

Physicochemical drinking water analysis panels at the Grand Belfort plant

Reliable, modular equipment for continuous monitoring of water quality



The drinking water treatment plant in Grand Belfort, France

The Grand Belfort plant is an installation jointly run by the municipalities of the Belfort and the Bourgogne-Franche-Comté regions. It supplies drinking water to around twenty communes, with approximately 90,000 inhabitants. The drinking water from Grand Belfort is distributed to 18,750 customers, with a total of 6.5 million cubic meters sold to a network covering 490 kilometers.

“We wanted equipment able to generate alarms, provide constant communication and, most importantly, warn us in the event of a problem with a parameter.”

Laurent Godot
Grand Belfort drinking water plant
Belfort, France

When it comes to guaranteeing the quality of drinking water, some analysis parameters are crucial and play a major role in monitoring the efficacy of the treatment process. It is therefore inevitable that these parameters are continuously monitored during the different stages in the production of drinking water.

These include monitoring of chlorine, turbidity, dissolved oxygen and conductivity, according to the remineralization process performed on-site.

The challenge

The drinking water plant in Grand Belfort supplies drinking water to more than 18,750 households in the west of France, which means that violation of legal requirements can not be tolerated.

The Endress+Hauser analysis panels provide a tailored solution which fully meets the plant's needs of reliable networked equipment, the ability to generate alarms and the possibility

to monitor the production of drinking water directly.

Our solution

Equipped with five analysis panels installed within the plant and six others outside, the drinking water production process at the Grand Belfort plant is monitored very closely by the suite of measurement sensors installed. These panels offer an unique solution to guarantee in real time that the water treatment process is running correctly. They were all specifically created for each installation station. Sensors were installed to allow the key parameters to be monitored at each stage of the treatment process. Furthermore, they can be fully upgraded, as it is possible to add other sensors at a later time if needed by adding electronic modules to the Liquiline CM44x transmitter. These panels have been configured to continuously communicate with the monitoring unit and to feed back all the measurement

information into the site's remote management system. The analysis panels meet three crucial criteria, saving time, increasing productivity, and even reducing water loss.

Commissioning and maintenance

The Grand Belfort drinking water plant decided to implement the Endress+Hauser analysis panels because of their modularity, ease of installation and reliable water consumption despite the bypass installation. As the panels are compact, they can be seamlessly incorporated into the site to create single solution providing a complete set of analytical measurements. Furthermore, the personnel at the Grand Belfort plant were able to benefit from the expertise of Endress+Hauser technicians to receive training on the installed equipment and increase their autonomy, right from initial maintenance. After four years of use, the panels installed at the plant have remained intact and the customer has not experienced any serious failures.

Results

Thanks to this tailored analysis solution, the Grand Belfort plant has a system for monitoring its drinking water treatment process



Training in maintenance of a panel by an Endress+Hauser expert

which meets its expectations and allows it to comply with the water quality standards required by French legislation. The smallest issue with a measurement anywhere in the entire drinking water production cycle will be transmitted in real time to the monitoring unit, enabling the plant's operators to react more quickly and to guarantee the quality of the drinking water, at any time. The water produced can then be distributed to all the inhabitants of the inter-municipal area, via the 490-kilometer distribution network, with no risks to the health of the consumers.

Equipment installed on the panels:

- Orbisint CPS11D pH electrodes
- Chloromax CCS142D amperometric measurement cells for measuring free available chlorine
- Memosens CLS82D 4-electrode conductivity sensors
- Turbimax CUS52D turbidity sensors
- Liquiline CM448 multichannel, multiparameter analysis transmitters
- Flowfit CCA250 flow assemblies for chlorine cells
- Flowfit CUA252 flow assemblies for turbidity sensors

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