



Enviro Energy Solutions Ltd
Your Gateway to the Sun

EDCWP SOLAR DC PUMPS TECHNICAL SPECIFICATIONS

...BECAUSE WITH ENVIROENERGY SOLUTIONS THE SUN SHINES FOR EVERYONE...



Version 010619

SOLAR DC WATER PUMPS

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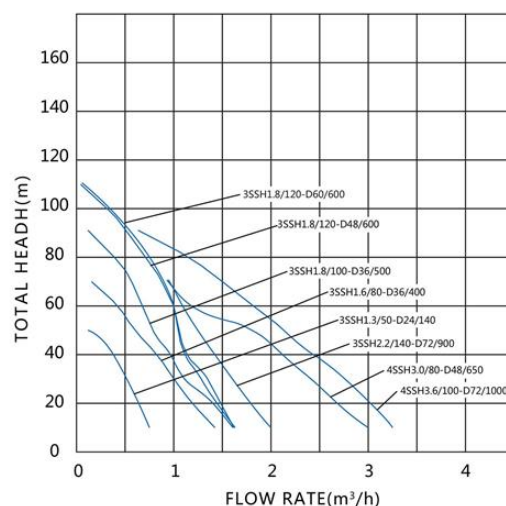
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A. 3 INCH and 4 INCH HELICAL ROTOR SOLAR SUBMERIBLE PUMPS

General Specifications:

- 304 Stainless Steel Outlet
- 304 Stainless Steel Pump Body
- 304 Stainless Steel Motor Body
- NSK Bearing
- 316 Stainless Steel Helical Rotor and Screw
- Full Oil Permanent Magnet Brushless DC Motor (Without Hall)
- MPPT Controller: 32-bit MCU /FOC/Sine Wave Current



Technical Specifications

Model	Power		Voltage (VDC)	Voltage Range (VDC)	Max Flow (m³/h)	Max Head (m)	Outlet (Inch)	Outline (Inch)
	Watt	H.P.						
3SSH1.3/50-D24/140	140	0.2	24	17-50	1.3	50	0.75"	3"
3SSH1.6/80-D36/400	400	0.5	36	20-68	1.6	80	0.75"	3"
3SSH1.8/100-D36/500	500	0.7	36	20-68	1.8	100	0.75"	3"
3SSH1.8/120-D48/600	600	0.8	48	30-80	1.8	120	0.75"	3"
3SSH1.8/120-D60/600	600	0.8	60	30-80	1.8	120	0.75"	3"
3SSH2.2/140-D72/900	900	1.2	72	30-100	2.2	140	0.75"	3"
4SSH3.0/80-D48/650	650	0.9	48	30-80	3.0	80	1"	4"
4SSH3.6/100-D72/1000	1000	1.3	72	30-100	3.6	100	1"	4"

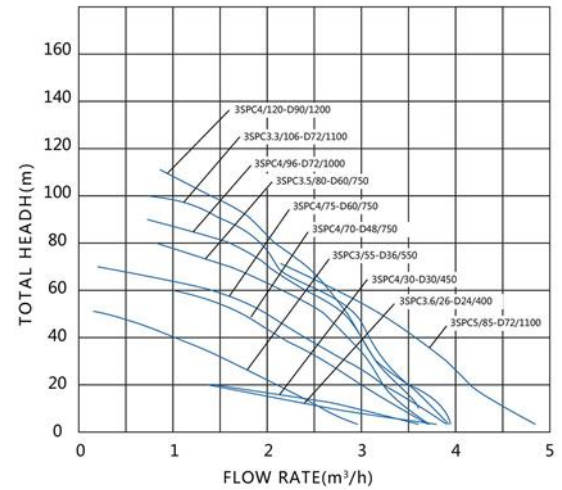
Pump Efficiency

Model		HEAD (meters)													
		10	20	30	40	50	60	70	75	80	90	100	110	120	140
3SSH1.3/50-D24/140	Flow Rate in m³/h	0.8			0.4	0.2									
3SSH1.6/80-D36/400		1.4	1.2	1	0.8	0.6	0.4	0.2		0					
3SSH1.8/100-D36/500		1.6	1.4	1.2	1	0.8		0.6	0.5	0.4	0.2				
3SSH1.8/120-D48/600		1.6		1.36	1.24		1	0.85	0.78	0.7	0.53	0.36	0.14	0	
3SSH1.8/120-D60/600		1.6		1.36	1.24		1	0.85	0.78	0.7	0.53	0.36	0.14	0	
3SSH2.2/140-D72/900		2	1.8	1.6	1.4		1.2			1	0.8		0.6		0.2
4SSH3.0/80-D48/650		3	2.7	2.4	2.1	1.8	1.2	0.9		0					
4SSH3.6/100-D72/1000		3.3	3	2.7	2.4	2.1	1.8	1.5		1.2	0.6	0			

B. 3 INCH CENTRIFUGAL SOLAR SUBMERIBLE PUMPS (NYLON IMPELLER)

General Specifications:

- Brass Outlet
- 304 Stainless Steel Pump Body
- 304 Stainless Steel Motor Body
- NSK Bearing
- Reinforced Nylon Impeller
- 316 Stainless Steel Screw
- Full Oil Permanent Magnet Brushless DC Motor (Without Hall)
- MPPT Controller: 32-bit MCU /FOC/Sine Wave Current



Technical Specifications

Model	Power		Voltage (VDC)	Voltage Range (VDC)	Max Flow (m³/h)	Max Head (m)	Outlet (Inch)	Outline (Inch)
	Watt	H.P.						
3SPC3.6/26-D24/400	400	0.5	24	17-50	3.6	26	1"	3"
3SPC4/30-D30/450	450	0.6	30	17-50	4.0	30	1"	3"
3SPC3/55-D36/550	550	0.7	36	20-68	3.0	55	1"	3"
3SPC4/70-D48/750	750	1.0	48	30-80	4.0	70	1"	3"
3SPC4/75-D60/750	750	1.0	60	30-80	4.0	75	1"	3"
3SPC3.5/80-D60/750	750	1.0	60	30-80	3.5	80	1"	3"
3SPC4/96-D72/1000	1000	1.5	72	30-100	4.0	96	1"	3"
3SPC3.3/106-D72/1100	1100	1.5	72	30-100	3.3	106	1"	3"
3SPC4/120-D90/1200	1200	1.6	90	30-132	4.0	120	1"	3"
3SPC5/85-D72/1100	1100	1.5	72	30-100	5.0	85	1.25"	3"

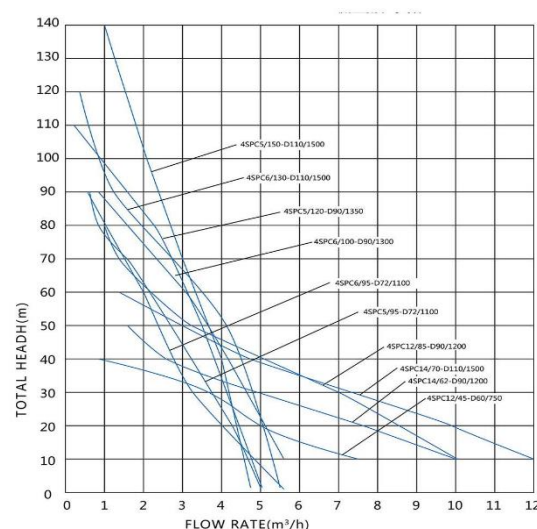
Pump Efficiency

Model		HEAD (meters)												
		1	10	20	30	40	50	60	70	80	90	100	110	120
3SPC3.6/26-D24/400	Flow Rate in m³/h	3.6	2.63	1.47										
3SPC4/30-D30/450		3.8	2.71	1.46	0									
3SPC3/55-D36/550		2.98	2.57	2.15	1.68	1.06	0.26							
3SPC4/70-D48/750		3.71	3.41	3.02	2.58	2.22	1.69	1.02	0					
3SPC4/75-D60/750		3.88	3.6	3.3	2.87	2.45	2.05	1.45	0.34					
3SPC3.5/80-D60/750		3.76	3.56	3.32	3.12	2.84	2.52	2.13	1.64	0.81				
3SPC4/96-D72/1000		3.92	3.72	3.53	3.28	3.08	2.83	2.45	2.04	1.57	0.91			
3SPC3.3/106-D72/1100		3.91	3.75	3.49	3.26	3.05	2.86	2.56	2.27	1.91	1.46	0.72	0	
3SPC4/120-D90/1200			3.63	3.41	3.16	2.98	2.84	2.63	2.39	2.12	1.81	1.42	0.79	
3SPC5/85-D72/1100		4.86	4.56	4.24	3.93	3.54	3.14	2.65	2.09					

C. 4 INCH CENTRIFUGAL SOLAR SUBMERIBLE PUMPS (NYLON IMPELLER)

General Specifications:

- Brass Outlet
- 304 Stainless Steel Pump Body
- 304 Stainless Steel Motor Body
- NSK Bearing
- Reinforced Nylon Impeller
- 316 Stainless Steel Screw
- Full Oil Permanent Magnet Brushless DC Motor (Without Hall)
- MPPT Controller: 32-bit MCU /FOC/Sine Wave Current



Technical Specifications

Model	Power		Voltage (VDC)	Voltage Range (VDC)	Max Flow (m³/h)	Max Head (m)	Outlet (Inch)	Outline (Inch)
	Watt	H.P.						
4SPC12/45-D60/750	750	1.0	60	30-80	12	45	1.5"	4"
4SPC14/62-D90/1200	1200	1.6	90	30-132	14	62	2"	4"
4SPC14/70-D110/1500	1500	2.0	110	30-140	14	70	2"	4"
4SPC12/85-D90/1200	1200	1.6	90	30-132	12	85	1.5"	4"
4SPC5/95-D72/1100	1100	1.5	72	30-100	5	95	1.25"	4"
4SPC6/95-D72/1100	1100	1.5	72	30-100	6	95	1.25"	4"
4SPC6/100-D90/1300	1300	1.7	90	30-132	6	100	1.25"	4"
4SPC5/120-D90/1350	1350	1.8	90	30-132	5	120	1.25"	4"
4PC6/130-D110/1500	1500	2.0	110	30-140	6	130	1.25"	4"
4SPC5/150-D110/1500	1500	2.0	110	30-140	5	130	1.25"	4"

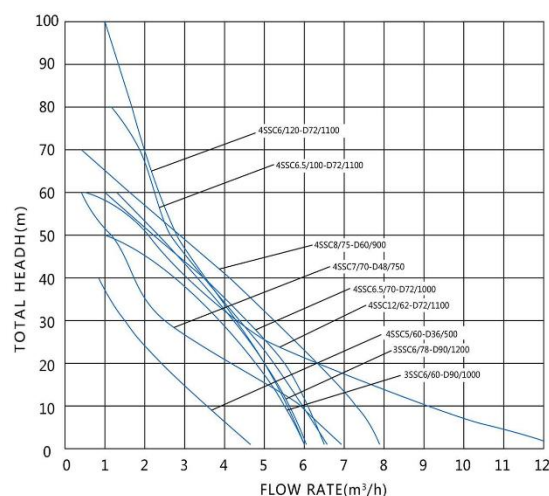
Pump Efficiency

Model		HEAD (meters)															
		1	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
4SPC12/45-D60/750	Flow Rate in m³/h		7.5	5	3.72	0.8											
4SPC14/62-D90/1200			10.1	7.77	4.92	2.79	1.57	0									
4SPC14/70-D110/1500			12.1	9.85	7.32	4.87	2.73	1.39	0								
4SPC12/85-D90/1200			10.1	8.55	6.95	4.87	3.24	2.23	1.43	1							
4SPC5/95-D72/1100		5.07	4.85	4.41	3.84	3.34	2.72	2.12	1.65	0.92	0.58						
4SPC6/95-D72/1100		5.61	5.11	4.18	3.31	2.43	2.21	2	1.51	0.79	0.56						
4SPC6/100-D90/1300			5.65	5.23	4.84	4.33	3.72	3.1	2.51	1.65	0.94	0					
4SPC5/120-D90/1350		5.17	4.91	4.87	4.45	4.03	3.55	3.08	2.49	2.33	1.41	0.73	0.28	0			
4PC6/130-D110/1500		5.53	5.48	5.39	5.07	4.67	4.19	3.75	3.29	2.89	2.32	1.78	1.06	0.45	0		
4SPC5/150-D110/1500		4.86	4.79	4.71	4.45	4.14	3.76	3.41	3.05	2.73	2.38	2.14	1.73	1.55	1.36	1.04	0

D. 3 and 4 INCH CENTRIFUGAL SOLAR SUBMERIBLE PUMPS (SS IMPELLER)

General Specifications:

- 304 Stainless Steel Outlet
- 304 Stainless Steel Pump Body
- 304 Stainless Steel Motor Body
- NSK Bearing
- 304 Stainless Steel Impeller
- 316 Stainless Steel Screw
- Full Oil Permanent Magnet Brushless DC Motor (Without Hall)
- MPPT Controller: 32-bit MCU /FOC/Sine Wave Current



Technical Specifications

Model	Power		Voltage (VDC)	Voltage Range (VDC)	Max Flow (m³/h)	Max Head (m)	Outlet (Inch)	Outline (Inch)
	Watt	H.P.						
3SSC6/60-D90/1000	1000	1.3	90	30-132	6	60	1"	3
3SSC6/78-D90/1200	1200	1.6	90	30-132	6	78	1"	3
4SSC5/60-D36/500	500	0.7	36	20-68	5	60	1.25"	4
4SSC12/62-D72/1100	1100	1.5	72	30-100	12	62	2"	4
4SSC6.5/70-D72/1000	1000	1.3	72	30-100	6.5	70	1.25"	4
4SSC7/70-D48/750	750	1.0	48	30-80	7	70	1.5"	4
4SSC16/70-D110/1500	1500	2.0	110	30-140	16	70	2"	4
4SSC8/75-D60/900	900	1.2	60	30-80	8	75	1.5"	4
4SSC6.5/100-D72/1100	1100	1.5	72	30-100	6.5	100	1.25	4
4SSC6/120-D72/1100	1100	1.5	72	30-100	6	120	1.25	4

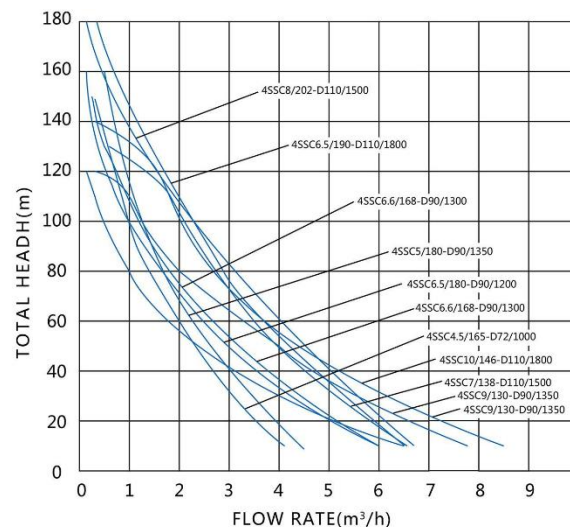
Pump Efficiency

Model		HEAD (meters)													
		1	5	10	20	25	30	35	40	50	60	70	80	100	120
3SSC6/60-D90/1000	Flow Rate in m³/h	5.96	5.78	5.49	4.79	4.37	3.81	3.12	2.43	1.02	0				
3SSC6/78-D90/1200		5.99		5.61	5.08		4.45		3.57	2.41	1.36		0		
4SSC5/60-D36/500		4.68	4.35	3.79	2.31	1.94	1.53	1.19	0.93		0				
4SSC12/62-D72/1100		12	10.4	9.43	6.31	5.06	3.99	3.26	2.67	2.1	0.49				
4SSC6.5/70-D72/1000		6.52	6.4	6.28	5.59	5.13	4.67	4.17	3.47	2.28	1.09	0			
4SSC7/70-D48/750		6.88	6.58	5.9	3.84	3.25	2.43	2.08	1.64	1.07	0.41	0			
4SSC16/70-D110/1500		16		14.2	10.2	8.99	7.37	6.26	5.65	4.9	2.26	0			
4SSC8/75-D60/900		7.85	7.91	7.33	5.88	5.06	4.13	3.44	2.99	2.46	1.58	0.43			
4SSC6.5/100-D72/1100		6.51	6.38	6.1	5.31	4.88	4.42	3.79	3.26	2.61	2.2	1.9	1.21	0	
4SSC6/120-D72/1100		6		5.6	5		4.3		3.4	2.7	2.18	1.75	1.44	1	0

E. 4 INCH CENTRIFUGAL SOLAR SUBMERIBLE PUMPS (SS IMPELLER)

General Specifications:

- 304 Stainless Steel Outlet
- 304 Stainless Steel Pump Body
- 304 Stainless Steel Motor Body
- NSK Bearing
- 304 Stainless Steel Impeller
- 316 Stainless Steel Screw
- Full Oil Permanent Magnet Brushless DC Motor (Without Hall)
- MPPT Controller: 32-bit MCU /FOC/Sine Wave Current



Technical Specifications

Model	Power		Voltage (VDC)	Voltage Range (VDC)	Max Flow (m³/h)	Max Head (m)	Outlet (Inch)	Outline (Inch)
	Watt	H.P.						
4SSC8/125-D72/1200	1200	1.6	72	30-100	8	125	1.5"	4"
4SSC9/130-D90/1350	1350	1.8	90	30-132	9	130	1.5"	4"
4SSC7/138-D110/1500	1500	2.0	110	30-140	7	138	1.25"	4"
4SSC10/146-D110/1800	1800	2.5	110	30-140	10	146	1.5"	4"
4SSC4.5/165-D72/1000	1000	1.3	72	30-100	4.5	165	1.25"	4"
4SSC6.6/168-D90/1300	1300	1.7	90	30-132	6.6	168	1.5"	4"
4SSC6.5/180-D90/1200	1200	1.6	90	30-132	6.5	180	1.25"	4"
4SSC5/180-D90/1350	1350	1.8	90	30-132	5	180	1.25"	4"
4SSC6.5/190-D110/1800	1800	2.4	110	30-140	6.5	190	1.25"	4"
4SSC8/202-D110/1500	1500	2.0	110	30-140	8	202	1.5"	4"

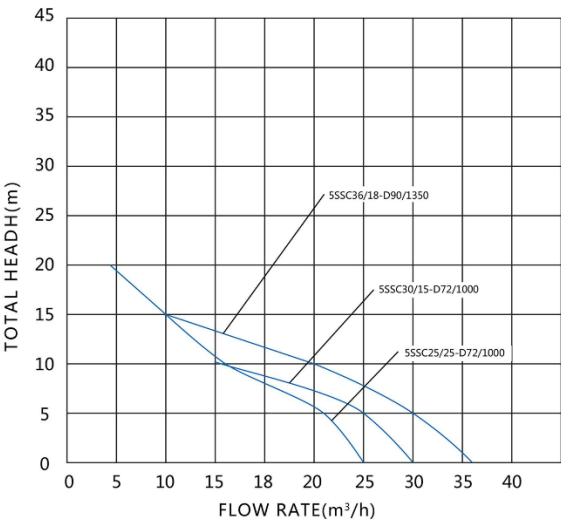
Pump Efficiency

Model		HEAD (meters)																
		10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	180
4SSC8/125-D72/1200	Flow Rate in m³/h	6.54	5.37	4.05	2.98	2.25	1.79	1.37	1	0.71	0.42	0.3	0.27					
4SSC9/130-D90/1350		7.86	7.08	5.92	4.78	3.59	2.85	2.29	2.06	1.84	1.79	1.07	0.34	0				
4SSC7/138-D110/1500		6.56	6.24	5.62	5.01	4.39	3.6	3.07	2.61	2.5	2.2	1.81	1.18	0.56	0			
4SSC10/146-D110/1800		8.48	7.8	6.82	5.83	4.69	3.78	3.06	2.52	2.18	1.93	1.8	1.6	1.21	0.44			
4SSC4.5/165-D72/1000		4.15	3.81	3.41	2.9	2.41	1.98	1.68	1.41	1.14	0.96	0.79	0.64	0.63	0.55	0.4		
4SSC6.6/168-D90/1300		6.07	5.55	4.79	4.05	3.28	2.66	2.13	1.81	1.51	1.22	0.97	0.74	0.52	0.35	0.32		
4SSC6.5/180-D90/1200		5.96	5.39	4.71	3.98	3.21	2.64	2.22	1.85	1.53	1.28	1.03	0.81	0.69	0.52	0.39	0.17	0
4SSC5/180-D90/1350		4.55	4.38	3.99	3.56	3.11	2.6	2.18	1.87	1.61	1.37	1.26	1.09	1	0.9	0.8	0.62	0
4SSC6.5/190-D110/1800		6.11	5.91	5.63	4.51	4.15	3.66	3.19	2.79	2.41	2.13	2.04	1.78	0.97	0.96	0.8	0.7	0.39
4SSC8/202-D110/1500		6.64	6.08	5.32	4.67	3.88	3.18	2.64	2.27	1.97	1.72	1.51	1.26	1.04	0.88	0.66	0.44	0.18

F. 5 INCH CENTRIFUGAL SOLAR SUBMERIBLE PUMPS (SS IMPELLER)

General Specifications:

- 304 Stainless Steel Outlet
- 304 Stainless Steel Pump Body
- 304 Stainless Steel Motor Body
- NSK Bearing
- 304 Stainless Steel Impeller
- 316 Stainless Steel Screw
- Full Oil Permanent Magnet Brushless DC Motor (Without Hall)
- MPPT Controller: 32-bit MCU /FOC/Sine Wave Current



Technical Specifications

Model	Power		Voltage (VDC)	Voltage Range (VDC)	Max Flow (m³/h)	Max Head (m)	Outlet (Inch)	Outline (Inch)
	Watt	H.P.						
5SSC25/25-D72/1000	1000	1.3	72	30-100	25	25	3''	5''
5SSC30/15-D72/1000	1000	1.3	72	30-100	30	15	3''	5''
5SSC36/18-D90/1350	1350	1.8	90	30-132	36	18	3''	5''

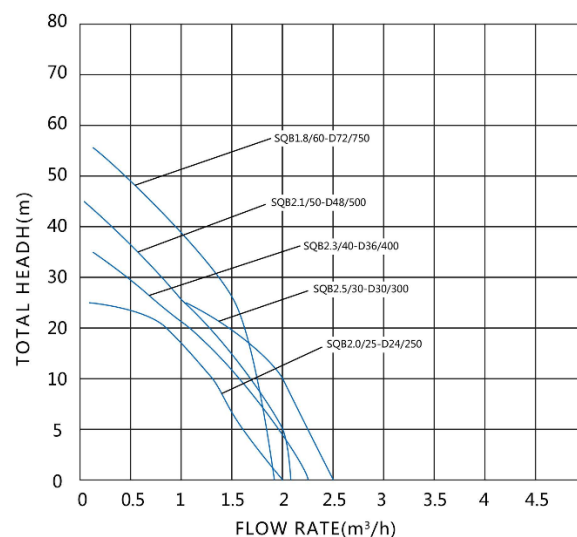
Pump Efficiency

Model		HEAD (meters)						
		0	5	10	15	18	20	25
5SSC25/25-D72/1000	Flow Rate In m³/h	25	21.2	15.3	9.9		4.5	0
5SSC30/15-D72/1000		30	25	15	0			
5SSC36/18-D90/1350		36	30	20	10	0		

G. SOLAR VORTEX SURFACE PUMPS

General Specifications:

- 304 Stainless Steel Inlet/Outlet
- 304 Stainless Steel Pump Body
- Die Cast Aluminium Motor Body
- NSK Bearing
- Brass Impeller
- 316 Stainless Steel Screw
- Full Oil Permanent Magnet Brushless DC Motor (Without Hall)
- MPPT Controller: 32-bit MCU /FOC/Sine Wave Current



Technical Specifications

Model	Power		Voltage (VDC)	Voltage Range (VDC)	Max Flow (m³/h)	Max Head (m)	Max. Suc (m)	Outlet (Inch)	Outline (Inch)
	Watt	H.P.							
5QB2.0/25-D24/250	250	0.3	24	17-50	2.0	25	8	1"	1"
5QB2.5/30-D30/300	300	0.4	30	17-50	2.5	30	8	1"	1"
5QB2.3/40-D36/400	400	0.5	36	20-68	2.3	40	8	1"	1"
5QB2.1/50-D48/500	500	0.7	48	30-80	2.1	50	8	1"	1"
5QB1.8/60-D72/750	750	1	72	30-100	1.8	60	8	1"	1"

Pump Efficiency

Model		HEAD (meters)												
		0	5	10	15	20	25	30	35	40	45	50	55	62
5QB2.0/25-D24/250	Flow Rate In m³/h	2	1.7	1.4	1	0.7	0.1							
5QB2.5/30-D30/300		2.5	2.3	2	1.7	1.4	1.1	0						
5QB2.3/40-D36/400		2.3	1.9	1.6	1.3	1	0.7	0.5	0.2	0				
5QB2.1/50-D48/500		2.1	2	1.8	1.6	1.3	1.1	0.9	0.7	0.4	0.2	0		
5QB1.8/60-D72/750		1.8	1.8	1.9	1.9	1.8	1.6	1.4	1.2	1	0.8	0.5	0.3	0

SOLAR PUMPING SYSTEM

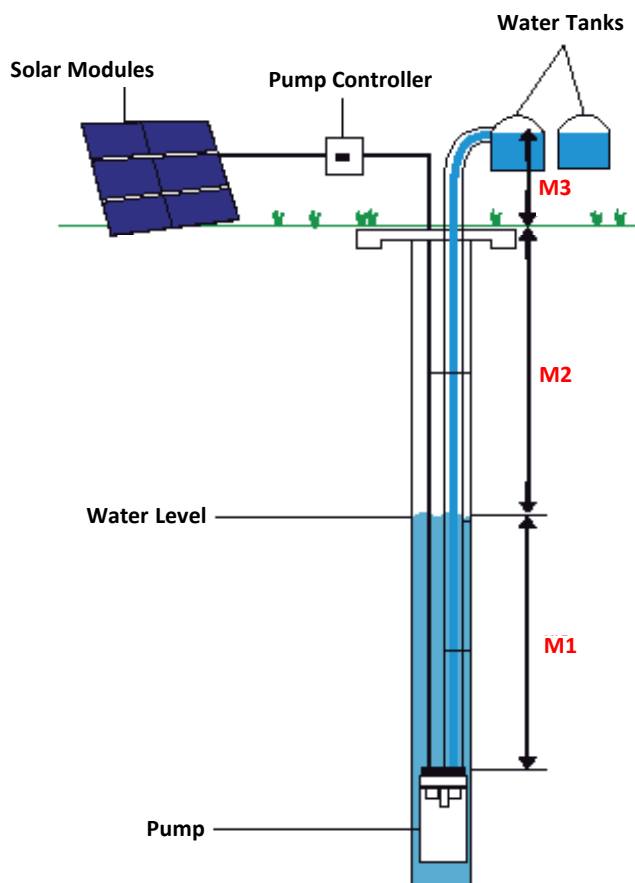
This questionnaire will help us to design your solar water pumping system

Location
Country:
Location:
Geographic latitude:
Geographic longitude:

Usage	
☐ All season	☐ Daily
☐ Summer only	☐ Winter only
☐ Others	_____

Output
Required output per day: m ³ per day or liters per day

Well and water depths:



M3 = Delivery height	
borehole Output Level to cistern level:	m
M2 = Static water level	
Water level to borehole output level:	m
M1 = Draw down	
Pump level to water level:	m
M1 + M2 + M3 = Total head:	

NECESSARY DATA FOR SOLAR PUMPING SYSTEM DESIGN

INSTALLATION SITE

Site number of project	
Name of Site	
Province / country	
GPS data (if available)	
Distance to next tarred road	
Distance borehole to area where solar generator will be placed	
Installation of solar modules: A) on ground or B) on roof of building	
Is there any shadow on the solar modules by surrounding trees, buildings or mountains?	
Any noticeable other obstacles which can reduce the sun's irradiation (e.g. smog, sand storms etc.)	
Purpose of installation (e.g. irrigation)	
Is there a water tank? [yes / no], [volume m ³]	
PICTURE 1	Please provide picture of installation site of solar generator (area or building)
PICTURE 2	Please provide picture of water tank
PICTURE 3	Picture of village

BOREHOLE DATA

Depth of borehole [m] (ground level to water level)	
Diameter of borehole [cm]	
Diameter of riser pipe [e.g. 1.1/2", 2", 3" etc.]	
Diameter of horizontal piping system to watertank or irrigation field [e.g. 1.1/2", 2", 3" etc.]	
Material of piping system [e.g. PVC, steel]	
Maximum water flow of borehole when water is pumped [m ³ / h]	
Is there a variation of water level between dry season and rainy season? [m]	
When water is pumped, how many meters does the water level sink? [m]	
Is the borehole armed by PVC or metal tube?	
Is the top of the borehole sealed by a well head or concrete foundation	
Water quality Salt water / sweet water / contaminations	
Distance between borehole and watertank or destination (e.g. irrigation of fields) [m]	
Head between ground level (not water level) and top of water tank or top of water supply level [m]	
Purpose of installation (e.g. irrigation)	
PICTURE 4:	Picture of top of borehole
PICTURE 5:	Picture of piping system

EXISTING SUBMERSIBLE PUMP, if any

Manufacturer	
Model / type of pump Product designation	
Type of pump (e.g. submersible, surface)	
Maximum water flow of pump [m ³ / h]	
Maximum pumping head [m]	
Origin of pump (e.g. "Made in")	
Motor type (e.g. "MS402")	
Nominal motor power (HP or kW)	
Voltage rating (e.g. 1 x 230VAC, 3 x 230VAC, 3 x 380VAC)	
Frequency of voltage [50Hz or 60Hz]	
Maximum current (e.g. 10,2 Amps)	
Cos phi (e.g. 0,82 – 0,77)	
Rounds Per Minute (RPM) (e.g. 2860PRM)	
Maximum pressure (e.g. 15 BAR)	
Type and diameter of submersible pump cable [e.g. HO7RN-F 3G x 6mm ²]	
PICTURE 6:	Picture of submersible pump, surface pump
PICTURE 7:	Picture of electric pump cable

EXISTING BACK UP POWER SUPPLY, if any

Type of existing power supply [diesel or grid connection]	
Power rating of diesel generator [kVA]	
Output voltage rating [e.g. 3 x 400VAC]	
Electronic control unit [remote / automatic start / stop]	
Cable type & diameter of supply cable to electric pump	
Distance between power supply and borehole [m]	
Is a switch-over unit between diesel/grid and solar power supply required by customer? [yes / no]	
PICTURE 8:	Picture of generator or grid connection
PICTURE 9:	Picture of AC distribution / switch board



Enviro Energy Solutions Ltd

Your Gateway to the Sun

**We do not inherit the earth
from our fathers,
We borrow it
from our children..."**

...BECAUSE WITH ENVIROENERGY SOLUTIONS THE SUN SHINES FOR EVERYONE...



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