

Solar pumping System

Note:

SAMKING solar motor powers the new system for the supply of clean water based on the most widely available renewable energy, the sun. It is designed for easy use and requires no maintenance. It is the ideal solution for supplying water in remote areas, where the normal power supply of electricity from the power grid is inconsistent or completely unavailable

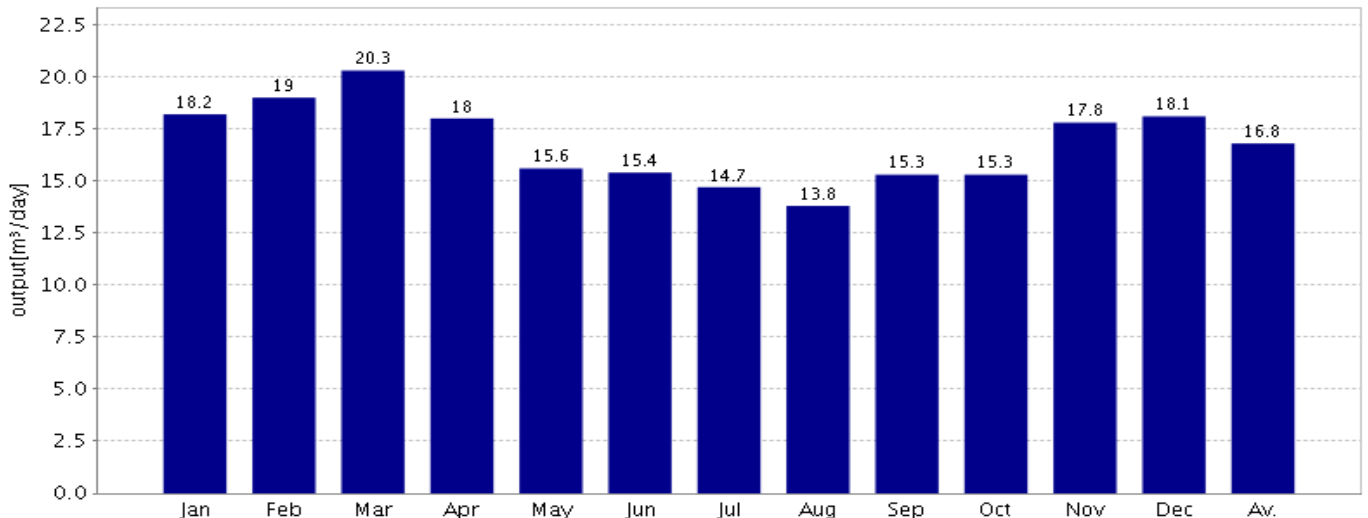
Parameter

Location:	Thailand; Bangkok	Water Temp:	25°C		
Required daily output:	15m ³ /day	Dirt loss:	3%	Motor length:	50
Pipe type:	Plastic	Static Head:	15m	Pipe length:	20m

Products

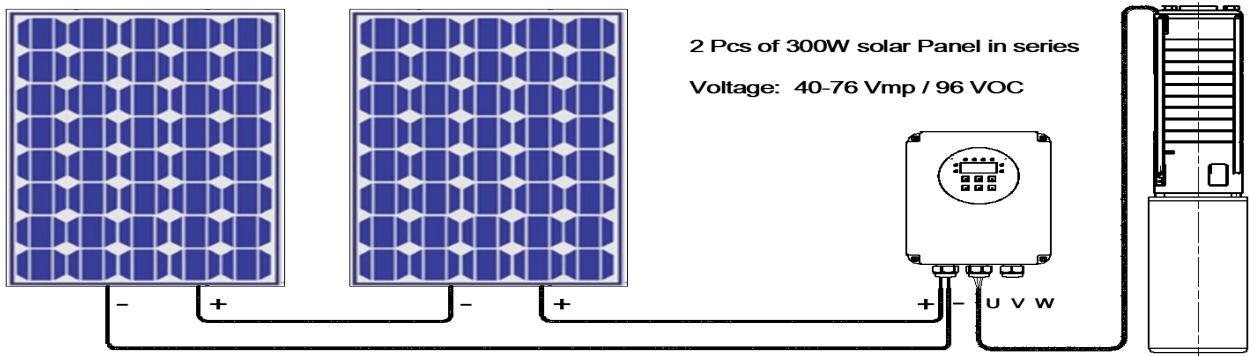
Submersible pump	1pc; 3SPW2-5 (0.5HP DC)
Solar panel	2pc; 600Wp; 300w x 2pcs
Motor cable	50m*4mm ²
Pipeline	20m; Pipeline
Accessories	

Daily output in average month (16.8) m³/day

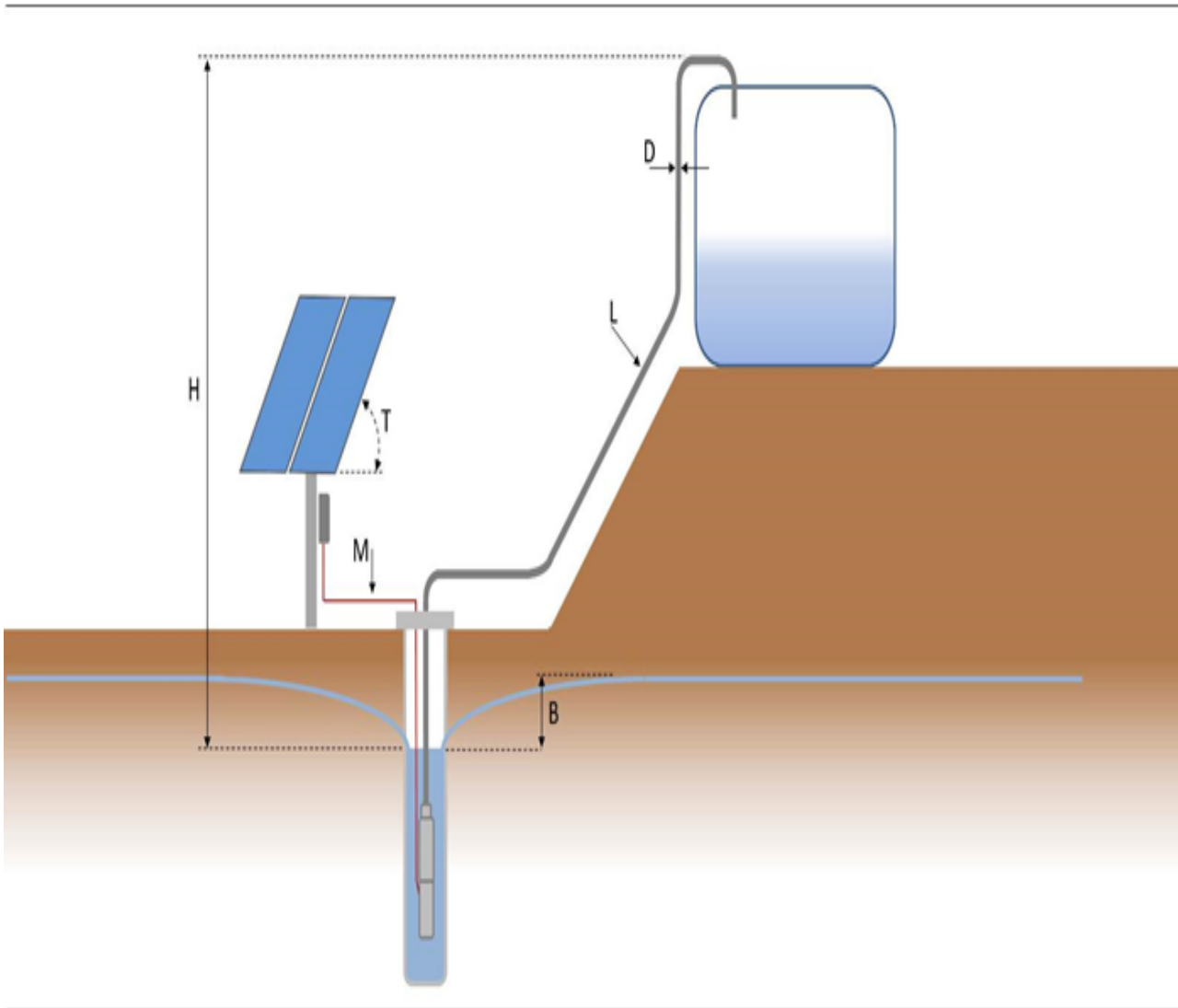


Energy[kWh]	2.95	3.08	3.29	2.92	2.53	2.49	2.38	2.23	2.48	2.48	2.89	2.94	2.72
Irradiation[kWh/m ²]	5.46	5.71	6.09	5.40	4.69	4.62	4.40	4.13	4.59	4.60	5.35	5.44	5.04

Solar Panel Wiring

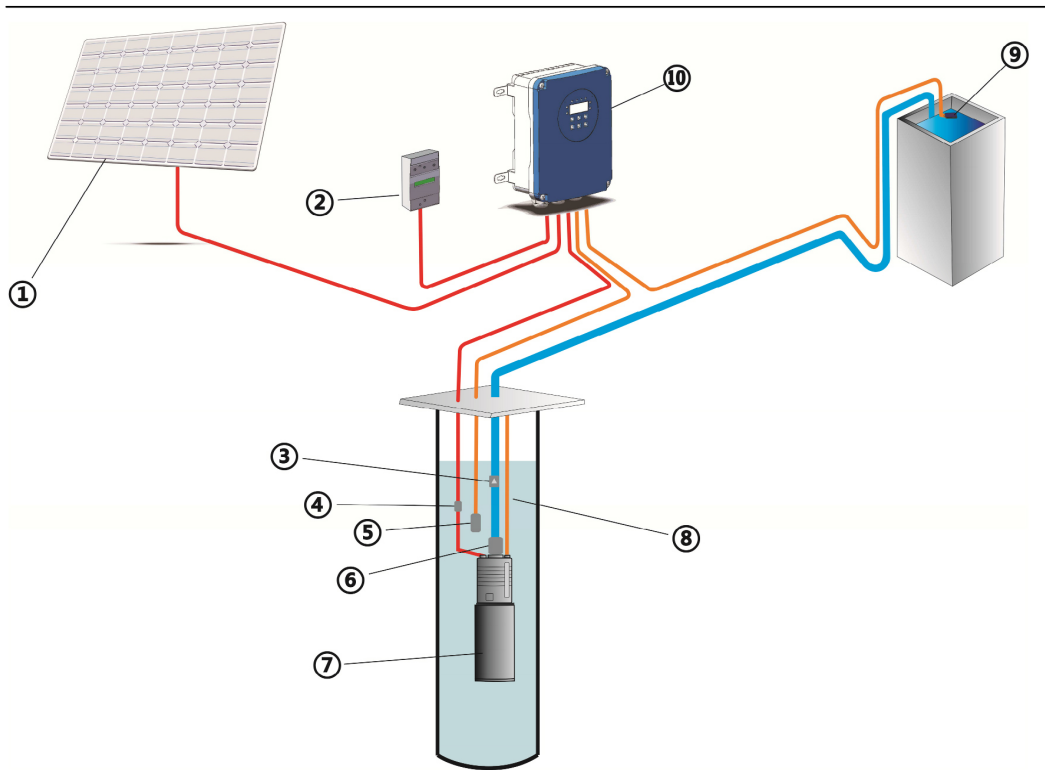


Sizing Layout



H (Static head):	Vertical height from the dynamic water level to the highest point of delivery.
B (Drawdown):	Lowering of water level depending on flow rate and recovery rate of the well.
D (Pipeline inner diameter):	
L (Pipe length):	Entire pipeline from the pump outlet to the point of delivery. Elbows and armatures must be added as an equivalent length of pipeline.
M (Motor cable):	The cable between controller and pump unit.
T (Tilt angle):	Angle of the PV generator surface from the horizontal plane.

System Layout



- | | |
|--|---------------------------|
| 1、 Solar panels | 7、 Solar water pump |
| 2、 SPD(DC) Surge Protection Device | 8、 Traction rope |
| 3、 Check valve | 9、 Float Switch(For Tank) |
| 4、 Wiring Package(Epoxy Resin Wiring Package or Heat Shrinkable Tube Wiring Package) | 10、 Controller |
| 5、 Float Switch (For Dry Protection, Optional) | |
| 6、 Sacrificial Anode | |

Note:

- 1、 Please read the manual carefully for all installation accessories, Please contact factory if you need all the above accessories.
- 2、 Float Switch for Dry Protection is Optional for centrifugal pump, Because the centrifugal pump system has its own dry protection; However, for helical pump, it must be installed.
- 3、 The pump shall be installed at least 1.5m away from the bottom of the well;
- 4、 It is recommended to install a check valve every 70m of the vertical height of the pipeline.

3SPW2-5 (0.5HP DC)

Solar Submersible Pump System

System Overview

Head	max. 36m
Flow	max. 100L/min
Recommend Max input Power	max. 0.6 kW
Minimum well diameter	min 3 inch
Pump discharge	Rp 1.25
Efficiency Max	28%

Product advantage

- .Stainless steel: AISI 304 (316 optional);
- .BLDC High Efficiency Motor;
- .External controller;
- .Only could powered by DC power;
- .Voltage/Current/Power/Speed Display;
- .Encapsulated water filled motor(No pollution risk);
- .Soft start running makes system's life longer;
- .Thrust bearing system;
- .Positive and negative pole reverse connection alarm;
- .Over-load/Over-current/Over-voltage/Low-voltage protection;
- .Fault reporting;
- .Dry protection(No additional float sensor required);
- .Accessories such as Heat Shrinkable Tube Wiring Package\ Rope installation etc.

Technical Data

Controller 3SPW2-5 (0.5HP DC)

- .External Controller;
- .MPPT Efficiency Max.98%;
- .Voltage:40-76Vmp/ 96VOC;
- .Enclosure class:IP65;
- .Over temperature protection;
- .Losing-Phase protection.

Motor 3SPW-48V-0.5HP DC

Voltage	DC max.VOC 96V DC Vmp 40-76V
Current	max.DC 15A
Motor Efficiency	max.85%
WaterTemp	max.40°C
Insulation class	F
Enclosure class	IP X8
Submersion	max.150m
Required cooling flow	0.8L/s
Speed	1000-4000

Pump End

- .Stainless steel: AISI 304 (316 optional);
- .Non-return valve;
- .Centrifugal pump.

Standards

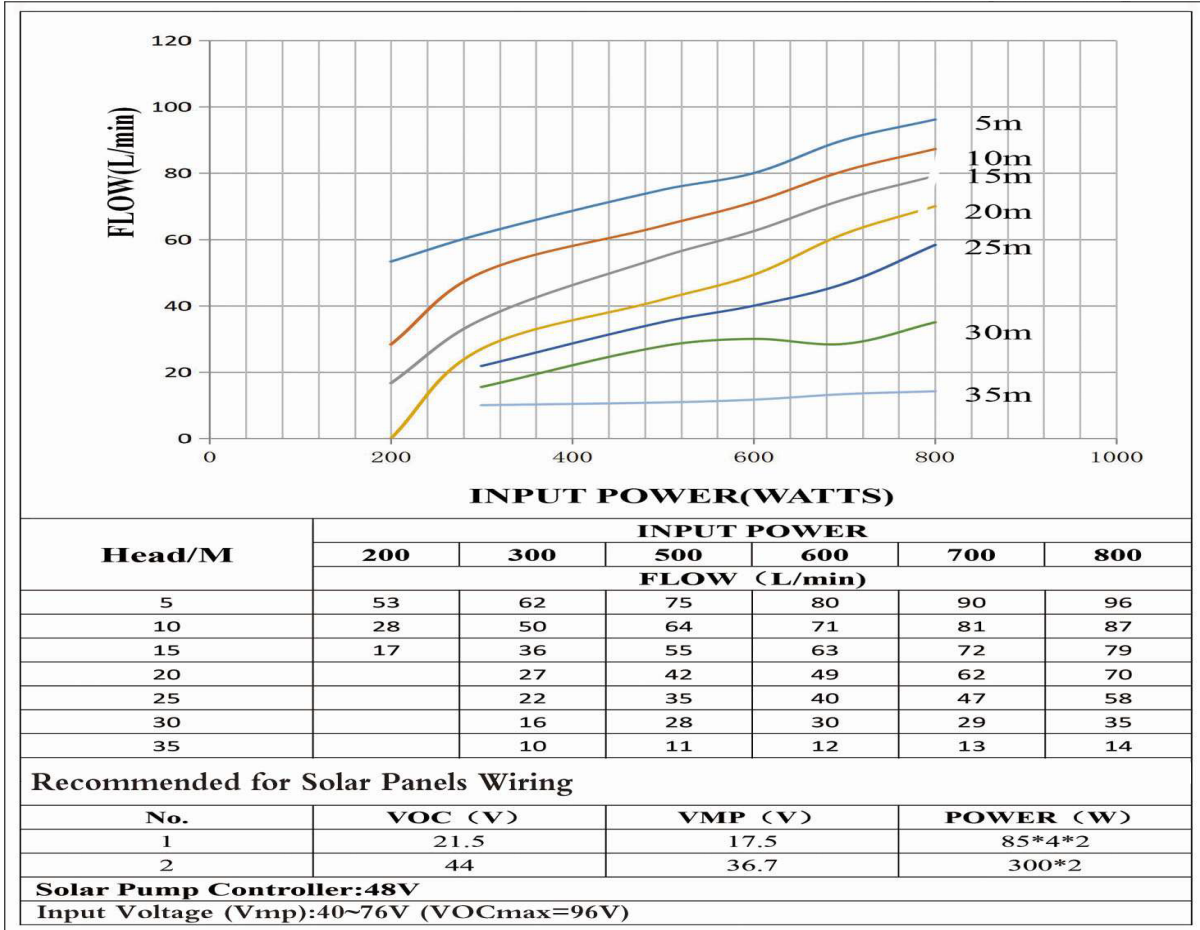


Note:

- *Recommend 2 pcs of 300W solar panels in series;
- *The Controller is IP 65 Rated however it is recommended that it is not mounted in direct sunlight;
- *VOC (V) Volts open circuit nothing connected; Vmp (V) Volts maximum power point under load; Exceeding limits may cause serious harm or irreparable damage.



3SPW2-5 (0.5HP DC)
Solar Pumping project
Pump chart



Dimensions and Weights

