



High Performance  
Solutions

## Belimo Pressure Independent Control Valves

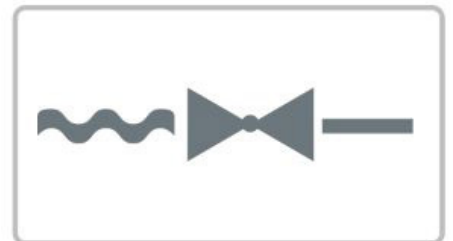
# Energy Efficient Valves Providing Comfort in Buildings



Belimo pressure independent control valves stabilize variable flow hydronic systems for a lifetime of efficiency and worry-free, dynamic balancing.

Belimo pressure independent valves directly control the water flow required by the coil and are not affected by pressure fluctuations in the system. The valves are selected based on the flow requirements of the coil, and no valve authority and Cv calculations are needed. By precisely controlling the flow, the pressure independent valves eliminate the need for balancing valves, thus reducing installation cost. The most significant benefit comes in the form of energy savings by eliminating overflow through the coil. Overflow wastes pumping energy and is the main cause of low Delta T syndrome in chilled water systems.

With Belimo pressure independent technology, every system performs to its full potential – saving time, money, and other precious resources.



# Improves Building Performance

With Belimo’s pressure independent control valve technology only a single valve is required to maintain proper flow through each circuit. Each valve arrives from the factory with a flow setting that can be changed in the field, should a change be required. The system will perform perfectly from start-up. If a facility adds new circuits because of an expansion, the flow control of existing circuits remains intact eliminating the need for re-balancing the system.

**→ Dynamic Balancing**  
 Belimo’s pressure independent valves precisely control the water flow required by the coil and are not affected by pressure fluctuations in the system.

**→ Energy Savings**  
 Pressure independent control valves maximize energy savings by dynamically balancing the load under all conditions eliminating overflow of the coil thus reducing pumping costs.

**→ Zero Leakage**  
 Belimo ball valve design offers zero leakage and eliminates energy loss while ensuring reliable operation throughout the entire life of the valve.

“The Belimo’s pressure independent control valve not only properly controls the flow of hot or chilled water to the classroom unit ventilator, it also prevents excess flow from going through the unit.”

**Robert Morgan, P.E.,  
 Robert E. Morgan Associates**

Features	PIQCV	6-Way EPIV	EPIV**	Energy Valve
Glycol Monitoring				■
True Flow Measurement		■	■	■
Dynamic Balancing	■	■	■	■
Energy Meter				■
Power Control				■
Delta T Manager				■
Power over Ethernet (PoE)				■
Cloud Analytics				■
Live Data		■	■	■
Coil History				■
CCV Technology	■	■	■	■
0% Leakage	■	■	■	■
Field Configuration*	■	■	■	■
Near Field Communication (NFC)		■	■	■
BACnet MS/TP, Modbus RTU, MP-Bus, and Analog		■	■	■
BACnet IP and Modbus TCP/IP				■

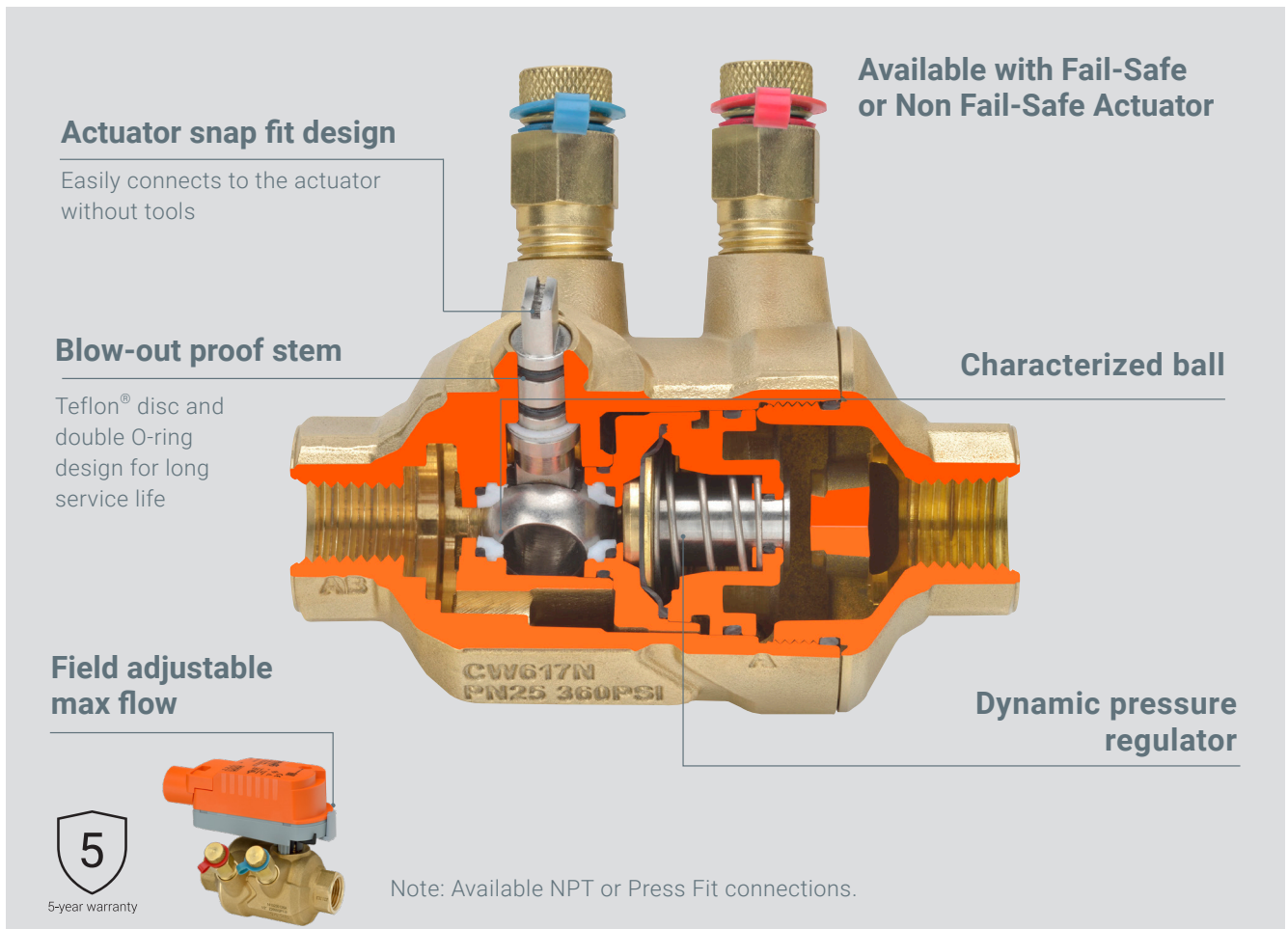
\*PIQCV is field adjustable.  
 \*\* Newly released EPIV ½” to 2”.

## PIQCV

The PIQCV combines a differential pressure regulator with a 2-way control valve to supply a specific flow for each degree of ball opening regardless of system pressure fluctuations. The valve performs the function of a balancing valve and control valve in one unit. Available in sizes ½ and ¾ inch.

### FEATURES

- Smallest pressure independent characterized ball valve in the market
- Actuator runs at 0.3 W saving energy and transformer power
- Flow is adjustable at the actuator and always perfectly balanced
- Self-cleaning ball valve technology avoids clogging and offers zero leakage eliminating energy loss

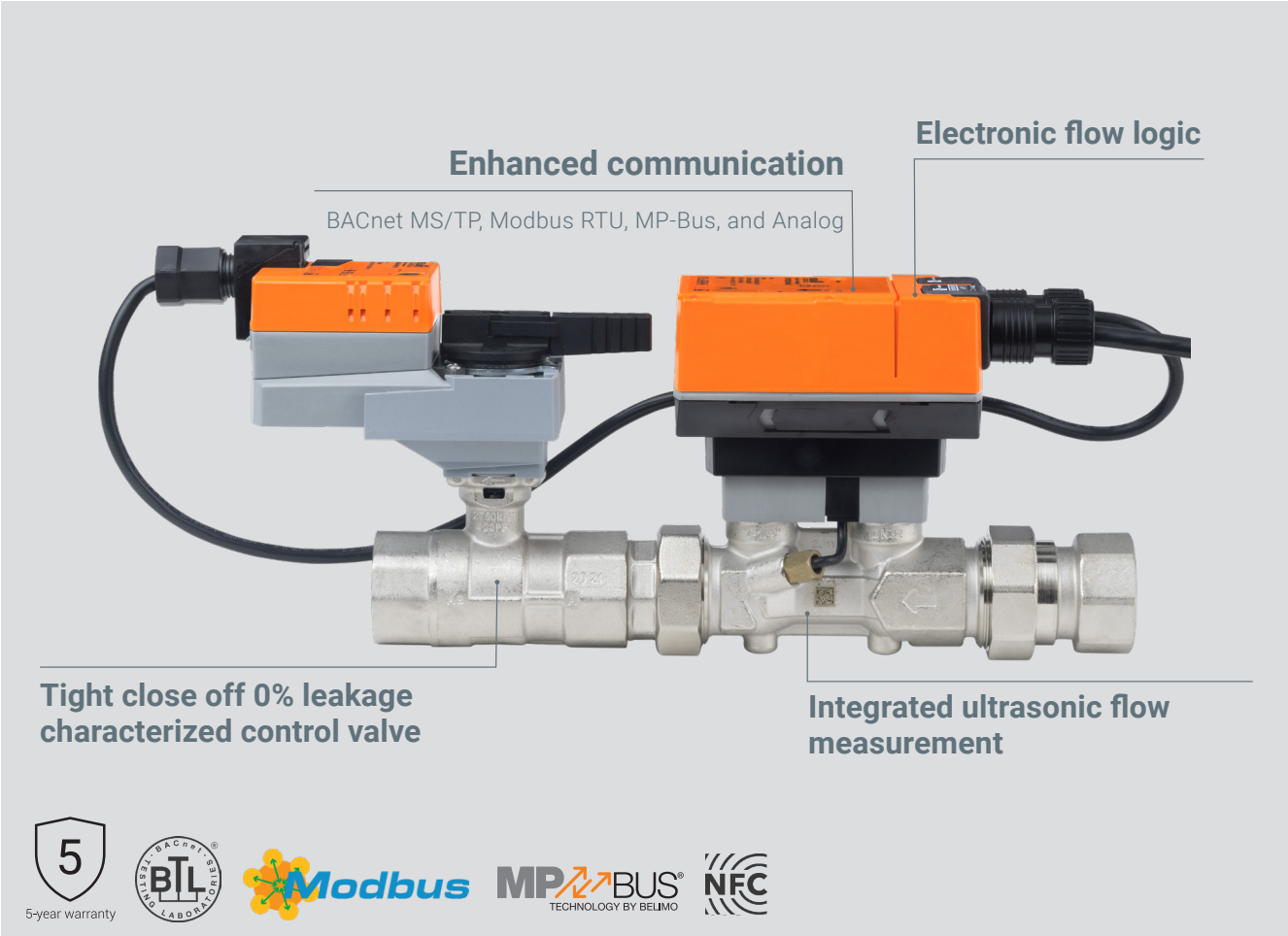


### EPIV

The 2-way EPIV is a pressure independent characterized control valve with an integrated electronic flow meter and a powerful control algorithm. It compensates for pressure variations and performs dynamic balancing to maintain system performance at varying loads. The EPIV integrated control signal maintains a flow set point regardless of system pressure variations with its robust algorithm modulating the valve based on the actual measured flow. Valves are selected based on coil flow rate; no valve authority and Cv calculations are needed. Available in sizes 1/2 to 6 inches.

### FEATURES

- Ultrasonic flow measurement technology and glycol compensation enable true flow measurement and total volume readings
- A temperature sensor integrated into the flow body allows accurate fluid temperature measurement and glycol monitoring
- Maintains pressure independent operation eliminating the need for manual balancing valves, reducing installation and commissioning
- Digital workflows support device commissioning and operation with the Belimo Assistant App.
- The App enables remote calibration and commissioning report that can be generated automatically.



## 6-way EPIV

The 6-way EPIV is the only one of its kind designed for chilled beams, radiant ceiling panels, and 4-pipe fan coil units providing true flow and dynamic balancing. It has the functionality of up to four 2-way control valves and two balancing valves thus saving material and installation time. Available in sizes ½ and ¾ inch.

### FEATURES

- Performs changeover and modulating control for single coil 4-pipe system
- Provides different flow settings for heating and cooling
- Zero percent leakage saves energy
- Reduced material and installation cost
- Simplified commissioning with flow measurement and verification

### Enhanced communication

BACnet MS/TP, Modbus RTU, MP-Bus, and Analog

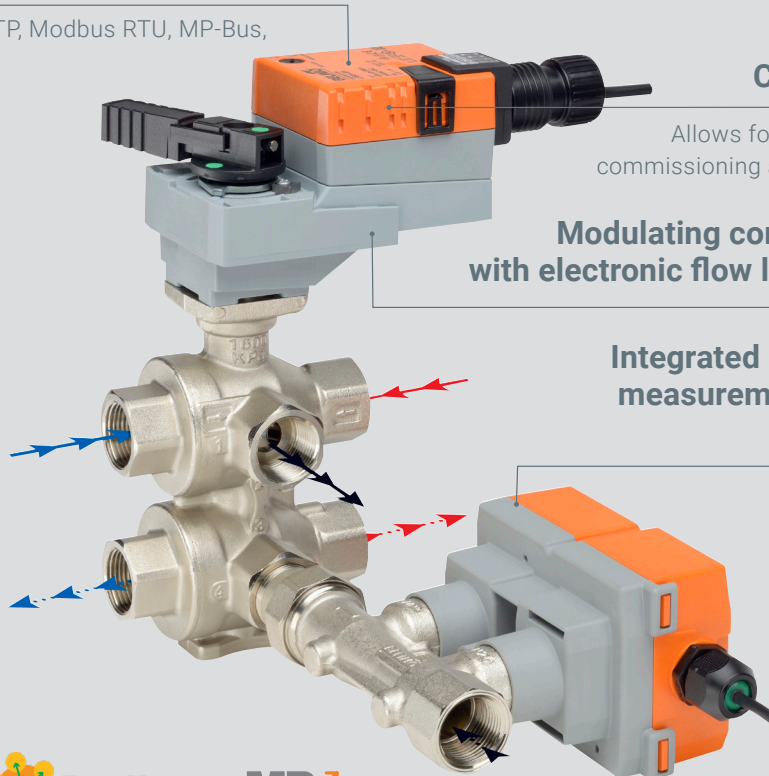
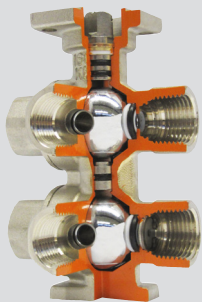


### Near Field Communication

Allows for fast programming, commissioning and troubleshooting

### Modulating control with electronic flow logic

### Integrated ultrasonic flow measurement with glycol compensation



Modbus

MP-BUS  
TECHNOLOGY BY BELIMO

### Belimo Energy Valve™

Integrating Thermal Energy Meter with the Energy Valve (½ to 2”) allows for easy energy control and transparent tenant billing. Designed to EN1434/MID standards ensures high accuracy and reliability, allowing for easy tenant billing. Accurate energy consumption measurement and monitoring in a heating and cooling system with direct IoT-based cost accounting using a single device. Connecting to the Belimo Cloud offers lifetime data storage, setpoint recommendations, and performance reporting. Local data storage and trending capability coupled with BACnet, Modbus, MP-Bus, and analog communication provide the ability to monitor energy usage and develop energy savings strategies through the BAS. Available in sizes ½ to 6 inches.

#### FEATURES

- Patented Power Control and Delta T Manager logic built-in optimizes the available energy of the coil by maintaining Delta T
- Glycol monitoring ensures concentration meets design needs reducing additional pumping and providing optimized heat exchange and safe operation
- Dynamic coil performance illustrates the operation of the coil in real time accurately providing transparency of power degradation and other operational issues
- Simplified commissioning with flow measurement and verification

**Enhanced communication**  
BACnet MS/TP or IP, Modbus RTU or TCP/IP and Analog

**IoT cloud device**

**Integrated energy meter**

**Patented Power Control and Delta T Manager**

**Temperature sensors**  
Precise energy management

**Glycol monitoring and compensation**

**Power over Ethernet (PoE)**

5-year warranty

BTL

Modbus

MP-BUS  
TECHNOLOGY BY BELIMO

BELIMO CLOUD

NFC

# Solutions for Maximum Efficiency

Product Range		Valve Nominal Size		Suitable Actuators			
Valve Type	Flow (GPM)	Inches	DN [mm]	Non-Fail-Safe		Electronic Fail-Safe	
PIQCV	0.9*	½	15	CQ		CQK	
	2.0*	½	15				
	4.3*	½	15				
	9.0*	¾	20				
6-way EPIV	5.5	½	15				
	10.3	¾	20				
EPIV	6.6*	½	15	LRX-E	ARX-E N4	AKRX-E	AKRX-E N4
	11*	¾	20				
	18.2*	1	25				
	28.5*	1¼	32	NRX-E			
	44*	1½	40				
	66*	2	50				
	100*	2	50				
Energy Valve	1.65...6.6*	½	15	LRX-E			
	2.7...11*	¾	20				
	4.5...18.2*	1	25	NRX-E			
	7.1...28.5*	1¼	32				
	11...44*	1½	40	ARX-E			
	16.5...66*	2	50				
	25...100*	2	50				
EPIV and Energy Valve ANSI 125 and ANSI 250	127*	2½	65	ARX24		AKRX24	
	180*	3	80				
	317*	4	100	GRX24			
	495*	5	125				
	713*	6	150				

\*V<sub>nom</sub> = Maximum flow for each valve body size.

## Belimo Americas

USA, Latin America, and the Caribbean: [www.belimo.us](http://www.belimo.us)

Canada: [www.belimo.ca](http://www.belimo.ca)

Brazil: [www.belimo.com.br](http://www.belimo.com.br)

