

Solar pumping System

Note:

Maxima 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

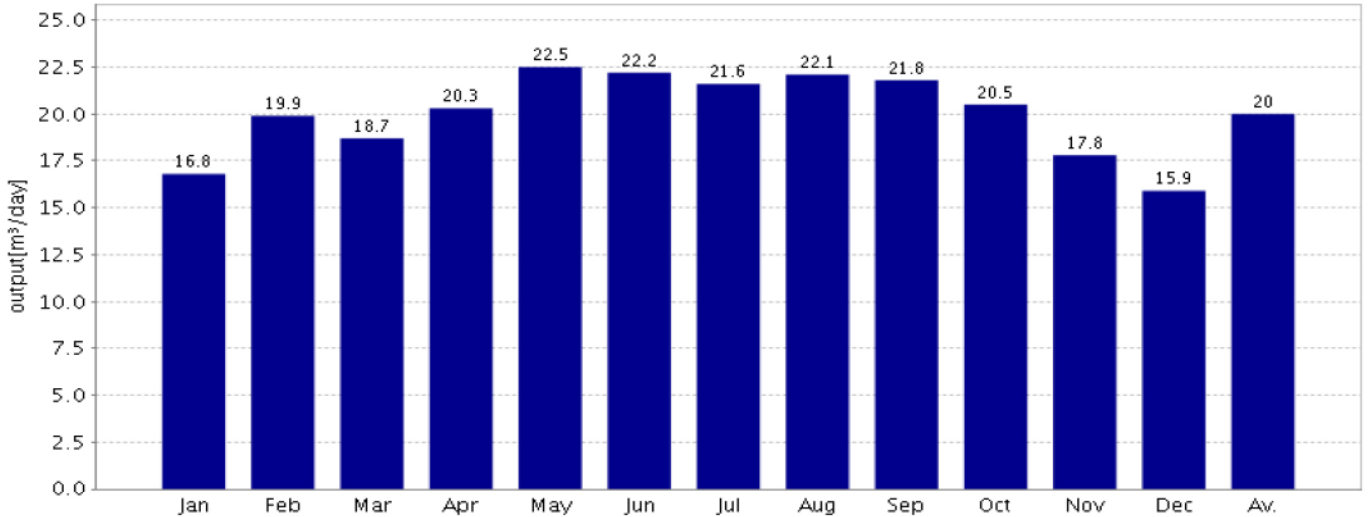
Parameter

Location:	Dubai;UAE	Water Temp:	25°C		
Required daily output:	20m ³ /day	Dirt loss:	3%	Motor length:	50
Pipe type:	Plastic	Static Head:	100m	Pipe length:	20m

Products

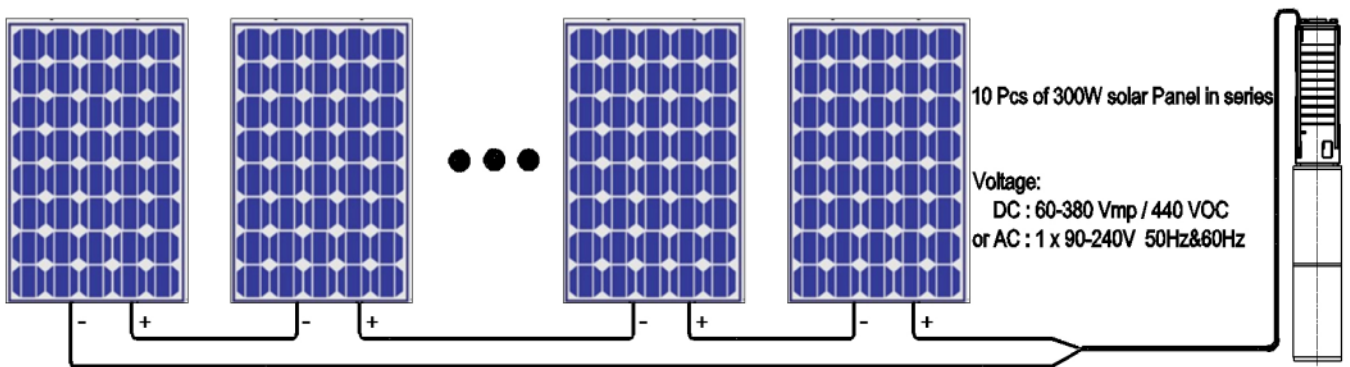
Submersible pump	1pc;4SP5-15 (3HP)
Solar panel	10pc;3000Wp;300w × 10pcs
Motor cable	50m*2.5mm ²
Pipeline	20m;Pipeline
Accessories	

Daily output in average month (20.0) m³/day

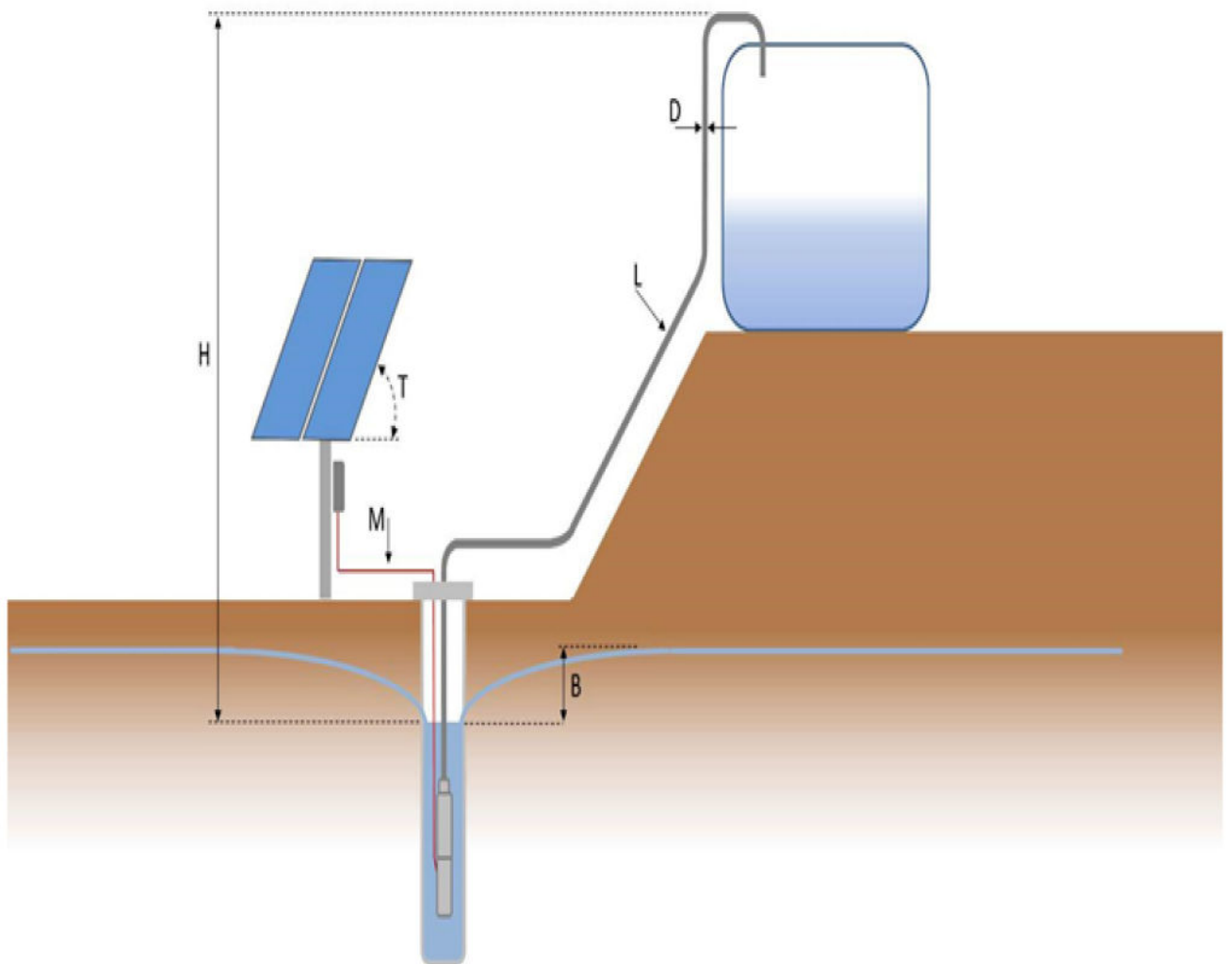


Energy[kWh]	14.80	17.52	16.47	17.87	19.82	19.58	18.98	19.44	19.20	18.06	15.63	13.99	17.60
Irradiation[kWh/m ²]	5.48	6.49	6.10	6.62	7.34	7.25	7.03	7.20	7.11	6.69	5.79	5.18	6.52

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. <u>Elbows and armatures must be added as an equivalent length of pipeline.</u>
M (Motor cable):	The cable between controller and pump unit.
T (Tilt angle):	Angle of the PV generator surface from the horizontal plane.

4SP5-15 (3HP)

Solar Submersible Pump System

System Overview

Head	max. 165m
Flow	max. 166L/min
Recommend Max input Power	max. 3.0 kW
Minimum well diameter	min 4" inch
Pump discharge	Rp 1.5"
Efficiency Max	45%

Product advantage

- .Stainless steel: AISI 304 (316 optional);
- .BLDC High Efficiency Motor;
- .MPPT Efficiency Max.99%;
- .Encapsulated water filled motor(No pollution risk);
- .Thrust bearing system;
- .Soft start running makes the system's life longer;
- .Hybrid Powered by AC/DC;50Hz&60Hz both working;
- .Wide voltage:1x90-240VAC;60-380Vmp/440VOC;
- .Built-in electronic make system more reliable;
- .Dry protection(No additional float sensor required);
- .Reverse protection(reverse + and - is fine);
- .Over-head protection(need monitor and flow meter);
- .Lighting and surge protection(need monitor);
- .Over voltage protection (need monitor)

Technical Data

Controller 4SP5-15 (3HP)

- .Controller Built-in;
- .Losing-Phase protection;
- .Over-load/Over-current/Over-voltage/Over-power protection;
- .Over temperature protection.

Motor 4SP(0.5-3HP)

Voltage	AC 1×90-240V DC max.VOC 440V DC Vmp 60-380V
Current	max.AC 10A max.DC 12A
Motor Efficiency	max.88%
WaterTemp	max.40°C
Insulation class	F
Enclosure class	IP X8
Submersion	max.150m
Required cooling flow	0.8L/s
Connect Standard	4"NEMA
Speed	500-3600

Pump End

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

Standards



Note:

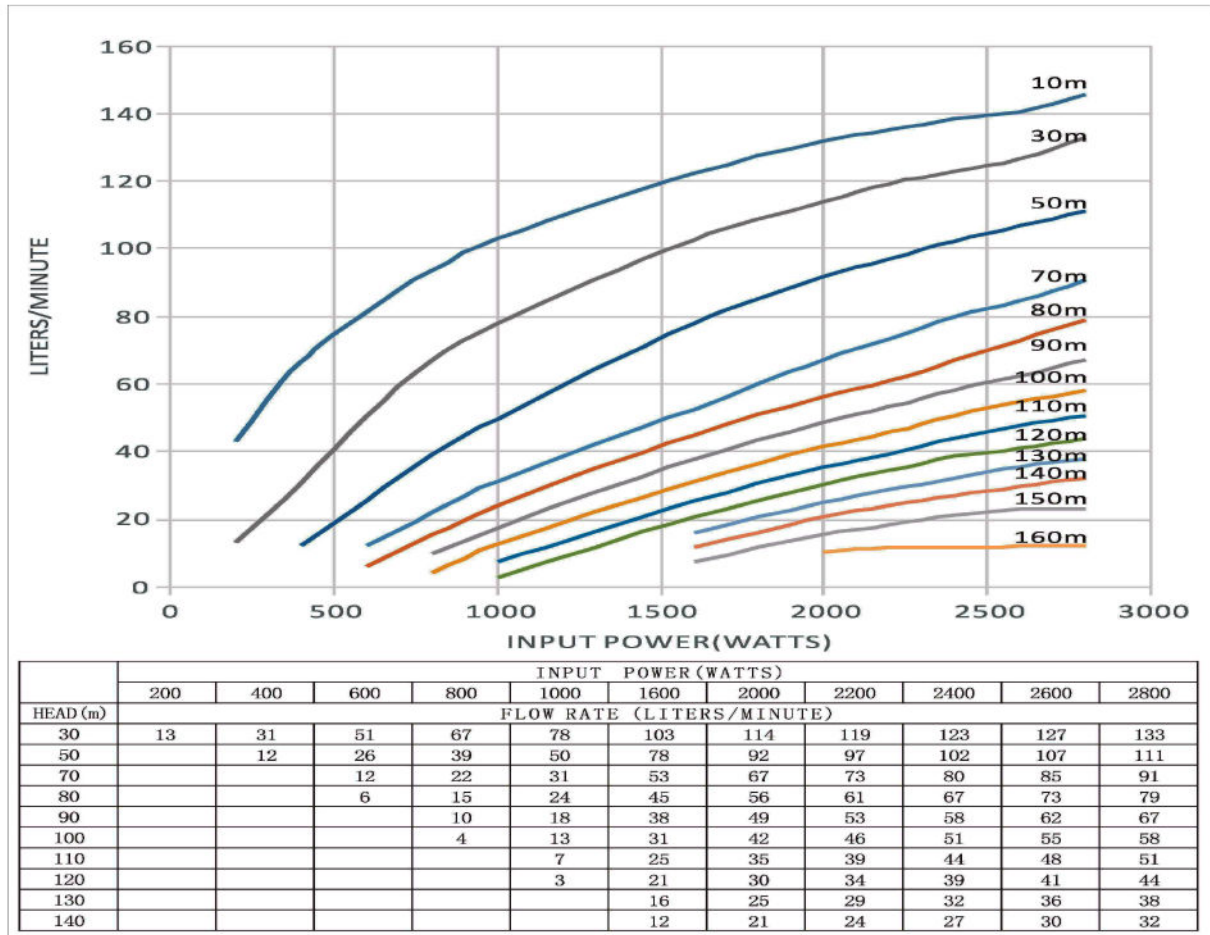
- *AC/DC switching needs to wait 1 minute;
- *Recommended 10 Pcs of 300W Solar Panels in Series;
- *VOC (V) Volts open circuit nothing connected;Vmp (V) Volts maximum power point under load;Exceeding limits may cause serious harm or irreparable damage.



4SP5-15 (3HP)

Solar Pumping project

Pump chart



Dimensions and Weights

