




SPCO
makes life easier



UGM 4"

Water Lubricated
Submersible Motors

Approvals

		CB TEST CERTIFICATE		Ref. Certificate No. CH-8875
IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME				
Issued by:	Electrosuisse			
Product:	Submersible pumps			
Applicant:	Swiss Pump Company AG	Moosweg 36 CH-3645 Gwatt (Thun)	Switzerland	
Manufacturer:	Swiss Pump Company AG	Moosweg 36 CH-3645 Gwatt (Thun)	Switzerland	
Factory:	Swiss Pump Company AG	Moosweg 36 CH-3645 Gwatt (Thun)	Switzerland	
Rating and principal characteristics:	220-240V~, 50/60Hz 3 x 220V~, 50/60Hz 3 x 400V~, 50/60Hz 3 x 480V~, 50/60Hz Power range: 0.37-30kW class I, IP68			
Trade mark (if any):	Swiss Pump Company AG (SPCO)			
Model/Type reference:	UG, QF, Sewage (0.37-30kW) see appendix type list in test report			
Additional information:	—			
Sample of product tested to be in conformity with IEC:	60335-1(ed.4):am1:am2 60335-2-1(ed.3):am1:am2	National differences: EU Group Differences; EU Special National Conditions; EU A-Deviations		
Test Report Ref. No.:	06-HG-0208.01 + .02 + .03 + .06			
This CB Test Certificate is issued by the National Certification Body:				
Electrosuisse Luppenstrasse 1, CH-8320 Fehraltorf				
Signed by:	Erich Obrist 2010-07-27			page 1 of 1



THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and SQS
hereby certify that the organisation

Swiss Pump Company AG
3645 Thun-Gwatt
Switzerland

Certified area
Whole company

Field of activity
Manufacture and sale of products for the transportation of liquids

has implemented and maintains a
Management System
which fulfills the requirements of the following standard(s)

ISO 9001:2008

Scope No(s): 17, 18, 19
 Issued on: 2015-03-03
 Validity date: 2018-03-02
 Registration Number: **CH-32160**



Michael Drechsel
President of IQNet



Roland Glauser
CEO SQS



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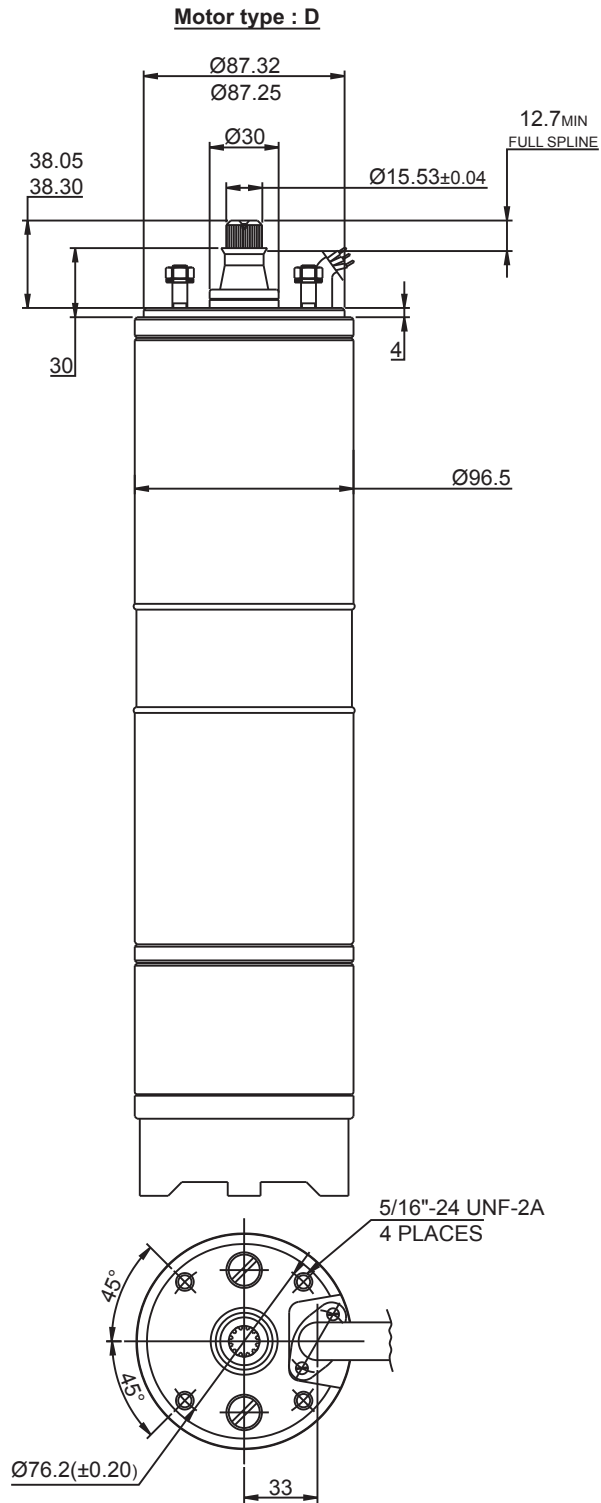
* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com



Content

Motor drawing	page	4
Specifications		5
Version		5
Motor spare parts		6
Performance data /50Hz		8
Performance data /60Hz		10
Flat cable leads		11
Spare parts - CI Motor base		12
Spare parts - SS Motor base		13

Motor Drawing



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 / earth cable separate).

Coolant: Clear Water.

Version

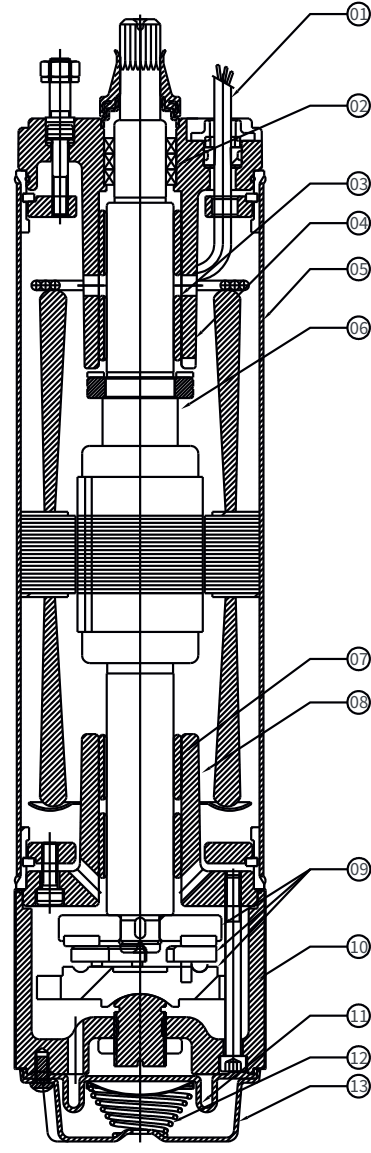
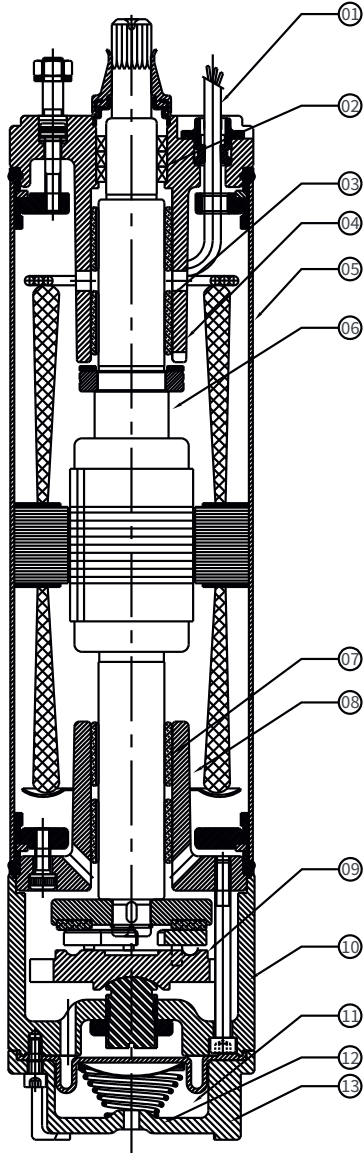
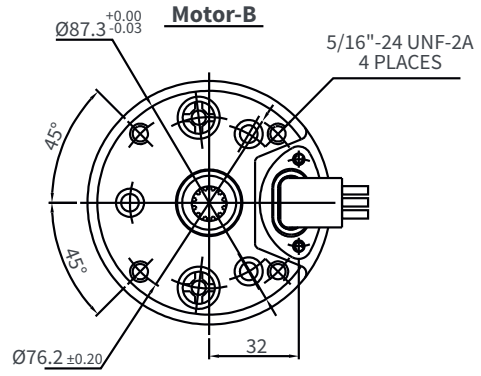
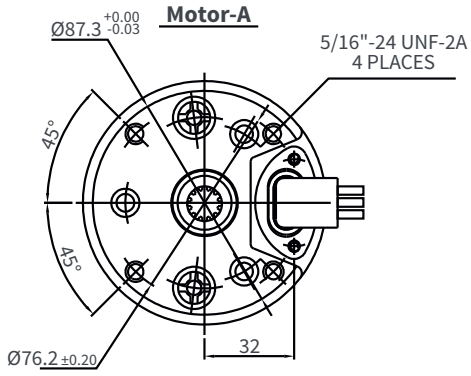
Single Phase: 0.37kW to 2.2Kw, 220V-230V /50Hz.
0.37kW to 2.2Kw, 230V /60Hz.

Three Phase: 0.55kW to 7.5Kw, 380V-415V /50Hz.
0.55kW to 7.5Kw, 230V-380V-460V /60Hz.

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

Motor Spare parts

Exploded View of Spare Parts of Motors



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 420
10	LOWER PART-2	Cl.(FG-200)
11	PRESSURE CUP	N.B.R
12	SPRING	S.S.304
13	MOTOR BASE	Cl.(FG-200)
14	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 420
10	LOWER PART-2	S.S.304
11	PRESSURE CUP	N.B.R
12	SPRING	S.S.304
13	MOTOR BASE	S.S.304
14	ALL HARDWARE	S.S.316

PN		PW L [mm] C.I. / S.S.	Motor Weight [kg]		Motor Weight (incl.pkg) [kg]	
[kW]	[HP]		S.S. 304	Cast Iron	S.S. 304	Cast Iron
0.37	0.50	535.00	12.9	13.2	15	15
0.75	1.00	570.00	16.9	17.2	20.2	20.2
1.50	2.00	590.00	20	21	23	24
2.20	3.00	640.00	22.5	23.6	25.2	26.2
2.94	4.00	680.00	25.8	27.6	31	32.2
3.70	5.50	740.00	33.5	35.4	38	39.0
4.40	6.00	800.00	34	36	38.2	39.2
5.50	7.50	880.00	36.2	38.4	40.5	42
7.50	10.00	1020.00	40.9	43	44	46.4

Performance Data of Single Phase /50Hz

CSCR

220V-230V /50Hz

P _N		Thrust Load (N)	U _N (v)	n _N (min-1)	I _N (A)	I _A (A)	n (Eff) (%) At % load			COSØ (PF) At % load			T _N (Nm)	T _A (Nm)	Capacitor Running u.f (U _c =450V)	Capacitor Starting u.f (U _c =270V)
H.P	Kw						50	75	100	50	75	100				
0.5	0.37	1500	220	2890	4.21	15.11	50	60	62	0.51	0.64	0.73	1.2	2	72	100 - 120
			230		4.00	14.30										
0.75	0.55	1500	220	2895	6.29	24.11	51	59	63	0.49	0.59	0.69	1.8	2.7	72	100 - 120
			230		6.00	23.00										
1	0.75	1500	220	2890	7.59	29.5	55	63	64	0.55	0.66	0.75	2.5	4.1	72	100 - 120
			230		7.31	28.2										
1.5	1.1	3000	220	2890	9.58	41.3	57	66	68	0.58	0.71	0.80	3.7	6	72	100 - 120
			230		8.90	39.5										
2	1.5	3000	220	2880	11.58	55.7	61	67	68	0.70	0.81	0.88	4.9	8.3	72	100 - 120
			230		11.10	53.5										
3	2.2	4000	220	2885	16.71	83	62	68	70	0.71	0.82	0.88	7.4	14	108	120 - 150
			230		15.89	87										
4	3	4000	220	2885	20.6	103	62	68	71	0.73	0.82	0.88	9.75	18.5	108	120 - 150
			230		20.3	112										

CSR

220V-230V /50Hz

P _N		Thrust Load (N)	U _N (v)	n _N (min-1)	I _N (A)	I _A (A)	n (Eff) (%) At % load			COSØ (PF) At % load			T _N (Nm)	T _A (Nm)	Capacitor Running u.f (U _c =450V)
H.P	Kw						50	75	100	50	75	100			
0.5	0.37	1500	230	2860	3.4	11.2	37	49	56	0.88	0.94	0.93	1.22	1.02	72
0.75	0.55	1500	230	2855	4.3	16.1	48	58	64	0.90	0.95	0.94	1.86	1.41	72
1	0.75	1500	230	2855	5.7	21.1	44	55	61	0.96	0.98	0.98	2.46	2.19	72
1.5	1.1	3000	230	2855	8.6	31.5	48	57	64	0.90	0.95	0.94	3.70	3.10	72
2	1.5	3000	230	2825	10.6	35.4	52	62	67	0.91	0.96	0.95	4.97	3.63	72
3	2.2	4000	230	2840	15.5	54.2	53	61	65	0.94	0.97	0.97	7.42	4.82	108
4	3	4000	230	2830	20	74	52	61	67	0.85	0.93	0.97	9.94	6.5	108

- P_N :Rated Output
- F_[N] :Axial Thrust Load
- U_N :Rated Voltage
- n_N :RPM
- cos :Power Factor
- I_N :Full Load Current
- I_A :Starting Current
- n :Motor Efficiency
- T_N :Full Load Torque
- T_A :Starting Torque

Performance Data of Three Phase /50Hz

380V-415V /50Hz

P _N		Thrust Load (N)	U _n (v)	n _N (min-1)	I _N (A)	I _A (A)	n (Eff) (%) At % load			COSØ (PF) At % load			T _N (Nm)	T _A (Nm)
H.P	Kw						50	75	100	50	75	100		
0.75	0.55	1500	380	2830	1.6	6.0	61	67	67	0.59	0.72	0.80	1.9	3.0
			400	2855	1.6	6.4	58	64	67	0.54	0.67	0.75	1.9	3.5
			415	2870	1.7	6.6	55	63	66	0.50	0.63	0.80	1.9	3.7
1	0.75	1500	380	2850	2.1	8.9	63	68	70	0.57	0.70	0.79	2.5	4.8
			400	2870	2.1	9.3	60	67	69	0.52	0.65	0.75	2.5	5.3
			415	2880	2.2	9.8	57	65	68	0.49	0.61	0.71	2.5	5.9
1.5	1.1	3000	380	2820	3.0	13.8	69	72	72	0.59	0.73	0.81	3.8	9.6
			400	2840	3.0	14.5	66	71	73	0.53	0.67	0.76	3.7	10.6
			415	2860	3.1	15.3	64	70	72	0.49	0.62	0.72	3.7	11.5
2	1.5	3000	380	2840	3.9	18.6	69	72	73	0.59	0.72	0.81	5.0	11.3
			400	2855	4.0	19.2	66	71	73	0.53	0.66	0.76	5.0	12.6
			415	2870	4.1	20.2	63	69	72	0.48	0.61	0.72	4.9	13.5
3	2.2	4000	380	2815	5.8	28.7	72	75	75	0.58	0.72	0.81	7.6	21.7
			400	2840	5.9	28.9	69	73	75	0.51	0.64	0.75	7.5	23.5
			415	2870	6.3	30.8	66	71	73	0.45	0.59	0.69	7.5	25.9
4	3	4000	380	2810	8.5	29.5	62	67	70	0.72	0.78	0.82	10.0	16.0
			400	2820	8.2	31	61	66	68	0.71	0.77	0.80	9.97	17.95
			415	2850	8.0	33	60	65	67	0.70	0.76	0.80	9.87	18.75
5.5	4	4000	380	2785	10.8	32.3	63	67	70	0.73	0.79	0.83	13.4	21.24
			400	2790	10.5	34.0	51	65	68	0.70	0.75	0.82	13.3	23.54
			415	2800	10.0	35.0	59	63	66	0.69	0.74	0.81	13.3	25.3
7.5	5.5	4000	380	2785	14.8	50.5	70	73	74	0.75	0.79	0.84	18.94	37.18
			400	2790	14.5	53.0	68	71	72	0.74	0.78	0.84	18.92	41.2
			415	2800	14.0	55.0	66	69	71	0.72	0.77	0.83	18.8	44.34
10	7.5	4000	380	2850	18.0	61.0	71	72	73	0.99	0.95	0.91	24.6	45
			400	2860	18.3	62.0	67	70	71	0.99	0.95	0.91	24.5	46
			415	2880	18.8	66.0	65	68	69	0.97	0.92	0.87	24.0	47.5

Flat Cable Leads

DOL	P _N [kW]	Ø [mm ²]	B [mm]	H [mm]
	0.25 - 0.75	3x1.5mm ²	12.8 ± 0.3	6.0 ± 0.3
	1.1 - 4.0	3x2.5mm ²	14.6 ± 0.3	6.4 ± 0.3
	0.55 - 1.5	3x1.5mm ²	12.8 ± 0.3	6.0 ± 0.3
	2.2 - 7.5	3x2.5mm ²	14.6 ± 0.3	6.4 ± 0.3

• Separate earth cable on request.

Performance Data of Single Phase Motor /60Hz

CSCR

230V /60Hz

P _N		Thrust Load (N)	U _n (v)	n _N (min-1)	I _N (A)	I _A (A)	n (Eff) (%) At % load			COSØ (PF) At % load			T _N (Nm)	T _A (Nm)	Capacitor Running u.f (Uc=450V)	Capacitor Starting u.f (Uc=270V)
H.P	Kw						50	75	100	50	75	100				
0.5	0.37						3000	230	3450	4.2	15.2	57				
0.75	0.55	3000	230	3450	6.5	24.2	57	65	68	0.49	0.59	0.70	1.51	2.27	72	100 - 120
1	0.75	3000	230	3450	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	3450	9.6	41.5	60	67	70	0.59	0.70	0.79	3.04	4.92	72	100 - 120
2	1.5	3000	230	3450	12.5	55.3	63	71	74	0.69	0.80	0.89	4.04	6.87	72	100 - 120
3	2.2	4000	230	3450	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

CSR

230V /60Hz

P _N		Thrust Load (N)	U _n (v)	n _N (min-1)	I _N (A)	I _A (A)	n (Eff) (%) At % load			COSØ (PF) At % load			T _N (Nm)	T _A (Nm)	Capacitor Running u.f (Uc=450V)
H.P	Kw						50	75	100	50	75	100			
0.5	0.37						3000	230	3450	4.2	10.7	43			
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	0.75	3000	230	3450	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	1.5	3000	230	3450	12	33.9	53	63	70	0.83	0.91	0.96	4.07	2.97	72
3	2.2	4000	230	3450	16	54.2	58	68	73	0.87	0.94	0.98	6.15	4.00	108

- P_N :Rated Output
- F_[N] :Axial Thrust Load
- U_N :Rated Voltage
- n_N :RPM
- cos :Power Factor
- I_N :Full Load Current
- I_A :Starting Current
- n :Motor Efficiency
- T_N :Full Load Torque
- T_A :Starting Torque

Performance Data of Three Phase /60Hz

230V-380V-460V /60Hz

P _N		Thrust Load (N)	U _N (v)	n _N (min-1)	I _N (A)	I _A (A)	n (Eff) (%) At % load			COSØ (PF) At % load			T _N (Nm)	T _A (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					1.96
			460	3445	1.21	4.8	59	62	64					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					2.5
			460	3450	1.60	6.4	63	67	69					2.75
1	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					3.9
			460	3455	2.00	9	65	68	70					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					7.7
			460	3445	2.51	12.5	70	73	76					8.2
2	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					9.22
			460	3445	3.40	17	64	66	69					10.2
3	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					17.4
			460	3450	4.82	24	70	73	75					18.33
5.5	4	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					17.70
			460	3450	8.00	28	69	71	74					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					30.00
			460	3445	11.51	46	71	73	76					33.70
10	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					37.33
			460	3450	15.91	55.65	70	73	75					44.90

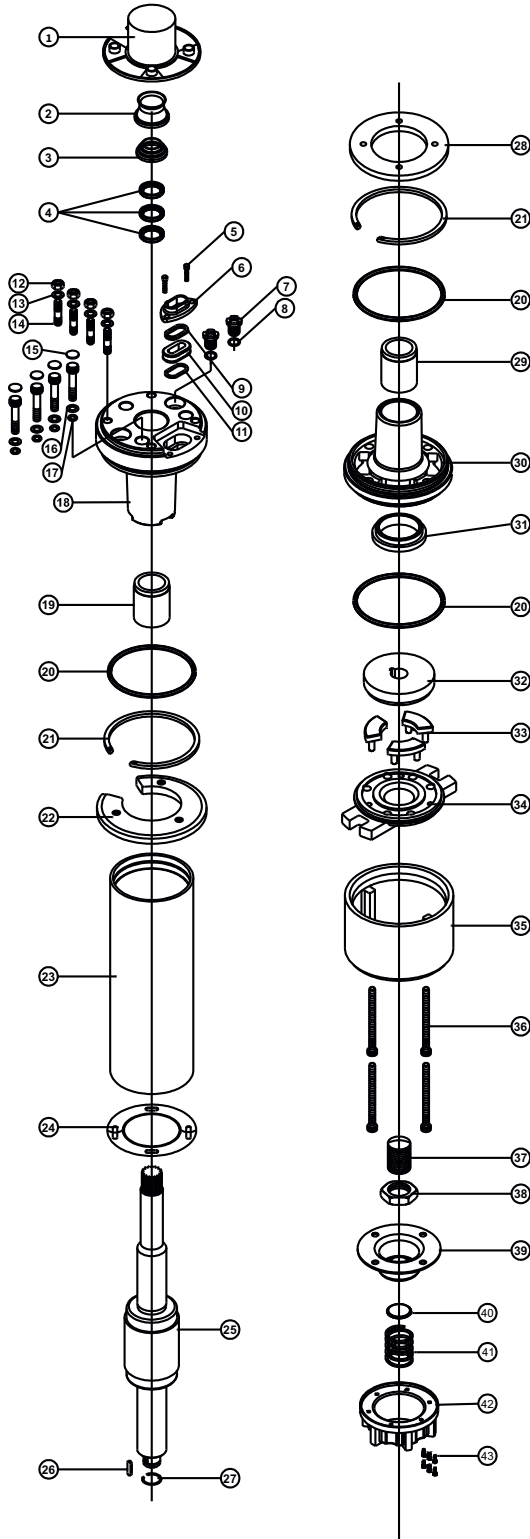
Flat Cable Leads

DOL	P _N [kW]	Ø [mm ²]	B [mm]	H [mm]
	0.25 - 0.75	3x1.5mm ²	12.8 ± 0.3	6.0 ± 0.3
	1.1 - 4.0	3x2.5mm ²	14.6 ± 0.3	6.4 ± 0.3
	0.55 - 1.5	3x1.5mm ²	12.8 ± 0.3	6.0 ± 0.3
	2.2 - 7.5	3x2.5mm ²	14.6 ± 0.3	6.4 ± 0.3

• Separate earth cable on request.

Spare Parts - Cast Iron Motor base

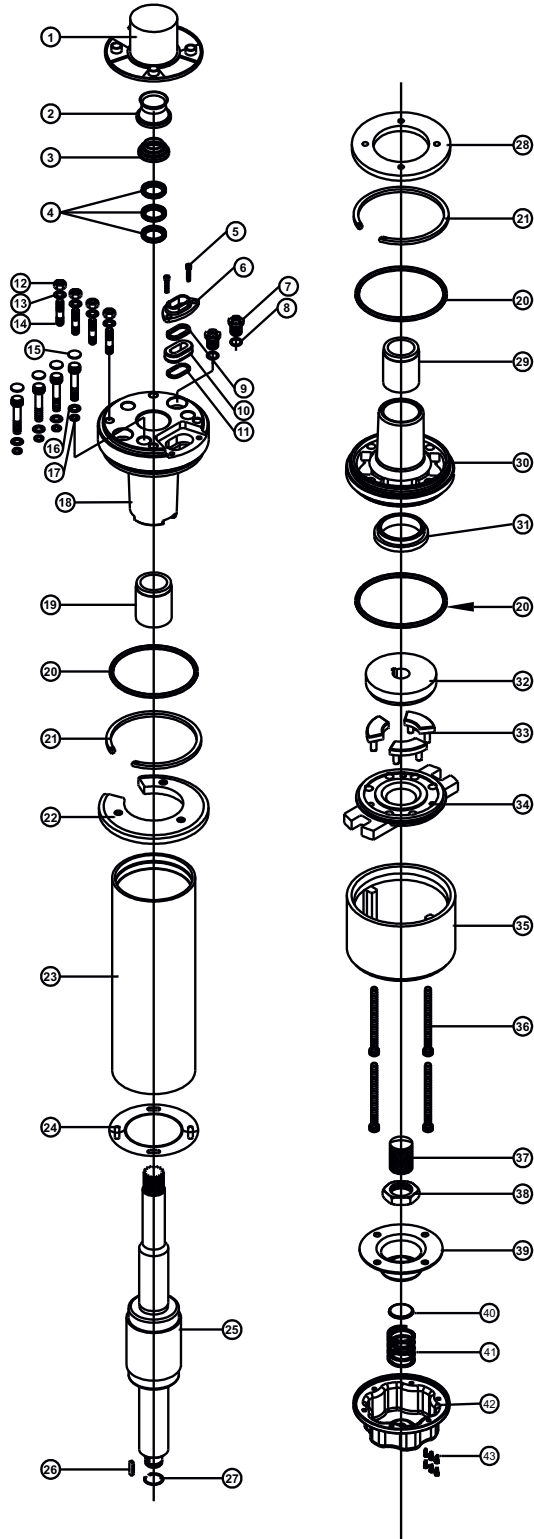
C.I. Motor Base



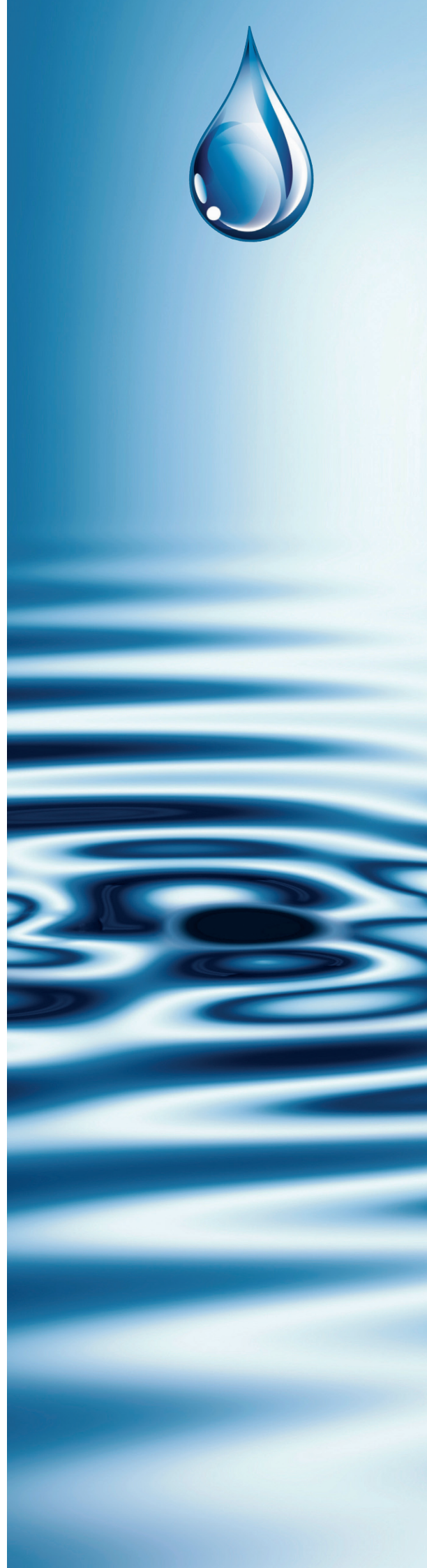
No.	PART'S NAME
1	PLASTIC CAP
2	SAND GUARD(WITH INSERT)
3	UPPER CAP
4	OIL SEAL
5	CABLE CLIP SCREW
6	CABLE PROTECTOR CAP
7	DRAIN PLUG
8	DRAIN PLUG'O' RING
9	PLASTIC GROMMET WASHER
10	RUBBER GROMMET
11	S.S. GROMMET WASHER
12	HEX NUT
13	STUD WASHER
14	UPPER STUD
15	ALLEN BOLT CAP
16	ALLEN BOLT WASHER
17	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	SPRING JACKET
41	SPRING
42	MOTOR BASE
43	ALLEN BOLT

Spare Parts - Stainless steel Motor base

S.S. Motor Base



No.	PART'S NAME
1	PLASTIC CAP
2	SAND GUARD(WITH INSERT)
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	S.S. 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	SPRING JACKET
41	SPRING
42	MOTOR BASE
43	ALLEN BOLT





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