

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	5.5 m3/hr @ 140 m
Flow Range	1.2 ~ 9.4 m3/hr
Head Range	20 ~ 240 m

Parameter

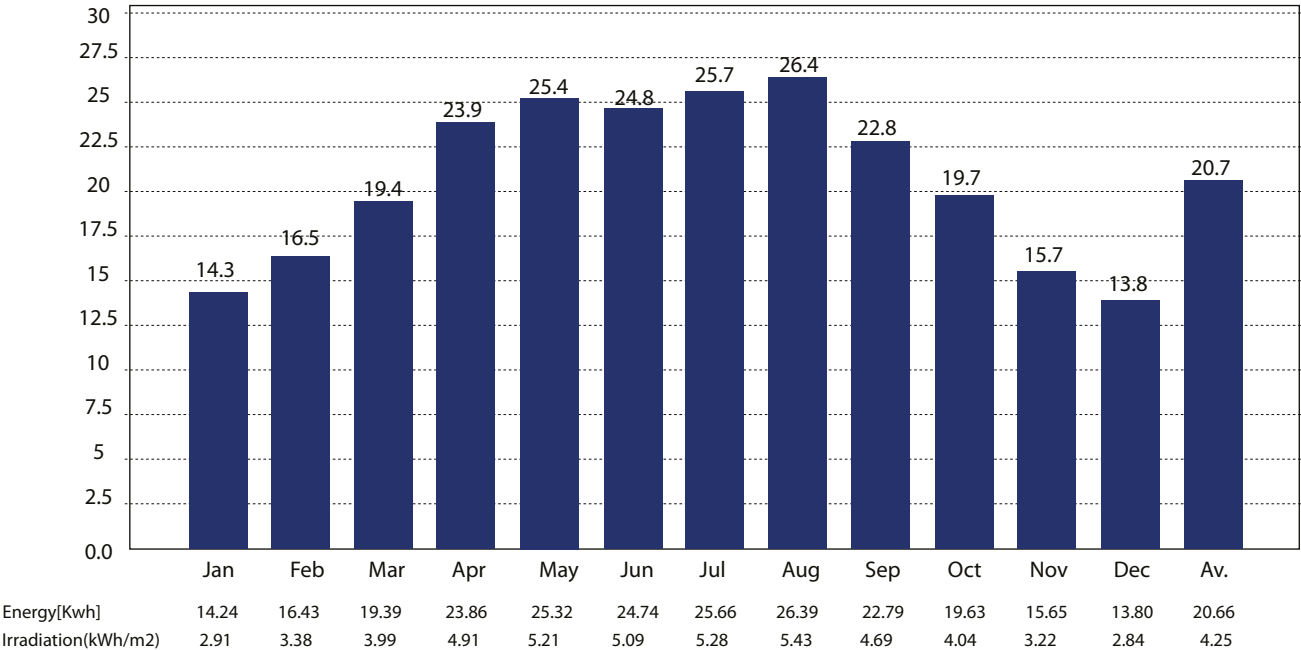
Location:	UAE	Water Temp:	25°C		
Required daily output:	19.9m³/day	Dirt loss:	3%	Motor lenght:	50
Pipe type:	Plastic	Static Head:	130m	Pipe length:	20m

Products

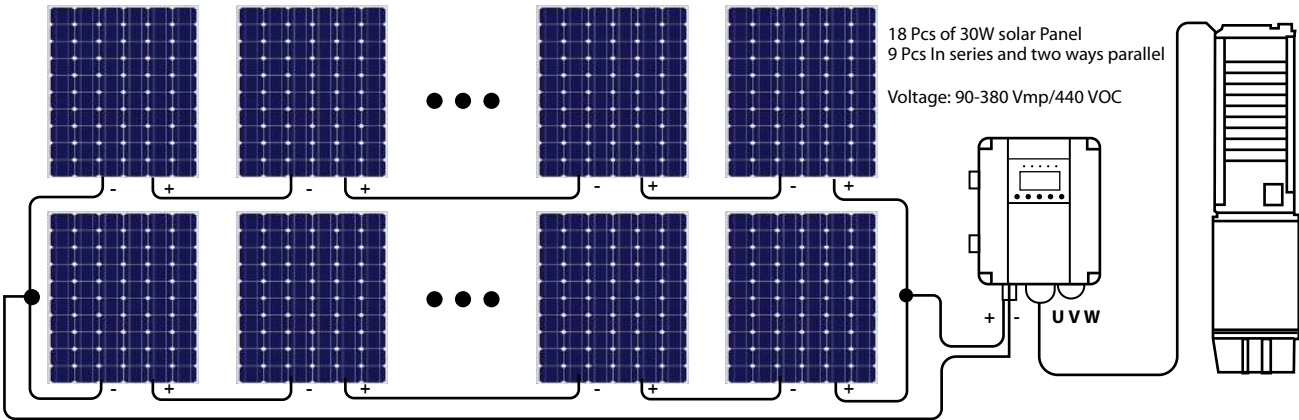
Submersible pump	1pc;4SP8-15 (5HP DC)
Solar panel	18pc;5400Wp;300w ×18pcs
Motor cable	50m*4mm²
Pipeline	20m;Pipeline

Accessories

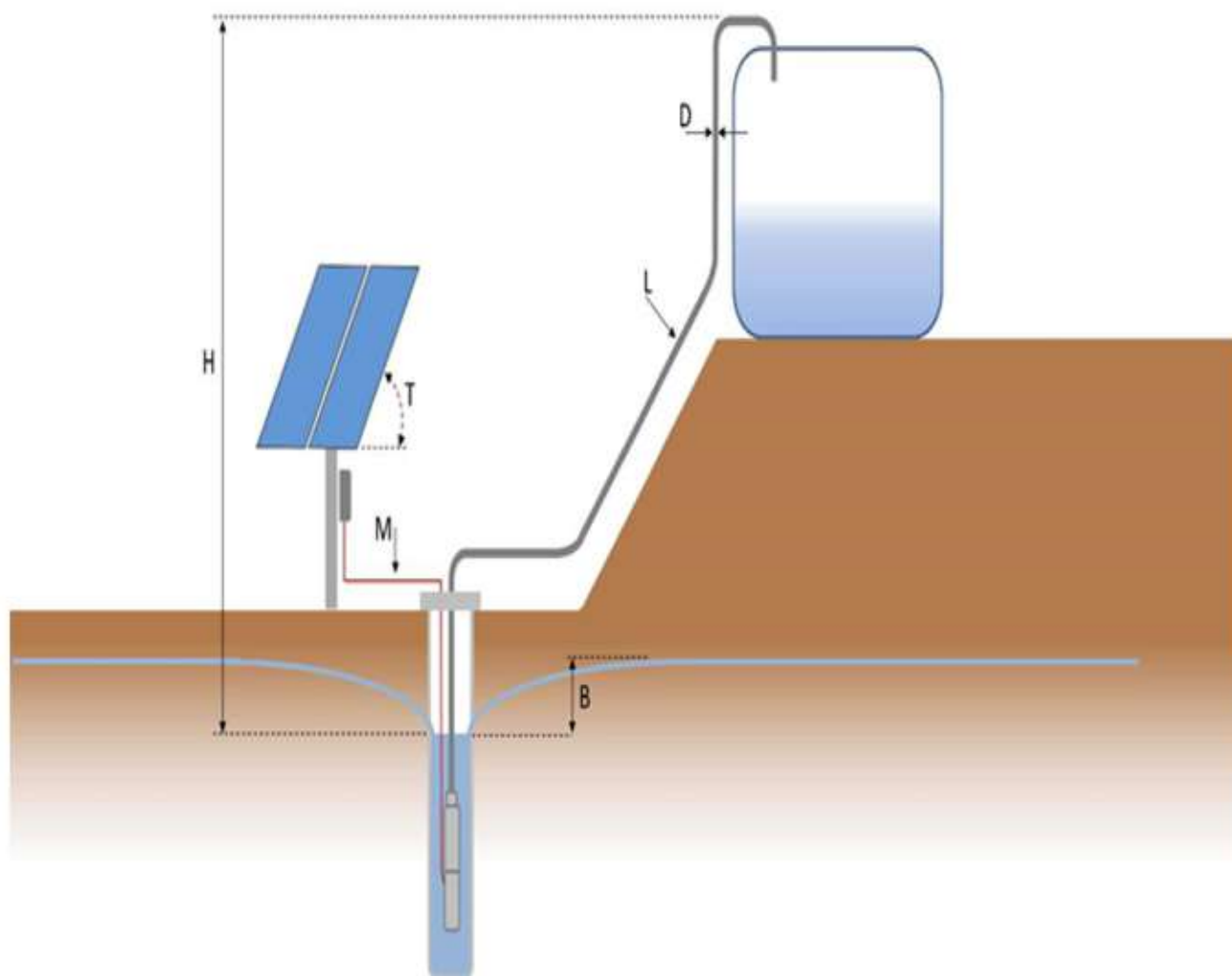
Daily output in average month (20.7) m³/day



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.

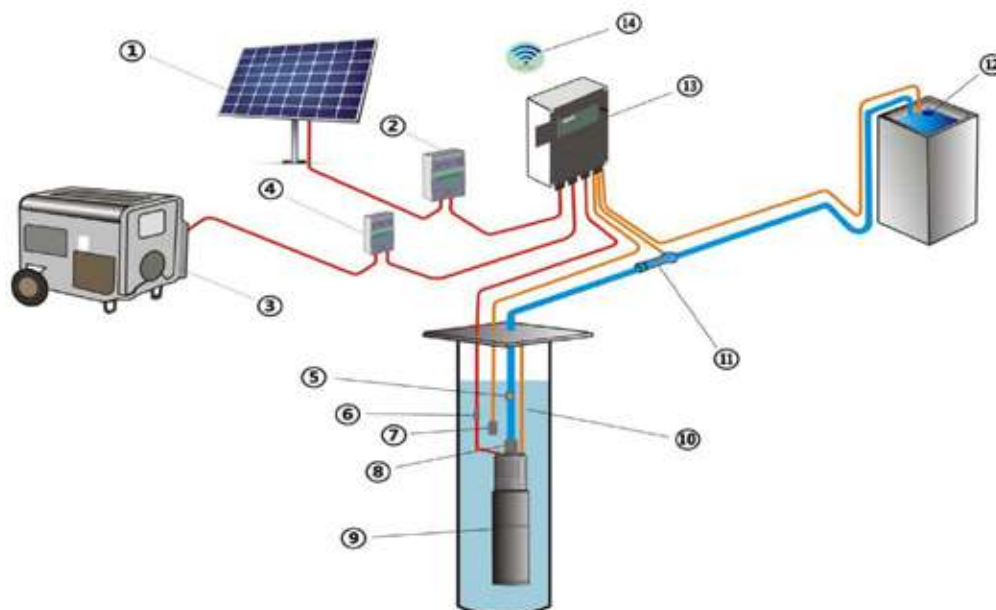
D (Pipeline inner diameter).

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.

4SP8-15 (5HP DC)

Solar Submersible Pump System

System Overview

Head	max. 164m
Flow	max 270/min
Recommend Max Input Power	max. 5.1 kW
Minimum well diameter	min 4 inch
Pump discharge	Rp 2"
Efficiency Max	45%

Product advantage

Stainless steel: AISI 304(316 optional):

BLDC High Efficiency Motor,

External Controller:

Only could powered by DC power:

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:

Wide voltage: 90-380V mp/440VOC:

Dry protection(No additional float sensor required):

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GPRS(Optional):

Technical Data:

Controller 4SP8-15 (5HP DC)

External Controller -5HP,

MPPT Efficiency Max. 98%

Voltage 90-380Vmp/440VOC

Enclosure class: IP65

Error Report

Losting-Phase protection

Over temperature protection;

Motor 4SP(5HP DC)

Voltage	DC max. VOC 440V DC Vmp 90-380V
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Current	max. DC 18.5A
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Motor Efficiency	max 90%
WaterTemp	max40°C
Insulation class	F
Enclosure class	IP X8
Submersion	max. 150m
Required cooling flow	0.8L/s
Connect Standard	4" NEMA
Speed	500-3600

Pump End

Stainless steel: AISI 304 (316 optional):

Non-return valve:

Centrifugal pump

Standards



Note:

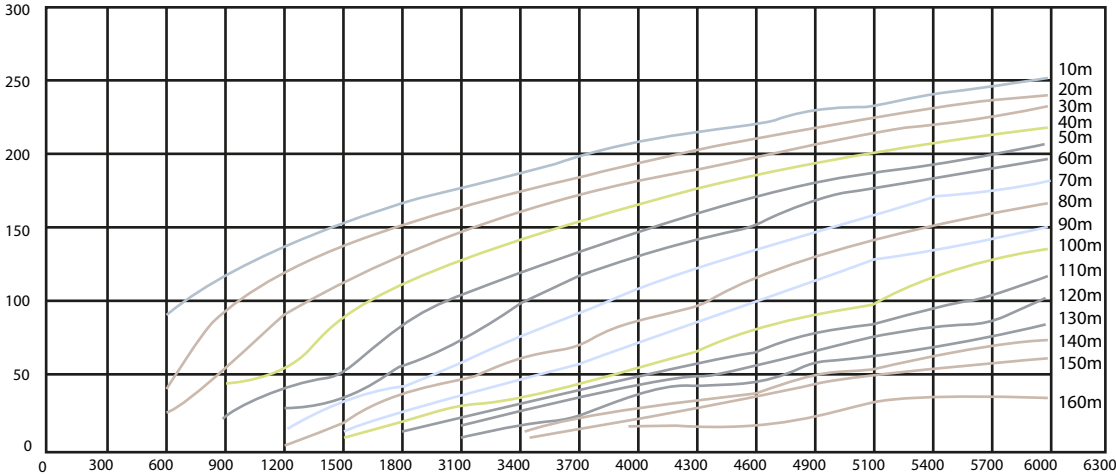
*Recommended 2*8 pcs 300W solar panels in series and then 2 ways in parallel:

*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.



4SP8-15 (5HP DC)
Solar Pumping Project
Pump chart



INPUT POWER (WATTS)

	INPUT POWER (WATTS)															
	600	900	1200	1500	1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800	5100
Head (m)	FLOW RATE (LITERS / MINUTES)															
10	92	121	138	154	168	177	187	199	208	215	219	231	234	242	246	252
20	41	96	112	139	152	165	175	185	196	204	212	218	225	231	237	239
30	26	57	93	116	134	148	160	173	184	190	199	208	215	220	226	233
40		44	56	92	111	129	143	158	168	177	186	196	202	208	214	220
50		25	43	54	86	108	122	137	150	162	174	183	190	196	204	209
60			25	36	55	75	99	118	131	144	152	169	177	184	192	198
70			18	34	44	89	79	93	110	124	136	147	19	170	175	182
80			4	19	39	47	63	72	88	98	116	132	142	161	159	167
90				14	27	37	46	59	73	86	101	114	128	134	142	151
100				9	20	30	36	47	57	67	81	92	99	117	125	137
110					12	23	30	42	52	63	67	80	85	98	105	119
120						16	25	36	44	49	56	68	76	84	86	106
130						7	17	23	37	44	46	59	63	69	79	86
140							12	19	29	34	40	51	56	63	71	75
150							8	14	20	30	35	45	51	55	57	52
160									17	19	17	23	33	36	34	35

Pump:

	A	B	C	H	L	D
Dimension (mm)	φ95	90	354	846	1200	2

Controller:

	W1	W2	H1	H2	L1	L2
Dimension (mm)	228	254	156	177	215	370

	Weight (kg)
Pump Unit	21
Motor	12
Pump End	8
Pump Packaging Unit	28.5
Controller	7
Controller Package Unit	10

	Package Volume
Pump	1, 3m*0. 16m*0.2m
Controller	23cm*32cm*42cm

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