

# Solar pumping System

Nominal Flow	2.0 m3/hr @ 100 m
Flow Range	2.8 ~ 5.8 m3/hr
Head Range	30 ~ 90 m

## Note:

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: United Arab Emirates; Du Water Temp: 25°C

Required daily output:

20m³/day

3% 70m Motor lenght: Pipe length:

50 20m

Pipe type: **Products** 

Submersible pump 1pc;4SP3-11 (2HP AC&DC) 7pc;2100Wp;300w ×7pcs Solar panel

Plastic

Motor cable 50m\*2.5mm<sup>2</sup> Pipeline 20m;Pipeline

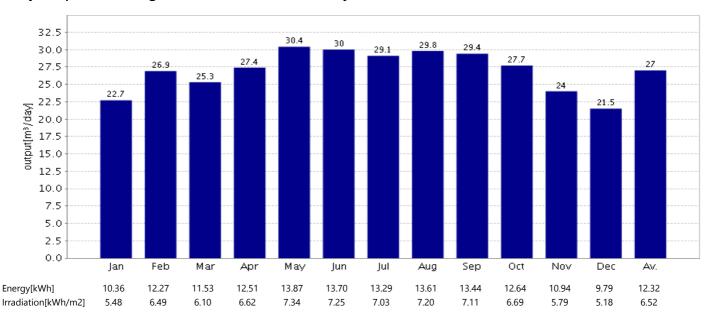
Accessories

Daily output in average month

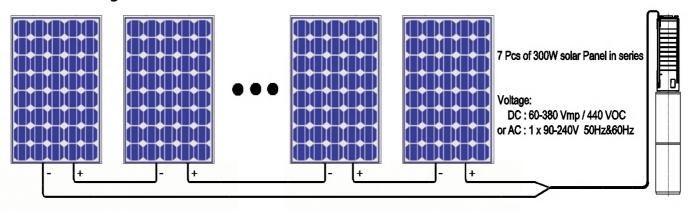
(27.0) m<sup>3</sup>/day

Dirt loss:

Static Head:

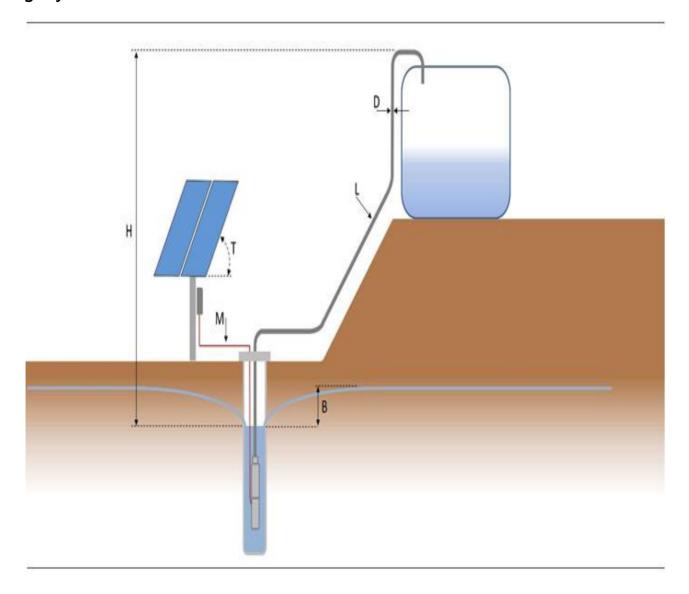


## **Solar Panel Wiring**





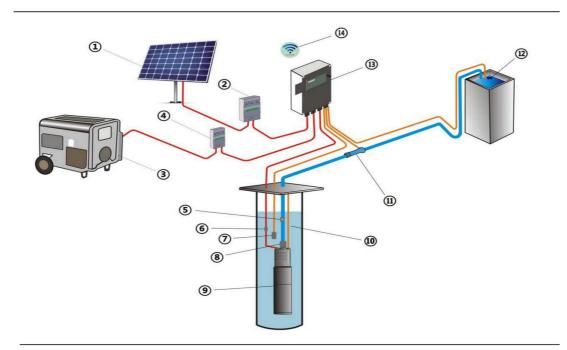
# Sizing Layout



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).	9	
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
- 2. SPD(DC) Surge Protection Device(optional)
- 3. Generator or Grid (optional)
- 4、 SPD(AC) Surge Protection Device (optional)
- 5. Check valve (optional)
- Wiring Package (Epoxy Resin Wiring Package or Heat Shrinkable Tube Wiring Package)
- 7、 Float Switch (For Dry Protection, Optional)

- 8. Sacrificial Anode(optional)
- 9. Solar water pump
- 10. Traction rope
- 11、Flow meter(optional)
- 12、Float Switch(For Tank)
- 13、Monitor(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.



# 4SP3-11 (2HP AC&DC)

## Solar Submersible Pump System

## **System Overview**

Head max. 110m
Flow max. 106L/min
Recommend Max input Power max. 2.2 kW
Minimum well diameter min 4" inch
Pump discharge Rp 1.25"
Efficiency Max 45%

## **Product advantage**

.Stainless steel: AISI 304 (316 optional);

.BLDC High Efficiency Motor; .MPPT Efficiency Max.99%;

.Encapsulated water filled motor(No pollution risk);

.Thrust bearing system;

.Soft start running makes the system's life longer;

.Hybrid Powered by AC/DC;50Hz&60Hz both working;

.Wide voltage:1x90-240VAC;60-380Vmp/440VOC;

.Built-in electronic make system more reliable;

.Dry protection(No additional float sensor required);

.Reverse protection(reverse + and - is fine );

.Over-head protection(need monitor and flow meter);

.Lighting and surge protection(need monitor);

.Over voltage protection (need monitor)

#### **Technical Data**

## Controller 4SP3-11 (2HP AC&DC)

.Controller Built-in;

.Losting-Phase protection;

.Over-load/Over-current/Over-voltage/Over-power protection;

.Over temperature protection.

### Motor 4SP(0.5-3HP AC&DC)

Voltage AC 1×90-280V

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

Current max.AC 10A

max.DC 12A max.88%

Motor Efficiencymax.88%WaterTempmax.40°CInsulation classFEnclosure classIP X8Submersionmax.150mRequired cooling flow0.8L/sConnect Standard4"NEMASpeed500-4000

#### **Pump End**

.Stainless steel: AISI 304 (316 optional);

.Non-return valve;

## **Standards**









#### Note:

\*AC/DC switching needs to wait 1 minute;

\*Recommended 7 Pcs of 300W Solar Panels in Series;

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

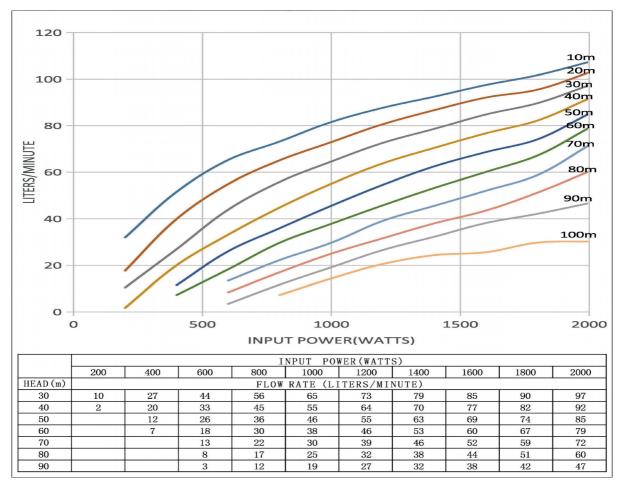




# 4SP3-11 (2HP AC&DC)

# **Solar Pumping project**

# **Pump chart**



## **Dimensions and Weights**

