SUCCESS STORY IZMIR AND KOCAELI HOSPITALS (TR)

Ensuring a safe and healthy environment where it is needed most.

An ambitious project.

To improve the health infrastructure in Türkiye, two state-of-the-art hospitals were built in two large metropolitan regions of the country, Izmir and Kocaeli. The Izmir Hospital consists of eight buildings with an indoor area of 633,020 m² and 2,060 hospital beds. The Kocaeli hospital, consisting of four buildings, has a total indoor area of 383,397 m² and is equipped with 1,207 beds. Hospitals are among the most critical facilities for heating, cooling, and ventilation. Consequently, it is crucial to maintain optimal indoor air quality and maximum reliability for HVAC systems at all times. To ensure this, Belimo provided more than 20,000 sensors to monitor and control nearly every area of the two hospitals. Belimo VAV actuators help maintain each zone's required indoor air quality in the two facilities. At the same time, our fire damper actuators and smoke control damper actuators ensure maximum safety in case of a fire.

BUILDING TYPE
Hospitals

PROJECT
New buildings

TRADES
Heating, ventilation, cooling, fire and smoke

PRODUCTS
Various sensors, VAV actuators, air damper actuators, 3-way butterfly valves, fire damper actuators, smoke control actuators

BELIMO®

Maximum reliability and accuracy.

Hospitals are particularly critical because they are “gathering places” for immunocompromised patients and patients who can spread diseases. Therefore, isolating these patients and providing them with clean air is crucial. Maintaining excellent indoor air quality can support faster recovery and reduce the spread of respiratory diseases such as influenza or COVID. Another major challenge hospitals face is mould growth in uncontrolled areas caused by excessive moisture. However, this is prevented by placing Belimo sensors in all major supply ducts and necessary spaces.

Maximum safety and comfort at all times.

Various Belimo field devices were installed in nearly all areas of the two hospitals to establish a safe and comfortable environment by controlling the building complexes' heating, cooling and ventilation. The 520 air handling units installed in the two hospitals were equipped with 3,000 Belimo air damper actuators to control air handling and air distribution in the buildings. More than 10,000 switches and over 4,300 sensors monitor and control the differential pressure. Passive temperature sensors, frost monitors, room sensors and room operating units were installed for temperature measurement.

The indoor air in patient rooms needs to be optimal at all times.

Patient- and operating rooms (ORs) are among the most sensitive and vulnerable areas in hospitals. To ensure a sterile environment at all times and protect them from the outside, they are typically maintained at positive air pressure. Additionally, the air supplied to these rooms needs to be exceptionally clean. Maintaining the appropriate temperature within ORs is another crucial factor. Consequently, controlling the pressure in the rooms, the supply air and the temperature is essential to protect patients. To ensure that these high standards are always met, Belimo VAV actuators were used to control these critical parameters in the hospitals of Izmir and Kocaeli.

"Belimo not only provided products of excellent quality but supported us with every challenge we encountered during the project."

Ömer Ünal, System Integrator
Sembol Otomasyon A.Ş.

The AHUs in the hospitals are equipped with various Belimo devices.

All VAV actuators are communicative, allowing for remote management of all parameters, such as minimum and maximum volumetric flow. Via Modbus Command, room operation can be switched from septic to aseptic mode depending on the patient's condition.

The highest safety standards must also apply in case of fire. Therefore, 2,000 fire and smoke damper actuators were used in both hospitals according to the EN norm. The motorisation of fire and smoke damper actuators enables regular and automated functional testing. This again greatly increases safety.

Lastly, a changeover application between the cooling tower and chiller of the Kocaeli hospital was installed using nine 3-way butterfly valves from Belimo. Compared to standard 3-way globe valves, the Belimo butterfly valves are smaller and only half the weight, resulting in easier installation and less space needed. Moreover, the butterfly valves offer absolute tightness for maximum energy efficiency.

Belimo air damper actuators ensure the reliable operation of all AHUs.

A smooth process.

"With Belimo, we had an excellent partner in realising this massive project", says Ömer Ünal, System Integrator at Sembol Otomasyon A.Ş. "Belimo shared crucial insights on the design process with decision-makers and guided us from beginning to end to ensure the right products have been chosen to meet all requirements." Ömer Ünal appreciates the fast response and the feedback and advice on every turning point they encountered planning and executing the two hospitals' heating, ventilation and air conditioning. "Using Belimo products, which can communicate via Modbus added value to both the contractor and system integrator, as commissioning was facilitated and cabling costs were reduced", he adds. "All in all, choosing Belimo as a single supplier simplified integration and commissioning, avoiding potential issues such as delays", he concludes.

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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