


TATA
TATA POWER SOLAR

TATA POWER SOLAR SYSTEM LIMITED

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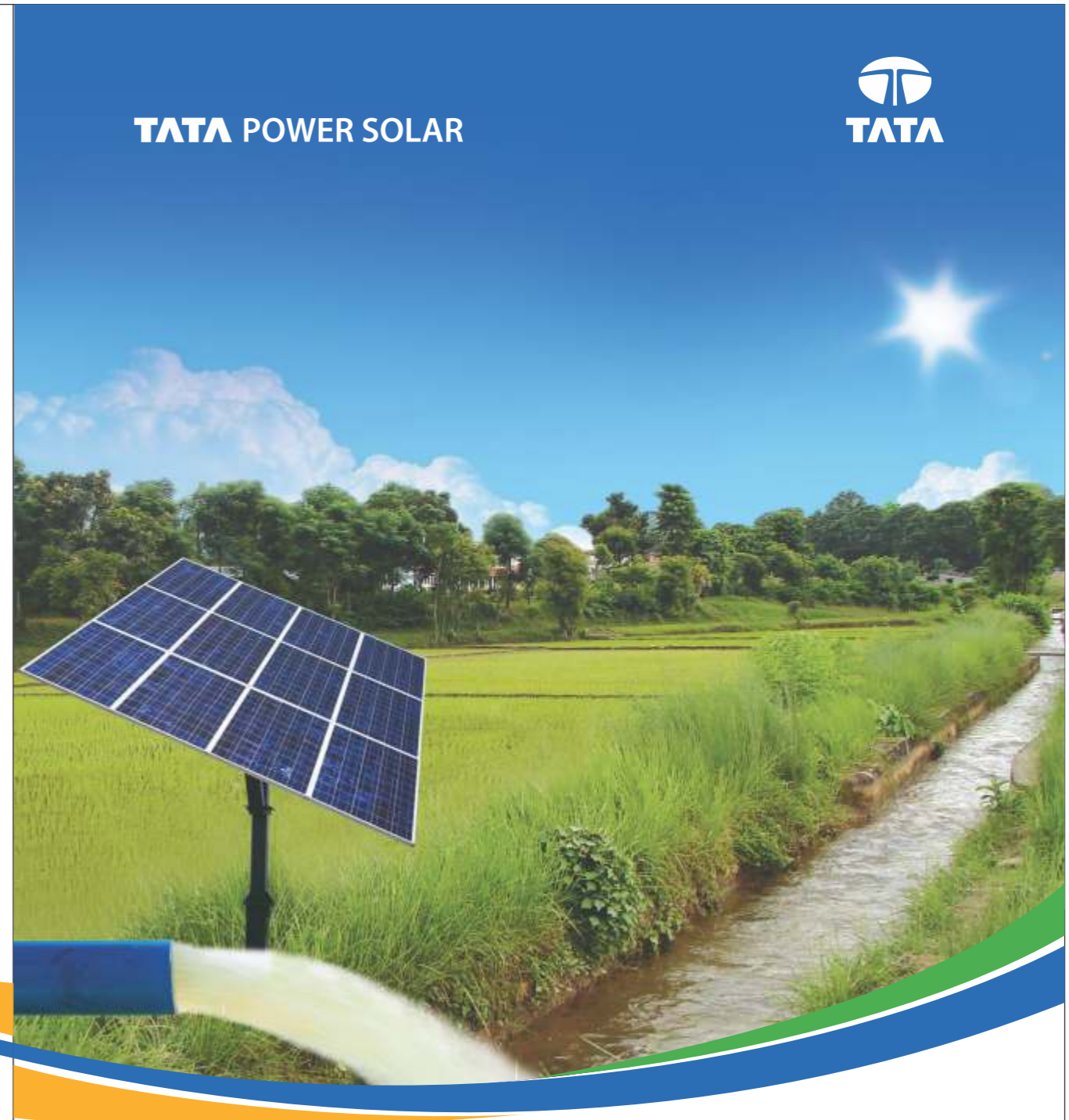


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TATA POWER SOLAR



Bringing Reliable Water Supply with
Solar Water Pump Solutions

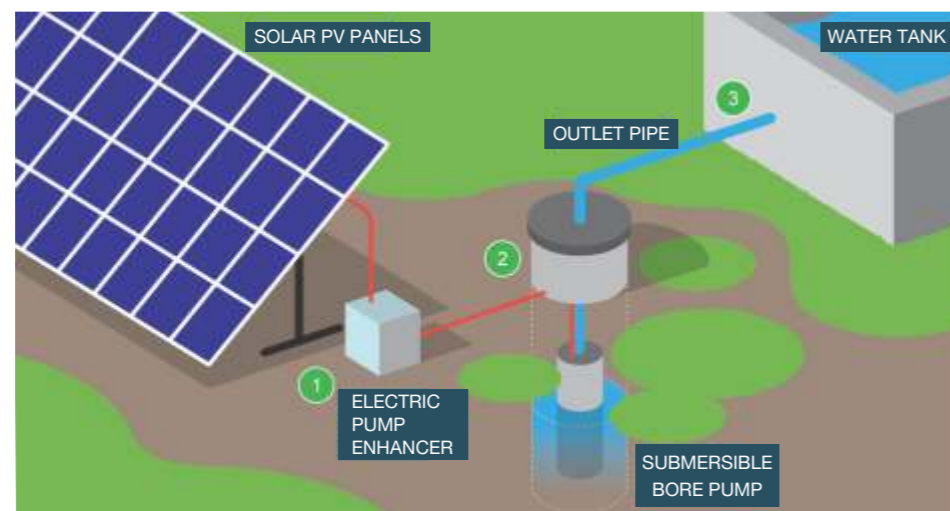


WHAT IS A SOLAR PUMP

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 in case of DC pump or via Variable Frequency Drive (VFD) in case of AC pumps (VFD converts DC into Alternative Current (AC)). Pump system is a combination of an impeller and a motor; the impeller propels water movement and the motor drives the pump. 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 and other purposes. Water output varies during the day with varying solar irradiance.



BENEFITS OF SOLAR PUMP

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

WHY TATA POWER SOLAR PUMP

Brand Tata	A synonym for Trust
Brand Tata Power Solar	India's only solar company with 25 years of solar 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 and lightening 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

WHAT DOES TATA POWER 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 (in DC) or Variable Frequency Drive (in AC pump)
- Solar Pump motor set (DC/AC) made of stainless steel which remains rust-free. Cast iron pump available as per request
- Suitable accessories - pipe, cable, rope etc
- Remote monitoring option available on request
- Warranty against manufacturing defect on pump, controller, module and pump kit
- NABARD - MNRE scheme pump systems are available



TATA POWER SOLAR PUMP RANGE

Tata Power Solar has both DC and AC range of pumps suitable for Surface, Borewell and Open well applications. These pumps can be used for various applications: Agriculture irrigation, drinking water and replacement for hand pumps, dual applications hand pump. Other application on request.

DC SURFACE PUMPS

Technical Data	1HP DC Surface Pump	2HP DC Surface Pump	3HP DC Surface Pump
Pump Type	Surface / Shallow water sources		
PV Array Size (Wp)	900	1800	2700
Pump Capacity (Hp)	1	2	3
Total Dynamic Head (m)	10	10	20
Shut off Dynamic Head (m)*	12	12	25
Water discharge (LPD) at 7.15 kWh/m ² insolation on PV array	90,000 @ 10m head	1,80,000 @ 10m head	1,35,000 @ 20m head

DC SUBMERSIBLE PUMPS

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 ² 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

AC SURFACE PUMPS

Technical Data	1HP AC Surface Pump	2HP AC Surface Pump	3HP AC Surface Pump	5HP AC Surface Pump
Pump Type	Surface / Shallow water sources			
PV Array Size (Wp)	900	1800	2700	4800
Pump Capacity (Hp)	1	2	3	5
Total Dynamic Head (m)	10	10	20	20
Shut Dynamic Head (m)	12	15	25	30
Water discharge (LPD) at 7.15 kWh/m ² insolation on PV array	81,000 @ 10m head	1,62,000 @ 10m head	1,21,500 @ 20m head	2,16,000 @ 20m head

In 3 HP and 5 HP, 10 m Total Dynamic Head pump system are also available

AC SUBMERSIBLE PUMPS

Technical Data	1HP AC Submersible Pump	2HP AC Submersible Pump	3HP AC Submersible Pump	5HP AC 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 total Dynamic Head (m)	45	45	75	70
Water discharge (LPD) at 7.15 kWh/m ² insolation on PV array	38,400 @ 30m head	57,600 @ 30m head	57,000 @ 50m head	91,200 @ 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
7.5 HP and 10 HP pump submersible systems in 50, 70 & 100 m Total Dynamic Head are available on request
AC open well pump system is also available on request



PROJECT SHOWCASE

Tata power Solar has installed close to 2,500 pumps across 28 districts in Rajasthan; 1000 pumps in Punjab; 150 pumps in Orissa, Chhattisgarh, Karnataka and Andhra Pradesh.



HOW TO ORDER

Kindly provide us the below information to get the optimal solution for water pump requirement:

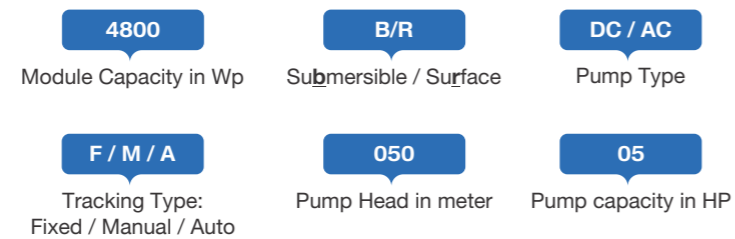
- A) Customer Contact Details: Name, Address and Phone number
- B) Pump Details: Type of pump (AC/DC and Surface/Submersible/Open Well), location address, daily water requirement (Litre per day - LPD), vertical height, pipeline length from pump discharge to delivery point, drip / sprinkler system

NOTE: The selection of suitable pump is a very important decision to be taken and is based on type of source, depth of water and delivery conditions; please consult our experts before finalizing the variant.

Kindly reach out to our nearest dealer / regional sales office / customer care for your enquiry.

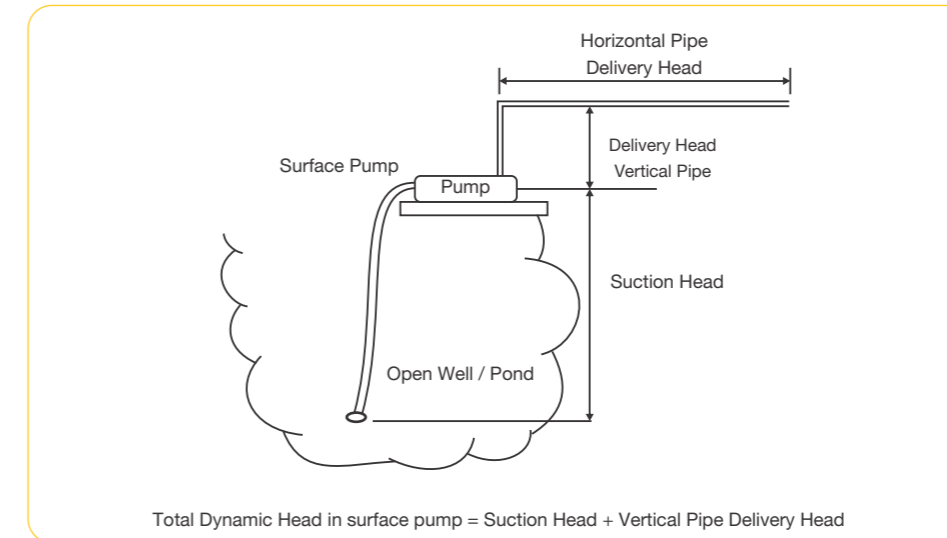
TPS PUMP SERIES NOMENCLATURE

e.g., 4800 B DC M 050 05

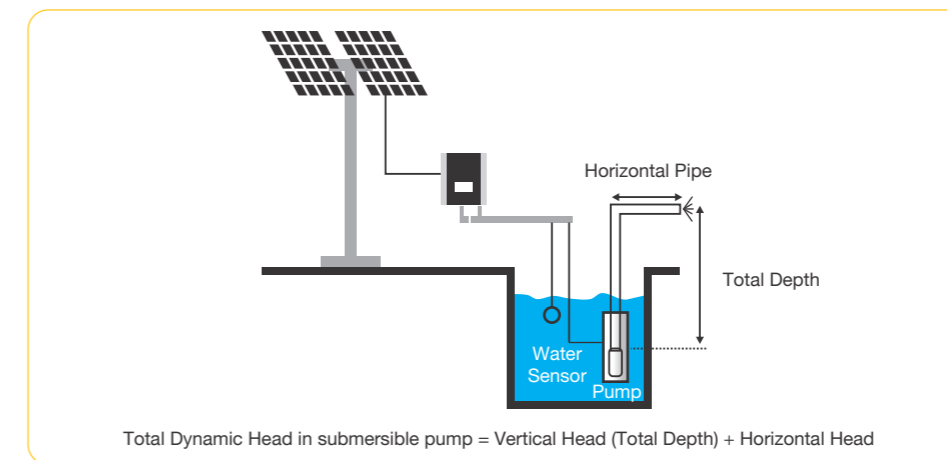


*Auto is available on request.

SURFACE PUMP SCHEMATIC



SUBMERSIBLE PUMP SCHEMATIC



1. Horizontal head is dependent upon pipeline length from pump discharge to water delivery point.
2. In case, the water is being stored in an overhead storage tank, please mention the height from the ground and horizontal distance from the pump.
3. If you are using any drip / sprinkler, kindly mention the same in your enquiry.