

Laboratory **Testing Organisation for Research in Chemicals and Health Hazards (TORCH), "Suraksha Sankool", Thaltej, S. G. Road, Ahmedabad, Gujarat**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-5225**

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Validity **20.02.2018 to 19.02.2020**

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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ELECTRICAL TESTING

I. ROTATING ELECTRICAL MACHINES				
1.	Submersible Pump Sets (0.37 kW to 37 kW)	Verification of Marking	IS 8034 Amd. 4, Cl. No. 16.1	Qualitative
		Terminal Marking	IS 9283 Cl. No. 13.0	Qualitative
		Check for Earthing of Motor	IS 9283 Cl. No. 5.2.1	Qualitative
		Test for Electrical Performance	IS 8034 Amd. 4, Cl. No. 7.0	1999 μΩ to 19.99 kΩ
		Measurement of Stator Resistance	IS 9283 Cl. No. 16.1(c)	1999 μΩ to 19.99 kΩ
		Temperature Rise Test at Rated Voltage	IS 8034 Amd. 4, Cl. No. 7.1.1.1	Per Phase Upto 270 V Upto 100 A Upto 37 kW Upto 400 °C
		Temperature Rise Test at Reduced Voltage	IS 8034 Amd. 4, Cl. No. 7.1.1.2	Per Phase Upto 270 V Upto 100 A Upto 37 kW Upto 400 °C
		No Load Running of Motor at rated Voltage	IS 9283, Cl. No. 16.1 (d)	Per Phase Upto 270 V Upto 100 A Upto 37 kW Upto 30000 rpm
		Leakage Current	IS 9283 Cl. No. 16.1(n) & Cl. No. 23	Upto 200 mA
Reduced Voltage Running up	IS 9283 Cl. No. 16.1 (e)	Upto 270 V Upto 100 A Upto 37 kW Upto 30000 rpm		

Ravi Johri
Convenor

N. Venkateswaran
Program Director

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		Locked Rotor Test (starting Torque in % of full load torque) (Upto 15 kW Motor rating)	IS 9283 Cl. No. 16.1(f)	Per Phase Upto 270 V Upto 100 A Upto 15 kW Upto 10 kg Upto 86,400 s
		Insulation Resistance (Before H.V. & after H.V.)	IS 9283 Cl. No. 16.1(a) & Cl. No. 21	Upto 2 GΩ 500 V/1000 V (DC)
		High Voltage	IS 9283 Cl. No. 16.1(b) & Cl. No. 20	Qualitative (Upto 5 kV)
		Guarantee of workmanship & Material	IS 8034 Amd. 4, Cl. No. 15.1	Qualitative
		Guarantee of Performance	IS 8034 Amd. 4, Cl. No. 15.2	Per Phase Upto 270 V Upto 100 A Upto 37 kW
		Verification of Guarantee	IS 8034 Amd. 4, Cl. No. 15.3	Per Phase Upto 270 V Upto 100 A Upto 37 kW
		Hydrostatic Pressure	IS 8034 Amd. 4, Cl. No. 9.1	Qualitative
		Direction of Rotation	IS 8034 Amd. 4, Cl. No. 10.0	Qualitative
		Construction Details	IS 8034 Amd. 4, Cl. No. 6.1	Qualitative
		Construction of Pump Sub Assembly	IS 8034 Amd. 4 Cl. No. 6.1 (a) & Cl. No. 6.2	Qualitative
		Typical Design Features of components of pump	IS 8034 Amd. 4 Cl. No. 6.3	Qualitative
		Construction of Motor sub assembly	IS 9283 Cl. No. 5.2.3	Qualitative
		Suitable Coating on Rotor	IS 9283 Cl. No. 5.2.4	Qualitative

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		Check for Breathing Attachment	IS 9283 Cl. No. 5.2.5	Qualitative
		Check for Drain Plug	IS 9283 Cl. No. 5.1 and Figure 1	Qualitative
		Check for Foreign Matter	IS 9283 Cl. No. 5.3	Qualitative
		Voltage & Frequency Variations	IS 9283 Cl. No. 6.2	Qualitative
		Check for Declaration on Minimum Submergence & Bore Diameter	IS 8034, Cl. No. 11.1	Qualitative
		Outside Diameter of Pump set	IS 8034 Amd. 4 Cl. No. 11.2	Upto 300 mm
		Length of cable	IS 8034 Amd. 4, Cl. No. 8.0 IS 9283, Cl. No. 5.1.2	Upto 50000 mm
		Measurement of Min. Submergence	IS 8034 Amd. 4 Cl. No. 11.3	Upto 3000 mm
		Surface Finish of Pump Shaft Sleeve	IS 8034 Amd. 4 Cl. No. 6.4.1	Upto 360 µm Ra
		Finish of Bearings (Surface Finish of Rotor Shaft Sleeve)	IS 9283 Cl. No. 5.5	Upto 360 µm Ra
		Shaft Extension Run out	IS 9283, Cl. No. 7.2 Figure.8	Upto 1000 µm
		Measurement of Concentricity	IS 9283 Figure. 9	Upto 1000 µm
		Measurement of Face Run Out	IS 9283 Figure. 10	Upto 1000 µm
		Check for Balancing of Rotor	IS 9283 Cl. No. 5.6	Upto 50 kg
		Check for Balancing of Impeller	IS 8034: 2002 Amd. 4 Cl. No. 6.4.2	Upto 50 kg

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