425	546	1659	362
150	60 000	2920	298	1590	0,87	0,85	491	635	1769	413
185	60 000	2920	384	2148	0,88	0,81	605	1022	1919	449



12" Rewindable Motors



Submersible Motors Quality in the Well

These 12" rewindable motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 12" diameter or larger water wells.

It is fitted with water lubricated radial and thrust bearings for maintenance-free operation. The motor is filled with a special FES93 fluid, providing frost protection down to -15°C storage temperature.

A special diaphragm ensures pressure compensation inside the motor. For applications in aggressive media, motors made of 316SS are available.

Product advantages:

- Easy to assemble with double flange
- Cable material according to drinking water regulations (KTW approved)
- Sand fighter® SiC seal system for high performance in sand
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested
- Max. storage temperature -15°C - + 60°C
- Design for retrofitable PT100 sensor
- Non contaminating FES 93 filled design

Options

- Motors in complete 316SS
- 80kN thrust load
- Other voltages
- PT 100 temperature sensor (sold separately)
- Special lead lengths upon request

Technical Specifications Standard Motor:

- 185kW - 400kW
- 12" flange
- Protection: IP 68
- Starts per hour: max. 5
- Installation position: vertical / horizontal
- Motor Lead in 6 m length (KTW approved)
- Standard voltage:
 - 380-415V/50Hz, 460V/60Hz
 - 500V/50Hz
 - 1000V/50Hz
- Voltage tolerance 50Hz: -10% / +6% U_N [380-415V = (380-10%) – (415+6%)]
- Voltage tolerance 60Hz: $\pm 10\% U_N$
- Motor protection: Select thermal overloads according to EN 60947-4-1, trip class 10 or 10A, trip time < 10 s at $5 \times I_N$
- DOL / YΔ - start (pos. of cables 90°)
- 30°C ambient temperature with a min. cooling flow: $v = 0,5 \text{ m/s}$



12" Rewindable Motors											
3-400 V / 50 Hz											
P_N [kW]	Thrust F [N]	U_N [V]	n_N [min-1]	I_N [A]	I_A [A]	η [%]	$\cos \varphi$ [%]	T_N [Nm]	T_A [Nm]	L [mm]	m [kg]
185	60 000	400	2940	357	1892	87	0,87	600	666	1703	595
220	60 000	400	2940	418	2257	88	0,88	714	850	1893	663
250	60 000	400	2935	481	2501	88	0,88	812	772	1893	663
300	60 000	400	2945	551	3085	88	0,90	971	913	2043	726
350	60 000	400	2930	676	3515	87	0,88	1137	1024	2143	769
400	60 000	400	2930	750	3600	90	0,87	1301	1093	2193	794



SubMonitor Motor Protection

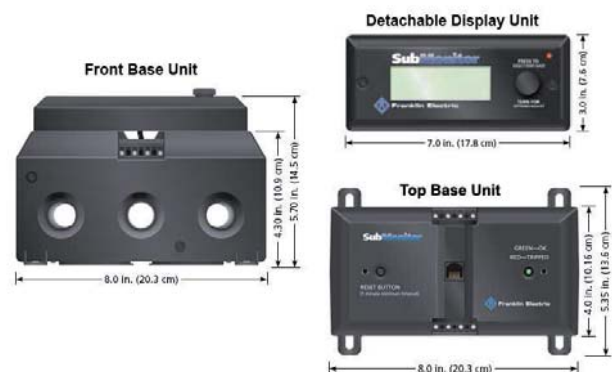
The SubMonitor is designed to protect 3-phase pumps with horsepower ratings between 3 and 200 Hp. Current, voltage and motor temperature are monitored using three integrated current transformers. A digital display provides current and voltage readings for all three legs and allows the user to set up the SubMonitor quickly and easily. The SubMonitor is the latest innovation in 3-phase pump protection from Franklin Electric. Using state-of-the-art technology, the SubMonitor provides the ultimate protection for a pump and motor. There is simply no better way to protect a large 3-phase submersible pump investment than with a SubMonitor. It's the protection device that can sense overheating straight from the motor windings! And it is made by the world leader in submersible motors - Franklin Electric.



Product advantages:

- Quick setup to monitor a motor, simply enter the Line Frequency (Hz), Line Voltage (volts), and Motor Service Factor Amp rating
- Digital display indicates voltage and current on all three legs at the same time, and fault messages are in easily understandable text
- Monitors - Under/Overload; Under/Overtension; Current Unbalance; Overheated Motor (Subtrol Equipped); False Start (Chattering); Phase Reversal
- For motors with service factor amp ratings between 3 and 359 amps
- One unit covers the entire range from 190 to 600 Volts
- No need to make additional turns around the CT or add external CTs
- Password Protection Option
- DIN Rail Mounting Option
- Stores fault, setting changes, and pump run-time, that can be accessed through the display
- Detachable NEMA 3R display unit can be mounted on panel door
- UL 508 Listed

Model number	
Premium Package	586 000 5100
Input Voltage	190 – 600 VAC
Frequency	60/50 Hz
Motor Service Factor Amps	3 to 359 Amps
Maximum Conductor Size Through Sensors	
Max. Diameter	0.920 in. (23 mm)
Trip Response	
Motor, Under / Overload, Under / Overtension, 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 (Incandescent: 100 watts max.)
Wiring Terminals	
Wire Gauge	#12 to #18 AWG
Tighten to	4.5 in-lbs
Weight (SubMonitor)	3.3 lbs/7.3 kg
Carton Size (Std. Unit)	7,75 in x 11,5 in x 6,75 in (19,7 cm x 29,2 cm x 17,1 cm)
Shipping Weight (Std. Unit)	3.5 Lbs./7.5 kg



SubStartSC® Single phase Submersible Motor Starter

The SubStartSC® range covers all PSC motors from 0.25kW to 2.2kW for all voltages. Ergonomic design, attention to detail and unique features make the SubStartSC® motor starter range your first choice when considering submersible motor protection. In conjunction with Franklin Electric submersible motors you now have an tangible water system advantage resulting in ease of installation and reliable protection.

Product features:

- Attention to detail – every aspect engineered for the application
- The complete package – The device is 100% compatible with the motor characteristics
- All in one name – Reliability backed by the leader in submersible motors



Ergonomically designed	
Mounting	Easy wall mounting without destroying the protection rating of the enclosure.
Wiring	Sufficient space is provided for ease of wiring.
Enclosure	
Protection	IP54
Material	IN
Components	
ON/OFF switch	Illuminated integral ON/OFF switch for ease of power
Circuit breaker	Thermal circuit breaker for protection of the motor.
Capacitor	High quality motor run capacitor for long life
Terminal board	Terminal board suitable for ease of reliable connections
Cable glands	Cable glands to ensure IP54 rating

Technical Specifications	
Mechanical	
Protection level	IP54
External dimensions	168 x 142 x 85mm
Weight	0,6 - 1,0 kg
Mounting	Wall mounting (mounting hardware provided)
Temperature	-5°C - +50°C
Humidity	50% at 55°C (without condensation)
Electrical	
Voltage	220 - 240V; - 6 / +10 %; 50Hz single phase
Current	16 A
Power	0,25 - 2,2 kW
Standards	
IEC 60439-1	

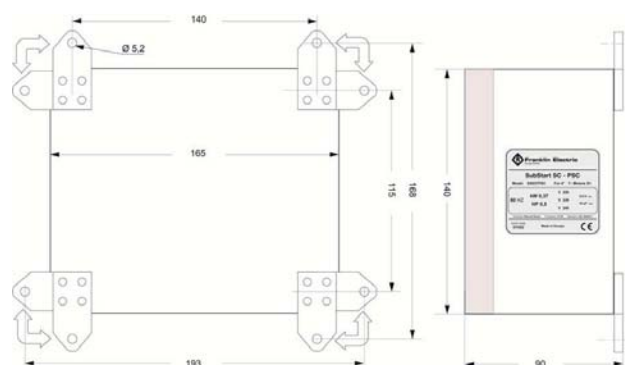
Submersible Motor Starter Specifications

Part Number ¹	Type ²	Motor rating (kW)	Nominal Current ³ (A)	Maximal expected current ⁴ (A)	Capacitor (µF) 450V 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	1,10	8,4	33,9	40
284 628 3510	SS150SC	1,50	10,7	41,7	50
284 629 3510	SS220SC	2,20	14,7	61,8	70

Notes:

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



SubTronicSC® Single Phase Motor Protection

The SubTronicSC® range covers all PSC motors from 0.25kW to 2.2kW for all voltages. Ergonomic design, attention to detail and unique features make the SubTronicSC® motor starter range your first choice when considering submersible motor protection. In conjunction with Franklin Electric submersible motors you now have an tangible water system advantage resulting in ease of installation and reliable protection.

Product features:

- Attention to detail – every aspect engineered for the application
- The complete package – The device is 100% compatible with the motor characteristics
- All in one name – Reliability backed by the leader in submersible motors



Ergonomically designed	
Mounting	Easy wall mounting offering various options without destroying the protection rating of the enclosure.
Wiring	Reliable connectors are provided for ease of wiring.
Motor compatible design	
Matching range	The SubTronicSC® Protector range was designed to match the Franklin Electric range of PSC motors.
Wide range of operation	Compatibility with motor design allows for a wide range of operation resulting in minimized nuisance tripping.
Intelligent Protection and Management features	
Dry-run detection (without probes)	Prevents motor and pump damage due to running the pump without water based on a proprietary reliable detection method.
Dry-run auto- reset	Automatic dry-run reset time is based on a proprietary search algorithm to find the best operating point for weak wells. Reset time 6 to 60 minutes.
Over & Under voltage	Prevents motor damage that may be caused by abnormal voltage conditions without limiting the range of operation, made possible by matching the design of the SubTronicSC® Protector with the motor. Reset time approximately 3 minutes.
Over current protection	Prevents operation under conditions where motor current may exceed safe levels due to bound pump or other fault condition. Detection is based on current heating capacity measurement to prevent unnecessary nuisance tripping. Reset time approximately 10 minutes.
Faulty Start Protection	Prevents system damage due to factors such as faulty contacts or switch. Contact failure detection reacts fast and will prevent damage to system components.
Rapid Cycle Protection	Prevents system damage due to factors such as continuous rapid cycling and excessive motor thermal cycling caused by waterlogged tank, faulty contacts or faulty pressure switch.
Indicators	
Status	Indication shows normal operation or other condition.
Voltage	Faulty voltage condition is indicated.
Fault conditions	Dry-run, Over current, Rapid Cycling, and Faulty start are indicated.

Technical Specifications

Mechanical

Protection level	IP54
External dimensions	290 x 230 x 95mm
Weight	0,6 - 1,0 kg
Mounting	Wall mounting (with options)
Temperature	-5°C - +50°C
Humidity	50% at 55°C (without condensation)

Electrical

Voltage	220 - 240V; ± 10 %; 50Hz single phase
Current	16 A
Power	0,25 - 2,2 kW

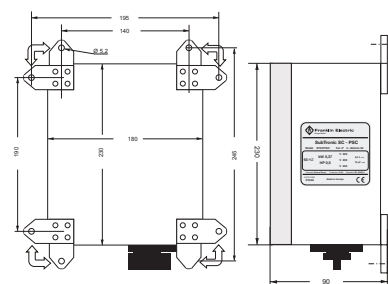
Standards

IEC 60439-1 when supplied with suitably fused supply.

SubTronic SC Motor Protection Specifications

Part Number	Type	Motor rating (kW)	Nominal Current (A)	Maximal expected current (A)	Capacitor (µF) 450V ac
284 623 3511	ST025PSC	0,25	2,4	9,4	12,5
284 624 3511	ST037PSC	0,37	3,3	12,6	16
284 625 3511	ST055PSC	0,55	4,3	17,7	20
284 626 3511	ST075PSC	0,75	5,7	22,7	35
284 627 3511	ST110PSC	1,10	8,4	33,9	40
284 628 3511	ST150PSC	1,50	10,7	41,7	50
284 629 3511	ST220PSC	2,20	14,7	61,8	70

Dimensions



SubDrive® Constant-pressure Contoller

Franklin Electric's SubDrive constant pressure controller provides constant pressure by continually adjusting the speed of the pump to match water demand. Instead of draining and filling a large tank, a SubDrive system pumps more or less water as you need it. Finally, you'll be able to run the dishwasher, do laundry and water the lawn – all at the same time!

Product Features:

- Works with a standard three-phase, 60Hz , 230V Franklin Electric submersible motor
- IP 23(Indoor) enclosure
- Three phase performance with single-phase input
 - High starting torque
 - More efficient
 - Smooth running
- Constant water pressure with a wide range of settings (2 to 6 bar)
- Soft start feature prevents water hammer and increases motor life
- Works with small pressure tanks or existing larger tanks
- Smart Reset™ technology allows well recovery before restarting the pump
- Complete well managment included
- Absolutly easy to install
- Excellent radio frequency interference shielding

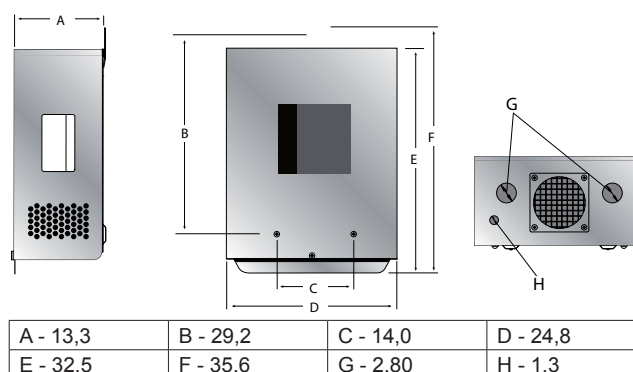


Built-in Diagnostics and Protection

SubDrive products all include diagnostic features and built-in protection for conditions that would be harmful to the system.

- Surge protection
- Underload
- Undervoltage
- Locked pump
- Open circuit
- Short circuit
- Overheated controller

Outlines (cm)



Constant Pressure Controls Specifications

	SubDrive75	SubDrive100	SubDrive150	SubDrive300
Rated Power	1,1kW	1,5kW	2,2kW	3,7kW
Model No.	587 020 3380	587 020 4100	587 020 4150	587 020 6300
Input (From Power Source)				
Voltage [V]	190-260 V / 1 Phase	190-260 V / 1 Phase	190-260 V / 1 Phase	220-260 V / 1 Phase
Frequency [Hz]	60 / 50 Hz	60 / 50 Hz	60 / 50 Hz	60 / 50 Hz
Max. Amps (RMS) [A]	11 A	19 A	23 A	36 A
Power Factor	1.0 (Constant)	1.0 (Constant)	1.0 (Constant)	1.0 (Constant)
Output (To Motor)				
Voltage [V]	Variable / 3 Phase	Variable / 3 Phase	Variable / 3 Phase	Variable / 3 Phase
Frequency [Hz]	Variable (30-80 Hz)	Variable (30-80 Hz)	Variable (30-80 Hz)	Variable (30-80 Hz)
Max. Amps (RMS) [A]	5,9 A	8,1 A	10,9 A	17,8 A
For Use With:				
Pump Rating [kW]	0,55, 0,75 or 1,1 kW (Selectable)	0,75, 1,1 or 1,5 kW (Selectable)	1,1, 1,5 or 2,2 kW (Selectable)	2,2 or 3,7 kW (Selectable)
Motor Rating [kW]	1,1 kW , 230 VAC, 60Hz (3-Phase)	1,5 kW , 230 VAC, 60Hz (3-Phase)	2,2 kW , 230 VAC, 60Hz (3-Phase)	3,7 kW , 230 VAC, 60Hz (3-Phase)
Pressure Sensor (Included)	External	External	External	External
Controller Weight [kg]	7,0	8,0	8,0	15,9
Carton Size (H x W x D) [cm]	42 x 31 x 23	42 x 31 x 23	42 x 31 x 23	50 x 44 x 36
Shipping Weight [kg]	10	10	10	19,5

Termination Kit 4"

This proven, sturdy solution is your choice of cable joining in temporary pump applications or when re-usage if the drop cable is desired. Furthermore, the flexibility and safety it provides for under field service conditions makes it the preferred choice over conventional, not breakable splicing kits



Double Plug Lead for Termination Kit

- 2-wire / 3-wire
- 1,5m / 2,5m Lead length
- with / without Strain relief
- Max. current 16 Apms.
- KTW approved



Lead Termination Kit 1,5 - 10mm²

- 3M Quality
- 4 wire
- 1,5 - 10mm²
- up to 1,1kV



Filling Liquid

Filling liquid 5 L FES92

4" Encapsulated	→	FES93	8" Encapsulated Standard	→	FES91
6" Encapsulated Standard	→	FES91	8" Encapsulated HighTemp75	→	FES92
6" Encapsulated HighTemp90	→	FES92	Rewindable Motors All	→	FES93

FES91	FES92	FES93



Motor Filling Kit

This kit offers all tools for control the level of the engine filling liquid and to fill up if necessary!



6" Permanent Star Plug

Application

For some applications it may be 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.



Couplings

Application

Franklin Electric offers this line of motor-pump couplings for maximum customer convenience in matching the Franklin motor to a variety of pump shafts. 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.



Surge Arrestor

Application

These surge arrestors or their equivalents are highly recommended for protecting submersible motors from a variety of commonly occurring high voltage spikes which can damage the motor insulation system and cause motor winding failure. These arrestors will not, as is true of any surge protection equipment, protect the motor from a direct lightning strike



PT100 for 6" and 8" Encapsulated Motors

Application

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. The above-ground equipment is not available from Franklin Electric and is typically part of a custom panel or data acquisition system.

PT100 sensor retrofit kits from Franklin Electric come with complete instructions and allow for easy field installation



PT100 Rewindable Motors

Application

- Fitted into the upper end bell flange , all end bells 6" ,8" , 10" and 12"
- Rewindable are prepare for installation PT 100
- Measures the temperature of the filling liquid
- Conductor with a resistance proportional to the temperature
- Allows monitoring the temperature continuously



The above-ground equipment is not available from Franklin Electric and is typically part of a custom panel or data acquisition system .PT100 sensor retrofit kits from Franklin Electric come with complete instructions and allow for easy field installation

Corrosion Protection 4"

Application

The sacrificial anode attaches to the bottom end bell of Franklin Electric 4" Super Stainless submersible motors. Since cast iron is more chemically active than the metals that make up the motor and pump, it is the cast iron that reacts to the corrosive elements in the water. This results in longer motor and pump life in aggressive / corrosive water conditions.

LT

HT



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QUALITY IN THE WELL

POWERED BY

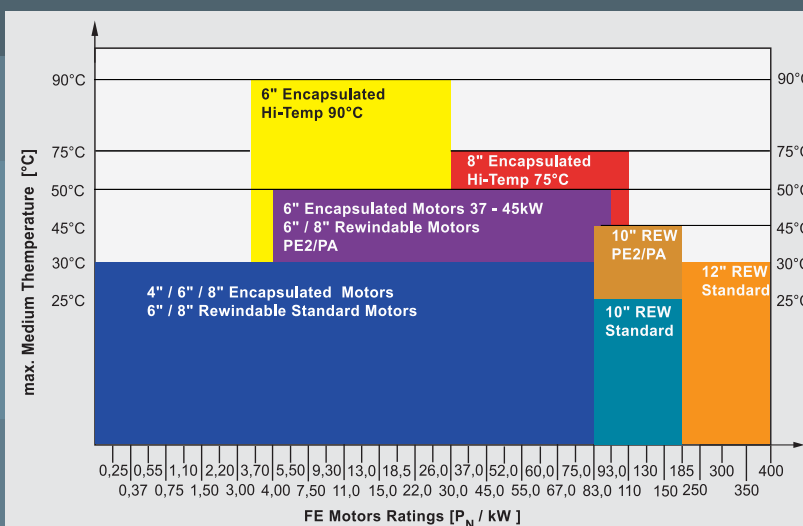


Franklin Electric



- (GB)** Franklin Electric is the world largest manufacturer of submersible motors. Our broad product line, quality manufacturing, on time delivery and outstanding service make us the number one choice of pumps manufacturers, distributors and installers worldwide. We invite you to visit our web site at: www.franklin-electric.eu
- (D)** Franklin Electric ist der größte Hersteller von Unterwassermotoren weltweit. Unsere weite Produktfamilie, die hohe Qualität der Fertigung, die gute Verfügbarkeit und der außerordentliche Service machen uns zur ersten Wahl für Pumpenhersteller, Händler und Installateure weltweit. Bitte besuchen sie unsere Internet Homepage unter: www.franklin-electric.eu
- (F)** Franklin Electric est le plus grand constructeur mondial de moteurs électriques immergés. Notre large gamme de produits, la qualité de nos fabrications, nos délais de livraison courts et notre support client hors du commun, font que nous sommes le choix préférentiel des fabricants de pompes, distributeurs et installateur dans le monde entier. Nous vous invitons à visiter notre site Internet: www.franklin-electric.eu
- (E)** Franklin Electric es la mayor fabricante mundial de motores eléctricos sumergibles. Nuestra amplia gama de productos, fabricación de calidad, entregas puntuales y excepcional servicio hace de nosotros la elección número uno entre los fabricantes de bombas, distribuidores e instaladores en todo el mundo. Le invitamos a visitar nuestra página web en: www.franklin-electric.eu

Franklin Electric Product Line





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