

Hydropower plant battery cabinet





Overview

Do hydro power plants need a storage basin?

No or reduced storage basins are necessary in order to keep the same flexibility of hydro power plants in the future. HyBaTec is a system solution combining a Turbine-Generator-Unit with a battery. The battery is integrated in the electrical power plant and in the control system.

Can batteries and hydropower plants provide grid services?

It relies on a simple observation: both batteries and hydropower plants can provide grid services to improve the quality of power on the grid. They have advantages and disadvantages, which can be combined to provide a more efficient and all-round cost-effective solution.

How big a battery can a hydro power plant run?

The scale of the battery reaches from 100 kWh up to 10 MWh. The battery can be either installed in a container - in order to be mobile and be able to use the container with the battery for different applications - or can be integrated in cubicles directly in the hydropower power plant.

Can a hydro battery be installed at an existing hydro plant?

Thanks to the hydro complement, the battery is ten times smaller than what it would be as a standalone. Moreover, installing a battery at an existing hydro plant can also achieve cost savings through shared infrastructure. The XFLEX HYDRO project is coupling a hydro turbine with an electrical battery at Vogelgrun (photo: Mathias Magg).

Why do hydro plants need batteries?

The ability to store energy during periods of low demand, to be used in periods of high demand, can be an important asset for managing the smaller run-of-river hydro plants reliably and efficiently. Batteries are cost-effective at delivering small amounts of stored energy over a short time at high power



levels.

Why do power plants need electrochemical batteries?

The ability to compensate for these variations is an asset for power plants connected to the grid. Hydropower already provides flexible generation to help balance supply and demand on the system and improve power quality, but with energy storage and faster response time, electrochemical batteries can enhance this service.



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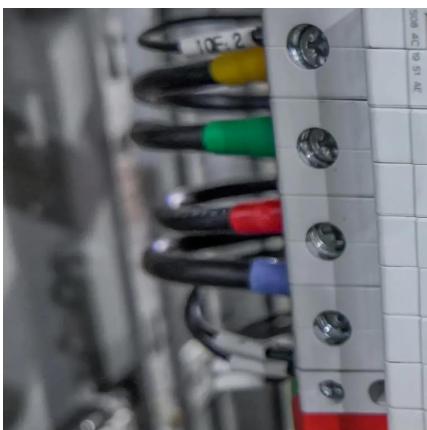


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3.5 Design of auxiliary systems and selection of equipments

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