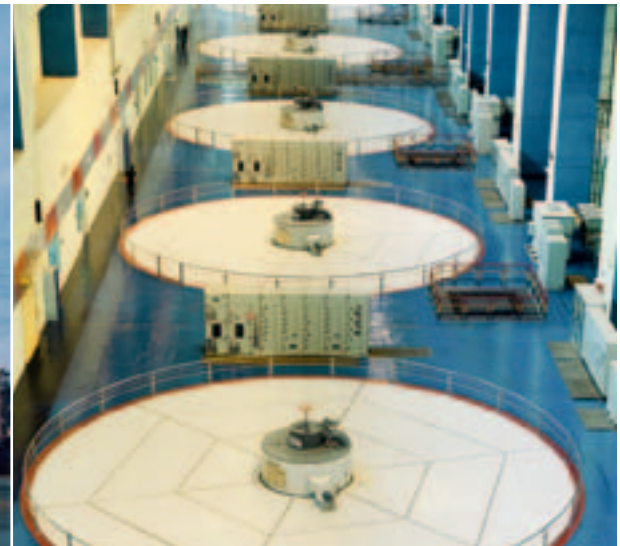


HyCon Plant Optimization. Utilizing hydropower efficiently and economically



HyCon, the automation concept of Voith Hydro, makes hydropower stations safer, more economical and more environmentally compatible. Worldwide, Voith has installed more than 40 000 generators and turbines. We also have comprehensive experience with automation solutions.

The HyCon Plant Optimization for hydropower stations includes all components for operating hydropower stations even more economically and eco-friendly. Voith has supplemented the fundamental monitoring and control functions of the HyCon by intelligent optimization modules. The profitability of a plant is significantly increased by higher annual energy outputs and reduced maintenance costs.

HyEco

Sustainable Technology
in Hydro Power

Energy

Water

Environment



The HyCon control system is a reliable and safe solution for new plants and also for modernization projects.

Lower water consumption

The goal is to use every liter of water in the most efficient way by means of HyCon plant optimization. In many power stations, a load balancer determines the power requirements on the energy generator. Power station operators can distribute these requirements „optimally“ at their own discretion across the available machines. This occurs either manually or via a classic joint control system.

In such a case the flowing water is evenly allocated to the turbines. Small differences such as turbine efficiency or channel flow areas are not taken into account. As a result, the overall plant operation may be theoretically efficient, but it is not really optimal.

Higher efficiency

For the optimization, Voith Hydro uses a detailed plant model including all characteristic curves and physical models for

- Turbine
- Generator
- Switch-off and shutting devices
- Water channels

This model is deposited on a separate PO control which controls the optimization process. Due to the load balancer, the required amount of output is specified. In this case, energy efficiency means that the amount of water required for generating a specific amount of energy is reduced to the lowest possible level.

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