stefturbine

Linear Power

Efficient
&
Eco-friendly

WRH Walter Reist Holding AG
Industriestrasse 1
CH-8340 Hinwil/Switzerland
Telephone +41 44 938 70 00
info@steffturbine.com
www.steffturbine.com

100% renewable energy

Electricity from hydro power

We believe in sustainability

Thanks to the Steffturbine, we are making a key contribution to efficient, eco-friendly power generation.

WRH Walter Reist Holding AG

WRH Walter Reist Holding AG is an international, family-owned Swiss technology company. It is a specialist in the development of innovative conveying and processing technologies, with proven and successful applications in the printing, food, pharmaceuticals and automotive industries, to name just a few. Conveyor technology also forms the basis of the new Steffturbine for small-scale and micro hydroelectric power plants. United under the WRH Walter Reist Holding AG roof are WRH Marketing AG and Ferag AG based in Hinwil (Switzerland), along with Denipro AG in Weinfelden (Switzerland), which together can count some 1200 employees worldwide.

Headquarters in Hinwil, Switzerland

Nature

Ecology

With the Steffturbine, clean, ecologically sound operation is our top priority. Thanks to the unique concept, the natural environment is hardly disturbed – in marked contrast to existing technologies.

The Steffturbine is positioned above the surface of the water, so that the ecosystem remains as pristine as possible with zero emissions and no CO_2.

The Steffturbine is positioned above the surface of the water, so that the ecosystem remains as pristine as possible

No containment measures

From a constructional standpoint, the Steffturbine comes with major advantages. No extensive water containment or damming measures are required on-site, and groundwork is completely eliminated.

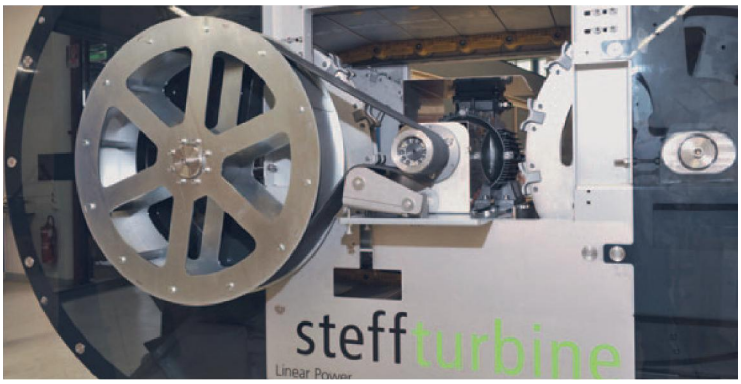
Fish friendly

When developing the Steffturbine, the overriding objective was to generate electricity from a renewable energy source while ensuring maximum protection of the natural environment and conserving water resources. The large paddle volume allows smaller fish that have not been diverted by the rakes to pass unharmed through the turbine – a safe passage that is enhanced by the matched speeds of the turbine paddles and water throughflow.

Engineering

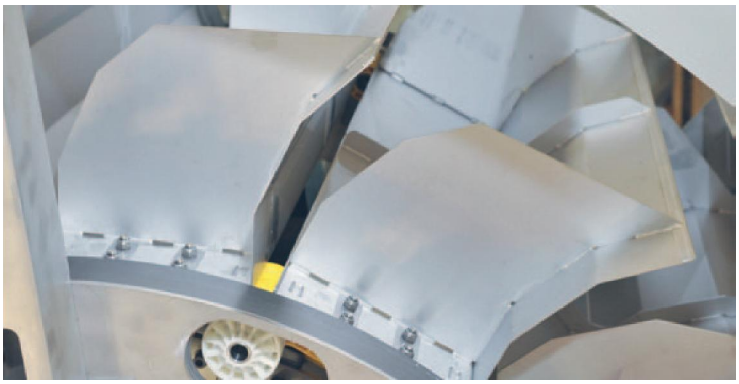
The Steffturbine functions as an overshot water wheel, since it is driven mainly by the potential energy of falling water and less by kinetic energy, as is the case with an undershot water wheel.

A new kind of drive system



The innovative overdrive guarantees optimum, efficient and safe power transmission

Robust chain routing



Smooth circulation that's easy on components

Unique paddle geometry

The paddle geometry is new

100% renewable energy

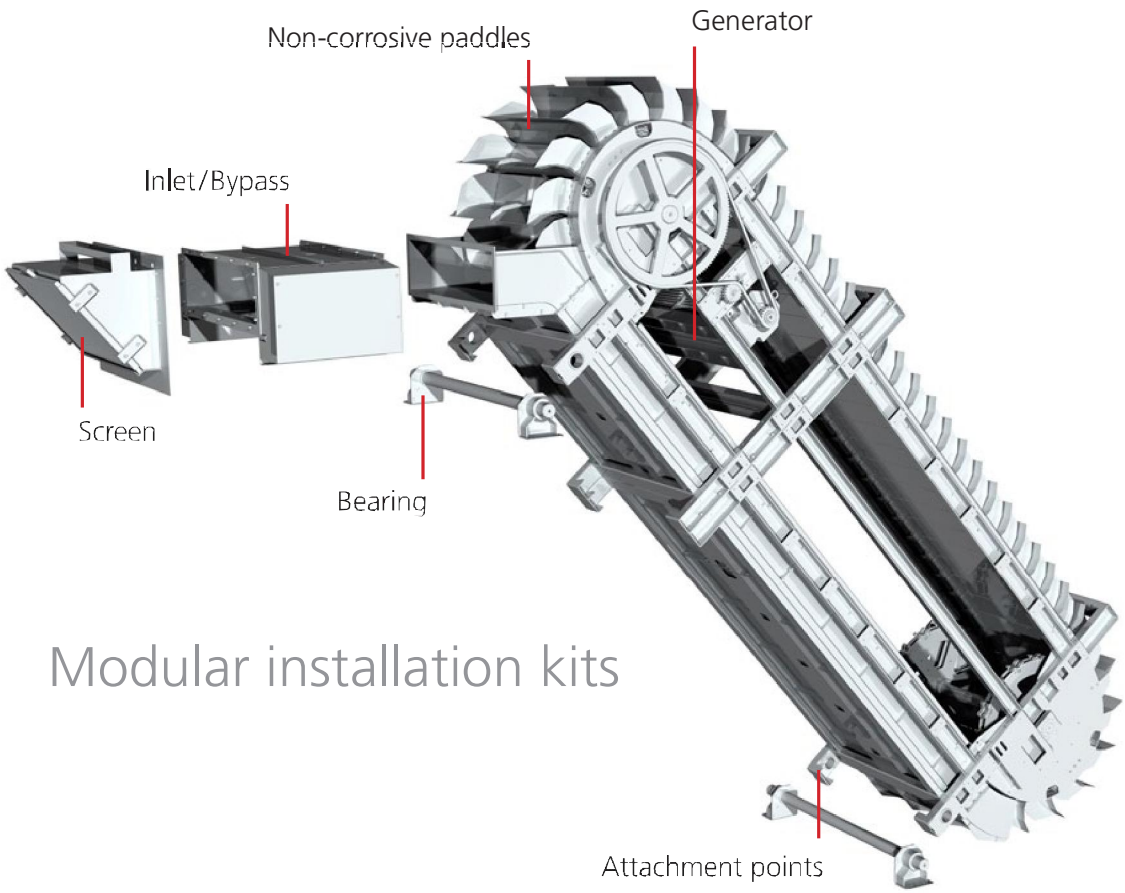
Technique

Water power

The Steffturbine is driven mainly by potential energy. The patented, conveyor-based concept is mainly suited to small-scale and micro hydroelectric power plants.

- Optimum flow patterns, as dictated by the system.
- Efficient utilization, even with marked fluctuations in water flow.

Energy generation made easy with superior technology



Modular installation kits

Applications

Completely new possibilities

- Flowing water
- Dam outlets
- Waste water
- Water treatment plants
- Irrigation systems
- Revitalization of barrages
- Outlet channels from power stations
- Industrial process water
- Integration into existing weirs

For the first time, hydroelectric investment costs will be paid back very quickly

Major advantages

- High efficiency
- Robust and extremely simple engineering
- Very limited structural intervention on-site
- Low installation costs
- Zero consumption of natural resources
- Different operating concepts
- Minimum maintenance
- Protection of climate and environment
- Optimum price/performance ratio

The possibilities are completely new

100% renewable energy

Year-round electricity generation

With 365-day, 24-hour operation and a continuous flow of water, annual production is 87,000 kWh (20–25 households).

A high return on capital

For others

- Profit from grid feed-in tariffs
- Short pay-back times
- Constant electricity generation

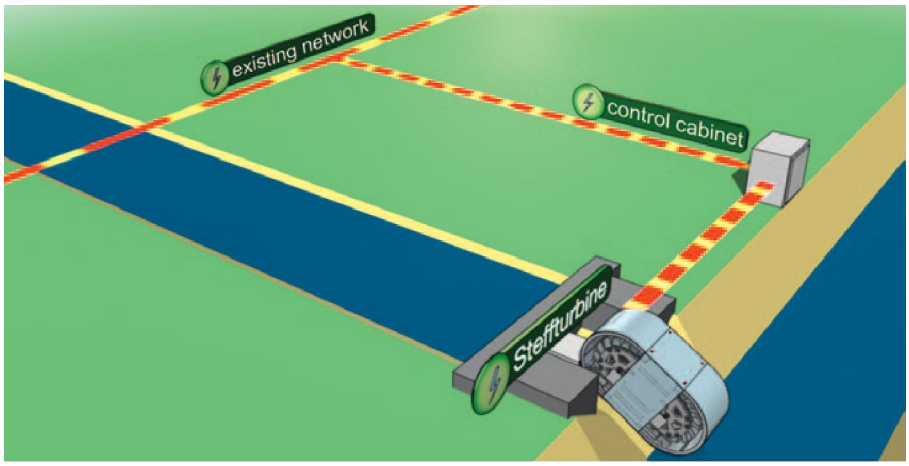
For you

- Your own electricity supply
- Freedom from rising electricity prices
- A constant electricity price for twenty years

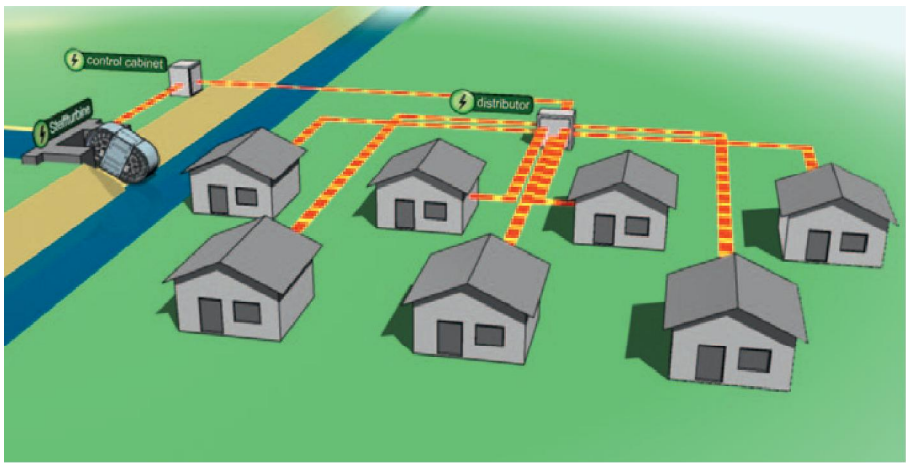
Applications

The Steffturbine can be used to export power to the grid in isolated operation or as a self-sufficient, combined network solution.

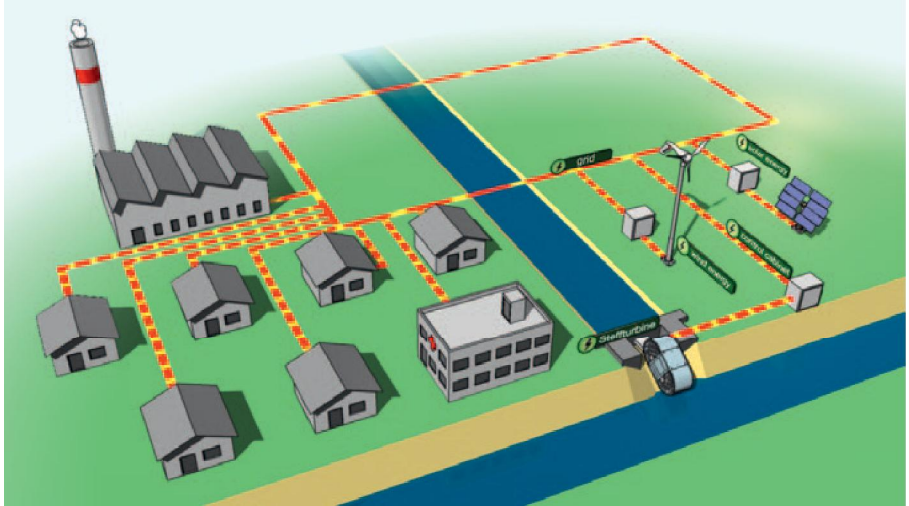
Power export to grid



Isolated, stand-alone operation



Self-sufficient, combined network solution



100% renewable energy

Extremely low installation costs

Ready to go in just a few steps

Very limited structural intervention on-site

Pilgersteg, Rüti, Switzerland. Installed in three hours. Only four attachment points

The Steffturbine is positioned above the water

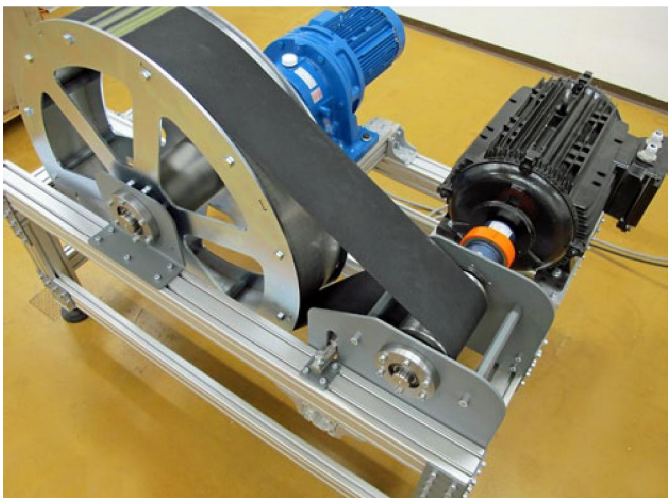
Laboratory tests

An expert scientific partner

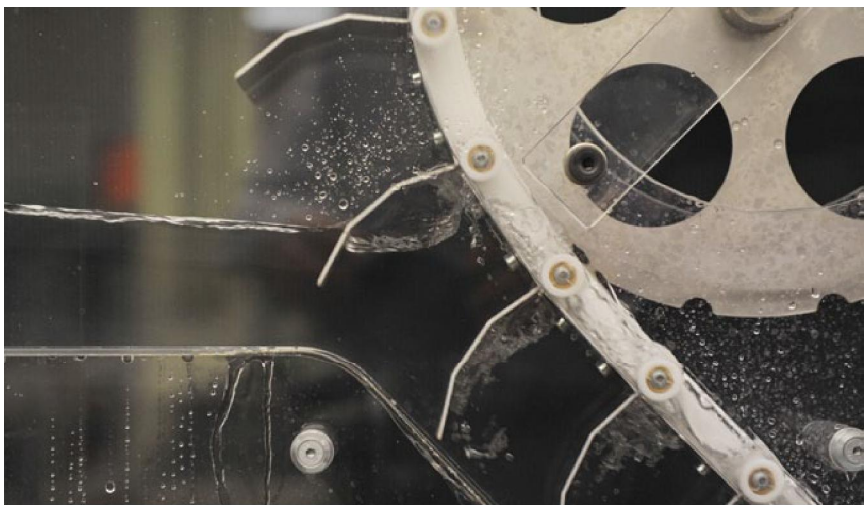
The construction of the current Steffturbine series is based on empirical knowledge and ongoing laboratory tests of the system's efficiency and potential for optimization at the University of Munich. These tests show that turbine efficiency can reach 92%. Furthermore, measurements have revealed only a slight drop in efficiency under partial loads, and only slight fluctuations when the inclination is changed.

der Bundeswehr Universität München

Research and development



Drive and output measurements

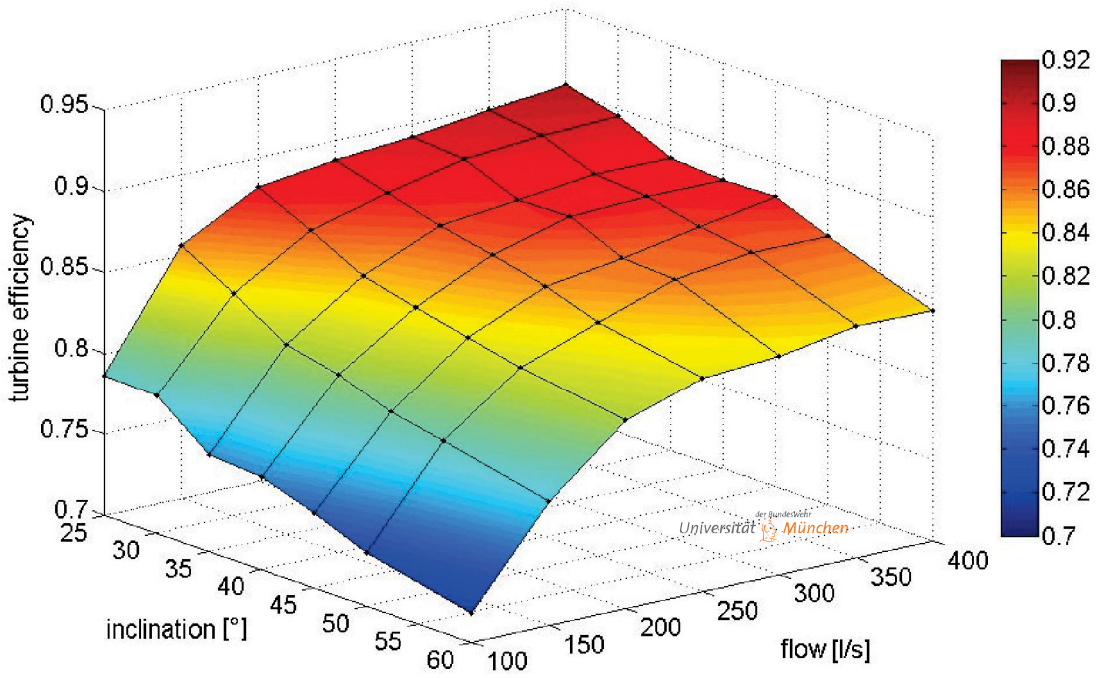


Optimized paddle geometry

100% renewable energy

Efficiency

High efficiency



More output for each dollar invested

We strive to be leaders not only in quality but in efficiency, too

Advice and analysis

We will advise you during the planning stage of your hydroelectric power plant, and assist you with site evaluation.

24/7 support

Thanks to our worldwide sales network, we can guarantee you a fast and dependable service.

18 February 2012, minus 20.5°C