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

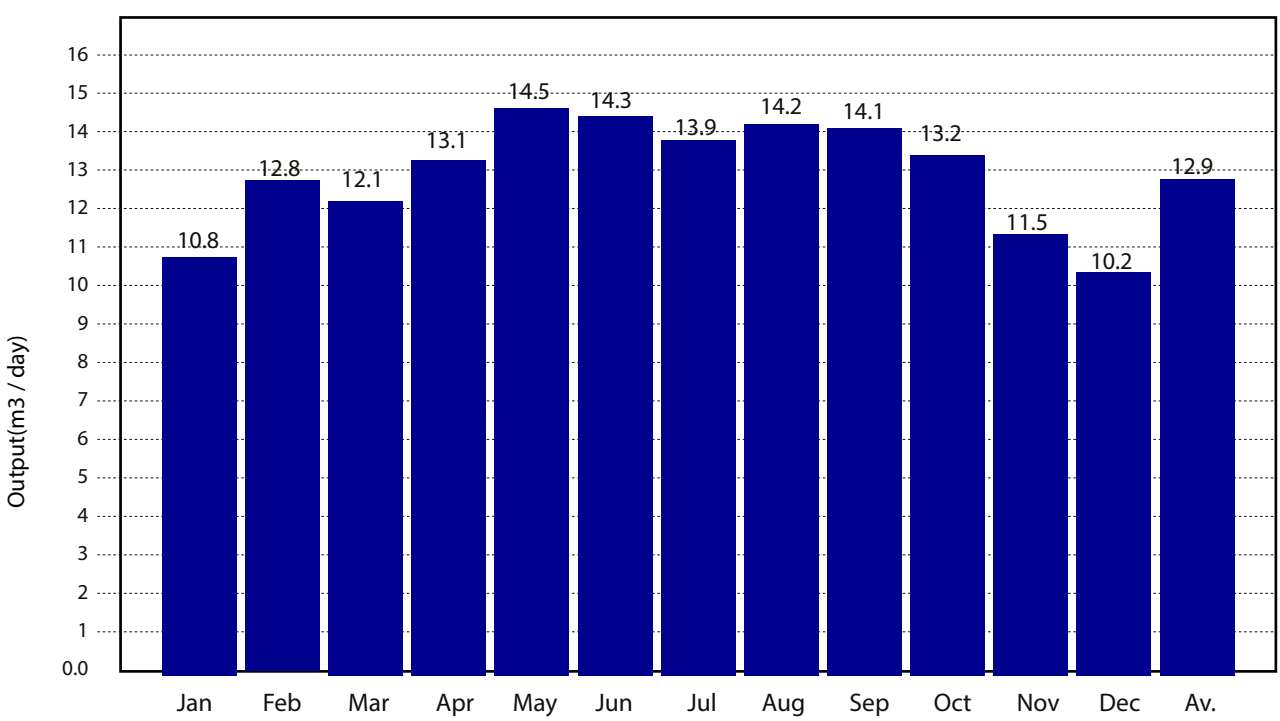
Parameter

Location:	UAE	Water Temp:	25°C		
Required daily output:	10m³/day	Dirt loss:	3%	Motor length:	50
Pipe type:	Plastic	Static Head:	55m	Pipe length:	20m

Products

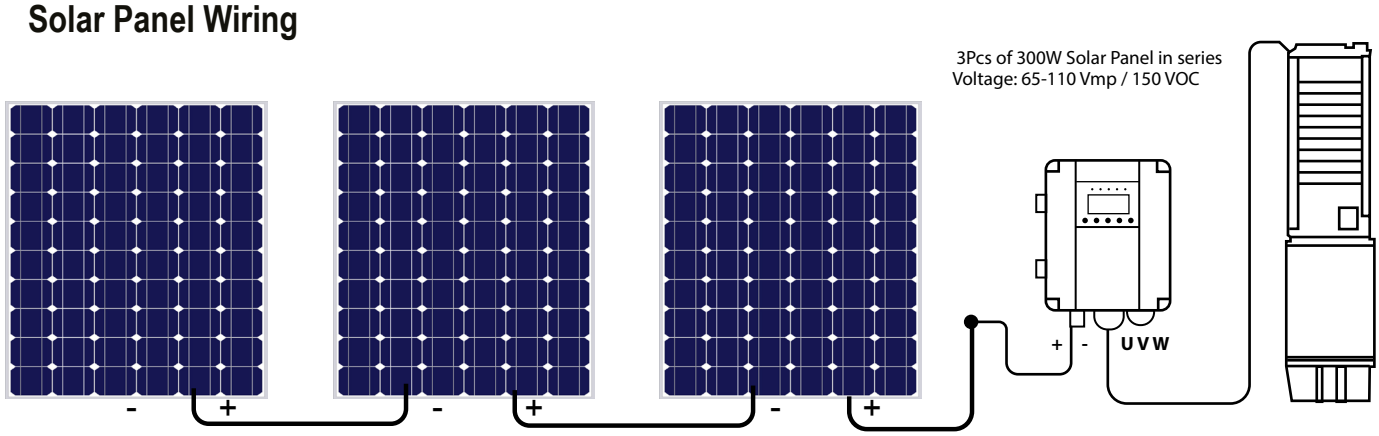
Submersible pump	1pc;3SPN1-12P(0.75HP DC)
Solar panel	3pc;900Wp;300w ×3pcs
Motor cable	
Pipeline	20m;Pipeline
Accessories	

Daily output in average month (12.9) m³/day



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Av.
Energy[Kwh]	7.40	8.76	8.24	8.94	9.91	9.79	9.49	9.72	9.60	9.03	7.82	6.99	8.80
Irradiation(kWh/m2)	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



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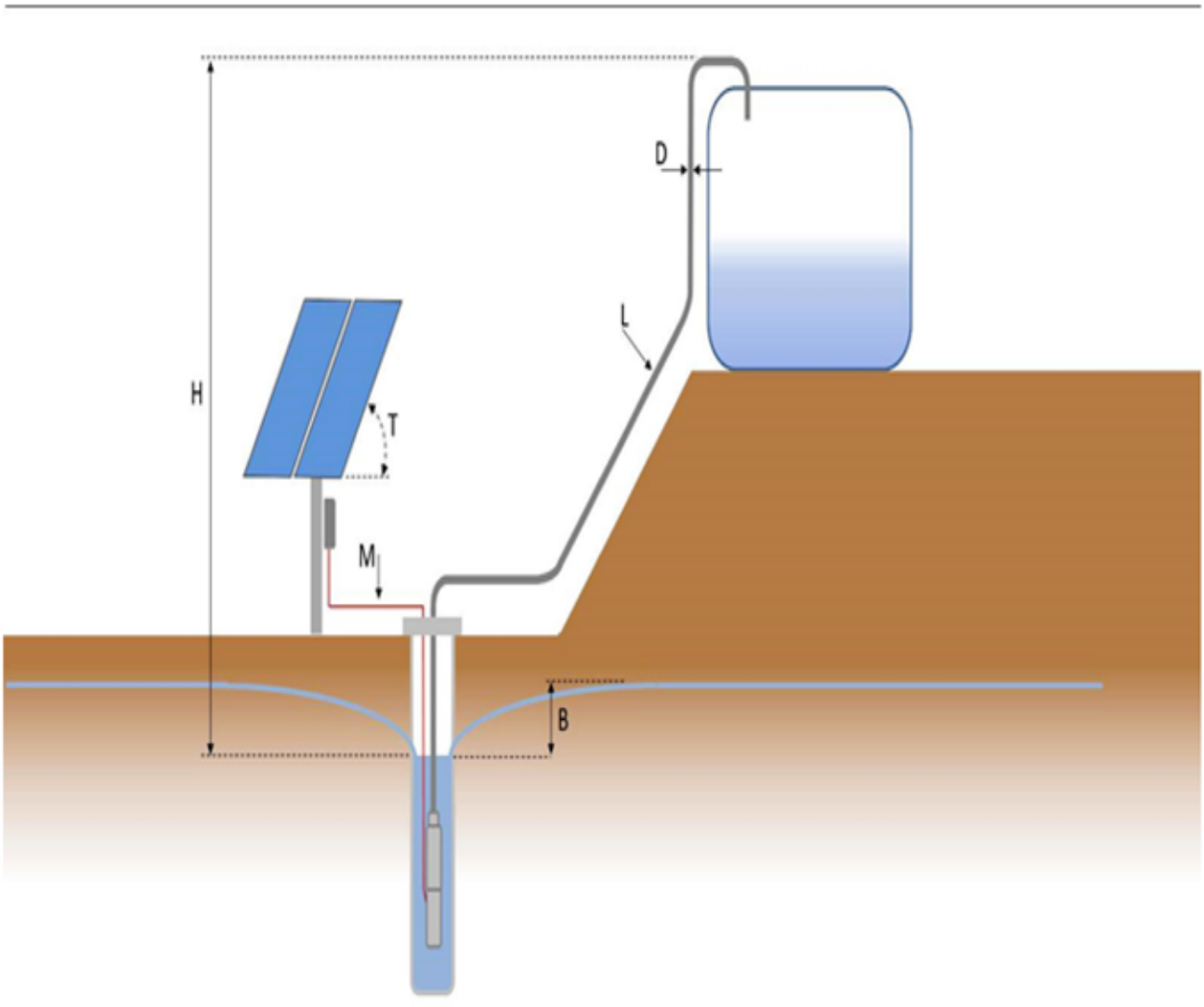
Sizing Layout



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.

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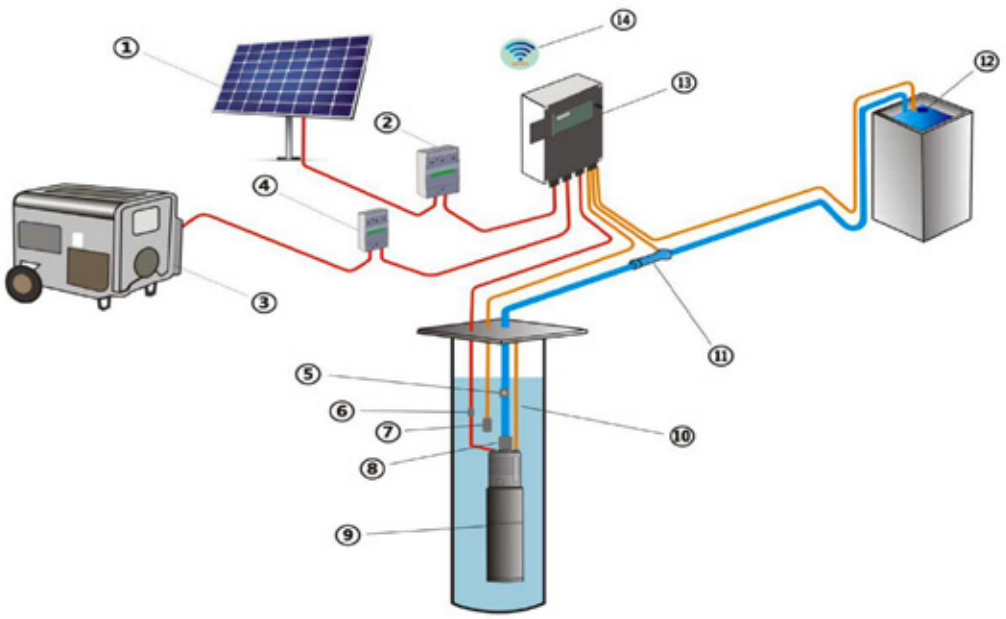
System Layout



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

3SPN1-12P(0.75HP DC)

Solar Submersible Pump System

System Overview

Head	max. 100m
Flow	max. 67L/min
Recommend Max Input Power	max. 1 kW
Minimum well diameter	min 3 inch
Pump discharge	Rp 1.5”
Efficiency Max	%

Product advantage

Motor Stainless steel: AISI 304
BLDC High Efficiency Motor
Built in Controller
Only could powered by DC power
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 protection/over current protection/over power protection
Fault reporting
Dry Protection (No additional float sensor required)
Accessories such as Heat Shrinkable Tube Wiring Package\Rope installation etc.

Technical Data:

Controller 3SPN1-12P(0.75HP DC)

Built in Controller
MPPT Efficiency Max.98%
Voltage:65-110Vmp/ 150VOC
Over temperature protection
Losting-Phase protection

Motor 3SPN-72V-0.75HP DC	
Voltage	DC max.VOC 150V DC Vmp 65-110V
Current	max.DC 15A
Motor Efficiency	max.85%
WaterTemp	max40°C
Insulation class	F
Enclosure class	IP X8
Submersion	max. 150m
Required cooling flow	0.8L/s
Speed	1000-4000

Pump End

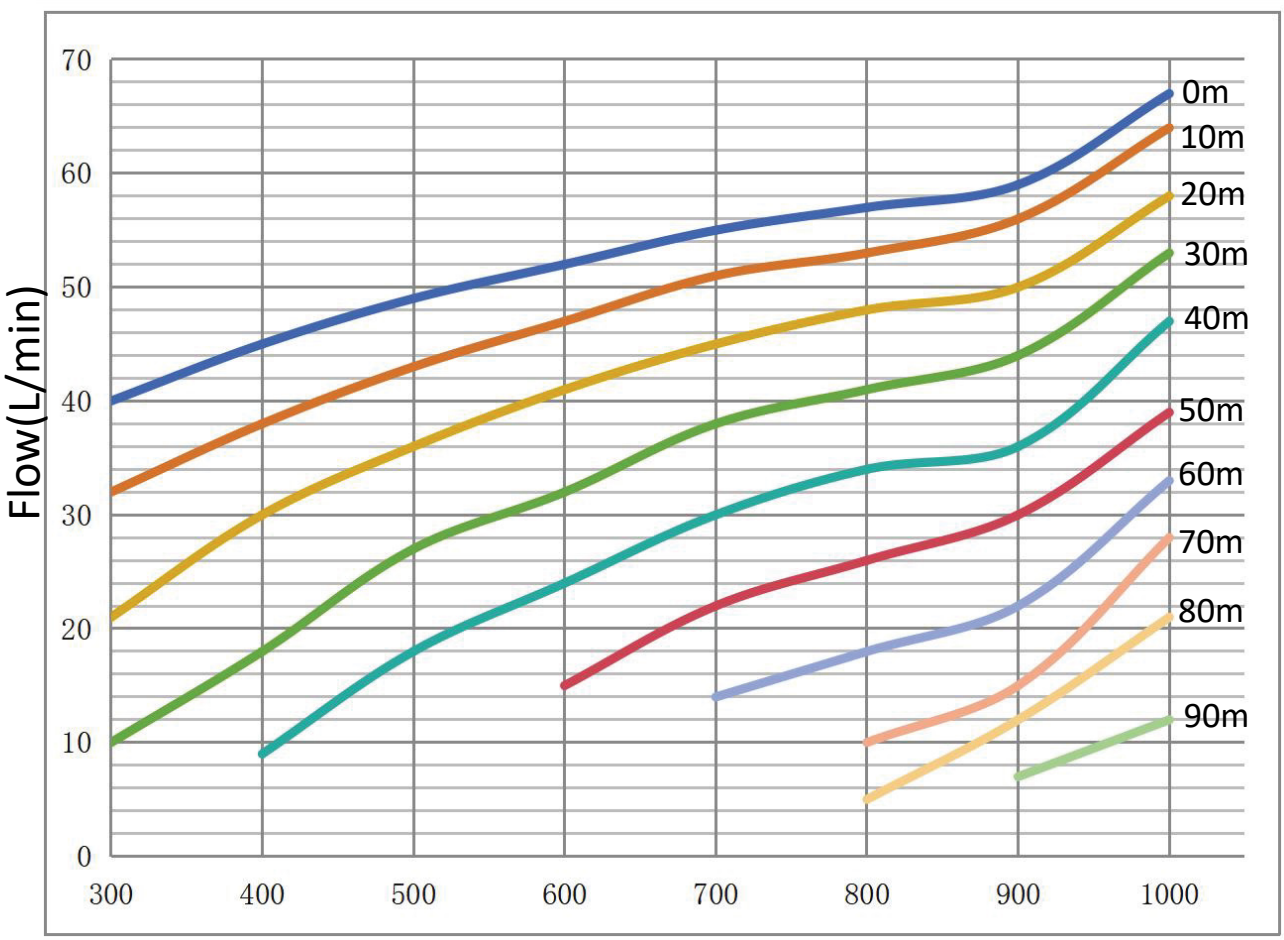
Plastic (SS304 Optional);
Non-return valve:
Centrifugal pump

Standards

Note:

*Recommend 3 pcs of 340W 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.

3SPN1-12P(0.75HP DC)
Solar Pumping Project
Pump Chart

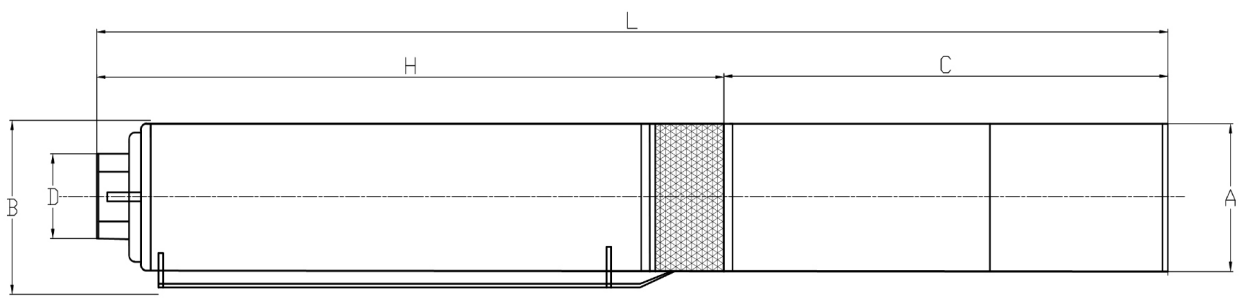


INPUT POWER（WATTS）

HEAD (m)	INPUT POWER（WATTS）							
	300	400	500	600	700	800	900	1000
	Flow (L/min)							
0	40	45	49	52	55	57	59	67
10	32	38	43	47	51	53	56	64
20	21	30	36	41	45	48	50	58
30	10	18	27	32	38	41	44	53
40		9	18	24	30	34	36	47
50				15	22	26	30	39
60					14	18	22	33
70						10	15	28
80						5	12	21
90							7	12

3SPN1-12P

Dimensions and Weights



	A	B	C	H	L	D
Dimension (mm)	ϕ76	75	290	430	720	1.5"

	Pump Unit	Motor	Pump End	Package Unit
Weight (kg)	8	5. 1	2. 9	9. 1

Package Volume
0.88m*0.09*0.09m

The size and weight information may be changed, please confirm with the factory.