

## BRAZIL

## BARRINHA

## First Mini Compact for Brazil

The small hydropower project, Barrinha is located in Jardinópolis, Santa Catarina, Brazil. Maue S/A - Geradora e Fornecedora de Insumos, part of CERAÇÁ, a cooperative energy distribution company, is developing the project. The engineering company in charge of the basic project and technical specification is Tamarindo Engenharia.

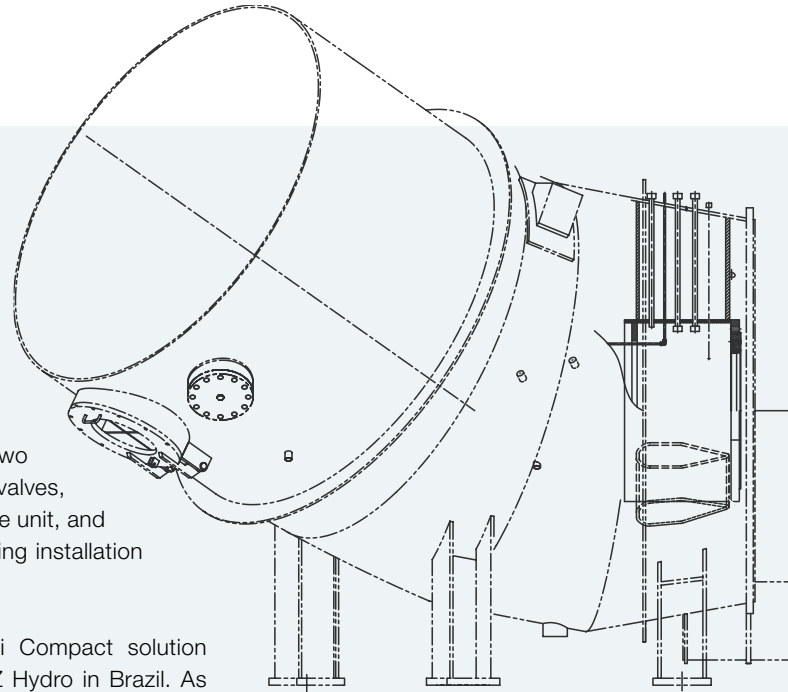
Initially the client was considering a vertical Kaplan unit at HPP Barrinha, but after some discussions and analysis decided to use a horizontal Compact Axial turbine. This was a bold decision because in Brazil the market is very conventional as vertical machines are not common.

HPP Barrinha has a very special layout as there are 360 m of penstock crossing strong rock before reaching the powerhouse.

ANDRITZ Hydro received an order for the supply of two turbines, butterfly valves, flywheel, high pressure unit, and thrust bearing, including installation and commissioning.

This is the first Mini Compact solution supplied by ANDRITZ Hydro in Brazil. As of contract, the commissioning is scheduled to be completed by end of 2018.

Traditionally, local manufacturers have a strong market position in Brazil, but ANDRITZ Hydro succeeded with its state-of-the-art technology and economic offer. Hence, the winning of this contract is even more important and represents a significant step into the Brazilian small hydropower market.



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## Technical data:

Total output:	3.5 MW
Scope:	2 x 1.76 MW
Head:	10.95 m
Speed:	450 rpm
Runner diameter:	1,450 mm

## WALES / UNITED KINGDOM

## LLYS Y FRAN

## Order execution in a record speed

By end of September 2017, the order for the HPP Llys Y Fran in Wales, had been finalized very successfully and in record time. Within only eight months, the entire order execution, starting from the complete new design of the Mini Compact Francis turbine, purchasing of the entire scope of supply, transportation to site, as well as the workshop assembly and installation at site, was concluded. The scope of supply consisted of one horizontal Mini Compact Francis turbine, the hydraulic power unit, one synchronous generator and the inlet butterfly valve.

The ANDRITZ Hydro turbine is integrated into the local drinking water supply and is operated with the raw water from the reservoir with the same name, Llys Y Fran.

At the end of September 2017, the customer Dulas Ltd. had successfully commissioned ANDRITZ Hydro's equipment. The drinking water turbine is running to the utmost satisfaction of the customer and the operating company Welsh Water Ltd. Complete hand over of the scheme is scheduled for beginning of 2018.

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## Technical data:

Total output:	266 kW
Scope:	1 x 266 kW
Voltage:	0.4 kV
Head:	29.6 m
Speed:	750 rpm
Runner diameter:	478 mm