Nominal Flow	5.0 m3/hr @ 25 m
Flow Range	1.6 ~ 9.5 m3/hr
Head Range	5 ~ 30 m

Solar pumping System

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

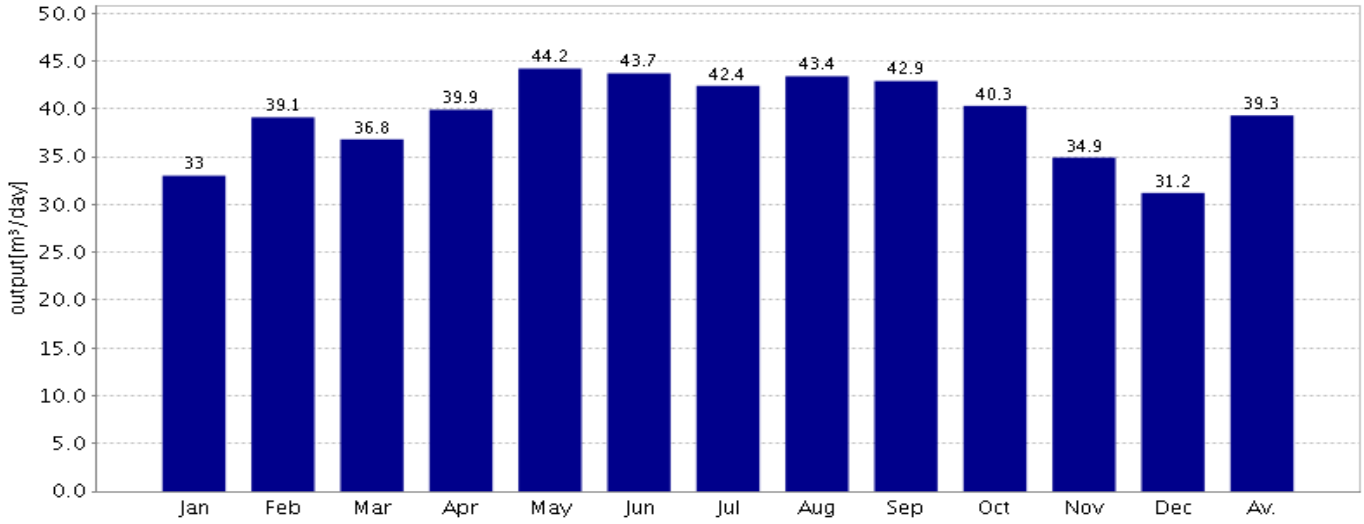
Parameter

Location:	United Arab Emirates;Dubai	Water Temp:	25°C		
Required daily output:	20m³/day	Dirt loss:	3%	Motor lenght:	50
Pipe type:	Plastic	Static Head:	20m	Pipe length:	20m

Products

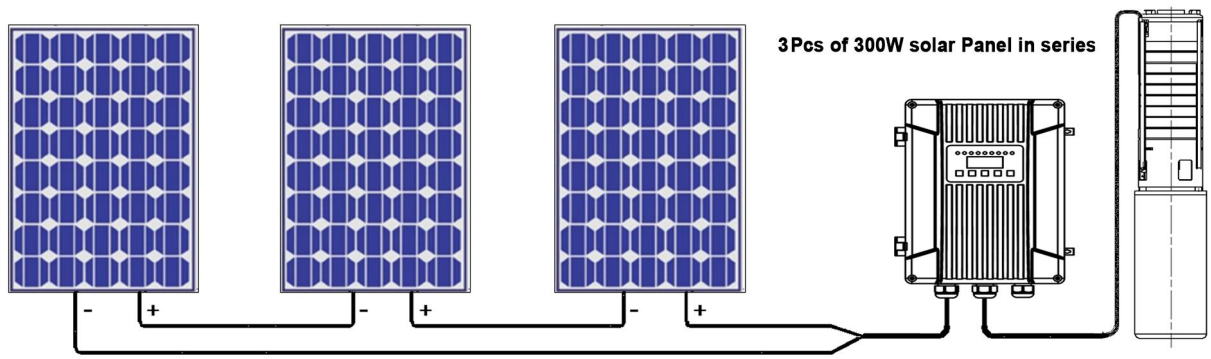
Submersible pump	1pc;4SPK5-3(0.5HP AC/DC)
Solar panel	3pc;900Wp;300w ×3pcs
Motor cable	
Pipeline	20m;Pipeline
Accessories	

Daily output in average month (39.3) m³/day

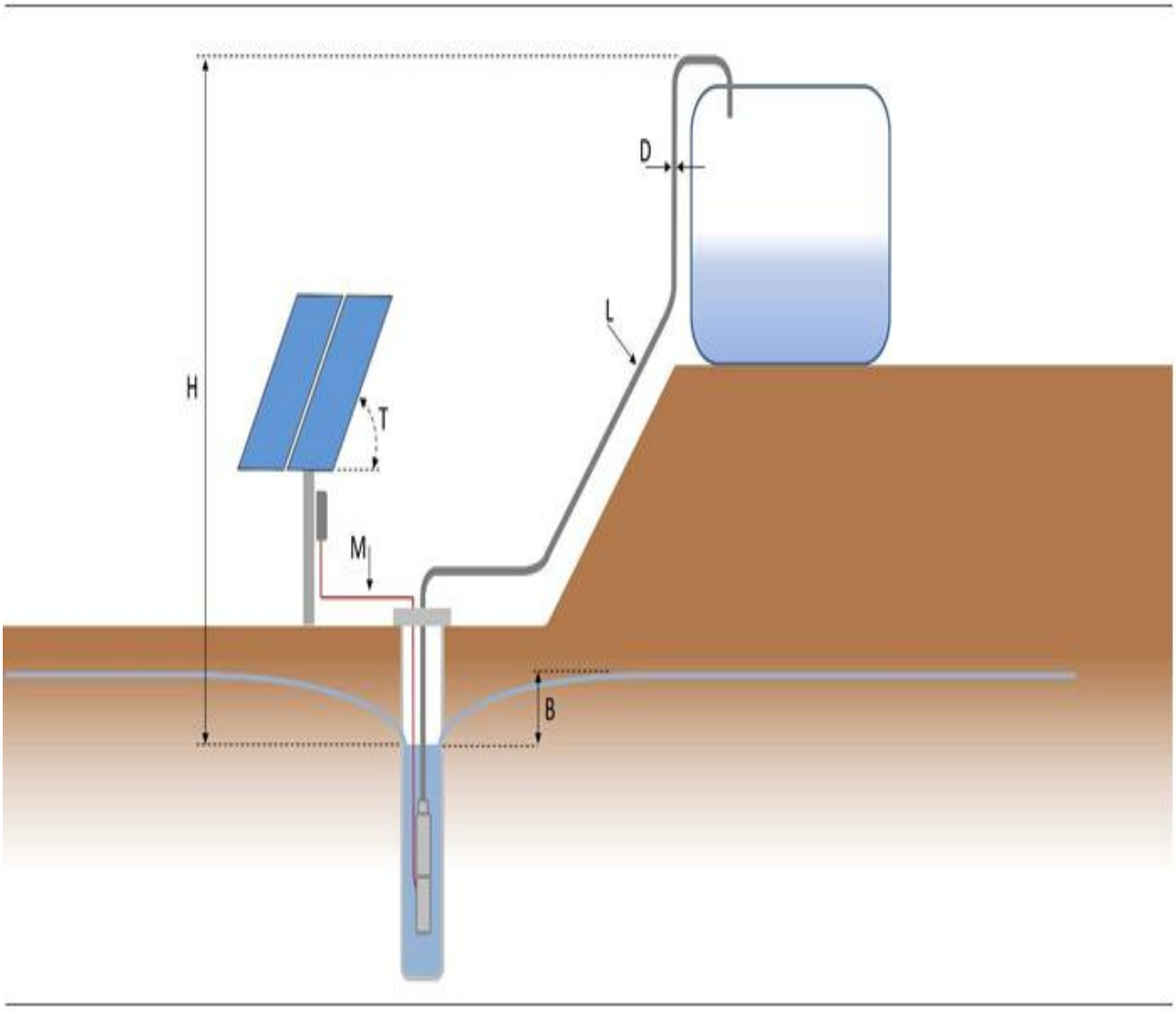


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Av.
Energy[kWh]	4.44	5.26	4.94	5.36	5.95	5.87	5.69	5.83	5.76	5.42	4.69	4.20	5.28
Irradiation[kWh/m2]	5.48	6.49	6.10	6.62	7.34	7.25	7.03	7.20	7.11	6.69	5.79	5.18	6.52

Solar Panel Wiring



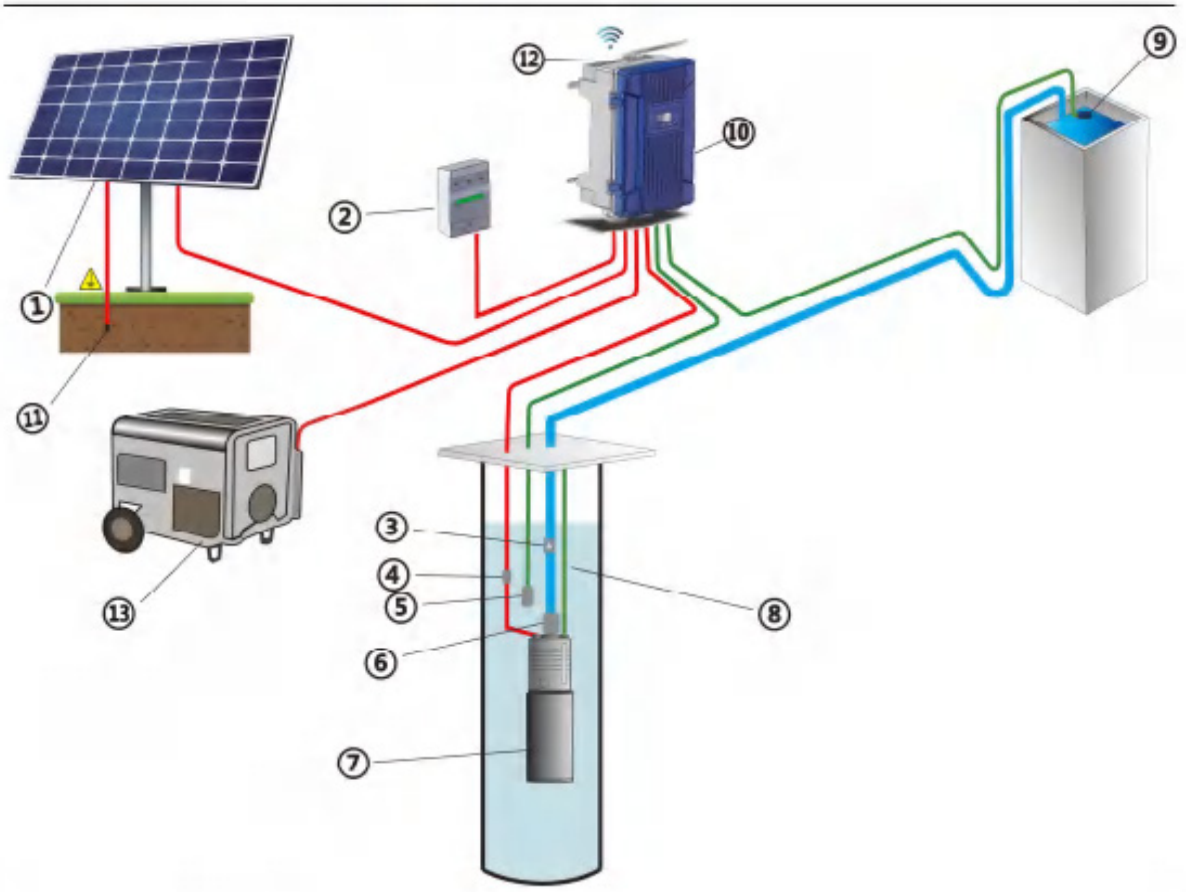
Sizing Layout



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. Elbows 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

System Installation Diagram



- 1、Solar Panel Array
- 2、SPD(DC), Surge Protection Device (Optional)
- 3、Check valve (Optional)
- 4、Wiring waterproof assembly
- 5、The Low-Level Float （For Well ,Optional)
- 6、Sacrificial Anode （Optional）
- 7、Water Pump End and BLDC Motor
- 8、Safety rope
- 9、The High-Level Float （For Tank ,Optional)
- 10、External controller
- 11、Grounding pile（Optional）
- 12、GPRS (Optional)
- 13、Generator（Single-phase,Optional）

SAMKING solar pump operation is very simple, please read the manual carefully before use.

4SPK5-3(0.5HP AC/DC)

Solar Submersible Pump System

System Overview

Head	max. 33m
Flow	max. 180L/min
Recommend Max input Power	max. 0.9 kW
Minimum well diameter	min 4 inch
Pump discharge	Rp 1.5
Efficiency Max	%

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;
.Dry protection(No additional float sensor required);
.Reverse protection(reverse + and - is fine);
.Lighting and surge protection(need monitor);
.Over-load/Over-current/Over-voltage/Over-power protection;
.AC and DC intelligent switching
.Losting-Phase
.overvoltage and other protection

Technical Data

Controller 4SPK5-3(0.5HP AC/DC)

.Controller external;
.Losting-Phase protection;
.Over-load/Over-current/Over-voltage/Over-power protection;
.Over temperature protection.

Motor 4SPK(0.5-3HP AC&DC)

Voltage	AC 1x90-280V
	DC max.VOC 440V
	DC Vmp 60-380V
Current	max.AC 10A
	max.DC 12A
Motor Efficiency	max.88%
WaterTemp	max.40°C
Insulation class	F
Enclosure class	IP X8
Submersion	max.150m
Required cooling flow	0.8L/s
Connect Standard	4''NEMA
Speed	500-4000

Pump End

.Stainless steel: AISI 304 (316 optional);
.Non-return valve;
.Centrifugal pump

Standards

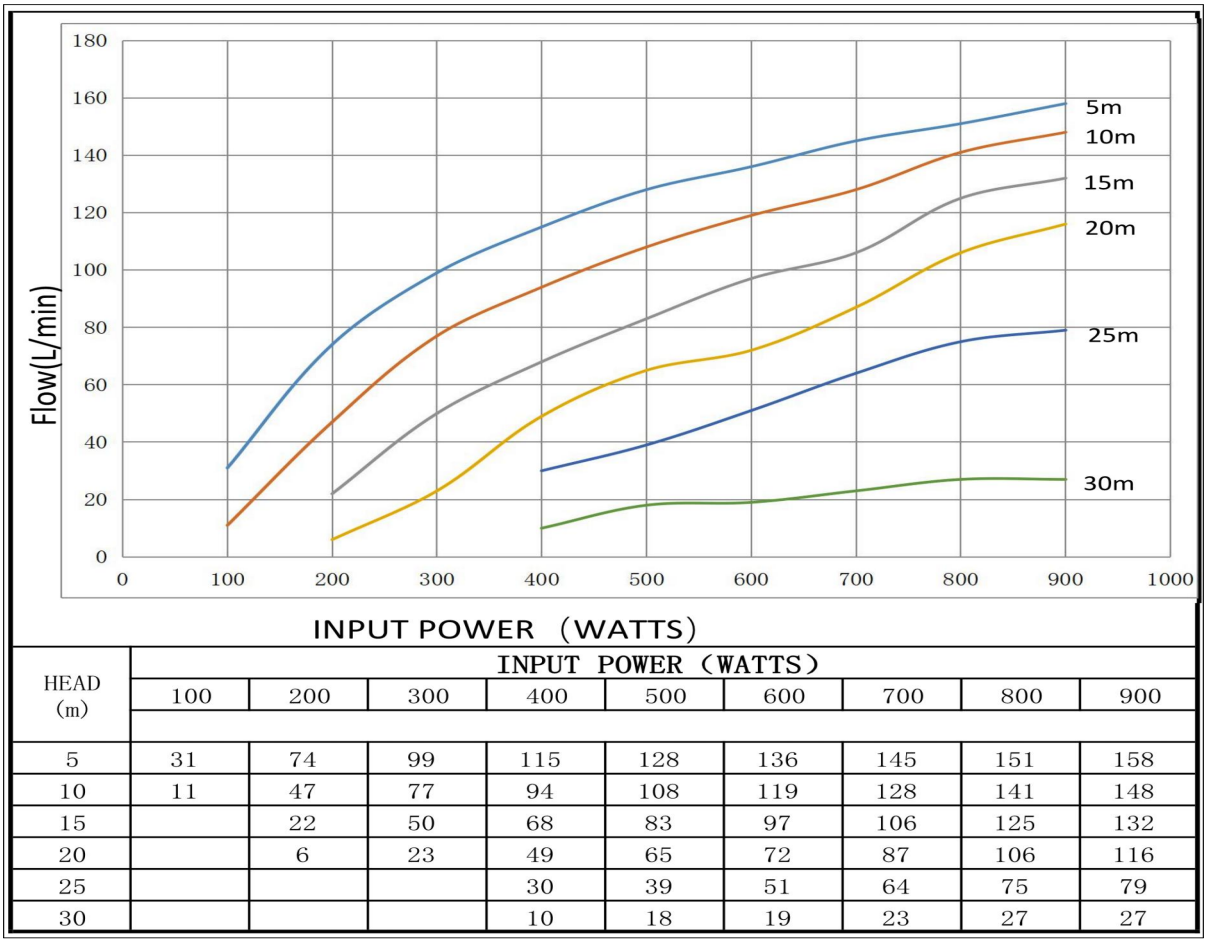
Note:

*AC/DC switching needs to wait 1 minute;
*Recommended 3 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.

4SPK5-3(0.5HP AC/DC)

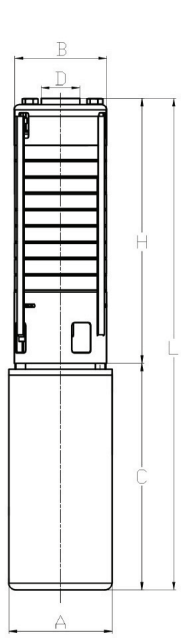
Solar Pumping project

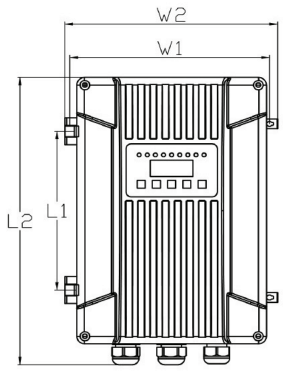
Pump chart

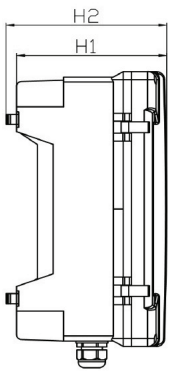


HEAD (m)	INPUT POWER（WATTS）								
	100	200	300	400	500	600	700	800	900
5	31	74	99	115	128	136	145	151	158
10	11	47	77	94	108	119	128	141	148
15		22	50	68	83	97	106	125	132
20		6	23	49	65	72	87	106	116
25				30	39	51	64	75	79
30				10	18	19	23	27	27

Dimensions and Weights







Pump :

	A	B	C	H	L	D
Dimention (mm)	ϕ94. 2	99	225	255	480	2″

Controller :

	W1	W2	H1	H2	L1	L2
Dimention (mm)	193	209	140	155	160	300

	Weight (kg)
Pump Unit	9. 6
Motor	7. 8
Pump End	1. 8
Pump Package Unit	11. 0
Controller	4. 2
Controller Package Unit	4. 5

	Package Volume
Pump	11cm*11cm*68cm
Controller	35cm*26cm*21cm

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