

Water, Where and When you need it!

The **Turbine Pump** is designed for water pumping at isolated location in all climates without the restrictions and high costs associated with traditional mechanically driven wind pumps or diesel generators.

Simple to install with high performance

The system is supplied in kit form and is capable of pumping potable water from deep wells or bore holes (>100mm diameter) to a maximum depth of 70 meters.

The system incorporates a wind turbine and submersible pump directly connected (ie. no battery necessary) via an interface control unit which ensures optimum system performance and maximised flow rates over all wind conditions.

Solar panels of up to 100Watts (2 x 50W modules) can be connected in parallel with the wind turbine and simply connected to the controller giving even greater daytime pumping performance.

Turbine Pump - Performance

| Total pumping head | Average Windspeed | |
|--------------------|-------------------|---------------|
| | 5m/s* | 6.5m/s |
| 10m | 750 ltr/day | 2,300 ltr/day |
| 40m | 650 ltr/day | 1,700 ltr/day |
| 70m | 430 ltr/day | 1,300 ltr/day |

* Average UK windspeed

Typical Applications

- Water pumping for domestic use
- Irrigation
- Livestock watering
- Drainage

Turbine Pump - System Components

Wind Turbine – The FM910-3 wind turbine has a rotor diameter 910mm and combines an established robust mechanical design with the latest 3 phase generator technology to deliver better performance and greater reliability than ever before. Primarily designed for land based applications, the FM910-3 has been used worldwide to provide year round power generation. Superb performance and reliability is achieved using the latest turbine technology design and top quality materials.

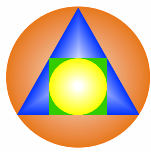
Shurflo Pump – This submersible pump can be used either vertically or horizontally. With few moving parts its robust design ensures a long operating life and reliability.

Float Switch – A Float switch is included which can be used in a water storage tank, lagoon or cattle drinking trough. The float switch also helps to increase the life time of the pump by stopping the pumping operation when the storage tanks are full.

RPC1 Controller – The simple to use “Smart” interface controller maximises flow rates over all wind conditions and features an LED indicator to show pump status. More importantly it enables Solar PV panels to be used to pump water on low wind speed days enabling the system to pump all year round if required

Optional Mounting System - A complete 6.4m wire guyed tower is available to get the most from your turbine. The 48mm diameter galvanised steel tube comes ready drilled for assembly complete with joiners. Solar PV Panel supports which can be fixed to the mounting tower are also available giving you a complete system neatly installed on one tower.

Optional Solar Photovoltaic (PV) Panels - These optional panels generate electrical power from direct sun/daylight, so in low wind speed conditions the pumping operation can continue providing a more regular supply and greater water pumping.



Turbine Pump - The Kit Includes

- 1 x FM910-3 Wind turbine
- 1 x RPC1 Control unit
- 1 x Shurflo pump
- 50m electric power cable
- 25m safety rope
- 30m Potable water hose
- Float switch
- Cable ties
- Full installation and service manual

Optional extras

- 2 x 50 watts solar panels
- 6.4 meter mounting tower
- Solar panels pole mountings



FM910-3 wind turbine



**Optional 6m
Mounting Tower**



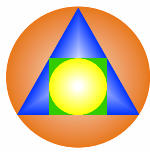
**Robust Submersible
Pump**

Turbine Pump - Features

- High efficient proven FM910-3 wind turbine
- High windspeed electrical protection - Turbine furls out of damaging high wind speeds to protect the system
- Controllers maximises flow rate over all wind conditions
Pump status indicate by LED's
- Weather proof controller enclosure
- Built-in safety features
- Reservoir float switch increases pump life
- Turbine need not be located directly above the well

Turbine Pump - Cost Effective and Convenient

- Cost Effective and convenient
- 24 hour operating potential gives high average daily flow rates
- No specialised knowledge required for installation - only basic toolkit required
- Long life durable & reliable components
- Portable
- Minimum maintenance
- Silent and clean in operation



FM910-3 Wind Turbine - Shown here with optional solar panels

- Quiet in operation
- Thermostatic alternator protection slows the turbine down in prolonged high winds.
- Low wind speed start up of just 2.5 m/s
- One way only fit fine profile efficient aerofoil blades are unique in the industry
- Turbine diameter of 910mm
- Sealed for life bearings
- Brushless alternator with fixed shaft requires no maintenance
- The alternator's windings and magnets are encapsulated in glass fibre
- Built in slipping & low wear brushes give the unit complete 360° free rotation on the mounting pole
- No radiated interference - complies with EEC Directive BS EN 89/336/EEC

RPC1
Control Unit



Power Cables

Float Level Sensor

Storage tank

Water pipe

Minimum water level

Typical water level

Maximum static submergence 30m

Maximum total lift 70m



This high efficient Shurflo pump submersible is efficient, robust and reliable. It is suspended off the security rope (included in the kit) at the well head and the security rope takes the weight of the pump, water pipe, water and power