SUCCESS STORY KION GROUP,
FRANKFURT AM MAIN (DE)

Constantly pleasant room climate for all building zones.

Electronic pressure-independent 6-way EPIV zone valves control the flow of hot and cold water.

The KION Group is one of the world's leading suppliers of forklift trucks, warehouse technology and automated supply chain solutions. More than 36,000 employees in over 100 countries are part of the active KION Group and its operating units.

Since autumn 2017, the KION Group has been managing its global operations from its corporate headquarters in the Gateway Gardens district at Frankfurt Airport. The office building has seven upper floors and two basement floors with underground parking. A modern interior with multi-space office area for a total of 270 workplaces was implemented, based on studies by the Fraunhofer Institute for Industrial Engineering IAO and aconsea GmbH.

BUILDING TYPE
Office complex

PROJECT
New building

TRADES
Heating, cooling, ventilation, MCR

PRODUCTS
Electronic pressure-independent 6-way EPIV zone valves

BELIMO

Automatic, permanent hydronic balancing.

Around 300 radiant chilled ceilings and other measures ensure a healthy room climate. Originally, the intention was to use simple 6-way characterised control valves to control the radiant chilled ceilings. However, to ensure hydronic balancing, two balancing valves would have to be installed in both the heating and cooling circuit. Although such a solution is inexpensive, it makes hydronic balancing time-consuming, and it is often neglected or poorly carried out during commissioning. The resulting negative consequences include an overall system that is not hydronically optimised and energy that does not always arrive where it is actually needed. If hydronic balancing is not ensured, heating/cooling ceilings that are installed close to supply pipes may be supplied better than those farther away.

To ensure ideal distribution of hot and cold water – and at the same time minimise the effort required for hydronic balancing – the electronic pressure-independent 6-way EPIV zone valves from Belimo were used instead of 6-way characterised control valves with balancing valves.

Replaces up to four 2-way valves.

During operation, the electronic pressure-independent 6-way EPIV zone valve assumes the function of up to four 2-way valves. The integrated flow measurement with electronic flow control ensures the desired water quantity at full load, as well as in partial load operation for cooling and heating – independent of differential pressure fluctuations.

The electronic pressure-independent 6-way EPIV zone valves installed in the ceiling control the flow of hot and cold water.

The business model of KION Group integrates products and services and covers all stages of the value chain required to provide comprehensive support to customers worldwide: product development, production, sales and logistics, spare parts business, rental and used vehicle business, system and software solutions and financial services.

Functional, easy to install, versatile and economical.

The electronic pressure-independent 6-way EPIV zone valve combines two valves into one unit. It combines the high planning reliability and efficiency of the electronic pressure-independent valve EPIV, which is equipped with a sensor for permanent volumetric flow measurement, with the ease of installation of the 6-way characterised control valve. Because the balancing valves are omitted, this solution is much more economical than the originally planned version that utilised simple 6-way characterised control valves without a sensor, thanks to automatic hydronic balancing and simple and quick installation and commissioning.

The simple and quick installation, especially in tight spaces, reduces installation costs.

Versatile control options, simple commissioning and control.

The EPIV zone valves can be controlled conventionally or via Belimo MP-Bus, alternatively via BACnet, MS/TP or Modbus. At the new headquarters of the KION Group, the valves are controlled via the Belimo MP-Bus. Up to eight control elements can be combined on this master-slave bus and connected to any higher-level system. The corresponding measured values can be accessed as real-time information at any time.

The valve can be conveniently commissioned and serviced on site with the ZTH EU service tool. An additional NFC interface (Near Field Communication) enables simple commissioning, parametrisation and maintenance to be carried out directly with a smartphone using the Belimo Assistant App. Analysis and evaluation, as well as settings adjustments on the electronic pressure-independent 6-way EPIV zone valves, can also be easily implemented with these setting and service tools.

Smartphone-based commissioning and checks, even without a power supply.

OUTSTANDING FEATURES

- Time-saving and safe valve selection in accordance with maximum volumetric flow for each sequence.
- Automatic, permanent hydronic balancing by the valve.
- Ensures the correct amount of water with differential pressure changes and with partial load.
- Numerous control options and simple commissioning and checks via Near Field Communication (NFC).

All inclusive.

Belimo is the global market leader in the development, production, and sales of field devices for the energy-efficient control of heating, ventilation and air-conditioning systems. The focus of our core business is on damper actuators, control valves, sensors and meters.

Always focusing on customer value, we deliver more than only products. We offer you the complete product range for the regulation and control of HVAC systems from a single source. At the same time, we rely on tested Swiss quality with a five-year warranty. Our worldwide representatives in over 80 countries guarantee short delivery times and comprehensive support through the entire product life. Belimo does indeed include everything.

The "small" Belimo devices have a big impact on comfort, energy efficiency, safety, installation and maintenance.

In short: Small devices, big impact.

- 5-year warranty
- On site around the globe
- Complete product range
- Tested quality
- Short delivery times
- Comprehensive support

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