

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

Nominal Flow	2.0 m3/hr @ 200 m
Flow Range	0.8 ~ 5.5 m3/hr
Head Range	20 ~ 240 m

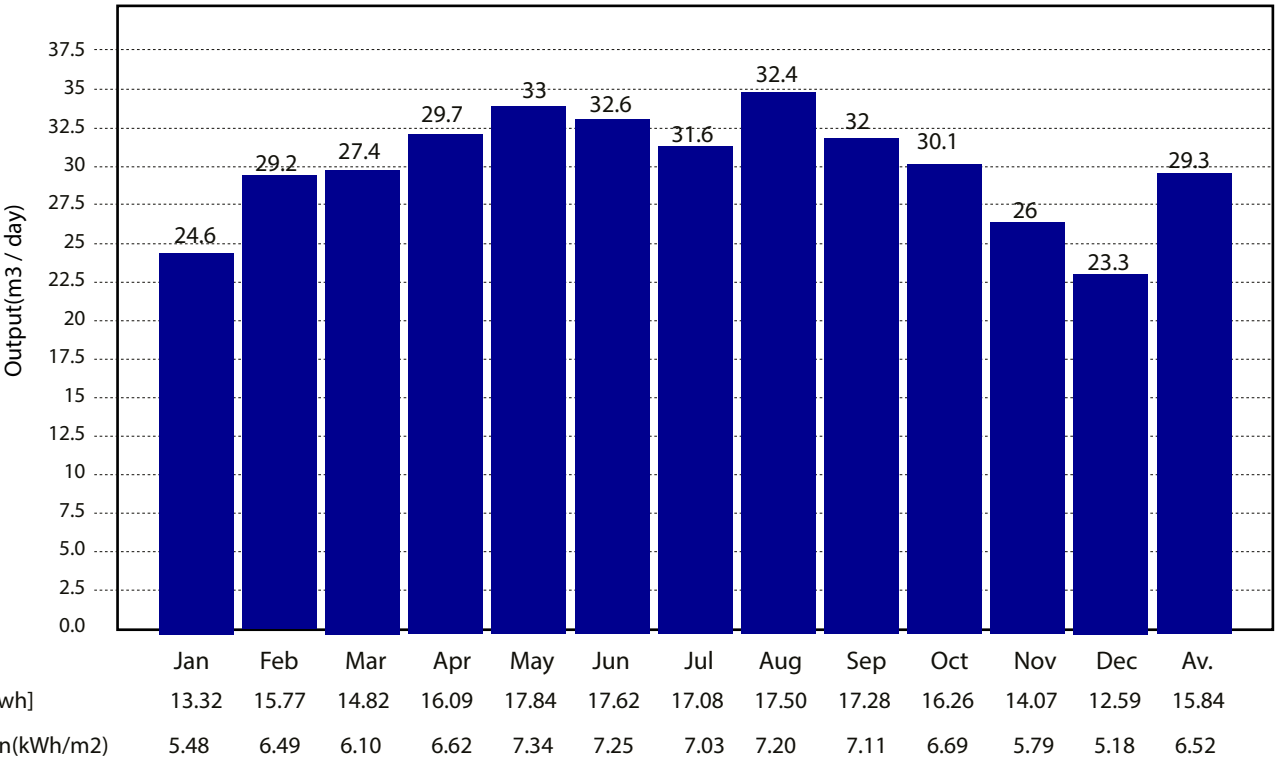
Parameter

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

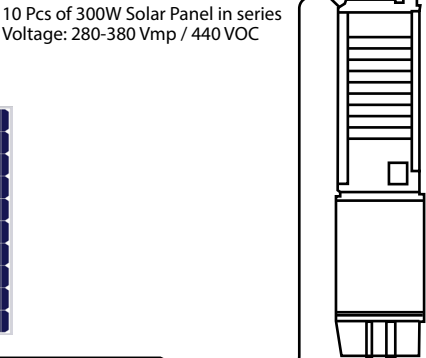
Products

Submersible pump	1pc;4SPN2-17P (3HP DC)
Solar panel	9pc;2700Wp;300w ×9pcs
Motor cable	
Pipeline	20m;Pipeline
Accessories	

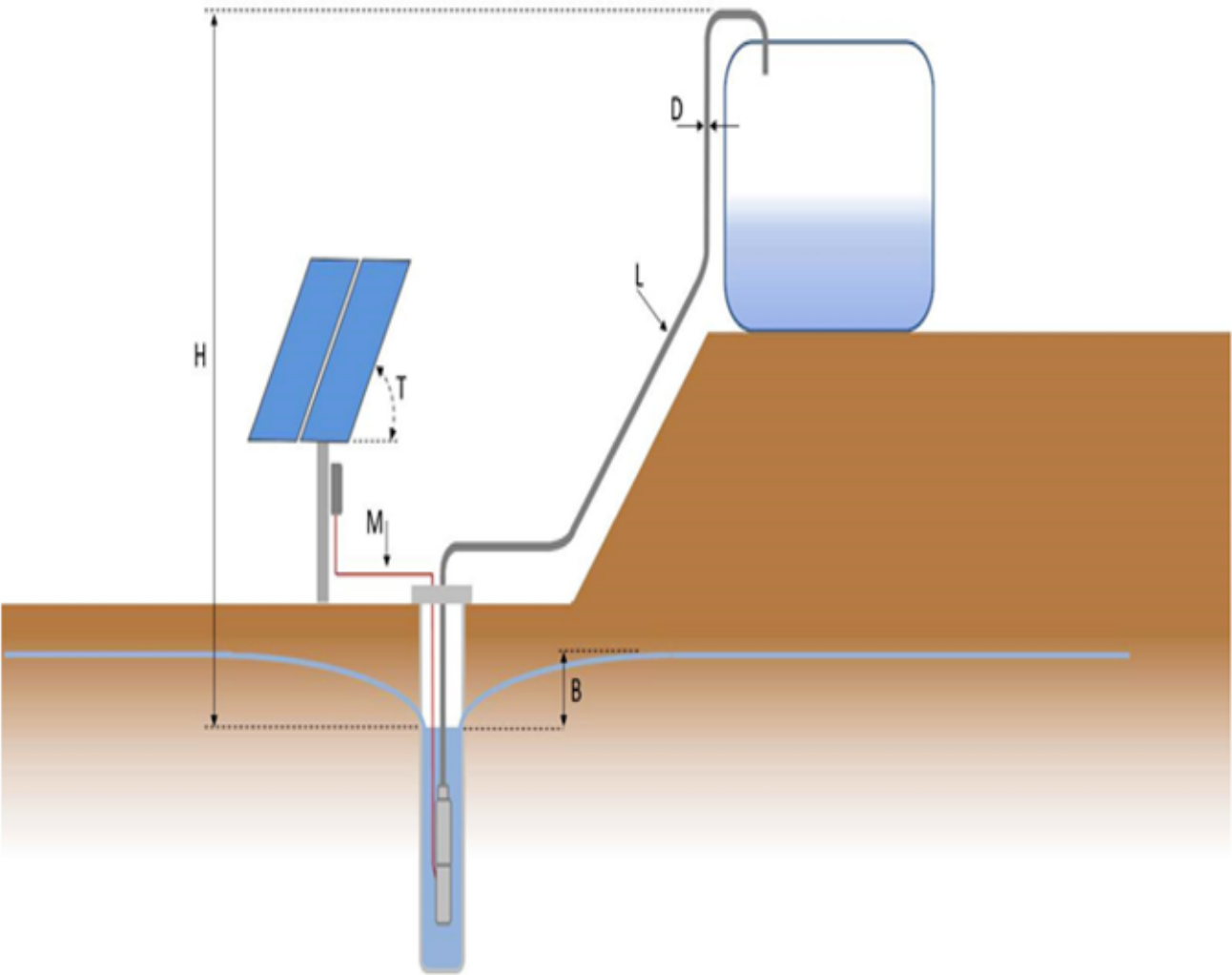
Daily output in average month (29.3) m³/day



Solar Panel Wiring

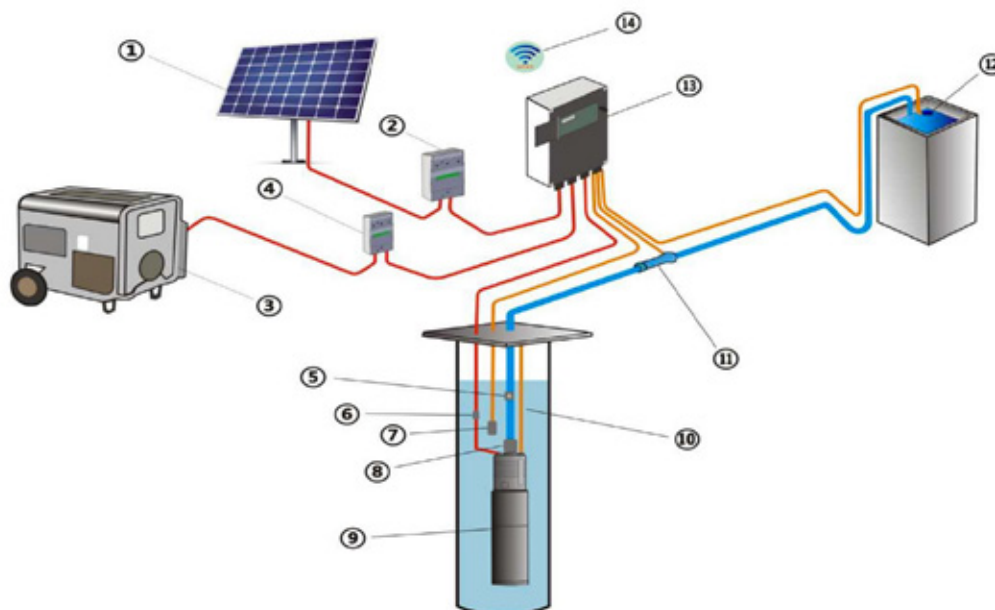


Sizing Layout



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.

4SPN2-17P (3HP DC)

Solar Submersible Pump System

System Overview

Head	max. 260m
Flow	max. 93L/min
Recommend Max Input Power	max. 3 kW
Minimum well diameter	min 4 inch
Pump discharge	Rp 2"
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 4SPN2-179P (3HP DC)

- Built in Controller
- MPPT Efficiency Max.98%
- Voltage:60-380Vmp/450VOC
- Over temperature protection
- Losting-Phase protection

Motor 3SPN-96V-1HP DC

	DC max.VOC 450V
Voltage	DC Vmp 60-380V
Current	max.DC 10A
Motor Efficiency	max.85%
WaterTemp	max40°C
Insulation class	F
Enclosure class	IP X8
Submersion	max. 150m
Required cooling flow	0.8L/s
Speed	500-4000



Pump End

- Plastic (SS304 optional)
- Non-return valve:
- Centrifugal pump

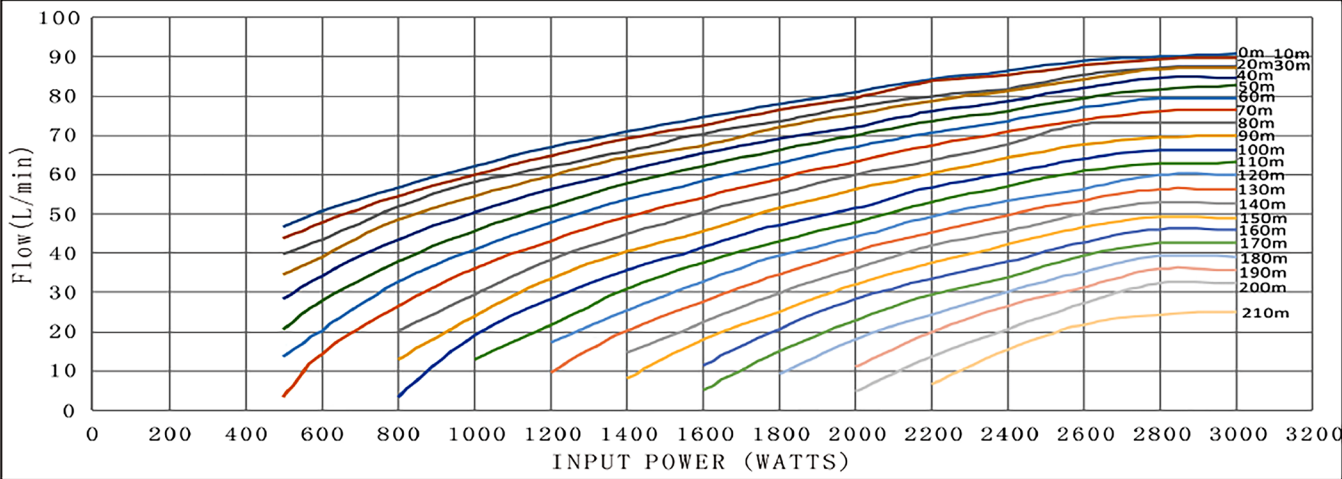
Standards



Note:

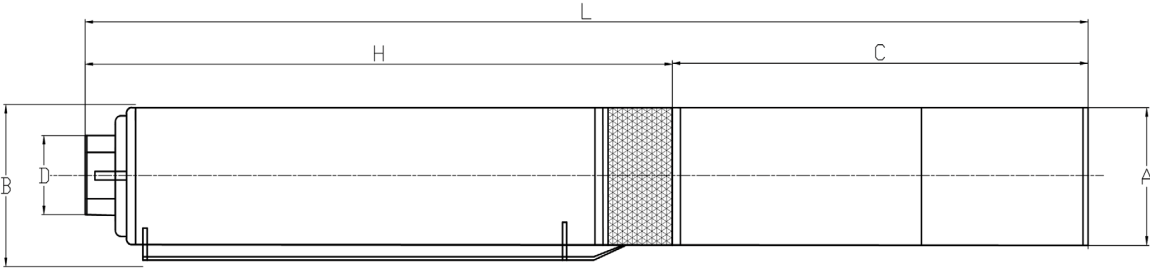
- *Accept 2-10 PCS 340W best 7-10PCS;
- *VOC (V) Volts open circuit nothing connected;Vmp (V) Volts maximum power point under load;Exceeding limits may cause serious harm or irreparable damage.

4SPN2-17P(3HP DC)
Solar Pumping Project
Pump Chart



HEAD (m)	INPUT POWER (WATTS)													
	500	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000
	FLOW RATE (LITERS MINUTE)													
0	47	51	57	62	67	71	75	78	81	84	86	89	90	91
10	44	48	55	60	65	69	73	76	80	84	85	88	89	90
20	40	43	52	58	62	66	70	74	77	80	82	85	87	88
30	35	39	49	55	60	64	67	72	76	79	81	84	87	87
40	28	34	43	50	56	61	65	69	72	76	79	82	85	85
50	20	28	38	46	52	58	62	66	70	74	76	79	82	83
60	14	20	33	41	48	54	58	63	67	71	74	77	79	79
70	3	14	27	36	43	49	54	59	63	67	71	74	76	76
80			20	30	38	45	50	55	60	64	68	73	73	73
90			13	24	33	40	46	51	56	60	64	68	69	70
100			3	19	28	36	41	47	51	57	60	64	66	66
110				13	22	31	38	43	48	53	57	61	63	63
120					17	25	33	39	44	49	53	56	60	60
130					10	20	28	35	41	45	50	53	56	56
140						15	22	30	36	42	46	50	53	53
150						8	18	25	32	37	42	47	49	49
160							11	21	28	33	38	43	46	46
170							5	15	23	30	34	39	43	43
180								9	18	24	30	35	39	39
190									11	20	26	31	36	36
200									5	14	21	27	32	32
210										7	15	22	24	25

Dimensions and Weights



	A	B	C	H	L	D
Dimension (mm)	φ94. 2	99	495	680	1175	1. 25"

	Pump Unit	Motor	Pump End	Package Unit
Weight (kg)	15. 2	10. 2	5	16. 9

Package Volume
1.33m*0.11*0.11m

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