SUCCESS STORY – BREDA FIRE STATION (NL)

Small investments with a big impact.

An entire city dedicated to sustainability

The heating/cooling systems of the city fire station were modernised as part of a comprehensive sustainability initiative in the Dutch city of Breda. The objective of the Belimo RetroFIT+ project was to structure the operation of the building to be more energy-efficient. Instead of complex and costly total refurbishments, the existing systems were equipped with Belimo Energy Valves. These enable precise measurement and control of the heating and cooling energy, as a result of which energy efficiency and indoor comfort can be ensured at all times.

The project was implemented in collaboration with the Van Dijnsen building planning company.

TYPE OF BUILDING
Fire station

PROJECT
RetroFIT+

TRADES
Heating and Cooling

PRODUCTS
Belimo Energy Valves

BELIMO

Measurement is knowledge

The refurbishment of the fire station began with the replacement of the pumps. Belimo was called in to support the planning efforts in the early project phase. "We familiarised ourselves with the basic concept, focusing in particular on the hydronic changes and their effects on the measurement and control technology," explained Dirk Bijlaart, Manager Technical Advice at Belimo. "During the implementation phase, we determined how the systems needed to be installed and the commissioning to be monitored."

A number of different control valves were replaced with Belimo Energy Valves. This results in considerable energy savings for the customer and ensures more stable system operation. Furthermore, the use of Belimo Energy Valves enables continuous monitoring of energy consumption across the entire system and its demand-controlled adaptation. Dirk Bijlaart adds: "Experience shows us that, as a rule, we can achieve energy savings of between 30 - 60% in this way."

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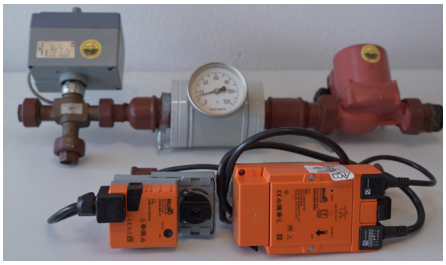
Dirk Bijlaart,
Manager Technical Advice
Belimo

Rethinking towards energy efficiency

"The old schematic diagram of the fire station dated back to 1999," says Marc Boltjes, work planner and draughtsman at Van Dijnsen. "No digital version existed, which meant that I first had to redraw the wiring diagram by hand before we were able to select and calculate the new schematic diagram based on the valves and pumps."

The challenge was to create a new design. Remco Cornelissen, Commercial Manager at Van Dijnsen, remembers: "In the past, our control system focussed almost exclusively on temperature, while the differential temperature value was taken less into account. Today, we analyse the flow of energy directly and check where optimisations in the system are possible or desired. It is only with insight into real-time data that one can react accordingly. The Energy Valves from Belimo fit this vision perfectly," he adds.

"At the time of commissioning, we check which performance the individual groups must provide in concrete terms," explains Dirk Bijlaart. "All data can be entered digitally and directly via a laptop or smartphone, which means that a Belimo Energy Valve™ can be put into operation in just two minutes."



Belimo Energy Valves were used to make the hydronic system in the Breda fire station more energy-efficient with little effort or expense.

A strong partnership

"Belimo and Van Dijnsen have a long-standing partnership," emphasises Remco Cornelissen. "Particularly with projects involving hydronic challenges." Dirk Bijlaart adds: "Investments with an amortisation period of less than five years are mandatory. This means that, for example, if the pumps of an HVAC system are being replaced due to inefficient current consumption, we analyse the entire system and make hydronic modifications if necessary. As a result, the entire system can be optimised with just a few targeted measures."

A few months after completion, Louis Bouhuys, Technical Property Manager for the City of Breda, takes a positive look back at the project. "The collaboration was excellent. All those involved were fully informed and kept up to date at all times. The transition to the maintenance company also went smoothly."

Dirk Bijlaart summarises: "The municipality of Breda is on the right track and is taking a pioneering role when it comes to making its buildings more sustainable. I hope that many more buildings will be addressed in this way in future so that even more energy can be saved."

In the boiler room of the fire station: The Belimo Energy Valves

A successful project

More comfort with less energy consumption – that may sound contradictory, but everyday practice proves the opposite. "Every day, HVAC renovation projects are being implemented that provide noticeably more comfort and a healthier room climate, while at the same time enabling significant energy savings," declares Dirk Bijlaart. "Our innovative technologies play a key role here." With our RetroFIT+ programme, we rapidly transform 'grey' HVAC systems into 'green' air-conditioning systems – without drastic changes or high costs. This makes sustainability achievable for every building." The fire station in Breda is only one of many examples.

All-inclusive

Belimo as a global market leader develops innovative solutions for the controlling of heating, ventilation and air conditioning systems. Damper actuators, control valves, sensors, and meters represent our core business.

Always focusing on customer value, we deliver more than only products. We offer you the complete product range of actuator and sensor solutions 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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BELIMO Automation AG
Brunnenbachstrasse 1, 8340 Hinwil, Switzerland
+41 43 843 61 11, info@belimo.ch, www.belimo.com

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