



The SunCentric uses solar-electric power to pump as much as 50,000 gallons (200 m³) per day from shallow water sources. Applications include irrigation, live stock, domestic water, pond management, water treatment, solar water heating, hydronic space heating and fire protection. These pumps have been in worldwide use since 1989. They can be used without batteries. Maximum suction lift is 10 vertical feet (3 m).

PV Array-Direct Application

- | A PV-direct system uses water storage instead of batteries. This is the simplest and most durable system for most applications.
- | A pump controller (linear current booster) is not required.
- | A solar tracker (optional) will help to maintain optimum flow through the entire solar day.
- | Storage of 3-7 days' water demand is recommended.
- | Optimum for circulation of solar-heated water.

Battery Application

- | A battery system is best where there is need for constant pressure or pressure on demand, or where a tank is not feasible, or where a battery system is required for other power applications.
- | Batteries can be charged by any power source.

Selecting a Pump

- | Select the appropriate chart of "PV Array-Direct Applications" or "Battery Applications".
- | Total dynamic head = vertical distance from surface of the water source to the discharge or top of storage tank + pipe friction losses.
- | Use the solid line grid for English units. Use broken line grid for metric units.
- | Locate the coordinates for the required head and flow.
- | Find the pump curve that is nearest to that point.
- | If there is more than one curve to choose from, compare the power requirements. If PV-direct, the curve that goes higher will work better during low sun intensity.
- | For PV-Direct systems, array size (watts) is critical. Do not undersize the array. Oversizing will improve performance in low sunlight conditions.
- | Multiple pumps can be used to provide greater flow.



Suction Capacity

- | Suction limit is 10 vertical feet (3 m) at sea level—subtract 1 foot for every 1,000 ft. elevation (1 m per km).
- | For best reliability, minimize or eliminate suction lift by placing the pump low and close to the water source. This will minimize the possibility of cavitation which causes excessive wear and loss of performance.

Pump Installation

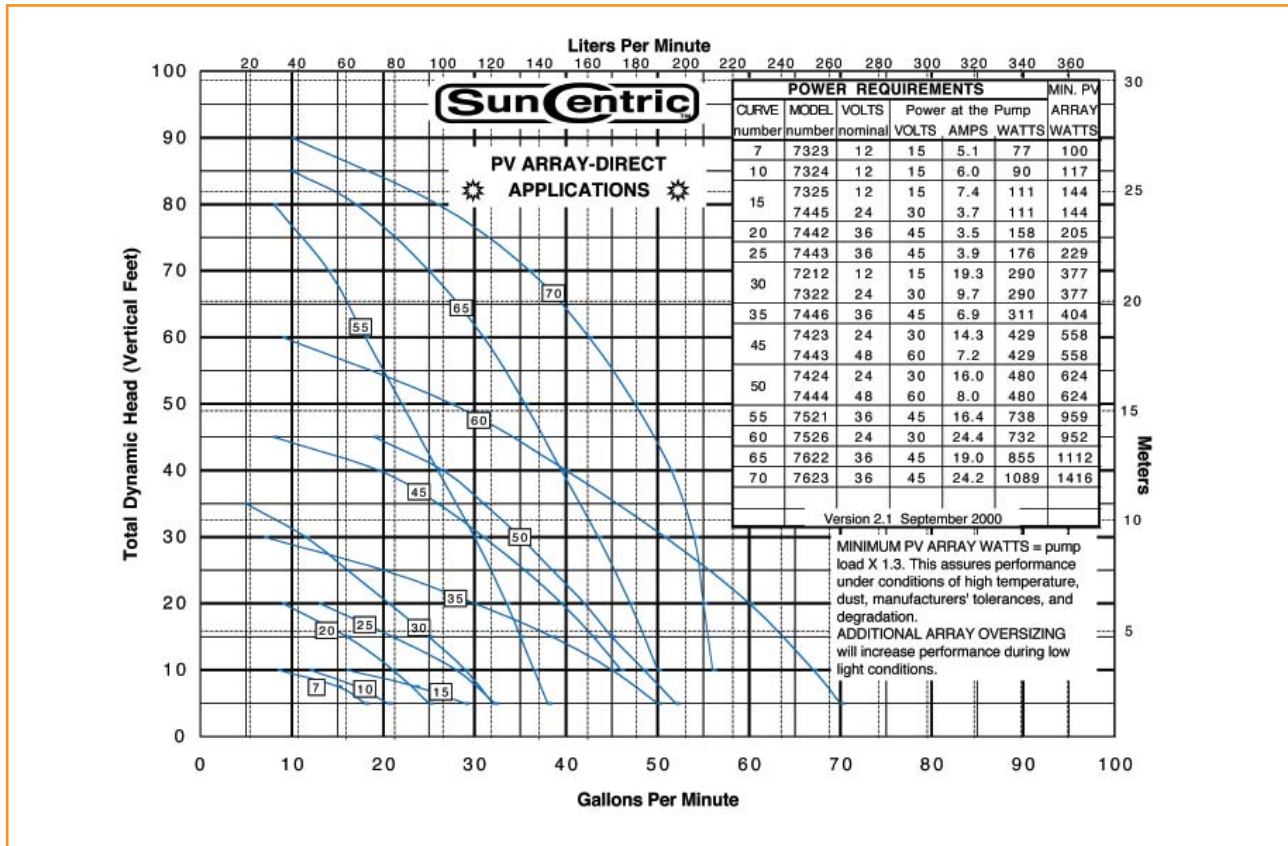
- | Pump must be sheltered from rain and direct sunlight.
- | Horizontal position: place outlet at the top. It can be rotated to face horizontally or vertically upward.
- | Vertical position: place motor on top.

Wire and Pipe Requirements

- | Intake pipe: pipe should be as direct and short as possible. Avoid any high point that can trap an air pocket.
- | Refer to a pipe sizing chart (included with the pump instructions). Pipe may need to be larger than the pump ports. Undersized pipe will greatly decrease pump performance.
- | Size the wire for less than 3 % voltage drop. Undersized wire will greatly decrease pump performance. Refer to a low voltage wire sizing chart (available from Conergy, Inc.).

Overcurrent Protection

- | Fuse or circuit breaker is required.
- | Ampere rating = amps at the pump + 15-25 %
- | Minimum DC voltage rating = volts at the pump X 2. (Type FRN fuses are rated 125 V DC)

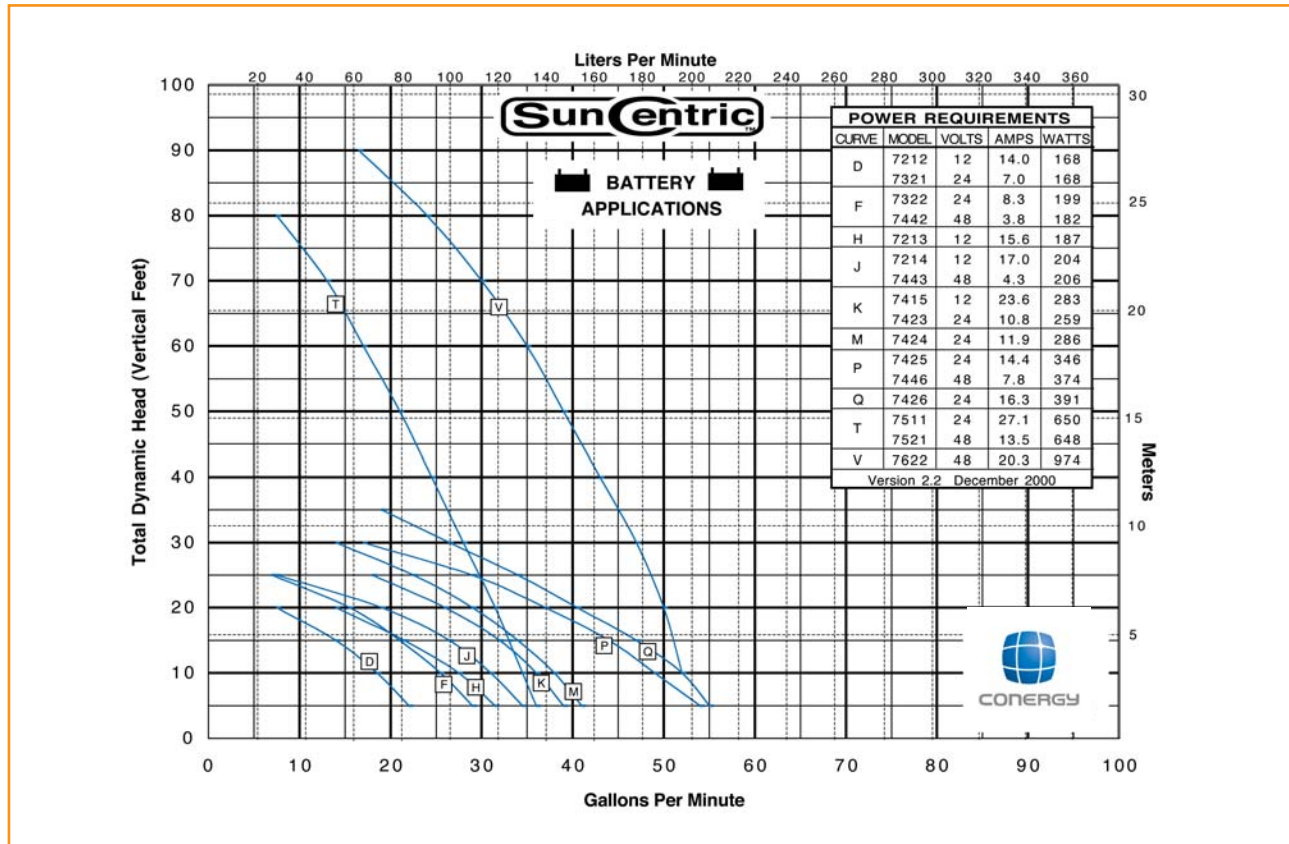


Maintenance

- | No routine maintenance required.
- | Pump can be repaired in the field using ordinary tools and skills, without removing the pipes.
- | Instruction manual shows illustrated repair details.
- | Motor brushes: typical brush life peak hours = working voltage x 800/3rd digit of model number.
EXAMPLE: PV Direct curve #60 is Model 7526 working at 30 V.
Typical brush life = 30 x 800/2 = 12,000 peak hours. This represents about 5-8 years of service.
- | Shaft seal has a very long life under normal conditions. Purchase spare seals if water is loaded with abrasive silt or if pump can possibly run dry.
- | For best reliability, minimize or eliminate suction lift by placing the pump low and close to the water source. This will minimize the possibility of cavitation which causes excessive wear and loss of performance.

Materials

- | Pump body: cast iron, ASTM A48-76
- | Impeller: glass filled polycarbonate
- | Seal: carbon/ceramic, industry standard
- | Temperature limit: 140°F (60°C)



High Temperature Option

- | Temperature limit: 240 °F (115 °C)
- | Impeller: brass
- | Brass impeller reduces flow by about 15 % (same watts)
- | Order standard pump + High Temp Option

Accessories

- | Foot Valve (for pump placed higher than water source)
- | Float switches: please inquire
- | Basket Strainer: swimming pool type, fits on pump inlet, catches debris and allows easy cleanout; 1 1/4" in/out, Item #DSP-11046

Spare Parts

- | Seal & Gasket Kit: specify model number, and if high temperature
- | Motor Brush Kits: specify model number

Warranty

Two years against defects in materials and workmanship



Technical data SunCentric

Pump Model Number X = third digit	Dimensions			Ship wt lbs	Page size	
	Length in.	Height in.			Inlet NPT	Outlet NPT
72x1 72x2 72x3	72x4	15.5	9.1	49	1 1/4"	1"
	72x5	17	10.5	54	1 1/2"	1 1/4"
	72x6	17	10.5	54	2"	1 1/2"
73x1 73x2 73x3	73x4	17	9.1	50	1 1/4"	1"
	73x5	18	10.5	55	1 1/2"	1 1/4"
	73x6	18	10.5	55	2"	1 1/2"
74x1 74x2 74x3	74x4	17	9.1	58	1 1/4"	1"
	74x5	18.5	10.5	63	1 1/2"	1 1/4"
	74x6	18.5	10.5	63	2"	1 1/2"
75x1 75x2 75x3	75x4	18	9.1	60	1 1/4"	1"
	75x5	19.5	10.5	65	1 1/2"	1 1/4"
	75x6	19.5	10.5	65	2"	1 1/2"
76x1 76x2 76x3	76x4	19	9.1	65	1 1/4"	1"
	76x5	20.5	10.5	70	1 1/2"	1 1/4"
	76x6	20.5	10.5	70	2"	1 1/2"

Available from:

SunCentric-TD-USA-0603