Laboratory	**Pump Testing Laboratory (Mechanical Engg. Deptt.), Guru Nanak Dev Engineering College, Gill Road, Ludhiana, Punjab**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Discipline	**Electrical Testing**	**Issue Date**	**11.09.2015**
Certificate Number	**T-2591**	**Valid Until**	**10.09.2017**
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	**ROTATING ELECTRICAL MACHNIES**			
1.	**Submersible Pumpsets**	Verification of Marking	IS 8034: 2002 Cl. No. 16	Qualitative
		Pump Performance Test	IS 8034: 2002 Cl. No. 7.2	Upto 75 lps Upto 100 m Upto 50 kW Upto 100 A 46 Hz to 66 Hz
		Hydrostatic Test	IS 8034: 2002 Cl. No. 9.1	Upto 35 bar
		No load running of motor	IS 8034: 2002 Cl. No. 7.2	Upto 50 kW Upto 100 A 440 V 46 Hz to 66 Hz
		Locked Rotor Test	IS 8034: 2002 Cl. No. 7.2	Upto 50 kW Upto 100 A 440 V 150 Nm
		Insulation Resistance Test	IS 8034: 2002 Cl. No. 7.2	Upto 100 MΩ
		High Voltage Test	IS 8034: 2002 Cl. No. 7.2	Upto 5 kV AC
		Temperature rise test at rated voltage	IS 8034: 2002 Cl. No. 7.1.1.1	(-) 55 °C to 199.9 °C Upto 50 kW Upto 100 A Upto 440 V

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Submersible Pumpsets	Temperature rise test at reduced voltage	IS 8034: 2002 Cl. No. 7.1.1.2	(-) 55 °C to 199.9 °C Upto 50 kW Upto 100 A Upto 440 V
		Direction of rotation	IS 8034: 2013 Cl. No. 10	Qualitative
2.	**Motors for Submersible Pumpsets**	Pump Performance Test	IS 9283: 2013 Cl. No. 16.1(h)	Upto 75 lps Upto 100 m Upto 50 kW Upto 100 A 46 Hz to 66 Hz
		No load running of motor	IS 9283: 2013 Cl. No. 16.1(d)	Upto 50 kW Upto 100 A 440 V 46 Hz to 66 Hz
		Locked Rotor Test	IS 9283: 2013 Cl. No. 16.1(f)	Upto 50 kW Upto 100 A 440 V 150 Nm
		Insulation Resistance Test	IS 9283: 2013 Cl. No. 16.1(a), Cl. No. 21.1	Upto 100 MΩ
		High Voltage Test	IS 9283: 2013 Cl. No. 16.1(b), Cl. No. 20	Upto 5 kV AC
		Balancing of rotor	IS 9283: 2013 Cl. No. 5.6 IS 11723 (Part 1): 1992 Cl. No. 6.3, Cl. No. 8.3	Grade 6.3

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Motors for Submersible Pumpsets	Temperature rise test at rated voltage	IS 9283: 2013 Cl. No. 19	(-) 55 °C to 199.9 °C Upto 50 kW Upto 100 A Upto 440 V
		Temperature rise test at reduced voltage	IS 9283: 2013 Cl. No. 19	(-) 55 °C to 199.9 °C Upto 50 kW Upto 100 A Upto 440 V
		Surface finish of shaft / bearing (µm Ra) or Roughness Testing	IS 9283: 2013 Cl. No. 5.5	0.01 µm to 2.93 µm
		Measurement of stator resistance	IS 9283: 2013 Cl. No. 16.1 (c)	Upto 300 Ω
		Leakage Current Test	IS 9283: 2013 Cl. No. 23	0.1 mA to 300 mA (AC)

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