



SPAN PUMPS PVT. LTD.

INNOVATE | DESIGN | IMPLEMENT



SOLAR PUMPS FOR AGRICULTURE SECTOR

System Concept

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 system has proved to be an ultimate way for lifting water for various human activities and in various sectors.



Solar Pumps For Agriculture Sector



Types 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

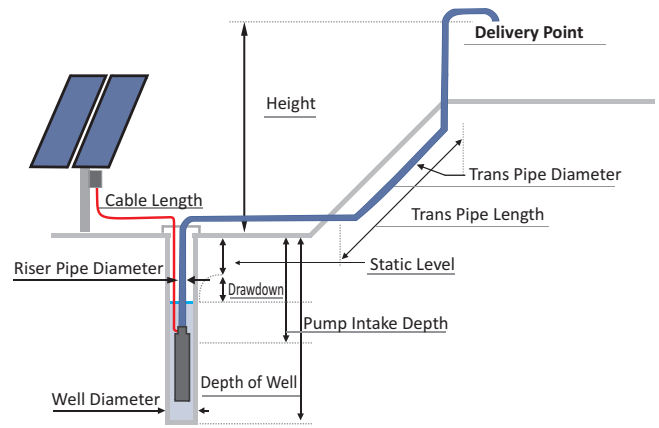
- Capacity: 2 HP -30 HP
- Discharge: 15,000 LPD to 800,000 LPD
- PV Power input diversification. (Input Power Wattage range: 300Wp to 30kWp)
- Dynamic Head range: 5 Meter-110 Meter and more
- Convenient operation, low operating cost and less expenditure on system maintenance
- Use of MPPT to maximize the efficiency
- Intelligent protection control and management on the system, in terms of low voltage, over voltage, over load, short circuit and dry running
- Easy installation, upgradable and sustainable water supply
- Remote monitoring system can be provided

Requirements to design a Solar Pumping System

- 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 / Motor
- Solar Inverter with Change over switch
- Installation accessories



Solar Pumping System Selection Table

* Discharge depends on the Solar Irradiation of the Site/Location & standard conditions

Array (Wp)	Pump (HP)	Total Head (M)	10	15	30	50	70	90	110
1200	2	Discharge* (LPD)	60,000	55,000	45,000	35,000	25,000	20,000	15,000
1800	2		85,000	70,000	65,000	45,000	35,000	25,000	20,000
3000	3		120,000	110,000	90,000	75,000	55,000	40,000	30,000
4800	5		145,000	130,000	120,000	100,000	80,000	60,000	40,000
7200	7.5		175,000	155,000	135,000	120,000	100,000	90,000	65,000
9600	10		225,000	200,000	190,000	170,000	130,000	100,000	75,000
12000	12.5		300,000	270,000	250,000	250,000	190,000	150,000	110,000
14400	15		350,000	330,000	300,000	270,000	250,000	200,000	150,000
20000	20		425,000	400,000	360,000	330,000	300,000	260,000	210,000
25000	25		525,000	480,000	450,000	400,000	375,000	310,000	280,000
30000	30		680,000	625,000	550,000	520,000	430,000	350,000	310,000

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

Benefits

- 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
- Horticultural Farms
- 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.

Why Span?

- ✓ Professional & reputed company in India
- ✓ Over 3000 system installations.
- ✓ Superior quality of raw material used
- ✓ Customer oriented approach
- ✓ Participated and organized number of exhibitions and workshops
- ✓ Over 25 years of huge significant experience
- ✓ Technically expert teams
- ✓ Excellent service provider
- ✓ Quick and efficient maintenance support
- ✓ Agile R & D team

About Us

Span Pumps Pvt. Ltd. (An ISO 9001:2008, ISO 14001: 2004 certified and MNRE approved Channel Partner company) is a leading manufacturer & exporter of Solar based Pumping products and thrives to deliver energy solutions that are applicable, affordable and available to rural & urban markets alike, worldwide. Our prime focus is to leverage our proprietary & proven technologies to promote energy production & sustainable infrastructure. As a sustainable energy Solution Provider/Integrator & manufacturing company, we are rapidly emerging as a key player in the world. Span Pumps also provides sizing help and suggestions for the best and most cost effective course of action and solution.



SPAN PUMPS PVT. LTD.

104, Arihant, 1187/26, Ghole Road,
Shivajinagar, Pune – 411005, MH, India.

Phone+91 20 25536371

Email – director@spanpump.com | Website: www.spanpumpsindia.com