



PHOTOVOLTAIC - A CLEAN SOLUTION

S O L A R P O W E R F O R W A T E R
S U P P L Y



Dansk Solenergi RI offers solar power water pumping for rural development. Solutions for small-scale pumping problems in off-grid applications including water for livestock, alternative living, nurseries, water for missions, schools, hospitals, refugee camps, nomadic groups and DRINKING WATER SUPPLY IN RURAL LOCATIONS. In general we design systems for isolated locations.

Our systems are a clean alternative to diesel generators and other fuel burning engines. The systems require no fuel deliveries, and a low maintenance. A solar power pump produces the most water when it is needed the most and it can be used with or without batteries. Our solar power water pumping systems have great advances:

- * The systems are all an unattended operation
- * The systems have low maintenance
- * The systems are easy to install
- * And the systems have a long life

Solar water pumps in Senegal

In Senegal we are designing photovoltaic systems for 62 water pumps, so people in 600 small communities can have drinking water. We have done the project with TOTAL and it has been financed by the Senegalese Government, the African Bank of Development and NDF – Nordic Development Fund.

We offer solutions on request; please contact us for support and assistance



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Water supply

Dansk Solenergi offers fantastic solar power pumps as a clean alternative to diesel generators and other fuel burning engines. They require no fuel deliveries, and very little maintenance. A solar power pump produces the most water when it is needed the most. For example a solar power pump system in Africa needs between 330 Watts – 660 Watts of solar power to pump water as high as 0-120m with a flow between 0,8m³/h - 7m³/h. It can be used with or without batteries. Dansk Solenergi has designed solar power pump systems to Senegal, Bolivia, Mediterranean, Sweden and Tanzania.

Photovoltaic (PV) modules generate electricity directly from the sun's light, with no moving parts. The solar array may be mounted some distance away from the water source. Most systems are designed to pump only during the daytime to fill a storage tank or pond. This is usually more economical and reliable than using batteries. The solar systems use an electronics device to connect the photovoltaic (PV) panels directly with the pump motor, eliminating the need for inverters and/or battery storage, but they also work with batteries and with wind generators.

If your water source is far from a power line, it can add up your long-term costs of fuelling and fixing generators, repairing windmills, etc., including time and transportation to well sites. Now consider the savings with a pump that runs on sunshine and only needs attention every 5 to 10 years.

A complete solar power water pumping system consist of:

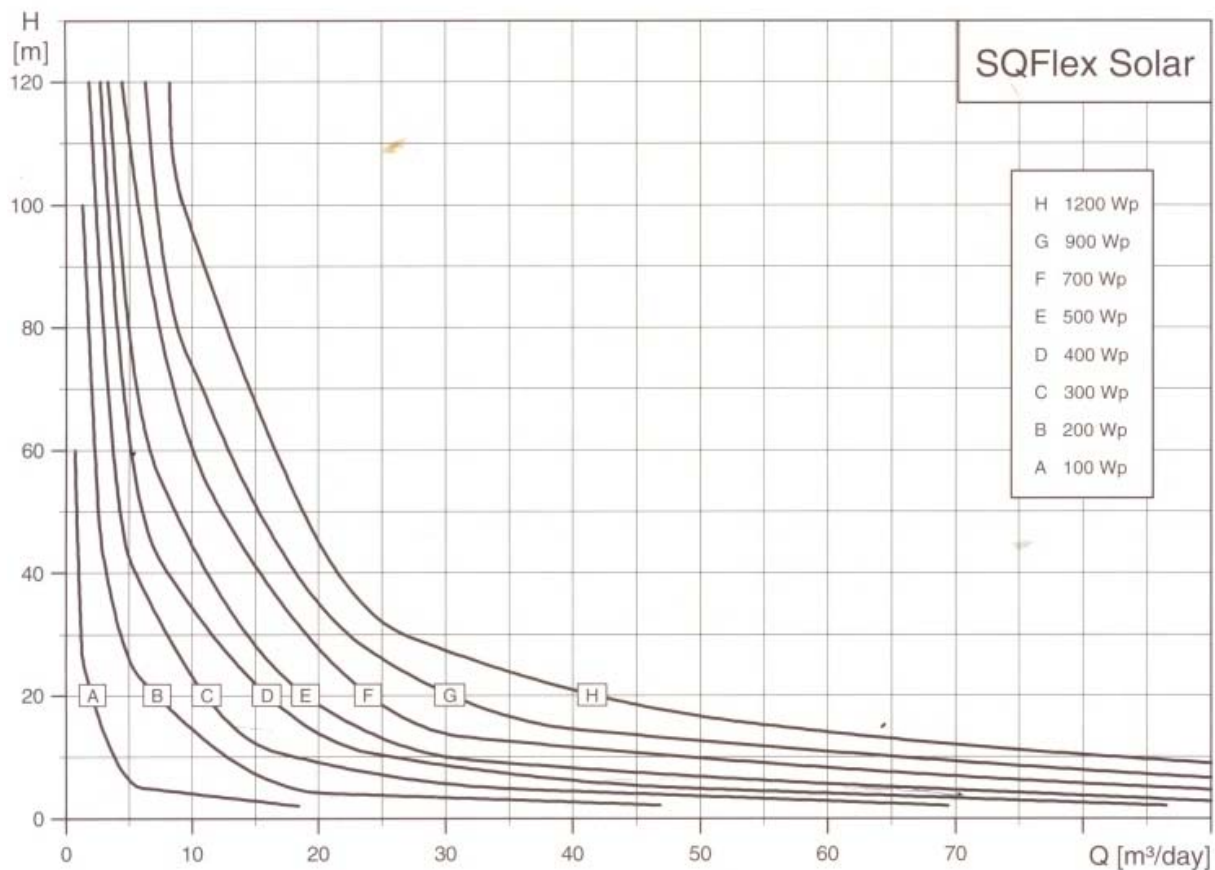
Photovoltaic panels, support structure, switch box / controller, pumps, cables, secure wire, wire clamp.

Accessories: pipes, flow sensor in tank and storage tank. Dansk Solenergi provides services and products to a complete system, regardless of system size.



Water supply – general performance range

Based on panels tilt with an angel of 20 degree, 11 hour standard solar day, 20° northern latitude, 6kWh/m2 per day



Basic pump system contains:

Performance with 60m head: 1m3/daily
 2 pieces 165 Watt crystalline modules / 24 Volt
 1 mounting racks with individual adjusting angle 15°-60° of aluminium with all nuts and bolts for the support structure (origin Danish – HEM design).
 1 SQFlex, 1 Controller
 2 pieces of cable set for modules
 60 meters of 2x6q cable, Cable clips
 60 meter secure wire, Wire clamp
 Accessories: Pipes, flow sensor in tank and storage tank.

Basic pump system contains:

Performance with 120m head: 5m3/daily
 5 pieces 165 Watt crystalline modules / 24 Volt
 2 mounting racks with individual adjusting angle 15°-60° of aluminium with all nuts and bolts for the support structure (origin Danish – HEM design)
 1 SQFlex, 1 Controller
 4 pieces of cable set for modules
 120 meters cable, Cable clips
 120 meter secure wire, Wire clamp
 Accessories: Pipes, flow sensor in tank and storage tank.

Water supply - reference

Dansk Solenergi – Danish Solar Energy has designed several complete water pumps systems based on photovoltaic power. The systems supplying water, all over the world. We have done projects in Senegal, Afghanistan, Sweden, Tanzania, Bolivia and Mediterranean. In Senegal we are designing photovoltaic systems for 62 water pumps financed by the Senegalese Government, the African Bank of Development and NDF – Nordic Development Fund.

– A complete photovoltaic system for 62 pumps in Senegal

In 2005-2008 Dansk Solenergi are designing 9 different photovoltaic power systems to run 62 well pumps, supplying water to 600 small communities in Senegal. The pump systems are designed to pump only during daytime to fill storage tanks. The water supply's drinking water, water for homes and water for animals.

The total project contains 9 different solar power water systems. Every system is designed after the need of water and the location. Size of system is depending on the difficulties pumping the water to the storage tank. The power in the systems varies from 8 photovoltaic panels to 24 photovoltaic panels, each panel of 115 Watt

