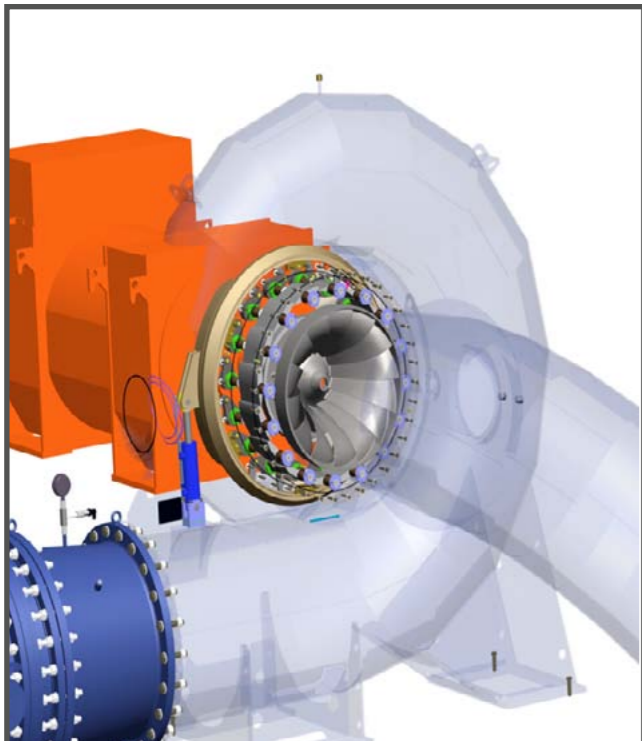


Francis Horizontal

Runner Diameters....	400 mm to 1500 mm
Head.....	15 to 300 meters (50 to 1000 feet)
Flow.....	0.5 to 20 cms (18 to 706 cfs)
Power Output.....	100 kW to 12 MW
Transmission.....	Runner Assembled to Generator or Turbine Shaft

Francis Vertical

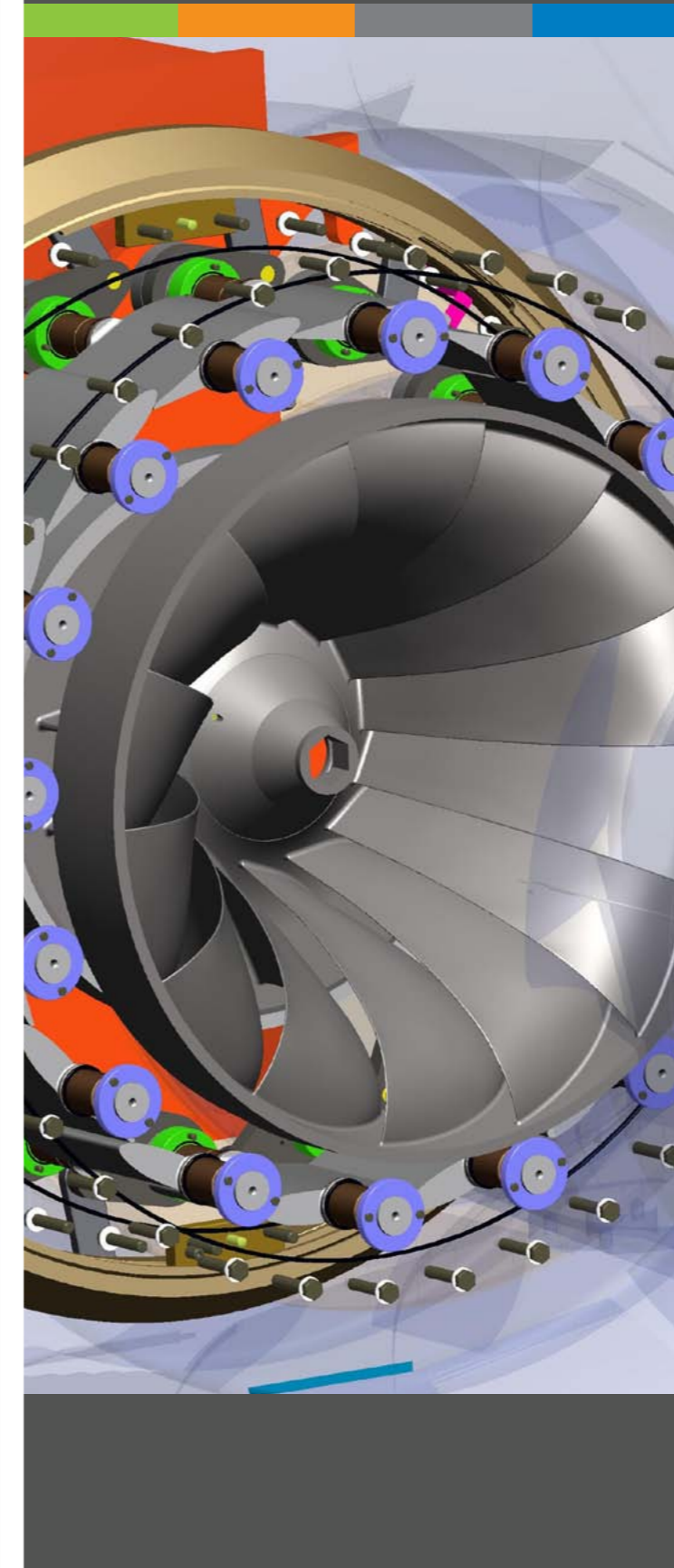
Runner Diameters....	1000 mm to 2500 mm
Head.....	Up to 300 meters (1000 feet)
Flow.....	Up to 35 cms (1236 cfs)
Power Output.....	Up to 30 MW
Transmission.....	Runner Assembled to Generator or Turbine Shaft



Mavel Horizontal Francis Turbine



Mavel Francis Turbines



The Mavel Francis Turbine

Invented by James Francis in Massachusetts in 1848, the Francis turbine is the most widely used turbine in the world today.

Mavel's line of Francis Turbines is designed for medium heads and medium flow. The Francis turbine is known for its high efficiency and use over a wide range of heads. Mavel's Francis turbine line is designed for sites with installed power up to 30 MW. Mavel mills its Francis runners from a single block of forged steel using either a 5-axis or 6-axis CNC milling machine. These turbines are customized for each site and can be configured either horizontally or vertically.

Over the past twenty years, Mavel has installed over 60 Francis turbines around the world.

Mavel Francis turbines have the following specifications:

- horizontal or vertical configurations
- runner diameter of 400 mm to 2500 mm
- head range of 15 to 300 meters (50 to 1000 feet)
- flow range of 0.5 to 35 cms (18 to 1240 cfs)
- installed power output of up to 30 MW



Mavel Francis Runner

Mavel, a.s.

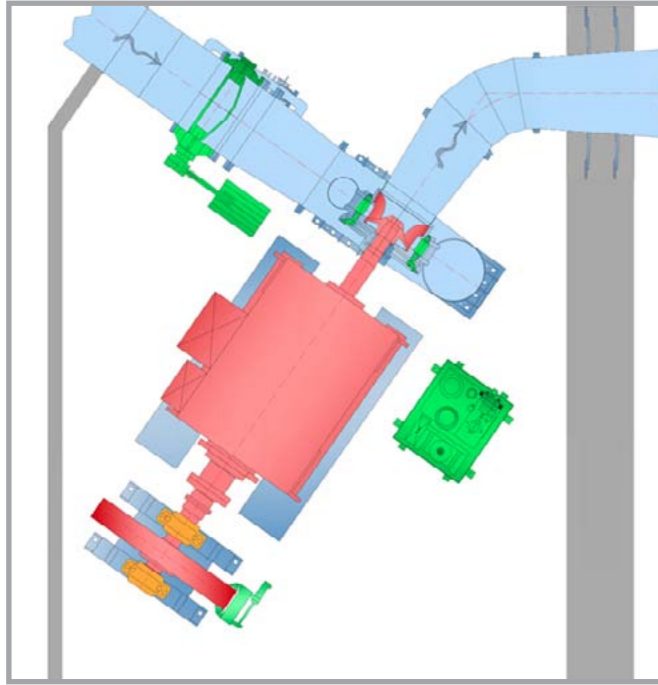
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Francis Horizontal



BUGOYE HPP

Bugoye HPP was commissioned in 2009 by the President of the Republic of Uganda. It is located on the Mubuku River at the foot of the Rwenzori Mountains.



Bugoye HPP Parameters

Turbine.....	2 x Francis Horizontal
Head.....	159 meters (522 feet)
Flow.....	10 cms (353 cfs)
Total Power Output.....	14.3 MW

LAS PIEDRAS CASCADE

These projects on the Piedra River in the Chiriqui Province of Panama are designed as run-of-river facilities. Each site uses two Mavel Francis Horizontal turbines.

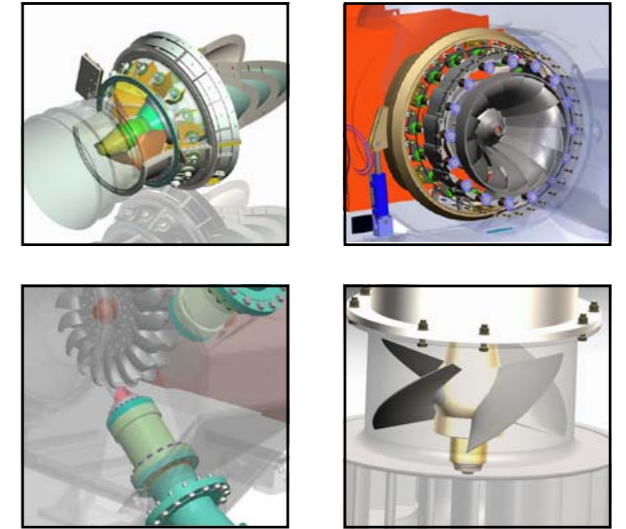


Las Perlas Norte, Las Perlas Sur and Concepcion

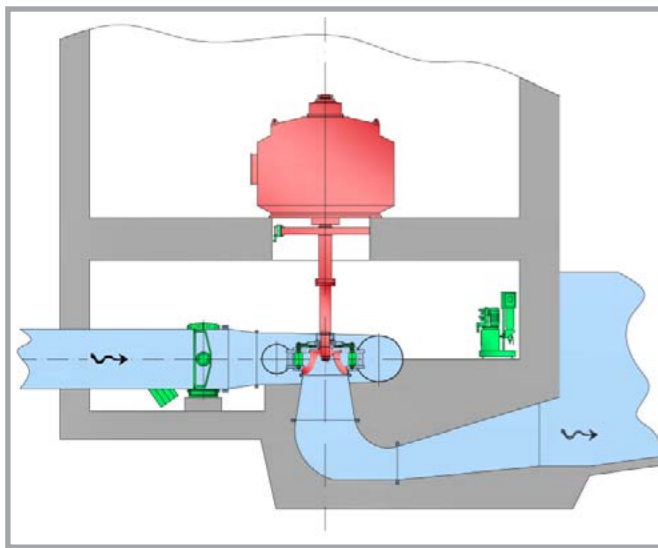
Turbine.....	6 x Francis Horizontal
Average Head.....	62 meters (203 feet)
Combined Flow.....	60 cms (2118 cfs)
Total Power Output.....	30 MW

Hydro Turbine Technology by Mavel

Mavel is a global leader in the supply of Kaplan, Francis, Pelton and modular micro turbines and related equipment for hydroelectric power plants utilizing turbines from 30 kW to 30+ MW.



Francis Vertical



PEDRA E OTHONI HPP

Located on the Cedrino River in Province of Nuoro, Italy, the Pedra e Othoni HPP is owned by the Region of Sardinia and is managed by 'Ente Waters of Sardinia.



Pedra e Othoni HPP Parameters

Turbine.....	1 x Francis Vertical
Head.....	42 meters (140 feet)
Flow.....	9 cms (318 cfs)
Total Power Output.....	3.4 MW

FUJIYOSHIDA HPP

Just 15 kilometers from Mt. Fuji, Japan, Fujiyoshida HPP is a refurbished, small hydroelectric plant that supplies 140 kW of power to surrounding areas.



Fujiyoshida HPP Parameters

Turbine.....	1 x Francis Horizontal
Head.....	16 meters (52 feet)
Flow.....	1 cms (35 cfs)
Total Power Output.....	140 kW

Founded in 1990, Mavel was one of the first companies formed under the new Czech Commercial Code. The company moved from Prague to its current headquarters in Benešov, CZ in 1993 and brought in a consortium of American / Canadian / European investors in 1997. Funds were used to upgrade facilities and purchase a small hydro turbine producer near Brno, CZ. The original founders of the company remain top managers with their American counterparts and are supported by a team of global hydroelectric power specialists.

Mavel produces turbines at its two 12,900 m² combined manufacturing facilities which have 85 ton crane capacity, and 40 machines including a 5-axis milling machine and a new 6-axis prototype machining center put into operation in 2013.

The Company is ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007 and ISO 3834-2:2005 certified.

Over the past twenty five years, Mavel has installed or signed contracts for over 500 turbines at more than 300 sites in 43 countries around the world.