

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

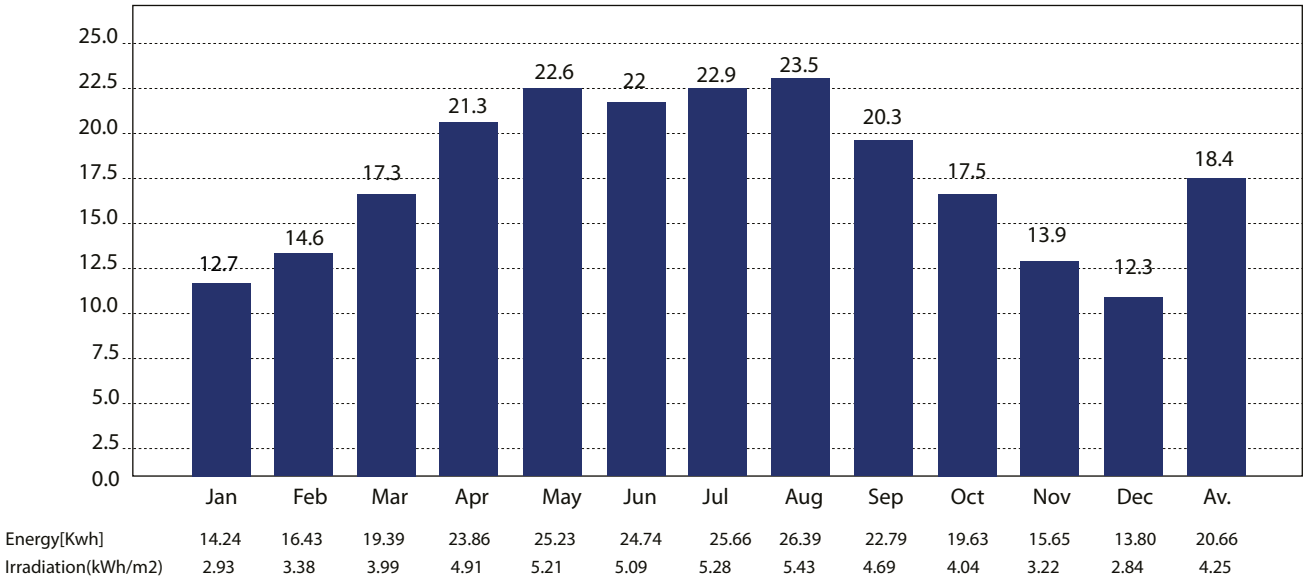
Parameter

Location:	UAE	Water Temp:	25°C		
Required daily output:	16m³/day	Dirt loss:	3%	Motor lenght:	50
Pipe type:	Plastic	Static Head:	160m	Pipe length:	20m

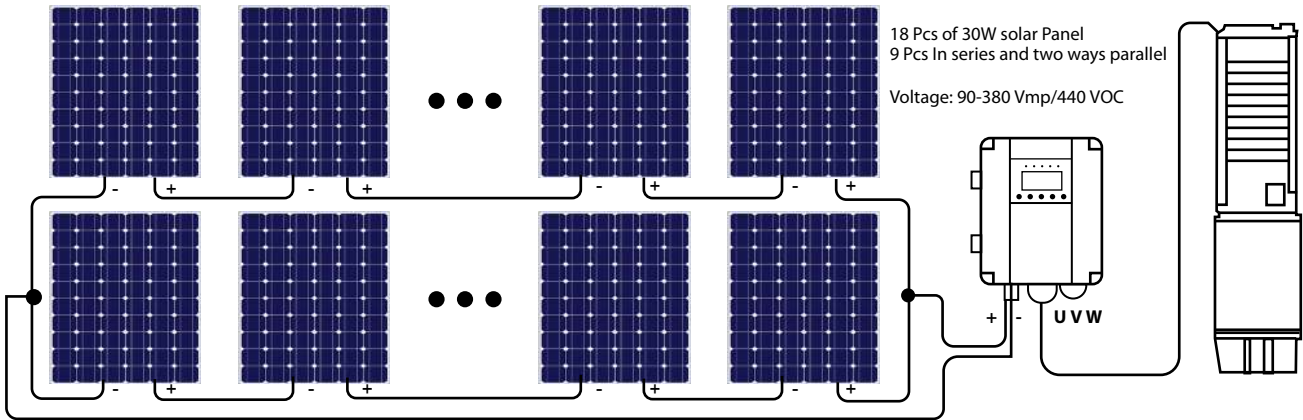
Products

Submersible pump	1pc;4SP3-33 (5HP)
Solar panel	18pc;5400Wp;300w ×18pcs
Motor cable	50m*4mm²
Pipeline	20m;Pipeline
Accessories	

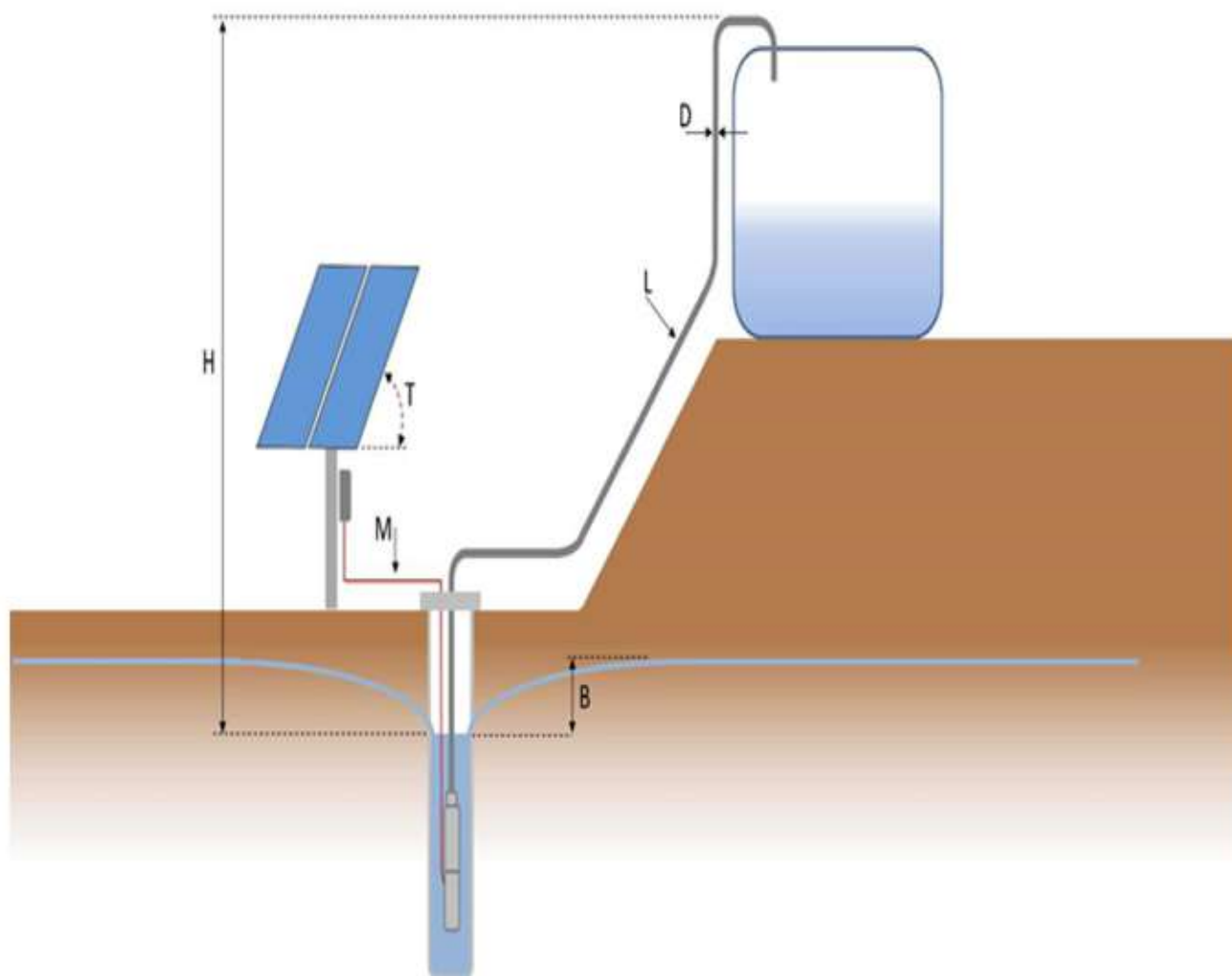
Daily output in average month (18.4) m³/day



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.

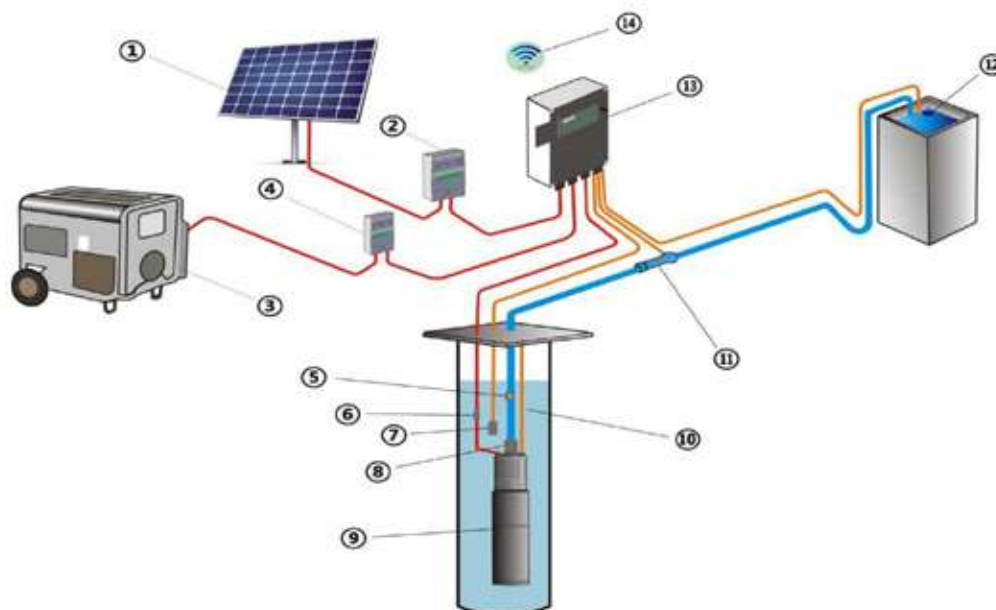
D (Pipeline inner diameter).

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.

4SP3-33 (5HP DC)

Solar Submersible Pump System

System Overview

Head	max. 34m
Flow	max 115L/min
Recommend Max Input Power	max. 5.4 kW
Minimum well diameter	min 4 inch
Pump discharge	Rp 1.25"
Efficiency Max	45%

Product advantage

- Stainless steek: 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):
- Dry protection(No additional floar sensor required):
- GPRS(Optional):

Technical Data:

- Controller 4SP3-33 (5HP DC)
- External Controller-5HP
- MPPT Efficiency Max. 98%
- Voltage: 90-380 mp / 440VOC
- Enclosure class IP65
- Error Report
- Losting-Phase Protection
- Over Temperature Protection

DC max.VOC 440V
DC Vmp 60-380V

Motor 4SP(5HP DC)

Current	max.DC 18.5A
Voltage	max. DC 12A
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

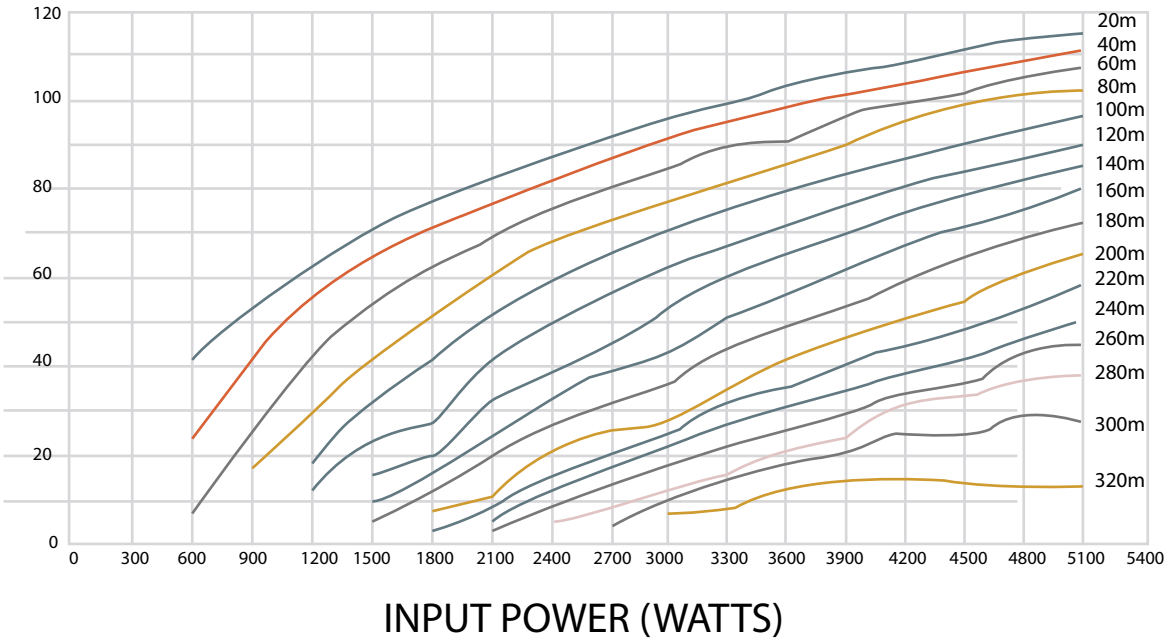


Note:

- *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.



4SP3-33 (5HP DC)
Solar Pumping Project
Pump Chart



	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)															
2	52	61	69	74	80	87	91	95	99	103	106	109	112	114	116	118
30	41	53	62	71	75	82	87	91	95	98	103	106	108	111	114	115
40	33	42	54	55	71	76	82	87	92	95	98	101	104	117	108	111
60	7	25	43	53	62	68	75	80	84	90	91	97	99	102	106	109
80		17	29	42	51	60	68	73	78	82	85	90	95	99	101	102
100			18	32	40	51	59	65	71	75	80	84	87	90	94	97
120			12	23	28	42	46	57	63	67	72	77	81	81	87	91
140				16	20	32	38	44	52	60	65	70	75	78	82	85
160				10	15	24	33	38	42	50	56	63	68	71	75	80
180				6	11	10	28	32	38	44	49	53	59	64	69	73
200					8	11	21	25	28	36	42	47	52	66	61	66
220					3	8	15	20	25	32	36	41	45	48	53	58
240						5	11	18	22	27	31	35	39	41	46	51
260						3	8	13	19	22	25	29	34	36	44	46
280							6	8	13	16	21	24	31	33	37	38
300								4	10	15	19	21	25	24	29	28
320									7	8	13	15	15	14	13	13

Dimensions & Weight

