



**Dynamech**  
Electropower Pvt. Ltd.



## BRINGING RELIABLE WATER SUPPLY WITH **SOLAR WATER PUMPING SOLUTIONS**

### **WHAT IS A SOLAR PUMP?**

A solar pump is an application of photovoltaic technology which converts solar energy into electricity to run motor and pump. The motor powered by solar energy draws water out of bore well, river, lake or pond.

### **SOLAR WATER PUMP WORKING PROCEDURE**

The photo-voltaic cells in solar modules convert sunlight into Direct Current (DC) electrical energy. This energy is fed to the pump via Pump Controller. Pump system is a combination of a motor and an impeller; motor drives the pump and the impeller propels water movement. The water is propelled out of the bore well/river/lake/pond through the pipe; water can then be fed to the fields for irrigation/ Drinking Water and other purposes. Water output varies during the day with varying solar irradiance.

### **SOLAR WATER PUMP WORKING PROCEDURE**

Dynamech Electropower Solar has DC range of pumps suitable for Surface, Bor-well applications. These pumps can be used for various applications: Agriculture irrigation, drinking water and replacement for hand pumps, dual applications hand pump. Other applications on request

# BENEFITS OF SOLAR PUMP

- ▲ No dependence on erratic grid power and/or saving on expensive diesel
- ▲ Drinking Water Can be stored in Overhead Tank and water availability for 24 Hours.
- ▲ Higher yield due to crop irrigation during day time when crop gets all the necessary ingredients - sunlight and water
- ▲ After output across all seasons to cultivate multiple crops every year
- ▲ Solar system needs no maintenance except regular cleaning of the modules - no consumables; easy to operate
- ▲ One time investment and then zero running cost (free sunlight) for many years to come
- ▲ Easy to cultivate the land during day time rather than night time when grid is erratic
- ▲ Drip and sprinkler systems can be connected with solar system to further improve crop yield
- ▲ As the water can be harnessed any time in day, the user can plan his other activities in the day - independently
- ▲ Contribution in reduction of carbon emission, contributing to reduction in pollution.

## DC SUBMERSIBLE PUMPS

Pump rating range is 0.5 HP to 5 HP with BLDC Motor & MPPT Controller. These are 93% efficient. These are giving 25% higher output than AC Pumps, because these Pumps work in Cloudy Environment also and have longer daily running hours i.e. from Dawn to Dusk while AC Pumps need stronger Solar radiation.

Technical Data	1HP DC Submersible Pump	2HP DC Submersible Pump	3HP DC Submersible Pump	5HP DC Submersible Pump
Pump Type	Submersible / Borewell, Tubewell, Diggi			
PV Array Size (Wp)	1200	1800	3000	4800
Pump Capacity (Hp)	1	2	3	5
Total Dynamic Head (m)	30	30	50	50
Shut off max total Dynamic Head (m)	45	45	75	70
Water discharge (LPD) at 7.15 kWh/m <sup>2</sup> insolation on PV array	42,000 @ 30m head	63,000 @ 30m head	63,000 @ 50m head	100,800 @ 50m head

In 3 HP, 30 m & 70 m Total Dynamic Head and in 5 HP, 70 m & 100 m pump system are also available DC open well pump system is also available on request

## WHAT DOES DYNAMMECH ELECTROPOWER SOLAR SYSTEM CONSIST OF

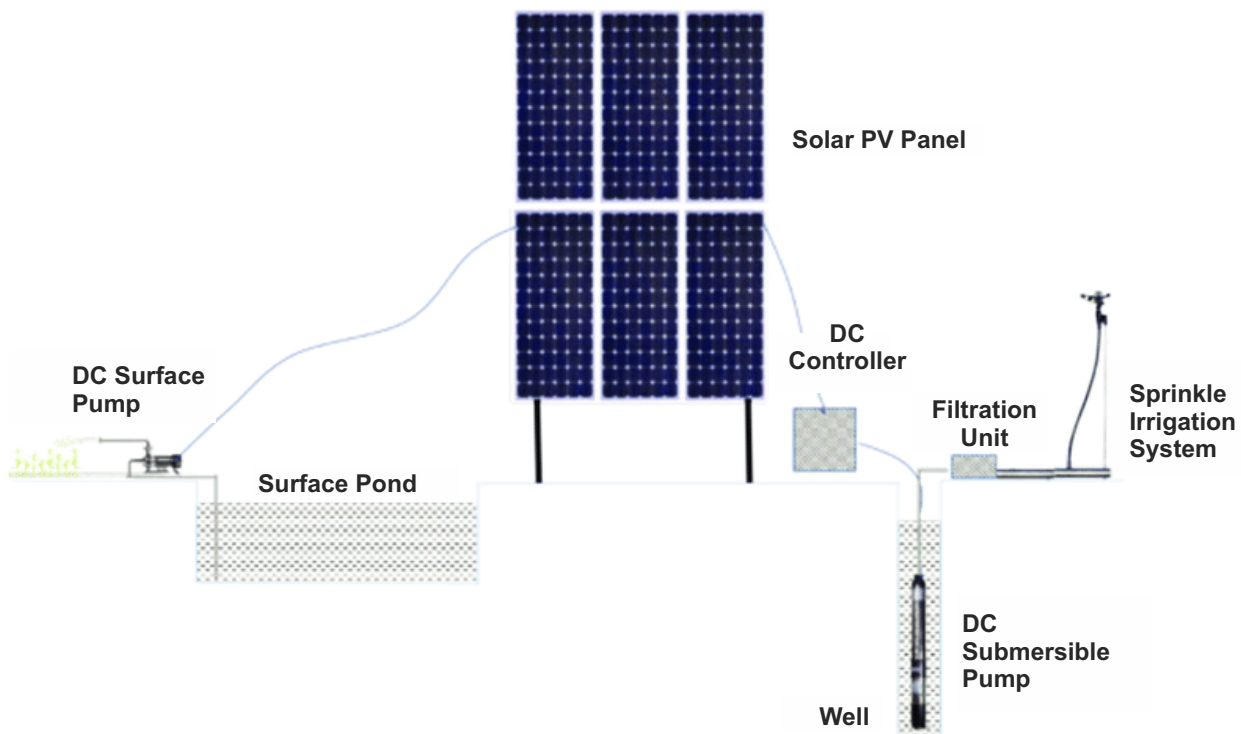
- ▲ Solar PV modules with 25 years power warranty
- ▲ Galvanized iron module mounting structures with a provision to adjust module towards sun 3 times in a day. This can withstand speed of 150 km/hr
- ▲ Pump controller
- ▲ Solar Pump motor set (DC) made of stainless steel which remains rust-free.
- ▲ Suitable accessories - pipe, cable, rope etc
- ▲ Remote monitoring option available on request
- ▲ Warranty against manufacturing defect on pump, controller, module and pump kit
- ▲ MNRE scheme pump systems are available



- ▲ Sensorless protection against Overload protection, Temperature protection, Reverse Polarity, Dry Run, Over & under voltage protection, Accidental Short circuit (2 min.max.).
- ▲ Housed in dust and water proof aluminium cabinet with IP65 Protection.
- ▲ Internally provided Surge Protection Device.
- ▲ Pumpeye application & mobile application for monitoring the system.
- ▲ Option of “Tank Full” and “Source Empty” sensor for auto start and auto stop.
- ▲ Earthing terminal for grounding.
- ▲ System ON/OFF, Fault/Alerts indication through display.
- ▲ Integrated MPPT (Maximum Power point Tracking)\RMU has a flash ROM storage capacity suitable for 1 year of data.
- ▲ External Integrated Remote Monitoring System.

EFFICIENCY COMPARISON	
AC Motor	DC Motor
80%	94%
VFD (Variable Frequency Drive)	Controller
86%	95%

## SURFACE & SUBMERSIBLE PUMP SCHEMATIC





**Brand Dynamech**

*A synonym for Trust*

**Brand Dynamech  
Electropower**

*India's only solar company with 08 years of solar Drinking Water and solar Irrigation experience; India's leading solar manufacturing company*

**Reliable System**

*25 years solar module warranty with <0.1% warranty claim over 2 decades*

**Advance System Safety**

*Protection features like dry run, reverse polarity, low voltage & lightning arrestor*

**Longevity**

*Corrosion resistant galvanized iron mounting structures for longer life*

**Hassle Free Installation**

*Assistance for paper work and best-fit system for maximizing your benefit*

**Certifications**

*Conforming to MNRE specifications of Government of India*

**Performance**

*Dynamech Electropower Solar has installed more than 3500 pumps across 28 districts in MP and Chhattisgarh.*



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