

# National Institute of Solar Energy

## PV WATER PUMPING SYSTEM

(Testing Model: DC DEEP WELL Model-IV)

SPV Water Pump System Submitted By: M/S MAHARISHI TECHNOLOGY CORPORATION PVT. LTD., C-147 HOSIERY COMPLEX PHASE-II NOIDA, DISTRICT GAUTAM BUDDHA NAGAR, UP-201305

S.No.	Test Description	Requirements as per JNNSM, MNRE Specifications 2015-16	Observations	Remarks
4	<b>Testing of complete SPV pump</b>			
4.1	Output of water per day/per watt at Irradiation of 7.15 Kwh/sq.m. at a total head of 50 meters in outdoor conditions	Not less than 21 liters	21.1 liters	Comply
4.2	Average Output of water per day at Irradiation of 7.15 Kwh/sq.m. at a total head of 50 meters in outdoor conditions	Not less than 63,000 liters	65,299.8 liters	Comply
4.3	Output of water per day/per watt at Irradiation of 7.15 Kwh/sq.m. at a total head of 50 meters in summer profile	Not less than 21 liters	21.0 liters	Comply
4.4	Average Output of water per day at Irradiation of 7.15 Kwh/sq.m. at a total head of 50 in summer profile	Not less than 63,000 liters	63,915.3 liters	Comply
4.5	Output of water per day/per watt at Irradiation of 7.15 Kwh/sq.m. at a total head of 50 meters in winter profile	Not less than 21 liters	23.5 liters	Comply
4.6	Average Output of water per day at Irradiation of 7.15 Kwh/sq.m. at a total head of 50 meters in winter profile	Not less than 63,000 liters	72,787.6 liters	Comply
4.7	Shut off dynamic head	75 meters	75 meters	
5	<b>Tracking system</b>	Continuous, Manual, Passive or Electronic tracking are permitted.	Manual 3 times a day	
6	<b>Protections (Controller)</b>			
6.1	Against dry running	Required	Provided	
6.2	Against open circuit and short-circuit	Required	Provided	
6.3	Against reverse polarity	Required	Provided	
7	<b>Others</b>			
7.1	Design of PV array	Should be modular for easy replacement.	Modular	
7.2	DC/AC switch	Required	Provided	
7.3	Connection cable	Required	Provided	

**Comments** The Water pumping System sample was tested at NISE with total head of 50 meters, the radiation data was measured on the array surface from dawn to dusk, and was extrapolated for 7.15 KWh/sq.m. **SPV Water pumping system meets the requirements as per MNRE specifications for 2015-16.**

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30/04/2019

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30/04/19

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