

Filtration Group application example – Run-of-river power plants

FG Filter elements in hydraulic power units



Factory Equipment

Initial situation

The run-of-river power plants on the Neckar use the outflow of the Neckar with the respective heads between the barrages for power generation. In the power plants, 54 turbine sets with an installed capacity of about 93 megawatts generate an average of about 530 million kilowatt hours of electricity per year. This is enough to supply around 330,000 households with electricity. In addition, the emission of around 490,000 tons of CO2 is saved. Run-of-river power plants are built on rivers, some of which have a low gradient but high flow rates. The electricity generated in run-of-river power plants is used to cover part of the base load required in the power grid. The turbines and generators can run uninterruptedly except during extreme drought or flooding. Most run-of-river power plants are built according to the same design: A weir with several closable gates dams the river water. The aim is to keep the level of the water dammed in the reservoir above the weir as close as possible to the ideal condition in order to achieve a constantly high energy yield.

Solution statement

- Filtration Group supplied various packages of filter elements for use in hydraulic power units for lubrication, drive and control of turbines
- Filtration Group filter elements as alternative elements in the dimensions of other manufacturers
- Filtration Group filter elements with innovative design and guaranteed separation rates according to multipass test according to ISO 16889
- High differential pressure stability and dirt holding capacity



Customer value

- As a supply partner, Filtration Group guarantees high quality and performance competence from one source
- Orders are placed via package numbers with customer-specific packaging for the respective power plant
- Reduction of storage costs through predictable replacement time
- Recoding of all competition designations possible



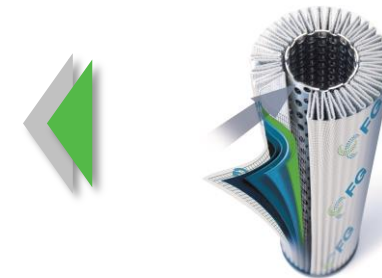
Challenge

As the third largest German energy supply company, our client concentrates on the field of electricity. To produce electricity, water from the reservoirs of the run-of-river power plants is fed through turbines. These turbines in turn drive generators. Corresponding control devices in front of the runner ensure that the optimum amount of water is directed to the blades of the runner. A screen in front of the water intake protects the turbines from alluvial branches, twigs and waste.

Info

The Neckar river extends 367 kilometers from the Swabian Alb to the Rhine near Mannheim. As a federal waterway, it is one of the central shipping routes in Baden-Württemberg and is also of great importance as a source of energy.

In total, the Neckar overcomes a height difference of around 160 metres in the 200 kilometre long section.



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