



Pressure-independent characterised control valves in the Tulln sport & family swimming pool

Measuring, controlling, balancing and shutting with a single valve unit

The DonauSplash indoor swimming pool in Tulln, which was originally constructed in 1974, was reopened after almost a year and a half of general renovation in October 2014. The entire building technology was updated as part of the general renovation and a conversion from natural gas to biomass district heating was implemented. Efficient utilisation of energy was the motto of the building technology consulting engineers – after all, the heating output is about 500 kW. About 30 m³ of water is moved every hour in order to control the temperature of the individual bathing zones. The electronically controlled Electronic Pressure-Independent Valve (EPIV) from Belimo provides a tight seal in order to prevent energy losses in the water circuits, and increases efficiency during planning, implementation and operation.

Building type	Indoor swimming pool
Project type	Renovation
Trade	HVAC
Products	16 EPIV
Commissioning	October 2014

Initial situation

It was essential for the structure, which was more than 40 years old, to be modernised. No balancing valves had been installed in the outdated heating system, and hydraulic balancing was impossible. Six million Euros were invested in the renovation, which took place between June 2013 and October 2014. The total surface area of the facility is 1885 m² 372 m² of which is water. The indoor swimming pool was planned by the Ernst Karl Planungs GesmbH from Bad Vöslau. The building technology was the responsibility of Technische Büro Harald Pözl from Unterpaschenbrunn, and the heating, ventilation and control technology was installed by Stockerau-based Quasnitschka Haustechnik GmbH.

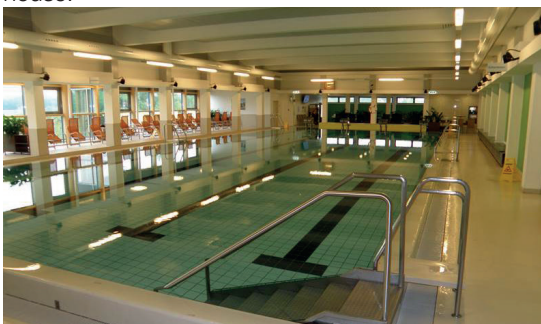
Project requirements

- Preventing energy losses in the water circuits as a way of reducing costs.
- Saving time by means of quick and easy installation and commissioning, and reducing operating costs by using low-maintenance technology.

Belimo solution

The pressure-independent characterised control valve (EPIV) from Belimo combines the four functions of measuring, controlling, balancing and shutting in a single valve unit. The characterising disk, which has already proven itself millions of times, provides an equal-percentage valve characteristic and therefore top class control characteristics. The tight seal provided by the EPIV prevents energy losses in the water circuits. The integrated electronic current flow control provides the exact volumetric flow that is required for providing maximum comfort. The current flow rate can be output in m³/h or as an electronic signal at any time, making exact monitoring possible.

During the planning stage, engineer Klaus Kuchler of Quasnitschka Haustechnik GmbH calculated that annual energy savings of 5000 kWh can be made with the EPIV — merely by dispensing with the pressure loss at balancing valves. This approximately corresponds to the power requirements of a detached house.



Customer benefits

- Time-saving, reliable valve dimensioning in accordance with maximum volumetric flow.
- Quick and easy installation and commissioning.
- Automatic, permanent hydraulic balancing through the valve.
- Direct flow rate setting by the building management system.
- Ensuring that the correct amount of water is provided in the event of differential pressure changes and partial load operation.
- Real-time information about the measured flow rate.



Each of the 14 heating circuits is equipped with a Belimo electronic pressure-independent characterised control valve (EPIV), which regulates the correct water quantity for each consumer.

Customer satisfaction

Managing Director Dipl. Ing. Klaus Kuchler (2nd from left) of Quasnitschka Haustechnik GmbH: "We decided on EPIV from Belimo because it combines four functions in a single ready-to-install unit. In my view, this represents a revolution in heating technology." According to Ing. Alfred Fischer (Quasnitschka Haustechnik GmbH), approximately two days of work were saved when the plant was commissioned and adjusted. In future he would like to equip every plant with this technology wherever possible. The advantage of saving money and time is much appreciated

by Christian Holzschuh (3rd from left) as head of the sport and recreation facilities in Tulln: "Our pool attendants can concentrate on their core responsibilities, namely the safe operation of the swimming pool."



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