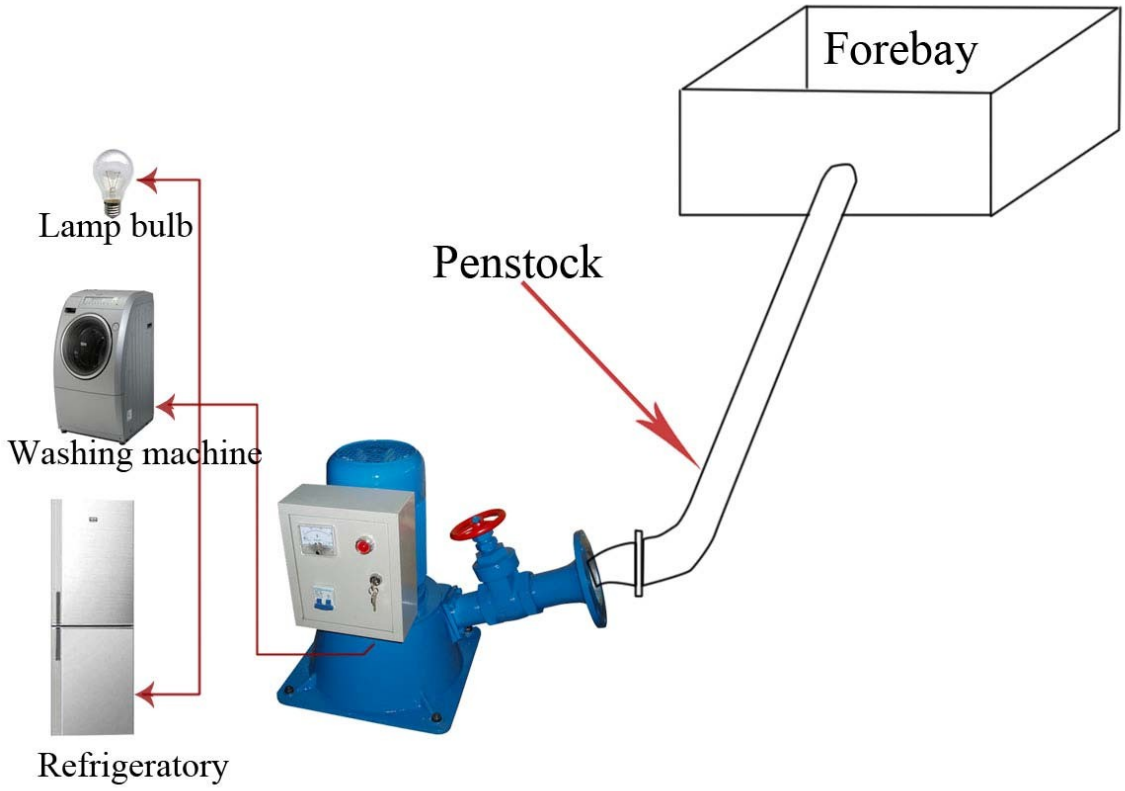
High Head

Micro Hydroelectric Generator

How the system works

Water power is the combination of HEAD and FLOW. In our hydro system, the water is diverted from a stream into a pipeline, where it is carried downhill and through the turbine (FLOW). The vertical drop (HEAD) creates pressure at the bottom end of the pipeline. The pressurized water emerging from the end of the pipe creates the force that that drives the turbine. More FLOW, or more HEAD, produces more power.



High Head Series offers a complete water to wire system with integral turgo turbine, generator and valve flow control. It is most suitable for the household, in mountain areas with scattered and small hydro-electric sources. All or part of the stream flow is diverted through steel penstock pipe and down to the turbine. The flow then escapes and is carried away along a drainage trench. Output voltage and frequency are controlled by our electronic load controller (with ballast). The bearings are sealed and need replacing every few years - no other maintenance is necessary. If submerged in water simply dry them in the sun and use again. This series also comes complete with its own ELC and the voltage range is the same as for the Low Head Models. This Turgo Series is compact and easy to install by anyone with a practical nature.

These machines are built to be relied upon in remote locations and withstand harsh conditions. Innovative designs, high efficiency and sophisticated but simple electronic controls ensure years of reliable electricity. The installation and operation are easy and can both be done by the consumers themselves.

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.

AC Power outputs: 200W - 30000W,

1) Three phase, 380V/50HZ or 60HZ
   For models XJ30-12SCT4-Z, XJ30-15SCT4/6-Z, XJ3020SCT4/6-Z, XJ38-30SCT4/6-Z
2) Single phase, 110V or 230V/50HZ or 60HZ
   For all the rest of the models

XJ25-3.0DCTF-Z

XJ30-10DCT4-Z

XJ14-0.3DCT4-Z

Technical Specification

Model	Head Range (meters)	Flow Range (liter/second)	Power (W)	Nozzle /valve numbers	Penstock Diameter (mm)	Packing Size (cm)
XJ14-0.3DCT4-Z	12 ~ 14	3 ~ 5	300	single	50	26x30x34
XJ18-0.5DCT4-Z	12 ~ 18	5 ~ 7	500	single	50-75	26x30x36
XJ18-0.75DCT4-Z	14 ~ 18	5 ~ 8	750	single	75	35x35x53
XJ25-1.5DCT4-Z	18 ~ 25	8 ~ 11	1500	single	125	80x56x58
XJ25-1.5DCT4H-Z 15	12	~ 18 1500	double	125-150	80x56x58	
XJ25-3.0DCT4-Z	25 ~ 35	15 ~ 19	3000	single	125-150	62x52x72
XJ25-3.0DCTF4-Z	18 ~ 20	18 ~ 30	3000	double	150	90x64x65
XJ28-6.0DCT4/6-Z	28 ~ 35	30 ~ 38	6000	single	150-200	75x65x82
XJ28-6.0DCTF4/6-Z	18 ~ 20	38 ~ 50	6000	double	200	106x76x73
XJ30-10SCT4-Z	30 ~ 38	40 ~ 50	10000	single	200-250	110x78x86
XJ30-10SCTF6-Z	25 ~ 30	50 ~ 60	10000	double	200-250	110x78x86
XJ30-12SCTF4-Z	28 ~ 35	50 ~ 60	12000	double	200-250	
XJ30-15SCTF4/6-Z	30 ~ 40	60 ~ 70	15000	double	200	120x90xx105 80x60x50
XJ30-20SCTF4/6-Z	30 ~ 45	60 ~ 80	20000	double	250-300	20x90xx105 80x60x50
XJ38-30SCTF4/6-Z	38 ~ 45	90 ~ 120	30000	double	250-300	

If you feel you may have a suitable site, please email specific information on your actual site. The information that is required for a preliminary assessment is:

1. The volume of water flowing in your stream, expressed as liters per second.
2. The head (height of drop) of the falling water, expressed in meters.
3. The length of the penstock (pipeline) in meters.