



The Dankoff Solaram Surface Pump draws water from a shallow well, spring, pond, river, or tank. It can push water uphill over long distances for home, village, irrigation, or livestock uses and can be powered directly from a PV panel.

The Solaram is dirt and dry run tolerant, simple to maintain, is easy to install, and offers high lift and high flow capacity. It is ultra efficient, capable of pumping in low light conditions using less power than any other pump in the industry.

It is a multi-diaphragm industrial design of cast aluminum, oil filled crankcase with a permanent magnet DC motor, and a built in pressure relief valve.

The Solaram Surface Pump is unparalleled in the solar pumping industry for its reliability and performance, capable of pushing water over one mile (one KM).

## Suction Capacity

25 vertical feet (7.8 m) at sea level. Subtract 1 ft. for every 1,000 ft. elevation (1m for every 1,000 m). Suction capacity may be further limited by intake pipe friction or gases in water. For best reliability, place pump as close to the water source as possible.

## Construction

- Multiple diaphragm industrial design
- Cast aluminum pump body
- Neoprene diaphragm backed by pistons
- Non-toxic oil-filled crankcase
- Massive ball bearings
- Permanent Magnet DC Motor
- Gear (timing) belt drive
- Pressure relief valve included

## Fittings

- Intake: 1-1 ¼" (25.4-31.2 mm) male pipe thread
- Outlet: 1" (25.4 mm) female pipe thread



## Accessories

- Dankoff DC Controller to increase daily output up to 30%
- 1 ¼" (31.2 mm) Foot Valve (Item #DSP-11044) if pump is placed higher than water source
- Float Switch (Item #DSP-11003) for remote shut-off of the pump when tank is full
- Diaphragm and Oil Kit (Item #DSP-08503): Supplies for regular preventive maintenance
- Long-term Parts Kits (Item #DSP-08504): Three Diaphragm and Oil Kits, plus a gear belt and a motor brush set

## Dimensions:

- 28" W x 16.5" H x 16" D (710 x 420 x 410 mm)
- Weight, max. 150 lbs (68 kgs)

## Power System Requirements

- Solar (PV) array: Chart indicates power (W) required at the pump. For solar array-direct (non-battery) systems, the rated power of the PV array must exceed the pump watts by 25% or more
- 120V models: Use 10 x 12V or 5 x 24V modules in series
- Linear Current Booster (pump controller) is recommended to facilitate starting and to prevent stalling in low-light conditions
- Solar tracker: Optional, to increase daily yield (typically 30%)

# Solar Surface Pump Technical Data

## Dankoff Solar Solaram Surface Pump



### Warranty

1 year against defects in materials and workmanship

### Reading the Chart

Use the chart to determine a four-digit model number. Make note of the voltage indicated.

**Total Lift** = vertical distance from surface of the water source to the pipe outlet or top of storage tank, plus pipeline friction loss

**GPM** = U.S. Gallons Per Minute

**LPM** = Liters Per Minute

Total Lift		Model # <sup>1</sup> __ 21			Model # <sup>1</sup> __ 22			Model # <sup>1</sup> __ 23			Model # <sup>2</sup>
ft	m	GPM	LPM	W	GPM	LPM	W	GPM	LPM	W	V
0-80	24	3	11.4	170	3.7	14	207	4.6	17.4	285	
120	37	2.9	11	197	3.7	14	238	4.5	17.1	319	
160	49	2.9	11	225	3.6	13.6	268	4.5	17.1	352	
200	61	2.9	11	247	3.6	13.6	296	4.5	17.1	388	
240	73	2.8	10.6	265	3.6	13.6	327	4.5	17.1	427	
280	85	2.8	10.6	286	3.6	13.6	356	4.4	16.7	466	81 __
320	98	2.8	10.6	315	3.5	13.3	416	4.4	16.7	536	24V
360	110	2.8	10.6	342	3.5	13.3	416	4.4	16.7	572	
400	122	2.7	10.6	363	3.4	12.9	450	4.4	16.7	572	
480	146	2.7	10.2	416	3.4	12.9	505	4.3	16.3	649	
560	171	2.7	10.2	456	3.3	12.5	570	4.3	16.3	693	
640	195	2.7	10.2	502	3.3	12.5	623	4.2	15.9	774	82 __
720	220	2.6	10.2	551	3.2	12.1	690	4.1	15.5	856	24V
800	244	2.6	9.9	589	3.2	12.1	715	4.1	15.5	931	
880	268	2.6	9.9	647	3.2	12.1	774	4	15.2	1082	83 __
960	293	2.6	9.9	705	3.1	11.7	838	4	15.2	1190	120V

Total Lift		Model # <sup>1</sup> __ 41			Model # <sup>1</sup> __ 42			Model # <sup>1</sup> __ 43			Model # <sup>2</sup>
ft	m	GPM	LPM	W	GPM	LPM	W	GPM	LPM	W	V
0-80	24	6.2	23.5	258	7.5	28.4	339	9.4	35.6	465	
120	37	6	22.7	305	7.3	27.7	396	9.1	34.5	539	81 __
160	49	5.8	22	354	7.2	27.3	456	8.9	33.7	619	24V
200	61	5.7	21.6	400	7.1	26.9	513	8.9	33.7	693	
240	73	5.6	21.2	453	7	26.5	572	8.6	32.6	724	
280	85	5.5	20.8	499	6.9	26.2	628	8.4	31.8	801	82 __
320	98	5.4	20.5	548	6.8	25.8	686	8.3	31.5	869	24V
360	110	5.4	20.5	592	6.6	25	733	8.2	31.1	927	
400	122	5.3	20.1	649	6.5	24.6	782	8.7	33	1122	83 __
480	146	5.3	20.1	717	6.5	24.6	900	8.5	32.2	1265	120V
560	171	5.2	19.7	800	6.5	24.6	145	8.4	31.8	1397	
640	195	5.1	19.3	893	6.5	24.6	1116	8.2	31.1	1540	85 __
720	220				6.4	24.3	1287	8.1	30.7	1683	120V
800	244							8	30.3	1815	

Performance may vary ± 10%

<sup>1</sup> Second two model number digits

<sup>2</sup> First two model number digits

Dependable water solutions since 1983

Subject to technical changes

**DANKOFF SOLAR**

[www.DankoffSolarPumps.com](http://www.DankoffSolarPumps.com)

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