

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

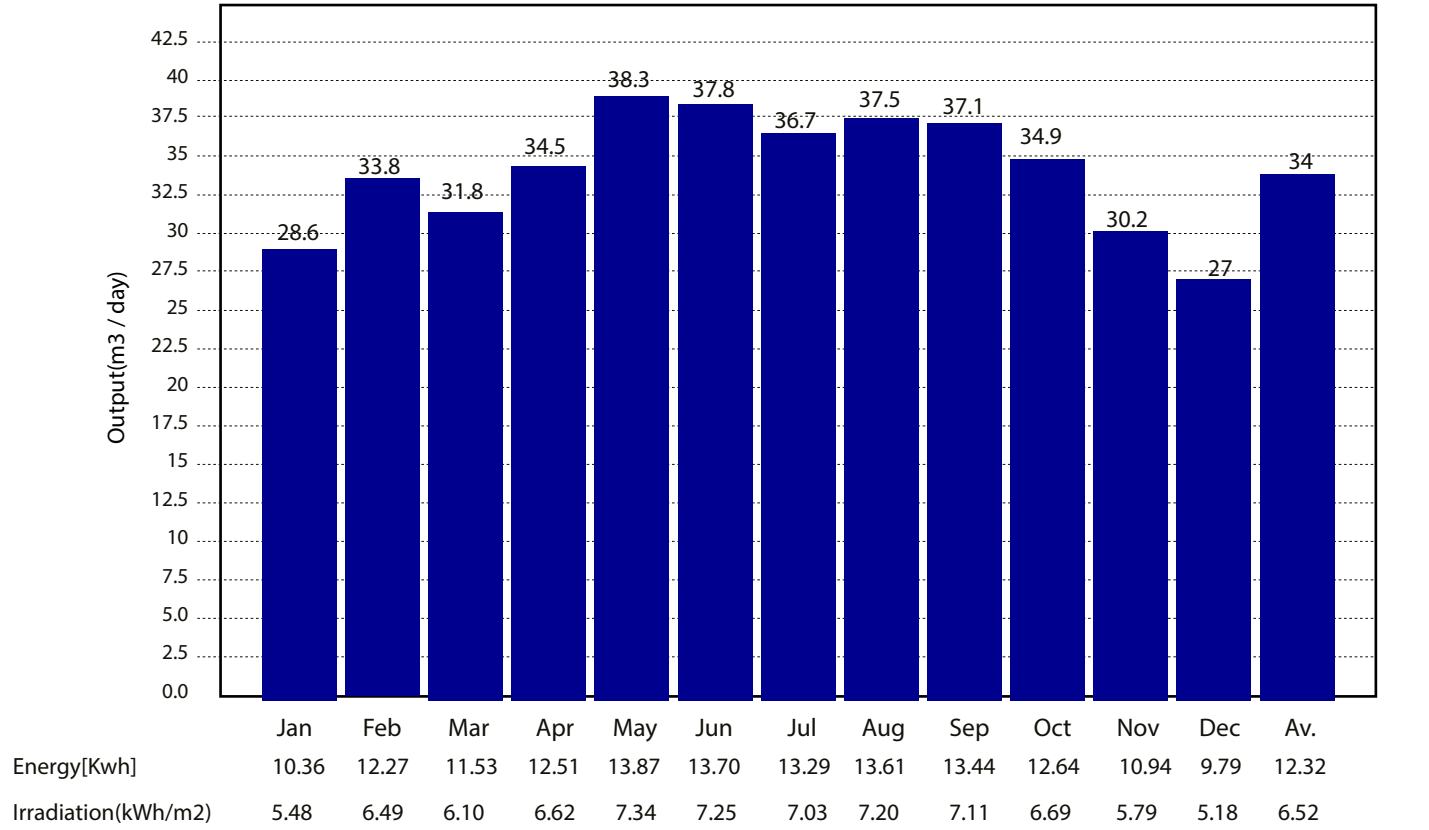
Parameter

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

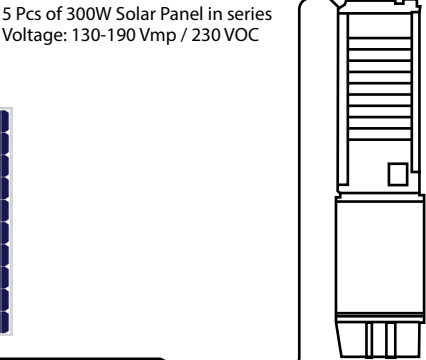
Products

Submersible pump	1pc;4SPN3-9P (2HP DC)
Solar panel	7pc;2100Wp;300w ×7pcs
Motor cable	
Pipeline	20m;Pipeline
Accessories	

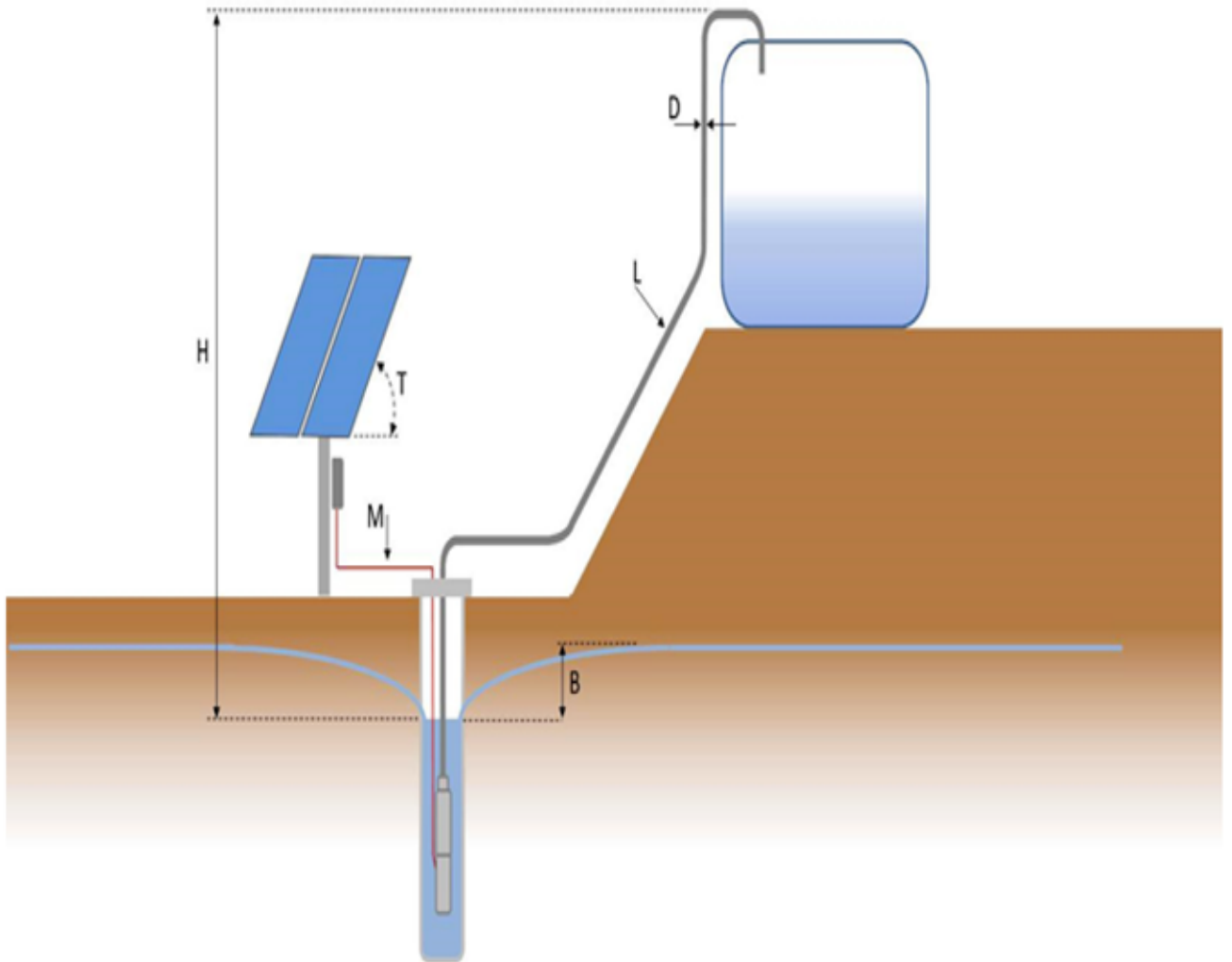
Daily output in average month (34.0) m³/day



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.

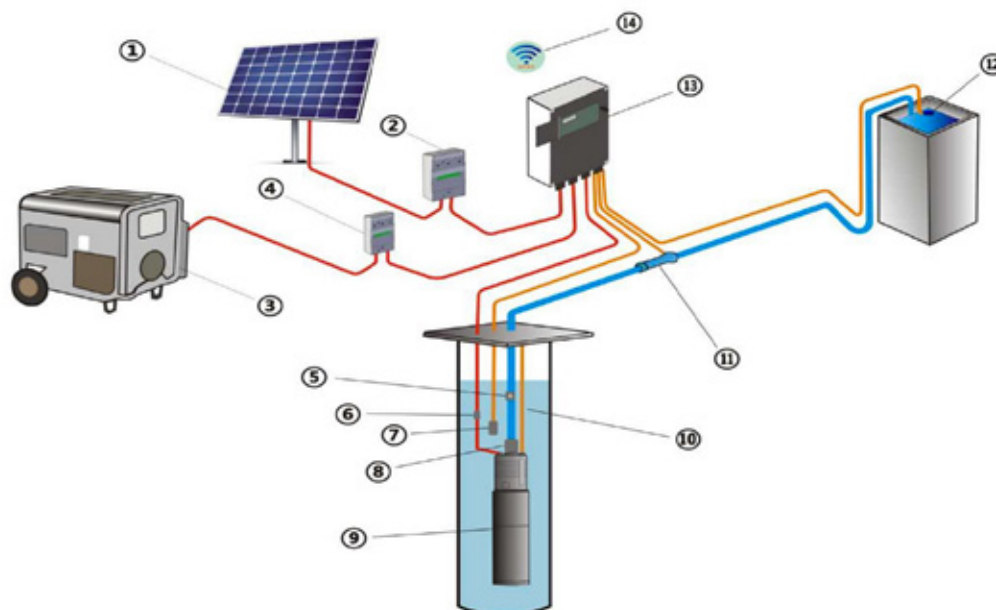
D (Pipeline inner diameter).

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.

4SPN3-9P (2HP DC)

Solar Submersible Pump System

System Overview

Head	max. 160m
Flow	max. 123L/min
Recommend Max Input Power	max. 2.2 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 4SPN3-9P (2HP DC)

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



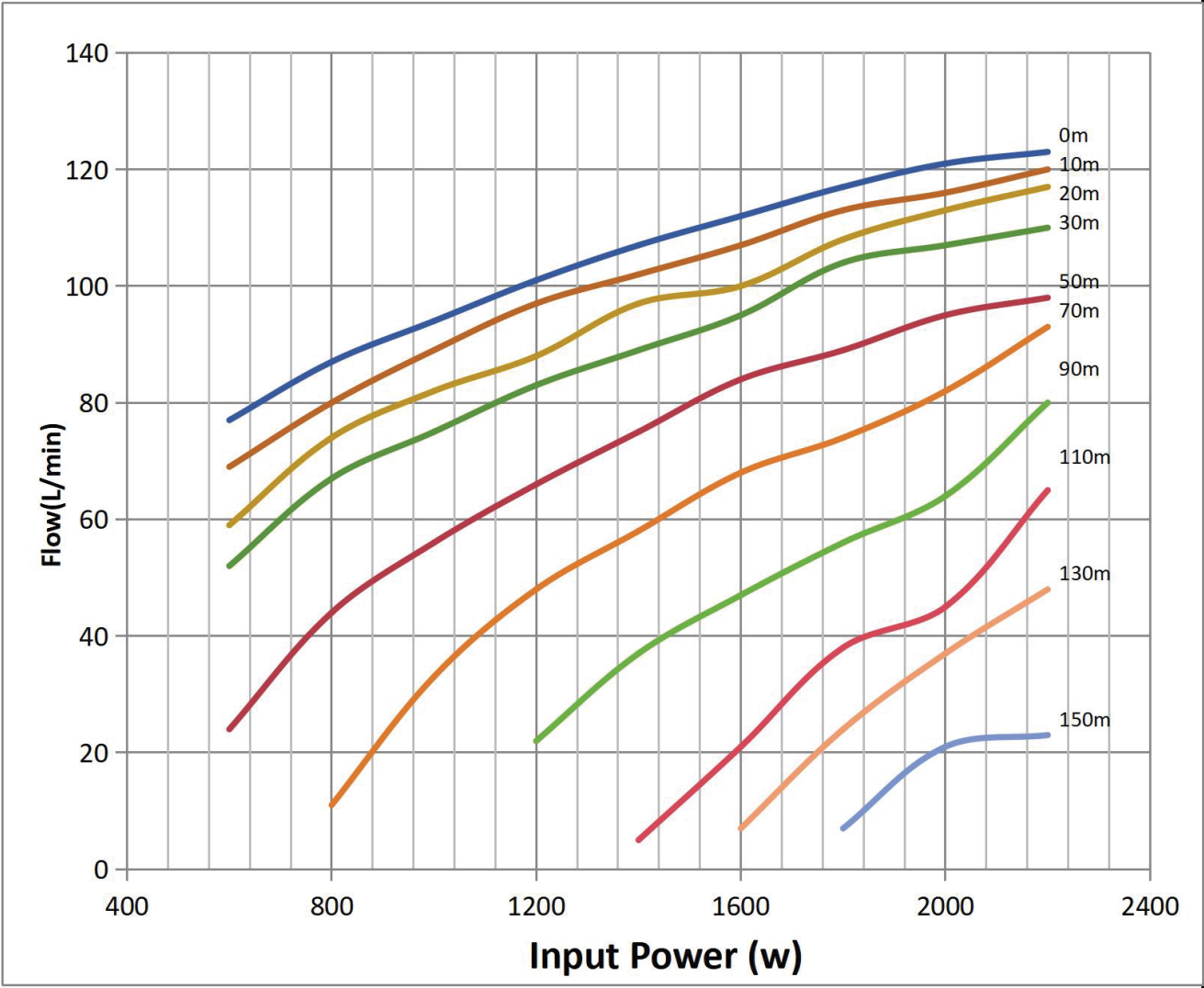
Note:

*Accept 2-10 PCS 340W best 5-7PCS;

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

4SPN3-9P(2HP DC)
Solar Pumping Project
Pump Chart

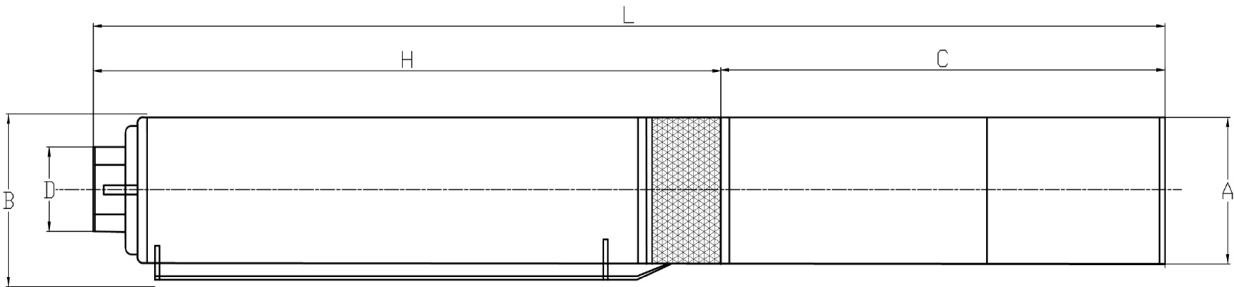
Flow max 123L/min ; Head max 160m ; BSP 2"



Head(m)	Input Power(W)								
	600	800	1000	1200	1400	1600	1800	2000	2200
	Flow (L/min)								
0	77	87	94	101	107	112	117	121	123
10	69	80	89	97	102	107	113	116	120
20	59	74	82	88	97	100	108	113	117
30	52	67	75	83	89	95	104	107	110
50	24	44	56	66	75	84	89	95	98
70		11	33	48	58	68	74	82	93
90				22	37	47	56	64	80
110					5	21	38	45	65
130						7	24	37	48
150							7	21	23

4SPN3-9P

Dimensions and Weights



	A	B	C	H	L	D
Dimension (mm)	ø94. 2	99	280	470	750	2"

	Pump Unit	Motor	Pump End	Package Unit
Weight (kg)	11. 1	7. 8	3. 3	12. 2

Package Volume
0.86m*0.11*0.11m

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