630.469.4916
www.blackhawkco.com

Apollo Solar Piston Pump™

MODEL 101
Depths to 400 ft. at 1.1 gpm

TECHNICAL SPECS.

Apollo is also available in an AC-grid model.

- Operational Depth: To 400 ft./122 m.
- Flow Range: To 1.1 gpm /4.2 lpm
- Well-Casing Size: Minimum 2 in./ 5.08 cm.
- Drive Motor: 3/8 hp

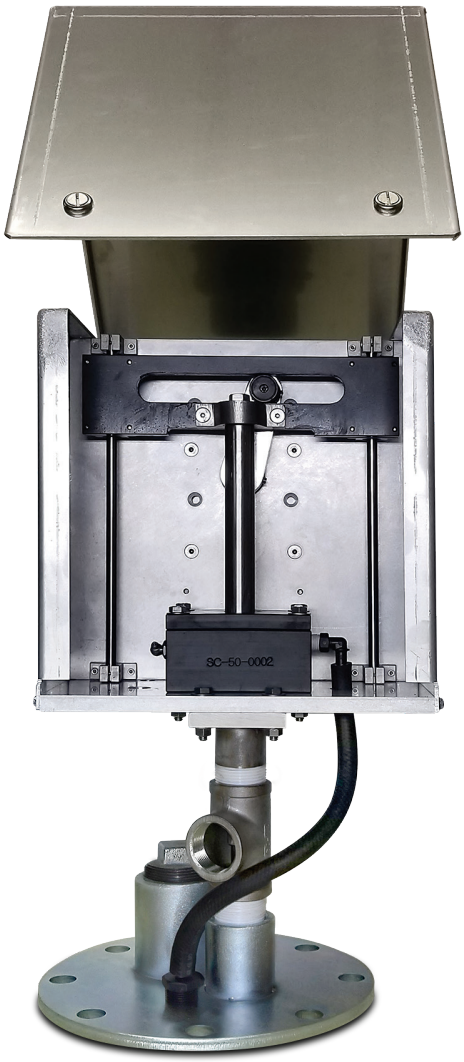
Linear-Rod Piston Pump

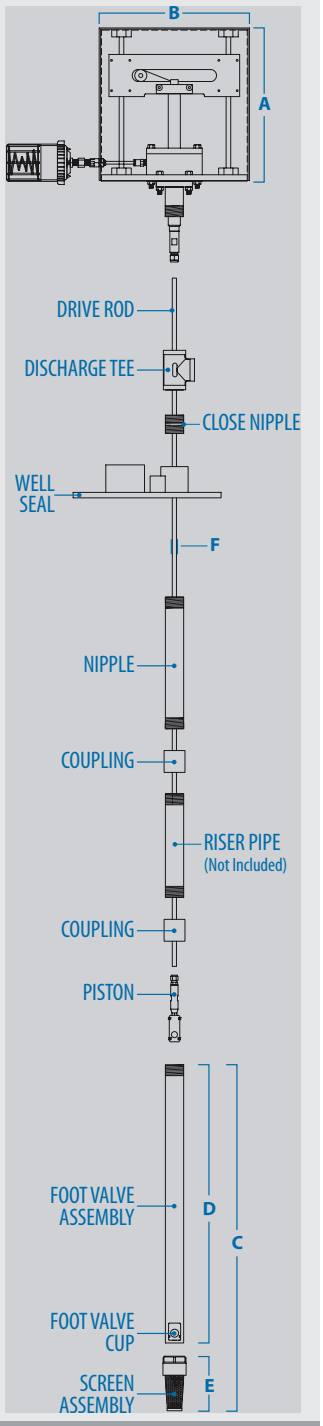
The Apollo Solar Model 101 is a positive-displacement, reciprocating-action piston pump powered by solar panels, with or without supplemental batteries, that pumps virtually any flowable material.

The simple, 3/8-hp linear-rod, non-polluting driver is mounted above the wellhead or sump for easier installation and safer servicing at surface grade.

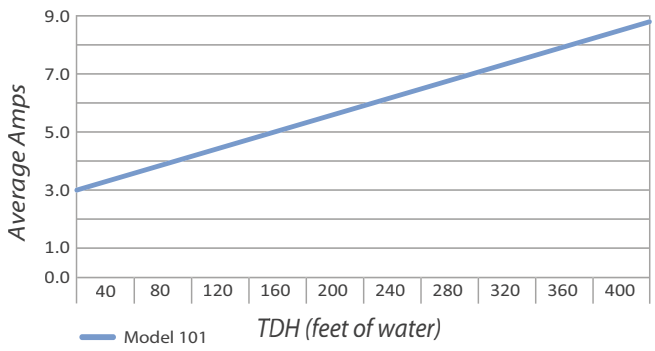
Model 101 maintains a steady flow to maximum submergence depths of 400 feet (122 meters). Flows range to 1.1 gpm (4.2 lpm); 1,584 gpd (5,996 lpd), at temperatures to 200˚F; higher with special components.

Apollo Solar pumps are designed for several applications, including landfill leachate, remediation and recovery, gas-well dewatering, biofuel and pipeline drip-leg sump. They can be built to site requirements.





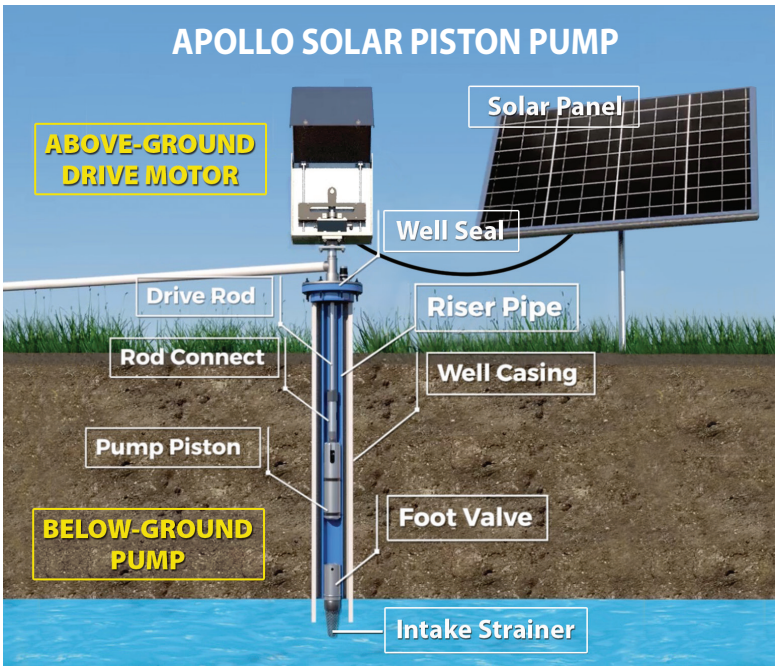
Model 101 Amps vs. TDH



DIMENSIONS (IN INCHES)

A.	Above Well Height	29.5
B.	Driver Width	12.0
C.	Foot Valve Assembly	44.0
D.	Foot Valve Length	38.0
E.	Intake Screen Length	6.0
F.	Downhole Diameter	1.9

Apollo Solar Piston Pump™ Model 101



blackhawkco.com/how-blackhawk-solar-linear-rod-piston-pumps-work

How A Piston Pump Works

Above the sump/wellhead, the drive motor pushes and pulls a durable, flexible rod connected to a reciprocating piston near submergence depth.

As the motor draws the rod up, the piston creates suction at intake and liquid is pulled through a strainer and into a foot valve.

Stainless-steel balls open naturally to allow liquid into the piston and then close to prevent liquid from returning.

The pumping action pulls liquid up through a riser pipe, expelling the liquid through a discharge tee.

Performance Data

Operational Depth	400 feet/122 meters
Flow Range**	To 1.1 gpm / 4.16 lpm 1,584 gpd / 5,996 lpd
Motor	3/8 hp; 14 amps
Power Supply	24 volt DC; 385 watt panel; 9.6 amp output
Maximum Lift	400 feet (122 meters) of water at 173 psi
(Variable speed control adjusts to well conditions; liquid drawn down to top of screen)	
Discharge per Stroke	0.026 US gal / 0.098 liter
Temperature Range	To 200°F / 93°C (higher with custom components)

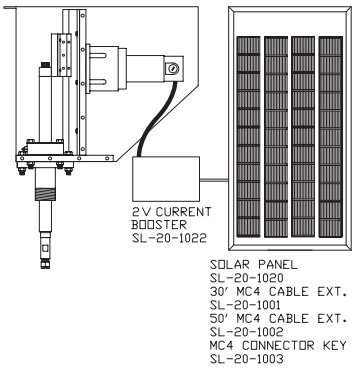
** Meets Reciprocating Pump Tests (ANSI/HI 6.6-2015)

Technical Data

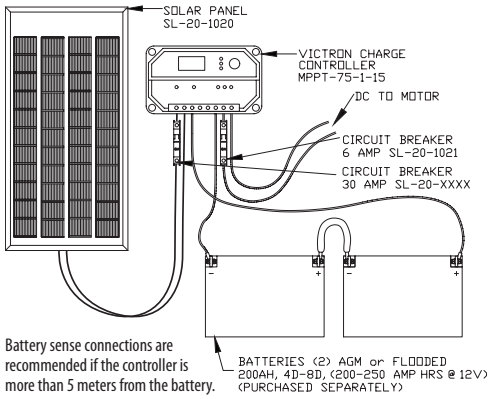
Maximum External Diameter	1.9" (4.83 cm)
Connection to Riser Pipe Connection Tubing	1 1/4" (3.18 cm) 3/4" (1.9 cm) or greater
Discharge Size	2" or 1¼" NPT
Installation	Unit can install vertically or hoizontally
Driver Weight	50 lbs. (22.68 kg)
Driver Rod Weight	12 lbs./100' (3.7 kg per 100 m)
Foot Valve Assembly Weight	17 lbs. (7.71 kg)
Min. Well Casing Size	2" (5.08 cm)
Foot Valve Assembly Weight	20 lb. (9.1 kg)

Solar Set-Up Options

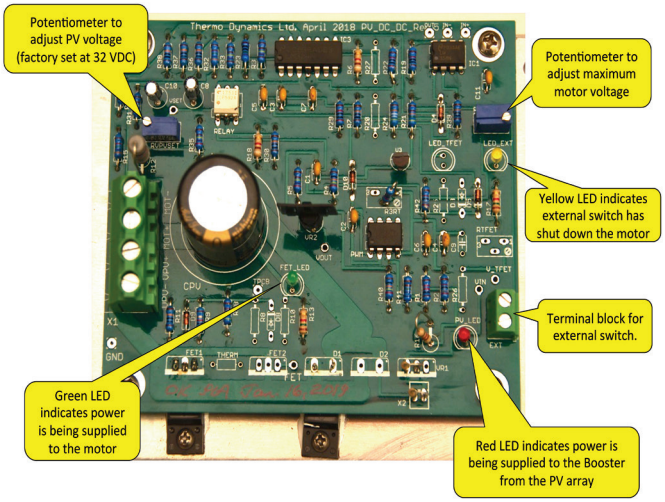
Driver with current booster only



DC package with battery control



Solar DC Controller



The best-performing environmental pump in the business

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