

Sunnytek Solar Sweden AB

1KW Kaplan Turbine Generator

Water Head: 1.6 meter, Water Flow: 65~80 liter/sec

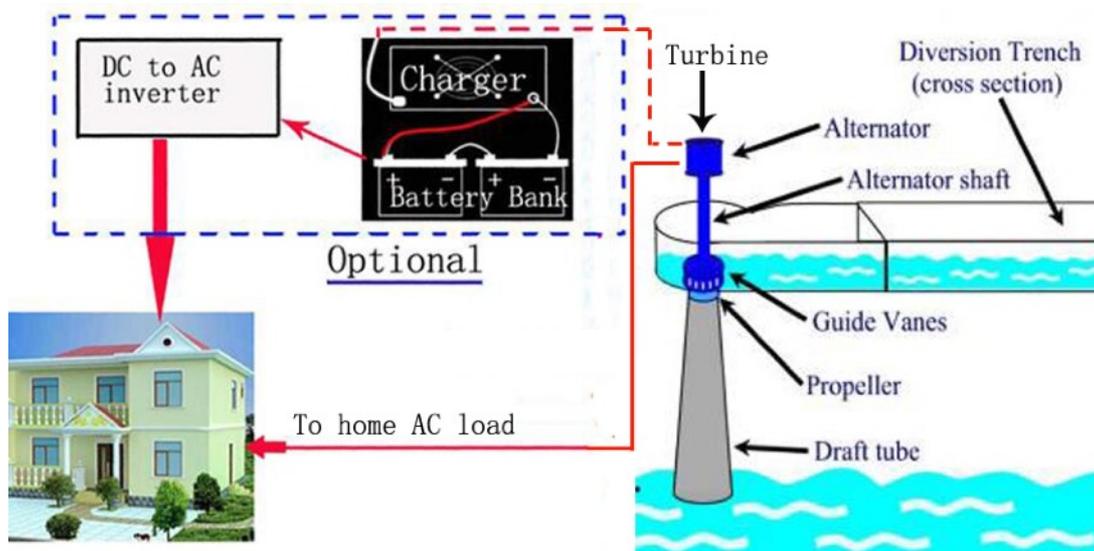
Mini hydro power generator Suitable for AC direct system or battery-based off-grid system

ST 1.6-1.0DCT4-Z Kaplan turbine performance

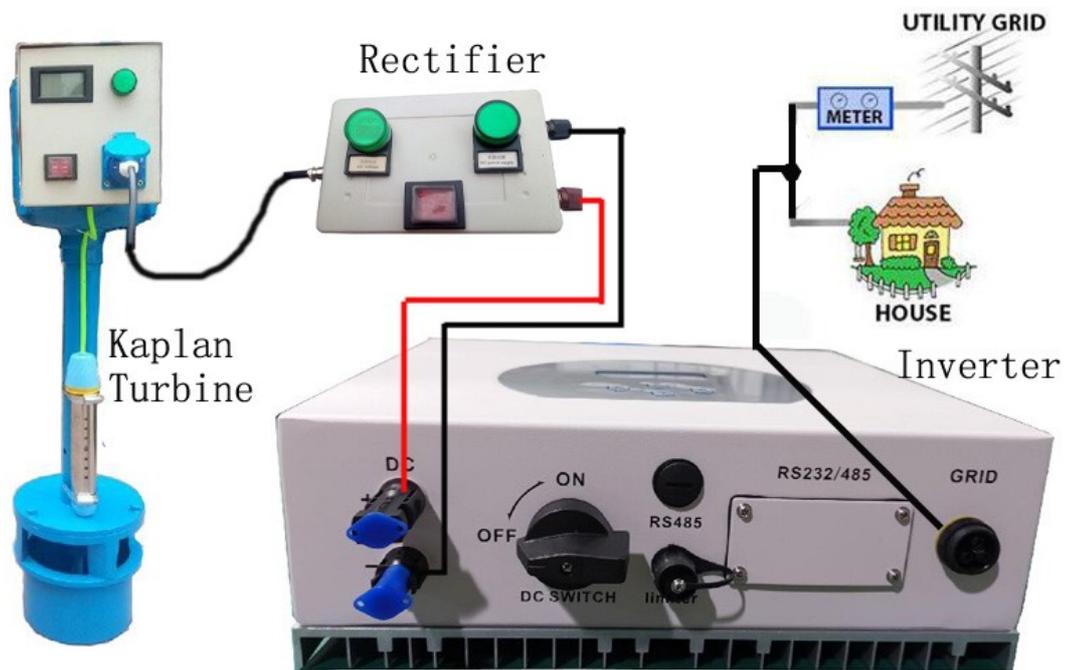
This is a small system optimized for watersheds of only 1.5-2 meters and the generator can give max 1 KW output. The turbine is a small Kaplan design.

1) A AC direct off grid system with an integral kaplan turbine, generator and valve flow control. Designed to deliver ready-to-use 115V/230V AC power, it includes a brushless, special rare-earth permanent magnet alternator and therefore has a higher efficiency than ordinary alternator. Output voltage and frequency are controlled by the electronic load controller(with ballast). The power is monitored and that which is not used by the appliances is directed to the ballast.

2) A battery based off grid system, the generated power is used to charge a battery bank. It charges batteries 24 hours a day and the power can be drawn from the battery as needed.



3) A battery-less grid tie system.



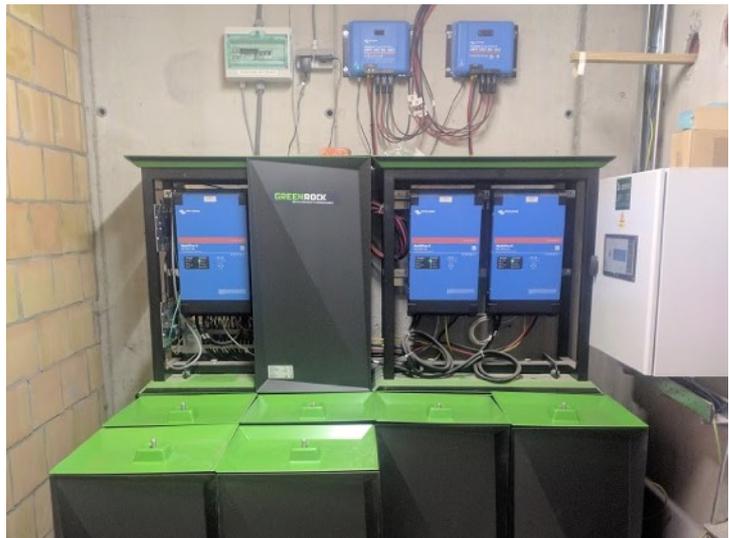
It is important to keep in mind that output can only be accurately determined if head and flow measurements are made correctly, so care should be taken during this process. Two other important factors in a site assessment are system voltage, and transmission distance. The voltage and distance the power must travel can affect the efficiency and cost of your transmission lines.

Kaplan-turbine	
Kaplan turbine	ZD1.6-1.0DCT4-Z
Rated Water Head	1.5~1.6 meter
Rated Water Flow	65~80 liter/sec
Rated Speed	1500 r/min
Power	1000W
Efficiency	60%
Generator	
Model	1000DCT4-Z
Rated Power	1000W
Rated Voltage	230V
Rated Current	4.4 A

FQCY	50 Hz
Rated speed	1500 r/min
Phase	Single Phase
P.F.	1.0
Altitude	≤3000m
Insulation Grade	B/B
Protection Grade	IP44
Ambient Temperature	-25°C ~ +50°C
Relative Humidity	≤90%
Control Panel	
Safety Protection	Short circuit , Over load ,Over voltage
Standard	IEC international electrician committee standard
Shipping weigh/size	50kg/90×34×29cm

Small water turbines are suitable when combined with solar and wind power into a hybrid installation. This gives a very good flexibility. Power from different sources differs over the day and this helps to get a reliable 24/7 electrical system.

We recommend to use the inverter in the system to get a good voltage and frequency stability as the turbine itself is not getting a very good stability.



If we have a hybrid inverter we can have an energy storage by a battery system and then we can have very high.

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