Advanced Butterfly Valve Technology for High Flow Applications

Belimo Butterfly Valves

BELIMO®

Next generation butterfly valves

Butterfly Valves are fundamental components in hydronic systems. Unfortunately, most butterfly valves are less than ideal – they leak, their running times are not optimized for HVAC applications, they're heavy, it's hard to access wiring, and they cannot be put into operation quickly.

The Belimo advanced butterfly valve is the exception. 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.

Belimo offers a full range of butterfly valves, which currently range from 2" to 24".

Video - Butterfly valves for control applications

Innovative, user friendly and reliable

Belimo butterfly valves are perfectly suited for heating, chiller and cooling tower applications, changeover systems, control applications for large ventilation systems, and bypass applications.

Belimo butterfly valves, with their innovative features and user-friendly design, offer superior performance by providing precise flow control and seamless, efficient operation.

They offer a wide range of options for various applications, including 2-way modulating and on/off applications with nominal sizes ranging from 4" to 12", as well as 3-way combinations for mixing and diverting applications with nominal sizes ranging from 4" to 12". Furthermore, our intelligent JR and PR actuators automatically adjust the opening angle, allowing for a linear characteristic curve and ensuring reliable flow. This is useful for 3-way control valve applications that involve precision mixing and distribution.

"Belimo's products have proven their durability and reliability time and again, seamlessly integrating into our projects and performing beyond expectations."

Trey Holladay, Project Manager, Alabama-based Controls Contractor

→ Innovative Design

Patent pending self-adjusting end stop algorithm ensures zero leakage at 200 psi close-off. The high-performance processor in the JR actuator provides for precise flow control while automatically adjusting the opening angle, allowing for a linear characteristic curve and ensuring reliable flow.

→ User Friendly

The reduced height and weight of the actuator allow for easy installation, while the Near Field Communication (NFC) capability enables fast troubleshooting, commissioning, and programming. The PR and JR actuators include a convenient handle so it can be easily transported, a snap-on cover for simple installation and wiring, and clearly visible position indicators. Furthermore, the butterfly valve can be configured using a smartphone even if the actuator is not powered.

→ Proven Reliability

Patented brushless DC motor technology reduces energy consumption up to 80%, ensuring longevity and optimal system performance. Belimo's 5-year warranty and more than 40 years of design experience provide additional peace of mind.

Energy efficient high flow solution

Manual override
allows valve position adjustments using detachable hand crank whether the actuator is powered on or off. Valve position is maintained until hand crank is removed.

Near Field Communication (NFC)
allows fast programming, commissioning and troubleshooting– even when the actuator is not powered.

Adjustable motor running time
Adjustable motor running time from 20 to 120 seconds (20 seconds minimum with JR, 35 seconds minimum with PR actuator).

Two temperature sensors
can easily be connected to the actuator providing accurate temperature data via BACnet.

NEMA 4X, IP66/67 housing
for outdoor usage, protecting the actuator from UV radiation, rain, snow, dirt, dust and humidity.

Universal power supply
AC 24...240 V / DC 24...125 V requires only one actuator type which eases planning and increases flexibility for all applications.
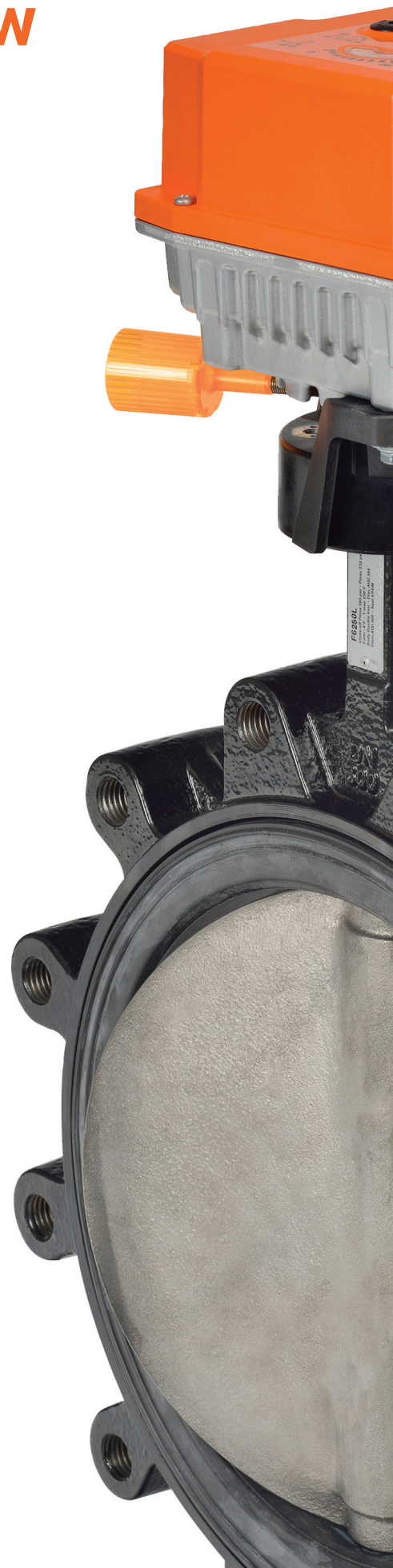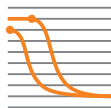
Intelligent JR Actuator
- New high-performance processor
- Convenient handle for easy transportation
- Snap-on cover for simple installation and wiring
- Clearly visible position indicators

Electronic Fail-Safe Actuator
- Flexible configurations: on/off, floating point, modulating
- BACnet communication protocol provide superior application data access to execute advanced BMS control sequences
- NFC for quick adjustments and diagnostics

Intelligent and self-adjusting end stops
ensure an easy installation, less
commissioning effort, adapting over the
entire lifespan of the valve.

Enhanced Communication
enables expanded system integration and BMS
control with the addition of Modbus RTU. Other
integration protocols include BACnet MS/TP and
Belimo MP-Bus.

80 % less power consumption
with patented brushless DC motor technology
saves energy and reduces transformer and
wiring costs.

Reduced height and weight
of the JR and PR actuators allow for an
optimized mechanical layout and easy
installation.

Smart heating logic
prevents condensation in the actuator and
increases operating safety and service life.

Thermal insulation
reduces heat transfer to the actuator and avoids
condensation build-up.

Flexible position indicator
is viewable from long distances and at any angle
for easy troubleshooting.

0% leakage rate
at 200 psi close-off pressure with the self-
adjusting end stop algorithm ensures reliable
operation throughout the entire life of the valve.

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5-year warranty

M600 – the new microchip for HVAC actuators.

The M600 microchip serves as the central processing unit, providing the intelligence that controls the actuator. With enhanced computing power, the new chip features multiple patented technologies, facilitating seamless, intelligent operation. This collaboration yields a butterfly valve that not only operates with heightened precision, but also intelligently adjusts to varying conditions, enhancing overall flexibility, efficiency, and reliability.

→ ## Innovative
The innovative, high-performance M600 chip is designed specifically for HVAC actuators. This cutting-edge technology unlocks new functionalities, elevating the performance of next generation Belimo butterfly valves.

→ ## Precise
With the intelligent motion control of the M600, precise positioning of the valve is easy using the Belimo Assistant App, allowing you to set the motor's running time as low as 20 seconds.

→ ## Efficient
The HVAC optimized M600 chip ensures precision but also minimizes power consumption.
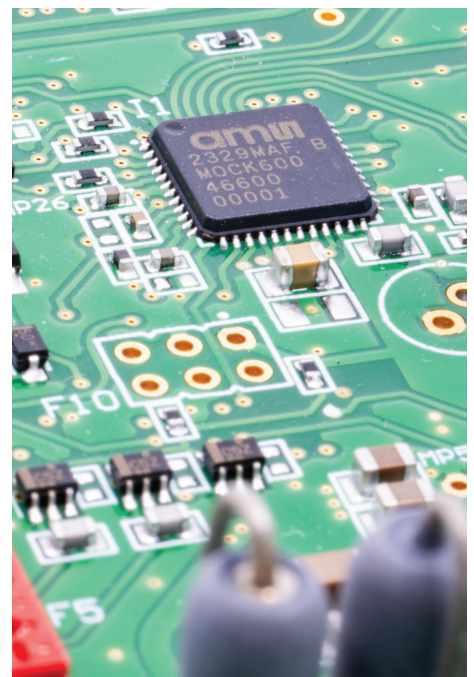
→ ## Future-proof
The M600 leaves room for additional functionalities. For example, in the future we will be able to implement predictive maintenance features, such as the ability to calculate the current torque of the actuator and record the torque curve.

"With the new high-performance chip for HVAC actuators, Belimo is again demonstrating its pioneering spirit and providing significant added value for the HVAC market with its unique butterfly control valve. The butterfly control valve will replace conventional control valves for high flow rates in the medium term."

Rakip Sabani, Professional building technology instructor, Swiss Technical College in Winterthur

The most intelligent butterfly valve on the market

Belimo resilient seated butterfly valves are designed to meet the needs of HVAC and commercial applications requiring zero leakage. The large Cv valves provide an economical control valve solution for larger flow applications used in ANSI flanged piping systems. Typical applications include chiller and boiler isolation, primary bypass flow control, cooling tower isolation, large air handler coil control, and process control heat exchanger applications.

	Valve Model	CV	Size		Close-off Pressure	Non-Spring Return		Electronic Fail-Safe
			Inches	DN		On/Off, Floating Point	On/Off, Floating Point, Modulating, BACnet	On/Off, Floating Point, Modulating, BACnet
2-Way	F6100L	798	4	100	200 psid	JRBUP-3-T	JRXUP-MFT-T	PKRXUP-MFT-T
	F6125L	1140	5	125				
	F6150L	2055	6	150				
	F6200L	3136	8	200		PRBUP-3-T-200	PRXUP-MFT-T-200	PKRXUP-MFT-T-200
	F6250L	5340	10	250		PRBUP-3-T-250	PRXUP-MFT-T-250	PKRXUP-MFT-T-250
	F6300L	8250	12	300		PRBUP-3-T	PRXUP-MFT-T	PKRXUP-MFT-T
	F6200LU	3136	8	200	50 psid	PRBUP-3-T-200	PRXUP-MFT-T-200	N/A
	F6250LU	5340	10	250		PRBUP-3-T-250	PRXUP-MFT-T-250	
3-Way	F7100L	798	4	100	200 psid	JRBUP-3-T	JRXUP-MFT-T	PKRXUP-MFT-T
	F7125L	1140	5	125				
	F7150L	2055	6	150				
	F7200L	3136	8	200		PRBUP-3-T-200	PRXUP-MFT-T-200	PKRXUP-MFT-T-200
	F7250L	5340	10	250		PRBUP-3-T-250	PRXUP-MFT-T-250	PKRXUP-MFT-T-250
	F7300L	8250	12	300		PRBUP-3-T	PRXUP-MFT-T	PKRXUP-MFT-T

– 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.

Exceptional service

At Belimo, we continually invest in new technologies that increase customer value by improving occupant comfort, energy efficiency, simplified installation, and maintenance-free operation. Our sales team is available to consult and provide insight and advice on how to achieve the best solution to help increase your system performance. Belimo will continue to focus on providing you with exceptional product availability, fast delivery times, and world-class customer service and technical support. We remain dedicated to continuously improve our standards and are committed to providing you with the highest value possible.

Whatever your HVAC application, our global network of support experts are on hand and ready to assist.

Global support

Tested quality

On-time delivery

Extensive service

Complete product range

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