SUCCESS STORY PHOENIX CONTACT (CH)

Knowing instead of believing – maximum energy efficiency through transparent data.

Highest technical standards.

The founding of Phoenix Contact in Germany goes back an entire century. The global leader and innovator in electrifying, connecting and automating industrial, energy and infrastructure processes helps partners develop sustainable applications with efficient operations and lower costs. The company employs more than 22,000 people worldwide and has manufacturing facilities in eleven countries. The headquarters of the Swiss subsidiary, founded in 1981, accommodates 80 employees and was built in 1997 to high technical standards. Twenty-five years after commissioning the building, the HVAC systems were due for a significant upgrade to enable more energy-efficient operation and provide excellent indoor comfort for employees. With various project participants, Belimo supported Phoenix Contact in realising this vision using intelligent and energy-efficient field devices. The result: Communicative systems, transparent energy flows, and controlled operation for optimal indoor air quality at all times.

BUILDING TYPE
Office complex

PROJECT
Renovation

TRADES
Heating, ventilation, cooling

PRODUCTS
Belimo Energy Valves, globe valve actuators, VAV, sensors

BELIMO

Learning from data.

In the course of modernising their HVAC systems, Phoenix Contact wanted to use appropriate sensors to collect as much data as possible to provide information about the energy efficiency and indoor comfort of the building. Using standardised protocols to connect to the building management system was also important. As a result, the field devices used had to be intelligent and capable of interfacing with standard systems. In addition, distribution of air in the building should be controlled individually and according to demand, based on CO_2 levels recorded in each zone - a measure that increases the energy efficiency of the building while ensuring optimal indoor comfort.

Various Belimo field devices ensure the reliable operation of the heating/ cooling systems.

The building uses a heat pump fed by ten geothermal probes. The energy produced is temporarily stored in separate storage tanks and distributed to different zones as needed. Various Belimo components were used, including several Belimo Energy Valves: "Compared to commercially available valves, the Belimo Energy Valve has the advantage that it can also measure the energy flow," says Lukas Schefer, Automation Project Manager at Phoenix Contact. "This helps us, for example, to evaluate the energy consumption of the heat pump," he adds. In addition to energy valves, Belimo temperature sensors and globe valve actuators were used for this application.

As a result of initiating data-driven monitoring of the hydronic system, additional measures needed to optimise operations were quickly identified. "We already had assumptions, but now we were certain for the first time," says Simon Obergfell, Software Application Engineer at Phoenix Contact.

"Modernizing our HVAC systems allows demand-controlled operation, resulting in lower energy consumption and improved indoor comfort for our employees."

Lukas Schefer, Automation Project Manager and Simon Obergfell, Software Application Engineer, Phoenix Contact

Belimo temperature sensors for precise measurement of water temperature

Two independent ventilation and air-conditioning systems in the main building provide air conditioning and distribution. Separate pipework systems distribute and regulate the air centrally. Each ventilation and air-conditioning system has its own control that communicates with management via BACnet and exchanges relevant data. Various Belimo products were used for air conditioning and distribution, including VAV actuators for controlled air distribution, duct sensors for measuring air humidity and temperature, and Belimo Energy Valves for heating and cooling the air and measuring the energy used.

Measurement and control in one – Belimo Energy Valves take on both functions.

Ventilation and air-conditioning systems with various Belimo components

"By upgrading the HVAC systems, we now have reliable data to match energy consumption for heating, cooling and ventilation to actual demand. This not only makes operations more energy-efficient but also significantly increases comfort for employees," says Lukas Schefer. "Instead of a system based on assumptions we now have a system based on knowledge", he adds.

A smooth process.

"In our collaboration with Belimo, we have enjoyed great support, competent advice and a friendly working relationship," recalls Lukas Schefer. "We were able to carry out the retrofit project without any issues, despite ongoing operations, and benefited in particular from the rapid delivery of the components and their ease of handling. I can always recommend working with Belimo," he concludes.

The operation of all Belimo components can be permanently controlled and monitored with the building automation system.

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

EN - 04.2023 - Subject to technical modifications

BELIMO Automation AG
Brunnenbachstrasse 1, 8340 Hinwil, Switzerland
+41 43 843 61 11, info@belimo.ch, www.belimo.com

BELIMO