Maxima SOLAR

Solar pumping System

Nominal Flow	1.0 m3/hr @ 110 m
Flow Range	1.3 ~ 3.8 m3/hr
Head Range	10 ~ 110 m

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:	20m	Pipe length:	20m

Products

Submersible pump	1pc;3SPW1-14P(1HP DC)
Solar panel	4pc;1200Wp;300w ×4pcs
Motor cable	
Pipeline	20m;Pipeline
Accessories	

Daily output in average month   (29.3) m³/day

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Av.
Output (m3/day)	15.8	18.7	17.6	19.1	21.2	20.9	20.3	20.8	20.5	19.3	16.7	14.9	18.8
Energy[Kwh]	5.92	7.01	6.59	7.15	7.93	7.83	7.59	7.78	7.68	7.23	6.25	5.59	7.04
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

4 Pcs of 300W Solar Panel in series
Voltage: 80-150 Vmp / 180 VOC
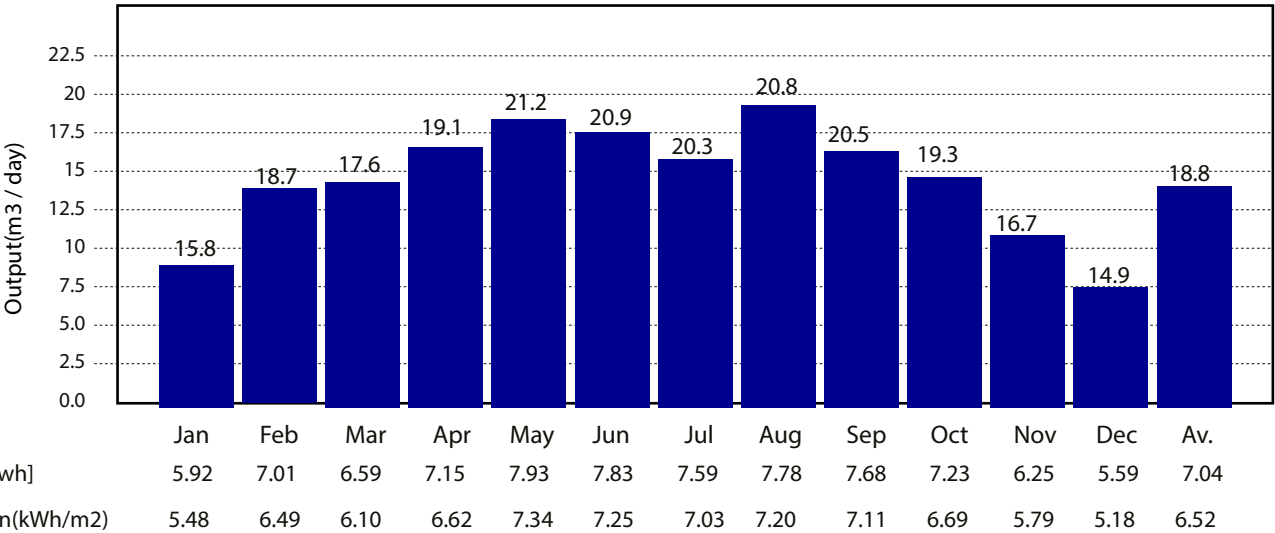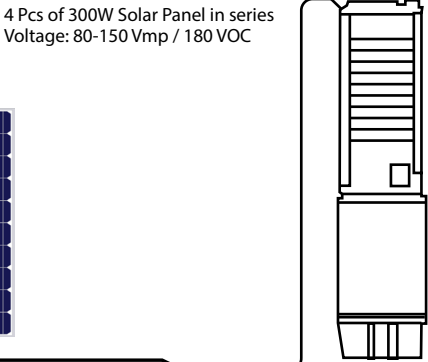
Sizing Layout
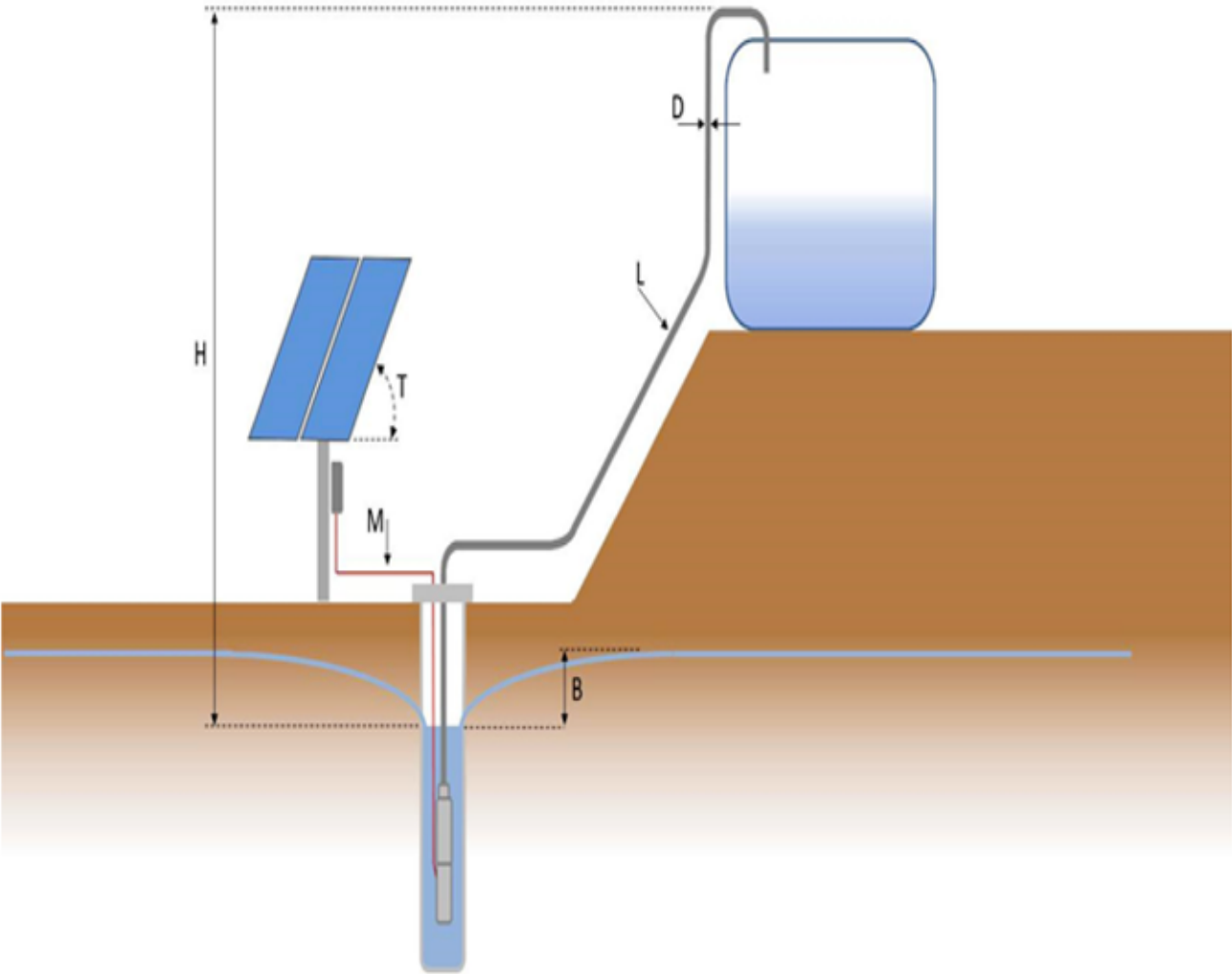
H (Static head):	Vertical height from the dynamic water level to the highest point of delivery..
B (Drawdown):	Lowering of water level depending on flow rate and recovery rate of the well.
D (Pipeline inner diameter).	
L (Pipe length):	Entire pipeline from the pump outlet to the point of delivery. Ellbows 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.

![Maxima Solar logo]

System Layout
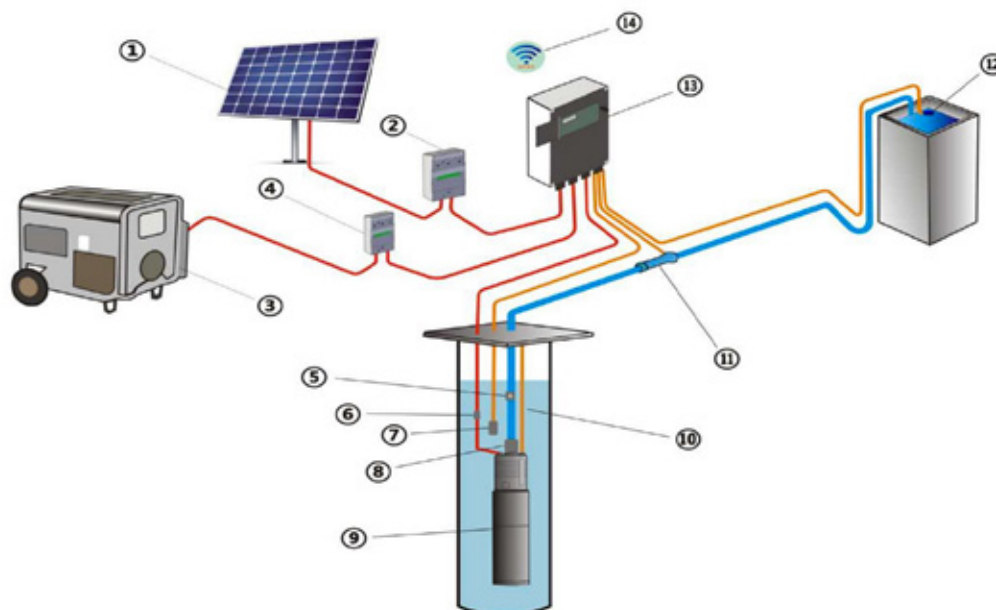
1. Solar panels	8. Sacrificial Anode(optional)
2. SPD(DC) Surge Protection Device(optional)	9. Solar water pump
3. Generator or Grid (optional)	10. Traction rope
4. SPD(AC) Surge Protection Device (optional)	11. Flow meter(optional)
5. Check valve (optional)	12. Float Switch (For Tank)
6. Wiring Package(Epoxy 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.

4SPW1-14P (1HP DC)

Solar Submersible Pump System

System Overview

Head	max. 120m
Flow	max. 67L/min
Recommend Max Input Power	max. 1.2 kW
Minimum well diameter	min 3 inch
Pump discharge	Rp
Efficiency Max	1.25%

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 4SPW1-14P (3HP DC)

External Controller: 3SPW-1HP

MPPT Efficiency Max.98%

Voltage:80-150Vmp/180VOC

Enclosure class:IP65

Error report

Losting-Phase protection

Over temperature protection

Motor 3SPW-96V-1HP DC

Voltage	DC max.VOC 180V
	DC Vmp 80-150V
Current	max.DC 15A
Motor Efficiency	max.85%
WaterTemp	max40°C
Insulation class	F
Enclosure class	IP X8
Submersion	max. 150m
Required cooling flow	0.5L/s
Speed	1000-4000

Pump End

Plastic impeller stainless steel shell

Non-return valve:

Centrifugal pump

Standards
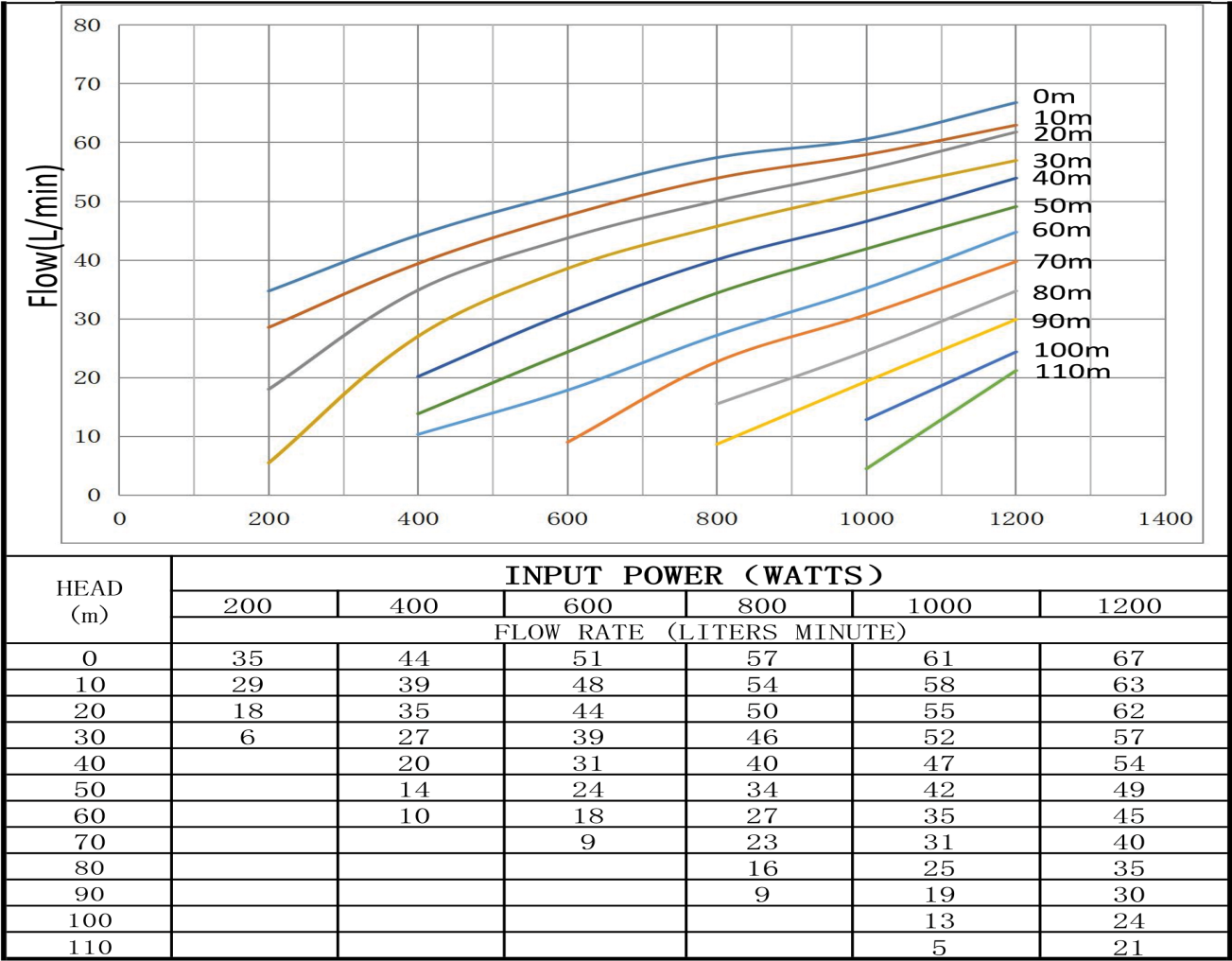
Note:

*Recommend 4 pcs of 340W solar panels in series

**The Controller is IP 65 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.

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3SPW1-14P(1HP DC)
Solar Pumping Project
Pump Chart

HEAD (m)	INPUT POWER （WATTS）					
	200	400	600	800	1000	1200
	FLOW RATE （LITERS MINUTE）					
0	35	44	51	57	61	67
10	29	39	48	54	58	63
20	18	35	44	50	55	62
30	6	27	39	46	52	57
40		20	31	40	47	54
50		14	24	34	42	49
60		10	18	27	35	45
70			9	23	31	40
80				16	25	35
90				9	19	30
100					13	24
110					5	21

Dimensions and Weights

	Weight (kg)
Pump Unit	7.6
Motor	4.5
Pump End	3.1
Pump Package Unit	8.7
Controller	4.2
Controller Package Unit	4.5

Pump :

	A	B	C	H	L	D
Dimention (mm)	⌀76	75	205	520	725	1.25"

Controller :	W1	W2	W3	H1	L1	L2
Dimention (mm)	162	182	210	100	150	233

	Package Volume
Pump	9cm*9cm*89cm
Controller	35cm*26cm*21cm

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