

WATERWORKS

Modern waterworks for the Romanian commune of Dumbravita

A cutting-edge waterworks - probably the most modern in Romania at the present time - is nearing completion in the commune of Dumbravita. The approximately 25,000 inhabitants will be supplied with drinking water from early 2020 onwards. This state-of-the-art system, planned and constructed by the HydroGroup, will represent a water supply milestone in Romania.



Raw water tank (left) and water treatment (right)

At the turn of the year 2019/20, Romania celebrates its 13th anniversary of EU membership. But the country still hasn't caught up with the EU, not by a long way, and this quickly becomes clear when we take a closer look at its waterworks. Many waterworks date back to the Communist era, are in a

sorry state and in most cases don't work. Consequently, water is untreated in many places and is pumped into the mains with a lot of added chlorine. In the municipality of Dumbravita, this will change in early 2020.

The works was configured for a treatment capacity

of up to 350 m³/h, and was built in the community adjacent to the city of Timisoara. The raw water that flows in from 12 wells is aerated, degassed and temporarily stored in 2 stainless steel untreated water tanks. Treatment to drinking water quality is achieved by means of 4 compact filter systems with ozone oxidation and a disinfection stage working in parallel. Cutting-edge plasma ozone generators are used for the ozone generation, these being fed with oxygen produced on site. The treated drinking water is temporarily stored in 2 HydroSystemTanks[®] manufactured on-site, each with a volume of 450 m³, before it is pumped into the mains via a 5-pump pressure booster system. To protect the mains, a small amount of sodium hypochlorite is added at the final stage of the process. The fully-automatic system is housed in a modern steel hall, which was built on site.

More info: manfred.brugger@hydro-elektrik.de or wolfgang.sontheim@hydro-elektrik.de

WATER TRANSPORT

Spring collection shaft and pumping station made of stainless steel

In many cases, spring water must be pumped to a storage tank at a higher elevation. One or more springs are normally tapped individually, brought together in collection shafts and transported by means of pumps. As part of a user-orientated new development, Hydro-Elektrik GmbH has developed an extremely compact, entirely stainless steel spring pumping station (named „Arethusa“) for this purpose, and has already realised it multiple times.



Access to the spring collection shaft

The main elements of the pumping station configured as a horizontal pipe tank 3.2 m in diameter and 7 m in length are a suction tank, three inverted inflows with integrated turbidity and volume measurements and a separate automatic discharge for each inflow, a frequency-controlled pipe tank with three pumps for up to 45 m³/h pumping rate and the associated switchgear. The fully-automatic pumping station is operated in such a way that the total spring water volume flowing in is

immediately transported onward. This method of control enabled the useful volume of the suction tank to be reduced to approximately 6 m³. Access to the underground compact pumping station is via a secured and thermally-insulated door located at the visible tank end. The ready-to-install structure was supplied inclusive of thermal insulation and an external fleece protective mantle. The „Arethusa“ spring pumping station is the innovative further development of the Hydro-



Access to the pumping station



Pumping station

SystemTank[®]. Construction time can be minimised thanks to complete factory manufacture followed by delivery ready to connect. The delivery time is approximately 4-6 months and includes planning, production, delivery and commissioning. The operational experience gained has been extremely positive.

More info: manfred.brugger@hydro-elektrik.de or wolfgang.sontheim@hydro-elektrik.de

Better is the enemy of good

The discontinuation of the ozone generator series HE and HO two years ago marked the end of a product type that Hydro-Elektrik developed over 30 years ago and that was - at that time - cutting edge.

New materials and developments in power electronics have also revolutionised ozone generation. Better successor products based on plasma ozone generation have already been used successfully for many years in water treatment and in the oxidation of water constituents, as well as for final hygienisation.

Many of our customers involved in water supply still use ozone generators from the old series in their



New ozone technology in a waterworks

HYDROZON® drinking water compact systems. In the meantime however, many systems have already been converted to the new plasma ozone generators and have a brilliant new look. Obsolete control systems and fittings are also replaced at the same time if necessary, because systems are often of „vintage“ status, in other words they're 30 or more years old. The new ozone system technology impresses with the following characteristics:

- Ozone generators are integrated in the control cabinet and are air-cooled,
- Visualisation and operation via touch panel,
- Controllability 10-100 %
- On-site production of oxygen with PSA system (oxygen purity: 92-94 %)

Note: In the future, our customers will also be able to operate the new Hydro-Elektrik ozone generators legally watertight within the framework of the EU Biocide Ordinance (also see: www.euro3zon.org)

More info: manfred.brugger@hydro-elektrik.de or wolfgang.sontheim@hydro-elektrik.de

WATER TREATMENT IN INDUSTRY

Mobile system for demineralised water production

From 2020 onwards, it will be possible to lease for temporary use a highly flexible, mobile container system for producing demineralised water and permeate from the Gütersloh-based RWT GmbH company. The system with a capacity of up to 20 m³/h produces demineralised water in the purest quality to VGB standards*.

In the first stage, the feedwater (drinking water or of drinking water quality) is sent for permeate step reverse osmosis (RO) for complete demineralisation. The ultra-fine purification is done by means of ion exchange in two downstream mixed bed filters connected in series. Thanks to the pretreatment, the best possible use can be made of the ion exchanger material, and the change frequency of the mixed bed filter can be minimised to the customer's advantage.



Pre-assembly in the plant

The complete, fully-automatic system technology is installed in a two-axle 40-foot container trailer with the main dimensions (L x W x H) of approximately 13.6 x 2.5 x 4.0 m. Access for trucks, water connections for untreated, pure and waste water and a 400 V/160 A power connection must be provided on site.

In order to achieve maximum operational reliability, the system is fully automated and very closely monitored. The current operating state of the mobile system can be called up at any time via remote control (remote monitoring). An on-site Start/Stop signal for system operation is required via an interface (IP, bus or potential-free contact). A collective fault signal can be received at the interface. The control panel on the system shows in detail a fault that may have occurred.

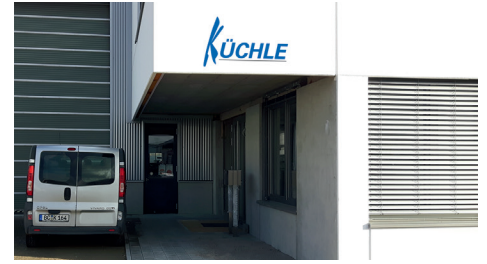
The lessee of the system is responsible for the system operation and regular monitoring. This leasing has already had a very successful start: The system is already fully booked for the first half of 2020.

*VGB quality (standard):

VGB-S-010-T-00 / Feedwater, boiler water and steam quality for power stations / industrial power plants (formerly VGB-R 450 L) and VGB-M 404G/405G/407 G

More info: m.baumann@rwt-gmbh.com or w.stuckwisch@rwt-gmbh.com

New extension building occupied at the Tannheim site



At the beginning of November, the entire administration of KÜCHLE moved into the new office



building at the production facility in Robert-Bosch-Strasse. In addition to the administrative offices, the new wing also houses a meeting and training room, a kitchen and new communal rooms for the workforce.



IMPORTANT DATES

24th January 2020

TIEFBAU-FORUM 2020

Donauhalle (Ulm-Messe), Ulm/Germany
Civil engineering exhibition and seminar

LEGAL INFORMATION


HydroGroup
www.hydrogroup.biz

Publisher

Hydro-Elektrik GmbH
Angelesstraße 48/50
88214 Ravensburg
info@hydrogroup.de

Editorial team

Manfred Brugger
mb@hydrogroup.de

Layout

Silvia Mesmer
silvia.mesmer@hydrogroup.de

Company publication

Reprinting in whole or in part only with written permission. The HydroGroup, represented by Hydro-Elektrik GmbH, accepts no liability for any unsolicited manuscripts and photos submitted. This issue is distributed free of charge to interested parties. No legal claims are possible.

