

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

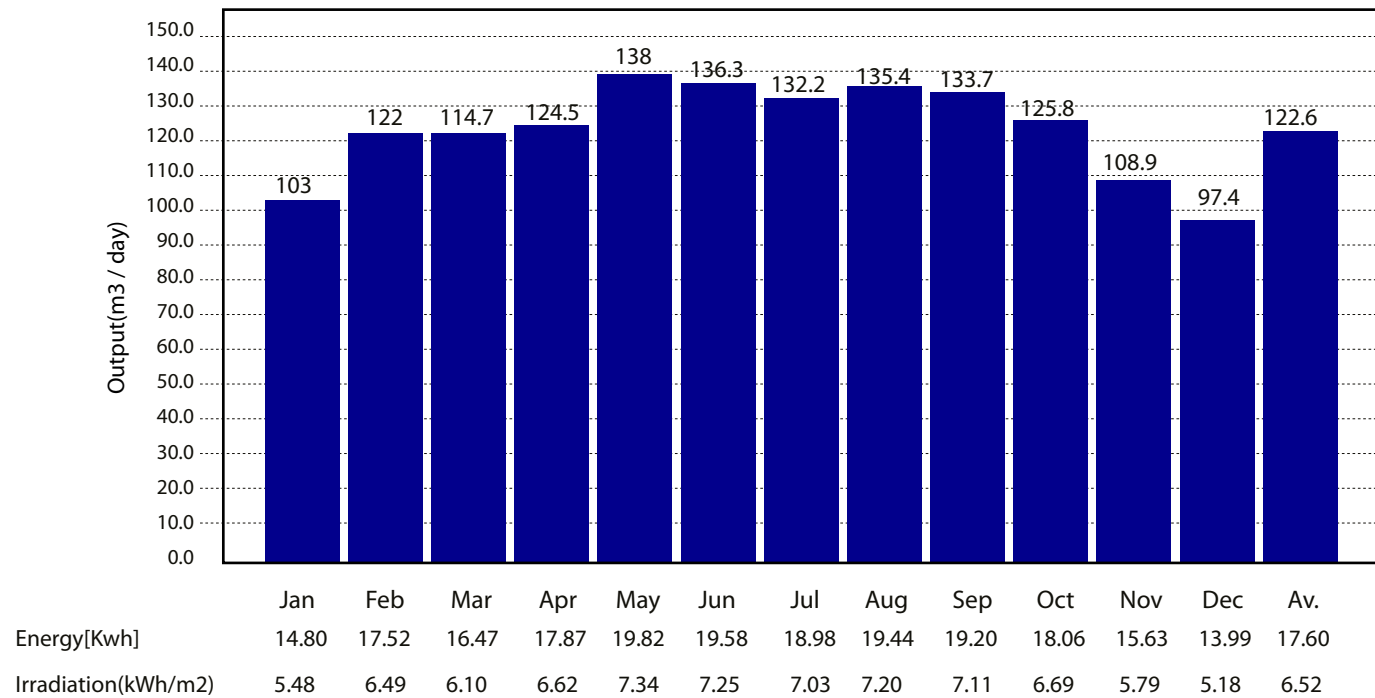
Parameter

Location:	UAE	Water Temp:	25°C		
Required daily output:	60m ³ /day	Dirt loss:	3%	Motor lenght:	50
Pipe type:	Plastic	Static Head:	10m	Pipe length:	20m

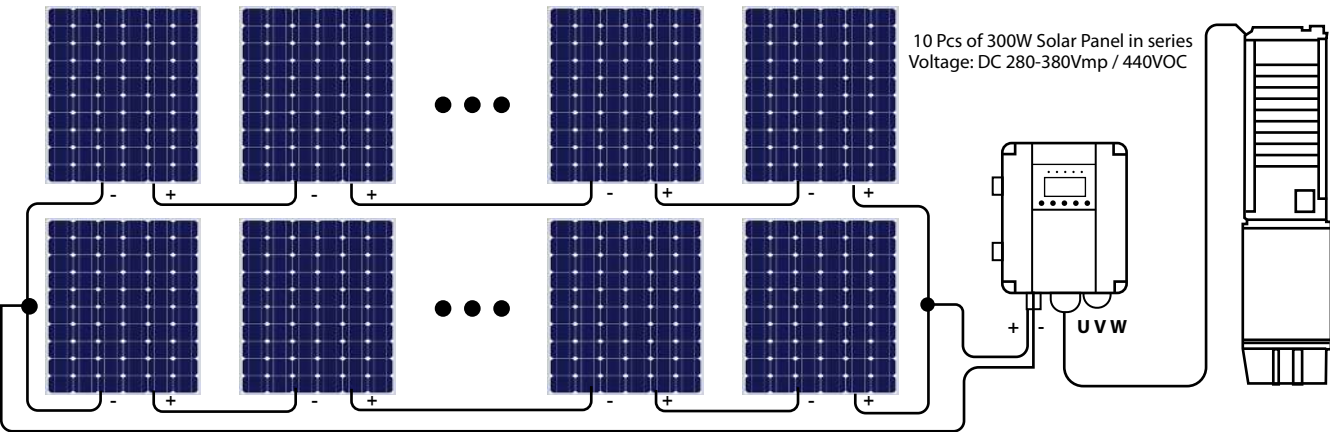
Products

Submersible pump	1pc;4SPW14-4A (3000W AC&DC)
Solar panel	10pc;3000Wp;300w × 10pcs
Motor cable	
Pipeline	20m;Pipeline
Accessories	

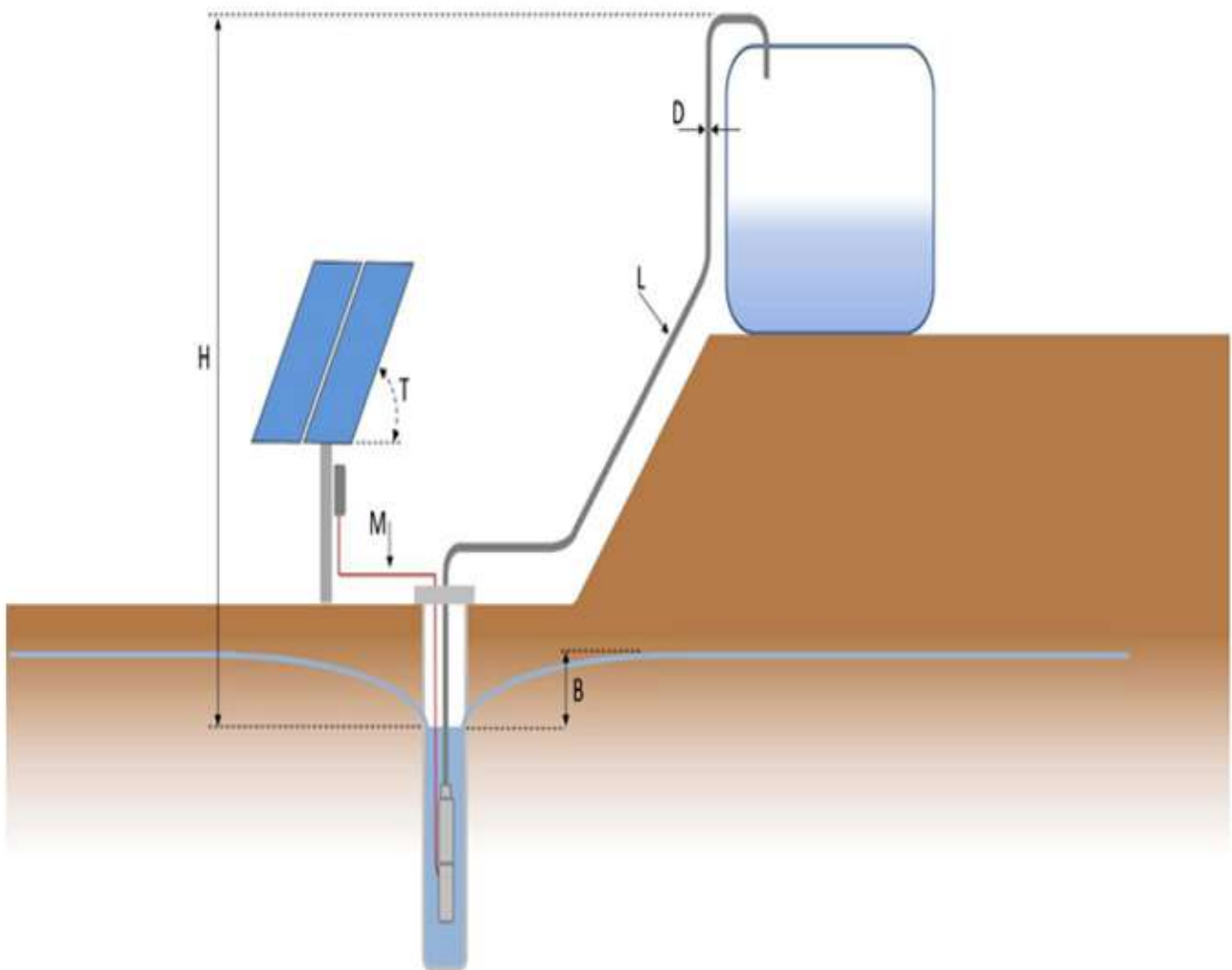
Daily output in average month (122.6)m³/day



Solar Panel Wiring

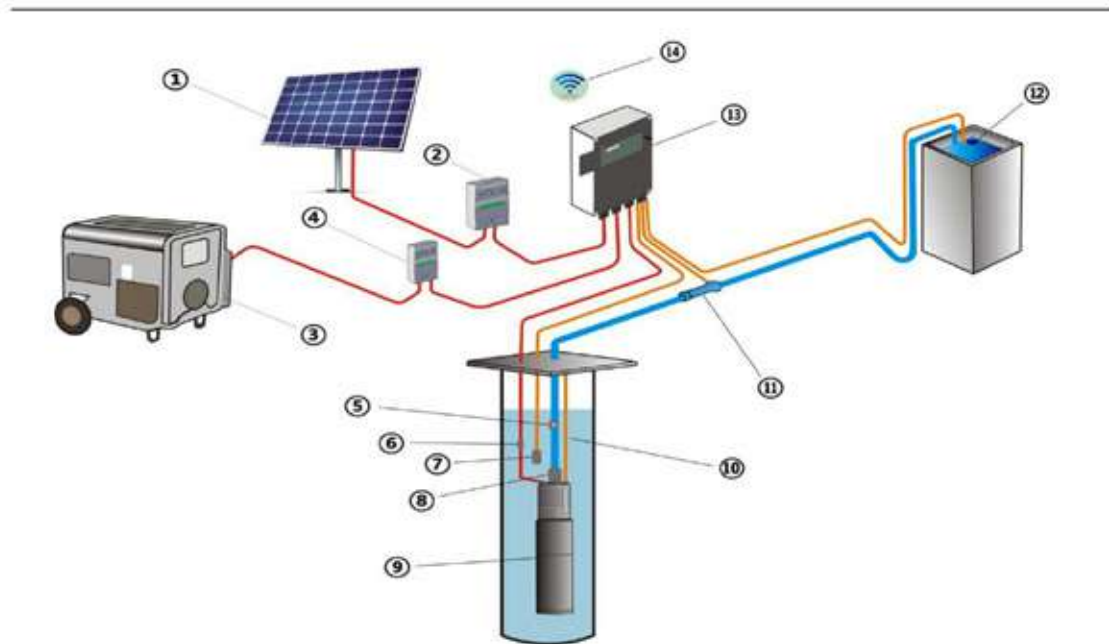


Sizing Layout



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. Ellbows 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 | 8. Sacrificial Anode(optional) |
| 2. SPD(DC) Surge Protection Device(optional) | 9. Solar water pump |
| 3. Generator or Grid (optional) | 10. Traction rope |
| 4. SPD(AC) Surge Protection Device (optional) | 11. Flow meter(optional) |
| 5. Check valve (optional) | 12. Float Switch (For Tank) |
| 6. Wiring Package(Epoxy Resin Wiring Package or Heat Shrinkable Tube Wiring Package) | 13. Monitor(optional) |
| 7. Float Switch (For Dry Protection, Optional) | 14. GPRS (optional) |

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, Because the pump system has its own dry protection;
3. Monitor is not a necessary part of pump system .but it provides more functions and protections for pump system. Making the system more convenient and intelligent. For example intelligent switching of AC/DC power supply; Floating ball interface terminal etc.
4. The pump shall be installed at least 1.5m away from the bottom of the well:
5. It is recommended to install a check valve every 70m of the vertical height of the pipeline.

4SPW14-4A (3000W AC&DC)

Solar Submersible Pump System

System Overview

Head	max. 48m
Flow	max 405L/min
Recommend Max Input Power	max. 3 kW
Minimum well diameter	min 4 inch
Pump discharge	Rp 2"
Efficiency Max	45%

Product advantage

Stainless steel: AISI 304
 BLDC High Efficiency Motor,
 External Controller:
 Accept AC & DC
 Voltage/Current/Power/Rpm/Controller temperature Display
 Encapsulated water filled motor (No pollution risk):
 Soft start running makes system's life longer:
 Thrust bearing system
 Reverse protection (reverse + and - is fine):
 Over load protection/over current protection/over power protection:
 Voltage: 60-380V mp/450VOC: AC: 150-240V 50 Hz & 60 Hz
 Dry Protection (No additional float sensor required)

Technical Data:

Controller 4SPW14-4A (3000W AC&DC)

Controller Model 4SPW-A-3000W
 MPPT Efficiency Max. 98%
 Voltage 60-380Vp/450VOC : AC 150-240V 50Hz&60Hz
 Enclosure class: IP65
 Error Report
 Latching-Phase protection
 Over temperature protection;

Motor 4SPW-A. (3000W AC&DC)

Voltage	AC 150-240V DC max. VOC 450V DC Vmp 60-380V
Current	max. AC 10A max. DC 10A
Motor Efficiency	max 85%
WaterTemp	max 40°C
Insulation class	F
Enclosure class	IP X8
Submersion	max. 150m
Speed	500-4000



Pump End

Stainless steel: AISI 304 ;
 Non-return valve:
 Centrifugal pump

Standards



Note:

*Accept 2-10 PCS 340W Panel best 7-10Pcs

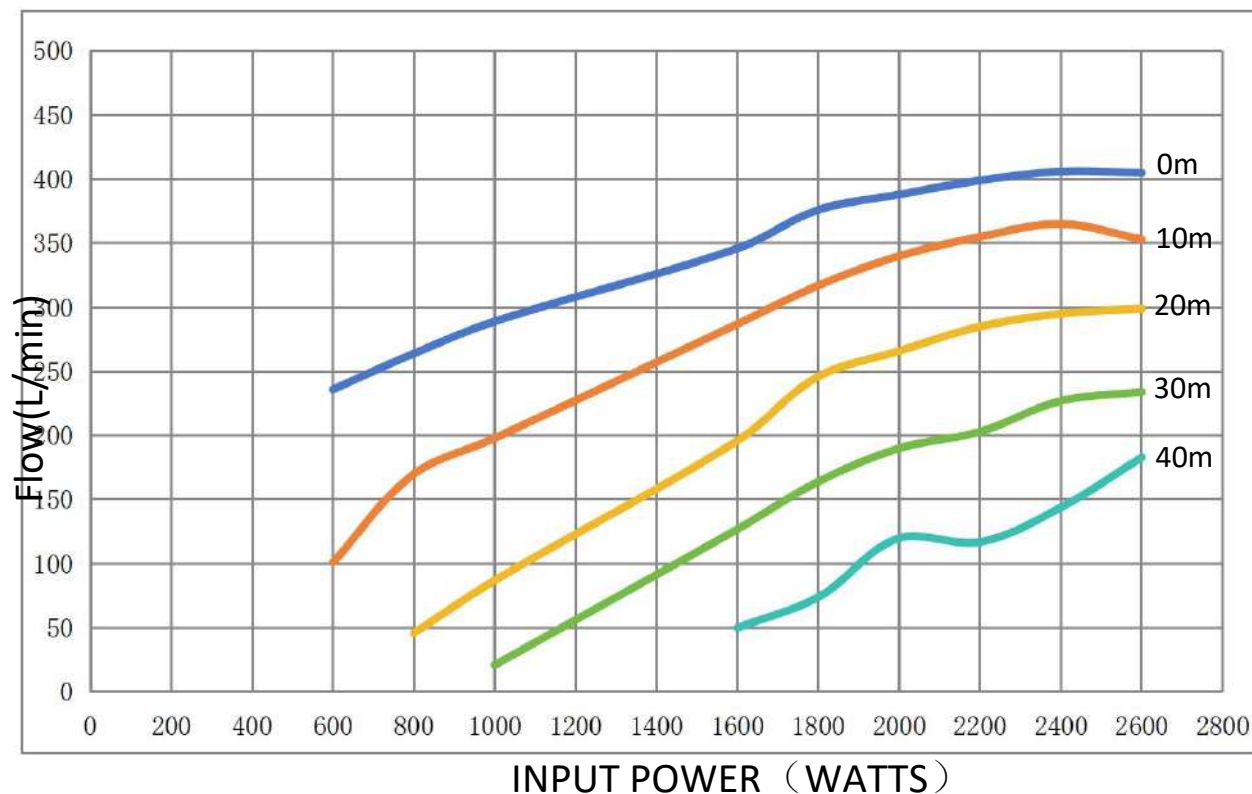
*The Controller is IP65 Rated however it is recommended that it is not mounted in direct sunlight

*VOC (V) Volts open circuit nothing connected; Vmp (V) Volts maximum power point under load; Exceeding limits may cause serious harm or irreparable damage.

4SPW14-4A (3000W AC&DC)

Solar Pumping Project

Pump Chart



HEAD (m)	INPUT POWER (WATTS)								
	600	800	1000	1600	1800	2000	2200	2400	2600
	Flow (L/min)								
0	236	264	289	346	376	388	399	406	405
10	101	170	198	287	317	340	355	365	353
20		46	87	196	246	266	285	295	299
30			21	127	164	190	203	227	234
40				50	74	120	117	144	183

4SPW14-4A (3000W AC&DC) Solar Pumping Project

Dimensions and Weights

