

# Product Range Overview



**5**  
YEAR  
WARRANTY

# From design to delivery, many hands with one intention: Your complete satisfaction.



Ed O'Connor  
Engineering



Sandra Leal  
Payroll Manager



Disnarada Aracena  
Assembly



Dean Perez  
Distribution Center Manager



Rocio Rodriguez  
Assembly



Jeff Upright  
Product Manager



Melinda Tran  
Assembly



Amber Maskaly  
Customer Service



Matilde Reyes  
Assembly



Christina Coelho  
Accounting



TF Series  
Actuator

## A passion for precision

Each product Belimo builds reflects our passion for precision. We've earned the place of market leader by valuing ingenuity and craftsmanship – by never resting on our accomplishments. Very simply, we strive to build damper actuators and control valves that solve your comfort challenges, perform flawlessly and earn your trust through a long and productive life.

## Built to last

We bring that same ethic to our relationships with customers, employees, shareholders and business partners. We listen and respect your insight and perspective. Our interactions are guided by our values of honesty, openness and fairness. We want to build mutually beneficial relationships that, like our products, stand the test of time. That is our vision: Belimo. Together to the Top.

## Leading through innovation

In 1975, the founders of Belimo broke with tradition and created the first direct coupled air damper actuator. This product set a new standard in actuator design. Belimo innovation continues today, in both damper actuator and control valve technology.

## Sharp focus

By focusing solely on damper actuators and control valves for heating, ventilation, and air-conditioning, Belimo maintains technology and service leadership in this specialized area. Our complete product range and customer support has made Belimo a valued resource to consulting engineers, facilities managers, contractors, distributors, and original equipment manufacturers.



Sonoma State University  
Sonoma, California



Shell Point  
Fort Meyers, Florida



FIESP Building  
São Paulo, Brazil



Pier 1 Imports  
Fort Worth, Texas



The Empire State Building  
New York, New York



Canary Wharf  
London, England



The Louvre  
Paris, France



PeopleSoft  
Pleasanton, California



BOSE Corporation  
Framingham, Massachusetts



Citibank  
New York, New York



Mandalay Bay  
Las Vegas, Nevada



Reichstag  
Berlin, Germany

### The "hands" of the control system

Damper actuators and control valves represent two-thirds of the points of control in most HVAC control systems. Quality actuators and valves help system designers to reach their goals in energy consumption, comfort, installation, life cycle costs, and safety.

### Specify for performance

Because of the important role they play, actuators and valves should be specified with the control system. By choosing Belimo, you ensure that your system has the most innovative and reliable actuator and valve technology available.

### Quality you can count on

The quality process at Belimo involves a high level of communication between employees, customers, and suppliers. Our quality procedure encompasses customer satisfaction, product design, assembly and testing, sales and service. Each Belimo product is tested for electronic and mechanical integrity before shipment to customers. Belimo is an ISO-9001 certified company.



### We never rest

Belimo is constantly innovating and expanding our range of damper actuators and control valves to include new products and technologies covering the entire HVAC control spectrum – from actuators for VAV units to large chilled water supply valves. The following examples reflect our commitment to bringing intelligence to the design and function of damper actuators and control valves.

# Spring Return Actuator Product Range




	Running Time	Power Supply	Power Consumption	Control Input	Control Input		Position Feedback	Auxiliary Switches
					<b>MFT</b>			
	Motor Drive, (Default) (...-MFT US, 75 to 300 sec., fully programmable by Belimo or in field)	Spring Return	24 VAC +/- 20%, VDC +/- 10%, 50/60 HZ 120 VAC +/- 10% 230 VAC +/- 10%	VA Rating, Transformer Sizing Wattage Running (Holding)	On/Off Floating Point	2-10 VDC (Default) 4-20 mA* (w/500 Ω Resistor) 0-20 V Phasecut 3 kΩ NTC Type 10 Thermistor 6 - 9 VDC, 20 VDC Output Voltage Honeywell Series 90, 0-135 Ω	Start and Span adj., Start 0.5 to 30 VDC, Span 2.5 to 32 VDC PWM adj., 0.02 to 50.0 Seconds 2-10 VDC (Default) VDC Variable, Start 0 to 8, Span 2 to 10 VDC	1 SPDT, 3 A (0.5 A inductive) @250V 1 SPDT, 7 A (2.5 A inductive) @250V 2 SPDT, 7 A (2.5 A inductive) @ 250V
<b>AF Series</b>								
133 in-lb [15 Nm] Approx. 33 sq. ft.								
AF24 US†	150	<20	●	10	5.0 (1.5)	●		
AF24-S US†	150	<20	●	10	5.0 (1.5)	●		●
AF120 US†	150	<20	●	11	8.0 (3.0)	●		
AF120-S US†	150	<20	●	11	8.0 (3.0)	●		●
AF230 US†	150	<20	●	11	8.5 (3.0)	●		
AF230-S US†	150	<20	●	11	8.5 (3.0)	●		●
AF24-SR US†	150	<20	●	10	6.0 (2.0)	●	●	
AFA24-SR US†	150	<20	●	10	6.0 (2.0)	●		
AF24-ECON-R03 US†	95	<20	●	10	6.0 (2.5)		●	
AF24-PC US†	150	<20	●	10	6.0 (2.5)		●	
AF24-MFT US†	75...300 (150)	<20	●	10	6.0 (2.5)	●	●	●
AF24-MFT-S US†	75...300 (150)	<20	●	10	6.0 (2.5)	●	●	●
AF24-MFT95 US†	75...300 (150)	<20	●	10	6.0 (2.0)		●	●
<b>NF Series</b>								
60 in-lb [7 Nm] Approx. 15 sq. ft.								
NF24 US	<75	<60	●	8	5.0 (2.6)	●		
NF24-S US	<75	<60	●	8	5.0 (2.6)	●		●
NF24-S2 US	<75	<60	●	8	5.0 (2.6)	●		●
NF120 US	<75	<60	●	9.5	7.0 (4.0)	●		
NF120-S US	<75	<60	●	9.5	7.0 (4.0)	●		●
NF24-SR US	150	<60	●	6	3.0 (1.0)	●	●	
NF24-SR-S US	150	<60	●	6	3.0 (1.0)	●	●	●
NF24-MFT US	75...300 (150)	<60	●	6	3.0 (1.8)	●	●	●
<b>LF Series</b>								
35 in-lb [4 Nm] Approx. 8 sq. ft.								
LF24 US	<40 to 75	<25♦	●	7	5.0 (2.5)	●		
LF24-S US	<40 to 75	<25♦	●	7	5.0 (2.5)	●		●
LF120 US	<40 to 75	<25♦	●	7.5	5.5 (3.5)	●		
LF120-S US	<40 to 75	<25♦	●	7.5	5.5 (3.5)	●		●
LF230 US	<40 to 75	<25♦	●	7	5.0 (3.0)	●		
LF230-S US	<40 to 75	<25♦	●	7	5.0 (3.0)	●		●
LF24-SR US	150	<25♦	●	5	2.5 (1.0)	●	●	
LF24-SR-S US	150	<25♦	●	5	2.5 (1.0)	●	●	●
LF24-SR-E US	150	<25♦	●	5	2.5 (1.0)	●	●	
LF24-3 US	150	<25♦	●	5	2.5 (1.0)	●		
LF24-3-S US	150	<25♦	●	5	2.5 (1.0)	●		●
LF24-ECON-R03 US	95	<25♦	●	5	2.5 (1.0)		●	
LF24-MFT US	75...300 (150)	<25♦	●	5	2.5 (1.0)	●	●	●
LF24-MFT-S US	75...300 (150)	<25♦	●	5	2.5 (1.0)	●	●	●
LF24-MFT-20 US	150	<25♦	●	6	3.5 (1.5)		●	●
LF24-MFT-S-20 US	150	<25♦	●	6	3.5 (1.5)		●	●
LFC24-3-R US	90	<25♦	●	5	2.5 (1.0)	●		
LFC24-3-S US	90	<25♦	●	5	2.5 (1.0)	●		●
<b>TF Series</b>								
18 in-lb [2 Nm] Approx. 4.5 sq. ft.								
TF24 US	<75	<25♦	●	5	2.0 (1.3)	●		
TF24-S US	<75	<25♦	●	5	2.0 (1.3)	●		●
TF120 US	<75	<25♦	●	5	2.0 (1.3)	●		
TF120-S US	<75	<25♦	●	5	2.0 (1.3)	●		●
TFC120-S US	<30	<25♦	●	6	3.0 (1.5)	●		●
TF24-SR US	95	<25♦	●	4	2.0 (1.0)	●	●	
TF24-SR-S US	95	<25♦	●	4	2.0 (1.0)	●	●	●
TF24-3 US	95	<25♦	●	4	2.5 (1.0)	●		
TF24-3-S US	95	<25♦	●	4	2.5 (1.0)	●		●
TF24-MFT US	75...300 (150)	<25♦	●	4	2.0 (1.0)	●	●	●

♦ <60 seconds @ -22°F [-30°C].

† Dual mounting on a single shaft (on/off wired in parallel), (-SR, -MFT wired master slave). Please call Belimo customer service for details.

L30031 - 05/09 - Subject to change. © Belimo Aircontrols (USA), Inc.

# Fire and Smoke Actuator Product Range

Running Time		Power Supply			Power Consumption	Control Input	Auxiliary Switches		
Motor Drive	Spring Return	24 VAC	120 VAC	230 VAC	VA Rating	On/Off	2 SPST	2 SPDT	
<b>FSAF Series</b> 133 in-lb [15 Nm] Approx. 18 sq. ft. @ 250°F		FSAF24 US	<75	<20	●		10	●	
		FSAF24-S US	<75	<20	●		10	●	●
		FSAF120 US	<75	<20		●	11	●	
		FSAF120-S US	<75	<20		●	11	●	●
		FSAF230 US	<75	<20		●	12	●	
		FSAF230-S US	<75	<20		●	12	●	●
		FSAF24-SR US	<75	<20	●		11	2-10 VDC	
		FSAF24-SR-S	<75	<20	●		11	2-10 VDC	●
		FSAF24-BAL	<75	<20	●		10	3-Position	
		FSAF24-BAL-S	<75	<20	●		10	3-Position	●
<b>FSNF Series</b> 70 in-lb [8 Nm] Approx. 12 sq. ft. @ 350°F		FSNF24 US	<15	<15	●		27	●	
		FSNF24-S US	<15	<15	●		27	●	●
		FSNF120 US	<15	<15		●	27	●	
		FSNF120-S US	<15	<15		●	27	●	●
		FSNF230 US	<15	<15		●	27	●	
FSNF230-S US	<15	<15		●	27	●	●		
<b>FSLF Series</b> 30 in-lb [3.5 Nm] Approx. 4 sq. ft. @ 350°F		FSLF24 US	<15	<15	●		5	●	
		FSLF24-S US	<15	<15	●		5	●	●
		FSLF120 US	<15	<15		●	18	●	
		FSLF120-S US	<15	<15		●	18	●	●
		FSLF230 US	<15	<15		●	17	●	
FSLF230-S US	<15	<15		●	17	●	●		

L30031 - 05/09 - Subject to change. © Belimo Aircontrols (USA), Inc.

# Standard Non-Spring Return Actuator Product Range

	Running Time	Power Supply		Power Consumption		Control Input		Control Input <b>MFT</b>			Position Feedback		Auxiliary Switches		NEMA 4X				
		Motor Drive	24 VAC ± 20%, VDC ± 10%, 50/60 HZ	100 VAC to 240 VAC	VA Rating	Wattage Running (Holding)	On/Off	Floating Point	2-10 VDC or 4-20 mA (w/500 Ω Resistor)	On/Off	Floating Point	Start and Span adj., Start 0.5 to 30 VDC, Span 2.5 to 32 VDC	PWM adj., 0.02 to 50.0 Seconds	2-10 VDC (Default) Adjustable with MFT	5k Ω Resistive Feedback	10k Ω Resistive Feedback	1 SPDT, 3A (0.5A Inductive) @250V	Add-on (S1A or S2A)	Enclosure (Part No. +M4 or +MH) with Terminal Strip
<b>GM Series</b> 360 in-lb [40 Nm] Approx. 90 sq. ft.	GMB24-3†	150	●	6	4.0 (2.0)	●	●												
	GMB24-SR†	150	●	6.5	4.5 (2.0)			●				●							
	GMB24-MFT (A)	150	●	7	4.0 (1.5)			●	●	●	●	●							
<b>AM Series</b> 180 in-lb [20 Nm] Approx. 45 sq. ft.	AMB24-3	95	●	5.5	2.5 (0.5)	●	●											●	
	AMB24-3-S	95	●	5.5	2.5 (0.5)	●	●											●	
	AMB24-SR	95	●	5	2.5 (0.4)			●				●						●	
<b>AMQ Series</b> 140 in-lb [16 Nm]	AMQB24-1	7	●	18	12 (1.5)													●	
	NMB24-3	95	●	4	2.0 (0.2)	●	●											●	
	NMCB24-3	45	●	4	2.5 (0.2)	●	●											●	
<b>NM Series</b> 90 in-lb [10 Nm] Approx. 22 sq. ft.	NMB24-SR	95	●	5	2.5 (0.4)			●				●						●	
	NMCB24-SR	45	●	5	2.5 (0.4)			●				●						●	
	NMB24-MFT (A)	150	●	6	3.5 (1.3)			●	●	●	●	●						●	
<b>NMQ Series</b> 70 in-lb [8 Nm]	NMQB24-1	4	●	18	12 (1.5)			●										●	
	LMB24-3	95	●	2	1.5 (0.2)	●	●											●	
	LMCB24-3	35	●	2.5	1.5 (0.2)	●	●											●	
<b>LM Series</b> 45 in-lb [5 Nm] Approx. 11 sq. ft.	LMB24-3.1	95	●	2	1.5 (0.2)	●	●											●	
	LMB24-3-S	95	●	2	1.5 (0.2)	●	●											●	
	LMB24-3-T	95	●	2	1.5 (0.2)	●	●											●	
	LMCB24-3-T	35	●	2.5	1.5 (0.2)	●	●											●	
	LMB24-3-T.1	95	●	2	1.5 (0.2)	●	●											●	
	LMB24-3-P5-T	95	●	2	1.5 (0.2)	●	●						●					●	
	LMB24-3-P5-T.1	95	●	2	1.5 (0.2)	●	●						●					●	
	LMB24-3-P10-T	95	●	2	1.5 (0.2)	●	●							●				●	
	LMB24-SR	95	●	3	1.5 (0.4)			●					●					●	
	LMCB24-SR	35	●	3	1.5 (0.4)			●					●					●	
	LMB24-SR.1	95	●	3	1.5 (0.4)			●					●					●	
	LMB24-SR-T	95	●	3	1.5 (0.4)			●					●					●	
	LMCB24-SR-T	35	●	3	1.5 (0.4)			●					●					●	
	LMB24-SR-T.1	95	●	3	1.5 (0.4)			●					●					●	
	LMB24-MFT (A)	150	●	5	2.5 (1.2)			●	●	●	●	●	●						●
	LMB24-HM (B)	95	●	2	1.5 (0.2)														●
	LMB24-10P-HM (B)	95	●	2	1.5 (0.2)										●				●
<b>LMQ Series</b> 35 in-lb [4 Nm]	LMQB24-1	2.5	●	18	12 (1.5)			●										●	
	CMB24-3	35	●	1.5	1.0 (0.2)	●	●											●	
	CMB24-3.1	35	●	1.5	1.0 (0.2)	●	●											●	
<b>CM Series</b> 18 in-lb [2 Nm] Approx. 4.5 sq. ft.	CMB120-3	35	●	3.5	1.5 (1.0)	●	●											●	
	CMB24-3-T	35	●	1.5	1.0 (0.2)	●	●											●	
	CMB24-3-T.1	35	●	1.5	1.0 (0.2)	●	●											●	
	CMB24-SR-R	35	●	2.5	1.5 (0.5)			●					●					●	
	CMB24-SR-L	35	●	2.5	1.5 (0.5)			●					●					●	
	AHB24-3-100	150*	●	4.5	2.0 (0.5)	●	●												●
<b>AH Series</b> 101 lbf [450 N Force] 4" or 8" stroke	AHB24-3-200	150*	●	4.5	2.0 (0.5)	●	●											●	
	AHB24-SR-100	150*	●	4.5	2.5 (0.5)			●				●						●	
	AHB24-SR-200	150*	●	4.5	2.5 (0.5)			●				●						●	
<b>AHQ Series</b> 44 lbf [200 N Force]	AHQB24-1-100	7*	●	18	12 (1.5)			●										●	
	LHB24-3-100	150*	●	3	1.5 (0.5)	●	●											●	
<b>LH Series</b> 34 lbf [150 N Force] 4" or 8" stroke	LHB24-3-T-100	150*	●	3	1.5 (0.5)	●	●											●	
	LHB24-3-200	150*	●	3	1.5 (0.5)	●	●											●	
	LHB24-SR-100	150*	●	3	1.5 (0.5)			●				●						●	
	LHB24-SR-200	150*	●	3	1.5 (0.5)			●				●						●	
<b>LHQ Series</b> 22 lbf [100 N Force]	LHQB24-1-100	3.5*	●	18	12 (1.5)			●										●	
	LUB24-3	150**	●	2.5	1.0 (0.5)	●	●											●	
<b>LU Series</b> 27 in-lb [3 Nm]	LUB24-SR	150**	●	3	3.0 (0.5)			●				●						●	

\*Running time is per 4 inches [100 mm] of travel.





\*\*Running time is 150 seconds per 360°, 330° for -SR.

†Dual mounting on a single shaft (-3 and -SR wired in parallel), (-MFT wired Master-Slave). Please call Belimo customer service for details.

(A) Shipped default. 150 seconds running time, 2-10 VDC control input and feedback. Other setups are possible with MFT tools field programming.

(B) Drop-in replacement of LM24-M or LM24-10P-M VAV actuator.

# Custom Non-Spring Return Actuator Product Range

	Custom Options	Running Time	Power Supply		Power Consumption		Control Input			Control Input MFT			Position Feedback		Auxiliary Switches	NEMA 4X						
			10 ft (3m) cable / 16 ft (5m) cable	Terminal strip NEMA 1/IP20 / 2/IP54	Motor Drive Range, (Default) ... -MFT Fully Programmable	24 VAC +/- 20%, VDC +/- 10%	100 to 240 VAC	VA Rating	Wattage Running (Holding)	On/Off	Floating Point	2-10 VDC (Default) 4-20 mA (w/500 Ω Resistor)	0-20 V Phasecut	Honeywell Series 90, 0-135 Ω	On/Off	Floating Point	Start and Span adj., Start 0.5 to 30 VDC, Span 2.5 to 32 VDC	PWM adj., 0.02 to 50.0 Seconds	2-10 VDC (Default)	VDC Variable, Start 0 to 8, Span 2 to 10 VDC	Add-on	Enclosure (Part No. +N4 or +N4H) With Terminal Strip
<b>GMX Series</b> 360 in-lb [40 Nm] Approx. 90 sq. ft. 	GMX24-3†	150	●	6	4.0 (2.0)	●	●															
	GMX24-SR†	150	●	6.5	4.5 (2.0)			●								●						
	GMX24-PC†	150	●	7	4.0 (1.5)					●												
	GMX120-3†	150	●	7	4.0 (2.0)	●	●															
	GMX24-MFT†	75-300 (150)	●	7	4.0 (1.5)			●					●	●	●	●	●	●	●	●	●	
<b>AMX Series</b> 180 in-lb [20 Nm] Approx. 45 sq. ft. 	AMX24-3	95	●	5.5	2.5 (0.5)	●	●															
	AMX24-3-T	95	●	5.5	2.5 (0.5)	●	●															
	AMX24-SR	95	●	5	2.5 (0.4)			●								●						
	AMX24-SR-T	95	●	5	2.5 (0.4)			●								●						
	AMX24-PC	90	●	5.5	3.5 (0.3)					●						●						
	AMX120-3	95	●	7	3.0 (0.6)	●	●															
	AMX120-SR	95	●	7.5	4.0 (1.0)			●								●						
	AMX24-MFT	90-350 (150)	●	6	3.5 (1.3)			●					●	●	●	●	●	●	●	●	●	●
	AMCX24-MFT	35-120 (35)	●	6	3.5 (1.3)			●					●	●	●	●	●	●	●	●	●	●
	AMX24-MFT95	90-350 (150)	●	6	3.5 (1.3)						●					●	●	●	●	●	●	●
<b>AMQ Series</b> 140 in-lb [16 Nm]	AMQX24-MFT	7-15 (7)	●	18	12 (1.5)			●				●	●	●	●	●	●	●	●	●	●	
	NMX24-3	95	●	4	2.0 (0.2)	●	●															
<b>NMX Series</b> 90 in-lb [8 Nm] Approx. 22 sq. ft. 	NMX24-3-T	95	●	4	2.0 (0.2)	●	●															
	NMX24-SR	95	●	5	2.5 (0.4)			●								●						
	NMX24-SR-T	95	●	5	2.5 (0.4)			●								●						
	NMX24-PC	150	●	6	3.5 (1.3)					●						●						
	NMX120-3	150	●	5.5	2.5 (0.6)	●	●															
	NMX120-SR	150	●	6.5	3.5 (1.0)			●								●						
	NMX24-MFT	150	●	6	3.5 (1.3)			●				●	●	●	●	●	●	●	●	●	●	
	NMX24-MFT95	45-170 (150)	●	6	3.5 (1.3)						●					●	●	●	●	●	●	●
	NMCX24-MFT	20-60 (20)	●	5	3.0 (0.6)			●								●	●	●	●	●	●	●
<b>NMQ Series</b> 70 in-lb [8 Nm]	NMQX24-MFT	4-20 (4)	●	18	12 (1.5)			●				●	●	●	●	●	●	●	●	●	●	
	LMX24-3	95	●	2	1.5 (0.2)	●	●															
<b>LMX Series</b> 45 in-lb [4 Nm] Approx. 11 sq. ft. 	LMX24-3-T	95	●	2	1.5 (0.2)	●	●															
	LMX24-SR	95	●	3	1.5 (0.4)			●								●						
	LMX24-SR-T	95	●	3	1.5 (0.4)			●								●						
	LMX24-PC	150	●	5	2.5 (1.2)					●						●						
	LMX120-3	150	●	4	2.0 (0.5)	●	●															
	LMX120-SR	150	●	4.5	2.5 (1.0)			●								●						
	LMX24-MFT	35-200 (150)	●	5	2.5 (1.2)			●				●	●	●	●	●	●	●	●	●	●	
	LMX24-MFT95	35-150 (150)	●	5	2.5 (1.2)						●					●	●	●	●	●	●	●
	LMQX24-MFT	2.5-10 (2.5)	●	18	12 (1.5)			●				●	●	●	●	●	●	●	●	●	●	●
<b>AHX Series</b> 101 lbf [450 N Force] 4" or 8" stroke	AHX24-3*	150*	●	4.5	2.0 (0.5)	●	●															
	AHX24-SR*	150*	●	4.5	2.5 (0.5)			●								●						
	AHX24-MFT*	150*	●	6	3.5 (1.3)			●				●	●	●	●	●	●	●	●	●	●	
<b>AHQ Series</b> 44 lbf [200 N Force]	AHQX24-MFT-100	7-20 (7)*	●	18	12 (1.5)			●				●	●	●	●	●	●	●	●	●	●	
<b>LHX Series</b> 34 lbf [150 N Force] 4" or 8" stroke	LHX24-3*	150*	●	3	1.5 (0.5)	●	●															
	LHX24-SR*	150*	●	3	1.5 (0.5)			●								●						
	LHX24-MFT*	75-150 (150)*	●	5	2.5 (1.2)			●				●	●	●	●	●	●	●	●	●	●	
<b>LHQ Series</b> 22 lbf [100 N Force]	LHQX24-MFT-100	3.5-15 (3.5)*	●	18	12 (1.5)			●				●	●	●	●	●	●	●	●	●	●	
<b>LUX Series</b> 27 in-lb [3 Nm]	LUX24-3	150	●	2.5	1.0 (0.5)	●	●															
	LUX24-SR	150	●	3	1.5 (0.5)			●								●						
	LUX24-MFT	75-150 (150)	●	5	2.5 (1.2)			●				●	●	●	●	●	●	●	●	●	●	

\* The LH and AH linear series actuators come in three different stroke lengths [4, 8 or 12 in]. The part number is followed by -100, -200, -300 respectively. The default running time is 150 seconds per 4 inches [100 mm]. Running time is adjustable depending on model:  
LH Series: 70-270, 140-540, 200-810, on the -100, -200, -300 models respectively.  
AH Series: 150-600, 300-1200, 450-1800, on the -100, -200, -300 models respectively.

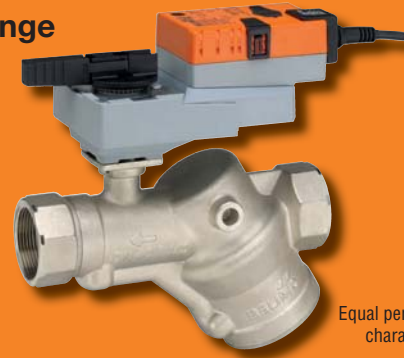
LHQ and AHQ available in 4 inch version only.

† Dual mounting on a single shaft is possible for higher torque (-3 and -SR wired in parallel), (-MFT wired Master-Slave). Please call Belimo customer service for details.

# Control Valve Product Range

## Pressure Independent Characterized Control Valve Product Range P2..., 2-way

GPM	Valve Nominal Size		Type	Suitable Actuators				
	Inches	DN [mm]	2-way NPT	Spring Return	Non-Spring Return			
0.5	½	15	P2050B005	TF24-MFT US	LF24-MFT US	LRB24-3 (-S)	LRY24-MFT	LRCB24-3 (-S) Heat Pump Only
1	½	15	P2050B010					
1.5	½	15	P2050B015					
2	½	15	P2050B020					
2.5	½	15	P2050B025					
3	½	15	P2050B030					
3.5	½	15	P2050B035					
4	½	15	P2050B040					
4.5	½	15	P2050B045					
5	½	15	P2050B050					
5.5	½	15	P2050B055					
6	¾	20	P2075B060					
6.5	¾	20	P2075B065					
7	¾	20	P2075B070					
7.5	¾	20	P2075B075					
8	¾	20	P2075B080					
8.5	¾	20	P2075B085					
9	¾	20	P2075B090					
9.5	¾	20	P2075B095					
10	¾	20	P2075B100					
11	1	25	PICCV-25-011					
12	1	25	PICCV-25-012					
13	1	25	PICCV-25-013					
14	1	25	PICCV-25-014					
15	1	25	PICCV-25-015					
16	1	25	PICCV-25-016					
17	1	25	PICCV-25-017					
18	1	25	PICCV-25-018					
19	1	25	PICCV-25-019					
18	1¼	32	PICCV-32-018					
19	1¼	32	PICCV-32-019					
20	1¼	32	PICCV-32-020					
21	1¼	32	PICCV-32-021					
22	1¼	32	PICCV-32-022					
23	1¼	32	PICCV-32-023					
24	1¼	32	PICCV-32-024					
25	1¼	32	PICCV-32-025					
26	1¼	32	PICCV-32-026					
26	1½	40	PICCV-40-026					
27	1½	40	PICCV-40-027					
28	1½	40	PICCV-40-028					
29	1½	40	PICCV-40-029					
30	1½	40	PICCV-40-030					
31	1½	40	PICCV-40-031					
32	1½	40	PICCV-40-032					
33	1½	40	PICCV-40-033					
33	2	50	PICCV-50-033					
34	2	50	PICCV-50-034					
35	2	50	PICCV-50-035					
36	2	50	PICCV-50-036					
37	2	50	PICCV-50-037					
38	2	50	PICCV-50-038					
39	2	50	PICCV-50-039					
40	2	50	PICCV-50-040					
44	2	50	PICCV-50-044					
48	2	50	PICCV-50-048					
52	2	50	PICCV-50-052					
56	2	50	PICCV-50-056					
60	2	50	PICCV-50-060					
65	2	50	PICCV-50-065					
70	2	50	PICCV-50-070					
75	2	50	PICCV-50-075					
80	2	50	PICCV-50-080					
90	2	50	PICCV-50-090					
100	2	50	PICCV-50-100					



Equal percentage characteristic



### Applications

Water-side control of heating and cooling systems, for AHUs, re-heat coils, fan coil units, unit ventilators and heat pumps.

### Mode of Operation

The Pressure Independent Characterized Control Valve is a two-way valve which combines the functionality of a control valve and a pressure regulating valve, creating one precise product which is unaffected by pressure variations in a system.

### Product Features

Constant flow regardless of pressure variations in the system at every degree of ball opening. Maximizes chiller ΔT, preventing energizing additional chillers due to low ΔT. Simplified valve sizing and selection, no C<sub>v</sub> calculations required.

### Actuator Specifications

Control type	Floating Point, Non-Spring Multi-Function Technology (MFT) Non-Spring and Spring Return
Manual override	LRB, LRX, LRC, AF, ARX
Electrical connection	3 ft [1m] cable with ½" conduit fitting (additional cable lengths are available)

### Valve Specifications

Service	chilled or hot water, 60% glycol
Flow characteristic	equal percentage
Controllable flow range	75°
Sizes	½", ¾", 1", 1¼", 1½", 2"
Type of end fitting	NPT female ends
Materials	Body: forged brass, nickel plated Ball: chrome plated brass Stem: chrome plated brass Seat: fiberglass reinforced Teflon® PTFE Viton®
Set O-ring	
Characterizing disc	½" & ¾": brass 1"-2": TEFZEL®
Packing	2 EPDM O-rings, lubricated
Diaphragm	½" & ¾": silicone and Nomex 1"-2": polyester reinforced silicone
Regulator components	stainless steel/brass/Delrin 500AF
Spring	stainless steel
Pressure rating	600 psi: ½", ¾", 1" 400 psi: 1¼", 1½", 2"
Media temp range	0°F to 212°F [-18°C to 100°C]
Close off pressure	200 psi
Maximum differential pressure across valve (range)	5 to 50 psid
Leakage	ANSI Class IV (0.01% of rated valve capacity at 50 psi differential)
Viton®, Teflon®, Tefzel® are registered trademarks of DuPont.	



# Control Valve Product Range

## Characterized Control Valves Product Range

B2., B3., B6., 2-way, 3-way, Stainless Steel and Brass Ball and Stem



Equal percentage characteristic



C <sub>v</sub>	Valve Nominal Size		Type			Suitable Actuators			NEMA 4
	Inches	DN [mm]	2-way NPT	3-way NPT	2-way Flange	Non-Spring Return	Spring Return		
0.3	½	15	B207(B)	B307(B)	–	TR Series	LR Series	TF Series	NR Series
0.46	½	15	B208(B)	B308(B)	–				
0.8	½	15	B209(B)	B309(B)	–				
1.2	½	15	B210(B)	B310(B)	–				
1.9	½	15	B211(B)	B311(B)	–				
3	½	15	B212(B)	B312(B)	–				
4.7	½	15	B213(B)	B313(B)	–				
7.4	½	15	B214(B)		–				
10	½	15	B215(B)*	B315(B)*	–				
4.7	¾	20	B217(B)	B317(B)	–				
7.4	¾	20	B218(B)	B318(B)	–				
10	¾	20	B219(B)		–				
24	¾	20	B220(B)*	B320(B)*	–				
7.4	1	25	B222	B322	–				
10	1	25	B223	B323	–				
19	1	25	B224		–				
30	1	25	B225*	B325*	–				
10	1¼	32	B229	B329	–				
19	1¼	32	B230*	B330	–				
25	1¼	32	B231	B331	–				
37	1¼	32	B232*		–				
19	1½	40	B238	B338	–				
29	1½	40	B239	B339	–				
37	1½	40	B240*	B340	–				
46	1½	40		B341	–				
29	2	50	B248	B347	–				
37	2	50		B348	–				
46	2	50	B249	B349	–				
57	2	50	B250*	B350	–				
65	2	50	B251		–				
68	2	50		B351	–				
83	2	50		B352	–				
85	2	50	B252		–				
120	2	50	B253		–				
240	2	50	B254*		–				
60	2½	65	B261		B661				
70	2½	65			B6250S-070				
75	2½	65	B262		B662				
110	2½	65	B263		B663, B6250S-110				
150	2½	65	B264		B664				
210	2½	65	B265*		B665*				
70	3	80	B277		B677				
110	3	80			B6300S-110				
130	3	80	B278		B678				
170	3	80	B280*		B680*				

\* Models without characterizing disc

(B) Models with chrome plated brass ball and brass stem

### Applications

Water-side control of heating and cooling systems, for AHUs, re-heat coils, fan coil units, unit ventilators and heat pumps.

### Mode of Operation

The Characterized Control Valve is operated by a rotary actuator. The actuators are controlled by a standard voltage for on/off control or a proportional signal or 3-point control system which move the ball of the valve to the position dictated by the control system.

### Product Features

The equal-percentage characteristic of the flow is ensured by the integral characterizing disc. This characteristic provides linear heating or cooling output from the coil improving energy efficiency and comfort.

### Actuator Specifications

Control type	On/Off, Floating Point, 2-10 VDC, Multi-Function Technology (MFT)
Manual override	TR, LR, AR, and AF series
Electrical connection	3 ft [1m] cable with ½" conduit fitting or covered screw terminal strip

### Valve Specifications

Service	chilled or hot water, 60% glycol
Flow characteristic	A-port equal percentage B-port modified for constant common port flow
Action	max 90° rotation
Sizes	½" - 3"
Type of end fitting	½" - 3" NPT female ends 2½" - 3" ANSI 125 flange pattern
Materials	
Body	forged brass, nickel plated, cast iron
Ball	stainless steel [BXXXB - chrome plated brass]
Stem	stainless steel [BXXXB - nickel plated brass]
Seats	PTFE
Characterizing disc	TEFZEL® stainless steel (B6250/300)
Packing	2 EPDM O-rings, lubricated
Pressure rating	2-way 3-way 600 psi ½" - 1¼" (B230) ½" - 1" 400 psi 1¼" (B231) - 3" 1¼" - 3"
Media temp range	0°F to 212°F [-18°C to 100°C]
Close-off pressure	2-way 3-way 200 psi ½" - 2" (B250) ½" - 2" 100 psi 2" (B251) - 3", B6
Maximum differential pressure (ΔP)	30 psi, 58 psi (B6250/300)
Leakage	0% for A to AB < 2.0% for B to AB
C <sub>v</sub> rating	A port: see product chart above for values B port: 70% of A to AB C <sub>v</sub>

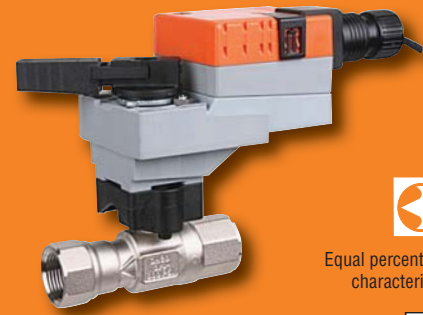
Tefzel® is a registered trademark of DuPont

# Control Valve Product Range

## High Temperature Characterized Control Valves Product Range B2..HT., 2-way

C <sub>v</sub>	Valve Nominal Size		Type	Suitable Actuators		
	Inches	DN [mm]		2-way NPT	Spring Return	Non-Spring Return
0.29	½	15	B215HT029	TF Series		TR Series
0.46	½	15	B215HT046			
0.73	½	15	B215HT073			
1.16	½	15	B215HT116			
1.86	½	15	B215HT186			
2.90	½	15	B215HT290			
4.55	½	15	B215HT455*	LF Series		LR Series
1.86	¾	20	B220HT186			
2.90	¾	20	B220HT290			
4.64	¾	20	B220HT464			
7.31	¾	20	B220HT731			
9.28	¾	20	B220HT928			
13.20	¾	20	B220HT1320			
4.64	1	25	B225HT464			
7.31	1	25	B225HT731			
11.60	1	25	B225HT1160			
18.56	1	25	B225HT1856			
28.00	1	25	B225HT2800			

\* modified equal percentage



Equal percentage characteristic

### Applications

- Water/low pressure steam control of air handling apparatus in ventilation and air-conditioning systems
- District heating
- Humidifier

### Mode of Operation

The control valve is operated by an electronic actuator that responds to a standard voltage for on/off control, by a proportional VDC/4...20 mA, or 3-point control system. The actuator will then move the ball of the valve to the position dictated by the control signal and change the flow.

### Product Features

Equal-percentage characteristic of the flow; models with \* have modified equal percentage characteristic.

### Actuator Specifications

Control type	On/Off, Floating Point, 2-10 VDC Multi-Function Technology (MFT)
Manual override	(only LR, TR Series)
Electrical connection	3 ft [1m] cable with ½" conduit fitting (except TR)

### Valve Specifications

Service	potable or hot water, 60% glycol, steam
Flow characteristic	A-port equal percentage
Controllable flow range	75°
Sizes	½" - 1"
Type of end fitting	NPT female ends
Materials	
Body	brass (DZR) P-CuZn35Pb2
Ball	stainless steel
Stem	stainless steel
Seats	Tefzel®
Characterizing disc	Tefzel®
Packing	EPDM O-rings
Pressure rating	600 psi
Media temp range	
Steam	250°F
Water	60°F to 266°F
Close off pressure	200 psi
Maximum differential pressure (ΔP)	60 psi partially open ball 116 psi full open only (Model #B215HT455)
Steam	15 psi
Maximum inlet pressure	
Steam	15 psi
Leakage	bubble tight 0%
C <sub>v</sub> rating	see product chart for values

# Control Valve Product Range

## Zone Valve Product Range 2-way and 3-way

2-way								
C <sub>v</sub>	Valve Nominal Size		Type		Suitable Actuators			
	Inches	DN [mm]	NPT	Sweat	Normally Closed		Normally Open	
1	½	15	ZONE215N-10	ZONE215S-10	Zone	Zone (with Switch)	Zone	Zone (with Switch)
2.5	½	15	ZONE215N-25	ZONE215S-25				
3.5	½	15	ZONE215N-35	ZONE215S-35				
3.5	¾	20	ZONE220N-35	ZONE220S-35				
5	¾	20	ZONE220N-50	ZONE220S-50				
8	1	25	ZONE225N-80	ZONE225S-80				

3-way								
C <sub>v</sub>	Valve Nominal Size		Type		Suitable Actuators			
	Inches	DN [mm]	NPT	Sweat	Normally Closed		Normally Open	
1	½	15	ZONE315N-10	ZONE315S-10	Zone	Zone (with Switch)	Zone	Zone (with Switch)
2.5	½	15	ZONE315N-25	ZONE315S-25				
3.5	½	15	ZONE315N-35	ZONE315S-35				
3.5	¾	20	ZONE320N-35	ZONE320S-35				
5	¾	20	ZONE320N-50	ZONE320S-50				
8	1	25	ZONE325N-80	ZONE325S-80				



### Applications

- Fan coil units and baseboards where fail safe operation or 2-wire control is required
- Hydronic systems with variable or constant flow

### Mode of Operation

Zone valves provide a convenient way to create individual zones or equipment isolation in a hydronic system. Utilizing one pump along with multiple zone valves, flow can be started, stopped, or diverted through the system to provide individual room or area comfort control and energy savings.

### Product Features

Zone valve is designed to fit in compact areas where on/off control is required using 24 VAC or 120 VAC.

### Actuator Specifications

Control type	On/Off, Diverting
Manual override	(only NC versions)
Electrical connection	6" [15cm] wire lead 120 V; 18" [45 cm] wire lead 24 V

### Valve Specifications

Service	chilled or hot water, 50% glycol
Flow characteristic	
Two-way	quick running
Three-way	linear
Sizes	½", ¾" and 1"
Type of end fitting	NPT female ends or sweat
Materials	
Body	forged brass
Stem	stainless steel
Seals	EPDM
Pressure rating	300 psi
Media temp range	32°F to 212°F [0°C to 100°C]
Close off pressure	20-75 psi
Leakage	ANSI Class III 0.1%
C <sub>v</sub> rating	see product chart for values

# Control Valve Product Range

## Globe Valve Product Range G2... G3..., 2-way and 3-way, NPT

C <sub>v</sub>	Valve Nominal Size		Type		Suitable Actuators			
	Inches	DN [mm]	2-way NPT	3-way NPT	Non-Spring Return		Spring Return	
0.4	½	15	G212	–	LM Series	NV Series	LF Series	NVF Series
1.3	½	15	G213	–				
2.2	½	15	G214	–				
4.4	½	15	G215	–				
0.4	½	15	G212S	–				
1.3	½	15	G213S	–				
2.2	½	15	G214S	G314				
4.4	½	15	G215S	G315				
4.4	½	15	–	G315D				
5.5	¾	20	G219	–				
7.5	¾	20	G220	–				
5.5	¾	20	G219S	–				
7.5	¾	20	G220S	G320				
7.5	¾	20	–	G320D				
10	1	25	G224	–	NM Series	NV Series	NF Series	AF Series
14	1	25	G225	–				
10	1	25	G224S	–				
14	1	25	G225S	G325				
14	1	25	–	G325D				
20	1¼	32	G232	–				
20	1¼	32	G232S	G332				
20	1¼	32	–	G332D				
28	1½	40	G240	–				
28	1½	40	G240S	G340				
28	1½	40	–	G340D				
40	2	50	G250	–	AM Series	NV Series	NF Series	AF Series
40	2	50	G250S	–				
41	2	50	–	G350				
41	2	50	–	G350D				



### Applications

- Water-side control of air handling unit in ventilation and air-conditioning systems
- Water/Steam control in heating systems

### Mode of Operation

The control valve is operated by an electronic actuator that responds to a standard voltage for on/off control, by a proportional VDC/4...20 mA, 3-point control system. The actuator will then move the plug of the valve to the position dictated by the control signal thus change the flow.

### Product Features

Equal-percentage characteristic of flow for G2, linear characteristic for G3.

### Actuator Specifications

Control type	On/Off, Floating Point, 2-10 VDC Multi-Function Technology (MFT)
Manual override	all models except LF, NF
Electrical connection	3 ft [1m] cable with ½" conduit fitting

### Valve Specifications

Service	chilled or hot water, 60% glycol, steam (G2, G2S only)
Flow characteristic	A-port equal percentage G2, linear G3, G2S, G3D
Sizes	½" - 2"
Type of end fitting	½" - 2" NPT female ends

Materials	
Body	bronze
Stem	stainless steel
Seat	bronze
Plug	stainless steel: G2..S brass
Packing	stainless steel: G2..S spring loaded TFE: G2, G3 bronze trimmed
Disc	composition G2, Teflon® G2...S None G3

Pressure rating	
G2, G3..., ½" - 2"	250 psi

Media temp range	Refer to valve specification pages in technical documentation
------------------	---

Maximum inlet pressure	
Steam	15 psi (103 kPa) G2 with NV 35 psi (241 kPa) G2 with rotary actuators 50 psi (345 kPa) G2...S with NV 100 psi (690 kPa) G2...S with rotary actuators

Maximum differential pressure (ΔP)	
Water	35 psi (241 kPa)
Steam	15 psi (103 kPa) G2 with NV 20 psi (138 kPa) G2 with rotary actuators 35 psi (241 kPa) G2...S

# Control Valve Product Range

## Globe Valve Product Range G6... 2-way, Flanged Connection



C <sub>v</sub>	Valve Nominal Size	Type	Suitable Actuators	
	Inches	2-way Flanged	Non-Spring Return	Spring Return
65	2½	G665	NVG Series	AF Series
65	2½	G665S		
65	2½	G665-250		
65	2½	G665S-250		
65	2½	G665C		
65	2½	G665CS		
65	2½	G665LCS		
90	3	G680		
90	3	G680S		
90	3	G680-250		
90	3	G680S-250		
90	3	G680C		
90	3	G680CS		
90	3	G680LCS		
170	4	G6100C		
170	4	G6100CS		
170	4	G6100LCS		
263	5	G6125C		
263	5	G6125CS		
263	5	G6125LCS		
344	6	G6150C		
344	6	G6150CS		
344	6	G6150LCS		

### Applications

- Water-side control of air handling unit in ventilation and air-conditioning systems
- Water/Steam control in heating systems

### Mode of Operation

The control valve is operated by an electronic actuator that responds to a standard voltage for on/off control, a proportional VDC/4...20 mA, or 3-point control system. The actuator will then move the plug of the valve to the position dictated by the control signal thus change the flow.

### Product Features

Equal-percentage characteristic for G6. Linear characteristic for G6...LCS.

### Actuator Specifications

Control type	On/Off, Floating Point, 2-10 VDC Multi-Function Technology (MFT)
Manual override	all models
Electrical connection	3 ft [1m] cable with ½" conduit fitting

### Valve Specifications

Service	chilled or hot water, 60% glycol, steam
Flow characteristic	G6 A-port equal percentage G6LCS linear
Sizes	2½" - 6"
Type of end fitting	flanged
Materials	
Body	cast iron
Stem	stainless steel
Seats	bronze: G6 stainless steel: G6..S bronze trimmed: NLP stainless trimmed: TFE V-ring
Packing	
Pressure rating	
G6, 125# ANSI flange	125 psi
G6, 250# ANSI flange	250 psi
Media temp range	Refer to valve specification pages in technical documentation
Maximum inlet pressure	
Water	150 psi (1034 kPa) G6, G6S 250 psi (1724 kPa) G6...250, G6S...250
Steam	35 psi (241 kPa) G6, G6...250 50 psi (345 kPa) G6S, G6S...250 (NV) 100 psi (690 kPa) G6S, G6...S-250 (Rotary)
Maximum differential pressure (ΔP)	
Water	25 psi (172 kPa) G6, G6...250 50 psi (345 kPa) G6S, G6S...250
Steam	15 psi (103 kPa) G6, G6...250 50 psi (345 kPa) G6S, G6S...250

The G...(C)(CS)(LCS) Series valve is a pressure compensated valve that allows high close-off ratings while utilizing standard actuation.

# Control Valve Product Range

## Globe Valve Product Range G7..., 3-way, Flanged Connection

Cv	Valve Nominal Size		Type	Suitable Actuators			
	Inches	3-Way Flange		Spring Return	Non-Spring Return		
68	2½	G765	AF Series	NVG Series	GM Series		
68	2½	G765S					
68	2½	G765-250					
68	2½	G765S-250					
68	2½	G765D					
68	2½	G765DS					
68	2½	G765DS-250					
85	3	G780					
85	3	G780S					
85	3	G780-250					
85	3	G780S-250					
85	3	G780D					
85	3	G780DS					
85	3	G780DS-250					
190	4	G7100	AF Series	NVG Series	GM Series		
190	4	G7100S					
190	4	G7100-250					
190	4	G7100S-250					
154	4	G7100D	AF Series	NVG Series		GM Series	
154	4	G7100DS					
154	4	G7100DS-250					
280	5	G7125	AF Series	NVG Series			GM Series
280	5	G7125S					
280	5	G7125-250					
280	5	G7125S-250					
195	5	G7125D	AF Series	NVG Series	GM Series		
195	5	G7125DS					
195	5	G7125DS-250					
340	6	G7150	AF Series	NVG Series		GM Series	
340	6	G7150S					
340	6	G7150-250					
340	6	G7150S-250					
248	6	G7150D	AF Series	NVG Series			GM Series
248	6	G7150DS					
248	6	G7150DS-250					



### Applications

- Water-side control of air handling apparatus in ventilation and air-conditioning systems
- Water control in heating systems

### Mode of Operation

The control valve is operated by an electronic actuator that responds to a standard voltage for on/off control, a proportional VDC/4...20 mA, or 3-point control system. The actuator will then move the plug of the valve to the position dictated by the control signal thus change the flow.

### Product Features

Linear characteristic

### Actuator Specifications

Control type	On/Off, Floating Point, 2-10 VDC Multi-Function Technology (MFT)
Manual override	all models
Electrical connection	3 ft [1m] cable with ½" conduit fitting

### Valve Specifications

Service	chilled or hot water, 60% glycol
Flow characteristic	linear
Sizes	2½" - 6"
Type of end fitting	flanged
Materials	
Body	cast iron
Stem	stainless steel
Seats	bronze
Packing	stainless steel: G7...S bronze trimmed: NLP stainless trimmed: TFE V-ring
Pressure rating	
G7, 125# ANSI flange	125 psi
G7, 250# ANSI flange	250 psi
Media temp range	Refer to valve specification pages in technical documentation
Maximum inlet pressure	
Water	150 psi (1034 kPa) G7, G7S 250 psi (1724 kPa) G7...250, G7S...250
Maximum differential pressure (ΔP)	
Water	25 psi (172 kPa) G7, G7...250 50 psi (345 kPa) G7S, G7S...250

# Control Valve Product Range

## Electronic Butterfly Valve Product Range Standard Performance – Resilient Seat, 2-way and 3-way Valves

C <sub>v</sub> 90°	C <sub>v</sub> 60°	2-way			Suitable Actuators																																																																																													
		Valve Nominal Size		Type	Spring Return		Non-Spring Return				HSU	HS																																																																																						
		Inches	DN [mm]		HSU	HS	HSU	HS	HSU	HS																																																																																								
115	44	2	50	F650HS(U)	AF Series	HS	HSU	HS	HSU	HS	HSU	HS																																																																																						
196	75	2½	65	F665HS(U)									AF Series	AM Series	AM	GM	GM	SY Series	SY Series																																																																															
302	116	3	80	F680HS(U)									AM Series	AM	GM					GM																																																																														
600	230	4	100	F6100HS(U)									GM Series	GM Series		GM Series	GM Series				GM Series	GM Series	GM Series																																																																											
1022	392	5	125	F6125HS(U)											GM Series					GM Series				GM Series	GM Series	GM Series	GM Series	GM Series																																																																						
1579	605	6	150	F6150HS(U)																									GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																																																															
3136	1202	8	200	F6200HS(U)																																GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																																																								
5340	2047	10	250	F6250HS(U)																																							GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																																																	
8250	3162	12	300	F6300HS(U)																																														GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																																										
11917	4568	14	350	F6350HS																																																					GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																																			
16388	6282	16	400	F6400HS																																																												GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																												
21705	8320	18	450	F6450HS																																																																			GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																					
27908	10698	20	500	F6500HS																																																																										GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series														
43116	16528	24	600	F6600HS																																																																																	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series							
73426	28146	30	750	F6750HS																																																																																								GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series

C <sub>v</sub> 90°	C <sub>v</sub> 60°	3-way			Suitable Actuators																																																																																						
		Valve Nominal Size		Type	Spring Return		Non-Spring Return				HSU	HS																																																																															
		Inches	DN [mm]		HSU	HS	HSU	HS	HSU	HS																																																																																	
115	44	2	50	F750HS(U)	AF Series	HS	HSU	HS	HSU	HS	HSU	HS																																																																															
196	75	2½	65	F765HS(U)									AF Series	AM Series	AM	GM Series	GM Series	SY Series	SY Series																																																																								
302	116	3	80	F780HS(U)									AM Series	AM	GM Series					GM Series																																																																							
600	230	4	100	F7100HS(U)									GM Series	GM Series		GM Series	GM Series				GM Series	GM Series	GM Series																																																																				
1022	392	5	125	F7125HS(U)											GM Series					GM Series				GM Series	GM Series	GM Series	GM Series	GM Series																																																															
1579	605	6	150	F7150HS(U)																									GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																																																								
3136	1202	8	200	F7200HS(U)																																GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																																																	
5340	2047	10	250	F7250HS(U)																																							GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																																										
8250	3162	12	300	F7300HS(U)																																														GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																																			
11917	4568	14	350	F7350HS																																																					GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																												
16388	6282	16	400	F7400HS																																																												GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series																					
21705	8320	18	450	F7450HS																																																																			GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series														
27908	10698	20	500	F7500HS																																																																										GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series							
43116	16528	24	600	F7600HS																																																																																	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series	GM Series



### Applications

These valves are designed to meet the needs of commercial and industrial HVAC applications requiring positive shutoff for liquids at higher pressure and temperatures. Applications include chiller isolation, cooling tower isolation, change-over systems, large air handler coil control and bypass including related process control.

### Mode of Operation

Butterfly valves allow higher flows with relatively low pressure loss from the valves, and are typically used for isolation or flow control for valve openings between 30 to 70 degrees of full open. At valve openings greater than 70 degrees, the pressure loss of a butterfly valve is too low to produce any significant effect on flow or the energy loss of a flow system. Butterfly valves can be controlled with a maintenance-free electronic actuator or manually with an ergonomic, wear-free plastic handle or gear operator.

### Product Features

Unique body seat and disc design ensuring positive valve sealing to help assure leak free performance in water applications while maintaining low seating torque.

### Actuator Specifications

Control type	On/Off, Floating Point, Proportional, 2-10 VDC Multi-Function Technology (MFT)
Manual override	all models
Electrical connection	3 ft [1m] cable with ½" conduit fitting, 2 (½") conduits (SY)

### Valve Specifications

Service	chilled or hot water, 60% glycol, steam to 50 psi
Flow characteristic	F6 modified equal percentage, unidirectional F7 modified linear
Action	quarter turn, mechanically limited
Sizes	2" to 30"
Type of end fitting	125/150 flanged
Materials	Body: cast iron fill lug Disc: 304 stainless steel Seat: EPDM Shaft: 416 stainless
Body pressure	PN16
Media temp range	-22°F to 250°F (-30°C to 120°C)
Close-off pressure	HSU 50 psi max DP HS 200 psi max DP
Leakage	bubble tight shut-off

# Control Valve Product Range

## Electronic Butterfly Valve Product Range High Performance - RTFE Seat, 2-way and 3-way valves



		2-way Valves			Non-Spring Return			
		Valve Nominal Size	Type					
C <sub>v</sub> 90°	C <sub>v</sub> 60°	Inches	ANSI 150 2-way	ANSI 300 2-way	150	300	150	300
102	56	2	F650-150SHP	F650-300SHP	GM Series	GM Series	SY Series	SY Series
146	80	2½	F665-150SHP	F665-300SHP				
228	125	3	F680-150SHP	F680-300SHP				
451	248	4	F6100-150SHP	F6100-300SHP				
714	392	5	F6125-150SHP	F6125-300SHP				
1103	607	6	F6150-150SHP	F6150-300SHP				
2064	1135	8	F6200-150SHP	F6200-300SHP				
3517	1934	10	F6250-150SHP	F6250-300SHP				
4837	2660	12	F6300-150SHP	F6300-300SHP				
6857	3592	14	F6350-150SHP	F6350-300SHP				
9287	4865	16	F6400-150SHP	F6400-300SHP				
11400	6270	18	F6450-150SHP	F6450-300SHP				
14420	7590	20	F6500-150SHP	F6500-300SHP				
22050	11550	24	F6600-150SHP	F6600-300SHP				
34388	18012	30	F6750-150SHP	N/A				

Note: C<sub>v</sub> values listed for ANSI Class 150 Butterfly Valves. Please consult the technical documentation for ANSI Class 300 C<sub>v</sub> values and configurations.

		3-way Valves			Non-Spring Return			
		Valve Nominal Size	Type					
C <sub>v</sub> 90°	C <sub>v</sub> 60°	Inches	ANSI 150 3-way	ANSI 300 3-way	150	300	150	300
102	56	2	F750-150SHP	F750-300SHP	GM Series	GM Series	SY Series	SY Series
146	80	2½	F765-150SHP	F765-300SHP				
228	125	3	F780-150SHP	F780-300SHP				
451	248	4	F7100-150SHP	F7100-300SHP				
714	392	5	F7125-150SHP	F7125-300SHP				
1103	607	6	F7150-150SHP	F7150-300SHP				
2064	1135	8	F7200-150SHP	F7200-300SHP				
3517	1934	10	F7250-150SHP	F6250-300SHP				
4837	2660	12	F7300-150SHP	F7300-300SHP				
6857	3592	14	F7350-150SHP	F7350-300SHP				
9287	4865	16	F7400-150SHP	F7400-300SHP				
11500	3270	18	F7450-150SHP	F7450-300SHP				
14420	7590	20	F7500-150SHP	F7500-300SHP				
22050	11550	24	F7600-150SHP	F7600-300SHP				

Note: C<sub>v</sub> values listed for ANSI Class 150 Butterfly Valves. Please consult the technical documentation for ANSI Class 300 C<sub>v</sub> values and configurations.

### Applications

These valves are designed to meet the needs of commercial and industrial HVAC applications requiring positive shutoff for liquids at higher pressure and temperatures. Applications include chiller isolation, cooling tower isolation, change-over systems, large air handler coil control and bypass including related process control.

### Mode of Operation

Butterfly valves allow higher flows with relatively low pressure loss from the valves, and are typically used for isolation or flow control for valve openings between 30 to 70 degrees of full open. At valve openings greater than 70 degrees, the pressure loss of a butterfly valve is too low to produce any significant effect on flow or the energy loss of a flow system. Butterfly valves can be controlled with a maintenance-free electronic actuator or manually with an ergonomic, wear-free plastic handle or gear operator.

### Product Features

Unique body seat and disc design ensuring positive valve sealing to help assure leak free performance in water applications while maintaining low seating torque.

### Actuator Specifications

Control type	On/Off, Floating Point, Proportional, 2-10 VDC Multi-Function Technology (MFT)
Manual override	all models
Electrical connection	3 ft [1m] cable with ½" conduit fitting, 2 (½") conduits (SY)

### Valve Specifications

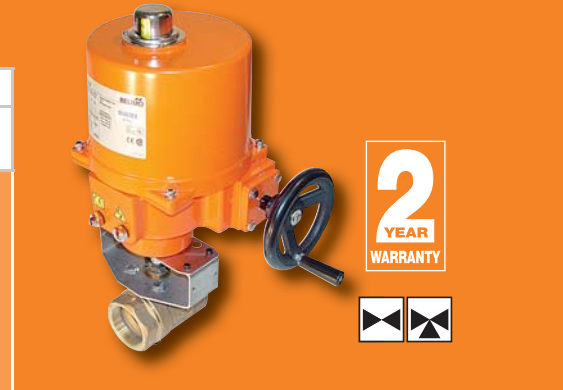
Service	chilled or hot water, 60% glycol, steam to 50 psi
Flow characteristic	F6 modified equal percentage, unidirectional F7 modified linear
Action	quarter turn, mechanically limited
Sizes	2" to 30"
Type of end fitting	ANSI Class 150/300 flanged
Materials	
Body	carbon steel full lug
Disc	316 stainless steel
Seat	RPTFE
Shaft	17-4 PH stainless
Body pressure	ASME/ANSI Class 150/300
Media temp range	-22°F to 400°F (-30°C to 204°C)
Close-off pressure	ANSI Class 150 to 285 psi @ 100°F ANSI Class 300 to 725 psi @ 100°F
Leakage	bubble tight shut-off



# Control Valve Product Range

## VS/VSS Ball Valve Product Range B2...VS/VSS, B3...VS, B6...VS

C <sub>v</sub>	Valve Nominal Size		Type			Suitable Actuators		SY Series			
	Inches	DN [mm]	2-way NPT	3-way NPT	2-Way Flanged	Spring Return	Non-Spring Return				
1	½	15	B212VS			LF Series	LM Series	SY Series			
2	½	15	B213VS						NF Series	NM Series	
4	½	15	B214VS								
15	½	15	B215VS			AF Series	AM Series				
30	¾	20	B219VS						GM Series		
51	¾	20	B220VS								
43	1	25	B224VS				LF Series			NM Series	
68	1	25	B225VS						AM Series		
48	1¼	32	B232VS								GM Series
84	1½	40	B239VS			AF Series			AM Series		
177	1½	40	B240VS							GM Series	
108	2	50	B249VS								LM Series
389	2	50	B250VS				AF Series		AM Series		
503	2½	65	B265VS							GM Series	
370	3	80	B280VS								LF Series
15	½	15	B215VSS			AM Series					
30	¾	20	B219VSS					GM Series			
43	1	25	B224VSS			AF Series			AM Series		
48	1¼	32	B232VSS				GM Series				
84	1½	40	B239VSS					AF Series		AM Series	
108	2	50	B249VSS						GM Series		
503	2½	65	B265VSS				LF Series				NM Series
370	3	80	B280VSS							AF Series	
4.8	½	15		B315VS		NF Series			LM Series		
11	¾	20		B320VS							AF Series
21	1	25		B325VS		AM Series					
33	1¼	32		B332VS				GM Series			
49	1½	40		B340VS			LF Series		NM Series		
91	2	50		B350VS		AF Series				AM Series	
330	2	50			B650VS			SY Series			
420	2½	65			B665VS						
600	3	80			B680VS						
1200	4	100			B6100VS						
3300	6	150			B6150VS						
9000	8	200			B6200VS						
12400	10	250			B6250VS						



### Applications

- Water-side control of air handling apparatus in ventilation and air-conditioning systems
- Water/Steam control in heating systems

### Mode of Operation

The control valve is operated by an electronic actuator that responds to a standard voltage for on/off control, by a proportional VDC/4...20 mA, or 3-point control system. The actuator will then move the ball of the valve to the position dictated by the control signal thus change the flow.

### Product Features

Modified equal percentage of flow for B2, B3 and B6. Modified linear flow for B3.

### Actuator Specifications

Control type	On/Off, Floating Point, Proportional, 2-10 VDC Multi-Function Technology (MFT)
Manual override	LM, NM, GM, AM, SY, AF
Electrical connection	3 ft [1m] cable with ½" conduit fitting

### Valve Specifications

Service	chilled or hot water, 60% glycol or steam
Flow characteristic	modified equal percentage (2-way), modified linear (3-way)
Sizes	½" to 10"
Type of end fitting	NPT (B2...VS & B3...VS) flanged (B6...VS)
Materials	
Body	bronze (B2...VS & B3...VS), stainless steel (B2...VSS), cast iron (B6...VS)
Stem	stainless steel
Ball	stainless steel
Seats	MPTFE
Packing	RPTFE
Pressure rating	Up to 2000 psig WOG
Media temp range	
B2...VS, B3...VS	-22°F to 280°F [-30°C to 138°C]
B2...VSS	-22°F to 298°F [-30°C to 148°C]
Maximum inlet pressure	
Steam	35 psi B2...VS, B6...VS 50 psi B2...VSS

# Why replace the valve when only the actuator needs replacing?



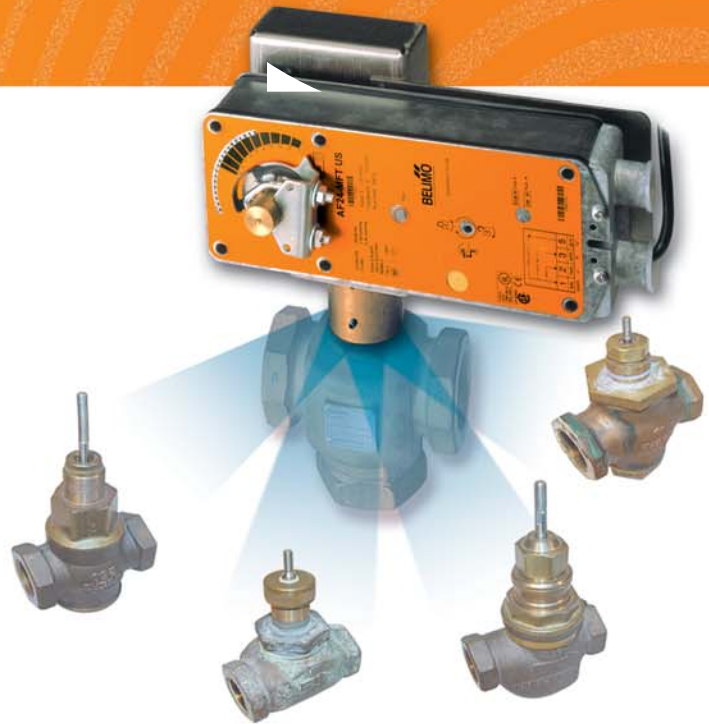
> We set standards.  
[www.belimo.com](http://www.belimo.com)

## Retrofit solutions for valves and damper actuators.

Belimo offers easy retrofit solutions for valve and damper actuators which increase the quality and reliability of your entire system. Belimo actuators lead the industry in cutting-edge technology and value. Whether electronic or pneumatic, there is a simple way to retrofit.

### **Retrofit options easy to choose, simple to install.**

Solutions for valve and control manufacturers such as Siemens®, Johnson Controls®, Honeywell®, Invensys®, Robertshaw®, Siebe, Barber Colman®, Landis®, Powers®, Warren®, Apollo®, Bray®, Centerline®, Challenger®, Chemtrol®, Dezurik®, Flowseal®, FNW®, Gruvlok®, Hammond®, Keystone®, K-LOK®, Metraflex®, Milwaukee®, Mueller®, Nibco®, PDC®, Quartermaster®, Victaulic®, Watts® and many more.



Belimo puts the FIT in RetroFit.

## USA

### **ACR Supply Company Inc.**

2719 Hillsborough Road  
Durham, NC 27705  
Phone: 919-286-2228

**With branches in NC**

### **Aireco Supply**

9120 Washington Boulevard  
Savage, MD 20763-0414  
Phone: 301-953-8800

**With branches in MD, VA**

### **Amcon Controls, Inc.**

11906 Warfield Street  
San Antonio, TX 78216  
Phone: 210-349-6161

**With a branch in Houston, TX**

### **Applied Automation**

A Wilson Mohr Company  
3186 South Washington Street, #230  
Salt Lake City, UT 84115  
Phone: 801-486-6454

### **Boston Aircontrols, Inc.**

8 Blanchard Road  
Burlington, MA 01803  
Phone: 781-272-5800

### **Charles D. Jones Co.**

445 Bryant Street, Unit #1  
Denver, CO 80204-4800  
Phone: 800-777-0910

**With branches in CO, MO, KS**

### **Climatic Control Div/ICD**

5061 W. State Street  
Milwaukee, WI 53208  
Phone: 800-242-1656

**With branches in WI**

### **Cochrane Supply and Engineering, Inc.**

30303 Stephenson Highway  
Madison Heights, MI 48071-1633  
Phone: 800-482-4894

**With branches in MI and Maumee, OH**

### **Columbus Temperature Control**

1053 E. 5th Avenue  
Columbus, OH 43201  
Phone: 800-837-1837

### **Controlco**

5600 Imhoff Drive, Suite G  
Concord, CA 94520  
Phone: 925-602-7728

**With branches in CA, NV**

### **Edward C. Smyers & Co.**

223 Fort Pitt Boulevard  
Pittsburgh, PA 15222-1505  
Phone: 412-471-3222

### **Engineered Control Systems**

4805 N.W. 79th Avenue  
Suite 11  
Miami, FL 33166  
Phone: 305-418-8901

**With branches in FL**

### **First Source Distributors, LLC**

710 Peninsula Lane, Suite E  
Charlotte, NC 28273  
Phone: 800-670-5977

### **G & O Thermal Supply**

5435 N. Northwest Highway  
Chicago, IL 60630  
Phone: 773-763-1300

**With branches in IL**

### **Industrial Controls Distributors LLC**

1776 Bloomsbury Avenue  
Wanamassa, NJ 07712  
Phone: 800-631-2112

**With branches in**

**GA, KY, IN, MA, ME, NC, NY, OH, PA, TN**

### **Interstate HVAC Controls**

30 Vineland Street  
Brighton, MA 02135  
Phone: 617-782-9000

### **Jackson Controls**

1708 E. 10th Street  
Indianapolis, IN 46201  
Phone: 317-231-2200

### **M & M Controls**

9E West Aylesbury Road  
Timonium, MD 21093  
Phone: 410-252-1221

**With a branch in Alexandria, VA**

### **MICONTROLS, Inc.**

6516 5th Place South  
Seattle, WA 98124  
Phone: 800-877-8026

**With branches in WA, OR**

### **Meier Supply**

123 Brown Street  
Johnson City, NY 13790  
Phone: 607-797-7700

**With branches in NY, PA**

### **Minvalco, Inc.**

3340 Gorham Avenue  
Minneapolis, MN 55426-4267  
Phone: 952-920-0131

**With branches in MN**

### **RSD/Refrigeration Supply Distribution**

26021 Atlantic Ocean Drive  
Lake Forest, CA 92630  
Phone: 949-380-7878

**With branches in**

**CA, NV, OR, AK, AZ, ID, UT, WA, MT**

### **Saint Louis Boiler Supply, Co.**

617 Hanley Industrial Court  
St. Louis, MO 63144  
Phone: 314-962-9242

### **South Side Control Supply, Co.**

488 N. Milwaukee Avenue  
Chicago, IL 60610-3923  
Phone: 312-226-4900

**With branches in IL, IN**

### **Stromquist and Company**

4620 Atlanta Road  
Smyrna, GA 30080  
Phone: 404-794-3440

**With a branch in Orlando, FL**

### **Temperature Control Systems**

10315 Brockwood Road  
Dallas, TX 75238  
Phone: 214-343-1444

**With branches in OK, TX**

### **Tower Equipment Co., Inc.**

1320 West Broad Street  
Stratford, CT 06615  
Phone: 800-346-4647

### **Twinco Supply Corporation**

55 Craven Street  
Huntington Station, NY 11746-2143  
Phone: 800-794-3188

**With branches in NY**

## CANADA

For a complete list of distributors  
in Canada, please visit our  
website: [www.belimo.ca](http://www.belimo.ca)  
or call toll free: 866-805-7089

Belimo worldwide: [www.belimo.com](http://www.belimo.com)

**BELIMO Americas**

**USA Locations**, 43 Old Ridgebury Road, Danbury, CT 06810  
Tel. 800-543-9038, Fax 800-228-8283, [marketing@us.belimo.com](mailto:marketing@us.belimo.com)

1675 East Prater Way, Suite 101, Sparks, NV 89434  
Tel. 800-987-9042, Fax 800-987-8875, [marketing@us.belimo.com](mailto:marketing@us.belimo.com)

**Canada Locations**, 14/16 – 5716 Coopers Avenue, Mississauga, Ontario L4Z 2E8  
Tel. 866-805-7089, Fax 905-712-3124, [marketing@us.belimo.com](mailto:marketing@us.belimo.com)

**Latin America Customer Service**, Tel. 203-791-8396, Fax 203-791-9139, [marketing@us.belimo.com](mailto:marketing@us.belimo.com)

