# National Institute of Solar Energy

## PV WATER PUMPING SYSTEM
## (Testing Model: AC DEEP WELL Model VI)

**SPV Pump System Submitted By:** *M/s Maharishi Solar Technology (P) Ltd.*
*C-146, 147, Hosiery Complex, Phase-II, Noida,*
*Distt. Gautam Budh Nagar, Uttar Pradesh-201305, India*

## 5 HP Submersible Pump

| S.No. | Test Description | Requirements as per JNNSM, MNRE Specifications 2015-16 | Observations | Remarks |
|---|---|---|---|---|
| **4** | **Testing of complete SPV pump** | | | |
| 4.1 | Output of water per day/per watt at Irradiation of 7.15 Kwh/sq.m. at a total head of 50 meters. | Not less than 19 liters | 25 ± 1 liters | |
| 4.2 | Average Output of water per day at Irradiation of 7.15 Kwh/sq.m. at a total head of 50 meters | Not less than 91,200 liters | 1,22,536 liters | |
| 4.3 | Max. total dynamic head | 70 meters | 70 meters | |
| **5** | **Tracking system** | Continuous, Manual, Passive or Electronic tracking are permitted. | Manual<br>3 times a day | |
| **6** | **Protections (Controller)** | | | |
| 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 | **Others** | | | |
| 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.***

Tested by: Prepared by: Approved by: Rajesh Kumar 16/01/2017 Issued by: 18.1.2016

| Test Report No. | Date of Issue | Total No. of pages | Page No. |
|---|---|---|---|
| **143/2016/WP/NISE** | 30/12/2016 | 4 | 3 |