to

Laboratory	**Electronics And Quality Development Centre, B 177/178, GIDC, Electronics Estate, Sector-25, Gandhinagar, Gujarat** **Location 1: B 177/18, GIDC, Electronics Estate, Sector-25, Gandhinagar, Gujarat** **Location 2: B/23/2, GIDC, Electronics Estate, Sector-25, Gandhinagar, Gujarat**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Discipline	**Electrical Testing**	**Issue Date**	**06.01.2016**
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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
		LOCATION: 1		
I.	**ROTATING ELECTRICAL MACHINES**			
1.	**Submersible pumpsets (0.37 to 45 Kw) Openwell Submersible pumpsets (0.37 to 45 kW) Submersible Motors (0.37 to 45 kW)**	Verification of Marking	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Qualitative
		Terminal Marking	IS 9283: 2013	Qualitative
		Earthing	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Qualitative
		Measurement of Stator Resistance	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	1 mΩ to 19.99 kΩ
		No Load Test at Rated Voltage	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Per Phase: Upto 300 V (AC) Upto 180 A (AC) Upto 54 kW Upto 18000 rpm
		Reduced Voltage Running Up Test	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Per Phase: Upto 300 V (AC) Upto 18000 rpm
		Full Load Test	IS 9283: 2013	Per Phase: Upto 300 V (AC) Upto 180 A (AC) Upto 54 kW Upto 20 kgfm Max. 3000 rpm

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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
	Submersible pumpsets (0.37 to 45 Kw) Openwell Submersible pumpsets (0.37 to 45 kW) Submersible Motors (0.37 to 45 kW)	Temperature Rise Test at Rated Voltage	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Per Phase: Upto 300 V (AC) Upto 180 A (AC) Upto 54 kW Upto100 °C
		Temperature Rise Test at Reduced Voltage	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Per Phase: Upto 300 V (AC) Upto 180 A (AC) Upto 54 kW Upto100 °C
		Locked Rotor Test	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Per Phase: Upto 300 V (AC) Upto 180 A (AC) Upto 54 kW Upto 20 kgfm
		High Voltage Test	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Upto 5kV
		Insulation Resistance Test	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Upto 10 GΩ
		Performance Characteristic	IS 9283: 2013	Per Phase: Upto 300 V (AC) Upto 180 A (AC) Upto 54 kW Upto 20 kgfm Max. 3000 rpm

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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
	Submersible pumpsets (0.37 to 45 Kw) Openwell Submersible pumpsets (0.37 to 45 kW) Submersible Motors (0.37 to 45 kW)	Pump Performance Test	IS 8034: 2002 IS 14220: 1994	1 m to 600 m 0.1 lps to 66 lps Per Phase: Upto 300 V (AC) Upto 180 A (AC) Upto 54 kW
		Hydrostatic Test	IS 8034: 2002 IS 14220: 1994	Upto 60 bar
		Direction of Rotation	IS 8034: 2002	Qualitative
		Leakage Current Test	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	0.1 mA to 200 mA
		Momentary Overload Test	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Per Phase: Upto 300 V (AC) Upto 180 A (AC) Upto 54 kW Upto 20 kgfm Max. 3000 rpm
		Dimension Test	IS 9283: 2013	Perpendicularity: Upto 200 µm Concentricity: Upto 200 µm Run out
		Balancing of Rotor/Impeller	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Upto 70 kg

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 (0.37 to 45 Kw)	Measurement of Shaft Extension	IS 8034: 2002 IS 9283: 2013	Upto 1000 µm
	Openwell Submersible pumpsets (0.37 to 45 kW)	Constructional Details/ Constructional Features/ Constructional Requirements	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Qualitative
	Submersible Motors (0.37 to 45 kW)	Submersible Cable	IS 8034: 2002 IS 9283: 2013 IS 14220: 1994	Upto 5000 mm
		Design Features	IS 14220: 1994	Qualitative
		Typical Installation	IS 8034: 2002	Upto 300 mm
II.	**MEASURING INSTRUMENTS - ELECTRICAL AND ELECTRONIC (STATIC) ENERGY METERS**			
1.	**ac STATIC WATIHOUR METERS, CLASS 1AND 2**	AC High Voltage Test	IS 13779: 1999 (Upto & incl. Amd. 4); IS 14697: 1999 (Upto & incl. Amd. 3); IS 15884: 2010 IEC 62052-11: 2003; IEC 62053-21: 2003; IEC 62053-22: 2003; IEC 62053-23: 2003; CBIP Report no 88 (Rev. 96 Amd: 2005) CBIP Manual 304: 2008 IS 13010: 2002 (Upto & incl. Amd. 2)	0.5 kV to 10 kV

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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
	ac STATIC WATIHOUR METERS, CLASS 1 AND 2	Insulation Resistance Test		Upto 0.2 MΩ to 1 TΩ 0.5 kV DC to 1 kV DC
		Test on Limits of Errors	IS 13779: 1999 (Upto & incl. Amd. 4);	40V to 320 V 1 mA to 120 A
		Interpretation of Test Results	IS 14697: 1999 (Upto & incl. Amd. 3);	45 Hz to 65 Hz P.F: (+)1 to (-)1
		Test of Meter Constant	IS 15884: 2010 IEC 62052-11: 2003;	Single Phase: (0.12 W to 38.4 kW)
		Test of Starting Conditions, Initial Start Up of Meters	IEC 62053-21: 2003; IEC 62053-22: 2003; IEC 62053-23: 2003;	Three Phase: (0.36 W to 115.2 kW)
		Test of No Load Condition/ Running With No Load	CBIP Report no 88 (Rev. 96 Amd: 2005) CBIP Manual 304: 2008	
		Test of Ambient Temperature Influence	IS 13010: 2002 (Upto & incl. Amd. 2)	
		Test of Repeatability of Error		
		Voltage Variation Frequency Variation Reverse Phase Sequence Voltage Unbalance Auxiliary Voltage & Phase of Auxiliary Supply Voltage by 120°(Excluding IS-13010)		

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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
	ac STATIC WATIHOUR METERS, CLASS 1 AND 2	Harmonic Component in Current and Voltage Circuit Sub Harmonics in AC Current Circuit Odd Harmonics in AC Current Circuit Wave Form: 10% of Harmonic in Current Circuit	IS 13779: 1999 (Upto & incl. Amd. 4); IS 14697: 1999 (Upto & incl. Amd. 3); IS 15884: 2010 IEC 62052-11: 2003; IEC 62053-21: 2003; IEC 62053-22: 2003; IEC 62053-23: 2003;	40V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F: (+)1 to (-)1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW) Upto 40^{th} harmonics
		Continuous Magnetic Induction of External Origin (DC Field) Magnetic Induction of External Origin (0.5mt)(AC Field) Stray D.C Magnetic Induction of External Origin (67 Mt) Stray A.C Magnetic Induction of External Origin (0.5 Mt) Abnormal A.C. Magnetic Induction of External Origin (10 Mtesla)	IS 13779: 1999 (Upto & incl. Amd. 4); IS 14697: 1999 (Upto & incl. Amd. 3); IS 15884: 2010 IEC 62052-11: 2003; IEC 62053-21: 2003; IEC 62053-22: 2003; IEC 62053-23: 2003; CBIP Report no 88 (Rev. 96 Amd: 2005) CBIP Manual 304: 2008 IS 13010: 2002 (Upto & incl. Amd. 2)	40V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F: (+)1 to (-)1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW) 0.5 mT & 10 mT 140 AT & 2,800 AT 200 mT AC (±)5 %, Ampere turn: 20,000 AT; 67 mT & 270 mT DC (±)5 %, 1000 AT & 17500 AT;

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	ac STATIC WATIHOUR METERS, CLASS 1 AND 2	Abnormal A.C. Magnetic Induction of External Origin (200 Mtesla)		500 mT DC (±)5 %, 50,000 AT 0.5 mT AC (±)5 %
		Continuous Abnormal D.C. Magnetic Induction of External Origin (200/270mtesla		46 mT (±) 5 %, 500 AT
		Test of Power Consumption	IS 13779: 1999 (Upto & incl. Amd. 4); IS 14697: 1999 (Upto & incl. Amd. 3); IS 15884: 2010 IEC 62052-11: 2003; IEC 62053-21: 2003; IEC 62053-22: 2003; IEC 62053-23: 2003; CBIP Report no 88 (Rev. 96 Amd: 2005) CBIP Manual 304: 2008 IS 13010: 2002 (Upto & incl. Amd. 2)	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F: (+) 1 to (-) 1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)
		Test of Influence of Supply Voltage/ Test of Effect of Voltage Dips and Short Interruptions		Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW) At 63.5 V, 110 V and 240 V

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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
	ac STATIC WATIHOUR METERS, CLASS 1 AND 2	Test of Influence of Self Heating		40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F: (+) 1 to (-) 1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)
		Test of Influence of Heating		40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F: (+) 1 to (-) 1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)
		Test of Influence of Immunity to Earth Fault Test		40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F: (+) 1 to (-) 1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)
		Dry Heat Test	IS 14697: 1999 (Upto & including Amd. 3) ; IS 13779: 1999 (Upto & including Amd. 4); IS 15884: 2010 CBIP 88: 2002	Qualitative (Max. Chamber Size: 1.5 x 1.5 x 1.5 m^3 Ambient to 300 °C)

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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
			CBIP Publication No: 304; IEC 62052-11: 2003	
	ac STATIC WATIHOUR METERS, CLASS 1 AND 2	Cold Test	IEC 60687: 1992 IEC 61036: 2000 CBIP-88: 2002 IS 13779: 2006 Amd. 4 IS 14697: 2004 Amd. 3 IS 15884: 2010 IEC 62052-11: 2003 IEC 62053-21: 2003 IEC 62053-22: 2003 IEC 62053-23: 2003 IS 9000 (Part 2/Sec I to IV): 1977 IEC 60068-2-1: 1994 EN50470-1: 2006 EN50470-3: 2006 IEC6252-21: 2004 IEC 62055-31: 2005 CBIP publication no.304	Qualitative (Max. Chamber Size: 1.5 x 1.5 x 1.5 m^3 Ambient to (-)65 °C Ambient to (-)70 °C)
		Damp Heat Cyclic Test	IEC 60687: 1992 IEC 61036: 2000 CBIP-88: 2002 IS 13779: 2006 Amd. 4 IS 14697: 2004 Amd. 3 IS 15884: 2010 IEC 62052-11: 2003 IEC 62053-21: 2003 IEC 62053-22: 2003 IEC 62053-23: 2003 IS 9000 (Part 5 / Sec I and II): 1981	Qualitative (Max. Chamber Size: 1.5 x 1.5 x 1.5 m^3 20 °C to 100 °C 10 % to 98 % R.H.)

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			IEC 60068-2-30: 1980 EN50470-1: 2006 EN50470-3: 2006 IEC62052-21: 2004 IEC 62055-31: 2005 CBIP publication no.304	
	ac STATIC WATIHOUR METERS, CLASS 1 AND 2	Vibration Test	IS 14697: 1999 (Upto & including Amd. 3) ; IS 13779: 1999 (Upto & including Amd. 4); IS 15884: 2010 CBIP-88: 2002 CBIP publication no.304; IS 9000 (Part 8): 1981 IEC 60068-2-6: 1995 IEC62052-21: 2004; IEC 62053-23: 2003; IEC 62055-31: 2005	400 kgf (sine wave) 20 mm (close loop mode) 5 Hz to 3.5 kHz
		Shock Test	IS 14697: 1999 (Upto & including Amd. 3) ; IS 13779: 1999 (Upto & including Amd. 4); IS 15884: 2010 IS 13010, 2002 (Upto & including Amd. 2) ; IEC 62052-11: 2003 IEC 62053-21 & 22: 2003; IEC 62053-23: 2003; IEC62052-21: 2004; IEC 62055-31: 2005; IEC 60068-2-27: 1987 IS 9000 (Part 7 / Sec I to V): 1979	Upto 400 m/s^2 11 ms 18 ms

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			EN50470-1 & 3: 2006; EN 60068-2-27: 1987 CBIP-88: 2002 CBIP pub no. 304	
	ac STATIC WATIHOUR METERS, CLASS 1 AND 2	Spring/ Impact Hammer Test	IS 14697: 1999 (Upto & including Amd. 3); IS 13779: 1999 (Upto & including Amd. 4); IS 15884: 2010 IEC 62052-11: 2003; IEC62052-21: 2004; IEC 62053-21: 2003; IEC 62053-22: 2003; IEC 62053-23: 2003; IEC 60687: 1992; IEC 61036: 2000; IEC 60068-2-75: 1997; IEC 817: 1984 IEC 62055-31: 2005; CBIP-88: 2002 CBIP pub no. 304	0.20 Nm to 1 Nm
		Protection Against Penetration of Dust & Water for	IS 14697: 1999 (Upto & including Amd. 3: 2004); IS 13779: 1999 (Upto & including Amd. 4: 2006 IS 15884: 2010 IEC 62053-21: 2003; IEC 62053-22: 2003; CBIP-88: 2002 CBIP pub no. 304	IP 1 x to IP 6 x IP x1 to IP x7 For x3 to x4 (only spray nozzle) Size: 1 m x 1 m x 1 m (for dust chamber IP x5, x6) 1.5 m x 1.5 m x1.5 m for rain chamber IP x1, x2)

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			IS 13010: 2002 (Upto & including Amd. 2) ;	
	ac STATIC WATIHOUR METERS, CLASS 1 AND 2	Resistance to Heat and Fire	IS 13779: 1999 (Upto & including Amd. 4: 2006); IS 14697: 1999 (Upto & including Amd. 3); IS 15884: 2010 IEC 62052-11: 2003; IEC 62053-21: 2003; IEC 62053-22: 2003; IEC 62053-23: 2003; CBIP Report no 88 Rev. 1996 Amd. 2005 CBIP Manual 304: 2008	Upto 850 °C
		General and Constructional Requirements (Meter Case , Window , Terminals , Terminal Cover, Terminal Block , Protective Earth Terminal, Clearance & Creep Age Distance ,Insulating Encase Meter, Display of Measured Values, Output Devices, Determination of Temp. of Deflection Under Load)	IS 13779: 1999 (Upto & including Amd. 4: 2006); IS 14697: 1999 (Upto & including Amd. 3: 2004); IS 15884: 2010 IEC 62052-11: 2003; IEC 62053-21: 2003; IEC 62053-22: 2003; IEC 62053-23: 2003; CBIP Report no 88 Rev. 1996 Amd. 2005 CBIP Manual 304: 2008	Qualitative

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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
2.	**Electrical and Electronic (Static) Energy Meters**	Heat Deflection Test	IS 13779: 1999 (Upto & incl. Amd. 4); IS 14697: 1999 (Upto & incl. Amd. 3); IS 15884: 2010 CBIP Report no 88 (Rev. 96 Amd: 2005) CBIP Manual 304: 2008 ISO75	Ambient to 250 °C 1.82 Mpa
3.	**General Requirements for Enclosures for ACcessories for Household and Similar Fixed Electrical**			
		Resistance Against Ingress of Solid Objects.	IS 14772: 2000 IS 12063: 1987 IEC 60529: 2001	Qualitative (IP 1X to 6X)
		Resistance to Harmful Ingress of Water. For x3- x4(Only Spray Nozzle)	IEC 60529: 2001	Qualitative
		Resistance of Insulating Material to Abnormal Heat and Fire.	IS 14772: 2000 IS 11000 (P 2/ Sec.1): 2008 IEC 60695-2-1: 2000	Upto 850 °C

Ravi Johri
Convenor

N. Venkateswaran
Program Manager

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
III.	**ENVIRONMENTAL TEST FACILITY**			
1.	**Electrical and Electronics Items**	Composite Temperature & Humidity Test	IS 9000 (Part 6): 1978 MIL Std 810G: 2008 ISO 16750-4: 2010 IEC60068-38: 1974	Qualitative (10 °C to 100 °C, 10 % RH to 98 % RH)
		Change of Temperature / Temperature Shock / Rapid Change of Temperature Test	IS 9000 (Part 14): 1988 IEC 60068-2-14: 2009 MIL Std 810G: 2008 ISO 16750-4: 2010 DIN 40046, Page. 14, Test Na BS 2011 MIL STD 710 E; MIL STD 202 F MIL STD 883 E	Qualitative ((-) 80 °C to 220 °C)
		Salt Spray (Corrosion)/ Salt Mist Test	IEC 60068-2-11:1981 IEC 60068-2-52:1996 IS 9000 (Part 11): 1983 MIL Std 810G: 2008 ASTM B117: 2003 NEMA -250: 2008 ISO 16750-4: 2010; IEC 60571 ISO 9227; IS 9844; ISO 6270-2 DIN EN ISO 6988 ASTM B 117: 79 MIL STD 810G, met 509.4 MIL STD 202F, met 101E BS 2011 (Part 2.1) ka	Qualitative (Ambient to 50 °C Max)

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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
	Electrical and Electronics Items	Dry Heat Test	IS 9000 (Part 3/Sec I to V): 1977 IEC 60068-2-2: 2007 IEC 60721-4 DIN40046 (Part 4) test B DIN 72300-4 IS 14697: 1999 (Upto & including Amd. 3) ; IS 13779: 1999 (Upto & including Amd. 4); CBIP 88: 2002 CBIP Publication No: 304; IEC 62052-11: 2003 ETS 300019-2 BS 2011 (Part 2) Test B MIL-STD: 202 E, meth. 108A MIL-STD-810 D, meth. 501 MIL-STD-883 C, meth. 1008 MIL-E-5272, (Part 4.1)	Ambient to 300 °C
		Cold Test	IS 9000 (Part 2/Sec I to IV) : 1977 IEC 60068-2-1: 2007 IEC 60687: 1992 IEC 61036: 2000 CBIP-88: 2002 IS 13779 Amd. 4 : 2006) IS 14697 Amd:3 (2004) IEC 62052-11: 2003 IEC 62053-21: 2003 IEC 62053-22: 2003 IEC 62053-23: 2003 EN50470-1: 2006 EN50470-3: 2006	Ambient to (-)70 °C

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			IEC6252-21: 2004 IEC 62055-31: 2005 CBIP publication no.304 DIN 40046 (Part 3) Test A DIN 72300-4; ETS 300019-2 BS 2011 (Part 2), Test A MIL-STD-810, meth. 502 MIL-E-5272, (Part 4.2)	
	Electrical and Electronics Items	Damp Heat Steady State Test	IS 9000 (Part 4): 2008 IEC 60068-2-67: 1995 IEC 60068-2-78: 2012 ISO 16750-4: 2010 IEC 60068-2-3, test Ca IEC 60068-2-56; IEC 60721-4 DIN 40046, (Part 2); DIN 40046, (Part 5); DIN 50014 DIN 72300-4 BS 2011, (Part 2), test Ca MIL-STD: 202, meth. 103B	Temperature range: 10 °C to 100 °C, Humidity range: 10 % RH to 98 % RH.
		Damp Heat Cyclic Test	IS 9000:1981(Part 5/Sec I & II) IEC 60068-2-30: 2005 IEC 60687: 1992 IEC 61036: 2000 CBIP-88: 2002 IS 13779 Amd. 4: 2006 IS 14697 Amd. 3: 2004 IEC 62052-11: 2003 IEC 62053-21: 2003	Temperature range: 10 °C to 100 °C, Humidity range: 10 % RH to 98 % RH.

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			IEC 62053-22: 2003 IEC 62053-23: 2003 IEC 60068-2-30: 1980 EN50470-1: 2006 EN50470-3: 2006 IEC62052-21: 2004 IEC 62055-31: 2005 CBIP publication no.304	
		LOCATION: 2		
I.	**ROTATING ELECTRICAL MACHINES**			
1.	Shallow Well (Surface) Solar Pumping System with DC Motor Pump Set with Brushes or BLDC	Water Output Per Day	MNRE's JNNSM Solar Photovoltaic Water Pumping System (2014-15) MNRE's JNNSM Solar Photovoltaic Water Pumping System (2014-15)	Upto 5,00,000 l/Day 0.1 A to 900 A (DC) 0.1 v to 600V (DC) 0.1 psi to 450 psi Upto 800 LPM
	Shallow Well (Surface) Solar Pumping System with AC Induction Motor			
	Deep Well (Submersible) Solar Pumping System with DC Motor Pump Set with			

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Brushes or BLDC Deep Well (Submersible) Solar Pumping System with AC Induction Motor Pump Set			
2.	**Rotating Electrical Machines [Motors]**	Marking	IS 325: 1996 IS 996: 2009 IS 9283:1995	Qualitative (Visual Examination)
		Reduced Voltage Running Up Test	IS 12615: 2011 IS 15999: 2011 IEC 60034-2-1: 2007 IEEE 112: 2004 C 390: 98	Per Phase: AC V: 0 to 300 V , AC A: 0 to 1500 A kW: 0 to 375 kW Speed: Upto 3000 rpm
		Full Load Test		Per Phase: AC V: 0 to 300 V , AC A: 0 to 1500 A, kW: 0 to 375 kW Torque :Upto 5000 Nm Speed: Max. 3000 rpm
		Temperature Rise Test at Rated Voltage		Per Phase: AC V: 0 to 300 V , AC A: 0 to 1500 A, kW: 0 to 375 kW Range:0 to115 °C

to

Laboratory	**Electronics And Quality Development Centre, B 177/178, GIDC, Electronics Estate, Sector-25, Gandhinagar, Gujarat** **Location 1: B 177/18, GIDC, Electronics Estate, Sector-25, Gandhinagar, Gujarat** **Location 2: B/23/2, GIDC, Electronics Estate, Sector-25, Gandhinagar, Gujarat**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Discipline	**Electrical Testing**	**Issue Date**	**06.01.2016**
Certificate Number	**T-0076**	**Valid Until**	**05.01.2018**
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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
	Rotating Electrical Machines [Motors]	Locked Rotor Test		Per Phase: AC V: 0 to 300 V , AC A: 0 to 1500 A, kW: 0 to 375 kW Torque :Upto 5000 Nm
		High Voltage Test	IS 325: 1996 IS 996: 2009	Upto 5 kV
		Insulation Resistance Test	IS 9283:1995 IS 12615: 2011	Upto 10 GΩ
		Performance Characteristic	IS 15999: 2011 IEC 60034-2-1: 2007 IEEE 112: 2004 C 390: 98	Per Phase: AC V: 0 to 300 V , AC A: 0 to 1500 A, kW: 0 to 375 kW Torque: Upto 5000 Nm Speed: Max. 3000 rpm
		Motor Performance Test		Load %: 25 % to 100 % kW: 0 to 375 kW Torque: Upto 5000 Nm Per Phase: AC V: 0 to 300 V , AC A: 0 to 1500 A,
		Direction of Rotation		Qualitative (Visual Examination)
		Momentary Overload Test		Per Phase: AC V: 0 to 300 V , AC A: 0 to 1500 A, kW: 0 to 375 kW Torque: Upto 5000 kgfm Speed: Max. 3000 rpm

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Rotating Electrical Machines [Motors]	Over-Speed Test		Per Phase: AC V: 0 to 300 V , AC A: 0 to 1500 A, kW: 0.75 kW to 375 kW Torque: Upto 5000 kgfm Speed: Max. 3600 rpm
		Dimension Test		Perpendicularity: Upto 200 µm Concentricity: Upto 200 µm Run out.
3.	**DC Motor: Window, Wiper, Gear, Non Gear, Starter, Field, Series, Blower Etc**	Performance Testing Steady State Test	IEC 60034-2-1: 2007	DC Motor with 20 Nm Endurance testing: Voltage range: 1 V DC to 24 V DC; Current range: 20 A to 500 A; Speed range: Upto 24000 rpm; Torque range: Not limited
II.	**MEASURING INSTRUMENTS - ELECTRICAL AND ELECTRONIC (STATIC) ENERGY METERS**			
1.	**ac STATIC WATIHOUR METERS, CLASS 1 AND 2**	Impulse Voltage Test	IS 13779: 1999 (Upto & incl. Amd. 4); IS 14697: 1999 (Upto & incl. Amd. 3); IS 15884: 2010 IEC 62052-11: 2003; IEC 62053-21: 2003; IEC 62053-22: 2003;	Upto 12 kV 1.2 µs to 50 µs

to

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Accreditation Standard	**ISO/IEC 17025: 2005**		
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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
			IEC 62053-23: 2003; CBIP Report no 88 (Rev. 96 Amd: 2005) CBIP Manual 304: 2008 IS 13010: 2002 (Upto & incl. Amd. 2)	

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Ravi Johri
Convenor

N. Venkateswaran
Program Manager