



Drinking water treatment plant for removal of iron and manganese and reduction of DOC concentrations

To meet the requirements of the drinking water regulations, an existing well water supply had to be expanded with new filter technology. The raw water derived from the well of the waterworks contains iron and manganese as well as increased DOC (dissolved organic carbon) levels up to 8 mg/l. It cannot be used as drinking water without a corresponding water treatment.

In order to meet the parameters of the drinking water regulations, an extension of the water treatment plant was built at the location of the waterworks. Chriwa Wasseraufbereitungstechnik GmbH awarded the contract to supply and install a turnkey treatment plant, including the entire electrical installation and automatic control system.

Process technology

The well raw water is fed to the dual-filtration plant after passing through the raw water aeration plant. The plant capacity is 70 m³/h. The filters are filled with ChriwaFiltMN, a special filter material successfully used to remove iron and manganese at various waterworks and treatment plants. In this instance this also included increased DOC concentrations, besides manganese and iron.

The undesired substances are safely retained by the special Chriwa filter bed construction. After this processing step the water has drinking water quality and can be fed into the potable water mains via a pressure booster station.

Figures - Data - Facts

Location:	Waterworks in Germany
Plant capacity:	70 m ³ /h
Task:	Drinking water treatment of well water with increased iron, manganese, and DOC concentrations.
Scope of supply:	Piping and plant construction as well as electrical installation and control system, Process plant engineering, design, supply and installation to operating level, incl. flushing and auxiliary equipment, Filtration plant control system.
Date:	2007

Drinking water treatment plant to remove herbicide

The waterworks of a municipality in Northern Germany supplies approx. 5000 households and companies with a total of 1.2 million m³ of drinking water annually. As part of a routine testing program in July 2011 the raw water was tested for the first time for ethidimuron (a crop protection agent that was used for weed control until 1990). It was found that the water contained an ethidimuron concentration of up to 3,0 µg/l. The legal limit is 0,1 µg/l. The waterworks was taken out of service as a result.

In April 2012 a tender was issued for an extended treatment plant based upon activated carbon filtration to remove ethidimuron.

After a short construction period this specialised plant was put into operation in autumn of 2012. Since then the fully automated plant ensures that this herbicide is safely retained and high-quality drinking water is delivered. The now completely treated water is also subjected to UV treatment prior to feeding it into the potable water mains.



A special feature of this plant is that all filter components, fittings and control system are installed inside of the cylindrical shell located underneath the filter vessel. Therefore no additional housing for this plant was necessary. The filter vessels were manufactured at Chriwa's own filter production facility in Hambühren.



Figures - Data - Facts

Location:	Waterworks in Germany
Plant capacity:	2 x 100 m ³ /h
Task:	Construction of a fully automated plant to eliminate ethidimuron (herbicide).
Scope of supply:	Process design, planning, manufacture, supply and fully operational hand-over of the complete plant.
Date:	Construction and commissioning autumn/winter 2012.