Solar Pump

Water Africa Services Ltd is authorised Agents of Sun Mill Solar Pumps

Key benefits of Solar Pumps

- Water when you need it most, when the sun shines
- Guaranteed water flow
- Unattended operation
- Extremely low maintenance
- Reliable long life
- Proven in the field
- Safer than alternatives No more fuel bills

Power Comparison Chart

The chart below will give you an overview of how solar pumping systems compare with other technologies. As illustrated, solar is a very competitive energy source, and is a very favourable choice in many situations.

PUMP TYPE ADVANTAGES AND DISADVANTAGES

Solar Power Systems

- Low maintenance
- Clean and Green
- No fuel needed
- Easy to install
- Reliable long life
- Unattended operation
- Low cost repair or replacement of parts
- Easily adaptable system to suit individual needs
- Relatively high initial cost Lower output in cloudy weather

Diesel or Petrol Powered Systems

- Moderate capital costs
- Can be portable
- Extensive experience available
- Easy to install
- Needs maintenance and replacement
- Maintenance often expensive and technical
- Fuel often expensive and supply intermittent
- Noise, dirt and fumes
- Site visits necessary

Windmills

- Potentially very long life
- Works well in windy areas
- No fuel costs
- High maintenance
- Costly repair
- Difficult to find parts
- Seasonal disadvantages
- Need special tools for installation
- Labour intensive
- Safety issues
- No wind, no power

Pump Drives

Both the Tall and Short pump drives are rugged, hot-dipped galvanised drives that hold the poly-piston pump. They have been designed so all components are above ground enabling easy maintenance.

Tall Pump Drive

The Tall Pump Drive was designed as a highly efficient, simple to install, low maintenance drive for the Poly-Piston Pump. It has an adjustable stroke, is trailer mountable and has the motor at ground level.

The drive can be powered by:

- Solar 180-370W DC motor
- Grid connected AC power
- Wind - Turbines

It is suited for larger quantities of water than the Universal Pump Drive (having a longer stroke). It is the best suited for replacing windmills.

Short Pump Drive

The Short Pump Drive was designed as a cost efficient, simple to install, low maintenance drive for the Poly-Piston Pump. The drive can be powered by:

- Solar powered 30V DC motor
- Grid connected AC power

It is ideal for continuously small quantities of water, especially from low yield bores (having a short stroke).

Power Maximiser

The Power Maximiser is an electronic unit designed to enhance the performance of DC motors when powered by solar panels.

Functions and Features:

- Maximises the amount of power generated by the solar panels to ensure peak performance of a DC motor.
- When used in water pumping the power maximiser enables more hours of pumping per day as well as improving performance on cloudy days.
- Includes an On/Off switch which supports remote switching - (pressure switches and high/low level probes to monitor bore and tank levels)
- Protected by a weather-proof plastic box.
- Adjustable from 12 to 60 volts via the use of a potentiometer (optional)
- Supports a various number of panels with a maximum output of 14 Amps and a voltage output of between 12 and 60volts

Sun Tracer®

Sun Tracers® are perfectly balanced tracking arrays that accommodate solar panels and, via means of a patented system, electronically track the sun during the course of the day ensuring that solar panels are maintained at the optimum angle to the sun. This ensures that the maximum output from the panels is achieved for the greatest amount of time every day.

Sun Tracers® ...

- increase daily water output by up to 65% (Compared to fixed solar arrays).
- increase battery charging by up to 40% (Compared to fixed solar arrays).
- save money (more power output means less solar panels are needed than on fixed solar arrays - the incremental cost of a Sun Tracer outweighs the cost of additional panels on all bar the smallest of systems).
- suit all makes and sizes of solar panels.
- are simple to install
  require low maintenance.
- have a rugged hot dipped galvanised frame

Sun Tracers® are adjustable to all Latitudes worldwide. The system improves protection against heavy or gusty winds by returning the panels to a horizontal position after sunset. The system remains passive during periods of insufficient light, but take up position immediately there is sufficient sun.

Up to 24 solar panels can be accommodated on one frame (dependant on model and size - max 20m2).

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