



TYPE TEST REPORT

IS/IEC 60034-5:2000

Degrees of Protection Provided by Enclosures (IP Code)

Report No. : **KLPL/BTG/22/08-64**
 ULR No. : **TC631122000000414F**
 Discipline : **Electrical Discipline**
 Group/Category : **Environmental Test Facility**
 Sub-category : **Ingress protection test**
 Date of issue..... : **29.08.2022**



No. of pages : **07 PAGES + Annexure**
 Compiled by (+ signature)..... : **Rohit Patil**
 Designation: **Testing Engineer**
 Approved by (+ signature)..... : **Javed Shaikh**
 Designation: **Dy.Laboratory Manager**

Item Received On : **27.08.2022 in Good Condition**
 Test Completion Date : **28.08.2022**

Client

Name : **M/s. Sovereign Pumping Solutions Private Limited.**
 : **Plot no. B - 132, Anand Nagar, Additional MIDC, Ambarnath (East)**
 Dist: **Thane, MH - 421506.**

Test Specification

Standard : **IS/IEC 60034-5:2000**
 Specified IP-Code..... : **IP68**

Equipment Under Test

Type of Test Object : **Submersible Electrical Dewatering Pump**
 Motor Type : **SPG103M**
 Serial No. : **SPD2200215**
 Manufacturer : **M/s. Sovereign Pumping Solutions Private Limited.**

Annexure :-

Drawing No. : **SPS/DRG/DW/015, Rev.No.00, Dated:25.07.2022, (02 Pages)**

NOTE : 1) This refers only to the particular item(s) submitted for testing.
2) If necessary, this report shall be reproduced ONLY in full.





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Report No.: KLPL/BTG/22/08-64

Dated: 29.08.2022

Possible test case verdicts:

Test case does not apply to the test object : N (Not Applicable)

Test object does meet the requirement..... : P (Pass)

Test item does not meet the requirement : F (Fail)

Test case has not been checked : _____

General remarks:

"(See remark #)" refers to a remark appended to the report.

"(See appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

The test results presented in this report relate only to the object tested.

This test report shall not be reproduced except in full without the written approval of the testing Laboratory.

IP6X test conducted at Laboratory (Boisar)

IPX8 test conducted at Laboratory (Boisar)

Note: - MAJOR EQUIPMENTS USED

Tests	Required Instruments	Id. No.	Cal Due Date	Used Y/N
5X / 6X	Vacuum Meter	K&A 1108/1-17	04.02.2023	Y
	Rotameter	K&A 426	02.01.2023	Y
	Timer	K&A 581/1-12	08.08.2023	Y
	DTC with sensor	K&A 581/2-12	06.08.2023	Y
X7 /X8	Scale	K&A 107	29.09.2022	Y
	Stop watch	K&A 1171-18	28.09.2022	Y
	HV Tester	K&A 032	08.01.2023	Y



Head Office: B-101, Ansa Industrial Estate, Saki Vihar Road, Saki Naka, Andheri (E) Mumbai-400072 INDIA Ph: (022) 28471395
 Laboratory: Gat#142, Betegaon, Boisar Chilhar Road, Opp. Union Park, Boisar (E), Tal-Palghar, Dist. Palghar-401501 INDIA Phone (02525) 284881/931

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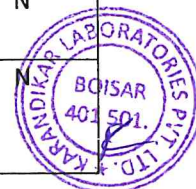
Report No.: KLPL/BTG/22/08-64

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IS/IEC 60034-5:2000			
Clause	Requirement - Test	Result- Remark	Verdict
6	Marking.		
	Marking	Available on motor. See picture 2 at end of the page	P
7	General requirements for tests.		
7.1	Tests for adequate clearance		
7.1.1	-Test Conditions for Low-voltage machine (≤ 1000 VAC and ≤ 1500 VDC) : The test device (sphere, finger, wire etc.) does not touch the live parts or moving parts other than non-dangerous parts such as smooth rotating shafts.	--	N
7.1.2	-Test conditions for High – Voltage machine (≥ 100 VAC and ≥ 1500 VDC) : The device is Placed in the most unfavourable potion , the machine shall be capable of withstanding the dielectric test applicable to the machine.	--	N

IS/IEC 60034-5:2000			
Clause	Requirement- Test	Result- Remark	Verdict

8	Tests and acceptance conditions for first characteristics numeral				
First, characteristic Numeral.	Test means (object probes and dust chamber)	Test force	Test Conditions, See		
0	No test required	-	Table 4	--	N
1	Rigid sphere without handle or guard 50*0.05 mm diameter.	45N to 55N	Table 4	--	N
2	a) Finger test:- Test finger as shown in figure 1.	≤ 10 N	Table 4	--	N
	b)Sphere test:- Rigid sphere of 12, 5 *0.05 mm diameter.	27N to 33N	Table 4	--	N
3	Rigid steel rod 2,5*0.05 mm diameter with edges free from burrs.	2,7N to 3,3N	Table 4	--	



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IS/IEC 60034-5:2000					
Clause	Requirement – Test			Result-Remark	Verdict
8	Tests and acceptance conditions for first characteristics numeral				
First, characteristic Numeral.	Test means (object probes and dust chamber)	Test force	Test Conditions, See		
4	Rigid steel wire 1*0.05 mm diameter with edges free from burrs.	0,9 N to 1,1 N	Table 4	--	N
5	a) Dust test:- Dust Chamber, Machine with under pressure	--	Table 4	--	N
	b) Wire test: - If the machine is intended to run with open drain hole(s), these shall be tested in the same manner as the first characteristic numeral 4.			--	N
6	Dust Chamber with Under pressure	---	Table 4	For 8 hrs. as extraction rate is less than 40 Volumes per hour and max depression of 20mbar.	P
----	Acceptance Condition for the first characteristic numeral 6X:- The protection is satisfactory if, on inspection, there is no ingress of talcum powder.			No ingress of powder found inside the Terminal Box.	P





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IS/IEC 60034-5:2000

Clause	Requirement – Test	Result-Remark	Verdict	
9	Tests conditions for second characteristics numeral			
Second characteristic Numeral.	Test means	Test Condition, See		
0	No test required	Table 5	--	N
1	Drip Box	Table 5	--	N
2	Drip Box	Table 5	--	N
3	Oscillating Tube or Spray Nozzle	Table 5	--	N
4	Oscillating Tube or Spray Nozzle	Table 5	--	N
5	6.3-mm nozzle, tested with a spraying nozzle	Table 5	--	N
6	12.5-mm nozzle, tested with a splashing nozzle	Table 5	--	N
7	Immersion Tank	Table 5	--	N
8	Test for second characteristic numeral X8: Immersion tank, Continuous immersion subject to agreement. Water temperature does not differ from that of equipment by more than 5K. Test Duration: 02 Hrs	Table 5	The lowest point of UUT is located 15 meter below surface of water.	P



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<p>9.2</p>	<p>Acceptance conditions for IPX8:</p> <p>The protection is satisfactory if windings are not wet and no accumulation of water which could reach them shall occur inside the machine.</p> <p>Note: After water test, Motor shall run at rated voltage with no load condition for 15 minutes. High voltage test shall be carried out.</p>	<p>No ingress of water observed inside the Terminal Box.</p> <p>After water test, Motor was run at rated voltage with no load condition for 15 minutes.</p> <p>HV test was done between all live terminals are shorted together & body of motor, applied voltage 1 kV for 1 minute.</p> <p>Observation: The sample withstood the test voltage.</p>	<p>P</p>
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SUMMARY OF INGRESS PROTECTION TESTS ACCORDING TO IS/IEC 60034-2000

Conclusion of the IP68 test: PASS.

The results of the tests were in compliance with the requirements in the standard IS/IEC 60034:2000



Picture1: Submersible Electrical Dewatering Pump



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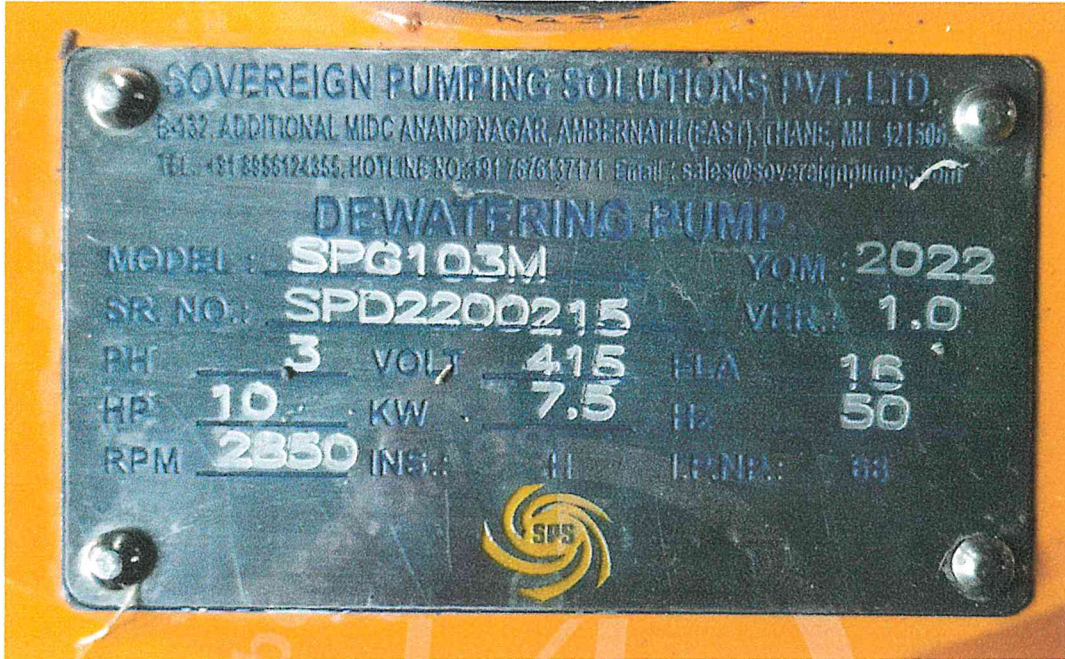


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Picture2: Name Plate



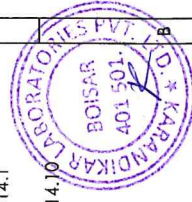
END OF THE REPORT

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Amnfxs



Report No - KUP/BGT/22/108-64

SOVEREIGN PUMPING SOLUTIONS PVT. LTD.
B/132, ADDITIONAL MIDC, ANAND NAGAR,
AMBERNATH (E)-421506

APPROVED

DRAWING NO.: SPS/DRG/DW/015
MODEL : SPG103M
MATERIAL : ***

DATE: / /
SIGN: / /

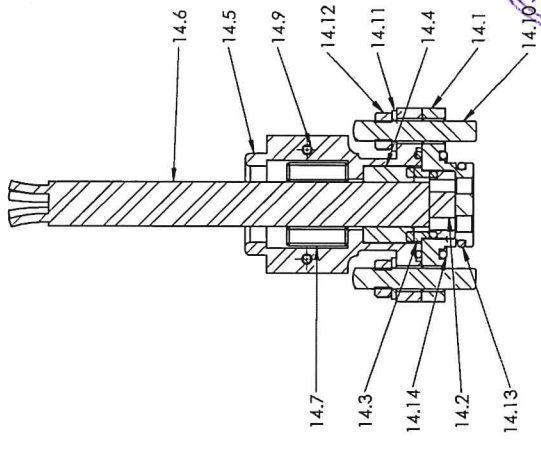
DATE: 25.07.2022
CHECKED BY: NU
REVIEWED BY: NU
APPROVED BY: NU

NOTE:
1) ALL DIMENSION ARE IN MM
2) REMOVE ALL SHARP CORNER & EDGES
3) ALL UNSPECIFIED CHAMFERS ARE 0.5X45°

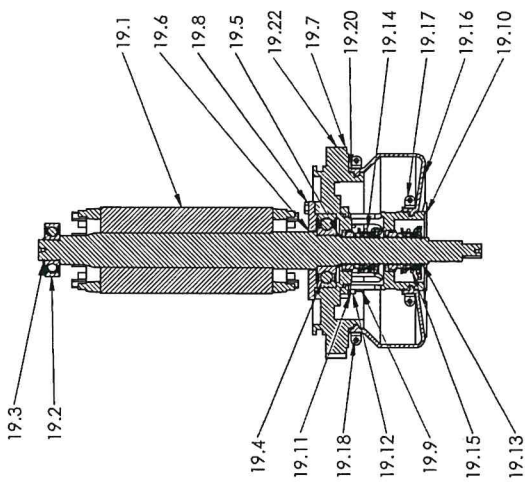
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SHEET SIZE : A3
DOC. NO. : DGN 02 21 REV.1 DT.01.02.21
REV. 0

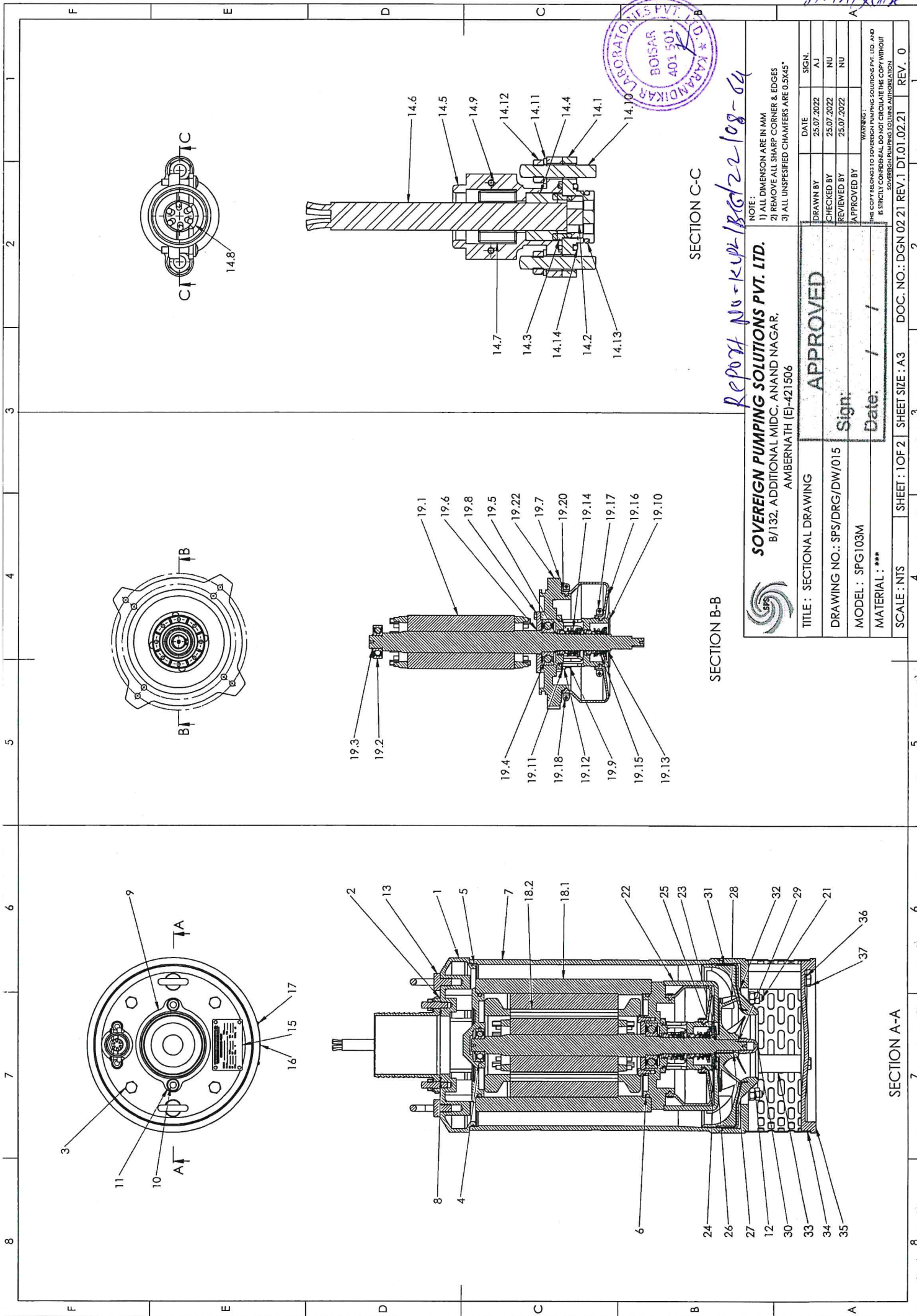
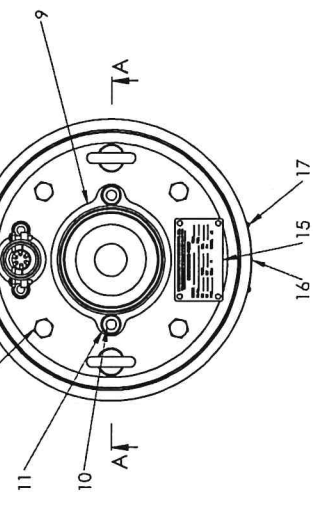
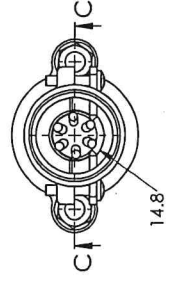
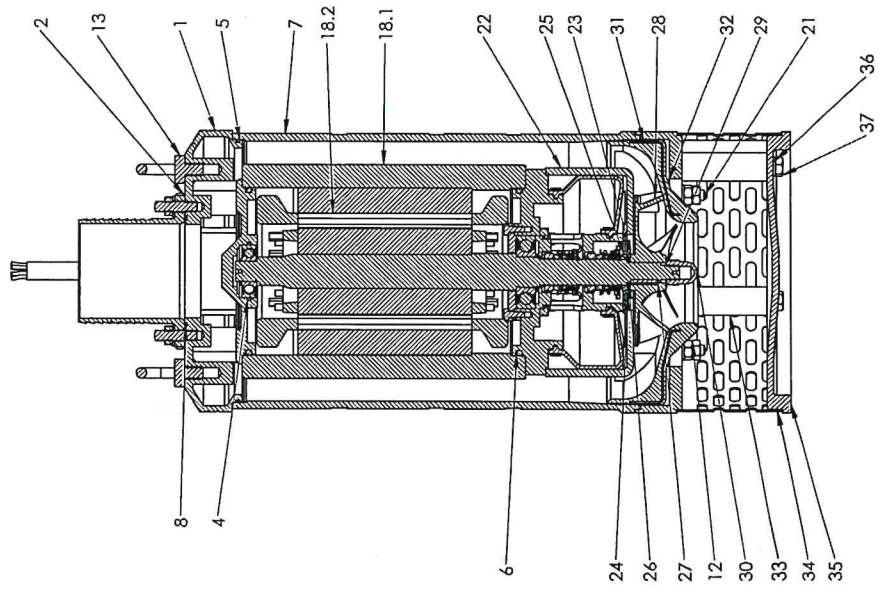
SECTION C-C



SECTION B-B



SECTION A-A



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	14510112	UPPER BRACKET	1
2	62095136	WASHER MOLDED	4
3	14070118	HEX. BOLT (M10X80)	4
4	43550113	"O" RING (NITRILE BUTADIENE RUBBER)	1
5	43550136	"O" RING (NITRILE BUTADIENE RUBBER)	1
6	43550128	"O" RING (NITRILE BUTADIENE RUBBER)	2
7	46011119	OUTER BODY	1
8	43550189	"O" RING (NITRILE BUTADIENE RUBBER)	1
9	4570125	HOSE OUTLET	1
10	58570160	STUD	2
11	62570106	WASHER 10 MM	6
12	43070108	HEX. NUT - M10	14
13	35070105	HOOK FOR PUMP LIFTING	2
14	10320178	CABLE ASSEMBLY	1
14.1	13070109	BASE FOR CABLE GLAND	1
14.2	33050175	GROMMET FOR CABLE LEAD	1
14.3	56570171	SPACER FOR GLAND	1
14.4	33050115	GROMMET FOR CABLE	1
14.5	32070104	GLAND FOR CABLE	1
14.6	16065124	CABLE (6CX 4.0 SQ.mm)	20 MTR.
14.7	59550102	SUPPORT FOR CABLE	1
14.8	20070122	CLAMP FOR CABLE	1
14.9	18570122	PAN HEAD SCREW	2
14.10	58570113	STUD	2
14.11	62570104	WASHER 8 MM	2
14.12	43070106	HEX. NUT - M8	2
14.13	43550105	"O" RING (NITRILE BUTADIENE RUBBER)	1
14.14	43550110	"O" RING (NITRILE BUTADIENE RUBBER)	2
15	42070108	NAME PLATE	1
16	42070111	NAME PLATE (ROTATION ARROW)	1
17	50570106	RIVET	6
18	37020223	INNER BODY WITH WINDING	1
18.1	36512137	INNER BODY	1
18.2	40520223	MOTOR WINDING	1
19	10220111	SEAL ASSEMBLY	1
19.1	51020161	ROTOR	1
19.2	13532105	BEARING - UPPER	1
19.3	19574104	CIRCLIP	1
19.4	13532111	BEARING - LOWER	1
19.5	19574106	CIRCLIP	1
19.6	23510103	COVER FOR BEARING	1
19.7	14510113	BOTTOM BRACKET	1
19.8	14070104	HEX. BOLT (M6X16)	4

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
19.9	58570103	STUD	4
19.10	35570108	HOUSING FOR MECH. SEAL	1
19.11	62570102	WASHER PLAIN	4
19.12	43070105	HEX. NUT - M6	4
19.13	19070105	CIRCLIP	2
19.14	39020122	MECH. SEAL	1
19.15	39020122	MECH. SEAL	1
19.16	27050104	OIL BAG	1
19.17	20070107	CLAMP FOR OIL BAG	2
19.18	18570122	PAN HEAD SCREW	4
19.19	43070102	HEX. NUT - M4	8
19.20	20070108	CLAMP FOR OIL BAG	2
19.21	43550101	"O" RING (NITRILE BUTADIENE RUBBER)	2
19.22	17570102	CAP SCREW (M8X12)	2
20	17570103	CAP SCREW (M8X30)	4
21	58570122	STUD	4
22	63595104	WEAR PLATE	1
23	53070108	SAND PROTECTOR	1
24	18570125	CHEESE HEAD SCREW	4
25	17070134	CAP FOR CIRCLIP	1
26	56570123	SPACER FOR TRIMMING	3
27	38070106	KEY	1
28	36072141	IMPELLER	1
29	61570104	WASHER FOR LOCKING	1
30	42570138	DOME NUT	1
31	25095117	DIFFUSER NBR MOLDED	1
32	56572111	SPACER FOR DIFFUSER	4
33	26010102	DIFFUSER BRACKET	1
34	58070113	STRAINER	1
35	13010106	BASE FOR PUMP	1
36	63070101	WASHER - SPRING	4
37	14070116	HEX. BOLT (M10X20)	4



Report No- KAL/BG/22/08-64

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SOVEREIGN PUMPING SOLUTIONS PVT. LTD.
 B/132, A ADDITIONAL MIDC, ANAND NAGAR,
 AMBERNATH (E)-421506

TITLE : SECTIONAL DRAWING
 DRAWING NO : SPS/DRG/DW/015
 MODEL : SPG103M
 MATERIAL : ***

APPROVED
 Sign: / /
 Date: / /

SCALE : NTS
 SHEET : 2 OF 2
 SHEET SIZE : A3
 DOC. NO. : DGN.02.21 REV.1 D1.01.02.21
 REV. 0