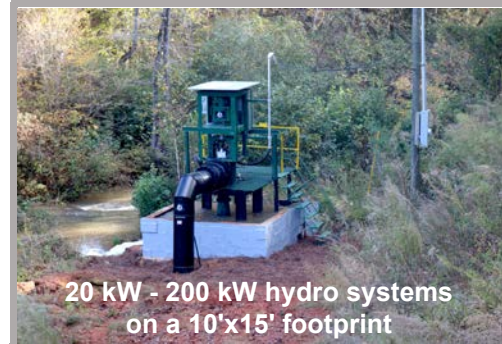


MICRO & SMALL HYDRO SYSTEMS



VFH Turbine™ - Proprietary Technology Advantages

Differences between the VFH Turbine™ and traditional systems.

The *Variable Flow Hydro System* (VFH) incorporates a series of proprietary components. The mechanically and hydraulically variable turbine, when coupled with our computerized software, permits the automatic or remote computer control to fully manage systems worldwide in real time. Traditional hydro systems are not reliable, predictable or operational when flows fluctuate.

O&M Management and Operational Efficiency

VFH turnkey renewable clean energy generation systems deliver many advantages, including: increased operational efficiencies, reduced construction costs, accelerated construction time table, reduced risk and decreased environmental impact. Processes include proprietary software, an innovative asset management program to integrate data into meaningful reports, including O&M management and operational efficiency. Our software manages all of our asset deployment, specifications, monitoring, calibration, costing and tracking from a single system.

Advanced Monitoring and Data Recording.

The VFH Turbine™ customized a control panel with our proprietary programming. The key points are monitoring, sensing, reporting, metering, management, archiving and security. The proprietary controls reduce or eliminate the need for costly O&M and additional personnel. Proprietary archiving “learns” from past performances and continuously seeks to equal or better performance thresholds with adjustments.

Efficient energy source = Reliable electricity production

Hydro produces a continuous supply of electrical energy in comparison to other renewable technologies. Hydro generates power regardless if the sun is shining or the wind is blowing. A critical benefit is that hydro does not require battery storage to provide power, 24/7/365.

No reservoir required.

VFH Turbine™ typically functions as a ‘run-of-the-river’ system, meaning that the water passing through the generator is directed back into the stream with relatively little impact on the surrounding ecology. The VFH system also works for any discharge with adequate flows, like Wastewater Treatment Plants, Pulp & Paper plants, mines and other industrial applications.

Cost effective energy solution.

Building a small-scale hydro-power system costs vary depending on civil needs, site electricity requirements and location. Maintenance fees are relatively small in comparison to other technologies. The life expectancy for the VFH Turbine™ exceeds 50 years.

Dissolved Oxygen

Proprietary processes within the VFH Turbine™ have been designed to dramatically increase DO (dissolved oxygen) into all discharge water flowing through the turbine by up to 100%. This increases water quality and enhances the receiving waters. Aerobic bacteria and aquatic life such as fish must have DO to survive.

Power for developing countries.

Because of the low-cost versatility and longevity of the VFH Turbine™ micro hydro, developing countries can manufacture and implement the technology to help supply much needed electricity to small communities and villages. Civil requirements and infrastructure costs are low.

Predictable and consistent power production.

Unlike solar and wind power, the consistent flow of river water creates predictable clean energy and is then discharged by gravity to rejoin the original river to enhance the river's ecosystem. This approach relies on being able to side stream a small percentage of flows from higher volume rivers, canals, channels, and/or streams. Our decentralized approach allows emerging nations to generate affordable, yet, predictable power in urban, rural or remote off-grid regions.

Integrate with the local power grid.

If your site produces a large amount of excess energy, some power companies will buy back your electricity overflow. You also have the ability to supplement your level of micro power with intake from the power grid when needed.

Equipment Tracking and Security

GPS tracking equipment will protect multiple proprietary components of each VFH System by establishing a "geo fence." Geo fences are invisible boundaries that we create, based on GPS coordinates. Since the VFH Turbine™ should always be located in a stationary area; we will "build" a geo fence around that area using GPS tracking software. Our software alerts us if any equipment related to the VFH has moved outside that Geo fence or altered in any fashion. The GPS tracking will help reduce or eliminate theft, technical piracy and vandalism.

Misconceptions about hydro power

Hydro generators will damage the local ecosystem.

The Truth: Careful design is required to ensure the system has a minimal impact on the local ecology. A small amount of energy compromise may result, but this will ensure that the project does not have an effect on local fish stocks. Since the VFH Turbine™ is designed to add dissolved oxygen, the ecosystem and water quality are actually enhanced. The Environment Agency requires that stream levels must be maintained at a certain level in order to sustain the life within. Since there is no loss of water in the generation process, these requirements can easily be met.

Small streams do not provide enough force to generate power.

The Truth: Energy output is dependent on two major factors: the stream flow (how much water runs through the system) and drop (or head), which is the vertical distance the water will fall through the water turbine. Once these two factors are addressed, the VFH Turbine™ can be designed to maximize the efficiency and power generation of the site.

A large water reservoir is required.

The Truth: Most VFH hydro systems require very little or no reservoir in order to power the turbines. These systems are commonly known as 'run-of-the-river', meaning the water will run straight through the generator and back into the stream. This has a minimal environmental impact on the local ecosystem.

Micro hydroelectricity is unreliable.

The Truth: Technology advances (such as maintenance-free water intake equipment and solid-state electrical equipment) ensure that these systems are often more reliable in remote areas. Often these systems are more dependable than the local power main.

The electricity generated is low quality.

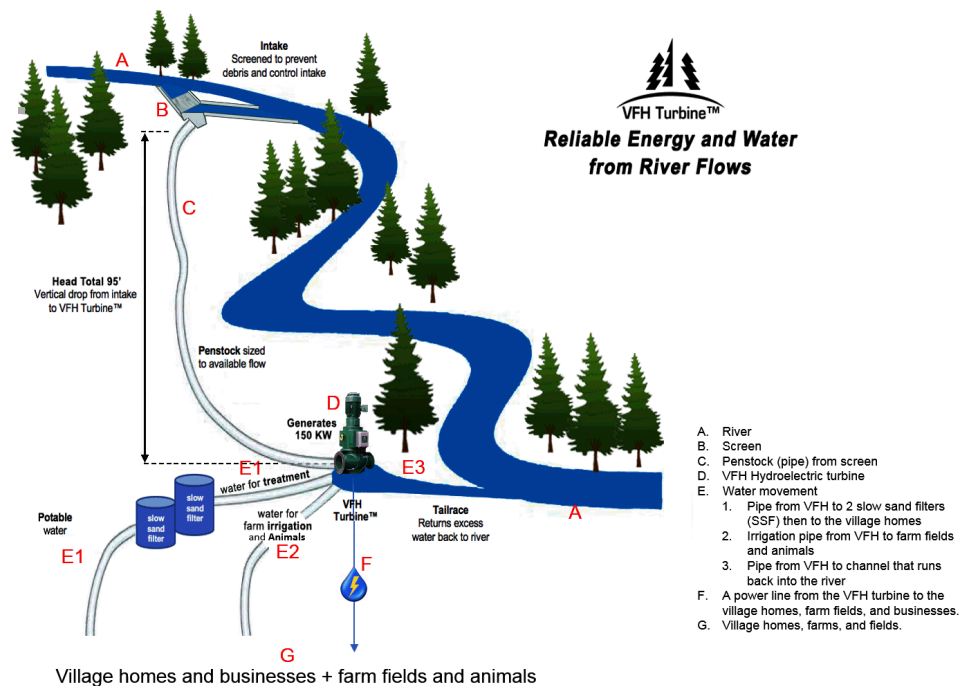
The Truth: Since VFH Turbine™ incorporates the latest electronic control equipment, inverters and alternators, the resultant power supply has the potential to be of higher quality the main electrical power grid with fewer if any power outages.

Hydro power is free.

The Truth: Traditionally, micro power development can be cost-intensive to build and maintain. There are some fixed maintenance costs. These costs vary according to site location and material requirements. However, the VFH Turbine™ is nearly maintenance-free and can be monitored, managed, and controlled remotely on your computer or other devices. The VFH system is both cost-efficient and has a rapid ROI.

CONCLUSION

This document was intended as a general overview of the VFH Turbine™ Global Program. Additional information, data, photos, downloads and contacts are available on the www.vfhturbine.com web site. Detailed specifications of the technology, proprietary software, advanced monitoring capabilities, environmental enhancement applications and finance options can be obtained by contacting one of our representatives.



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VFH Turbine YouTube QR

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