

PS1200

LORENTZ

"The World's Most Economical Solar Pump"

RELIABLE AND MAINTENANCE-FREE

PS1200 eliminates the weakest links in solar pumping by using helical rotor (progressing cavity) and centrifugal pump ends and a brushless and water-filled motor.

No failure-prone diaphragms, no flooded-motor failures and no electronics in the well !

- Lift from as deep as 230 m (750 ft)
- Maximum 135 m³ per day (30.000 Imp-Gal.)
- PS1200 eliminates the costs of fuel, delivery, engine maintenance, and pollution.
- In many cases it is **LESS COSTLY** than a conventional pump and generator installation
- Great reliability and life expectancy
- High resistance to sand and corrosion
- Fits 4" and larger well casings
- Wide voltage range for 72 to 96V systems (6-8 solar modules in series)

>> DEEP WELL APPLICATIONS

The pump can be submersed as deep as necessary. Submersion depth does not affect the performance or place additional stress on the pump or motor.

>> SURFACE WATER APPLICATIONS

The pump can be installed in a stream, pond, tank or shallow well, in any position.

>> DRY RUN PROTECTION

A low water probe turns pump off to prevent dry-run damage. Reset is automatic after 20 minutes. The PS1200 Controller has an RPM limit adjustment to reduce the maximum flow rate to about 50 %, to help match a limited water source.

>> SAND AND SILT TOLERANCE

The pump has high resistance to wear from sand, clay, etc. that may occur in a properly constructed water well. However, a concentration of solids greater than 2 % (by volume) may cause blockage in the pump or the drop pipe, especially at low flow rates. Do not use the pump to clean out a dirty well.

>> CONTROLLER

MPPT, well probe and float-/remote switch terminals
Lights indicate: system on, pump on, pump speed, tank full, water source low, overload, and battery low. Protected against reverse polarity, overload and high temperature.

>> BATTERY SYSTEMS

LOW-VOLTAGE DISCONNECT prevents battery damage from over-discharge. This feature is included in the controller.
Disconnect - Reconnect 88V-104V. Choose PS600 System for 48V.

>> STORAGE REQUIREMENT

A storage tank (not included) should be sized to supply a minimum of 5-10 days' water supply, depending on climate and application. Water storage is generally more economical than energy storage in batteries.

>> DROP PIPE

G1 ¼ (optionally 1" NPT) pump outlet. If water is dirty, consider a smaller size drop pipe to increase the flow velocity. This helps exhaust solid particles and prevent accumulation in the pipe. When considering reduced pipe size, consult a pipe sizing (friction loss) chart. Pipe can be of any standard material, rigid or flexible. A torque arrestor is NOT required.

>> PUMP CABLE and SPLICE

Standard submersible cable, 3-wire + ground (total 4 wires). Connection to the pump is made using industry-standard splicing methods.

>> DIMENSIONS & WEIGHTS

PUMP & MOTOR

- Diameter: 96 mm (3.78")
- Height: 500-800 mm (20" - 32") depending on model
- Weight: 11.5 kg (25 lbs) or less, depending on model

CONTROLLER

- Controller: 425 x 175 x 150 mm (17" x 7" x 6")
- 3 conduit holes: ½", ¾", and 1¼" nominal pipe
- Weight: 4.8 kg (11 lbs)
- Enclosure: gasket-sealed, weatherproof

>> WETTED MATERIALS

316 stainless steel, chromium, NBR rubber, natural rubber, POM, polyurethane (cable)

>> TEMPERATURE LIMITS

- Pump: water temp. up to 40° C (up to 104° F)
Specify temperature range on order
- Controller: Ambient -30° C to 55° C (-22° F to 131°)



>> NEED MORE WATER ?

Consider the PS1200 system. This systems use more power, to pump as high as 230m (750 ft) and as much as 135m³ per day.

>> DOUBLE SYSTEM

Two pump systems can be installed in the same water source if the well casing is not less than 6" inside diameter. This doubles the daily water volume.

>> INSTALLATION

Install the pump by the same methods and materials used for conventional submersible pumps. The PS1200 instruction manual is clearly illustrated. No special product training is required.

>> WARRANTY

TWO YEAR manufacturer's warranty against defects in materials and workmanship.

PS1200 Daily Flow Chart



for solar direct operated pumps

Calculated on
6 kWh/m²/day

C-xx = Centrifugal pump end
HR-xx = Helical Rotor pump end

System Voltage: 72 – 96V nominal, e.g. 6 to 8 standard 12V modules wired in series.
Voc 200V max

How to select the right pump system:

Find the LIFT you require, and read the column below.

Find the DAILY VOLUME you require. For more water look further down the column, ...or to the right side for tracked systems.

Use the PEAK FLOW RATE for pipe sizing.

PEAK FLOW RATE for pipe sizing

Type	m ³ /h	Imp G/h	Type	m ³ /h	Imp G/h
HR-03H	0,5	110	HR-14	2,7	592
HR-04 / H	0,8	175	HR-20	3,6	789
HR-07	1,2	263	C-BF-04	7,3	1601
HR-10	1,9	417	C-DF-03	10,2	2237



“The World’s Most Economical Solar Pump”

Watt	Pump Type	Fixed Array		Tracked	
		m ³ /day	ImpG/day	m ³ /day	ImpG/day
5m / 16ft					
350	C-BF-04	42	9.210	61	13.380
480	C-BF-04	52	11.400	75	16.450
720	C-BF-04	70	15.350	100	21.930
840	C-DF-03	77	16.890	111	24.340
1000	C-DF-03	85	18.640	125	27.410
1200	C-DF-03	95	20.830	135	29.610

Watt	Pump Type	Fixed Array		Tracked	
		m ³ /day	ImpG/day	m ³ /day	ImpG/day
15m / 49ft					
350	HR-14	22,5	4.930	29	6.360
480	HR-20	27	5.920	35	7.680
720	C-BF-04	36	7.890	51	11.180
840	C-BF-04	41	8.990	60	13.160
1000	C-BF-04	48	10.530	70	15.350
1200	C-BF-04	53	11.620	77	16.890

Watt	Pump Type	Fixed Array		Tracked	
		m ³ /day	ImpG/day	m ³ /day	ImpG/day
30m / 100ft					
350	HR-14	14	3.070	20	4.390
480	HR-14	18	3.950	26	5.700
720	HR-20	25	5.480	36	7.890
840	HR-20	27	5.920	38	8.330
1000	HR-20	31	6.800	40	8.770
1200	HR-20	33	7.240	42	9.210

Watt	Pump Type	Fixed Array		Tracked	
		m ³ /day	ImpG/day	m ³ /day	ImpG/day
50m / 166ft					
350	HR-04	6	1.320	8,7	1.910
480	HR-07	11	2.410	15,5	3.400
720	HR-14	17,8	3.900	25,8	5.660
840	HR-14	19	4.170	27	5.920
1000	HR-14	21	4.610	29	6.360
1200	HR-14	22	4.820	30	6.580

Watt	Pump Type	Fixed Array		Tracked	
		m ³ /day	ImpG/day	m ³ /day	ImpG/day
70m / 233ft					
350	HR-04	4,7	1.030	6,8	1.490
480	HR-07	6	1.320	8,7	1.910
720	HR-07	10,2	2.240	14,8	3.250
840	HR-07	10,5	2.300	15	3.290
1000	HR-10	14	3.070	20	4.390
1200	HR-10	15	3.290	21	4.610
1500	HR-14	17	3.730	24	5.260

Watt	Pump Type	Fixed Array		Tracked	
		m ³ /day	ImpG/day	m ³ /day	ImpG/day
90m / 300ft					
350	HR-03	3,5	770	5	1.100
480	HR-04H	5,5	1.210	8	1.750
720	HR-07	8,7	1.910	12,6	2.760
840	HR-07	9,4	2.060	13,5	2.960
1000	HR-07	10	2.190	14,5	3.180
1200	HR-07	11	2.410	16	3.510

Watt	Pump Type	Fixed Array		Tracked	
		m ³ /day	ImpG/day	m ³ /day	ImpG/day
120m / 400ft					
350	HR-03	3	660	4,3	940
480	HR-04H	4,5	990	6,5	1.430
720	HR-04H	5,7	1.250	8,2	1.800
840	HR-07	7,2	1.580	10,5	2.300
1000	HR-07	8,5	1.860	12	2.630
1200	HR-07	9,5	2.080	13,5	2.960

Watt	Pump Type	Fixed Array		Tracked	
		m ³ /day	ImpG/day	m ³ /day	ImpG/day
160m / 533ft					
480	HR-03H	2,8	610	4	880
720	HR-03H	4	880	5,8	1.270

Watt	Pump Type	Fixed Array		Tracked	
		m ³ /day	ImpG/day	m ³ /day	ImpG/day
200m / 650ft					
480	HR-03H	1,9	420	2,7	590
720	HR-03H	3,2	700	4,2	920

Pump Type	Fixed Array		Tracked		4mm ² max. 60m #10 max. 250ft
	m ³ /day	ImpG/day	m ³ /day	ImpG/day	
10m / 33ft					
HR-14	22	4.820	30	6.580	
HR-20	30	6.580	38	8.330	
C-BF-04	50	10.960	71	15.570	
C-BF-04	55	12.060	80	17.540	
C-DF-03	72	15.790	105	23.030	
C-DF-03	80	17.540	125	27.410	

Pump Type	Fixed Array		Tracked		4mm ² max. 60m #10 max. 250ft
	m ³ /day	ImpG/day	m ³ /day	ImpG/day	
20m / 65ft					
HR-14	18	3.950	26	5.700	
HR-14	22	4.820	32	7.020	
HR-20	29	6.360	40	8.770	
HR-20	32	7.020	42	9.210	
C-BF-04	42	9.210	60	13.160	
C-BF-04	47	10.310	66	14.470	

Pump Type	Fixed Array		Tracked		4mm ² max. 60m #10 max. 250ft
	m ³ /day	ImpG/day	m ³ /day	ImpG/day	
40m / 133ft					
HR-04	6,9	1.510	10	2.190	
HR-14	14	3.070	20	4.390	
HR-14	20	4.390	29	6.360	
HR-14	22,5	4.930	32	7.020	
HR-20	25	5.480	36	7.890	
HR-20	27	5.920	38	8.330	

Pump Type	Fixed Array		Tracked		4mm ² max. 70m #10 max. 250ft
	m ³ /day	ImpG/day	m ³ /day	ImpG/day	
60m / 200ft					
HR-04	5,6	1.230	8,1	1.780	
HR-07	8,6	1.890	12,5	2.740	
HR-07	11	2.410	15,9	3.490	
HR-10	14	3.070	20	4.390	
HR-14	17	3.730	25	5.480	
HR-14	18	3.950	26	5.700	

Pump Type	Fixed Array		Tracked		4mm ² max. 90m #10 max. 300ft
	m ³ /day	ImpG/day	m ³ /day	ImpG/day	
80m / 266ft					
HR-03	3,8	830	5	1.100	
HR-04H	5,7	1.250	8,2	1.800	
HR-07	9,4	2.060	13,6	2.980	
HR-07	10	2.190	14	3.070	
HR-10	13	2.850	18	3.950	
HR-10	14	3.070	20	4.390	
HR-10	16	3.510	21	4.610	

Pump Type	Fixed Array		Tracked		4mm ² max. 120m / #8 max. 500ft HR-03H and HR-04H: 6mm ² max. 200m / #8 max. 800ft HR-07: 6mm ² max. 120m / #8 max. 500ft
	m ³ /day	ImpG/day	m ³ /day	ImpG/day	
100m / 330ft					
HR-03	3,2	700	4,7	1.030	
HR-04H	5	1.100	7	1.540	
HR-04H	6	1.320	8,7	1.910	
HR-07	8	1.750	12	2.630	
HR-07	9	1.970	12,5	2.740	
HR-07	10	2.190	14,5	3.180	

Pump Type	Fixed Array		Tracked		4mm ² max. 120m / #8 max. 500ft HR-03H and HR-04H: 6mm ² max. 200m / #8 max. 800ft HR-07: 6mm ² max. 120m / #8 max. 500ft
	m ³ /day	ImpG/day	m ³ /day	ImpG/day	
140m / 466ft					
HR-03	2,7	590	4	880	
HR-03	3,3	720	4,5	990	
HR-04H	5,3	1.160	7	1.540	
HR-04H	6	1.320	7,5	1.640	
HR-04H	6,5	1.430	8	1.750	
HR-04H	7	1.540	9	1.970	

Pump Type	Fixed Array		Tracked		4mm ² max. 120m / #8 max. 500ft HR-03H and HR-04H: 6mm ² max. 200m / #8 max. 800ft HR-07: 6mm ² max. 120m / #8 max. 500ft
	m ³ /day	ImpG/day	m ³ /day	ImpG/day	
180m / 595ft					
HR-03H	2,3	500	3	660	
HR-03H	3,5	770	4,4	960	

Pump Type	Fixed Array		Tracked		4mm ² max. 120m / #8 max. 500ft HR-03H and HR-04H: 6mm ² max. 200m / #8 max. 800ft HR-07: 6mm ² max. 120m / #8 max. 500ft
	m ³ /day	ImpG/day	m ³ /day	ImpG/day	
230m / 750ft					
HR-03H	1,6	350	2,3	500	
HR-03H	3	660	4	880	

Calculations are based on Uni-Solar panels. Flow rates may vary plus / minus 10 %. All systems are selected for optimum performance. Each system can handle an additional 15 % in case of unexpected draw-down in bore.

Use ETATRACK solar tracker to reduce your system cost or increase daily flow.

For battery-powered pumping systems 72 to 96V is available for PS1200.

48V systems use PS600 and 24 to 48V use the PS200 system

For other lifts and voltages consider PS600 or PS200 system

Specifications are subject to change. Please use newest versions