

OPTI-Solar

www.opti-solar.com

Solar Pumping System

A perfect solution to agriculture irrigation!



Why Solar Pump?

The choice of irrigation methods is decided by the access of electricity and water. There are three options, using diesel pumps, using electric pumps and solar pumps. Let's take a look at their differences.

Type	Performance	Investment cost	Continuous investment	Installation Limit	Maintenance	Pollution	Automatic	Reliability	Stability
Diesel pump	High	Lower	Increasing (Fuel cost, fuel transportation)	None	Much	Heavy	None	High	High
Electric pump	Higher	Lowest	Increasing (Electricity cost)	Grid limited	None	Heavy	None	Higher	Higher
Solar pump	Highest	Low	None	None	Little	None	Full	Highest	Highest

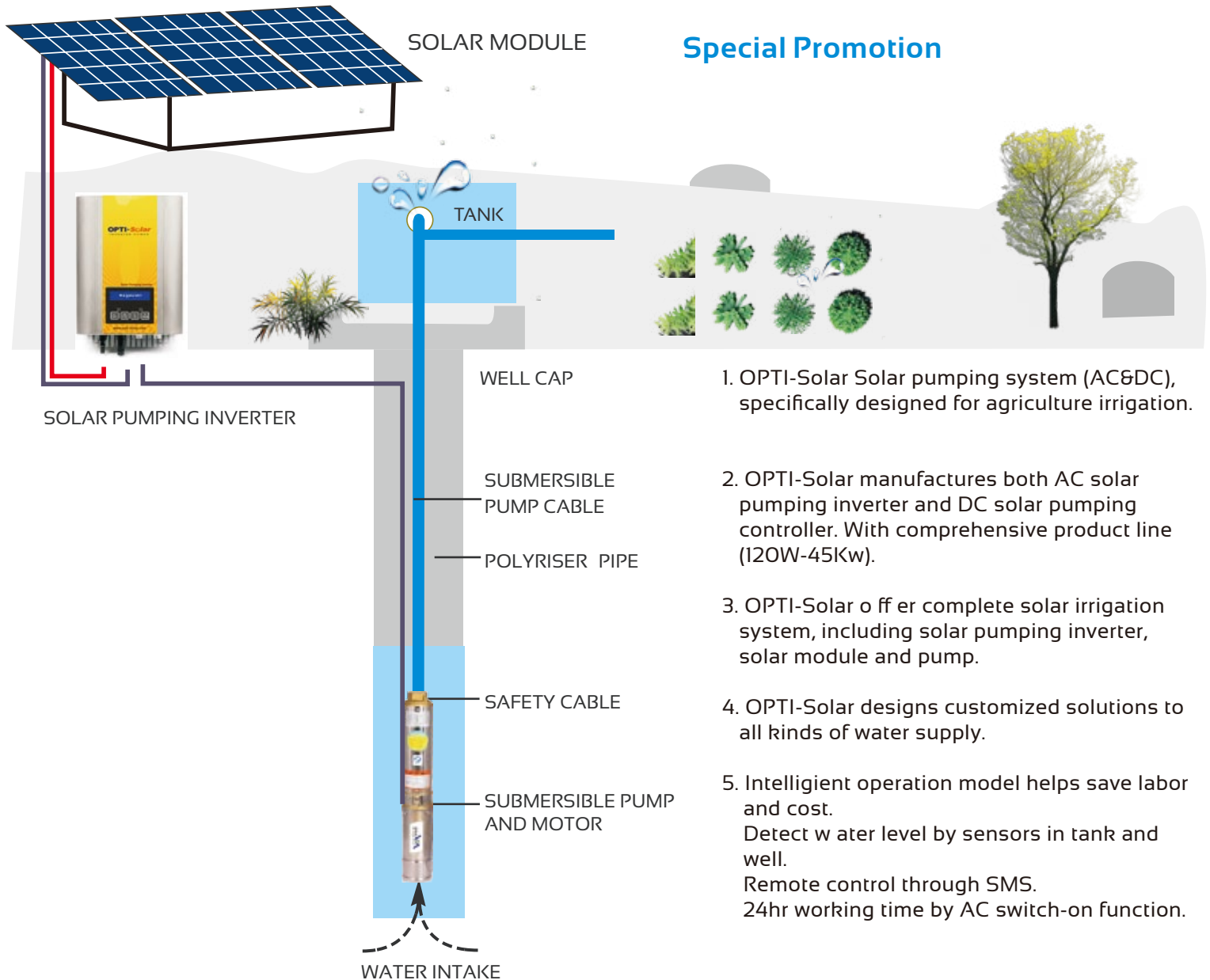
■ The Best
 ■ The Average
 ■ The inferior

Electricity shortage become a challenge in South Asia. Around 70% rural people have no access to electricity. Due to the dry weather, 90% farmers have to use diesel pumps for irrigation. However, the cost of diesel keep increasing. The access to diesel is limited. Therefore, Solar projects are encouraged by government by offering high subsidy.

In conclusion, Solar Pumping System will be the perfect solution to agriculture irrigation.



OPTI-Solar New Energy Solar Irrigation System



1. OPTI-Solar Solar pumping system (AC&DC), specifically designed for agriculture irrigation.
2. OPTI-Solar manufactures both AC solar pumping inverter and DC solar pumping controller. With comprehensive product line (120W-45Kw).
3. OPTI-Solar offer complete solar irrigation system, including solar pumping inverter, solar module and pump.
4. OPTI-Solar designs customized solutions to all kinds of water supply.
5. Intelligent operation model helps save labor and cost.
Detect water level by sensors in tank and well.
Remote control through SMS.
24hr working time by AC switch-on function.

How to choose a solar irrigation system?

OPTI-Solar provides both AC and DC solar irrigation system. They will be applied in different places base on specific water consumption and system location.

1. DC solar pumping system is only for small water demands.
AC solar pumping system has a full range from 370w~50kw.
It can meet all kinds of water flow and head, specially suitable for large scale farm land irrigation.
2. The replacement of AC pump is available in local market. DC pump should be customized.
3. If you already have a pump, tell us the technical data of your pump, Our engineers will choose the right solar pumping inverter or controller and solar module for you present pump.
4. If you want a new solar pumping system, our R&D team will design a cost-effective solution according to your specific requirements.
5. There are both submersible and surface pump to choose from.



AC System



DC System

AC System VS DC System

Type	Performance	Cost (per watt)	Capacity Range	Supplier	Safety	Size	Reliability
DC system	Higher	Higher	Small	Less	Safer	Small	High
AC system	High	High	Large	More	Safe	Large	Higher

■ The Best ■ The inferior

*Note: OPTI-Solar can develop DC controllers with larger capacity if you can provide the right DC pump for R&D.

5.5kw Solar Irrigation System



5.5kw solar pumping system consists of three parts: solar pumping inverter, three-phase pump and PV module. Even on cloudy days, it can pump 10% water flow per day. It pumps 32~58m³per day. Using 9000W solar panels covers 58.8m²area.

5.5Kw Solar Pumping Inverter

Technical Data

Model No.	SP5K5V3
Capacity (Kw)	5.5
MPPT Voltage (V)	540-630
Max Open-circuit Voltage (V)	760
Output Current (A)	11
Output Voltage (V)	380(three-phase)
Output Frequency (Hz)	0-50
Machine Size (W*L*H mm)	280*200*160
Machine Weight (Kg)	16.2
Protection Standard	IP52

9Kw PV Module

Technical Data

Model No.	TZ250
Cell Capacity (W)	250
Array Capacity (Kw)	9
Voltage at Pmax (V)	32.2
Current at Pmax (A)	8.2
Open-circuit Voltage (V)	40
Short-circuit Current (A)	8.7
Cell Panel Size (mm)	1650*990*40

The PV module consists of 36 pcs solar panels. 18pcs is in series. Then make 2 series in parallel.

7.5HP Three-phase Pump

Technical Data

Model No.	PU5K5V303
Input Voltage (V)	380(three-phase)
Flow (m3/h)	10
Total Head (m)	98
Power Capacity (Kw)	5.5
Speed (r/min)	3000
Protection Standard	IP68

