

Zeco Francis Turbine Presentation



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Since 1960 in the hydropower Italian market.

In the 1985 has delivered the first machine for the foreign market (Tanzania).

Produce Kaplan, Submerged Kaplan, Francis, Pelton turbines up to 10 MW.

Act as a «general contractor» for the electro-mechanical equipment delivered.



Zeco Automation department was born in 2007 as a natural detachment of the historical Zeco's C&I dept.

Supply all the C&I equipment related to the hydraulic power plant and provide after sale service.



Company set up by Zeco owner in 2009. High skilled engineering department which develops, tests and start ups tailored generators for the hydropower market.

The production is made by two external high skilled sub-supplier.

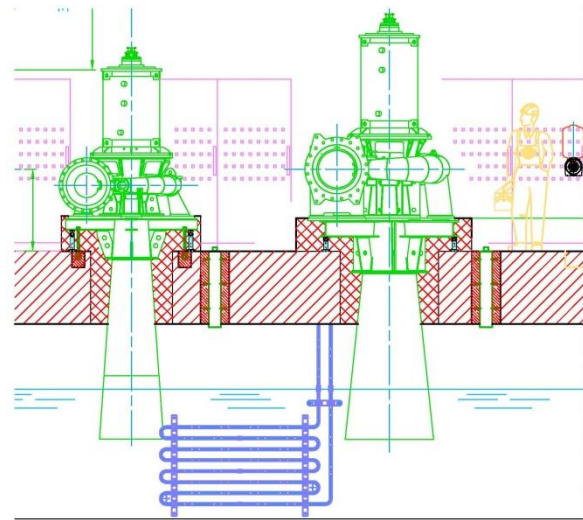
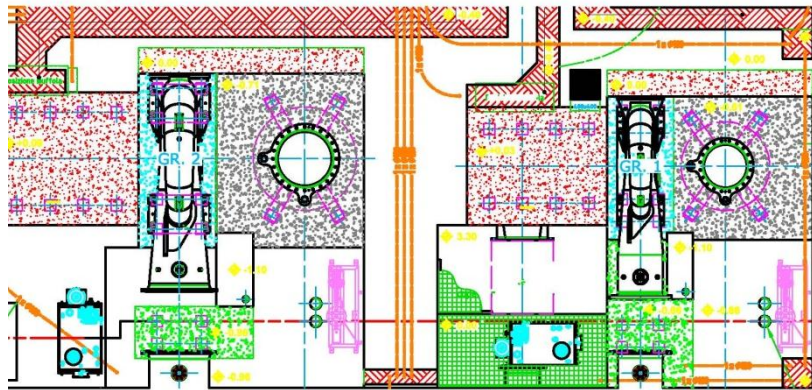
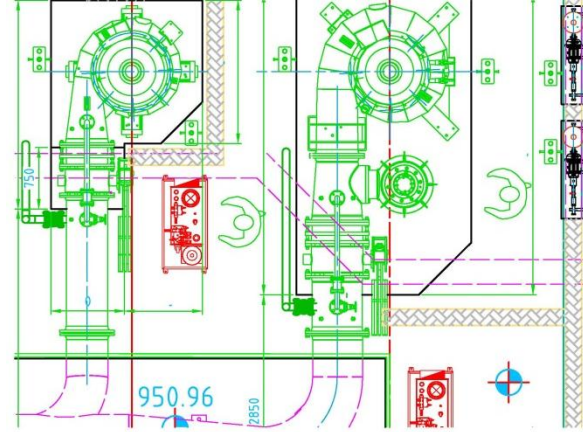
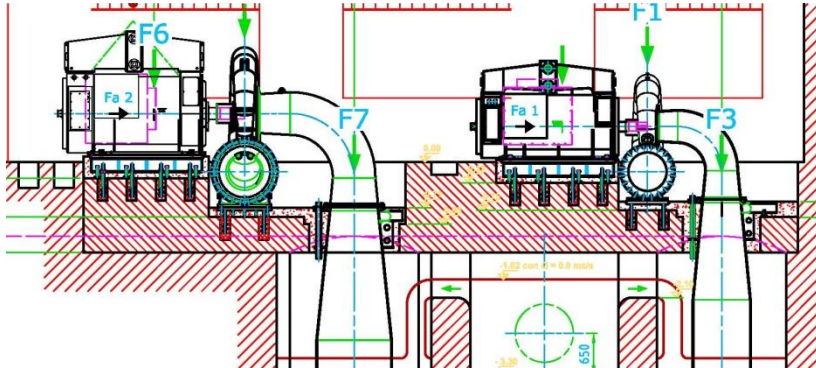


Historical Zeco's carpentry sub-supplier acquired in 2009. Since 2011 in charge of the forbay tanks electro-mechanical equipment business (inlet gates and trash rakes).

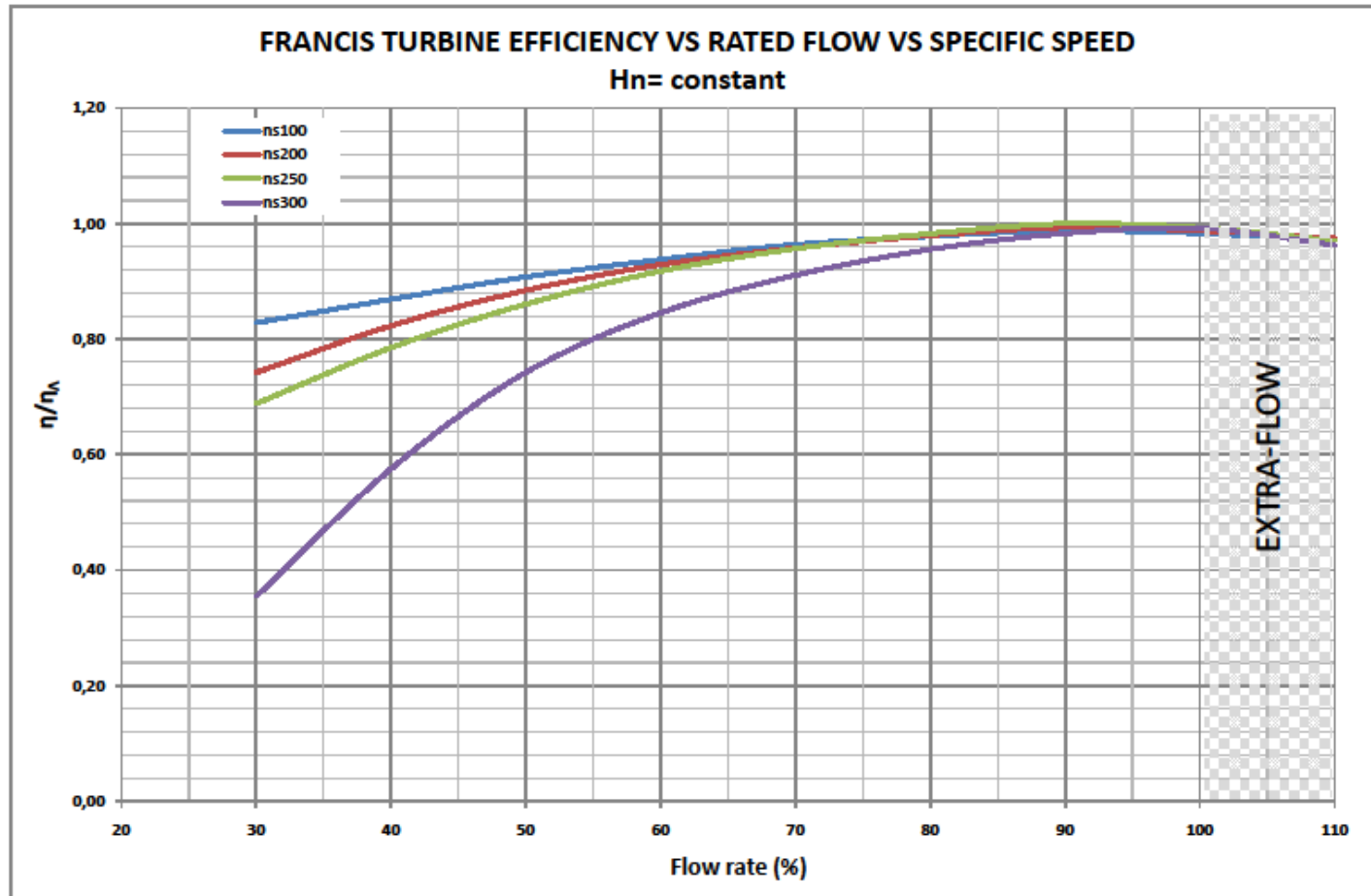
Horizontal Francis Vs. Vertical Francis



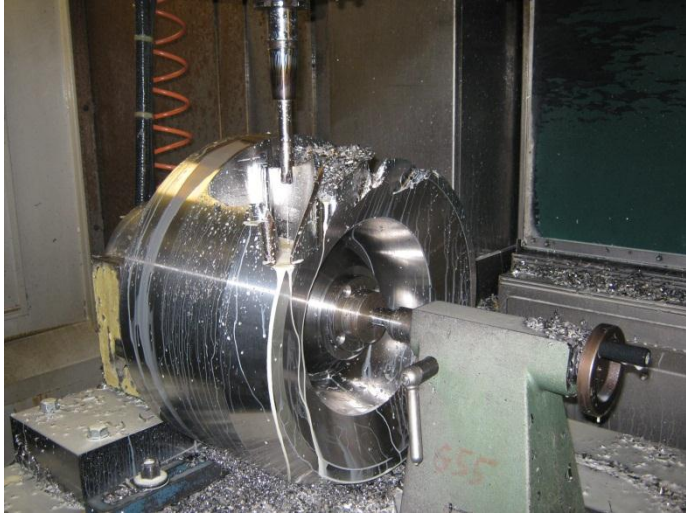
Horizontal Francis Vs. Vertical Francis



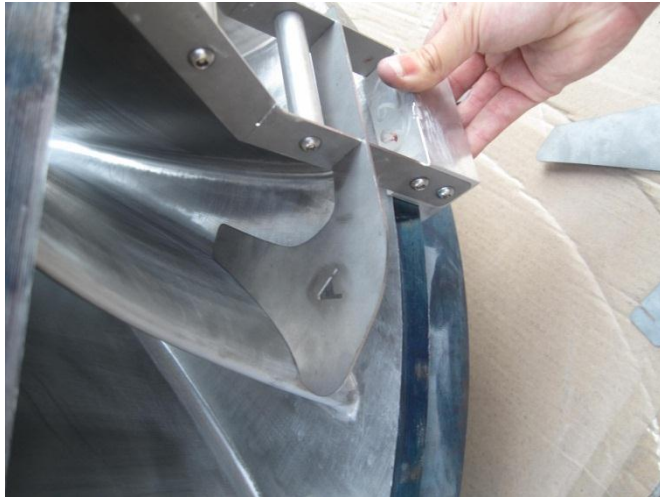
Francis Efficiency



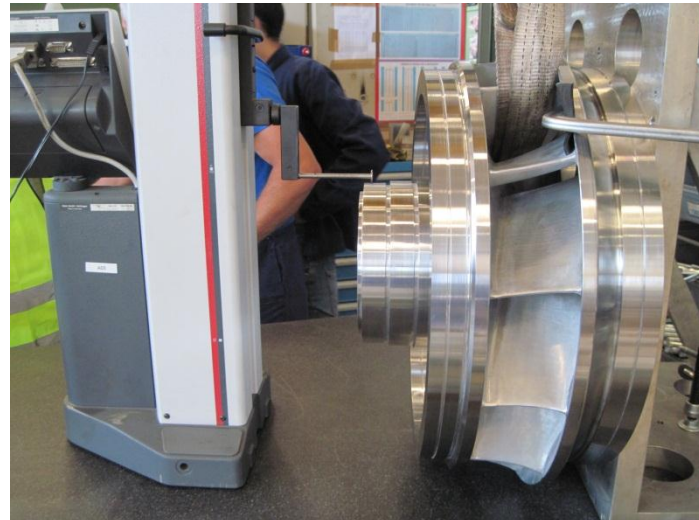
Francis Turbines - runner



Internal tests



Internal tests



Zeco Francis Turbines



Zeco Pelton Turbines

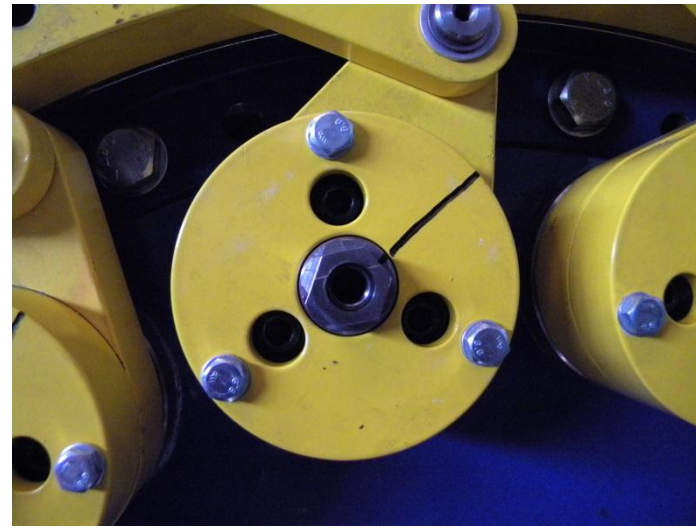


Horizontal Pelton for Stand Alone Operation

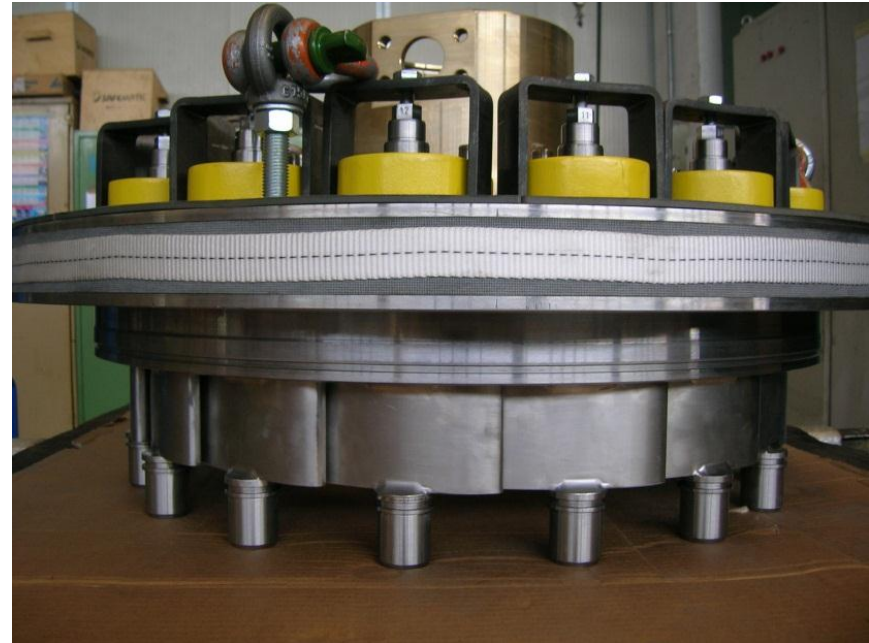
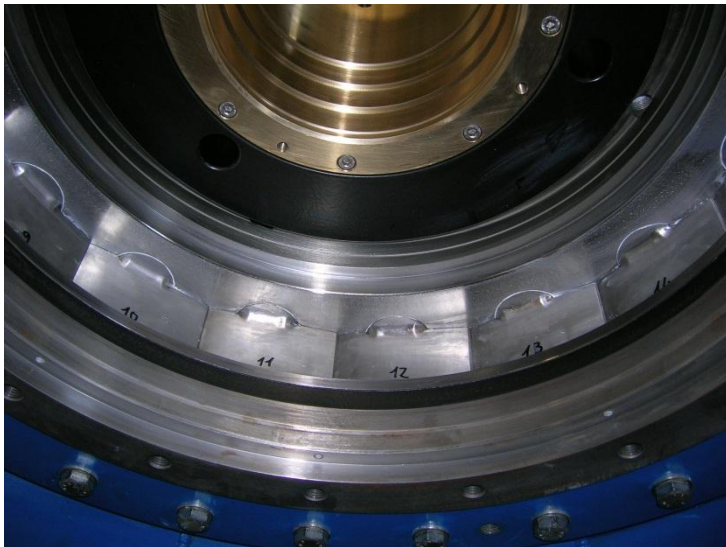
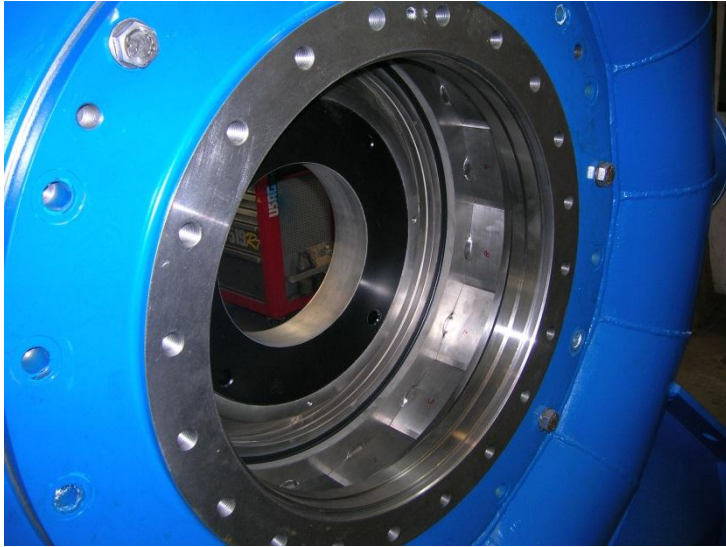


Horizontal Francis Configuration
permitts to easily insert a
flywheel for connection to a
Stand Alone Grid.

Francis Turbine – Spiral case and Distributor



Francis Turbine – Wicket gates



Hydraulic Power Unit for Zeco Francis Turbine



Reference - Zeco Francis Turbine



SCOPE OF SUPPLY:

Turbine
Generator
Inlet valve
Governor System
Electrical equipment
Erection and commissioning

Turbine type: Horizontal Francis for Aqueducts
Net Head: 40.0m
Flow rate: 1.94 mc/s
Output: 1x685kW
Speed:
Year: 2011

Reference - Zeco Francis Turbine



SCOPE OF SUPPLY:

- Turbine
- Generator
- Inlet valve
- Governor System
- Electrical equipment
- Erection and commissioning
- Main and Aux Transformers

MAIN DATA:

- Turbine type: Horizontal Francis
- Net Head: 58.0m
- Flow rate: 2.00 mc/s
- Output: 2x1024 kW
- Speed: 750 rpm
- Year: 2012

Reference - Zeco Francis Turbine



SCOPE OF SUPPLY:

- Turbine
- Generator
- Inlet valve
- Governor System
- Main and Aux Transformers
- Electrical equipment
- Plant by-pass
- Erection and commissioning

MAIN DATA:

- Turbine type: Horizontal Francis
- Net Head: 74.8m
- Flow rate: 2.40 mc/s
- Output: 1x594 kW + 1x990 kW
- Speed: 1000 rpm ; 750rpm
- Year: 2012

Reference - Zeco Francis Turbine



SCOPE OF SUPPLY:

- Turbine
- Governor System
- Electrical equipment
- Erection and commissioning
- Generator - service
- Inlet valve - service

MAIN DATA:

- Turbine type: Horizontal Francis
- Net Head: 64.5m
- Flow rate: 1.25 mc/s
- Output: 2x 712 kW
- Speed: 1000 rpm ; 750rpm
- Year: 2012

Reference - Zeco Francis Turbine



Turbine
Generator
Inlet valve
Governor System
Electrical equipment
Erection and commissioning
Main and Aux Transformers

Turbine type: Vertical Francis
Net Head: 152.6 m
Flow rate: 4.04 mc/s
Output: 1x 5443 kW
Speed: 750 rpm
Year: 2008
Country: Italy

Reference - Zeco Francis Turbine



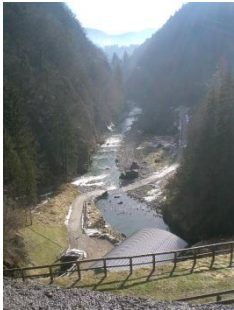
SCOPE OF SUPPLY:

- Turbine
- Generator
- Inlet valve
- Governor System
- Electrical equipment
- Erection and commissioning
- Main and Aux Transformers

MAIN DATA:

- Turbine type: Vertical Francis
- Net Head: 120.0 m
- Flow rate: 3.64 mc/s
- Output: 2 x 1928 kW
- Speed: 1000 rpm
- Year: 2007

Reference - Zeco Francis Turbine



SCOPE OF SUPPLY:

- Turbine
- Generator
- Inlet valve
- Governor System
- Electrical equipment
- Erection and commissioning
- Main and Aux Transformers

MAIN DATA:

- Turbine type: Vertical Francis
- Net Head: 47.0 m
- Flow rate: 3.5 mc/s
- Output: 1x 1452 kW
- Speed: 600 rpm
- Year: 2010
- Country: Italy

Zeco Group of Companies



A reliable partner for the hydropower world-wide market

