

Pearl®

6MWCP

6" Encapsulated Submersible Motors

Water cooled motors with encapsulated resin filled stator.
Coupling dimensions and flange according to NEMA standard.

General Features

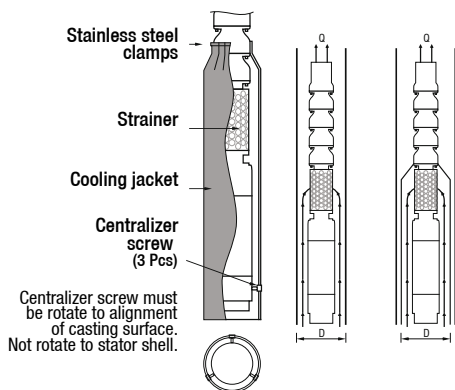
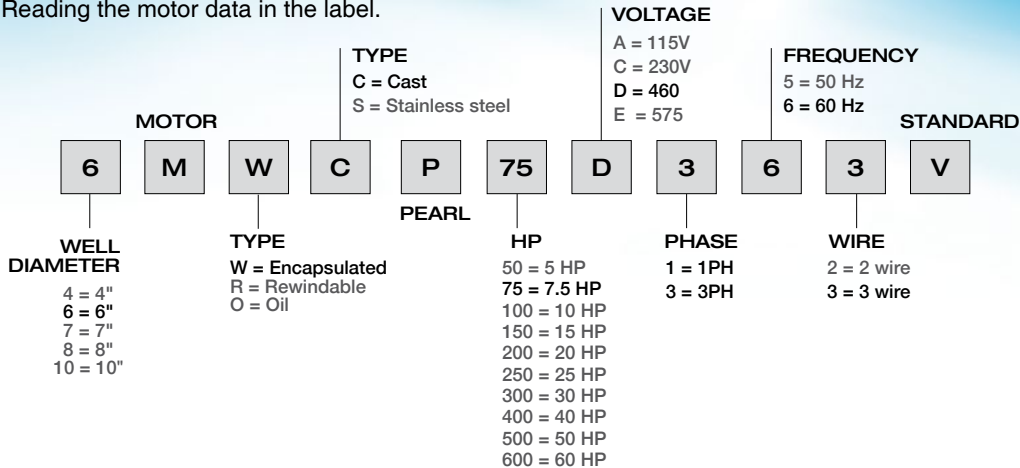
- 5,5-60 HP / 3 PH. 220-230 Volts / 60Hz
- High efficiency provides operation cost savings
- Motor casing and shaft made of AISI304L stainless steel (Optional AISI316L)
- High resistance coated cast iron upper and lower bracket (Optional AISI304L / AISI316L)
- Water lubricated Kingsbury type thrust bearings
- Protection IP68
- Sand slinger protection
- Pressure equalizing diaphragm
- Insulation class F
- Removable lead cable
- Starting method D.O.L. or star/delta
- Variable operation revolutions by frequency drive (over 30 Hz)
- Availability to be operated by Soft-Starter

Operating Limits

- Max. voltage fluctuation: $\pm 10\%$
- Max. water temperature: 95°F (35°C) with at least 0.16 m/s (0.53 ft/s) of water flow speed
- Max. motor startings per hour: 20
- Max. immersion depth: 1150 feet (350 m)
- Horizontal operation: 5 HP - 30 HP

Nomenclature

Reading the motor data in the label.



Use cooling jacket

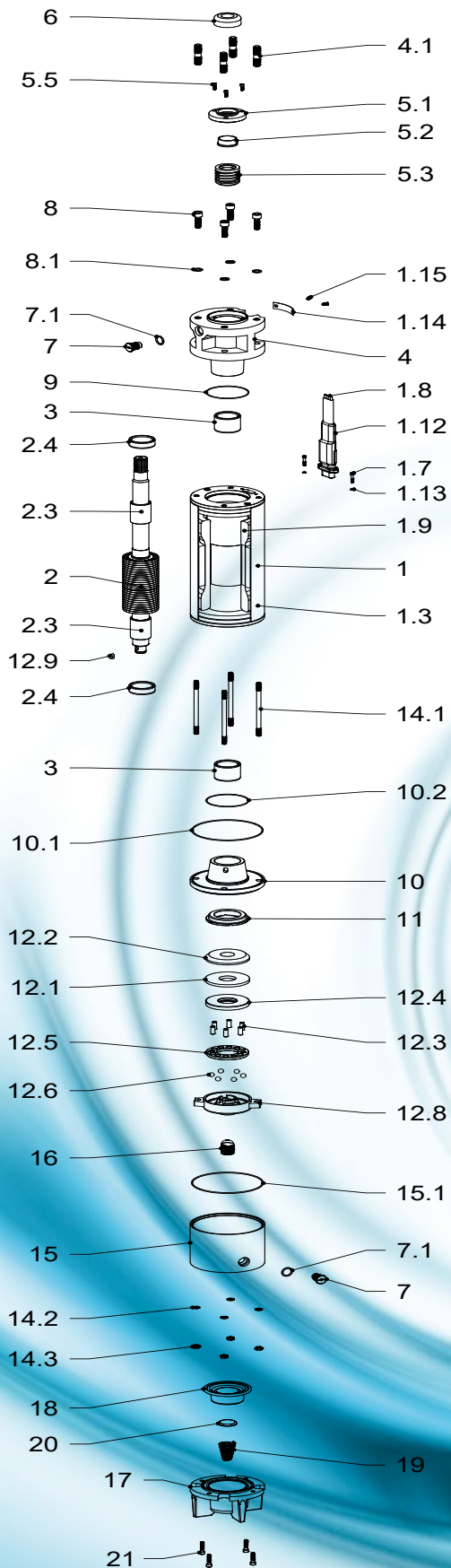
Cooling of submersible motors is provided with the flow of the water around it. That's why water flow around motors has vital importance during submersible pump installation. This flow rate depends on diameter and power of motor.

Most important factor of submersible motors' long service life is that the motor must have adequate flow for proper cooling. See adjacent table.

If the motor will be installed in an open body of water (i.e pool) or diameter of the well is much bigger than the diameter of the motor, Flow Inducer Sleeve must be used to provide the flow velocities that are given in the table below, around the motor.



Components

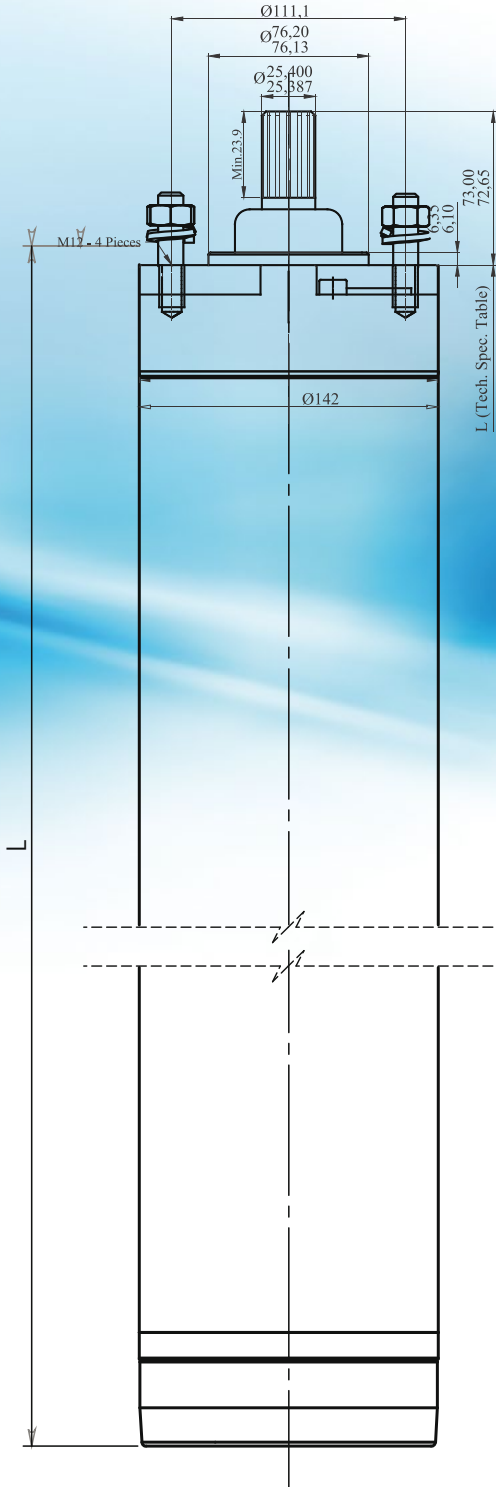


No	PARTS	MATERIAL
1	Stator	-
1.3	Stator shell	AISI 304
1.7	Socket screw	Inox
1.8	Cable	NYN
1.9	Winding wire	Copper
1.12	VSM Connection female	-
1.13	Washer	Inox
1.14	Cable protection plate	AISI 304
1.15	Socket screw	Inox
2	Rotor	-
2.3	Shaft sleeve	Coated CrNi
2.4	Balance ring	St 37
3	Radial bearing	Resin Impregnated Carbon
4	Upper bearing body	GG 25
4.1	Stud	Inox
5.1	Cover seal	AISI 420
5.2	Bushing	Bronze
5.3	Mechanical seal	Ceramic Carbon
5.5	Socket screw	Inox
6	Slinger (sand guard)	NBR-EPDM
7	Check-valve	Bronze / AISI 302
7.1	O-ring	NBR-EPDM
8	Socket screw	Inox
8.1	Washer	Inox
9	O-ring	NBR-EPDM
10	Lower bearing body	GG 25
10.1	O-ring	NBR-EPDM
10.2	O-ring	NBR-EPDM
11	Up-Thrust	Bronze
12.1	Metal table	-
12.2	Carbon	Antimony Impregnated Carbon
12.3	Ball holder pins	Inox
12.4	Tilting pads	AISI 420
12.5	Ball holder	St 37 (Coated Cr+3)
12.6	Thrust bearing ball	AISI 420
12.8	Thrust bearing support	GG 25
12.9	Axial thrust bearing key	AISI 420
14.1	Tie rod	AISI 420 / AISI 304
14.2	Washer	Cu
14.3	Nut	Inox
15	Thrust bearing body	GG 25
15.1	O-ring	NBR-EPDM
16	Screw (thrust bearing base)	Inox
17	Membrane body	GG 25
18	Membrane	NBR-EPDM
19	Spring	Inox
20	Sheet	AISI 304
21	Socket screw	Inox



6MWCP

6" Encapsulated Submersible Motors



Dimensions

6MWCP- SINGLE PHASE / 3 WIRE

MODEL	P2		L		WEIGHT	
	[HP]	[kW]	[mm]	[plg]	[Kg]	[lbs]
6MWCP 75	7.5	5.5	598	23.5	43	95
6MWCP 100	10	7.5	653	25	48	106
6MWCP 150	15	11	718	28	55	121.6

6MWCP- 3 PHASE / 3 WIRE

MODEL	P2		L		WEIGHT	
	[HP]	[kW]	[mm]	[plg]	[Kg]	[lbs]
6MWCP 50	5	3.7	578	22.7	41	90.6
6MWCP 75	7.5	5.5	598	23.5	43	95
6MWCP 100	10	7.5	653	25.7	48	106
6MWCP 150	15	11	718	28.3	55	121.6
6MWCP 200	20	15	798	31.4	61	134.8
6MWCP 250	25	18.5	858	33.8	68	150.3
6MWCP 300	30	22	898	35.3	74	163.6
6MWCP 400	40	30	1063	41.8	88	194.5
6MWCP 500	50	37	1198	47.2	137	302.8

Electrical Data 60 Hz

6MWCP - SINGLE PHASE / 3 WIRE

MODEL	P _N		AXIAL LOAD	VOLT.	SF	I _n			I _n (SF)			N	η	Cos φ (% load)	CABLE	CABLE LC
	[kW]	[HP]				[kN]	V	A			A					
					line	main	aux	line	main	aux						
6MWCP 75C163V	5.5	7.5	20	230	1.15	36.8	34.6	5.5	42.30	39.80	6.30	3445	73	0.89	3X10 AWG	12
6MWCP 100C163V	7.5	10	20	230	1.15	45.2	40.6	9.5	52.0	46.7	10.9	3450	75	0.94	3X10 AWG	12
6MWCP 150C163V	11	15	20	230	1.15	62.4	51.8	17.5	71.8	59.6	20.1	3460	78	0.96	3X10 AWG	12

CAPACITOR (μF)		
POWER	CAP. START	CAP. RUN
7,5 HP	145	130
10 HP	280	140
15 HP	300	200

WIRE / CABLE	US	PEARL
Line or Common Winding	(Yellow) lead	(Black) lead
Main Winding	(Black) lead	(Gray) lead
Start or Auxiliar Winding	(Red) lead	(Brown) lead
Ground	(Green) lead	(Yellow/Green) lead

RESISTANCE [Ω]		
Yellow-Red Wire	Yellow-Black Wire	Red-Black Wire
1.18	0.42	1.57
0.83	0.35	1.14
0.58	0.24	0.80

6MWCP - 3 PHASE / 3 WIRE

MODEL	P _N		AXIAL LOAD	VOLT.	N	I _n	IN - SF	I _A	η (% load)			Cos φ (% load)			TN	TA	RESISTANCE 3 ~ 60 hz
	[HP]	[kW]							[kN]	V	rpm	A	A	A			
6MWCP 50D363V	5	4	20	460	3470	7,8	9	32,0	71.1	75.9	78	0.73	0.79	0.83	10,9	18,1	4.75
6MWCP 50C363V				230	3455	16.3	18.7	66,9	70	75	78	0.73	0.79	0.83	11,2	19,0	1.72
6MWCP 75D363V	7,5	5,5	20	460	3430	9,8	11.3	52,5	73.5	78.6	80	0.79	0.83	0.88	15,2	29,2	3.12
6MWCP 75C363V				230	3415	20.5	23.6	109,8	72.5	77.5	79	0.79	0.83	0.88	15,5	30,1	1.32
6MWCP 100D363V	10	7,5	20	460	3460	14,2	16.3	75,0	69.6	75.6	78	0.74	0.81	0.85	20,5	44,8	1.59
6MWCP 100C363V				230	3445	29.7	34.2	156,8	69	74.7	77	0.79	0.83	0.88	20,8	45,7	0.46
6MWCP 150D363V	15	11	20	460	3490	18,0	20.7	97,2	72.6	78.1	85	0.75	0.81	0.9	30,1	71,0	0.83
6MWCP 150C363V				230	3475	37.6	43.2	203,2	71.6	77.2	84	0.75	0.81	0.9	30,4	71,9	0.51
6MWCP 200D363V	20	15	20	460	3485	26,4	30.4	195,0	72.3	77.9	81	0.77	0.81	0.86	41,1	98,0	0.83
6MWCP 200C363V				230	3470	55.2	63.5	407,7	71.5	77	81	0.77	0.81	0.86	41,4	98,9	0.33
6MWCP 250D363V	25	18,5	20	460	3490	34,1	39.2	265,0	71.8	77.5	82	0.74	0.8	0.85	50,5	138,0	0.95
6MWCP 250C363V				230	3475	71.3	82	554,1	70.9	76.5	82	0.74	0.8	0.85	50,8	138,9	0.25
6MWCP 300D363V	30	22	20	460	3485	39,5	45.4	300,0	74.4	79.3	82	0.75	0.8	0.86	60,2	157,0	0.54
6MWCP 300C363V				230	3470	82.6	95	627,3	73.4	79.3	82	0.75	0.8	0.86	60,5	157,9	0.16
6MWCP 400D363V	40	30	26,5	460	3490	55,6	63.9	444,0	73.1	78.4	83	0.74	0.8	0.84	81,6	240,0	0.42
6MWCP 400C363V				230	3475	116,3	133.7	928,4	72.2	77.5	83	0.74	0.8	0.84	81,9	240,9	0.14
6MWCP 500D363V	50	37	26,5	460	3480	69,0	79.4	516,0	73.4	78.6	83	0.7	0.78	0.83	100,7	249,0	0.33
6MWCP 500C363V				230	3465	144,3	165.9	1.078,9	73.5	77.7	83	0.7	0.78	0.83	101,0	249,9	0.12

P2: Rated output
V: Rated voltage
SF: Service factor
I_n: Rated current
I_n (SF): Service factor current
I_s/I_n: Locked rotor current-Rated current
C_s/C_n: Locked rotor Torque-Rated Torque

P1: Power consumption
N: RPM
Cos φ: Power factor
η: Efficiency
C: Capacitor
Ø: Cable section
LC: Cable length