



**BELIMO ADVANCED BUTTERFLY VALVE**

## Building Improves Energy Efficiency with Belimo Advanced Butterfly Valve

### Advanced Butterfly Valve Helps Building Complete Retrofit on Tight Schedule

When it comes to HVAC system upgrades, the quality and reliability of the solutions often dictate the success of a project. This was clear in a recent undertaking by an Alabama-based financial services company that aimed to retrofit their HVAC system with the latest in energy efficient technology.

At the forefront of this endeavor was the integration of Belimo's innovative new Advanced Butterfly Valve featuring the new JR actuator, a key element to significantly enhancing the system's performance. This initiative was headed up by an experienced controls contractor, whose expertise and strategic selection of Belimo products played a pivotal role in steering the project towards success.

**TYPE OF BUILDING**

Office Building

**PROJECT**

Retrofit

**SECTOR**

Financial

**PRODUCTS**

Belimo Advanced Butterfly Valves,  
Temperature Sensors



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# Savings on energy as well as installation

## Project Overview and Motivation

The site was comprised of a ten-story commercial facility with approximately 250 employees, and the challenge was to upgrade the existing HVAC system while maintaining the daily operations of the business. This meant that the entire retrofit had to be completed over just one weekend, highlighting the importance of choosing products with an efficient installation process.

At the helm of this effort was Project Manager Trey Holladay, bringing twenty years of experience in the controls contracting industry and a long history of using Belimo products. “You’re removing old components and installing new components in an existing building, and the challenge is that you have a defined timeline. You want to minimize the labor it takes to replace these valves. I reached out to my Belimo representative to discuss the project, and he told me about the new Belimo Advanced Butterfly Valve,” Trey explained.

After thorough discussions with Belimo District Sales Manager, Bobby White, an array of Belimo products were specified: three 6-inch, 2-way butterfly valves with the new JR actuators, two 6-inch, 3-way butterfly valves with PR actuators, alongside temperature sensors and stainless-steel immersion wells.

The new JR actuator series represents a significant advancement in control valve technology, engineered to meet a broad range of industrial and commercial applications. Available in 4”, 5”, and 6” sizes (DN 100 – 150), these actuators offer adjustable run times that can be set anywhere from 20 to 120 seconds. This ensures that the actuators can be finely tuned to match specific application requirements, thereby reducing the risk of water hammer and enhancing process control. Suitable for mixing and diverting applications, the valves default to an equal percentage flow characteristic, but can be configured for linear control using the Belimo Assistant App.

One of the features of the JR that really stood out in this retrofit was the ease and flexibility of installation. The valves can be mounted in any orientation without a designated flow direction, making them ideal for open/close, changeover, or control applications. The improved wiring box design further simplifies installation, requiring only one screw to secure the cover to the actuator body, while robust latches on the terminal blocks ensure durability and reliability.



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**Trey Holladay, Project Manager,  
Alabama-based Controls Company**

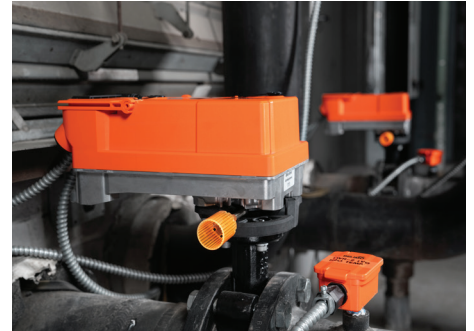
The JR is equipped with a hand crank manual override, which remains operational regardless of whether the actuator is on or off. It features a new click-in mechanism that prevents the loss of the crank, a redesigned cap with a leash, and also includes a status LED visibly mounted on the outside of the junction box, allowing for easy monitoring without the need to open the lid.

The JR also features the new M600 Microchip, incorporating multiple patented technologies and significantly enhanced computing power. This microchip enables seamless and intelligent operation of the actuator. For enhanced connectivity and programming ease, the series incorporates Near Field Communication (NFC) technology, which facilitates fast programming, commissioning, and troubleshooting—even when the actuators are unpowered.

The series also supports advanced communication protocols like BACnet MS/TP and Modbus RTU, enabling integration into Building Management Systems (BMS) for advanced control sequences. Additional features like sensor monitoring for inputs such as PT-1000, Ni-1000, and NTC 10K Type II sensors integrate seamlessly with BMS for enhanced functionality and responsiveness.

Encased in NEMA 4X compliant housing, the JR series actuators are robust enough for outdoor installations, protected against UV radiation, rain, snow, dirt, dust, and humidity. The onboard temperature and humidity sensors prevent condensation within the housing, thus improving the operational performance and longevity of the actuator. These features collectively make the JR series a remarkably advanced, reliable, and adaptable solution for modern industrial needs.

All three JR's were installed in the building's chilled water plant: one for condenser water isolation, the second one for chilled water isolation, and the third was used for chilled water bypass.



**BELIMO ADVANCED BUTTERFLY VALVE**

Designed specifically for HVAC applications, the Belimo advanced butterfly valve offers an intelligent, energy efficient, and reliable high flow solution, with a focus on ease of installation, application flexibility, and longevity.

- 100% duty cycle rating for increased actuator life.
- Saves energy with up to 80% less power consumption and reduces transformer and wiring costs.
- Self-adjusting close-off design provides zero leakage and improves system performance.
- Industry leading fail-safe function and universal power supply input AC 24...240 V / DC 24...125 V provides application flexibility.
- Unique position indication is viewable from long distances and at any angle for easy troubleshooting.
- BACnet and NFC provide simplified setup and diagnostics, as well as superior application data access.
- Belimo offers a full range of butterfly valves, which currently range from 2" to 24."



## Customer Satisfaction

“The new Advanced Butterfly Valves with the JR actuator transformed our approach to the retrofit,” Trey remarked, highlighting the ease of installation and the advanced capabilities of the valves. “The simple, straightforward electrical access and the ability to calibrate the valves with just a smartphone using the Belimo Assistant app significantly reduced our installation labor.”

Another pivotal aspect of the project’s success was the technical support provided by Belimo. Given the technical complexities and the need for prompt problem-solving in retrofit projects, having access to knowledgeable and responsive technical support is invaluable. “The technical support from Belimo has been outstanding,” Trey added. “Knowing that we can rely on prompt, expert advice makes a significant difference in how we tackle challenges during the retrofit.”

“I enjoy partnering with contractors like Trey who genuinely care about the customer. Solving problems, finding solutions, and selecting the right pieces and parts for the project are what I love to do,” Bobby said. “My goal is to look back on the projects that my customers have entrusted me with, especially the most challenging ones, and know that I gave them the very best service I could.”

Trey also emphasized the critical importance of reliability in the components used for such projects. “In this industry, trust and reliability are not a given; they’re earned through consistent performance. Belimo’s products have proven their durability and reliability time and again, seamlessly integrating into our projects and performing beyond expectations,” he noted.

This retrofit story underscores the importance of selecting the right technology partners in the HVAC industry. By leveraging Belimo’s innovative products along with the expertise of seasoned professionals like Trey Holladay, this customer achieved its efficiency goals.