National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name :	MAXOP RESEARCH AND TESTING INSTITUTE PRIVATE LIMITED, TERI GRAM, GWAL PAHARI, P.O SAMSATHIPUR, GURGAON-FARIDABAD ROAD, GURGAON, HARYANA, INDIA
Accreditation Standard	ISO/IEC 17025:2017
Certificate Number	TC-8774
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Validity	26/12/2021 to 25/12/2023
Last Amended on	23/04/2023

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
Permanent Facility				
1	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	Total Water Output per day for Performance Tests (a) Hot Profile Performance Test (b) Cold Profile Performance Test (c) Outdoor Performance Test	MNRE Test Methods for SPV Water Pumping Systems (Clause No. II, F. No. 42/25/2014-15/PVSE: 2014); (Clause No. II, F. No. 41/06/2015-16-PVSE: 2015) & Annexure A (Clause No. 4, F. No. 41/3/2018 - SPV Division) Dated 22.03.2023
2	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (0.25 hp to 30 hp)	Based on System Performance Diagrams: Q-P Diagrams and Total Water Output	Cl.no. 5.3.2, 5.3.4 of IEC 62253
3	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (0.25 hp to 10 hp)	Protection Test (a) Dry Run Test (b) Reverse Polarity Test (c) Open-circuit / No-load (d) Output Short-circuit	MNRE Test Methods for SPV Water Pumping Systems, (Clause No. VI, F. No. 42/25/2014-15/PVSE: 2014); (Clause No. VI, F. No. 41/06/2015-16-PVSE: 2015) & (Clause No. 3.6.3, F. No. 41/3/2018 - SPV Division))
4	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (0.25 hp to 30 hp)	' Based on System Performance Diagrams: H-Q Diagrams and Total Water Output	Cl.no. 5.3.3 of IEC 62253
5	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (0.25 hp to 30 hp)	' Total water output based on G-T system characteristics	Cl.no. 6.3 of IEC 62253
6	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (0.25 hp to 30 hp)	overall efficiency- Design check of PV pumping system in respect to daily water volume	Cl.no. 6.6 of IEC 62253
7	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (0.25 hp to 30 hp)	Total water output based on P-G system characteristics	Cl.no. 6.3 of IEC 62253
8	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	MEASUREMENT OF HEAD	Cl. No. 6.2 of MNRE, Guidelines on Testing Procedure for solar photovoltaic water pumping systems, Annexure –B of circular no. F .No. 41/3/2018-SPV division dated 22.03.2023
9	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	Measurement of rate of flow	Cl no. 6.3 of MNRE Guideline on testing procedure for SPV Water Pumping System Annexure – B, of Circular F.no. 41/3/2018-SPV Division, Dated 22.03.2023

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10	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	PER DAY WATER FLOW TEST FOR SUBMERSIBLE AND SURFACE PUMPS	Cl. No. 8.1 & 8.2 of MNRE, Guidelines on Testing Procedure for solar photovoltaic water pumping systems, Annexure –B of circular no. F .No. 41/3/2018-SPV division dated 22.03.2023
11	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	PERFORMANCE REQUIREMENTS	Cl. No. 4 & 4.1 of MNRE specification for solar photovoltaic water pumping systems, Annexure – A of circular no. F .No. 41/3/2018-SPV division dated 22.03.2023
12	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	Protection Test (a) Dry Run Test (b) Reverse Polarity Test (c) Open circuit / No-load (d) Output Short-circuit	Cl. No. 5.0 of MNRE, Guidelines on Testing Procedure for solar photovoltaic water pumping systems, Annexure –B of circular no. F .No. 41/3/2018-SPV division dated 22.03.2023
13	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	REMOTE MONITORING SYSTEM VERIFICATION	Cl. No. 5.4 of MNRE, Guidelines on Testing Procedure for solar photovoltaic water pumping systems, Annexure –B of circular no. F .No. 41/3/2018-SPV division dated 22.03.2023
14	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	SOLAR RADIATION MEASUREMENT	Cl. No. 6.1 of MNRE, Guidelines on Testing Procedure for solar photovoltaic water pumping systems, Annexure –B of circular no. F .No. 41/3/2018-SPV division dated 22.03.2023
15	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	TESTS FOR HYDRAULIC AND ELECTRICAL PERFORMANCE OF PUMP SET	Cl. No. 5, 5.1, & 5.2 of MNRE specification for solar photovoltaic water pumping systems, Annexure – A of circular no. F .No. 41/3/2018-SPV division dated 22.03.2023
16	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	Total Water Output per day for Performance Tests (a) Hot Profile Performance Test (b) Cold Profile Performance Test (c) Outdoor Performance Test	Cl. No. 5.0, 5.1, 5.2 & 5.3 of MNRE, Guidelines on Testing Procedure for solar photovoltaic water pumping systems, Annexure –B of circular no. F .No. 41/3/2018-SPV division dated 22.03.2023

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17	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	Total Water Output per Watt-peak per day for Performance Tests (a) Hot Profile Performance Test (b) Cold Profile Performance Test (c) Outdoor Performance Test	MNRE Test Methods for SPV Water Pumping Systems (Clause No. II, F. No. 42/25/2014-15/PVSE: 2014); (Clause No. II, F. No. 41/06/2015-16-PVSE: 2015) & Annexure A, Clause No. 4, F. No. 41/3/2018 SPV Division-Dated 22.03.23
18	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	USE OF OTHER BRAND OF SOLAR MODULES	Cl. No. 13 of MNRE, Guidelines on Testing Procedure for solar photovoltaic water pumping systems, Annexure –B of circular no. F .No. 41/3/2018-SPV division dated 22.03.2023
19	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Agricultural Water Pumps (1 hp to 25 hp)	Wire to Water Efficiency CONSTRUCTIONAL FEATURES	Cl. No. 2.7, 3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, & 3.8 of MNRE specification for solar photovoltaic water pumping systems, Annexure – A, F.no. 41/3/2018-SPV Division, Dated 22.03.2023
20	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Micro Pumping application (0.25 hp to 0.5 hp)	Performance Specifications and Requirements	Cl. No. II OF MNRE Specification for Solar PV Water Pumping Systems for Micro pumping application, (F. No. 41/06/2015-16-PVSE)
21	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Micro Pumping application (0.25 hp to 0.5 hp)	PER DAY WATER FLOW TEST	Cl. No. II OF MNRE Specification for Solar PV Water Pumping Systems for Micro pumping application, (F. No. 41/06/2015-16-PVSE: 2015)
22	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Micro Pumping application (0.25 hp to 0.5 hp)	Protection Test (a) Dry Run Test (b) Reverse Polarity Test (c) Open circuit / No-load (d) Output Short-circuit	Cl. No. VI, Electronics and Protection MNRE Specification for Solar PV Water Pumping Systems for Micro pumping application, (F. No. 41/06/2015-16-PVSE: 2015)
23	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Micro Pumping application (0.25 hp to 0.5 hp)	SOLAR RADIATION MEASUREMENT	Cl. No. II of MNRE Specification for Solar PV Water Pumping Systems for Micro pumping application, (F. No. 41/06/2015-16-PVSE: 2015)

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24	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Standalone Solar Powered Micro Pumping application (0.25 hp to 0.5 hp)	Total Water Output per day for Performance Tests (a) Hot Profile Performance Test (b) Cold Profile Performance Test (c) Outdoor Performance Test	MNRE Specification for Solar PV Water Pumping Systems for Micro pumping application, (F. No. 41/06/2015-16-PVSE: 2015)
25	ELECTRICAL- ROTATING ELECTRICAL MACHINES	Solar Photo Voltaic Water Pumping Systems	Performance of the SPV Water Pumping Systems (BLDC or PMDC or AC Motors and Submersible Pumps) at different total dynamic heads using Solar PV Array / Sun Simulators, Cold Profile / Hot Profile or outdoor.	Clause No. II, F. No. 42/25/2014-15/PVSE: 2014 Ministry of New and Renewable Energy Jawaharlal Nehru National Solar Mission SOLAR PHOTOVOLTAIC WATER PUMPING SYSTEMS For Drinking Water Applications (2014-15)
26	ELECTRONICS-MISCELLANEOUS PRODUCTS	Mono & Poly crystalline, Mono & Poly PERC Solar PV Module	Maximum power determination Measurement of temperature coefficients Performance at STC (MQT 06.1) & NMOT (MQT 06.2) Performance at low irradiance, Stabilization	IS 14286 (Part-1), IEC 61215 Clause 10.2 , 10.4 , 10.6 , 10.7 , 10.19
27	ELECTRONICS-MISCELLANEOUS PRODUCTS	Mono and Poly Crystalline Solar PV Module	PERFORMANCE AT STC AND NOCT	Cl. No. – 10.6, 10.6.1 & 10.6.2 of IS 14286
28	ELECTRONICS-MISCELLANEOUS PRODUCTS	Mono and Poly Crystalline Solar PV Module	PERFORMANCE AT STC AND NOCT	Cl. No. – 10.6, 10.6.1 & 10.6.2 of IEC 61215
29	ELECTRONICS-MISCELLANEOUS PRODUCTS	Mono and Poly Crystalline Solar PV Module	Solar Photovoltaic Module I-V Characteristics Test - performance at STC	IS 12762 (Part 1) Clause 4.2 & 7 and IEC 60904-1 Clause 4.2 & 7
30	ELECTRONICS-MISCELLANEOUS PRODUCTS	Mono and Poly Crystalline Solar PV Module Mono & Poly PERC Solar PV Module	Maximum Power determination, Measurement of temperature coefficients, Performance of STC & NMOT, Performance at Low irradiance, Stabilization	IS 14286 (Part 1/Sec 1) & IEC 61215-1-1 Clause 11.2 , 11.4 , 11.6 , 11.7 , 11.19
31	ELECTRONICS-MISCELLANEOUS PRODUCTS	Mono and Poly Crystalline Solar PV Module Mono & Poly PERC Solar PV Module	Measurement of temperature coefficients	Clause No. 11.4 of IS 14286 (Part 1/Sec 1)/IEC 61215-1-1
32	ELECTRONICS-MISCELLANEOUS PRODUCTS	Mono crystalline & Poly crystalline, Mono PERC & Poly PERC Solar PV Module	Standard Test conditions (STC) (NOCT) Nominal Operating Temperature (LIC) Low Irradiance condition High Temperature Condition (HTC) Low Temperature Condition (LTC)	IEC 61853-1 & IS 16170 (Part-1) Clause 7.2, 7.3, 7.4, 7.5, 7.6

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33	ELECTRONICS-MISCELLANEOUS PRODUCTS	Poly Cr and Mono Cr Solar PV module	Solar Photovoltaic Module I-V Characteristics Test - efficiency test based on maximum power	IS 12762 (Part 1) Clause 4.2 & 7 and IEC 60904-1 Clause 4.2 & 7