



**SPAN PUMPS
PVT. LTD.**

Solar Agri



A solar array produces electricity by harnessing the energy from the Sun. A Solar Pump is designed to utilize the direct current from the array efficiently, even as the energy production varies throughout the day. Solar Pumps suggest a clean and uncomplicated substitute to fuel burning engines and generators for domestic water, livestock and irrigation. They are most efficient during dry and sunny seasons. They

require no fuel deliveries and needs very less safeguarding. Solar Pumps are powered by photovoltaic panels (not a single battery is used) and the flow rate is determined by the intensity or radiation of sunlight. Thus the Solar Power Pumps are more cost-effective and have not as much of impact on the environment than the pumps operated by the combustion engine.

The Solar water pumping system is standalone system operating on power generated using solar PV (Photovoltaic) modules. AC Pumps can also be brought into play with the introduction of Solar Inverter in the system

Simplicity is the notable and key feature of the Solar water Pumping system. The Solar Pumping has proved to be an ultimate way for lifting water for various human activities and in various sectors.

Type of System :

AC/DC Submersible Pump

AC/DC Surface Pump

DC Pumps can be operated by the Grid Power as well during the night time.

System Features :

Capacity: 2 HP -30 HP

Discharge: 16,000 LPD to 12,00,000 LPD

PV Power input diversification. (Input Power Wattage range: 300Wp to 30kWp)

Dynamic Head range: 5 Meter-110 Meter and more

Convenient operation, low operating cost and less expenditure on system maintenance

Use of MPPT to maximize the efficiency

Intelligent protection control and management on the system, in terms of low voltage, over voltage, over load, short circuit and dry running

System Features :

Easy installation, upgradable and sustainable water supply

Remote monitoring system can be provided

Requirements to design :

Total depth of bore well / tube well / open well

Static water level

Maximum drawdown

Delivery point above the water level

Water requirement per day

Geographical location of installation

System Components :

Solar PV Modules

Module Mounting Structure

Solar Pump I Motor

Solar Inverter with Change over switch

Installation accessories

AC Submersible Solar Pumping System Selection Table

Array (Wp)	Pump(HP)	Total Head (m)	15	30	50	70	90
1200	2	Discharge* (LPD)	95,000	38,000	23,000	16,000	–
1800	2		100,000	57,000	34,000	23,000	–
3000	3		156,000	96,000	57,000	39,000	–
4800	5		340,000	153,000	91,000	62,000	45,000
7500	7.5		400,000	240,000	145,000	100,000	80,000
10000	10		600,000	320,000	200,000	130,000	100,000
12500	12.5		600,000	400,400	240,000	160,000	135,000
15000	15		780,000	500,000	285,000	200,000	180,000
20000	20		915,200	640,000	380,000	260,000	225,000
25000	25		1,100,000	800,000	500,000	325,000	280,000
30000	30		1,200,000	960,000	650,000	430,000	340,000

Under the " Average Daily Solar Radiation" condition of 7.15 kWh/sq.m on the surface of PV array.

We can also provide appropriate solution to your actual water pumping requirements

Benefit :

Abundant free natural energy source

Pollution free & environment friendly

Wide performance range and extensive application

Operation without any fuel

Conscious understanding of Green Energy

Applications :

Solar powered Pumps are extensively used in various sectors:

Irrigation

Animal husbandry

Poultry farming

Stock watering

Gardens and kitchen gardens

Drinking water

Schools & educational institutions

Health centers & hospitals

	Grid operated Pumps	Diesel Pumps	Solar Powered Pumps
Cost of Fuel or Recurring cost	Cost rises by 15% each year and is cumulative	Higher variation and non predictable cost of fuel	No recurring cost
Life Span	Medium	Shorter	Longer
Maintenance	Medium, Approximately 20% of the system cost each year	Higher, due to large number of moving parts	Negligible maintenance
Consumables and Spare Parts cost	Medium	Very high	Negligible
Servicing Charges	Medium	Very high	Negligible
Transmission Losses	Higher	No losses	No losses
Dependability on Source	Depends on the grid power available	Depends on ample diesel availability	Everlasting Sun energy
Servicing Personnel Cost	High	Higher	Negligible
Initial Capital cost	Medium	Medium	High
Concerns and Limitations	Grid Power availability, which is uncertain and unpredictable and difficult availability in remote areas.	Emissions out of diesel pumps harmful for health and Environment. Difficult in remote areas and in cases of emergency	Lesser flow during cloudy weather. Potentially higher capital cost