Solar or battery-operated Submersible Pump System 4”
Helical Rotor (HR) or Centrifugal (C) Pump Unit

Submersible solar pumps | Technical data

Lorentz PS200 HR/C

GENPRO ENERGY SOLUTIONS

| Performance

- | Lift up to 165 feet
- | Flow rate up to 9.5 GPM
- | Simple installation
- | Maintenance-free
- | High reliability and life expectancy
- | Cost-effective pumping solution

| Application

- | Livestock watering
- | Drinking water
- | Pond management
- | Irrigation systems

| PS200 Controller

- | PV direct or battery powered operation
- | Electronics all above ground
- | Two Separate control inputs for dry run protection and tank float switch
- | Automatic reset after low water protection engages
- | Protected against reverse polarity, overload and temperature
- | Speed control, maximum pump speed adjustable to reduce flow rate to approximately 30%
- | Solar operation: integrated MPPT (Maximum Power Point Tracking)
- | Battery operation: low voltage disconnect and restart after battery has recovered
- | Maximum efficiency 88% (motor + controller)
- | Enclosure: IP 54 (sealed and weatherproof)

| Pump End (PE)

- | High life expectancy
- | Non-return check valve
- | Dry running protection (optional)
- | Material: stainless steel (AISI 316),rubber

| For HR Pumps only

- | Helical rotor pump (positive displacement pump)
- | Field Serviceable
- | More resistant to damage by sand than other pumps
- | Self–cleaning design

SOLAR PUMPING SYSTEM

| Motor EC Drive 600 HR

- | Brushless DC motor, 3-Phase (PWM)
- | No electronics inside motor
- | Water filled
- | IP 68, pressure balanced, max. submersion unlimited
- | Dynamic slide bearings, material: carbon/ceramic
- | Wetted material: stainless steel (AISI 316), POM, rubber, cable drinking water approved

Lorentz PS200 HR

Solar-Powered Submersible Pump System 4”

Helical Rotor (HR) Pump Unit

Technical data Lorentz PS200:

PS200 for 24V Solar-Direct

6 kWh/m³/day solar radiation on tilted surface

total lift		Pump	peak	PV Watts / [Gallons/day]			cable size
[ft]	[m]	Model	gallons per min-ute	80	120	150	AWG
16	5	HR-04	1.9	840	915	960	#12
		HR-07	3.4	960	1440	1680	
33	10	HR-04	1.7	790	865	960	#12
		HR-07	3.4	935	1245	1295	
50	15	HR-04	1.6	695	840	960	#12
		HR-07	3.2	840	1200	1245	
65	20	HR-04	1.5	600	790	935	#12
		HR-07	3.2	575	915	1175	
82	25	HR-04	1.5	525	720	840	#12
100	30	HR-04	1.5	455	670	745	#12
130	40	HR-04	1.3	-	480	600	#10
165	50	HR-04	1.3	see 36-48 V table			#10

PS 200 for 36-48V Solar-Direct

6 kWh/m³/day solar radiation on tilted surface

total lift		Pump	peak	PV Watts / [Gallons/day]			cable size
[ft]	[m]	Model	gallons per min-ute	150	200	250	AWG
16	5	HR-04	3.2	1660	1740	1925	#12
		HR-07	5.2	2245	2510	2770	
		HR-14	9.5	2905	3960	4755	
33	10	HR-04	3.1	1585	1715	1845	#12
		HR-07	5.0	2110	2375	2640	
		HR-14	9.0	2375	3435	4225	
50	15	HR-04	3.0	1450	1585	1795	#12
		HR-07	4.9	1845	2190	2510	
		HR-14	8.7	2110	2905	3695	
65	20	HR-04	3.0	1450	1635	1740	#12
		HR-07	4.8	1585	1980	2375	
82	25	HR-04	3.0	1320	1480	1635	#12
		HR-07	4.6	1320	1715	2110	
100	30	HR-04	2.9	1135	1295	1530	#12
130	40	HR-04	2.9	790	1055	1320	#10
165	50	HR-04	2.8	525	790	1110	#10

Technical data Lorentz PS200

PS200 for 24 V Solar-Direct

PS200 for 36-48 V Solar-Direct

4 kWh/m³/day solar radiation on tilted surface

total lift		Pump	peak gallons	PV Watts / [G/day]			peak gallons	PV Watts / [G/day]			cable size
[ft]	[m]	Model	per minute	80	120	150	per minute	150	200	250	AWG
16	5	HR-04	1.9	525	600	670	3.2	1265	1425	1690	#12
		HR-07	3.4	480	840	1125	5.2	1240	1845	2245	
33	10	HR-04	1.7	480	550	620	3.1	1185	1320	1585	#12
		HR-07	3.4	405	720	1005	5.0	1110	1585	1980	
50	15	HR-04	1.6	430	480	575	3.0	1055	1215	1505	#12
		HR-07	3.2	360	670	935	4.9	1030	1585	1955	
65	20	HR-04	1.5	335	380	525	3.0	925	1110	1425	#12
		HR-07	3.2	260	600	885	4.8	870	1450	1845	
82	25	HR-04	1.5	260	360	500	3.0	685	950	1345	#12
		HR-07	-	-	-	-	4.6	-	660	1055	
100	30	HR-04	1.5	190	285	480	2.9	525	790	1265	#12
130	40	HR-04	1.3	-	240	430	2.9	445	630	925	#10
165	50	HR-04	1.3	see 36-48 V table			2.8	340	525	790	#10

PS200 for 24 V Battery

total lift		Pump	gallons per minute	Watts	Wire size
[ft]	[m]	Model			AWG
16	5	HR-04	1.5	24	
		HR-07	2.0	37	#12
		HR-14	4.6	40	
33	10	HR-04	1.4	29	
		HR-07	2.0	42	#12
		HR-14	4.4	55	
50	15	HR-04	1.3	34	
		HR-07	1.8	50	#12
		HR-14	4.0	74	
65	20	HR-04	1.2	38	
		HR-07	1.7	60	#12
		HR-14	3.3	91	
100	30	HR-04	1.1	48	#12
130	40	HR-04	1.0	58	#10
165	50	HR-04	0.9	65	#10

PS200 for 48 V Battery

total lift		Pump	gallons per min-ute	Watts	Wire size
[ft]	[m]	Model			AWG
16	5	HR-04	2.9	55	
		HR-07	4.5	90	#12
		HR-14	10.1	130	
33	10	HR-04	2.7	70	
		HR-07	4.4	100	#12
		HR-14	9.5	165	
50	15	HR-04	2.7	80	
		HR-07	4.2	115	#12
		HR-14	9.2	195	
65	20	HR-04	2.6	90	#12
		HR-07	4.1	135	
100	30	HR-04	2.5	105	#10
		HR-07	3.8	160	
130	40	HR-04	2.3	125	#10
		HR-07	3.6	190	
165	50	HR-04	2.1	140	#10
165	50	HR-04	1.9	160	#10

Solar or battery-operated Submersible Pump System 4”
Helical Rotor (HR) Pump Unit

Lorentz PS200 HR

| Sand and Silt Tolerance

| The pump (HR) has a higher resistance to wear from sand and clay than any other pump type. In properly constructed wells the amount of sand and clay is within the tolerance of the pump.
| 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.

| Pump Cable and Splice

| Standard submersible cable, 3-wire + ground (total
| 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.

| Drop Pipe

| 1-1/4”, 1-1/2” or 2” 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.

| Temperature Limits

| Pump: Specify temperature class on order

Class 1	46°F to 72°F
Class 2	64°F to 90°F
Class 3	82°F to 108°F
Controller:	ambient temperature –22°F to +131°F

| Warranty

| 2 Years manufacturer’s warranty against defects in material and workmanship.

Technical data Lorentz PS200:

	HR-04	HR-07	HR-14
Lift [m]	0-50	0-30	0-20
Max. Flow Rate [m^3/h]	0.8	1.2	2.7
Max. Efficiency [%]	60	61	62
Solar Operation	nominal voltage 24-48 V DC		
	open circuit voltage max. 100 V DC		
Solar Generator [Wp]	80-300	80-300	80-300
Battery Operation	nominal voltage 24-48 V DC		
Pump & Motor			
Diameter	3.78" (96 mm)		
Height	20" - 32" (500-800 mm) depending on model		
Weight	25 lbs (11.5 kg) or less, depending on model		
Controller			
Dimension	9 3/4" x 7 3/8" x 4" (248 x 188 x 100 mm)		
3 Conduit Holes	Cord grip fittings included		
Weight	2.2 lbs (1.2 kg)		