

CE



SUBMERSIBLE  
MOTORS  
**50Hz/60Hz**

6" SUBMERSIBLE MOTORS

(Re-Windable)



**RAINDROP**  
PUMPS • MOTORS • PIPES • CABLES

# Submersible Motors

6" SUBMERSIBLE MOTORS  
(RE-WINDABLE)



## TECHNICAL SPECIFICATIONS:

- 6" RAINDROP Water Lubricated Submersible Motors are rewindable.
- Coupling dimensions as per NEMA standard.
- Winding wire : Polywrapped / PVC winding available on specific demand
- Degree of protection : Ip68.
- Max water temperature : 35° C.
- Starts per hour : 30 times (Max.).
- Allowable voltage variation : +6% - 10%.
- Motor shaft of Stainless steel.
- Stator shell of Stainless steel.
- Max depth immersion : 350 M.
- 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.

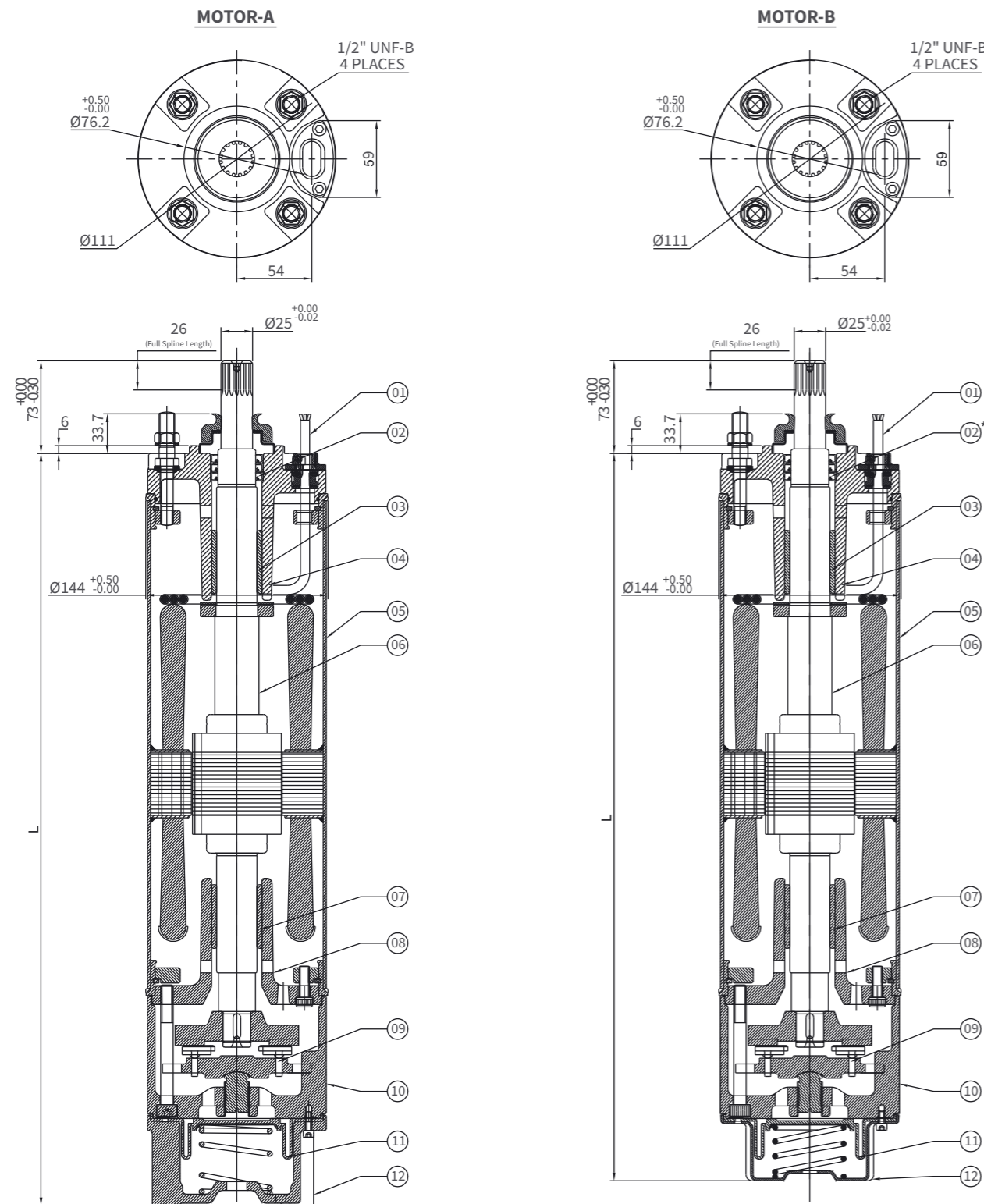
## VERSIONS:

Three Phase: 2.20 kW To 37.5 kW / 380-415 Volt/ 50 Hz.

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" Exploded View Re-windable Motor



## 6" Rewindable Motor Design

MOTOR-A

Sr. No.	Part's Name	Material
01	Cable 3 Core/4 Core	EPR
02	Oil Seal	N.B.R
03	Bearing Bush	Carbon
04	Upper Housing	Cl.(FG-200)
05	Motor Pipe	Stainless Steel
06	Rotor Shaft	S.S.420
07	Bearing Bush	Carbon
08	Lower Housing	Cl.(FG-200)
09	Thrust Bearing Set	Carbon / S.S.410
10	Lower Part-2	Cl.(FG-200)
11	Pressure Cup	N.B.R
12	Motor Base	Cl (FG-200)
13	All Hardware	S.S.304

MOTOR-B

Sr. No.	Part's Name	Material
01	Cable 3 Core/4 Core	EPR
02	Oil Seal	N.B.R
03	Bearing Bush	Carbon
04	Upper Housing	S.S.304
05	Motor Pipe	Stainless Steel
06	Rotor Shaft	S.S.420
07	Bearing Bush	Carbon
08	Lower Housing	S.S.304
09	Thrust Bearing Set	Carbon / S.S.410
10	Lower Part-2	S.S.304
11	Pressure Cup	N.B.R
12	Motor Base	S.S.304
13	All Hardware	S.S.316

\*ON REQUEST MECH.SEAL

PN		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

### Performance Data of 6" Aqualite Submersible Motors / 50 Hz

PN		Thrust F [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		
3.00	2.2						15500	380	2845	6.21	21.7	62		
			400	2875	6.30	22.2	61	63	65	0.64	0.70	0.71	7.30	11.78
			415	2875	6.51	23.1	59	66	67	0.61	0.69	0.71	7.30	12.66
5.50	4	15500	380	2915	10.39	47	71	74	76	0.60	0.71	0.77	13.11	15.50
			400	2935	10.61	50	69	73	76	0.54	0.66	0.74	13.11	17.31
			415	2935	10.90	52	66	72	76	0.50	0.60	0.70	13.00	18.82
7.50	5.5	15500	380	2865	13.71	47	73	76	76	0.68	0.79	0.83	18.31	15.40
			400	2885	13.30	50	72	76	76	0.62	0.75	0.81	18.20	17.30
			415	2890	13.41	54	72	75	75	0.60	0.71	0.79	18.10	18.70
10.0	7.5	15500	380	2870	18.29	58	77	78	78	0.70	0.80	0.83	25.10	19.20
			400	2890	17.70	63	76	78	78	0.66	0.75	0.81	24.80	21.40
			415	2890	17.70	64	73	74	77	0.62	0.74	0.81	24.80	23.40
12.5	9.3	15500	380	2855	22.00	75	79	80	79	0.70	0.80	0.83	31.11	25.91
			400	2860	21.30	77	79	79	78	0.63	0.75	0.81	31.00	29.00
			415	2885	21.10	81	77	79	78	0.60	0.72	0.82	30.91	31.42
15.0	11	15500	380	2865	25.79	93	77	80	78	0.71	0.80	0.84	36.60	31.50
			400	2880	25.21	97	77	80	80	0.66	0.75	0.83	36.40	35.30
			415	2890	25.10	101	75	78	80	0.61	0.73	0.81	36.30	38.10
17.5	13	15500	380	2885	30.11	117	79	81	80	0.69	0.79	0.83	43.20	45.00
			400	2900	29.60	126	78	80	81	0.62	0.75	0.80	42.70	50.20
			415	2905	29.71	131	77	79	81	0.58	0.70	0.77	42.60	54.50
20.0	15	15500	380	2880	33.91	140	80	82	81	0.72	0.82	0.85	49.71	53.80
			400	2895	33.10	147	80	81	81	0.66	0.78	0.84	49.40	60.30
			415	2900	33.00	155	78	80	81	0.61	0.74	0.82	49.20	65.40
25.0	18.5	15500	380	2870	42.31	171	80	82	81	0.68	0.79	0.84	61.72	75.21
			400	2880	42.00	182	77	80	81	0.61	0.73	0.81	61.22	84.30
			415	2895	42.49	188	76	80	80	0.58	0.71	0.78	61.00	91.20
30.0	22	15500	380	2875	49.11	217	82	83	84	0.69	0.78	0.83	72.62	91.10
			400	2900	49.00	231	80	82	83	0.61	0.74	0.81	72.48	102.10
			415	2910	49.59	239	76	81	82	0.57	0.68	0.78	72.20	110.60
35.0	26	15500	380	2890	57.49	267	82	84	83	0.69	0.79	0.85	86.10	120.40
			400	2905	56.72	283	81	82	83	0.60	0.74	0.84	85.50	134.80
			415	2910	57.30	295	77	83	83	0.56	0.70	0.81	85.20	146.20
40.0	30	27500	380	2895	66.39	329	81	84	83	0.68	0.77	0.84	98.82	135.00
			400	2910	66.42	346	80	82	82	0.61	0.74	0.81	98.41	151.00
			415	2910	67.50	360	77	81	82	0.56	0.69	0.78	98.22	164.00
50.0	37	27500	380	2890	82.00	406	82	83	83	0.68	0.79	0.83	122.00	192.70
			400	2910	81.92	432	81	82	83	0.60	0.73	0.81	121.50	215.70
			415	2910	83.91	449	78	80	82	0.56	0.67	0.77	121.20	234.10

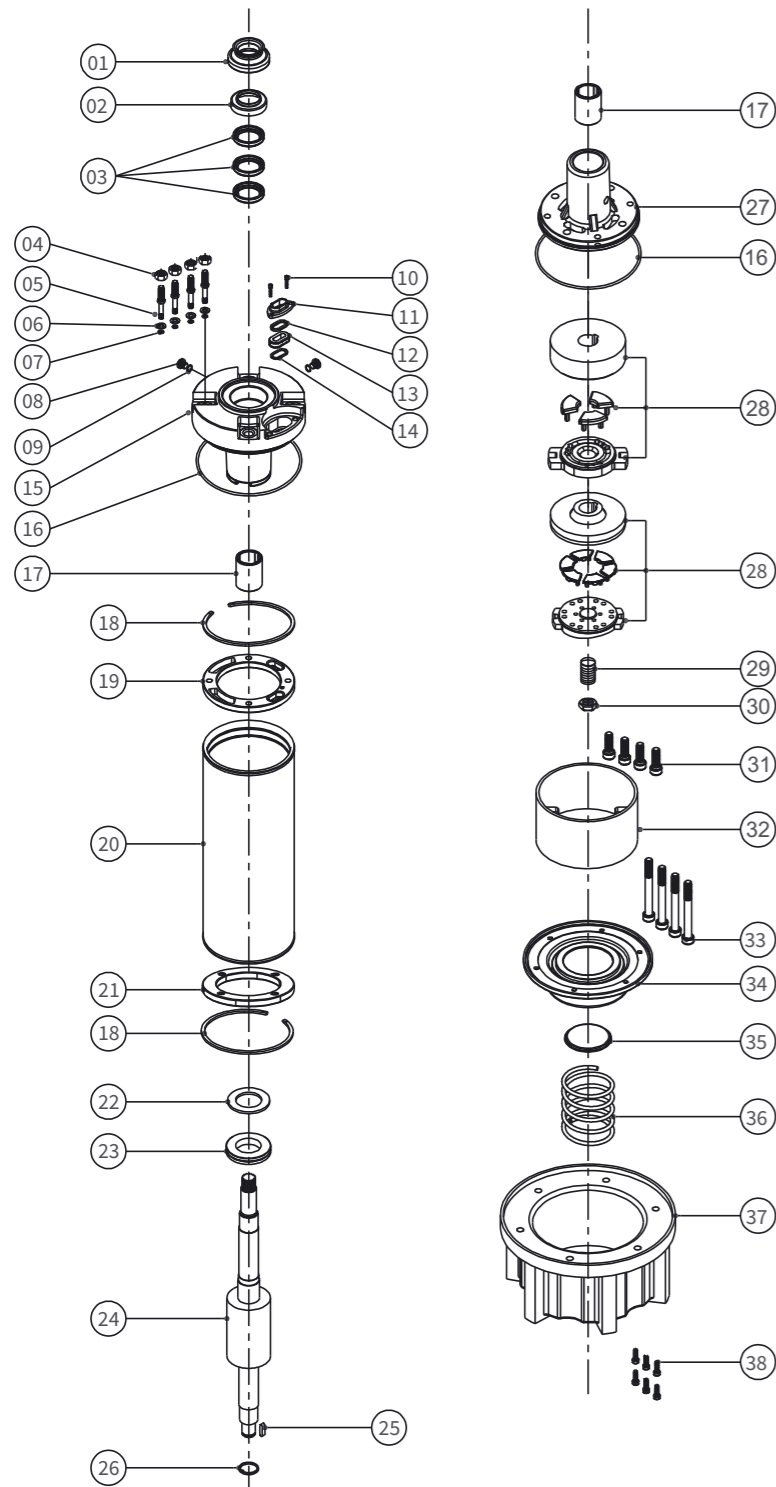
- PN - Rated Output
- UN - Rated Voltage
- nN - RPM
- IN - Full Load Current
- IA - Starting Current
- η - Motor Efficiency
- cosφ - Power Factor
- TN - Full Load Torque
- TA - Starting Torque
- F[N] - Axial Thrust Load

### Performance Data of 6" Aqualite Submersible Motors / 60 Hz

PN		P <sub>MAX</sub> [kW]	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		
3.00	2.2							2.5	15500	230	3520	10	40		
				380	3530	6.51	33	66	71	76	0.50	0.61	0.70	5.97	8.00
				460	3520	5.59	28	70	75	77	0.55	0.65	0.74	6.64	8.13
5.50	4	4.6	15500	230	3520	26.11	105	71	75	77	0.53	0.64	0.73	12.49	18.6
				380	3530	13.30	62	67	72	77	0.51	0.64	0.71	12.41	15.1
				460	3520	10.11	51	71	76	78	0.56	0.68	0.75	12.48	15.3
7.50	5.5	6.3	15500	230	3490	26.11	106	74	78	78	0.62	0.73	0.80	17.29	15.9
				380	3480	15.39	62	75	78	78	0.65	0.75	0.81	17.29	15.0
				460	3480	12.90	51	75	77	77	0.66	0.76	0.82	17.29	15.1
10.0	7.5	8.6	15500	230	3490	35.91	145	75	78	79	0.59	0.71	0.78	23.58	22.41
				380	3485	20.79	81	76	78	79	0.65	0.75	0.81	23.58	20.20
				460	3470	17.20	65	76	78	78	0.67	0.78	0.82	23.70	19.40
12.5	9.3	10.7	15500	230	3490	44.41	183	76	79	79	0.60	0.71	0.78	29.3	28.91
				380	3470	25.60	101	77	79	80	0.65	0.75	0.81	29.4	25.89
				460	3460	20.79	78	79	80	80	0.67	0.78	0.82	29.4	24.40
15.0	11	12.7	15500	230	3480	51.21	221	77	80	81	0.61	0.72	0.80	34.59	35.61
				380	3490	30.29	129	77	81	81	0.62	0.74	0.80	34.51	34.30
				460	3480	25.00	97	78	81	80	0.69	0.77	0.83	34.70	31.50
17.5	13	15.0	15500	230	3500	62.39	289	76	80	82	0.56	0.68	0.76	40.71	50.51
				380	3505	36.30	164	77	81	82	0.59	0.71	0.79	40.71	47.21
				460	3490	29.00	124	77	81	81	0.66	0.76	0.82	40.90	43.30
20.0	15	17.3	15500	230	3500	65.89	324	80	82	83	0.64	0.74	0.81	47.1	59.52
				380	3490	39.10	188	81	83	83	0.66	0.77	0.83	47.2	56.50
				460	3495	32.11	150	80	83	83	0.69	0.78	0.84	47.1	55.61
25.0	18.5	21.3	15500	230	3490	85.39	401	77	81	82	0.60	0.71	0.77	58.11	81.81
				380	3490	52.49	249	77	81	81	0.59	0.70	0.77	58.11	83.60
				460	3480	40.60	183	80	82	82	0.65	0.76	0.81	58.39	74.51
30.0	22	25.3	15500	230	3510	100.2	521	81	84	84	0.66	0.74	0.77	68.78	96.61
				380	3510	59.89	390	82	83	84	0.67	0.76	0.78	68.78	94.91
				460	3500	47.11	231	83	84	84	0.72	0.79	0.81	69.10	85.80
35.0	26	29.9	15500	230	3510	118.3	658	83	84	85	0.63	0.72	0.76	81.29	135.00
				380	3500	67.49	360	83	85	85	0.63	0.74	0.81	81.61	121.41
				460	3510	55.71	288	83	85	85	0.64	0.75	0.84	81.6	117.20
40.0	30	34.5	27500	230	3510	135.7	757	78	81	83	0.59	0.71	0.78	93.81	139.61
				380	3510	79.59	436	79	83	84	0.62	0.75	0.81	93.89	132.90
				460	3500	64.41	345	81	83	84	0.63	0.76	0.82	94.00	126.41
50.0	37.0	42.6	27500	230	3510	135.6	757	78	82	83	0.59	0.71	0.78	93.78	139.61
				380	3510	102.7	568	77	81	82	0.59	0.72	0.78	115.8	193.61
				460	3500	79.12	430	81	84	85	0.63	0.75	0.82	115.9	177.80

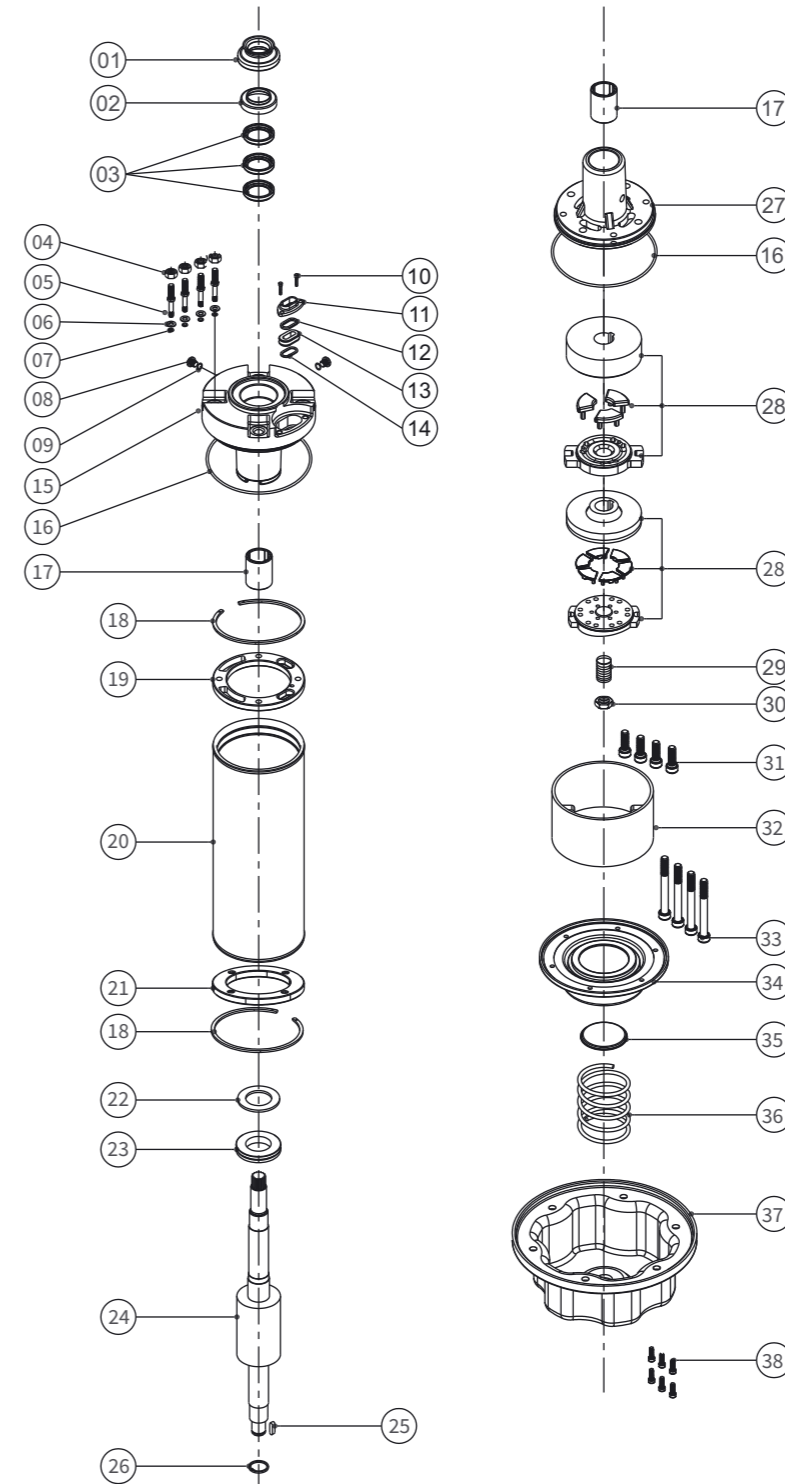
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- TA - Starting Torque
- F[N] - Axial Thrust Load

## Exploded View of Spare Parts of Motors C.I. Motor Base



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 C.I
38	ALLEN BOLT MOTOR BASE SIDE

## Exploded View of Spare Parts of Motors Stainless Steel Motor Base



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