

SPCO[®]
makes life easier



UGM 4"

Water Lubricated
Submersible Motors, 60Hz

4" Rewindable Water Lubricated Motors

Specifications

4" SPCO Water Lubricated Motors are rewindable.

Coupling dimensions as per NEMA standard.

Winding wire: Polywrapped.

Degree of protection: IP68.

Max water temperature: 35 °C.

Start per hr: 30time (Max).

Allowable voltage variation +6% -10%.

Motor shaft of Stainless Steel.

Stator shell of Stainless Steel.

Max depth immersion: 250M.

Mounting: vertical / horizontal.

Upper / Lower bracket in Cast Iron with Epoxy / SS.

Single Phase Motors are Capacitor start and run.

Motor Cable length: 3 Meter (3 Core / 4 core).

Coolant: Clear Water.

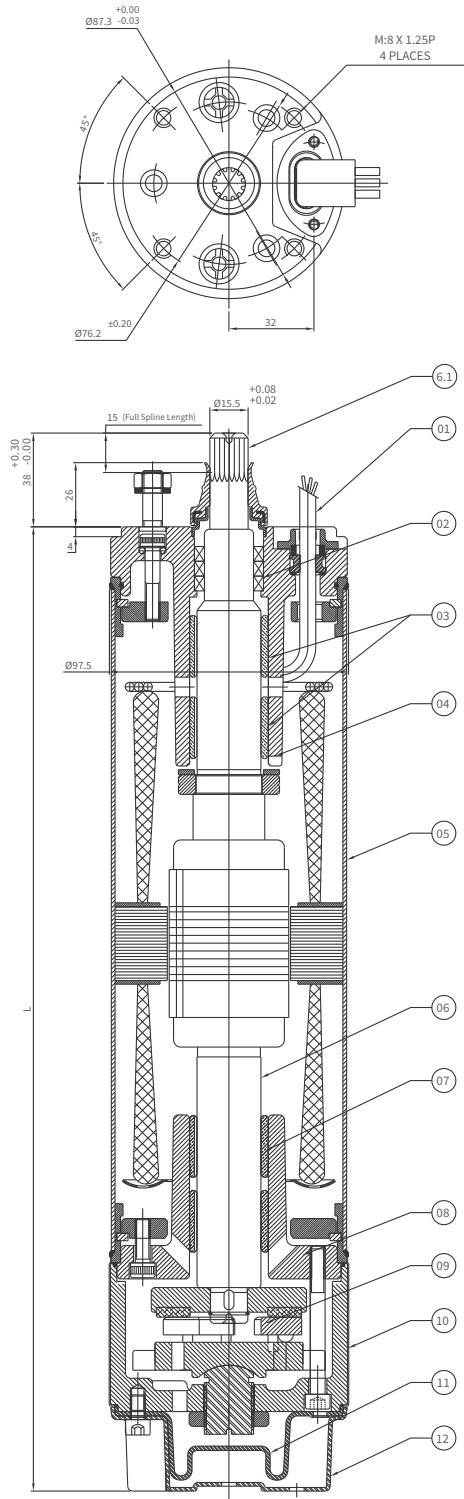
Version

Single Phase: 0.37kW to 2.2Kw, 230Volt / 60Hz.

Three Phase: 0.37kW to 7.5Kw, 230-380 - 460Volt / 60Hz.

Motor with other Voltage and frequency rating are also available on specific demand.

Section drawing



4" W/L REWINDABLE MOTOR DESIGN

PN		PW	Motor Weight		Motor Weight	
[kW]	[HP] (S.P)	L [mm] C.I. / S.S.	S.S. 304	Cast Iron	S.S. 304	Cast Iron
0.37	0.50	495	12.0	12.2	13.8	15.7
0.55	0.75	495	12.0	12.2	13.8	15.7
0.75	1.00	510	12.5	12.6	14.2	16.2
1.10	1.50	525	12.8	13.2	14.7	16.7
1.50	2.00	610	20.6	21.7	23.7	24.0
2.20	3.00	660	23.2	24.3	26.0	27.0
3.70	5.00	880	36.2	38.4	40.5	42.0

PN		PW	Motor Weight		Motor Weight	
[kW]	[HP] (T.P)	L [mm] C.I. / S.S.	S.S. 304	Cast Iron	S.S. 304	Cast Iron
0.37	0.50	535	12.9	13.2	15.0	17.0
0.55	0.75	535	12.9	13.2	15.0	17.0
0.75	1.00	570	16.9	17.2	20.2	22.2
1.10	1.50	570	16.9	17.2	20.2	22.2
1.50	2.00	590	20.0	21.0	23.0	24.0
2.20	3.00	640	22.5	23.6	25.2	26.2
3.70	5.00	740	33.5	35.4	38.0	39.0
5.50	7.50	880	36.2	38.4	40.5	43.0
7.50	10.00	935	38.4	40.7	42.9	45.6

No	PART'S NAME	MATERIAL
01	CABLE 3 CORE/4 CORE	EPR/P.V.C
02	OIL SEAL	N.B.R
03	BEARING BUSH	CARBON
04	UPPER HOUSING	CAST IRON (F.G 200) / S.S 304
05	MOTOR SHELL	S.S.304
06	ROTOR SHAFT	S.S.420
6.1	SHAFT END	S.S.303
07	BEARING BUSH	CARBON
08	LOWER HOUSING	CAST IRON (FG-200)
09	THRUST BEARING SET	CARBON / S.S 420
10	LOWER PART-2	CAST IRON (F.G 200) WITH
11	PRESSURE CUP	N.B.R
12	MOTOR BASE	S.S.304
13	ALL HARDWARE	S.S.316/304

Performance Data of Single Phase

CSR

Performance Data of 4" Rewindable Single Phase (W/L) Motors / 60 Hz (CSR)

PN		Thrust Load [N]	UN [V]	nN [min-1]	IN [A]	IA [A]	η(Eff.) [%] at % load			cos φ (PF) at % load			TN [Nm]	TA [Nm]	Capacitor Running μF (Uc=450V)
[H.P.]	[kW]						50	75	100	50	75	100			
0.5	0.37	3000	230	3450	4.2	10.7	43	53	60	0.76	0.79	0.88	1.02	0.86	72
0.75	0.55	3000	230	3450	5	15.4	50	60	67	0.83	0.91	0.95	1.53	1.16	72
1.0	0.75	3000	230	3460	7	20.2	46	55	62	0.90	0.95	0.98	2.03	1.81	72
1.5	1.1	3000	230	3450	9.5	30.1	49	59	67	0.81	0.88	0.93	3.06	2.57	72
2.0	1.5	3000	230	3450	12	33.9	53	63	70	0.83	0.91	0.96	4.07	2.97	72
3.0	2.2	4000	230	3430	16	54.2	58	68	73	0.87	0.94	0.98	6.15	4.00	108

CSCR

Performance Data of 4" Rewindable Single Phase (W/L) Motors / 60 Hz (CSCR)

PN		Thrust Load [N]	UN [V]	nN [min-1]	IN [A]	IA [A]	η(Eff.) [%] at % load			cos φ (PF) at % load			TN [Nm]	TA [Nm]	Capacitor Running μF (Uc=450V)	Capacitor Starting μF (Uc=270V)
[H.P.]	[kW]						50	75	100	50	75	100				
0.5	0.37	3000	230	3480	4.2	15.2	57	64	67	0.50	0.59	0.68	1.01	1.68	72	100-120
0.75	0.55	3000	230	3485	6.5	24.2	57	65	68	0.49	0.59	0.70	1.51	2.27	72	100-120
1.0	0.75	3000	230	3490	7.8	30	54	62	65	0.53	0.64	0.73	2.01	3.3	72	100-120
1.5	1.1	3000	230	3490	9.6	41.5	60	67	70	0.59	0.70	0.79	3.04	4.92	72	100-120
2.0	1.5	3000	230	3480	12.5	55.3	63	71	74	0.69	0.80	0.89	4.04	6.87	72	100-120
3.0	2.2	4000	230	3475	16.5	82	67	74	77	0.70	0.81	0.89	6.07	11.5	108	120-150
5.5	4.0	4000	230	3450	26.0	130	68	74	77	0.70	0.82	0.98	11.2	21.2	108	200-250

- PN :Rated Output
- F[N] :Axial Thrust Load
- UN :Rated Voltage
- nN :RPM
- cos :Power Factor
- IN :Full Load Current
- IA :Starting Current
- n :Motor Efficiency
- TN :Full Load Torque
- TA :Starting Torque

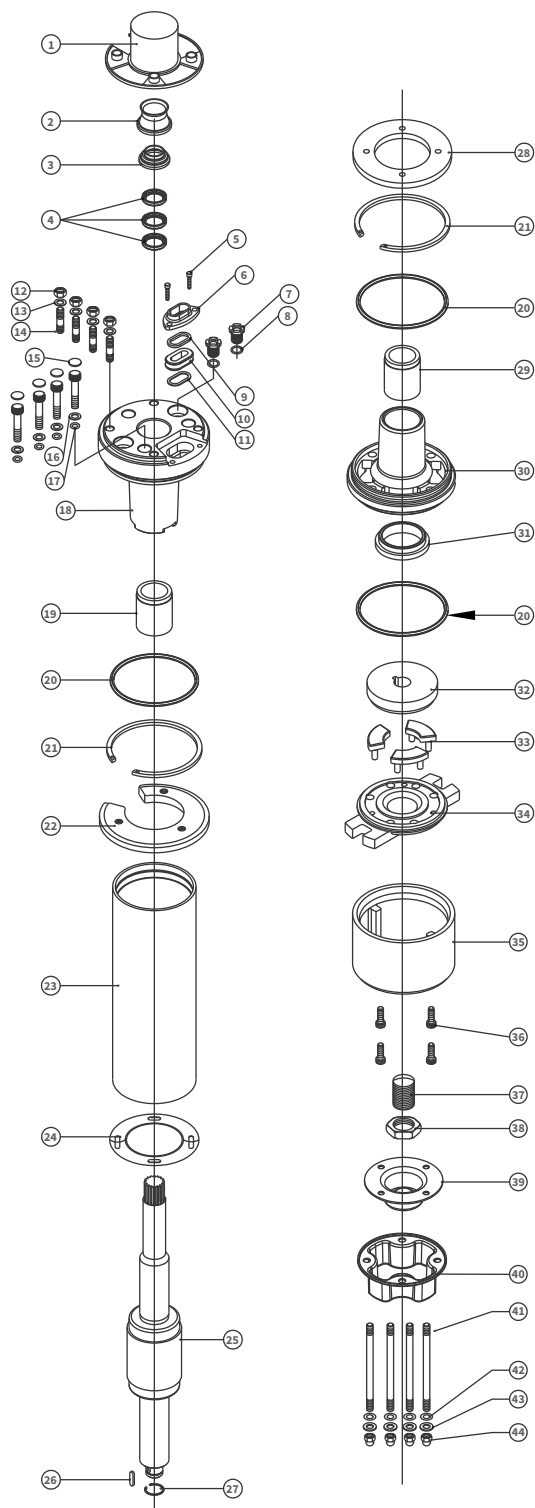
Performance Data of Three Phase

Performance Data of 4" Rewindable Three Phase Motors / 60 Hz

PN		Thrust Load [N]	UN [V]	nN [min-1]	IN [A]	IA [A]	η (Eff.) [%] at % load			cos φ(PF) at % load			TN [Nm]	TA [Nm]
[H.P.]	[kW]						50	75	100	50	75	100		
0.5	0.37	3000	230	3445	2.41	9.6	59	62	64	0.58	0.71	0.79	1.02	1.84
			380	3445	1.42	5.6	59	62	64	0.58	0.71	0.79	1.02	1.96
			460	3445	1.21	4.8	59	62	64	0.58	0.71	0.79	1.02	2.24
0.75	0.55	3000	230	3450	3.10	12.4	63	67	69	0.57	0.71	0.80	1.53	2.3
			380	3450	1.91	7.6	63	67	69	0.57	0.71	0.80	1.53	2.5
			460	3450	1.60	6.4	63	67	69	0.57	0.71	0.80	1.53	2.75
1.0	0.75	3000	230	3455	3.91	17.55	65	68	70	0.59	0.72	0.81	2.03	3.55
			380	3455	2.32	10.35	65	68	70	0.59	0.72	0.81	2.03	3.9
			460	3455	2.00	9	65	68	70	0.59	0.72	0.81	2.03	4.47
1.5	1.1	3000	230	3445	5.00	25	70	73	76	0.61	0.76	0.83	3.04	6.69
			380	3445	3.00	15	70	73	76	0.61	0.76	0.83	3.04	7.7
			460	3445	2.51	12.5	70	73	76	0.61	0.76	0.83	3.04	8.2
2.0	1.5	3000	230	3445	6.71	33.5	64	66	69	0.59	0.73	0.81	4.08	8.16
			380	3445	4.11	20.5	64	66	69	0.59	0.73	0.81	4.08	9.22
			460	3445	3.40	17	64	66	69	0.59	0.73	0.81	4.08	10.2
3.0	2.2	4000	230	3450	9.51	47.5	70	73	75	0.52	0.65	0.74	6.11	15.3
			380	3450	5.80	29	70	73	75	0.52	0.65	0.74	6.11	17.4
			460	3450	4.82	24	70	73	75	0.52	0.65	0.74	6.11	18.33
5.5	4.0	6500	230	3450	15.91	55.65	69	71	74	0.52	0.66	0.75	11.2	15.70
			380	3450	9.62	33.6	69	71	74	0.52	0.66	0.75	11.2	17.70
			460	3450	8.00	28	69	71	74	0.52	0.66	0.75	11.2	19.04
7.5	5.5	6500	230	3445	23.0	92	71	73	76	0.56	0.68	0.77	15.30	22.95
			380	3445	13.91	55.6	71	73	76	0.56	0.68	0.77	15.30	30.00
			460	3445	11.51	46	71	73	76	0.56	0.68	0.77	15.30	33.70
10.0	7.5	6500	230	3450	27.1	95	70	73	75	0.58	0.71	0.80	20.4	32.64
			380	3450	19.29	67.55	70	73	75	0.58	0.71	0.80	20.4	37.33
			460	3450	15.91	55.65	70	73	75	0.58	0.71	0.80	20.4	44.90

- PN :Rated Output
- FN :Axial Thrust Load
- UN :Rated Voltage
- nN :RPM
- cos :Power Factor
- IN :Full Load Current
- IA :Starting Current
- η :Motor Efficiency
- TN :Full Load Torque
- TA :Starting Torque

Spare Parts



No.	Part's Name
1	Plastic cap
2	Sand Guard
3	Upper Cap
4	Oil Seal
5	Cable Clip Screw
6	Cable protector cap
7	Drain plug
8	Drain Plug 'O' Ring
9	Plastic Grommet washer
10	Rubber Grommet
11	SS Grommet Washer
12	Hex Nut
13	Stud Washer
14	Upper stud
15	Allen Bolt Cap
16	Allen Bolt Washer
17	Allen Bolt 'O' Ring
18	Upper Housing
19	Bearing Bush Upper Side
20	O' Ring
21	Cir Clip
22	Upper Flange
23	Stator Body
24	Winding Cap
25	Rotor Stamping
26	Rotor Key
27	Rotor Cir Clip
28	Lower Flange
29	Bearing Bush Lower Side
30	Lower Housing
31	Fiber C.T. Bearing
32	Carbon Plate
33	Segment
34	Counter Bearing
35	Lower Part -2
36	Allen Bolt (Lower Side)
37	Rocker
38	Rocker Lock Nut
39	Pressure Cup
40	Motor Base
41	Lower Stud
42	Stud 'O' Ring
43	Stud Washer
44	Dome Nut

SPCO®
makes life easier



UGM 6"

Water Lubricated
Submersible Motors, 60Hz

6" Rewindable Water Lubricated Motors

Specifications

6" SPCO Water Lubricated Motors are rewindable.

Coupling dimensions as per NEMA standard.

Winding wire: Polywrapped.

Degree of protection: IP68.

Max water temperature: 35 °C.

Start per hr: 30time (Max).

Allowable voltage variation +6% -10%.

Motor shaft of Stainless Steel.

Stator shell of Stainless Steel.

Max depth immersion: 350M.

Mounting: vertical / horizontal.

Motor Cable length : 3 Meter / 3 Core with separate earth cable & 4 Core.

Cooling Flow : $V=0.2$ M/S.

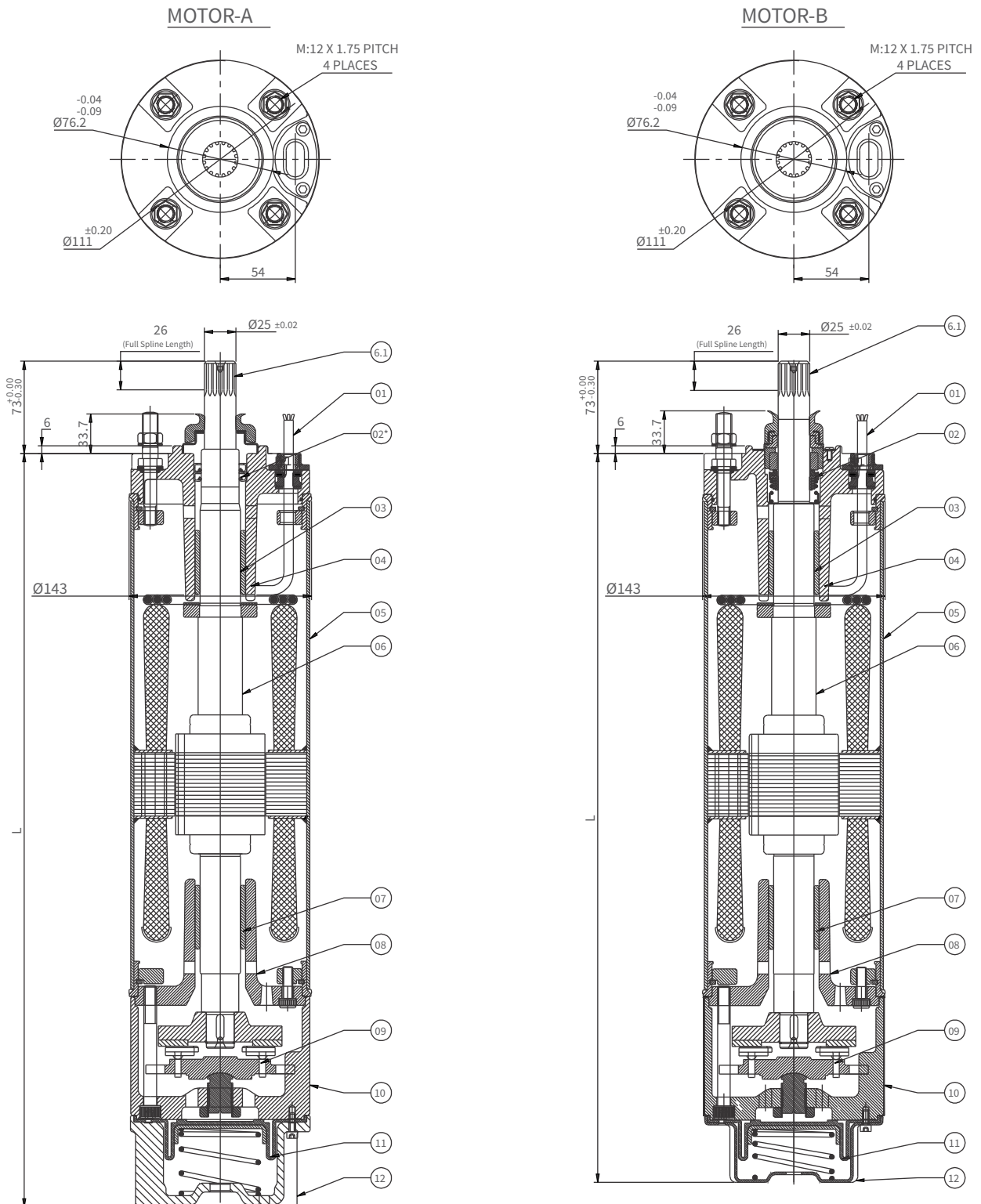
Coolant : Clear Water.

Version

Three Phase: 2.20 kW To 37.5 kW/ 230 - 380 - 460Volt /60 Hz.

Motors with other Voltage and frequency ratings are available on specific Demand.

6" Rewindable Water Lubricated Motors design



6" Rewindable Water Lubricated Motors design

MOTOR-A		
SR	PART'S NAME	MATERIAL
01	CABLE 3 CORE/4 CORE	EPR
02	OIL SEAL	N.B.R
02	MECH / SEAL*	CARBON/CIRAMIC
03	BEARING BUSH	CARBON
04	UPPER HOUSING	CAST IRON (F.G 200)
05	MOTOR SHELL	S.S.304
06	ROTOR SHAFT	S.S.420
6.1	SHAFT END	S.S.303
07	BEARING BUSH	CARBON
08	LOWER HOUSING	CAST IRON (F.G 200)
09	THRUST BEARING SET	CARBON / S.S.420
10	LOWER PART-2	CAST IRON (F.G 200)
11	PRESSURE CUP	N.B.R
12	MOTOR BASE	CAST IRON (F.G 200)
13	ALL HARDWARE	S.S.316/304

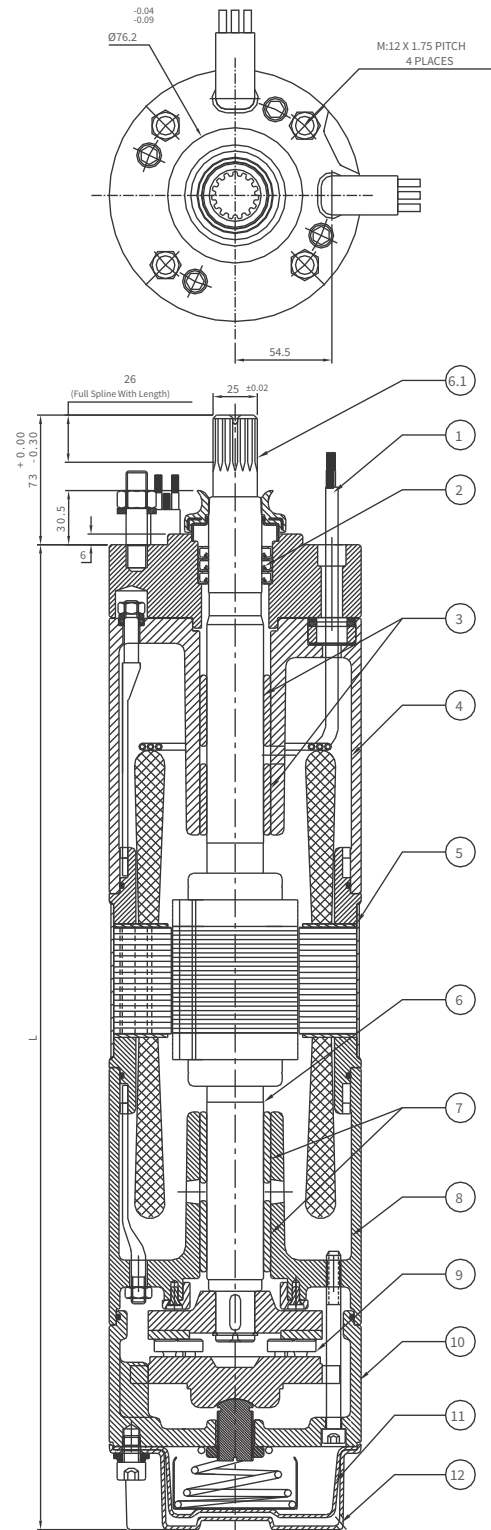
MOTOR-B		
SR	PART'S NAME	MATERIAL
01	CABLE 3 CORE/4 CORE	EPR
02	MECH. SEAL	CARBON/CIRAMIC
03	BEARING BUSH	CARBON
04	UPPER HOUSING	CAST IRON(F.G 200) /
05	MOTOR SHELL	S.S.304
06	ROTOR SHAFT	S.S.420
6.1	SHAFT END	S.S.303
07	BEARING BUSH	CARBON
08	LOWER HOUSING	CAST IRON (F.G 200)
09	THRUST BEARING SET	CARBON / S.S.420
10	LOWER PART-2	CAST IRON (F.G 200)
11	PRESSURE CUP	N.B.R
12	MOTOR BASE	S.S.304
13	ALL HARDWARE	S.S.316/304

P N		PW L [mm] C.I.	PW L [mm] S.S.	Motor Weight [kg]		Motor Weight (incl.pkg) [kg]	
[kW]	[HP]			S.S. 304	Cast Iron	S.S. 304	Cast Iron
2.2	3.00	657	637	24.0	20.0	27.0	24.0
3.7	5.00	667	647	39.0	35.0	42.7	39.4
4.1	5.50	682	662	43.0	39.0	46.7	43.4
5.5	7.50	747	727	46.0	49.0	51.2	54.2
7.5	10.00	777	757	50.0	54.0	54.2	57.8
9.3	12.50	803	787	53.0	59.0	56.8	63.0
11.0	15.00	847	827	61.0	63.0	64.8	66.6
13.0	17.50	897	877	64.0	67.0	67.7	70.7
15.0	20.00	937	917	70.0	71.0	74.6	75.2
18.5	25.00	992	972	76.0	80.0	79.8	83.5
22.0	30.00	1067	1047	90.0	90.0	94.2	94.3
26.0	35.00	1127	1107	94.0	97.0	98.0	101.0
30.0	40.00	1247	1227	102.0	100.0	108.0	105.0
37.0	50.00	1347	1347	127.5	125.5	133.5	130.5

6" CI T-Type rewindable motor design

SR	PART'S NAME	MATERIAL
01	CABLE 3 CORE/4 CORE	E.P.R
02	OIL SEAL	N.B.R
02	MECH / SEAL*	CARBON/CIRAMIC
03	BEARING BUSH	CARBON
04	UPPER HOUSING	CAST IRON (F.G 200)
05	MOTOR SHELL	S.S.304
06	ROTOR SHAFT	S.S.420
6.1	SHAFT END	S.S.303
07	BEARING BUSH	CARBON
08	LOWER HOUSING	CAST IRON (F.G 200)
09	THRUST BEARING SET	CARBON / S.S.420
10	LOWER PART-2	CAST IRON (F.G 200) WITH S.S.
11	PRESSURE CUP	N.B.R
12	MOTOR BASE	S.S.304
13	ALL HARDWARE	S.S.316/304

PN		PW L [mm] C.I.	Motor Weight	
[kW]	[HP]		Cast Iron	Motor Weight (incl.pkg) [kg]
2.20	3.00	590	20.0	24.0
2.94	4.00	590	20.0	24.0
3.70	5.00	605	35.0	39.4
3.70	5.00	615	39.0	43.4
4.40	6.00	630	44.0	49.5
5.50	7.50	695	49.0	54.6
7.50	10.00	725	54.0	58.2
9.30	12.50	755	59.0	63.0
11.0	15.00	795	62.0	66.0
13.0	17.50	845	67.0	70.7
15.0	20.0	885	70.0	74.2
18.5	25.00	940	76.0	80.2
22.0	30.00	1015	85.0	89.2
26.0	35.00	1075	97.0	101.0
30.0	40.00	1195	104.0	108.4
37.0	50.00	1295	113.0	117.8



Performance Data

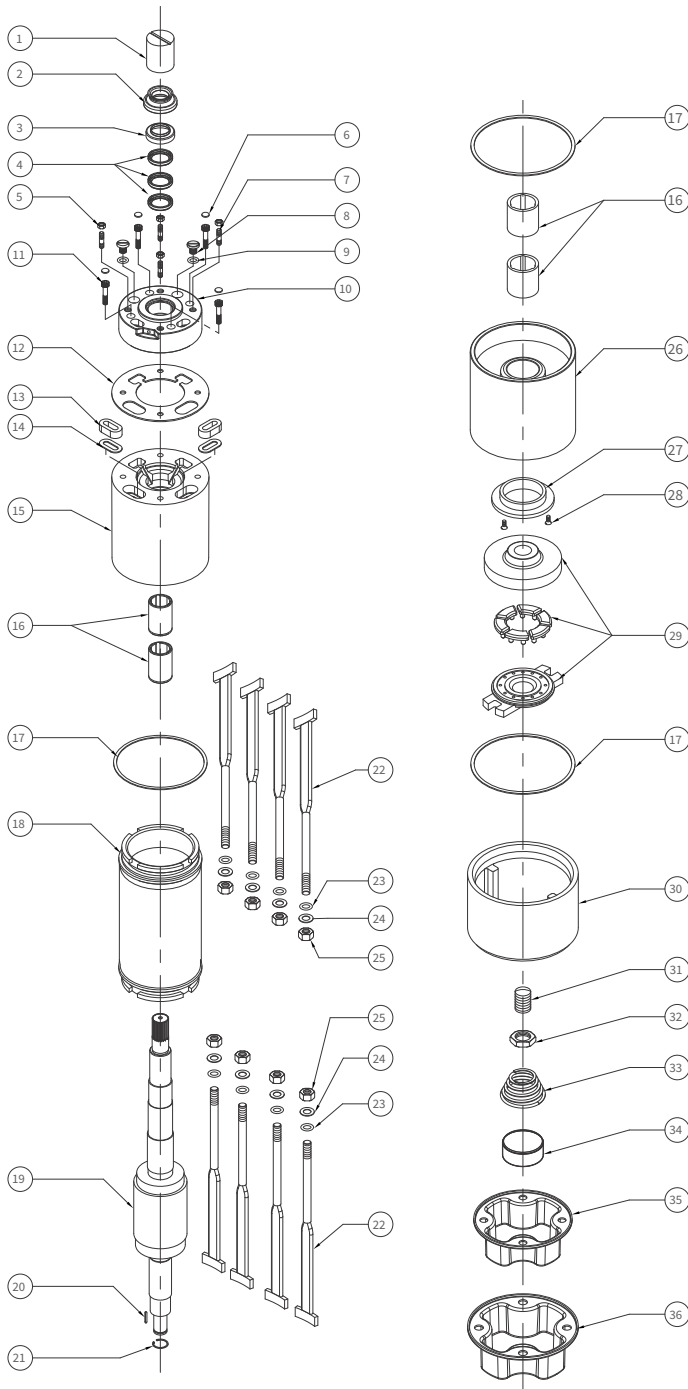
Performance Data of 6" Aqualite Submersible Motors / 60 Hz

PN		P _{MAX} [kW]	Thrust Load [N]	U _N [V]	n _N [min- 1]	I _N [A]	I _A [A]	η (Eff.) [%] at % load			cosφ (PF) at % load			T _N [Nm]
[H.P.]	[kW]							50	75	100	50	75	100	
3.00	2.2	2.5	15500	230	3520	10	40	70	73	76	0.51	0.62	0.72	6.64
				380	3530	6.51	33	66	71	76	0.50	0.61	0.70	5.97
				460	3520	5.59	28	70	75	77	0.55	0.65	0.74	6.64
5.50	4	4.6	15500	230	3520	26.11	105	71	75	77	0.53	0.64	0.73	12.49
				380	3530	13.30	62	67	72	77	0.51	0.64	0.71	12.41
				460	3520	10.11	51	71	76	78	0.56	0.68	0.75	12.48
7.50	5.5	6.3	15500	230	3490	26.11	106	74	78	78	0.62	0.73	0.80	17.29
				380	3480	15.39	62	75	78	78	0.65	0.75	0.81	17.29
				460	3480	12.90	51	75	77	77	0.66	0.76	0.82	17.29
10.0	7.5	8.6	15500	230	3490	35.91	145	75	78	79	0.59	0.71	0.78	23.58
				380	3485	20.79	81	76	78	79	0.65	0.75	0.81	23.58
				460	3470	17.20	65	76	78	78	0.67	0.78	0.82	23.70
12.5	9.3	10.7	15500	230	3490	44.41	183	76	79	79	0.60	0.71	0.78	29.3
				380	3470	25.60	101	77	79	80	0.65	0.75	0.81	29.4
				460	3460	20.79	78	79	80	80	0.67	0.78	0.82	29.4
15.0	11	12.7	15500	230	3480	51.21	221	77	80	81	0.61	0.72	0.80	34.59
				380	3490	30.29	129	77	81	81	0.62	0.74	0.80	34.51
				460	3480	25.00	97	78	81	80	0.69	0.77	0.83	34.70
17.5	13	15.0	15500	230	3500	62.39	289	76	80	82	0.56	0.68	0.76	40.71
				380	3505	36.30	164	77	81	82	0.59	0.71	0.79	40.71
				460	3490	29.00	124	77	81	81	0.66	0.76	0.82	40.90
20.0	15	17.3	15500	230	3500	65.89	324	80	82	83	0.64	0.74	0.81	47.1
				380	3490	39.10	188	81	83	83	0.66	0.77	0.83	47.2
				460	3495	32.11	150	80	83	83	0.69	0.78	0.84	47.1
25.0	18.5	21.3	15500	230	3490	85.39	401	77	81	82	0.60	0.71	0.77	58.11
				380	3490	52.49	249	77	81	81	0.59	0.70	0.77	58.11
				460	3480	40.60	183	80	82	82	0.65	0.76	0.81	58.39
30.0	22	25.3	15500	230	3510	100.2	521	81	84	84	0.66	0.74	0.77	68.78
				380	3510	59.89	390	82	83	84	0.67	0.76	0.78	68.78
				460	3500	47.11	231	83	84	84	0.72	0.79	0.81	69.10
35.0	26	29.9	15500	230	3510	118.3	658	83	84	85	0.63	0.72	0.76	81.29
				380	3500	67.49	360	83	85	85	0.63	0.74	0.81	81.61
				460	3510	55.71	288	83	85	85	0.64	0.75	0.84	81.6
40.0	30	34.5	27500	230	3510	135.7	757	78	81	83	0.59	0.71	0.78	93.81
				380	3510	79.59	436	79	83	84	0.62	0.75	0.81	93.89
				460	3500	64.41	345	81	83	84	0.63	0.76	0.82	94.00
50.0	37.0	42.6	27500	230	3510	135.6	757	78	82	83	0.59	0.71	0.78	93.78
				380	3510	102.7	568	77	81	82	0.59	0.72	0.78	115.8
				460	3500	79.12	430	81	84	85	0.63	0.75	0.82	115.9

- P_N :Rated Output
- F_[N] :Axial Thrust Load
- U_N :Rated Voltage
- n_N :RPM
- cos φ :Power Factor

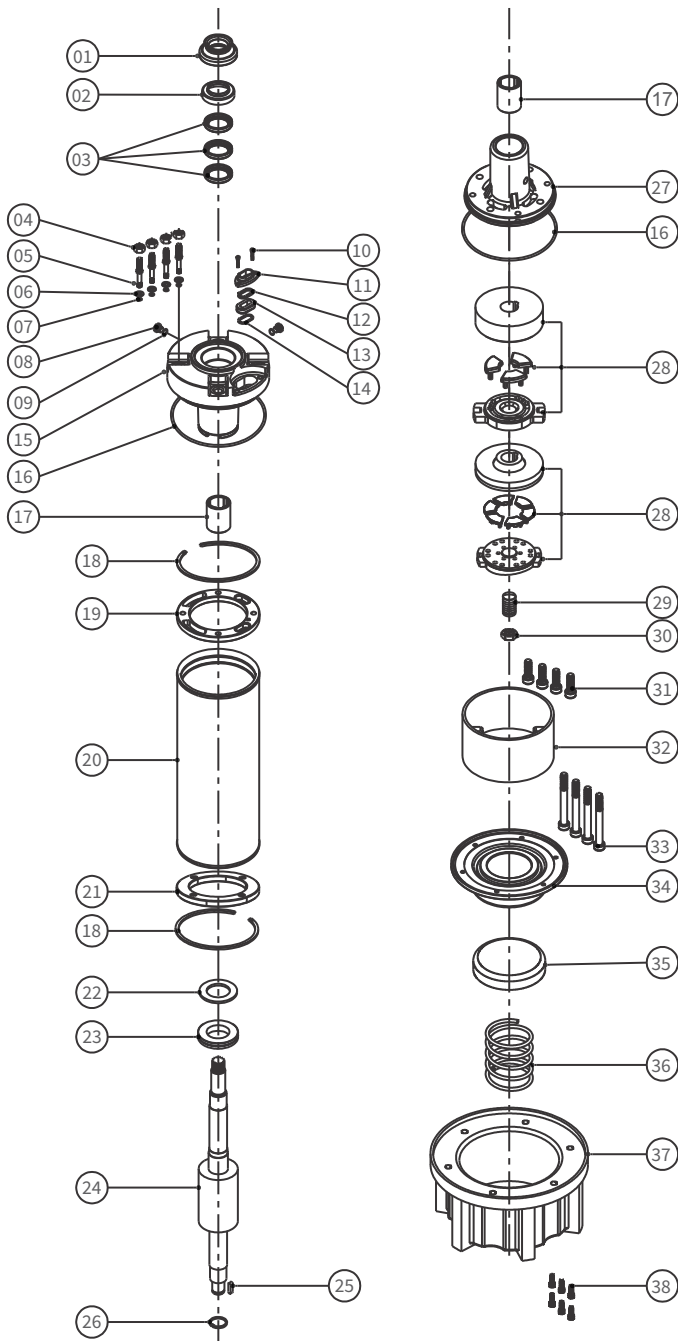
- I_N :Full Load Current
- I_A :Starting Current
- η :Motor Efficiency
- T_N :Full Load Torque
- T_A :Starting Torque

6" CI T-Type Re-windable Motor exploded view



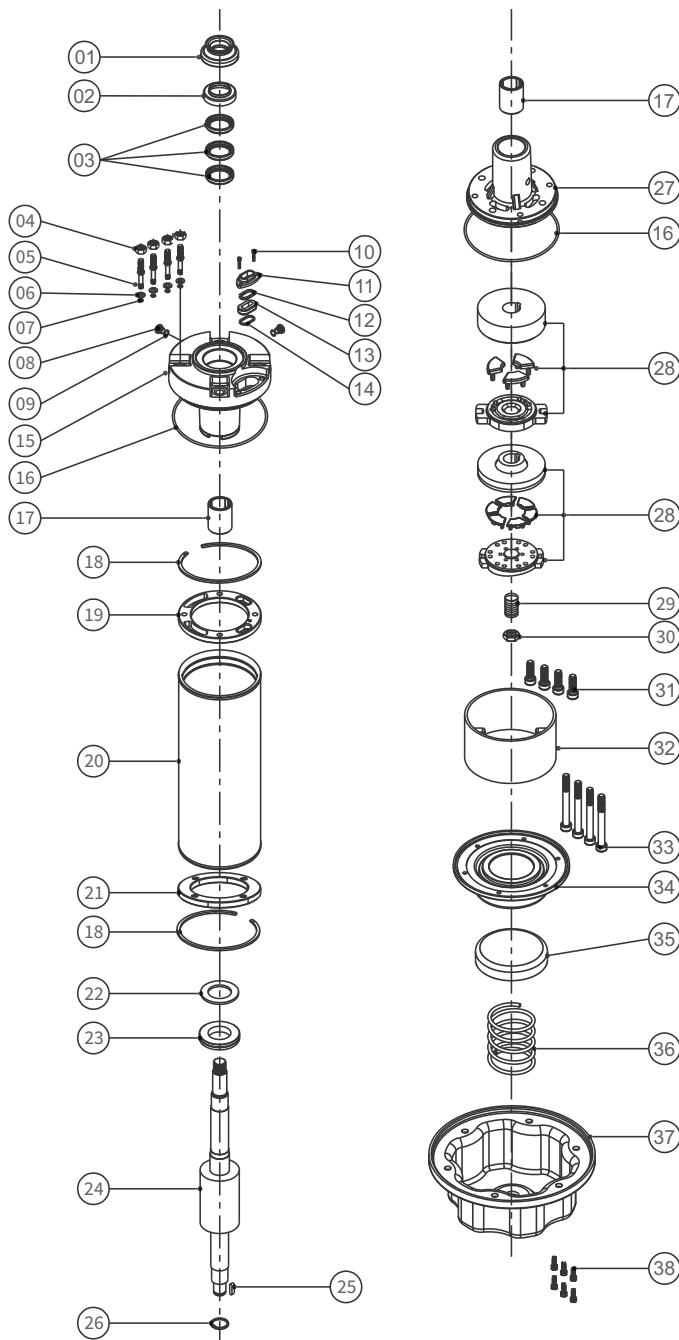
NO.	PARTS NAME
1.	ROTOR CAP
2.	SAND GUARD
3.	UPPER CAP
4.	OIL SEAL
5.	HEX. NUT (UPPER SIDE)
6.	ALLEN BOLT CAP
7.	STUD (UPPER SIDE)
8.	DRAIN PLUG
9.	DRAIN PLUG 'O' RING
10.	ADAPTOR
11.	ALLEN BOLT
12.	PAPER GASKET
13.	CABLE GROMMET
14.	CABLE GROMMET WASHER
15.	UPPER HOUSING
16.	BEARING BUSH
17.	PAPER GASKET
18.	STATOR BODY
19.	ROTOR
20.	ROTOR KEY
21.	CIRCLIP
22.	T-BOLT
23.	T-BOLT 'O' RING
24.	WASHER
25.	HEX NUT
26.	LOWER HOUSING
27.	C.T BEARING
28.	
S ₂ C ^{EW}	THRUST BEARING SET
30.	LOWER PART-2
31.	ROCKER
32.	ROCKER LOCK NUT
33.	SPRING
34.	SPRING JACKET
35.	PRESSURE CUP
36.	MOTOR BASE

CI Motor base exploded view



No.	Part's Name
1	Sand Guard
2	Upper Cap
3	Oil Seal
4	Nut
5	Stud
6	Stud Washer
7	Stud 'O' Ring
8	Drain Plug
9	Drain Plug 'O' Ring
10	Allen Bolt
11	Cable Protector Cap
12	Plastic Grommet Washer
13	Rubber Grommet
14	S.S. Grommet Washer
15	Upper Housing
16	'O' Ring (Upper & Lower)
17	Bearing Bush
18	Cir Clip
19	Upper Flange
20	Stator Body
21	Lower Flange
22	Teflon Washer
23	Thrust Ring
24	Rotor Shah
25	Rotor Key
26	Cir Clip Bearing Side
27	Lower Housing
28	Thrust Bearing Set (Up To 10.0 H.P) Thrust Bearing Set (Above 10.0 H.P)
29	Rocker
30	Rocker Lock Nut
31	Allen Bolt Lower Side
32	Lower Part-2
33	Allen Bolt Lower Part-2 Side
34	Pressure Cup
35	Spring Jacket
36	Spring
37	Motor Base C.I
38	Allen Bolt Motor Base Side

Stainless steel Motor base exploded view



No.	Part's Name
1	Sand Guard
2	Upper Cap
3	Oil Seal
4	Nut
5	Stud
6	Stud Washer
7	Stud 'O' Ring
8	Drain Plug
9	Drain Plug 'O' Ring
10	Allen Bolt
11	Cable Protector Cap
12	Plastic Grommet Washer
13	Rubber Grommet
14	S.S. Grommet Washer
15	Upper Housing
16	'O' Ring(Upper & Lower)
17	Bearing Bush
18	Cir Clip
19	Upper Flange
20	Stator Body
21	Lower Flange
22	Teflon Washer
23	Thrust Ring
24	Rotor Shaft
25	Rotor Key
26	Cir Clip Bearing Side
27	Lower Housing
28	Thrust Bearing Set (Up To 10.0 H.P) Thrust Bearing Set (Above 10.0 H.P)
29	Rocker
30	Rocker Lock Nut
31	Allen Bolt Lower Side
32	Lower Part-2
33	Allen Bolt Lower Part-2 Side
34	Pressure Cup
35	Spring Jacket
36	Spring
37	Motor Base
38	Allen Bolt Motor Base Side