

Conergy Solar Force Piston Pump

Conergy Solar Force Piston Pump draws water from a shallow well, spring, pond, river or tank. It can push water uphill and over long distances for home, village, irrigation or livestock uses. It can use power directly from a photovoltaic array or from storage batteries to fill a storage tank or to pressurize water.

Ultra-Efficient

Uses less power than any other pump in its range

Economical

Reduces power system cost by 25-75 % compared to centrifugal or AC pumps

Solar-Direct Application

Starts pumping in low light conditions

Pressurizing Application

DC version is most efficient. AC version uses a low-surge permanent magnet motor that greatly reduces starting surge, inverter size, and wire size requirements (when compared to conventional AC pumps).

Rugged and Reliable

Proven design with a 20-year life expectancy, simple to maintain with common tools (5-10 yr. maintenance interval)

Good Tolerance for Dirt and Dry Run

Mechanical Drive

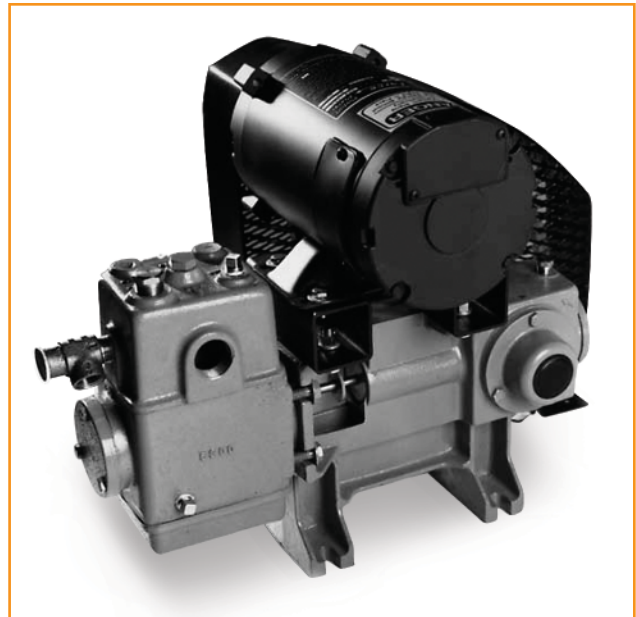
Allows engine or hand-lever backup

Illustrated Instruction Manual

Makes it easy for anyone to install and service, with no previous experience

Construction

- | Cast iron body
- | Brass cylinder and valve seats
- | Leather cup piston seals
- | Neoprene valve seals
- | Oil-bath crankcase
- | Gear (timing) belt drive on PV models
- | Standard V-belt on B models
- | Pressure relief valve
- | Permanent Magnet DC Motor
- | Surge tank included (not in photo)



Voltages Available

- | 12, 24, 48 V DC
Note: PV-Direct full working voltage is typically 20 % higher than nominal (example: 29 V for a 24 V system)
- | 115 V or 230 V AC, 50-60 Hz



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Suction Capacity

25 vertical feet (7.6 m) at sea level. Subtract 1 foot for every 1000 ft. elevation (1 m for every 1,000 m). Suction capacity may be further limited by intake pipe friction.

Intake piping should be minimum 1" (3010, 3020 models) or minimum 1 1/4" (3040). For best reliability, place the pump as close to the water source as possible.

System Requirements

- | Solar-Direct Systems: Chart indicates power (w) required at the pump. The rated power of the PV array must exceed this number by 20 % or more. A pump controller (linear current booster) is required for the pump to start and run in varying light conditions. A solar tracker may be used to increase daily yield (40-55 % in summer).
- | Pressurizing Systems: battery power system, pressure switch, and pressure tank of minimum 60 gallon (230 l) size (captive-air tank, available locally)

Fittings

- | Intake: 1 1/4" female pipe thread
- | Outlet: 1" female pipe thread

Dimensions

- | 22 x 13 x 16" high (56 x 33 x 41 cm)
- | With Surge Tank (not shown in photo), total height 26" (60 cm)
- | Weight, max. 80 lbs (36 kg)
- | Shipped in 2 or 3 boxes

Warranty

2 years against defects in materials and workmanship

Reading the Chart

Total Lift = vertical Distance from surface of the water source to the pipe outlet or top of storage tank

Model Designation:

V=voltage, B=battery model, PV=PV array-direct model

Technical data Conergy Solar Force Piston Pump

| Total Vertical Lift | | V = Voltage • Specify 12, 24, 48, 115, 230 AC | | | | | | | | | | |
|---------------------|--------|---|----------|--------------------|------|-------|--------------------------|------|-------|--------------------------|------|-------|
| Feet | Meters | PSI | KG/sq.cm | Model # 3010 -V- B | | | Model # 3020 -V- B or PV | | | Model # 3040 -V- B or PV | | |
| | | | | GPM | Lpm | Watts | GPM | Lpm | Watts | GPM | Lpm | Watts |
| 20 | 6.1 | 8.7 | 0.61 | 5.9 | 22.3 | 77 | 5.2 | 19.7 | 110 | 9.3 | 35.2 | 168 |
| 40 | 12.2 | 17.4 | 1.22 | 5.6 | 21.3 | 104 | 5.2 | 19.7 | 132 | 9.3 | 35.2 | 207 |
| 60 | 18.3 | 26 | 1.83 | 5.3 | 20.2 | 123 | 5.1 | 19.3 | 154 | 9.2 | 34.9 | 252 |
| 80 | 24.4 | 35 | 2.44 | 5.0 | 19.7 | 152 | 5.1 | 19.3 | 182 | 9.2 | 34.9 | 286 |
| 100 | 30.5 | 43 | 3.05 | 5.1 | 09.2 | 171 | 5.0 | 18.9 | 202 | 9.1 | 34.5 | 322 |
| 120 | 36.6 | 52 | 3.66 | 4.9 | 19.2 | 200 | 5.0 | 18.9 | 224 | 9.1 | 34.5 | 364 |
| 140 | 42.7 | 60 | 4.27 | 4.9 | 18.7 | 226 | 5.0 | 18.9 | 252 | 9.1 | 34.5 | 403 |
| 160 | 48.8 | 70 | 4.88 | | | | 4.9 | 18.6 | 269 | | | |
| 180 | 54.9 | 78 | 5.49 | | | | 4.9 | 18.6 | 280 | | | |
| 200 | 61.0 | 87 | 6.10 | | | | 4.8 | 18.2 | 308 | | | |
| 220 | 67.1 | 96 | 6.71 | | | | 4.7 | 17.8 | 314 | | | |

Available from:

- | Specifications vary ±10 %
- | PV Models are measured at 14, 28, or 56 V (array-direct)