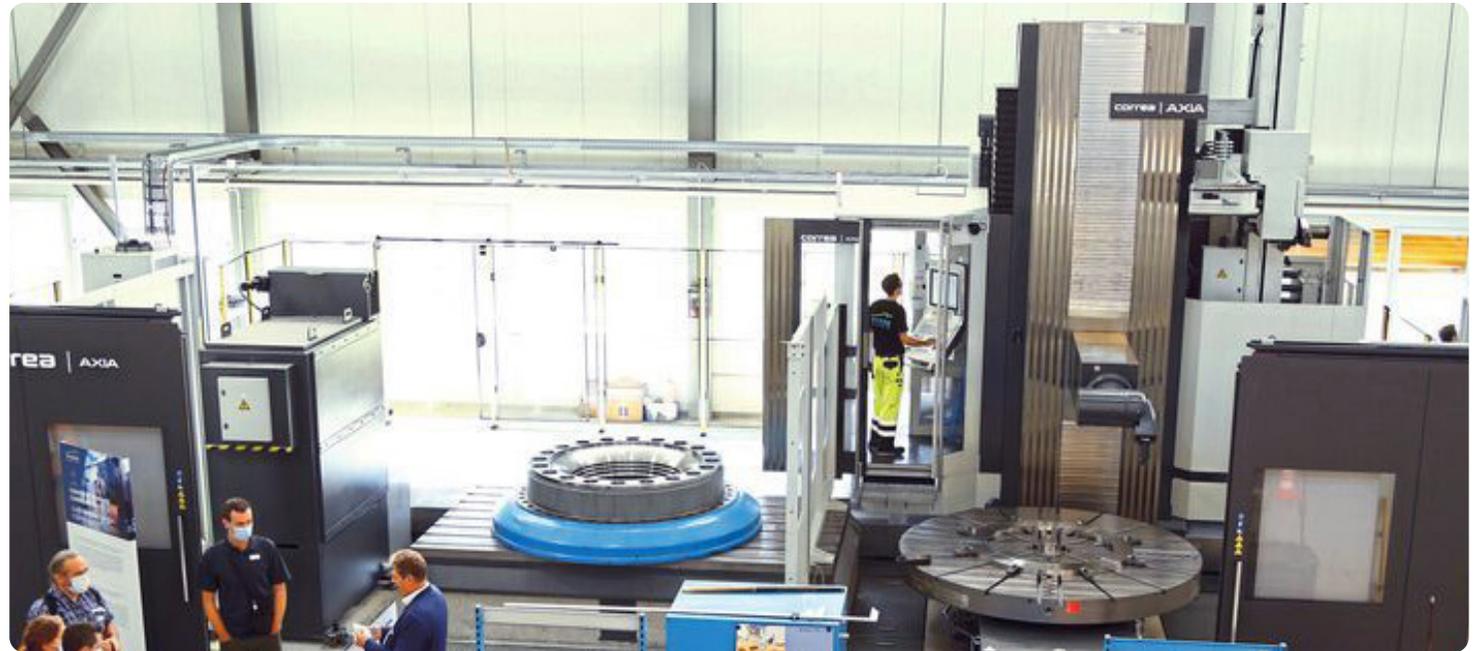


Hydro Exploitation SA invests in a milling machine AXIA for its workshop in Martigny

The Swiss company Hydro Exploitation has one of the Europe's most modern inspection and maintenance workshops for hydroelectric components. To increase its process' productivity and flexibility, the company has acquired a travelling column machine AXIA-70.

With a staff of 70 workers specialised in power generation technology, Hydro Exploitation SA in Martigny monitor the functioning of the Swiss electricity network. Hydro Exploitation SA, located in Sion, with 450 employees operates a network of hydroelectric power plants that generate the 16% of the hydroelectric power of Switzerland.

All the control and maintenance process are conducted at Hydro's workshops from machining and welding to verification and assembly process.



Maintenance of hydroelectric components

"Besides the maintenance of our own electric plants, we have numerous customers across Europe; we work with the whole range of components for the hydroelectric sector, including Pelton, Francis and Kaplan turbines. The stop of a turbine implies elevated costs thus it is important the reliability of the manufacturing process", explains Elmar Kämpfen, CEO at Hydro Exploitation SA.

Eric Léger, director of Production in the headquarters, adds: "it is one of the reasons why we have a highly qualified staff and machines with the latest technology. Our latest investment in the AXIA-70 for milling and turning components with a diameter up to 3,500 mm.



Hydro's milling machine AXIA is equipped with automatic head changer for two heads.

The machine allows machining in up to 6 axes thanks to its turning plate and the B and C axis integrated in the head. Considering the parts size, small batches and variety of components; flexibility, precision and process reliability are important. Moreover, it has been decisive the machine rigidity as we work with material which are difficult to machine."

In regard of the reasons for choosing a Correa milling machine, Eric Léger answers: "from our point of view, the Spanish manufacturer is perfectly adapted to our production challenges of our inspection workshop. The control system Heidenhain is adapted to our production strategies and it allows turning". The large size pieces of up to 20 tonnes and the milling and turning operations should be done preferably in one set with the aim of guaranteeing precision and reducing working times.

In these machines' category apart from the previous facts, the personalised solutions and the prices are decisive. Correa engineers have designed a

modular system to offer a tailored solution that perfectly matches our philosophy of production and it is economically viable" affirms Léger.

Travelling column machine of more than 7 metres in X

The Correa AXIA has a cross travel (Y) of 1,500 mm, vertical (Z) of 2,500 mm and longitudinal travel (X) of 7000 mm and it allows pendular machining with a table of 3500 x 2000 mm and a rotary table of a diameter of 2500 mm and speed of 150 rpm.

Eric Léger explains that thanks to the two tables is possible to prepare one piece in the second while they work in the first one. The two tables can also be combined to work with long elements.

On flexibility, Martin Bögli, distributor of Correa in Switzerland adds: "One of the characteristics of the company Nicolás Correa is its wide range of milling and turning heads. For the machining of large parts and small series



is a decisive factor. In the energy sector it is necessary to perform a wide variety of machining operations”.

Hydro Exploitation SA has a highly flexible milling head OAD with the C and C axis integrated and a turning head TU. The turning head with a tool clamping system Capto C8 very rigid and the internal adjustable refrigeration up to 70 bars through spindle. “With these two heads, we can perform all the milling and turning operations; the milling changing is completely automatic” explains Eric Léger. The magazine for 60 tools guarantees

the availability of enough tools for the whole machining process.

With 6,000 rpm, 52 kW and a maximum couple of 1,375 Nm; the OAD allows high speed machining.

The rotation system which allows indexation every 0.02° thanks to the double hirth coupling patented worldwide by Nicolás Correa.

It allows 15.000 positions in the B axis and 18.000 positions for the C axis; this head has a hirth coupling locking force of 22.000 kg.



Top. Pelton turbine for maintenance at Hydro workshop.

Bottom. Francis turbine that can be machine in 6 axes with the Correa AXIA-70.

Great first-time experiences

Eric Léger consider the first weeks of work particularly positive: “the machine has perfectly responded; the great flexibility of this solution allows us to machine in 6 axes a large range of pieces.

Elman Kämpfen concludes: “this milling machine is an investing for our future; with the Correa AXIA-70 we are at the forefront in manufacturing technologies and we are economically and technologically one of the European leaders in maintenance and inspection in the hydraulic sector.



Left to right: Gilles Tamarcaz (Technical manager), Eric Léger (Production Manager at Ateliers Centraux), Elmar Kämpfen (CEO at Hydro Exploitation SA), Alexandre Jolliet (Engeeniring at Binkert AG), Dario Grande (Sales Manager at Binkert AG), Pierre-Yves Besse (Machining workshop manager at Hydro Exploitation AG), Martin Bögli (Product manager at Binkert AG).

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