

Belimo Energy Valve installation solved low Delta T syndrome at Johnson & Johnson, district cooling plant in São José dos Campos, Brazil

2018

Product Guide and Price List Americas (USD)

Effective April 1, 2018



Since 1988, Belimo Americas has maintained a singular mission – to be the leading provider of valve and actuator solutions for heating, ventilating, and air conditioning systems in the Americas Region. We have endeavored to accomplish this by focusing our energies and investments to drive three outcomes: Solution Leadership, Operational Excellence, and Customer Value.

Solution Leadership enables our portfolio of innovative products to continue to evolve in accordance with the needs of our customers. Operational Excellence allows our products to be readily available and to ship in a timely manner. Customer Value is how we help make our customers successful with industry leading products, selection tools, training, high quality, and personalized customer support.

This 2018 Product Guide and Price List highlights the most advanced Belimo product portfolio we have ever maintained. I encourage you to familiarize yourself with the breadth of our product range. Below are some of the recently introduced products:

 A full range of innovative duct, pipe, and outdoor sensors that seamlessly integrate into HVAC systems offering intuitive design, accurate performance, five-year warranty, conform to NEMA 4X and IP65 requirements, and are UL compliant.

• **Belimo Energy Valve** version 3.0, an IoT pressure independent valve that utilizes advanced cloud based analytics to leverage system data to its full potential providing energy savings and the most efficient operation.

 Advanced Butterfly Valve Assemblies designed specifically for HVAC applications offering zero leakage, simplified NFC setup and diagnostics, application flexibility with an optional fail-safe function and universal power supply all backed with a 5-year warranty.

6-way Pressure Independent Valve Series 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 saving material and
installation time.

 New PMB / PKB Series damper actuators provide our highest torque offering of 1400 in-lbs. Intelligent, energy efficient, and reliable for high volume and high pressure air flow applications in commercial HVAC.

 New Belimo Globe Valve Series with a soft seat design to provide ANSI Class VI leakage rating and improved rangeabilty of 100:1 offers greater flow control.

I thank you for your interest in Belimo products and encourage you to provide us with any suggestions you may have for improving our product range or quality of service.

Sincerely,

James Furlong

President, BELIMO Americas



115000- 04/18 - Subject to change.

⊗ Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

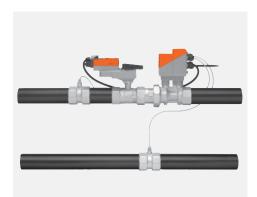
BELIMO°

Table of Contents



PMB and PKB Damper Actuators

Intelligent and Powerful



Belimo Energy Valve™

Solving Low Delta T Leveraging IoT



Pressure Independent Zone Valves

Compact Performance Solution

DAMPER ACTUATORS	
NON-FAIL SAFE DAMPER ACTUATORS	
PMB Series (1400 in-lbs)	1.0
GMB Series (360 in-lbs)	
AMB Series (180 in-lbs)	
VMB Series (90 in-lbs)	
.MB Series (45 in-lbs)	
CMB Series (18 in-lbs)	
VMQB Quick Running Series (70 in-lbs)	
.MQB Quick Running Series (35 in-lbs)	
AHB Linear Series (101 lbf)	
AHQB Linear Series (44 lbf)	
.HB Linear Series (34 lbf)	
LHQB Linear Series (22 lbf)	1-8
LUB Series (27 in-lbs)	
Custom Options	1-10
Jackshaft	
TAIL CASE DAMPED ACTUATORS	
FAIL-SAFE DAMPER ACTUATORS	
EF Series (270 in-lbs)	
AF Series (180 in-lbs)	
NF Series (90 in-lbs)	
LF Series (35 in-lbs)	
TF Series (22 in-lbs)	2-5
Custom Options	
Jackshaft	2-10
ELECTRONIC FAIL-SAFE DAMPER ACTUATORS	
PKB Series (1400 in-lbs)	
GKB Series (360 in-lbs)	3-4
NKQB Series (54 in-lbs)	3-4
AHKX Series (101 lbf)	3-4
Custom Options	3-6
·	
FIRE AND SMOKE DAMPER ACTUATORS	
SAF*A Series (180 in-lbs)	
SAFB Series (180 in-lbs)	
SNF Series(70 in-lbs)	4-2
SLF Series (30 in-lbs)	4-2
STF Series (18 in-lbs)	4-2
DAMPER ACTUATOR ACCESSORIES	
MFT and NFC	
Mechanical	
Electronic	
Fire and Smoke	5-12
/ALVES	
ENERGY VALVE	
Energy Valve Product Range Overview	6 1
2-way (½" to 2") with Non Fail-Safe and Electronic Fail-Safe Actuators	
2-way (2½" to 6") with Non Fail-Safe and Electronic Fail-Safe Actuators	
2-way (2½" to 6") ANSI 250 with Non Fail-Safe and Electronic Fail-Safe Actuators	6-10
ELECTRONIC PRESSURE INDEPENDENT CONTROL VALVES (ePIV)	
PIV Product Range Overview	7-9
½" to 2") 2-way with Non Fail-Safe Actuators	7-7
2½" to 6") 2-way with Non Fail-Safe Actuators	
1/2" to 2") 2-way with Fail-Safe Actuators	
2½" to 6") 2-way with Fail-Safe Actuators	
2½" to 6") 2-way ANSI 250 with Non Fail-Safe Actuators	
2½" to 6") 2-way ANSI 250 with Fail-Safe Actuators	7-16
S-way Electronic Pressure Independent Characterized Control Valve Product Range Overview	
½" to ¾") 6-way with Non Fail-Safe Actuators	7-19
ONETIGHT PRESSURE INDEPENDENT ZONE VALVES (PIQCV)	
Pressure Independent Zone Valve (PIQCV) Product Range Overview	8-9
½" to ¾") 2-way with Non Fail-Safe Actuators.	
½" to ¾") 2-way with Fail-Safe Actuators	8-
ZONETIGHT ZONE VALVES (QCV)	
ZoneTight Zone Valve (QCV) Product Range Overview	9-3
½" to ¾") 2-way/3-way with Non Fail-Safe Actuators	
½" to ¾") 2-way/3-way with Hori Fail-Safe Actuators.	
/2 to /4 j = way/o way with rail oato motuators	9-1
S-WAY CHARACTERIZED CONTROL VALVES	
6-way Characterized Control Valve Product Range Overview	10-
1/2" to 3/4") 6-way with Non Fail-Safe Actuators	
	- `
THE VALUES	
ONE VALVES	
Cone Value Product Range Overview %" to 1") 2-way/3-way with Fail-Safe Actuators	





6-way Pressure Independent Valve

Energy Efficient Design



New Globe Valves

Greater Force and Flexibility



Advanced Butterfly Valve Assembly

Intuitive

Table of Contents

CHARACTERIZED CONTROL VALVES (CCV) CCV Product Range Overview. Default and MFT Programming Codes Brass Trim (½" to ¾") 2-way/3-way with Non Fail-Safe Actuators Brass Trim (½" to ¾") 2-way/3-way with Fail-Safe Actuators. Stainless Steel Trim (½" to 3") 2-way/3-way with Non Fail-Safe Actuators Stainless Steel Trim (½" to 3") 2-way with Fail-Safe Actuators Stainless Steel Trim (½" to 2") 3-way with Fail-Safe Actuators Stainless Steel Trim (½" to 6") 2-way with Non Fail-Safe Return Actuators Stainless Steel Trim (½" to 6") 2-way with Non Fail-Safe Return Actuators Stainless Steel Trim (½" to 6") 2-way with NeMA 4X Non Fail-Safe Actuators Stainless Steel Trim (½" to 3") 2-way/3-way with NEMA 4 Fail-Safe Actuators Stainless Steel Trim (½" to 3") 2-way/3-way with NEMA 4 Fail-Safe Actuators Stainless Steel (½" to 2") 2-way/3-way with Quick Running Non Fail-Safe Actuators LR Series Valve Actuators HIGH TEMPERATURE CHARACTERIZED CONTROL VALVES (HTCCV)	. 12-8 . 12-9 12-10 12-11 12-15 12-17 12-19 12-20 12-21 12-23 12-26 12-28
HTCCV Product Range Overview	. 13-4
ROTARY VALVES INDUSTRIAL BALL VALVES Ball Valve Product Range Overview Set-Up. Default and MFT Programming Codes VS Series (½" to 2") 2-way with Non Fail-Safe Actuators. VS Series (½" to 2") 2-way with Fail-Safe Actuators L Series (½" to 2") 3-way with Fail-Safe Actuators L Series (½" to 2") 3-way with Fail-Safe Actuators L Series (½" to 2") 3-way with Fail-Safe Actuators VS Series (½" to 2") 2-way with NEMA 4X Non Fail-Safe Actuators VSS Series (½" to 2") 2-way with Non Fail-Safe Actuators VSS Series (½" to 2") 2-way with Fail-Safe Actuators VSS Series (½" to 2") 2-way with NemA 4X Non Fail-Safe Actuators VSS Series (½" to 2") 2-way with NEMA 4X Non Fail-Safe Actuators VSS Series (½" to 2") 2-way with NEMA 4X Non Fail-Safe Actuators	. 14-2 . 14-5 . 14-6 . 14-8 14-10 14-11 14-12 14-13 14-14
V BALL VALVES V Ball Product Range Overview	. 15-5
GLOBE VALVES Globe Valve Product Range Overview. Default and MFT Programming Codes Bronze Trim (½" to 2") 2-way/3-way with Non Fail-Safe Actuators Bronze Trim (½" to 2") 2-way/3-way with Fail-Safe Actuators Stainless Steel Trim (½" to 2") 2-way with Fail-Safe Actuators Stainless Steel Trim (½" to 2") 2-way with Fail-Safe Actuators Stainless Steel Trim (½" to 2") 2-way with Fail-Safe Actuators Bronze Trim (5" to 2") 3-way, ANSI 250 with Non Fail-Safe Actuators Bronze Trim (½" to 6") 2-way/3-way, ANSI 125 with Non Fail-Safe Actuators Bronze Trim (2½" to 6") 2-way/3-way, ANSI 125 with Fail-Safe Actuators Stainless Steel Trim (2½" to 6") 2-way/3-way, ANSI 125 with Fail-Safe Actuators Stainless Steel Trim (2½" to 6") 2-way/3-way, ANSI 125 with Non Fail-Safe Actuators Stainless Steel Trim (2½" to 6") 2-way, ANSI 125 with Non Fail-Safe Actuators Stainless Steel Trim (2½" to 6") 2-way, ANSI 125 with Non Fail-Safe Actuators Bronze Trim (2½" to 6") 2-way, ANSI 125 with Fail-Safe Actuators Bronze Trim (2½" to 6") 2-way, ANSI 250 with Non Fail-Safe Actuators Bronze Trim (2½" to 6") 2-way/3-way, ANSI 250 with Non Fail-Safe Actuators Bronze Trim (2½" to 6") 2-way/3-way, ANSI 250 with Non Fail-Safe Actuators Stainless Steel Trim (2½" to 6") 2-way/3-way, ANSI 250 with Non Fail-Safe Actuators Stainless Steel Trim (2½" to 6") 2-way/3-way, ANSI 250 with Non Fail-Safe Actuators Stainless Steel Trim (2½" to 6") 2-way/3-way, ANSI 250 with Non Fail-Safe Actuators Stainless Steel Trim (2½" to 6") 2-way/3-way, ANSI 250 with Non Fail-Safe Actuators	. 16-6 . 16-7 . 16-8 . 16-9 16-10 16-11 16-12 16-13 16-14 16-16 16-17 16-19 16-20 16-22 16-23 16-25
Butterfly Valve Product Range Overview Butterfly Valve Selection Butterfly Valve Actuators Default and MFT Programming Codes HD and HDU Series (2" to 5") 2-way/3-way with Non Fail-Safe Actuators HD Series (2" to 5") 2-way/3-way with Fail-Safe Actuators HD, L Series (3" to 12") 2-way/3-way with NEMA 4 Non Fail-Safe Actuators HD, L Series (4" to 12") 2-way/3-way with NEMA 4 Fail-Safe Actuators HD, L Series (2" to 5") 2-way/3-way with NEMA 4 Fail-Safe Actuators HD Series (2" to 5") 2-way/3-way with NEMA 4 Non Fail-Safe Actuators HD Series (2" to 5") 2-way/3-way with NEMA 4 Non Fail-Safe Actuators HD Series (14" to 20") 2-way/3-way with NEMA 4X Non Fail-Safe Actuators Grooved Series (2" to 6") 2-way/3-way with NeMA 4X Non Fail-Safe Actuators Grooved Series (2" to 6") 2-way/3-way with NEMA 4X Non Fail-Safe Actuators Grooved Series (2" to 8") 2-way/3-way with NEMA 4X Non Fail-Safe Actuators SHP Series (2" to 4") 2-way/3-way ANSI Class 150 with Non Fail-Safe Actuators SHP Series (2" to 6") 2-way/3-way ANSI Class 150 with NEMA 4X Non Fail-Safe Actuators SHP Series (2" to 4") 2-way/3-way ANSI Class 150 with NEMA 4X Non Fail-Safe Actuators SHP Series (2" to 4") 2-way/3-way ANSI Class 300 with NEMA 4X Non Fail-Safe Actuators SHP Series (2" to 6") 2-way/3-way ANSI Class 300 with Non Fail-Safe Actuators SHP Series (2" to 6") 2-way/3-way ANSI Class 300 with Non Fail-Safe Actuators SHP Series (2" to 6") 2-way/3-way ANSI Class 300 with Non Fail-Safe Actuators SHP Series (2" to 6") 2-way/3-way ANSI Class 300 with Non Fail-Safe Actuators SHP Series (2" to 6") 2-way/3-way ANSI Class 300 with Non Fail-Safe Actuators SHP Series (2" to 6") 2-way/3-way ANSI Class 300 with Non Fail-Safe Actuators SHP Series (2" to 6") 2-way/3-way ANSI Class 300 with Non Fail-Safe Actuators SHP Series (2" to 6") 2-way/3-way ANSI Class 300 with Non Fail-Safe Actuators	. 17-4 . 17-7 17-10 17-11 17-12 17-13 17-14 17-15 17-16 17-17 17-19 17-21 17-23 17-24 17-25 17-28 17-29 17-30





Sensors

Seamless Integration



Retrofit Solutions

Less Down Time, More Operating Time



ZIP Economizer

Energy Efficient Indoor Air Quality

Platinum Distributors .

Table of Contents

Valve accessories	40.0
Veather Shields	
nergy Valve Accessories.	
Battery Backup	
emperature Sensors/Replacement Cables/Programming Tools	
auxiliary Switches & Potentiometers/Extension Bracket/Electric Disconnect/Hand Cranl	
oneTight Valve Accessories/Mounting Bracket (6-way CCV)/PR,PKR Retrofit Linkages	5
SENSORS	
Ouct / Immersion, Temperature	
Ouct / Immersion and Duct Averaging, Temperature	
Cable and Low Limit Dection, Temperature	
Duct, Air Quality	
Ouct Switch and Duct Sensor, Pressure	
Pipe, Temperature/Condensation	
Pipe, Pressure	
Pipe, Flow	
Outdoor Air, Temperature	
Accessories	
IP ECONOMIZER	
Selection Guide	20-2
IP Economizer Product Range	
Optional Add-on Modules	20-4
Retrofit Kits and ZIP Packs	
Retrofit Solutions	20-6
PIPE PACKAGES	
Component Pricing	
or 2-way CCV	
or 3-way CCV	
or Zone Valves	21-6
RETROFIT SOLUTIONS	
Damper Actuators	
Why Retrofitting Makes Sense	
Replacement of Discontinued Belimo Products	
Talves	
How to Select a Globe Valve Retrofit Solution	
Retrofit and Replacement, Siemens 599 MT/MZ Retrofit Kit	
Retrofit Linkages for NPT and Flanged Globe Valves with Non Fail-Safe Actuators	
Retrofit Linkages for NPT and Flanged Globe Valves with Fail-Safe Actuators	
UGLK Retrofit Components (various manufacturers)	
Globe Valve Retrofit Solutions - (Honeywell, Johnson Controls, Robertshaw,	
Siebe\Invensys\Barber Colman\Schneider, Siemens\Landis\Powers, Warren Cont	trols) 22-18
Custom Globe Valve Retrofit Solutions	
Custom Globe Valve Retrofit Solutions Form	
Butterfly Valve Retrofit Actuators	
Butterfly Valve Retrofit Solutions (Bray, Centerline, Johnson Controls, Keystone,	
Nibco, PDC, Victaulic)	22-48
Specialty Retrofit Solutions for Valve Manufacturers (Apollo, Belimo, Challenger,	
Flowseal, FNW, Gruvlok, Hammond, Jamesbury, Jenkins, Metraflex, Mueller, PD	
Quartermaster, Watts)	
Custom Butterfly Valve Retrofit Solutions	
Custom Ball Valve Retrofit Solution Form	
Custom Ball Valve Retrofit Solutions	22-64
PPENDIX	
low to Select a Damper Actuator	
Valve Sizing - Water and Steam Applications	
NSI/FCI Standards	
Vater Guidelines	
erms and Conditions of Sale and Warranty	
	23-16
'alve and Actuator Specifications (online at www.belimo.us)	

. inside back cover





Seamlessly integrated The sensor range from Belimo.

Belimo HVAC sensors offer trusted reliability, easy installation, and seamless integration with major Building Automation Systems and are designed with an innovative screwless snapon cover housing that allows for easy commissioning and provides NEMA 4X / IP65 protection. The sensor range includes accurate sensors for measuring temperature, humidity, pressure, CO_2 , and VOC in duct, pipe, and outdoor applications. Belimo sensors provide the highest quality and are backed by world-class service and support.

Discover all the advantages at belimo.us



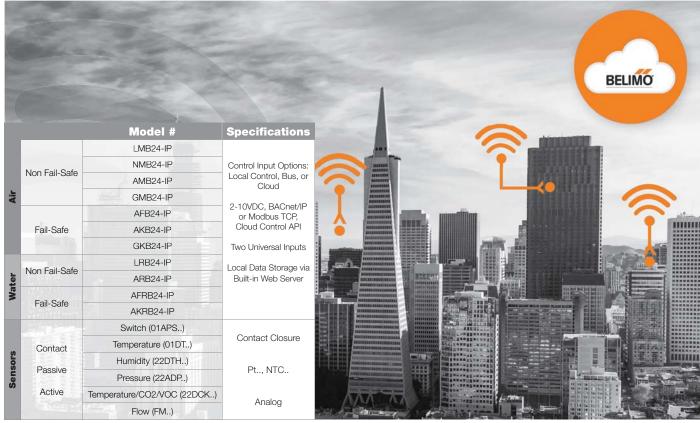


DAMPER ACTUATORS AND ACCESSORIES

Intelligence Down to the Last Detail

- Extensive range of non fail-safe, fail-safe, and fire and smoke damper actuators to meet environmental and performance demands of HVAC applications.
- Minimum torque guaranteed over the entire operating range and design life, no loss in performance due to temperature or supply voltage.
- Multi-Function Technology (MFT) allows you to adapt an actuator for replacement or changes in your system.

Yoraida Dilone, Assembler II, Line Leader



Refer to Section 19 for full Sensor offering.

Belimo IoT Actuators Making Systems Transparent

Belimo now offers a complete line of fail-safe and non fail-safe, Internet of Things (IoT) damper and valve actuators with torque ranges from 45 to 360 in-lbs designed to monitor conditions and system functionality continuously. Select one of six seamlessly integrated sensors that can measure temperature, humidity, pressure, CO₂/VOC, dry contact, or flow throughout an entire building to create a more comfortable environment with increased building efficiency. Belimo IoT damper and valve actuators offer:

- Open client API for fast connectivity to your web application
- Built-in web server for local configuration of actuator and sensor inputs
- BACnet/IP or Modbus TCP communication provides superior data access for monitoring, configuration, and control
 of your application
- Cloud access provides a single access point to utilize performance data from anywhere at any time, so the situation can be addressed immediately, ultimately saving both time and energy costs

Discover the advantages at belimo.us



NON FAIL-SAFE DAMPER ACTUATORS

Versatile in Performance and Function

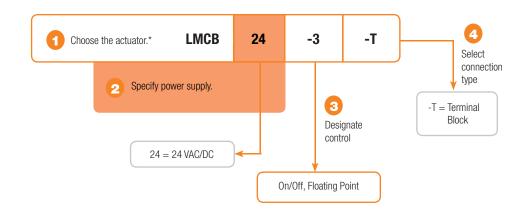
- Comprehensive torque offering 18 to 1,400 in-lbs with direct coupled, linear or rotary actuators.
- Patented brushless DC motor technology ensuring long reliable operation beyond our 5-year warranty.
- Minimum torque guaranteed over entire specified operation range; no loss in performance due to temperature, supply voltage or speed.

Non Fail-Safe Damper Actuator Nomenclature

LM	C	В	24	-3	-Т	
Torque Rating PM = 1400 in-lbs GM = 360 in-lbs AM = 180 in-lbs NM = 90 in-lbs LM = 45 in-lbs CM = 18 in-lbs AH = 101 lbf LH = 34 lbf LU = 27 in-lbs	Speed Q = Quick Running C = Fast Running No Designation = Normal Speed (LMB24-3)	Version B = Basic X = Customized	Power Required 24 = 24 VAC/DC, 50/60 Hz 120 = 100 to 240 VAC, 50/60 Hz UP = 24 to 240 VAC*	$\label{eq:control} \begin{split} \textbf{Control} \\ \textbf{-1} &= \text{On/Off}, \text{Floating Point} \\ \textbf{-3} &= \text{On/Off}, \text{Floating Point} \\ \textbf{-3-P5} &= \text{On/Off}, \text{Floating Point} \\ \textbf{-3-P10} &= \text{On/Off}, \text{Floating Point} \\ \textbf{-W/10} &k\Omega \text{ Feedback} \\ \textbf{-SR} &= 2\text{-}10 \text{ VDC} \\ \textbf{-PC} &= \text{Phasecut (0-20V)} \\ \textbf{-MFT} &= \text{Multi-Function Technology} \\ \textbf{-MFT95} &= 0 \text{ to } 135 \ \Omega \end{split}$	Options -T = Terminal Block Blank = Cable Version -S = Switch	.1 = Bulk Pack N4 = NEMA N4H = NEMA 4 with Heater

Note: Q versions have a slightly lower torque rating. *24 to 125 VDC

Ordering Example



Complete Ordering Example: LMCB24-3-T

^{*}All functions and packaging are not available with all versions.



Access to MFT Actuator Settings Belimo PC-Tool

PC-Tool is a universal software application for setting, commissioning, monitoring and evaluating communications with multi-function technology actuators. Actuators are normally delivered with the basic settings. Using PC-Tool they can be individually programmed and adjusted to the requirements of your system.

Service related diagnostics for the actuators are extremely easy with PC-Tool. Setpoints can be specified and actual values monitored. The trend recording function can output the information to graphical format for system documentation.

Belimo PC-Tool is a practical solution for controls distributors and installation contractors.

Download the Belimo PC-Tool at belimo.us

PMB, GMB, AMB, and NMB Series

Direct Coupled, Non Fail-Safe Damper Actuators

BELIN

Actuator Specifications





Angle of rotation ◆	95°, with built-in end stops; MFT electronically variable 0-100%
Fits shaft diameter	17 mm square interface
Position indication	integral pointer in cover
Manual override	7 mm hex crank, supplied
Direction of rotation ◆	reversible with App
Dimensions	11.93" x 7.93" x 5.31" [303 x 202 x 135 mm]
Electrical connection	terminal block
Overload protection	electronic throughout rotation
Auxiliary switch(es)	2x SPDT 3A resistive (0.5 inductive) @ 24-250V, one set at 10° and one field adjustable 0-95° (85° default)
Housing	NEMA 4X (IP66/67), UL enclosure Type 4
Agency listings	cULus according to UL 60730- 1A/-2-14, CAN/CSA E60730-1:02, CE according to 2004/108/EC and 2006/95/EC



Auxiliary switch(es)

Housing

Agency listings

add-on: 1 or 2 SPDT, 3A (0.5A

inductive) @ 250V adjustable 5°

NEMA 2/IP54, enclosure Type 2

cULus according to UL 60730-1A/-

1:02, CE according to 2004/108/EC

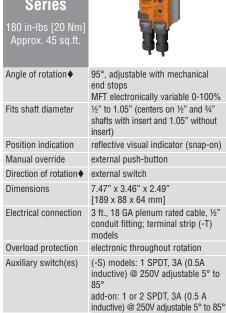
2-14, UL2043, CAN/CSA E60730-

and 2006/95/EC



Housing

Agency listings



NEMA 2/IP54 (NEMA 1/IP20 for -T

2-14, UL 2043, CAN/CSA E60730-1:02, CE according to 2004/108/EC

models), enclosure Type 2 cULus according to UL 60730-1A/-

and 2006/95/EC

♦ Variable with MFT.

NMB Series

90 in-lbs [10 Nm]



Approx. 22 Sq.11.	ф
Angle of rotation♦	95°, adjustable with mechanical end stops MFT electronically variable 0-100%
Fits shaft diameter	$1\!\!\!/2"$ to 1.05" (centers on $1\!\!\!/2"$ and $3\!\!\!/4"$ shafts with insert and 1.05" without inserts)
Position indication	reflective visual indicator (snap-on)
Manual override	external push-button
Direction of rotation♦	external switch
Dimensions	6.88" x 3.15" x 2.42" [174 x 80 x 61 mm]
Electrical connection	3 ft., 18 GA plenum rated cable, $\frac{1}{2}$ " conduit fitting; terminal strip (-T) models
Overload protection	electronic throughout rotation
Auxiliary switch(es)	add-on: 1 or 2 SPDT, 3A (0.5A inductive) @ 250V adjustable 5° to 85°
Housing	NEMA 2/IP54 (NEMA 1/IP20 for -T models), enclosure Type 2
Agency listings	cULus according to UL 60730-1A/-

NEMA 4/4X Series Housing	
Angle of rotation◆	95°, adjustable with mechanical end stops MFT electronically variable 0-100%
Fits shaft diameter	NM, AM- ½" to ¾" GM- ½" to 1.05"
Manual override	external push-button (NM and AM only)
Direction of rotation ♦	external switch (NM and AM only)
Dimensions	NM, AM- 10.66" x 5.28" x 4.88" [271 x 134 x 124 mm] GM- 12.5" x 6.25" x 7.25" [358 x 201 x 172 mm]
Electrical connection	terminal strip (-T)
Overload protection	electronic throughout rotation
Auxiliary switch(es)	add-on: 1 or 2 SPDT, 3A (0.5A inductive) @ 250V adjustable 5° to 85°
Housing	NEMA 4/4X, IP66/IP67
Agency listings	cULus according to UL 60730- 1A/-2-14, CAN/CSA E60730-1:02, CE according to 2004/108/EC and 2006/95/EC
Control shaft length	NM, AM- minimum ¾" maximum 2¼"

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

and 2006/95/EC

2-14, UL2043, CAN/CSA E60730-1:02, CE according to 2004/108/EC

minimum 1" maximum 3"

GM-

Add-On

Accessory

NEMA 4/4X

List

Price

Communication

PMB, GMB, AMB, and NMB Non Fail-Safe **Damper Actuator Product Range**

Power

Supply

Power

Consumption



	Damper A Product F		•	24 VAC ± 20%, 50/60 Hz VDC ±10%	24 to 240 VAC +10%/- 20%, 50/60 Hz 24 to 125 VDC \pm 10%	VA Rating	Wattage Running (Holding)	Motor Drive	0n/0ff	Floating Point	2-10 VDC or 4-20 mA (w/500 \article Resisto	0n/0ff	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 MF	5 kΩ Resistive Feedback	10 kΩ Resistive Feedback	BACnet		Enclosure (Part No. +N4 or +N4H) ¹	1 SPDT, 3A (0.5A Inductive) @ 250V	S1A or S2A	Potentiometer	
NEW	PMB Series 1400 in-lbs	PMBUP-3-T			•	23¹	18 (4)2	35	•	•										\$2,421					
Ž	[160 Nm]	PMBUP-MFT-T			•	23¹	18 (4)2	35	•	•	•	•	•			•			•	\$4,639					
	GMB Series	GMB24-3		•		6	4.0 (2.0)	150	•	•										\$533	\$1,210		•	•	
	360 in-lbs [40 Nm]	GMB24-SR		•		6.5	4.5 (2.0)	150			•					•				\$710	\$1,388		•	•	
	Approx. 90 sq.ft.	GMB24-MFT†	(A)	•		7	4.0 (1.5)	150				•	•	•	•	•				\$788			•	•	
		AMB24-3		•		5.5	2.5 (0.5)	95	•	•										\$376	\$685		•	•	
	AMB Series 180 in-lbs [20 Nm]	AMB24-3-S		•		5.5	2.5 (0.5)	95	•	•										\$494		•	•	•	
	Approx. 45 sq.ft.	AMB24-SR		•		5	2.5 (0.4)	95			•					•				\$548	\$857		•	•	
		AMB24-MFT	(A)	•		6	3.5 (1.3)	150				•	•	•	•	•				\$593			•	•	
		NMB24-3		•		4	2.0 (0.2)	95	•	•										\$267	\$577		•	•	
NMB Series	NMCB24-3		•		4	2.5 (0.2)	45	•	•										\$318			•	•		
	90 in-lbs [10 Nm]	NMB24-SR		•		5	2.5 (0.4)	95			•					•				\$376	\$685		•	•	
	Approx. 22 sq.ft.	NMCB24-SR		•		5	2.5 (0.4)	45			•					•				\$430			•	•	
		NMB24-MFT	(A)	•		6	3.5 (1.3)	150				•	•	•	•	•				\$476			•	•	

Control Input

Position

Feedback

Control

Input

nr 4-20 mA (w/500 Ω Resistor)

Running

[†] Dual mounting on a single shaft is possible for 720 in-lb (-MFT wired Master-Slave). Please call Belimo Customer Service for details.

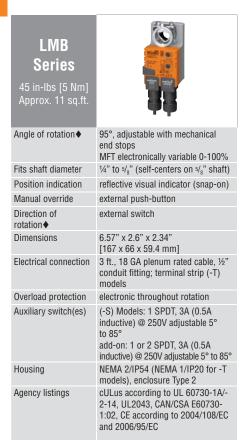
Shipped default. 150 seconds running time, 2-10 VDC control input and feedback. Field programmable with MFT tools. Heater option for NEMA 4/NEMA 4X has a list price adder of \$403.

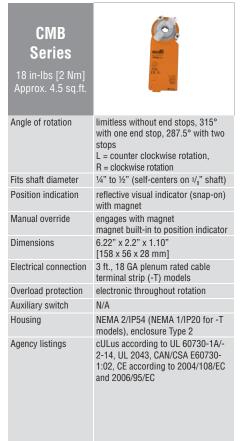
¹23 VA for 120 VAC; 20 VA for 24 VAC; 52 VA for 230 VAC
²18W (4W) for 120 VAC; 20W (3.5W) for 24 VAC; 20W (6W) for 230 VAC

Direct Coupled, Non Fail-Safe Damper Actuators



Actuator Specifications

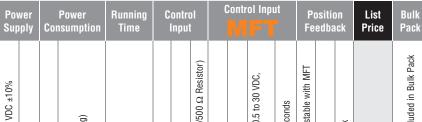




Add-On

Accessory

LMB and CMB
Non Fail-Safe
Damper Actuator
Product Range





Product F	Range	24 VAC ± 20%, 50/60 Hz VDC ±10%	100 VAC to 240 VAC	VA Rating	Wattage Running (Holding)	Motor Drive	0n/0ff	Floating Point	2-10 VDC or 4-20 mA (w/500 Ω Resist	0n/0ff	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 MI	5 kΩ Resistive Feedback	10 kΩ Resistive Feedback		Quantity of Actuators Included in Bulk	1 SPDT, 3A (0.5A Inductive) @ 250V	S1A or S2A	Potentiometer	
	LMB24-3	•		2	1.5 (0.2)	95	•	•									\$190			•	•	
	LMCB24-3	•		2.5	1.5 (0.2)	35	•	•									\$235			•	•	ı
	LMB24-3.1	•		2	1.5 (0.2)	95	•	•									\$168	24 pc.		•	•	ı
	LMB24-3-S	•		2	1.5 (0.2)	95	•	•									\$283		•	•	•	ı
	LMB24-3-T	•		2	1.5 (0.2)	95	•	•									\$164			•	•	
	LMCB24-3-T	•		2.5	1.5 (0.2)	35	•	•									\$214			•	•	
	LMB24-3-T.1	•		2	1.5 (0.2)	95	•	•									\$125	36 pc.		•	•	
	LMB24-3-P5-T	•		2	1.5 (0.2)	95	•	•							•		\$283			•	•	
	LMB24-3-P5-T.1	•		2	1.5 (0.2)	95	•	•							•		\$270	36 pc.		•	•	
LMB Series 45 in-lbs [5 Nm]	LMB24-3-P10-T	•		2	1.5 (0.2)	95	•	•								•	\$283			•	•	
Approx. 11 sq.ft.	LMB24-SR	•		3	1.5 (0.4)	95			•					•			\$304			•	•	
	LMCB24-SR	•		3	1.5 (0.4)	35			•					•			\$360			•	•	
	LMB24-SR.1	•		3	1.5 (0.4)	95			•					•			\$290	24 pc.		•	•	
	LMB24-SR-T	•		3	1.5 (0.4)	95			•					•			\$272			•	•	
	LMCB24-SR-T	•		3	1.5 (0.4)	35			•					•			\$334			•	•	
	LMB24-SR-T.1	•		3	1.5 (0.4)	95			•					•			\$253	36 pc.		•	•	
	LMB24-MFT (A)	•		5	2.5 (1.2)	150				•	•	•	•	•			\$401			•	•	
	LMB24-HM ®	•		2	1.5 (0.2)	95											\$256			•	•	
	LMB24-10P-HM ®	•		2	1.5 (0.2)	95										•	\$278			•	•	
	CMB24-3	•		1.5	1.0 (0.2)	35	•	•									\$189					
	CMB24-3.1*	•		1.5	1.0 (0.2)	35	•	•									\$182	20 pc.				
CMB Series	CMB120-3		•	3.5	1.5 (1.0)	35	•	•									\$271					
18 in-lbs [2 Nm]	CMB24-3-T	•		1.5	1.0 (0.2)	35	•	•									\$165					
Approx. 4.5 sq.ft.	CMB24-3-T.1*	•		1.5	1.0 (0.2)	35	•	•									\$136	20 pc.				
	CMB24-SR-R	•		2.5	1.5 (0.5)	35			•					•			\$304					
	CMB24-SR-L	•		2.5	1.5 (0.5)	35			•					•			\$304					

A Shipped default. 150 seconds running time, 2-10 VDC control input and feedback. Field programmable with MFT tools.
 Drop-in replacement of LM24(-10P)-HM VAV actuator.
 Z-PICM position indicator and Z-ARCM anti-rotation bracket sold separately.

AMQB, NMQB, and LMQB Series

Direct Coupled, Quick Running Non Fail-Safe Damper Actuators



TO YOU

Actuator Specifications

AMOB Series 95°, adjustable with mechanical Angle of rotation◆ end stops MFT electronically variable 0-100% 1/2" to 1.05" (centers on 3/4" shafts Fits shaft diameter with insert and 1.05" without insert) Position indication reflective visual indicator (snap-on) external push-button Manual override Direction of external switch rotation♦ Runtime 7 seconds Dimensions 9.02" x 4.55" x 2.87" [229 x 115 x 72 mm] 3 ft., 18 GA plenum cable, 1/2" Electrical connection conduit fitting

Overload protection	electronic throughout rotation
Auxiliary switch(es)	add-on: 1 or 2 SPDT, 3A (0.5A inductive) @ 250V adjustable 5° to 85°
Housing	NEMA 2/IP54, enclosure Type 2
Agency listings	cULus according to UL 60730-1A/- 2-14, UL2043, CAN/CSA E60730- 1:02, CE according to 2004/108/EC

and 2006/95/EC

NMQB Series Angle of rotation ◆ 95°, adjustable with mechanical end stops MFT electronically variable 0-100% 1/2" to 1.05" (centers on 1/2" and 3/4" Fits shaft diameter shafts with insert and 1.05" without Position indication reflective visual indicator (snap-on) external push-button Manual override Direction of external switch rotation**♦** Runtime 4 seconds Dimensions 7.47" x 3.46" x 2.49" [190 x 88 x 64 mm] 3 ft., 18 GA plenum cable, ½" Electrical connection conduit fitting Overload protection electronic throughout rotation Auxiliary switch(es) add-on: 1 or 2 SPDT. 3A (0.5A inductive) @ 250V adjustable 5° to 85° NEMA 2/IP54, enclosure Type 2 Housing cULus according to UL 60730-1A/-Agency listings

2-14, UL2043, CAN/CSA E60730-

and 2006/95/EC

1:02, CE according to 2004/108/EC

LMQB Series 35 in-lbs [4 Nm]	
Angle of rotation◆	95°, adjustable with mechanical end stops MFT electronically variable 0-100%
Fits shaft diameter	½" to 1.05" (centers on ½" and ¾" shafts with insert and 1.05" without insert)
Position indication	reflective visual indicator (snap-on)
Manual override	external push-button
Direction of rotation ♦	external switch
Runtime	2.5 seconds
Dimensions	6.88" x 3.15" x 2.42" [196 x 80 x 75 mm]
Electrical connection	3 ft., 18 GA plenum cable, ½" conduit fitting
Overload protection	electronic throughout rotation
Auxiliary switch(es)	add-on: 1 or 2 SPDT, 3A (0.5A inductive) @ 250V adjustable 5° to 85°
Housing	NEMA 2/IP54, enclosure Type 2
Agency listings	cULus according to UL 60730-1A/- 2-14, UL2043, CAN/CSA E60730- 1:02, CE according to 2004/108/EC and 2006/95/EC

[♦] Variable with MFT.

AMQB, NN LMOB Oui	IQB, and ck Running	Pov Sup			Power sumption	Running Time		Contr Inpu			Contr	ol Input			ositio edba		List Price		d-On essory
Non Fail-Safe Damper Actuator Product Range		VDC ±10%			ding)				(w/500 Ω Resistor)			Start 0.5 to 30 VDC,	Seconds	Adjustable with MFT	ck	ack			
WARRANTY C USTED O D D O D O D O D O D O D O D O D O D		24 VAC ± 20%, 50/60 Hz,	100 VAC to 240 VAC	VA Rating	Wattage Running (Holding)	Motor Drive	0n/0ff	Floating Point	2-10 VDC or 4-20 mA (w/500 Ω	0n/0ff	Floating Point	Start and Span adj., Star Span 2.5 to 32 VDC	PWM adj., 0.02 to 50.0 Seconds	2-10 VDC (Default) Ad	5 kΩ Resistive Feedback	10 kΩ Resistive Feedback		S1A or S2A	Potentiometer
AMQB Series 140 in-lbs [16 Nm]	AMQB24-1	•		23	15 (1.5)	7	•										\$629	•	•
Approx. 16 sq.ft.	AMQB24-MFT (A)	•		23	15 (1.5)	7				•		•		•			\$668	•	•
NMQB Series 70 in-lbs [8 Nm]	NMQB24-1	•		20	13 (1.5)	4	•										\$562	•	•
Approx. 12 sq.ft.	NMQB24-MFT (A)	•		20	13 (1.5)	4				•		•		•			\$613	•	•
LMQB Series 35 in-lbs [4 Nm]	LMQB24-1	•		20	13 (1.5)	2.5	•										\$482	•	•
Approx. 8.5 sq.ft.	LMQB24-MFT (A)	•		20	13 (1.5)	2.5				•		•		•			\$539	•	•

[ⓐ] Shipped default. 2-10 VDC control input and feedback. Field programmable with MFT tools.

Direct Coupled, Non Fail-Safe Damper Actuators



Actuator Specifications

AHB Series

101 lbf [450 N Force] 4"or 8" stroke



Power supply	24 VAC/DC
Manual override	external push-button
Direction of stroke◆	external switch
Runtime	150 seconds
Dimensions	9.0" x 3.2" x 3.0" [234-295 x 81 x 79 mm] 4" rack [334-395 x 81 x 79 mm] 8" rack
Electrical connection	3 ft., 18 GA plenum cable, ½" conduit fitting
Overload protection	electronic throughout full stroke
Auxiliary switch(es)	not available
Housing	NEMA 2/IP54, enclosure Type 2
Agency listings	cULus according to UL 60730-1A/-2-14, UL 2043, CAN/CSA E60730-1:02, CE according to 2004/108/EC and 2006/95/EC

AHQB Series

44 lbf [200 N Force] 4" stroke



		1
Power supply		24 VAC/DC
Manual overri	de	external push-button
Direction of rotation ◆		external switch
Runtime		7 seconds
Dimensions		7.00" x 3.19" x 3.58" [234-295 x 81 x 91 mm] 4" rack
Electrical conr	nection	3 ft., 18 GA plenum cable, ½" conduit fitting
Overload prote	ection	electronic throughout rotation
Auxiliary switch	ch(es)	not available
Housing		NEMA 2/IP54, enclosure Type 2
Agency listing	S	cULus according to UL 60730-1A/-2-14, UL 2043, CAN/CSA E60730-1:02, CE according to 2004/108/EC and 2006/95/EC

LHB Series

34 lbf [150 N Force] 4"or 8" stroke



	•
Power supply	24 VAC/DC
Manual override	external push-button
Direction of stroke◆	external switch
Runtime	150 seconds
Dimensions	8.0" x 2.64" x 2.6" [234-294 x 67 x 66 mm] 4" rack [334-394 x 67 x 66 mm] 8" rack
Electrical connection	3 ft., 18 GA plenum cable, ½" conduit fitting
Overload protection	electronic throughout full stroke
Auxiliary switch(es)	not available
Housing	NEMA 2/IP54, enclosure Type 2
Agency listings	cULus according to UL 60730-1A/-2-14, UL2043, CAN/CSA E60730-1:02, CE according to 2004/108/EC and 2006/95/EC

LHQB **Series**

22 lbf [100 N Force] 4" stroke



	-
Power supply	24 VAC/DC
Manual override	external push-button
Direction of rotation ◆	external switch
Runtime	3.5 seconds
Dimensions	5.7" x 2.46" x 3.11" [234-265 x 67 x 79 mm]
Electrical connection	3 ft., 18 GA plenum cable, ½" conduit fitting
Overload protection	electronic throughout rotation
Auxiliary switch(es)	not available
Housing	NEMA 2/IP54, enclosure Type 2
Agency listings	cULus according to UL 60730-1A/- 2-14, UL2043, CAN/CSA E60730- 1:02, CE according to 2004/108/EC and 2006/95/EC

LUB **Series**



Manual override external push-button Angle of rotation ♦ endless for -3 models 330° for -SR models Fits shaft diameter 5/16" to 13/42" [8 to 12 r external push-button Direction of external switch rotation ♦ 150 seconds Dimensions 6.2" x 3.1" x 2.4" [158 x 80 x 62 mm] Electrical connection 3 ft., 18 GA plenum conduit fitting Overload protection electronic throughout	nm] square
330° for -SR models Fits shaft diameter	nm] square
Manual override external push-button Direction of external switch rotation Runtime 150 seconds Dimensions 6.2" x 3.1" x 2.4" [158 x 80 x 62 mm] Electrical connection 3 ft., 18 GA plenum conduit fitting	nm] square
Direction of ordation ♦ Runtime 150 seconds Dimensions 6.2" x 3.1" x 2.4" [158 x 80 x 62 mm] Electrical connection 3 ft., 18 GA plenum or conduit fitting	
rotation ♦ Runtime 150 seconds Dimensions 6.2" x 3.1" x 2.4" [158 x 80 x 62 mm] Electrical connection 3 ft., 18 GA plenum conduit fitting	
Dimensions 6.2" x 3.1" x 2.4" [158 x 80 x 62 mm] Electrical connection 3 ft., 18 GA plenum conduit fitting	
[158 x 80 x 62 mm] Electrical connection 3 ft., 18 GA plenum conduit fitting	
conduit fitting	
Overload protection electronic throughout	able, ½"
	rotation
Auxiliary switch not available	
Housing NEMA 2/IP54 enclosu	re Type 2
Agency listings CULus according to U 2-14, UL 2043, CAN/C 1:02, CE according to and 2006/95/EC	SA E60730-

♦ Variable with MFT.

List

Price

Control Input

Position Feedback

Control Input

· 4-20 mA (w/500 Ω Resistor)

AHB, AHQB, LHB, LHQB, and LUB Non Fail-Safe **Damper Actuator Product Range**





Damper A Product F		50/60 Hz, VDC ±10%			ing)				4-20 mA (w/500 Ω Resistc			Start 0.5 to 30 VDC,	Seconds	iustable with MF	¥	ıck	
WARRANTY CE SHEET	D. IND. 8 country us	24 VAC ± 20%, 50/60 H	100 VAC to 240 VAC	VA Rating	Wattage Running (Holding)	Motor Drive	0n/Off	Floating Point	2-10 VDC or 4-20 mA (0n/0ff	Floating Point	Start and Span adj., Star Span 2.5 to 32 VDC	PWM adj., 0.02 to 50.0 Seconds	2-10 VDC (Default) Adjustable with MF	5 kΩ Resistive Feedback	10 kΩ Resistive Feedback	
	AHB24-3-100	•		4.5	2.0 (0.5)	150*	•	•									\$452
AHB Series	AHB24-3-200	•		4.5	2.0 (0.5)	150*	•	•									\$482
4"or 8" stroke	AHB24-SR-100	•		4.5	2.5 (0.5)	150*			•					•			\$625
	AHB24-SR-200	•		4.5	2.5 (0.5)	150*			•					•			\$652
AHQB Series 44 lbf [200 N Force]	AHQB24-1-100	•		23	13 (1.5)	7*	•										\$743
4" stroke	AHQB24-MFT-100 (A)	•		23	13 (1.5)	7*				•		•		•			\$795
	LHB24-3-100	•		3	1.5 (0.5)	150*	•	•									\$280
LHB Series 34 lbf [150 N Force]	LHB24-3-200	•		3	1.5 (0.5)	150*	•	•									\$308
4"or 8" stroke	LHB24-SR-100	•		3	1.5 (0.5)	150*			•					•			\$405
	LHB24-SR-200	•		3	1.5 (0.5)	150*			•					•			\$434
LHQB Series 22 lbf [100 N Force]	LHQB24-1-100	•		23	13 (1.5)	3.5*	•										\$580
4" stroke	LHQB24-MFT-100	•		23	13 (1.5)	3.5*				•		•		•			\$655
LUB Series 27 in-lbs [3 Nm]	LUB24-3	•		2.5	1.0 (0.5)	150**	•	•									\$297
Approx. 6 sq.ft.	LUB24-SR	•		3	3.0 (0.5)	150**			•					•			\$407

Power Consumption

Running

^{*}Running time is per 4 inches [100 mm] of travel. **Running time is 150 seconds per 360°.

⁽A) Shipped default. 2-10 VDC control input and feedback. Field programmable with MFT tools.

Custom Options

1 ACTUATOR TYPE

TYPE

MECHANICAL INTERFACE

Size

Actuator Series



List Price

Code



GMB...

B = Basic stocked product

- Standard 150 second run time.
- Standard ¾" to 1.05" clamp.
- · Standard 3' plenum cable with conduit connector.

Typical Lead Time: 1 day

GMX...

X = Customizable product

- Choice of 10' or 16' cable with conduit connector.
- Option of 3' right angle cables for tight spaces (-3 version only).
- · Factory programming for run time, control signal and feedback.

Typical Lead Time: 3 days or less

Reorder number consists of options which differ from standard product. This number is printed on the actuator for easy reordering. For example:

Reorder # for a GMX24-MFT



Multi-Function Technology (MFT) offers a wide variety of programmable control inputs and feedback signals. Parameters can be set for voltage control (VDC), time proportional control (PWM), floating point, on/ off and feedback signal. Parameters can be changed on-site to optimize/enable application. You can also set, modify or read position, running time, mechanical working range, address, status, and diagnostics.

For additional MFT programming codes, refer to MFT technical documentation or visit www.belimo.us.

No Clamp)	-		-	0	No Charge
Standard	Universal Clamp	5/8"		LMX	1	No Charge
		3/8"		LMX	2	No Charge
		1/2"		LMX	4	No Charge
		3/4"		LMX	6	No Charge
		1/2" to 1	05"	GMX, AMX, NMX	1	No Charge
		1/2" to 3/4" R	eversible	AMX, NMX	7	\$17
		8 mm to 1:	2 mm	LUX	8	No Charge
		8 mm to 12 mm v	vith end stop	LUX	9	No Charge
Form Fit		Form Fit 8 mm	1 X 8 mm	NMX, LMX, LUX	A / B*	No Charge
		Form Fit 10 mm	1 X 10 mm	AMX, NMX, LMX, LUX	C / D*	No Charge
		Form Fit 12 mm	1 X 12 mm	AMX, NMX, LMX, LUX	E / F*	No Charge
CAB	LES					
CABLE (\	with conduit fitting)	Size		Actuator Series	Cable Code	List Price
24V Plent	ım Rated	3 ft.		All Non Fail-Safe	C1	No Charge
		10 ft.		All Non Fail-Safe	C3	\$29
		16 ft.		All Non Fail-Safe	C5	\$49
120V App	liance Rated	3 ft.		All Non Fail-Safe	A1	No Charge
		10 ft.		All Non Fail-Safe	А3	\$29
		16 ft.		All Non Fail-Safe	A5	\$49
PRO	GRAM					
	Running Time	Control Input	Feedback	Actuator Series	Program Code	List Price
-3	150 seconds	On/Off, Floating Point	-	GMX, AMX, NMX, LMX, AHX, LHX, LUX	000	No Charge
	95 seconds	On/Off, Floating Point	-	AMX, NMX, LMX, LHX	002	No Charge
	45 seconds	On/Off, Floating Point	-	LMX	004	No Charge
	35 seconds	On/Off, Floating Point	-	LMX	005	No Charge
-SR	150 seconds	2-10 VDC	2-10 VDC	GMX, AMX, NMX, LMX, AHX, LHX, LUX	000	No Charge
	95 seconds	2-10 VDC	2-10 VDC	AMX, NMX, LMX, LHX, LUX	002	No Charge
-MFT	150 seconds	2-10 VDC	2-10 VDC	GMX, AMX, NMX, LMX, AHX, LHX, LUX	A01	No Charge
	150 seconds	0.5-10 VDC	0.5-10 VDC	GMX, AMX, NMX, LMX, AHX, LHX	A02	No Charge
	150 seconds	0.5-10 VDC	2-10 VDC	LUX	A45	No Charge
	150 seconds	8-20 VDC	2-10 VDC	AHX, LHX	AAL	No Charge

800-543-9038 USA

0.5-10 VDC

0.5-10 VDC

6-9 VDC

2-10 VDC

Floating Point

On/Off

PWM (0.02-5 sec)

PWM (0.1-25.5 sec)

100 seconds

95 seconds

150 seconds

95 seconds

150 seconds

150 seconds

150 seconds

150 seconds

0.5-10 VDC

0.5-10 VDC

2-10 VDC

2-10 VDC

2-10 VDC

2-10 VDC

2-10 VDC

2-10 VDC

AMX, NMX, LMX

NMX

LUX

GMX

GMX, AMX, NMX, LMX, AHX,

LHX, LUX

GMX, AMX, NMX, LMX, AHX,

LHX, LUX

GMX, AMX, NMX, LMX, AHX,

IHX

AMX

A28

ACA

A56

F01

J02

W02

W03

No Charge

\$35

^{*}With end stop

Custom Non Fail-S			wer oply		Power sumption	Running Time			Contro Input	I		C	ontr	ol Inp	ut		sition edback		tom ions	List Price	NEMA 4/4X List Price		d-on essory
Damper Ad Product Ra						_					~			to 30 VDC,	spu			(5 m) Cable	/ 2/IP54		+N4H)¹		
WARRANTY CE USTED 194.00 1750 1750 1750 1750 1750 1750 1750 17	· c(UL) us	24 VAC ± 20%, VDC ± 10%	100 to 240 VAC	VA Rating	Wattage Running (Holding)	Motor Drive Range (Default)	0n/Off	Floating Point	2-10 VDC (Default) 4-20 mA (w/500 Ω Resistor)	0-20V Phasecut	Honeywell Series 90, 0-135 Ω	0n/0ff	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 2-10 VDC	10 ft. (3 m) Cable / 16 ft. (5	Terminal Strip NEMA 1/IP20 /		Enclosure (Part No. +N4 or +N4H) ¹	S1A or S2A	Potentiometer
GMX Series 360 in-lbs [40 Nm] Approx. 90 sq.ft.	GMX24-3 GMX24-SR GMX24-PC GMX120-3	•	•	6 6.5 7 7	4.0 (2.0) 4.5 (2.0) 4.0 (1.5) 4.0 (2.0)	150 150 150 150	•	•	•	•						•		•		\$533 \$710 \$856 \$582	\$1,210 \$1,388	•	•
AMX Series	GMX24-MFT† AMX24-3 AMX24-3-T AMX24-SR AMX24-SR-T	•		5.5 5.5 5	4.0 (1.5) 2.5 (0.5) 2.5 (0.5) 2.5 (0.4) 2.5 (0.4)	75-300 (150) 95 95 95 95	•	•	•							•	•	•	•	\$788 \$376 \$350 \$548 \$521	\$1,494 \$685 \$857	•	•
180 in-lbs [20 Nm] Approx. 45 sq.ft.	AMX24-PC AMX120-3 AMX120-SR AMX24-MFT AMCX24-MFT	•	•	5.5 7 7.5 6 6	3.5 (1.3) 3.0 (0.6) 4.0 (1.0) 3.5 (1.3) 3.5 (1.3)	90 95 95 90-300 (150) 35-120 (35)	•	•	•	•		•	•	•	•	•	•	•		\$620 \$469 \$644 \$593 \$637	\$928	•	•
AMQ Series 140 in-lbs [16 Nm]	AMX24-MFT95 AMQX24-MFT NMX24-3 NMX24-3-T	•		6 26 4 4	3.5 (1.3) 15 (1.5) 2.0 (0.2) 2.0 (0.2)	75-150 (150) 7-15 (7) 95 95	•	•			•	•		•		•	•	•	•	\$620 \$668 \$267 \$241	\$577	•	•
NMX Series 90 in-lbs [10 Nm] Approx. 22 sq.ft.	NMX24-SR NMX24-SR-T NMX120-3 NMX120-SR NMX24-MFT	•	•	5 5 5.5 6.5 6	2.5 (0.4) 2.5 (0.4) 2.5 (0.6) 3.5 (1.0)	95 95 150 150 45-150 (150)	•	•	•							•		•	•	\$376 \$345 \$310 \$440 \$476	\$685 \$813	•	•
NMQ Series 70 in-lbs [8 Nm]	NMX24-MFT95 NMCX24-MFT NMQX24-MFT	•		6 5 23	3.5 (1.3) 3.5 (1.3) 3.0 (0.6) 13 (1.5)	45-150 (150) 45-150 (150) 20-75 (45) 4-20 (4)			•		•	•		•		•	•	•		\$553 \$558 \$613	ф 013	•	•
LMX Series 45 in-lbs [5 Nm] Approx. 11 sq.ft.	LMX24-3 LMX24-3-T LMX24-SR LMX24-SR-T LMX120-3	•	•	2 3 3 4	1.5 (0.2) 1.5 (0.2) 1.5 (0.4) 1.5 (0.4) 2.0 (0.5)	95 95 95 95 150	•	•	•							•		•	•	\$190 \$170 \$304 \$275 \$241		•	•
LMQ Series 35 in-lbs [4 Nm]	LMX120-SR LMX24-MFT LMX24-MFT95 LMQX24-MFT	•	•	4.5 5 5 23	2.5 (1.0) 2.5 (1.2) 2.5 (1.2) 13 (1.5)	150 35-200 (150) 35-150 (150) 2.5-10 (2.5)			•		•	•	•	•	•	•	•	•		\$372 \$401 \$462 \$539		•	•
AHX Series 101 lbf [450 N Force] 4", 8", or 12" stroke	AHX24-3* AHX24-SR* AHX24-MFT*	•		4.5 4.5 6	2.0 (0.5) 2.5 (0.5) 3.5 (1.3)	150* 150* 150*	•	•	•			•	•	•	•	•	•	•		\$452/\$482/ \$501 \$625/\$652 \$644/\$687/ \$703			
AHQ Series 44 lbf [200 N Force] LHX Series 34 lbf [150 N Force] 4", 8", or 12" stroke	AHQX24-MFT-100 LHX24-3* LHX24-SR* LHX24-MFT*	•		23 3 3 5	13 (1.5) 1.5 (0.5) 1.5 (0.5) 2.5 (1.2)	7-20 (7)* 150* 150* 75-150 (150)*	•	•	•			•		•		•	•	•		\$795 \$280/\$308/ \$323 \$405/\$434 \$450/\$480/			
LHQ Series 22 lbf [100 N Force]	LHQX24-MFT-100	•		23	13 (1.5)	3.5-15 (3.5)*			•			•	•	•		•	•	•		\$506 \$655			
LUX Series 27 in-lbs [3 Nm]	LUX24-3 LUX24-SR LUX24-MFT	•		2.5		150 150 75-150 (150)	•	•	•			•	•	•	•	•	•	•		\$297 \$407 \$468			

^{*} 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 720 in-lbs (-MFT wired Master-Slave). Please call Belimo Customer Service for details.

¹Heater option for NEMA 4/NEMA 4X has a list price adder of \$403.

Jackshaft Linkage for Non Fail-Safe Damper Actuators



Actuator Specifications

riotaator opoomoationo	
Torque	
AMX	166 in-lbs [18 Nm] minimum
NMX	87 in-lbs [9 Nm] minimum
Angle of rotation	95°, adjustable with mechanical end stops MFT electronically variable 0-100%
JSL clamp size	$\frac{1}{2}$ " to 1.05" (centers on $\frac{1}{2}$ " and $\frac{1}{2}$ " shafts with insert and 1.05" without inserts)
Position indication	visual indicator on actuator
Manual override	external push-button
Direction of rotation	external switch
Dimensions	
ZG-JSL	11.90" x 4.65" x 4.46" [303.5 x 118 x 113.4 mm]
Electrical connection	3 ft., 18 GA plenum cable, ½" conduit fitting
Overload protection	electronic throughout rotation
Auxiliary switch(es)	add-on: 1 or 2 SPDT, 3A (0.5A inductive) @ 250V adjustable 5° to 85°
Housing	NEMA 2/IP54, enclosure Type 2
Agency listings	cULus according to UL 60730- 1A/-2-14, CAN/CSA E60730-1:02, CE according to 2004/108/EC and













BASIC PRODUCT		Control Input	Feedback	Power Supply	Running Time(s) [Default]	VA Rating	Auxiliary Switch	List Price (Linkage Only)	ZG-JSLA List Price* (Actuator + Linkage)
Jackshaft (only)	ZG-JSL							\$284	
CUSTOMIZE PRODUCTS	REORDER #								
ZG-JSLA+AMX24-3	JSL+AM000 7C1 002	On/Off, Floating Point	-	24 VAC/DC	95 seconds	2	Add-on		\$605
ZG-JSLA+AMX24-3-T	JSL+AMT00 7T1 002	On/Off, Floating Point	-	24 VAC/DC	95 seconds	5.5	Add-on		\$579
ZG-JSLA+AMX24-SR	JSL+AM030 7C1 002	2-10 VDC	2-10 VDC	24 VAC/DC	150 seconds	5	Add-on		\$778
ZG-JSLA+AMX24-MFT	JSL+AM100 7C1 A01	Various	Various	24 VAC/DC	150 seconds	6	Add-on		\$823
ZG-JSLA+AMX24-MFT95	JSL+AM0L0 7C1 R01	0-135 Ω	Various	24 VAC/DC	150 seconds	6	Add-on		\$851
ZG-JSLA+AMCX24-MFT	JSL+AMC110 7C1 AAX	Various	Various	24 VAC/DC	35 seconds	6	Add-on		\$861
ZG-JSLA+AMX24-PC	JSL+AM0N0 7C1 S04	Phasecut	2-10 VDC	24 VAC/DC	90 seconds	5.5	Add-on		\$851
ZG-JSLA+AMX120-3	JSL+AM060 7A1 002	On/Off, Floating Point	-	120 VAC	95 seconds	7	Add-on		\$699
ZG-JSLA+AMX120-SR	JSL+AM450 7A1 002	2-10 VDC	2-10 VDC	120 VAC	95 seconds	7.5	Add-on		\$874
ZG-JSLA+NMX24-3	JSL+NM000 7C1 002	On/Off, Floating Point	-	24 VAC/DC	95 seconds	4	Add-on		\$497
ZG-JSLA+NMX24-3-T	JSL+NMT00 7T1 002	On/Off, Floating Point	-	24 VAC/DC	95 seconds	4	Add-on		\$469
ZG-JSLA+NMX24-SR	JSL+NM030 7C1 002	2-10 VDC	2-10 VDC	24 VAC/DC	150 seconds	5	Add-on		\$605
ZG-JSLA+NMX24-SR-T	JSL+NMT40 7T1 000	2-10 VDC	2-10 VDC	24 VAC/DC	95 seconds	5	Add-on		\$578
ZG-JSLA+NMX24-MFT	JSL+NM100 7C1 A01	Various	Various	24 VAC/DC	150 seconds	6	Add-on		\$706
ZG-JSLA+NMX24-MFT95	JSL+NM0L0 7C1 R01	0-135 Ω	Various	24 VAC/DC	150 seconds	6	Add-on		\$783
ZG-JSLA+NMCX24-MFT	JSL+NMC110 7C1 004	Various	Various	24 VAC/DC	45 seconds	5	Add-on		\$783
ZG-JSLA+NMX120-3	JSL+NM060 7A1 002	On/Off, Floating Point	-	120 VAC	150 seconds	5.5	Add-on		\$540
ZG-JSLA+NMX120-SR	JSL+NM450 7A1 002	2-10 VDC	2-10 VDC	120 VAC	150 seconds	6.5	Add-on		\$670

^{*}At the factory, there is a cost savings on the ZG-JSL if assembled with the actuator.



2

SPRING RETURN DAMPER ACTUATORS

Maximum Performance with Low Power Consumption

- Comprehensive torque offering 22 in-lbs to 270 in-lbs over a vast selection of actuators for a wide range of applications.
- Patented motor technology with Application Specific Integrated Circuit reduces energy consumption and ensures longevity.
- MFT is available in all spring return actuators, giving the user the flexibility to customize and adapt a single actuator to various controllers and applications.

EXPERIENCE EFFICIENCY

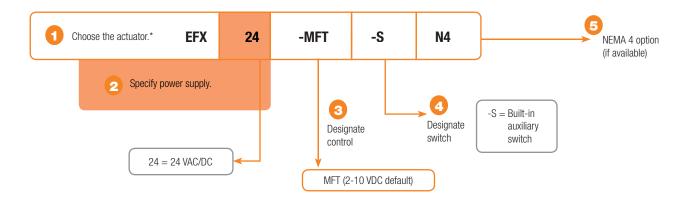
Chris Jones, Product Manager

Spring Return Damper Actuator Nomenclature

Torque Rating Speed † Options Power Supply Control EF = 270 in-lbs C = Fast Running AF = 180 in-lbs L = Slow Running NF = 90 in-lbs LF = 35 in-lbs TF = 22 in-lbs TF = 22 in-lbs TF = 20	EF		Х	24	-MFT	-S	N4
Power Supply	Torque Rating EF = 270 in-lbs AF = 180 in-lbs NF = 90 in-lbs LF = 35 in-lbs	C = Fast Running L = Slow Running Blank = Normal	Options B = Basic X = Customized	Power Supply 24 = 24 VAC/DC 120 = 120 VAC* 230 = 230 VAC	$\begin{tabular}{ll} \textbf{Control} \\ \textbf{Blank} &= 0 \text{n/Off} \\ -3 &= \text{Floating Point} \\ -\text{SR} &= 2 \text{-} 10 \text{ VDC} \\ -\text{PC} &= 0 \text{ to } 20 \text{ Volt} \\ \text{(Phasecut)} \\ -\text{ECON-RO3} &= 3 \text{ k}\Omega \text{ NTC} \\ \text{Type } 10 \\ \text{Thermistor} \\ -\text{MFT} &= \text{Multi-Function} \\ \text{Technology} \\ -\text{MFT95} &= 0 \text{ to } 135 \Omega \\ -\text{MFT-20} &= 6 \text{ to } 9 \text{ VDC}, \\ 20 \text{ VDC} \\ \end{tabular}$	-S = Built-in Auxiliary	US N4* = NEMA 4 N4H* = NEMA 4 with

[•] NEMA 4 option on select models.

Ordering Example



6 Complete Ordering Example: EFX24-MFT-S N4

[†] Only available on certain LF and TF models.

^{*}EF and TF series have 100 to 240 VAC nominal power supply.

^{**24} to 125 VDC.

^{*}All functions and options are not available with all versions



Efficiency Through Training Belimo University

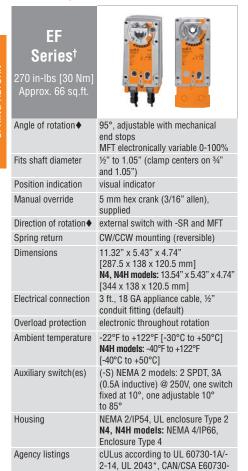
Belimo University provides comprehensive training in HVAC fundamentals. The Belimo University portfolio includes classroom trainings, online learning modules, webinars, and continuing education courses for Professional Engineers.

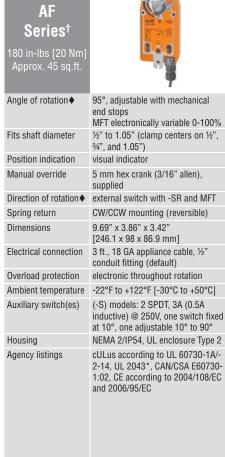
For more information or to schedule training please contact your Belimo sales representative or visit **belimouniversity.com**.

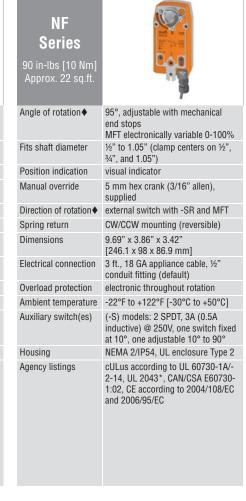


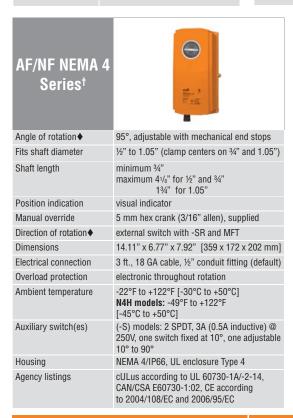
BELIMO

Actuator Specifications









1:02, CE according to 2004/108/EC

and 2006/95/EC

Model	Max. per shaft	Max. torque load	Wiring	Min. shaft diameter
EFB24(-S)(N4) EFX24(-S)(N4)(H) EFB120(-S)(N4) EFX120(-S)(N4)(H)	Two (2)	540 in-lbs.	Parallel	3/4"
EFCX24-S N4 EFCX120-S N4	Two (2)	540 in-lbs.	Parallel	1"
EFB24-MFT(-S)(N4) EFX24-MFT(-S)(N4)	Three (3)	810 in-lbs.	Master-Slave	l
AFB24(-S)(N4H) AFX24(-S)(N4) AFBUP(-S)(N4H) AFXUP(-S)(N4)	Two (2)	266 in-lbs.	Parallel	3/4"
AFB24-MFT(-S)(N4H) AFX24-MFT(-S)(N4)	Three (3)	432 in-lbs.	Master-Slave	

For piggyback applications with modulating control, actuators must be wired master slave and mechanically linked. If not mechanically linked, then must be wired in parallel.

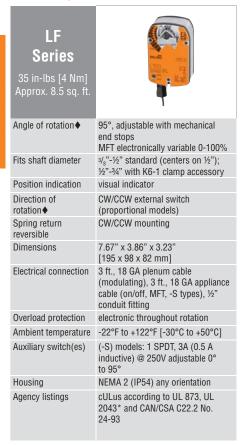
- † EF and AF piggy back capability:
- ♦ Variable with MFT.
- * Only with plenum rated cable or when electrical conduit is used.

800-543-9038 USA

Compare Actuator Product Range	EF, AF, a Spring R	eturn		Pow Supp				ower umption	Runnin Time(s			Cont Inpi			Co	ntrol Inj	out		sition edback	Auxiliary Switches	List Price
FFB24	-		/DC ± 10%	%, 50/60 Hz				lolding)		[])r()		១១).5 to 30 VDC,	spuos		3,	/e) @ 250V	
EFB2 M4	WARRANTY CE	LESTED TEAM, PAD. & CUU US REG. EQUIP.	24 VAC ± 20%, 50/60 Hz, '	24 to 240 VAC +10%/- 20° 24 to 125 VDC ± 10%	120 VAC ± 10%	230 VAC ± 10%	VA Rating, Actuator/Heater	Wattage Running/Heater (ŀ	Motor Drive (Default)	Spring Return <60 seconds @ -22°F [-30	0n/0ff	2-10 VDC (Default) 4-20 mA (w/500 Ω Resist	0-20 V Phasecut	vell Series 90,	On/Off	Start and Span adj., Start (PWM adj., 0.02 to 50.0 Se	2-10 VDC (Default)	요	2 SPDT, 3 A (0.5 A inducti	
EFB24-S		EFB24	•				16	9.5 (4.5)	75	<20	•										\$956
EFB120		EFB24 N4	•				16	9.5 (4.5)	75	<20	•										\$1,129
EFB Series 270 in to 100 km 100		EFB24-S	•				16	9.5 (4.5)	75	<20	•									•	\$1,145
## PEP120-S N4		EFB120			•	•	21	9.5 (4.5)	75	<20	•										\$1,064
## FB Suring FB FB 120 SM • 21 9.5 (4.5) 75 20 5.1,451 \$1.90 \$1.451 \$1.90 \$1.451 \$1.90 \$1.451	FFR Series	EFB120-S			•	•	21	9.5 (4.5)	75	<20	•									•	\$1,258
## FE24-SR M4		EFB120-S N4			•	•	21	9.5 (4.5)	75	<20	•									•	\$1,431
### FER24-SR N4	[30 Nm]	EFB24-SR	•				14	8 (4.5)	95	<20		•						•			\$1,192
EFB24-MFT	Approx. 66 sq. ft.	EFB24-SR N4	•				14	8 (4.5)	95	<20		•						•			\$1,366
EF824-MFT		EFB24-SR-S	•				14		95	<20		•						•		•	\$1,381
FFB24-MFT-S			•									•			•	•	•	•	•		
AFB24									` ′						•			•		•	
AFB24-S																	Ť				
AFBUP																					
AFBUP-S AFB24-SR AFB24-SR AFB24-SR AFB24-SR AFB24-SR AFB24-SR AFB24-MFT AFB24-MF																					
AFB24-SR																					
AFB24-SR-S				•							•									•	
AFB24-PC												•						•			
AFB24-MFT												•						•		•	
AFB Series 180 in-lbs			•										•					•			
AFB Series 180 in-lbs 120 Nmi] Approx. 45 sq. ft. AFB24-MF195		AFB24-MFT	•				10		70220 (150)	<20		•			•	•	•	•	•		\$730
180 in-lbs AFB24 N4H		AFB24-MFT-S	•				10	7.5 (3)	70220 (150)	<20		•			•	•	•	•	•	•	\$832
APDPTOX. 45 sq. ft.		AFB24-MFT95	•				10	7.5 (3)	70220 (150)	<20				•				•	•		\$757
Approx. 45 sq. ft. AFB24-S N4H AFBUP-S N4H AFBUP-S N4H AFBUP-S N4H AFB24-SR N4H AFB24-SR-S N4H AFB24-SR-S N4H AFB24-MFT N4H AFB24-MFT-S N4H AFB24-MFT-S N4H AFB24-SR-S N4H AFB24-SR-S N4H AFB24-MFT-S N4H AFB24-SR-S B.5 6 (2.5)		AFB24 N4H	•				7.5/25	5/25(3)	<75	<20	•										\$2,211
AFBUP-S N4H AFB24-SR N4H AFB24-MFT N4H AFB24-SR NFB24-SR NFB	Approx. 45 sq. ft.	AFB24-S N4H	•				7.5/25	5/25(3)	<75	<20	•									•	\$2,313
AFB24-SR N4H		AFBUP N4H		•			8.5*/25	7/25 (3)	<75	<20	•										\$2,274
AFB24-SR-S N4H		AFBUP-S N4H		•			8.5*/25	7/25 (3)	<75	<20	•									•	\$2,376
AFB24-MFT N4H AFB24-MFT-S N4H AFB24-MFT-S N4H AFB24-MFT95 N4H AFB24-MFT N4H AFB24-MF		AFB24-SR N4H	•				8.5/25	5.5/25 (3)	95	<20		•						•			\$2,342
AFB24-MFT-S N4H		AFB24-SR-S N4H	•				8.5/25	5.5/25 (3)	95	<20		•						•		•	\$2,444
AFB24-MFT95 N4H		AFB24-MFT N4H	•				10/25	7.5/25 (3)	70220 (150)	<20		•			•	•	•	•	•		\$2,409
NFB24		AFB24-MFT-S N4H	•				10/25	7.5/25 (3)	70220 (150)	<20		•			•	•	•	•	•	•	\$2,511
NFB24		AFB24-MFT95 N4H	•				10/25	7.5/25 (3)	70220 (150)	<20				•				•	•		\$2,436
NFBUP		NFB24	•				8.5		<75	<20	•										\$436
NFB Series 90 in-lbs [10 Nm] Approx. 22 sq. ft. NFBUP-S N4H NFB24-SR N4H NFB24-MFT N4H NFB24-SR N4H NFB24-MFT			•								•									•	
NFB Series 90 in-lbs [10 Nm] Approx. 22 sq. ft. NFBU-S N4H NFBU-																					
NFB Series 90 in-lbs [10 Nm] Approx. 22 sq. ft. NFBU-S N4H NFBU-				•							•									•	
NFB Series 90 in-lbs 10 Nm] Approx. 22 sq. ft. NFB24-SR N4H NFB24-SR N4H NFB24-SR N4H NFB24-SR N4H NFB24-MFT N4H S 6.5 (3) 40150 (150) <20												•						•			
NFB Series 90 in-lbs [10 Nm] NFB24-MFT-S 9 6.5 (3) 40150 (150) <20																					
NFB Series 90 in-lbs [10 Nm] NFB24 N4H ● 8.5/25 6/25 (2.5) <75 <20																				•	
NFB24-S N4H											•								,		
Approx. 22 sq. ft. NFBUP N4H NFBUP-S N4H NFBUP-S N4H NFB24-SR N4H NFB24-SR-S N4H NFB24-SR-S N4H NFB24-MFT N4H NFB24-MF								` '												•	
NFBUP-S N4H ● 6.5"/25 6/25 (2.5) <75				•				` '													
NFB24-SR N4H ● 6/25 3.5/25 (2.5) 95 <20								` ′												•	
NFB24-SR-S N4H ● 6/25 3.5/25 (2.5) 95 <20			•									•						•			
NFB24-MFT N4H ● 9/25 6.5/25 (3) 40150 (150) <20 ● ● ● ● ● ● \$2,326												•						•		•	
								` '				•			•	•	•	•	•		
ΨΕ, 1ΕΟ		NFB24-MFT-S N4H	•				9/25	6.5/25 (3)	40150 (150)	<20		•			•	•	•	•	•	•	\$2,428

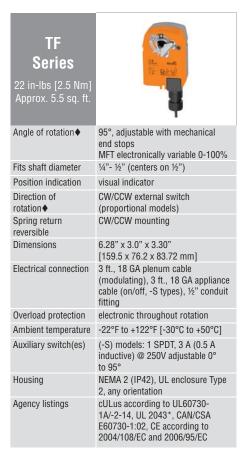
BELIMO

Actuator Specifications



◆ Variable with MFT.

^{*}Only with plenum rated cable or when electrical conduit is used.



Control Input

Position Feedback

Auxiliary Switches

List

Price

Control Input

LF and TF **Spring Return** Damper Actuator

Power Supply

Power Consumption

Running Time(s)



Product F	Range	$24 \text{ VAC} \pm 20\%$, 50/60 Hz, VDC $\pm 10\%$	120 VAC ± 10%	230 VAC ± 10%	VA Rating, Transformer Sizing	. Wattage Running (Holding)	Motor Drive (Default)	Spring Return <60 seconds @ -22°F [-30°C]	0n/0ff	Floating Point	2-10 VDC (Default) 4-20 mA (w/500 Ω Resistor)	3 kΩ NTC Type 10 Thermistor	6-9 VDC, 20 VDC Output Voltage	0n/0ff	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 0.5 to 8, Span 2-10 VDC	1 SPDT, 3 A (0.5 A inductive) @ 250V	
	LF24 US LF24-S US	•			7 7	5 (2.5) 5 (2.5)	<40 to 75 <40 to 75	<25 <25	•											•	\$364 \$427
	LF120 US				7.5	5.5 (3.5)	<40 to 75	<25	•											•	\$403
	LF120-S US				7.5	5.5 (3.5)	<40 to 75	<25	•												\$467
	LF230 US		Ť	•	7.0	5 (3)	<40 to 75	<25	•												\$497
	LF230-S US			•	7	5 (3)	<40 to 75	<25	•											•	\$561
	LF24-SR US	•			5	2.5 (1)	150	<25			•							•			\$497
	LF24-SR-S US	•			5	2.5 (1)	150	<25			•							•		•	\$561
LF Series 35 in-Ibs [4 Nm] Approx. 8.5 sq. ft.	LF24-SR-E US	•			5	2.5 (1)	150	<25			•							•			\$537
	LF24-3 US	•			5	2.5 (1)	150	<25		•											\$442
	LF24-3-S US	•			5	2.5 (1)	150	<25		•										•	\$506
	LF24-ECON-R03 US	•			5	2.5 (1)	95	<25				•						•			\$564
	LF24-MFT US	•			5	2.5 (1)	75300 (150)	<25			•			•	•	•	•	•	•		\$564
	LF24-MFT-S US	•			5	2.5 (1)	75300 (150)	<25			•			•	•	•	•	•	•	•	\$628
	LF24-MFT-20 US	•			6	3.5 (1.5)	150	<25					•	•	•	•	•	•	•		\$627
	LF24-MFT-S-20 US	•			6	3.5 (1.5)	150	<25					•	•	•	•	•	•	•	•	\$691
	LFC24-3-R US	•			5	2.5 (1)	90	<25		•											\$502
	LFC24-3-S US	•			5	2.5 (1)	90	<25		•										•	\$564
	TFB24	•			5	2 (1.3)	<75	<25	•												\$300
	TFB24-S	•			5	2 (1.3)	<75	<25	•											•	\$364
	TFLB24	•			5	2 (1.3)	<75	<75	•												\$301
	TFB120		•	•	5	2.5 (1.3)	<75	<25	•												\$350
	TFB120-S		•	•	5	2.5 (1.3)	<75	<25	•											•	\$413
TFB Series	TFLB120		•	•	5	2.5 (1.3)	<75	<75	•												\$351
22 in-lbs [2.5 Nm]	TFCB120-S		•	•	6	3 (1.5)	<30	<25	•											•	\$436
Approx. 5.5 sq. ft.	TFB24-SR	•			4	2 (1)	95	<25			•							•			\$427
	TFB24-SR-S	•			4	2 (1)	95	<25			•							•		•	\$491
	TFB120-SR		•	•	5.5	2.5 (2)	95	<25			•							•			\$477
	TFB24-3	•			4	2.5 (1)	95	<25		•											\$391
	TFB24-3-S	•			4	2.5 (1)	95	<25		•										•	\$454
	TFB24-MFT	•			4	2.5 (1)	75300 (150)	<25			•			•	•	•	•	•	•		\$495
	TFB24-MFT-S	•			4	2.5 (1)	75300 (150)	<25			•				•	•	•	•		•	\$559





EFB24-MFT

B = Basic stocked product

- Standard 150 second run time.
- Standard ½" to 1.05" clamp.
- Standard 3' appliance cable with conduit connector.

Typical Lead Time: 1 day

EFX24-MFT

X = Customizable product

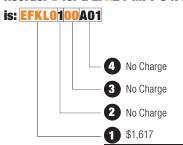
- Choice of 10' or 16' cable with conduit connector.
- Factory programming for run time, control signal and feedback (MFT only).

Typical Lead Time: 3 days or less

Reorder number consists of options which differ from standard product. This number is printed on the actuator for easy reordering.

For example:

Reorder # for a EFX24-MFT-S N4



1 ACTUATOR TYPE				
2 MECHANICAL INTERFACE				
ТҮРЕ	Size	Actuator Series	Code	List Price
No Clamp	-	AFX, NFX, TFX	0	No Charge
Standard Universal Clamp	1/2" - 1.05"	EFX, AFX, NFX, TFX	1	No Charge
Standard Clamp	1/4" - 1/2"	TFX	1	No Charge
Crank Arm	-	AFX, NFX	8	\$3

3 CABLES (EXCLUDES EFN4(H) MODELS)			
SINGLE CABLE (with conduit fitting)	Size	Actuator Series	Cable Code	List Price
Plenum 24V (excludes -S models);	3 ft.*	EFX, AFX, NFX, TFX	C1	No Charge
Default cable for -3, -SR and -MFT TFX models	10 ft.	EFX, AFX, NFX, TFX	C3	\$29
11 X models	16 ft.	EFX, AFX, NFX, TFX	Code C1	\$49
Appliance 24V and 120V;	3 ft.	EFX, AFX, NFX, TFX	A1	No Charge
Default cable for On/Off and -S models -S models have two cables	10 ft.	EFX, AFX, NFX, TFX	АЗ	\$29
10 ft. cables: \$50 16 ft. cables: \$90	16 ft.	EFX, AFX, NFX, TFX	A5	\$49

* Only option for AFX24-MFT95

	Running Time	Control Input	Feedback	Actuator Series	Program Code	List Price
On/Off	75 seconds	On/Off	-	EFX	003	No Charge
	<75 seconds	On/Off	-	AFX, NFX, TFX	003	No Charge
	<30 seconds	On/Off	-	TFCX only	013	No Charge
-3	95 seconds	Floating Point	-	TFX	H34	No Charge
-SR	95 seconds	2-10 VDC	2-10 VDC	EFX, AFX, NFX, TFX	H01	No Charge
-MFT	150 seconds	2-10 VDC	2-10 VDC	EFX, AFX, NFX, TFX	A01	No Charge
	150 seconds	0.5-10 VDC	0.5-10 VDC	EFX, AFX, NFX, TFX	A02	No Charge
	90 seconds	2-10 VDC	2-10 VDC	EFX, AFX, NFX, TFX	AC1	No Charge
	90 seconds	0.5-10 VDC	0.5-10 VDC	EFX, AFX, NFX, TFX	ACA	No Charge
	60 seconds	2-10 VDC	2-10 VDC	EFX, NFX	AEH	No Charge
	70 seconds	2-10 VDC	2-10 VDC	EFX, AFX, NFX	ADW	No Charge
	40 seconds	2-10 VDC	2-10 VDC	NFX	ADX	No Charge
	150 seconds	Floating Point	2-10 VDC	EFX, AFX, NFX, TFX	F01	No Charge
	90 seconds	Floating Point	2-10 VDC	EFX, AFX, NFX, TFX	F14	\$35
	75 seconds	Floating Point	0.5-10 VDC	EFX, AFX, NFX, TFX	F11	\$35
	45 seconds	Floating Point	2-10 VDC	NFX	F19	No Charge
	60 seconds	On/Off	2-10 VDC	EFX, NFX	J19	No Charge
	75 seconds	On/Off	2-10 VDC	EFX, AFX, NFX, TFX	J01	\$35
	150 seconds	On/Off	2-10 VDC	EFX, AFX, NFX, TFX	J02	No Charg

Multi-Function Technology (MFT) offers a wide variety of programmable control inputs and feedback signals. Parameters can be set for voltage control (VDC), time proportional control (PWM), floating point, on/off and feedback signal. Parameters can be changed on-site to optimize/enable application. You can also set, modify or read position, running time, mechanical working range, address, status, and diagnostics.

For MFT programming codes, refer to MFT technical documentation or visit www.belimo.us.

\$1.617 Final Price

List Price

Power Supply



Spring Re	eturn		Sup	, , , , , , , , , , , , , , , , , , ,		Oone		111116(3	<i>'</i>		IIIput							unack	SWILLIES	riice	Ориона
Damper A		10%	ZH O												O VDC				250V		
Product R	ange	∓ JQ/	%, 50/6				Holding		[]		Ē	G			.5 to 3	spuos		œ'	(e) @ (cable
WARRANTY CE LEFT BERRY	Ū	24 VAC \pm 20%, 50/60 Hz, VDC \pm 10%	24 to 240 VAC +10%/- 20%, 50/60 Hz 24 to 125 VDC ± 10%	120 VAC ± 10%	230 VAC ± 10%	VA Rating, Actuator/Heater	Wattage Running/Heater (Holding)	Motor Drive (Default)	Spring Return <60 seconds @ -22°F [-30°C]	0n/0ff	2-10 VDC (Default) 4-20 mA (w/500 Ω Resistor)	Honeywell Series 90, 0-135 Ω	0n/0ff	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 0.5 to 8 Span 2-10 VDC	2 SPDT, 3 A (0.5 A inductive) @ 250V		10 ft. (3 m) or 16 ft. (5 m) cable
	EFX24	•				16	9.5 (4.5)	75	<20	•										\$956	•
	EFX24-S	•				16	9.5 (4.5)	75	<20	•									•	\$1,145	•
	EFX120			•	•	21	9.5 (4.5)	75	<20	•										\$1,069	•
	EFX120-S EFX24-SR			•	•	21 14	9.5 (4.5) 8 (4.5)	75 95	<20 <20	•									•	\$1,258 \$1,192	•
	EFX24-SR-S	•				14	8 (4.5)	95	<20										•	\$1,381	
	EFX24-MFT	•				16		60150 (150)	<20		•		•	•	•	•	•	•		\$1,313	•
	EFX24-MFT-S	•				16		60150 (150)	<20		•		•	•	•	•	•	•	•	\$1,502	•
	EFX24-S N4	•				16	9.5 (4.5)	75	<20	•									•	\$1,317	
EFX Series 270 in-lbs [30 Nm]	EFCX24-S N4	•				16	9.5 (4.5)	75	<10♦	•									•	\$1,407	
Approx. 66 sq. ft.	EFX24-S N4H	•				16/21	9.5/21 (4.5)	75	<20	•									•	\$1,451	
	EFX120-S N4			•	•	21	9.5 (4.5)	75 	<20	•									•	\$1,431	
	EFCX120-S N4			•	•	21	9.5 (4.5)	75 75	<10♦	•									•	\$1,520	
	EFX120-S N4H EFX120-SR N4			•	•	21/22	9.5/22 (4.5)		<20 <20	•									•	\$1,565 \$1,480	
	EFX120-SR N4 EFX120-SR-S N4			•	•	21 21	9(5.5) 9(5.5)	95 95	<20		•						•		•	\$1,480	
	EFX24-SR-S N4	•				14	8 (4.5)	95	<20								•		•	\$1,555	
	EFX24-SR-S N4H	•				14/21	8/21 (4.5)	95	<20		•						•		•	\$1,689	
	EFX24-MFT-S N4	•				16		60150 (150)	<20		•		•	•	•	•	•	•	•	\$1,675	
	EFX24-MFT-S N4H	•				16/21		60150 (150)	<20		•		•	•	•	•	•	•	•	\$1,809	
	AFX24	•				7.5	5 (2.5)	<75	<20	•										\$534	•
	AFX24-S	•				7.5	5 (2.5)	<75	<20	•									•	\$636	•
	AFXUP		•			8.5*	7 (3.5)	<75	<20	•										\$595	•
	AFXUP-S		•			8.5*	7 (3.5)	<75	<20	•									•	\$697	•
	AFX24-SR	•				8.5	5.5 (3)	95	<20		•						•			\$663	•
	AFX24-SR-S	•				8.5	5.5 (3)	95	<20		•						•		•	\$765	•
	AFX24-MFT	•				10		70220 (150)	<20		•		•	•	•	•	•	•	_	\$730	•
AFX Series	AFX24-MFT-S	•				10	7.5 (3)	70220 (150)	<20		•		•	•	•	•	•	•	•	\$832	•
180 in-lbs [20 Nm]	AFX24-MFT95 AFX24 N4	•				10	7.5 (3) 5 (2.5)	70220 (150) <75	<20 <20			•					•	•		\$757 \$1,133	
Approx. 45 sq. ft.	AFX24-S N4					7.5 7.5	5 (2.5)	<75	<20	•									•	\$1,235	
	AFXUP N4		•			8.5*	7 (3.5)	<75	<20	•										\$1,196	•
	AFXUP-S N4		•			8.5*	7 (3.5)	<75	<20	•									•	\$1,298	•
	AFX24-SR N4	•				8.5	5.5 (3)	95	<20		•						•			\$1,264	•
	AFX24-SR-S N4	•				8.5	5.5 (3)	95	<20		•						•		•	\$1,366	•
	AFX24-MFT N4	•				10	7.5 (3)	70220 (150)	<20		•		•	•	•	•	•	•		\$1,331	•
	AFX24-MFT-S N4	•				10		70220 (150)	<20		•		•	•	•	•	•	•	•	\$1,433	•
	AFX24-MFT95 N4	•				10		70220 (150)	<20			•					•	•		\$1,358	
	NFX24	•				8.5	6 (2.5)	<75	<20	•										\$436	•
	NFX24-S	•				8.5	6 (2.5)	<75	<20	•									•	\$538	•
	NFXUP-S		•			6.5** 6.5**	6 (2.5)	<75	<20 <20	•										\$493 \$505	•
	NFX24-SR	•				6.5	6 (2.5) 3.5 (2.5)	<75 95	<20		•						•		•	\$595 \$582	•
	NFX24-SR-S					6	3.5 (2.5)	95 95	<20										•	\$582 \$684	
	NFX24-SN-S	•				9		40150 (150)	<20		•		•	•	•	•	•	•		\$647	
NFX Series	NFX24-MFT-S	•				9		40150 (150)	<20		•		•	•	•	•	•	•	•	\$749	•
90 in-lbs [10 Nm]	NFX24 N4	•				8.5	6 (2.5)	<75	<20	•										\$1,037	•
Approx. 22 sq. ft.	NFX24-S N4	•				8.5	6 (2.5)	<75	<20	•									•	\$1,139	•
	NFXUP N4		•			6.5**	6 (2.5)	<75	<20	•										\$1,093	•
	NFXUP-S N4		•			6.5**	6 (2.5)	<75	<20	•									•	\$1,195	•
	NFX24-SR N4	•				6	3.5 (2.5)	95	<20		•						•			\$1,183	•
	NFX24-SR-S N4	•				6	3.5 (2.5)	95	<20		•						•		•	\$1,285	•
	NFX24-MFT N4	•				9		40150 (150)	<20		•		•	•	•	•	•	•		\$1,248	•
♦ <15 seconds @ -22°	NFX24-MFT-S N4	•				9	6.5 (3)	40150 (150)	<20		•		•	•	•	•	•	•	•	\$1,350	•

Running Time(s)

Power Consumption

Control Input

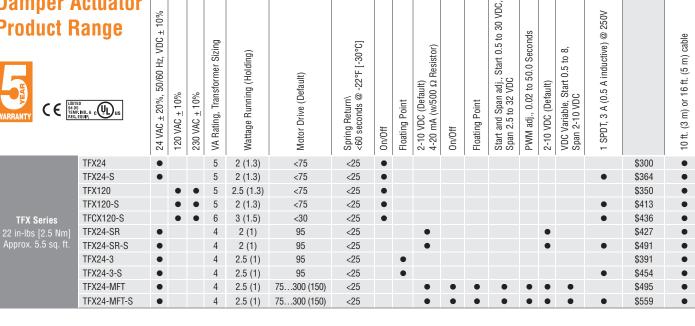
^{♦ &}lt;15 seconds @ -22°F [-30°C].
*8.5 VA for 120 VAC; 7 VA for 24 VAC, 18 VA for 240 VAC. **6.5 VA for 120 VAC; 6 VA for 24 VAC; 9.5 VA for 240 VAC.

Custom
Spring Return
Damper Actuator
Product Range

Power Supply

Power Consumption





Running Time(s)

Control Input

Cable Options

Auxiliary Switches

List Price



Actuator and Linkage Specifications

pecinications
166 in-lbs [18 Nm] minimum
87 in-lbs [9 Nm] minimum
33 in-lbs [3 Nm] minimum
95° (adjustable with mechanical stops)
1/2" to 1.05" (centers on $1/2$ " and $1/2$ " shafts with insert and 1.05" without inserts)
visual indicator on actuator
manual crank (AFX and NFX only)
CW/CCW external switch (proportional models)
14.05" x 4.65" x 4.46" [357 x 118 x 113.4 mm]
3 ft., 18 GA appliance cable (default), ½" conduit fitting
electronic throughout rotation
-S models: refer to actuator product pages
NEMA 2/IP54, UL enclosure Type 2
cULus according to UL 60730- 1A/-2-14, CAN/CSA E60730-1:02, CE according to 2004/108/EC and 2006/95/EC









BASIC PRODUCTS		Control Input	Feedback	Power Supply	Running Time(s) [Default]	VA Rating	Auxiliary Switch	List Price (Linkage Only)	ZG-JSLA List Price* (Actuator + Linkage)
Jackshaft (only)	ZG-JSL							\$284	
CUSTOMIZE PRODUCTS#	REORDER #								
ZG-JSLA + AFX24	JSL+AF200 2A1 003	On/Off	-	24 VAC/DC	<75 seconds	7.5	_		\$765
ZG-JSLA + AFX24-S	JSL+AF220 2A1 003	On/Off	_	24 VAC/DC	<75 seconds	7.5	Built-in		\$867
ZG-JSLA + AFXUP	JSL+AF000 2A1 003	On/Off	_	24-240 VAC	<75 seconds	8.5	-		\$828
ZG-JSLA + AFXUP-S	JSL+AF020 2A1 003	On/Off	_	24-240 VAC	<75 seconds	8.5	Built-in		\$929
ZG-JSLA + AFX24-SR	JSL+AF400 2A1 H01	2-10 VDC	2-10 VDC	24 VAC/DC	95 seconds	8.5	- Duilt III		\$896
ZG-JSLA + AFX24-SR-S	JSL+AF420 2A1 H01	2-10 VDC	2-10 VDC	24 VAC/DC	95 seconds	8.5	Built-in		\$997
ZG-JSLA + AFX24-MFT	JSL+AF600 2A1 A01	Variable with MFT (VDC, PWM, Floating Point, On/Off)	Variable VDC	24 VAC/DC	150 seconds	10	-	-	\$963
ZG-JSLA + AFX24-MFT-S	JSL+AF620 2A1 A01	Variable with MFT (VDC, PWM, Floating Point, On/Off)	Variable VDC	24 VAC/DC	150 seconds	10	Built-in		\$1,065
ZG-JSLA + AFX24-MFT95	JSL+AFE10 2C1 R01	0-135 Ω	Variable VDC	24 VAC/DC	150 seconds	10	-		\$990
ZG-JSLA + NFX24	JSL+NF200 2A1 003	On/Off	-	24 VAC/DC	<75 seconds	8.5	-		\$667
ZG-JSLA + NFX24-S	JSL+NF220 2A1 003	On/Off	-	24 VAC/DC	<75 seconds	8.5	Built-in		\$769
ZG-JSLA + NFXUP	JSL+NF000 2A1 003	On/Off	-	24-240 VAC	<75 seconds	6.5	-		\$725
ZG-JSLA + NFXUP-S	JSL+NF020 2A1 003	On/Off	-	24-240 VAC	<75 seconds	6.5	Built-in		\$827
ZG-JSLA + NFX24-SR	JSL+NF400 2A1 H01	2-10 VDC	2-10 VDC	24 VAC/DC	95 seconds	6	-		\$814
ZG-JSLA + NFX24-SR-S	JSL+NF420 2A1 H01	2-10 VDC	2-10 VDC	24 VAC/DC	95 seconds	6	Built-in		\$915
ZG-JSLA + NFX24-MFT	JSL+NF600 2A1 A01	Variable with MFT (VDC, PWM, Floating Point, On/Off)	Variable VDC	24 VAC/DC	150 seconds	9	-		\$879
ZG-JSLA + NFX24-MFT-S	JSL+NF620 2A1 A01	Variable with MFT (VDC, PWM, Floating Point, On/Off)	Variable VDC	24 VAC/DC	150 seconds	9	Built-in		\$982
ZG-JSLA + LF24 US	JSL+LF24 US	On/Off	-	24 VAC/DC	<40 to 75 seconds	7	-		\$596
ZG-JSLA + LF24-S US	JSL+LF24-S US	On/Off	-	24 VAC/DC	<40 to 75 seconds	7	Built-in		\$659
ZG-JSLA + LF120 US	JSL+LF120 US	On/Off	-	24 VAC/DC	<40 to 75 seconds	7.5	-		\$635
ZG-JSLA + LF24-SR US	JSL+LF24-SR US	2-10 VDC	2-10 VDC	24 VAC/DC	150 seconds	5	-		\$732
ZG-JSLA + LF24-3 US	JSL+LF24-3 US	Floating Point	-	24 VAC/DC	150 seconds	5	-		\$676
ZG-JSLA + LF24-MFT US	JSL+LS100 0A1 A01	Variable with MFT (VDC, PWM, Floating Point, On/Off)	Variable VDC	24 VAC/DC	150 seconds	5	-		\$798
ZG-JSLA+LF120-S US	JSL+LF120-S US	On/Off	-	120 VAC	<40 to 75 seconds	7.5	Built-in		\$699
ZG-JSLA+LF24-MFT-S US	JSL+LF24-MFT-S US	Various	Various	24 VAC/DC	150 seconds	5	Built-in		\$862
ZG-JSLA+LF24-SR-S US	JSL+LF24-SR-S US	2-10 VDC	2-10 VDC	24 VAC/DC	150 seconds	5	Built-in		\$796

 $^{{}^{\}star}\text{At}$ the factory, there is a cost savings on the ZG-JSL if assembled with the actuator.

^{‡‡} For other actuator models, please contact factory or visit us at www.belimo.us for possible combinations.



Fast Response for Critical Applications

Where maximum air flow must be achieved quickly, such as emergency generator combustion inlet dampers, the EFCX spring return actuator is the ultimate choice. The actuator operates damper sizes up to 90 square feet with a 270 in-lbs and a

<20 second spring return speed.

For larger damper applications, two EFCX actuators can be piggyback mounted onto the same shaft or mechanically coupled jackshafts.

EFCX reliable performance backed with a 5-year warranty.





ELECTRONIC FAIL-SAFE
DAMPER ACTUATORS

Reliability and Safety Performance

- Patented charge management system ensures reliable fail-safe and selectable fail position between 0-100%.
- High torque, linear and quick running offering to handle challenging applications.
- Minimum torque guaranteed over entire specified operating range, no loss in performance due to temperature or supply voltage.

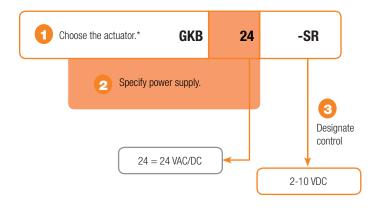
EXPERIENCE **EFFICIENCY**

Carl Zinn, Product Manager

Electronic Fail-Safe Damper Actuator Nomenclature

GK		В	24	-SR	
Torque Rating	Speed	Version	Power Supply	Control	
PK = 1400 in-lbs GK = 360 in-lbs NK = 54 in-lbs AHK = 101 lbf	Q = Quick Running Blank = Normal Speed	B = Basic $X = Customized$	24 = 24 VAC/DC* UP = 24 to 240 VAC**	-1 = On/Off -3 = On/Off, Floating Point -SR = 2-10 VDC -MFT = Multi-Function Technology	N4* = NEMA 4 N4H* = NEMA 4 with Heater -T = Terminal Block

Ordering Example



4 Complete Ordering Example: GKB24-SR

^{*}NEMA 4 option on select models.

^{*}GK...24-3 is 24 VAC only.

^{**24} to 125 VDC

^{*}All functions and packaging are not available with all versions.



System Protection with Low Energy Consumption

Belimo electronic fail-safe actuators developed for the HVAC market using several patented technologies to provide reliable operation and selectable fail-safe positioning. Unique electronics, software and super capacitor technology not only enables user selection of fail position (0-100%), it also delays unnecessary actuator movements during short brown out conditions – avoiding changes in the HVAC and building automation system.

Discover the advantages at belimo.us



BELIMO

Actuator Specifications

PKB Series



	1
Angle of rotation ◆	90°, with built-in end stops; MFT electronically variable 0-100%
Fits shaft diameter	17 mm square interface (custom coupler may be required)
Position indication	integral pointer in cover
Manual override	7 mm hex crank, supplied
Direction of rotation ♦ MFT	reversible with App
Dimensions	12.09" x 7.95" x 7.12" [307 x 202 x 181 mm]
Fail-safe setting MFT	adjustable with App
Electrical connection	terminal block
Overload protection	electronic throughout rotation
Auxiliary switch(es)	2x SPDT 3A resistive (0.5 inductive @ 24-250 VAC, one set at 10° and one field adjustable 0-95° (85° default)
Ambient temperature	-22°F to +122°F [-30°C to +50°C]
Housing	NEMA 4X, IP66/67, UL enclosure Type 4
Agency listings	cULus according to UL 60730- 1A/-2-14, CAN/CSA E60730-1:02, CE according to 2004/108/EC and 2006/95/EC

GKB Series 360 in-lbs [40 Nm] Approx. 90 sq.ft.



	ş						
Angle of rotation◆	95°, adjustable with mechanical end stops MFT electronically variable 0-100%						
Fits shaft diameter	$\frac{1}{2}$ " to 1.05" (center on $\frac{3}{4}$ " shaft with insert and on 1" without insert)						
Position indication	reflective visual indicator (snap on)						
Manual override	external push button						
Direction of rotation◆	external switch						
Dimensions	9.73" x 4.57" x 3.43" [248 x 116 x 87 mm]						
Fail-safe setting -3, -SR MFT	0°-95° at 10° intervals 0-100% at 10% intervals						
Electrical connection	3 ft., 18 GA plenum rated cable, $\frac{1}{2}$ " conduit fitting						
Overload protection	electronic throughout rotation						
Ambient temperature	-22°F to +122°F [-30°C to +50°C]						
Auxiliary switch(es)	add on: 1 or 2 SPDT, 3A (0.5A inductive) @ 250V adjustable 5° to 85°						
Housing	NEMA 2, IP54, UL enclosure Type 2						
Agency listings	cULus according to UL 60730-1A/- 2-14, UL 2043, CAN/CSA E60730- 1:02, CE according to 2004/108/EC						

and 2006/95/EC

GK NEMA 4 Series



Approx. 90 sq.ft.	- 111					
Angle of rotation◆	95°, adjustable with mechanical end stops MFT electronically variable 0-100%					
Fits shaft diameter	$\frac{1}{2}$ " to 1.05" (clamp centers on $\frac{3}{4}$ " and 1.05")					
Shaft length	minimum 1" maximum 21/4"					
Position indication	dial					
Direction of rotation (motor)	reversible with built-in switch					
Direction of rotation (fail-safe)	reversible with switch					
Dimensions	14.11" x 6.77" x 7.59" [359 x 172 x 193 mm]					
Electrical connection	terminal strip (-T)					
Overload protection	electronic throughout rotation					
Ambient temperature	N4H Models: -40°F to +122°F [-40°C to +50°C]					
Auxiliary switch(es)	add-on: 1 or 2 SPDT, 3A (0.5A inductive) @ 250V adjustable 5° to 85°					
Housing	NEMA 4, IP66, UL enclosure Type 4					
Agency listings	cULus according to UL 60730- 1A/-2-14, CAN/CSA E60730-1:02, CE according to 2004/108/EC and 2006/95/EC					

NKQB Series

54 in-lbs [6 Nm] Approx. 12 sq.ft.



Angle of rotation◆	95°, adjustable with mechanical end stops. MFT electronically variable 0-100°
Fits shaft diameter	1/2" to 1.05" (center on $1/2$ " and $1/4$ " shaft with insert and on 1" without insert)
Position indication	reflective visual indicator (snap on)
Manual override	external push button
Direction of rotation◆	external switch
Dimensions	9.09" x 3.86" x 3.15" [231 x 98 x 80 mm]
ail-safe setting	
, -	0°-95° at 10° intervals
MFT	0-100% at 10% intervals
Electrical connection	3 ft., 18 GA plenum rated cable, ½"

Manual override	external push button
Direction of rotation◆	external switch
Dimensions	9.09" x 3.86" x 3.15" [231 x 98 x 80 mm]
Fail-safe setting -1, -SR MFT	0°-95° at 10° intervals 0-100% at 10% intervals
Electrical connection	3 ft., 18 GA plenum rated cable, $\frac{1}{2}$ " conduit fitting
Ambient temperature	-22°F to +122°F [-30°C to +50°C]
Overload protection	electronic throughout rotation
Auxiliary switch(es)	add on: 1 or 2 SPDT, 3A (0.5A inductive) @ 250V adjustable 5° to 85°
Housing	NEMA 2, IP54, UL enclosure Type 2
Agency listings	cULus according to UL 60730-1A/- 2-14, UL 2043, CAN/CSA E60730- 1:02. CE according to 2004/108/EC

AHKX Series



Lilical Stroke	4 [100 11111]
Manual override	external push button
Direction of stroke◆	reversible with switch
Dimensions	9.19" x 3.19" x 3.64" [234 x 82 x 93 mm]
Fail-safe setting	0-100% at 10% intervals
Electrical connection	3 ft., 18 GA plenum rated cable, ½" conduit fitting
Ambient temperature	-22°F to +122°F [-30°C to +50°C]
Overload protection	electronic throughout full stroke
Housing	NEMA 2, IP54, UL enclosure Type 2
Agency listings	cULus according to UL 60730-1A/- 2-14, UL 2043, CAN/CSA E60730- 1:02, CE according to 2004/108/EC and 2006/95/EC

♦ Variable with MFT.

800-543-9038 USA

and 2006/95/EC

Add-On

Accessory

List

Price

Communication

PKB, GKB, NKQB **Electronic Fail-Safe Damper Actuator Product Range**





	Product Range		24 VAC \pm 20%, 50/60 Hz, VDC \pm 10	24 to 240 VAC +10%/- 20%, 50/60 Hz 24 to 125 VDC <u>+</u> 10%	VA Rating, Actuator/Heater	Wattage Running/Heater (Holding)	Motor Drive	Fail-Safe	On/Off	Floating Point	2-10 VDC (Default) 4-20 mA (w/500 Ω Resistor)	2-10 VDC (Default)	BAGnet		S1A or S2A (with Z-SPA for NKQ)	Potentiometer (with Z-SPA for NKQ)	
NEW	PKB Series 1400 in-lbs [160 Nm]	PKBUP-MFT-T		•	431	40 (8)2	35	30	•	•	•	•	•	\$5,639			
		GKB24-3*	•		21	11 (3)	150	35	•	•				\$1,228	•	•	
		GKB24-SR	•		21	11 (3)	150	35			•	•		\$1,531	•	•	
	GKB Series	GKB24-MFT [†]	•		21	11 (3)	150	35	•	•	•	•		\$1,690	•	•	
	360 in-Ibs [40 Nm] Approx. 90 sq. ft.	GKB24-3-T N4H*	•		21/21	11/21 (3)	150	35	•	•				\$2,235	•	•	
		GKB24-SR-T N4H	•		21/21	11/21 (3)	150	35			•	•		\$2,537	•	•	
		GKB24-MFT-T N4H	•		21/21	11/21 (3)	150	35	•	•	•	•		\$2,683	•	•	
	NKQB Series	NKQB24-1	•		22	11 (3)	4	4	•					\$848	•	•	
	54 in-Ibs [6 Nm] Approx. 12 sq. ft.	NKQB24-SR	•		22	11 (3)	4	4			•	•		\$898	•	•	

^{*}GK...24-3 is VAC only

Power

Supply

Power

Consumption

Running

Time

Control

Input

Position

Feedback

Thiggy back mounting on a single shaft for -MFT wired Master-Slave, 720 in-lbs maximum load, and 1" minimum diameter shaft.

NEMA 4 actuators without heater option are listed on page 3-7

143 VA for 120 VAC; 55 VA for 24 VAC; 68 VA for 230 VAC

²40W (8W) for 120 VAC; 52W (7W) for 24 VAC; 40W (9W) for 230 VAC





GKB...

B = Basic stocked product

- Standard 150 second run time.
- Standard ¾" to 1.05" clamp.
- · Standard 3' plenum cable with conduit connector.

Typical Lead Time: 1 day

GKX...

X = Customizable product

- Choice of 10' or 16' cable with conduit connector.
- · Factory programming for run time, control signal and feedback.

Typical Lead Time: 3 days or less

Reorder number consists of options which differ from standard product. This number is printed on the actuator for easy reordering.

Reorder # for a GKX24-MFT



1 ACTUATO	OR TYPE					
2 MECHAN	IICAL INTERFA	CE				
TYPE		Size		Actuator Series	Code	List Price
No Clamp		-		AHKX	0	No Charge
Standard Univ	versal Clamp	3/4" to 1.0)5"	GKX, NKQX	1	No Charge
CABLES						
3 .BLE (with condu	it fitting)	Size		Actuator Series	Cable Code	List Price
24V Plenum F	Rated	3 ft.	·	GKX, NKQX, AHKX	C1	No Charge
		10 ft.	·	GKX, NKQX, AHKX	C3	\$29
		16 ft.		GKX, NKQX, AHKX	\$49	
PROGRA	М					
Running Control Input			Feedback	Actuator Series	Program Code	List Price

4	Running Time	Control Input	Feedback	Actuator Series	Program Code	List Price
-1	4 seconds	On/Off	-	NKQX	TOH	No Charge
-3	150 seconds	On/Off, Floating Point	-	GKX	F1D	No Charge
	90 seconds	On/Off, Floating Point	-	GKX	F1E	No Charge
-SR	4 seconds	2-10 VDC	2-10 VDC	NKQX	TOL	No Charge
	150 seconds	2-10 VDC	2-10 VDC	GKX	AE2	No Charge
	90 seconds	2-10 VDC	2-10 VDC	GKX	AE0	No Charge
-MFT	4 seconds	2-10 VDC	2-10 VDC	NKQX	T02	No Charge
	7 seconds	2-10 VDC	2-10 VDC	NKQX	T03	No Charge
	10 seconds	2-10 VDC	2-10 VDC	NKQX	T04	No Charge
	90 seconds	2-10 VDC	2-10 VDC	GKX, AHKX	AC1	No Charge
	100 seconds	2-10 VDC	2-10 VDC	GKX, AHKX	A19	No Charge
	150 seconds	2-10 VDC	2-10 VDC	GKX, AHKX	A01	No Charge
	4 seconds	0.5-10 VDC	0.5-10 VDC	NKQX	T08	No Charge
	7 seconds	0.5-10 VDC	0.5-10 VDC	NKQX	T09	No Charge
	10 seconds	0.5-10 VDC	0.5-10 VDC	NKQX	TOA	No Charge
	150 seconds	0.5-10 VDC	0.5-10 VDC	GKX, AHKX	A02	No Charge
	90 seconds	0.5-10 VDC	0.5-10 VDC	GKX, AHKX	ACA	No Charge
	150 seconds	Floating Point	2-10 VDC	GKX, AHKX	F01	No Charge
	120 seconds	On/Off	2-10 VDC	GKX, AHKX	J06	No Charge
	150 seconds	On/Off	2-10 VDC	GKX, AHKX	J02	No Charge
	150 seconds	PWM (0.02-5 sec)	2-10 VDC	GKX, AHKX	W02	No Charge

Multi-Function Technology (MFT) offers a wide variety of programmable control inputs and feedback signals. Parameters can be set for voltage control (VDC), time proportional control (PWM), floating point, on/off and feedback signal. Parameters can be changed on-site to optimize/enable application. You can also set, modify or read position, running time, mechanical working range, address, status, and diagnostics.

For additional MFT programming codes, refer to MFT technical documentation or visit www.belimo.us.

Custom Electronic Fail-Safe Damper Actuator Product Range





	CE LETED PHIRAL ROLL & CUL		24 VAC \pm 20%, 50/60 Hz, VDC \pm 10%	VA Rating, Transformer Sizing	Wattage Running (Holding)	Motor Drive (Default)	Fail-Safe	0n/0ff	Floating Point	2-10 VDC (Default) 4-20 mA (w/500 Ω Resistor)	0n/0ff	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 0.5 to 8, Span 2 to 10 VDC		10 ft. (3 m) or 16 ft. (5 m) cable	S1A or S2A (with Z-SPA for NKQ)	Potentiometer (with Z-SPA for NKQ)
		GKX24-3*	•	21	11 (3)	90, 150 (150)	35	•	•								\$1,228	•	•	•
		GKX24-SR	•	21	11 (3)	90, 150 (150)	35			•					•		\$1,531	•	•	•
	GKX Series	GKX24-MFT [†]	•	21	11 (3)	90, 150 (150)	35			•	•	•	•	•	•	•	\$1,690	•	•	•
	360 in-lbs [40 Nm] Approx. 90 sq. ft.	GKX24-3-T N4*	•	21	11 (3)	90, 150 (150)	35	•	•								\$1,820		•	•
		GKX24-SR-T N4	•	21	11 (3)	90, 150 (150)	35			•					•		\$2,123		•	•
		GKX24-MFT-T N4	•	21	11 (3)	90, 150 (150)	35			•	•	•	•	•	•	•	\$2,282		•	•
	NKQX Series	NKQX24-1	•	22	11 (3)	4, 7, 10 (4)	4	•									\$848	•	•	•
	54 in-lbs [6 Nm] Approx. 12 sq. ft.	NKQX24-SR	•	22	11 (3)	4, 7, 10 (4)	4			•					•		\$898	•	•	•
		NKQX24-MFT	•	22	11 (3)	4, 7, 10 (4)	4			•	•		•		•	•	\$973	•	•	•
	AHKX Series 101 lbf [450 N Force] Approx. 4" stroke	AHKX24-MFT-100	•	22	11 (3)	90, 150 (150)	35			•	•	•	•	•	•	•	\$1,625	•		

Running Time(s)

Control Input

Control Input

Position Feedback

Cable Options

List Price Add-On Accessory

Power Supply

Power Consumption

^{*}GK...24-3 is VAC only

[†]Piggy back mounting on a single shaft for -MFT wired Master-Slave, 720 in-lbs maximum load, and 1" minimum diameter shaft.



Intelligent and Powerful. Belimo PMB and PKB Actuator Series.

Belimo's new PMB and PKB damper actuator series are the most innovative, energy efficient and reliable solution for medium to high flow velocity and pressure applications. The new series with its durable construction, reduced weight, high torque (1400 in-lbs), and NEMA 4X rating housing can handle tough, demanding environments.

The actuator series is available with non fail-safe (PMB) or electronic fail-safe (PKB) actuation, universal power supply capability, and Near Field Communication (NFC) for easy programming, commissioning and troubleshooting. The actuator communicates directly with Building Automation System (BAS) and offers cloud connectivity to ensure optimal performance.

Discover all the advantages at belimo.us











FIRE AND SMOKE DAMPER ACTUATORS

Technology that Saves Lives

- Lowest power consumption life safety actuators available in the market.
- ISO 9001 Certified Quality Control and a 5-year warranty assure reliable operation with exceptional customer support.
- Extensive product range offers 18 in-lbs to 180 in-lbs for 250°F and 350°F elevated temperatures in UL 555S applications.

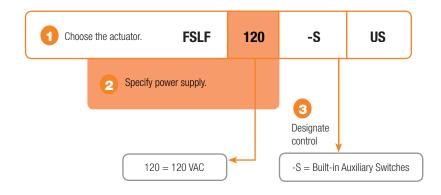
EXPERIENCE **EFFICIENCY**

Mike Knipple, Manager, Product Management Air and Actuator Solutions

Fire and Smoke Damper Actuator Nomenclature

FS	L	F	120			-S	US
Fire and Smoke	Torque Rating $A = 180 \text{ in-lbs}$ $N = 70 \text{ in-lbs}$ $L = 30 \text{ in-lbs}$ $T = 18 \text{ in-lbs}$	Actuator Type F = Spring Return	Power Supply 24 = 24 VAC/DC 120 = 120 VAC 230 = 230 VAC	Generation Blank = Original A = New Generation On/Off	Control Blank = On/Off -SR = 2-10 VDC*	-S = Built-in Auxiliary Switches	

Ordering Example



4 Complete Ordering Example: FSLF120-S US

^{*}Available in FSAFB24-XX series only

PROBLEM



SOLUTION



Replacement Solutions for Optimized Functionality and Maximum Safety in Buildings

Belimo fire and smoke damper actuators have an extensive torque offering and are specifically designed for operation with fire, smoke and combination fire, and smoke dampers in ventilation and air-conditioning systems. An integral part of the life safety system, Belimo fire and smoke actuators provide high performance, low power consumption, and are complaint with Life Safety Codes and Standards.

- Fire and smoke actuators meet UL555 and UL555S listing with all damper manufacturers
- UL 2043 suitable for use in air-handling spaces (plenums)
- Meets New York City OTCR and MEA requirements; California State Fire Marshall Listed
- Compact solutions for space constrained locations
- Range of torque offerings to fit variety of applications (18, 30, 70, and 180 in-lbs)
- Saves energy and cost with lowest current draws versus the competition
- Retrofit installation instructions available at www.belimo.us

For assistance with your project, contact Belimo Technical Support at 800-543-9038 (USA) or 866-805-7089 (Canada).

FSAF*A, FSAFB, FSNF, FSLF, FSTF Series

Actuator Specifications



0000	• /
Control	on/off
Angle of rotation	95°
Fits shaft diameter	½"-1.05" (clamp self-centers on ½" and 1.05". Order 23115-00001 insert for ¾").
Position indication	visual indicator, 0 to 95°
Manual override	none
Direction of rotation	CW/CCW mounting
Dimensions	10.2" x 3.86" x 3.23" [259 x 98 x 82 mm]
Electrical connection	3 ft., 18 GA, ½" conduit fitting
Overload protection	electronic throughout rotation
Auxiliary switch(es)	2 SPST 6A (2.5A inductive) @ 120/250V
Housing	NEMA 1
Agency listings	cULus listed according to UL6730- 1A/-2-14, CAN/CSA E60730-1 andCSA22.2 No. 24-93. Listed to UL 2043 per requirements of NEC 300.22

^{**}For UL555S, torque is the same for $\frac{1}{2}$ hour at 350°F.

(c) and IMC 602 for plenum use.

FSAFB Series

180 in-lbs [20 Nm]*** Approx. 18 sq. ft. @ 250°F ↑	
Control	modulating
Angle of rotation	95°
Fits shaft diameter	½"-1.05" (clamp self-centers on ¾" and 1.05")
Position indication	visual indicator, 0 to 95°
Manual override	5 mm hex crank
Direction of rotation	reversible with built-in switch
Dimensions	9.69" x 3.86" x 3.42"

Manual override	5 mm hex crank
Direction of rotation	reversible with built-in switch
Dimensions	9.69" x 3.86" x 3.42" [246 x 98 x 86 mm]
Electrical connection	3 ft., 18 GA, ½" conduit fitting
Overload protection	electronic throughout rotation
Auxiliary switch(es)	2 SPDT, 3A (0.5A inductive) 125/250V
Housing	NEMA 2/IP54, enclosure Type 2
Agency listings	cULus listed acc. to UL60730-1A/-2-14, CAN/CSA E60730, Listed to UL 2043 per requirements of NEC 300.22 (c) and IMC 602 for plenum use.

^{***}For UL555S, torque is the same for ½ hour at 250°F.

FSNF Series

70 in-lbs [8 Nm]** Approx. 12 sq. ft

1/2",



BELIN

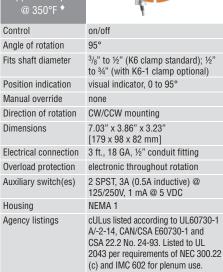
@ 350°F ◆	Ten rep
Control	on/off
Angle of rotation	95°
Fits shaft diameter	$\frac{1}{2}$ "-1.05" (clamp self-centers on $\frac{1}{2}$ ", $\frac{3}{4}$ " and 1.05")
Position indication	visual indicator, 0 to 95°
Manual override	none
Direction of rotation	CW/CCW mounting
Dimensions	10.2" x 3.86" x 3.23" [259 x 98 x 82 mm]
Electrical connection	3 ft., 18 GA, ½" conduit fitting
Overload protection	electronic throughout rotation
Auxiliary switch(es)	2 SPDT, 7A (2.5A inductive) @ 125/250V
Housing	NEMA 1
Agency listings	cULus listed according to UL873 and CAN/CSA C22.2 No. 24-93. Listed to UL 2043 per requirements of NEC 300.22 (c) and IMC 602 for plenum use.

^{**}For UL555S, torque is the same for ½ hour at 350°F.

FSLF Series

30 in-lbs @ 350°F





^{**}For UL555S, torque is the same for ½ hour at 350°F.

FSTF Series

[2 Nm]*** Approx. 1.5 sq. ft.



Control	on/off
Angle of rotation	95°
Fits shaft diameter	$1\!\!4\text{"}$ to $1\!\!/2\text{"}$ (clamp self-centers on $1\!\!/2\text{"})$
Position indication	visual indicator, 0 to 95°
Manual override	none
Direction of rotation	CW/CCW mounting
Dimensions	6.28" x 3.0" x 3.30" [159 x 76 x 84 mm]
Electrical connection	3 ft., 18 GA, ½" conduit fitting
Overload protection	electronic throughout rotation
Auxiliary switch(es)	2 SPST, 3A (0.5A inductive) @ 120 VAC, UL approved
Housing	NEMA 2/IP42
Agency listings	cULus listed according to UL60730-1 A/-2-14, CAN/CSA E60730-1 and CSA 22.2 No. 24-93. Listed to UL 2043 per requirements of NEC 300.22 (c) and IMC 602 for plenum use.

^{***}For UL555S, torque is the same for ½ hour at 250°F.



[♦] Specific models and sizes vary with each damper manufacturer.

FSAF*A, FSAFB, FSNF, FSLF, FSTF			Power Supply	i	Power Consumption	Runr Time		Control Input	Auxi Swit	List Price	
Fire and Smoke Spring Return D Actuator Product LEFED	amper	24 VAC/DC	120 VAC	230 VAC	VA Rating	Motor Drive	Spring Return	On/Off	2 SPST	2 SPDT	
	FSAF24A	•			32 [‡]	<25	<15	•			\$679
	FSAF24A-S	•			32‡	<25	<15	•	•		\$792
FSAF*A Series	FSAF120A		•		38‡	<25	<15	•			\$746
180 in-lbs [20 Nm] Approx. 18 sq. ft. @ 350°F	FSAF120A-S		•		38‡	<25	<15	•	•		\$859
πρριολί το όφι τιι 🦁 όδο τ	FSAF230A			•	37 [‡]	<25	<15	•			\$883
	FSAF230A-S			•	37 [‡]	<25	<15	•	•		\$996
FSAFB Series	FSAFB24-SR	•			9	<75	<20	2-10 VDC			\$849
180 in-lbs [20 Nm] Approx. 18 sq. ft. @ 250°F	FSAFB24-SR-S	•			9	<75	<20	2-10 VDC		•	\$962
	FSNF24 US	•			24 [‡]	<15	<15	•			\$550
	FSNF24-S US	•			24 [‡]	<15	<15	•		•	\$662
FSNF Series	FSNF120 US		•		23‡	<15	<15	•			\$604
70 in-lbs [8 Nm] Approx. 12 sq. ft. @ 350°F	FSNF120-S US		•		23‡	<15	<15	•		•	\$717
7, pp 10%. 12 0q. 16. © 000 1	FSNF230 US			•	23‡	<15	<15	•			\$725
	FSNF230-S US			•	23‡	<15	<15	•		•	\$837
	FSLF24 US	•			15‡	<15	<15	•			\$425
	FSLF24-S US	•			15‡	<15	<15	•	•		\$507
FSLF Series	FSLF120 US		•		18‡	<15	<15	•			\$468
30 in-lbs [3.5 Nm] Approx. 4 sq. ft. @ 350°F	FSLF120-S US		•		18‡	<15	<15	•	•		\$550
	FSLF230 US			•	17‡	<15	<15	•			\$556
	FSLF230-S US			•	17‡	<15	<15	•	•		\$638
	FSTF24 US	•			3	<75	<25	•			\$307
	FSTF24-S US	•			3	<75	<25	•	•		\$385
FSTF Series*	FSTF120 US		•		3.5	<75	<25	•			\$341
18 in-lbs [2 Nm] Approx. 1.5 sq. ft. @ 250°F	FSTF120-S US		•		3.5	<75	<25	•	•		\$418
	FSTF230 US			•	5.5	<75	<25	•			\$423
	FSTF230-S US			•	5.5	<75	<25	•	•		\$501

‡VA Rating Note:

The FSAF*A, FSNF, and FSLF series actuators draw more current when driving against any stops. Neither UL nor Belimo require any local fusing or breakers. If used, see individual data sheets for End Stop current draws and current limit values.

Use FSTF actuators only for dampers less than 1.5 sq.ft. at 250°F.

Use FSLF for dampers 4 sq.ft. and less at 350°F. No linkages are currently available.

Use FSNF for dampers 4-12 sq.ft. at 350°F and use FSAF*A for larger dampers and multisection applications. Linkages are available for FSAF*A & FSAFB, FSNF, and FSTF.

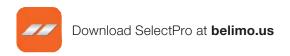
^{*}See retrofit installation instructions for details.



Retrofitting Fire and Smoke Actuators Just Got a Lot Easier with Select Pro

When replacing a fire and smoke damper actuator, the replacement solution should be either like-for-like with the original, factory-mounted actuator, or a technically superior product where the total assembly has passed UL testing with the damper manufacturer. SelectPro makes it easy for you to accurately size and select fire and smoke damper actuators replacement solutions. For maximum safety in all situations, Belimo's fire and smoke actuators are complaint with Life Safety Codes and Standards.

Use SelectPro on your next fire and smoke damper actuator replacement project.







Quickest Install of Actuators on Jackshafts Belimo ZG-JSL Linkage

The ZG-JSL linkage is designed to eliminate the difficulties where jackshaft assemblies are hard to access. Using the ZG-JSL linkage installers can install actuators in minutes saving them time and cost. The ZG-JSL linkage has a built-in shaft allowing direct coupling of Belimo actuators. The anti-rotation plate enables the connected actuator to be rotated 90° for space saving applications.

Suitable Actuators
EF Series*
Classic AF Series
AF / NF Series
GM / GK Series**
LF Series***
AM Series
NM Series

*ZG-121 adapter must be used with EF. **GM / GK not for use with 1/2" shafts. ***K6-1 clamp must be used with LF





																	WARRANTY
PROGRAMMING TOOLS		EFB EFX	AFB AFX	NFB NFX	LF	TFB TFX		NKQB NKQX		AMB AMX	NMB NMX	LMB LMX	AHB AHX	LHB LHX	LUB LUX	SY	List Price
### A Part of the	MFT-P Belimo MFT configuration software (V3.X). Includes: PC-Tool software (hardware not included)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$181
INTERFACES, CABLES																	
	ZK1-GEN Cable for use with ZTH-GEN, ZTH US, or ZIP-USB-MP US to connect to actuator via diagnostic/programming socket.	•					•	•	•	•	•	•	•	•	•		\$117
	ZK2-GEN Cable for use with ZTH-GEN, ZTH US, or ZIP-USB-MP US to connect to actuators not equipped with diagnostic/ programming socket.	•	•	•	•	•	•	•	•	•	•	•	•	•	•		\$54
	ZK4-GEN Cable for use with ZTH US to connect to UK24 gateways and VRP-M.						Ava	nilable fo	or all Mi	T Actua	itors						\$117
	ZK6-GEN Cable for use with ZTH-GEN, ZTH US, or ZIP-USB-MP US to connect to SY actuator via RJII port.															•	\$56
	UK24LON LON gateway that can connect up to 8 MFT actuators.						Ava	nilable fo	or all Mi	-T Actua	itors						\$1,030
	UK24BAC BACnet gateway that can connect up to 8 MFT actuators.						Ava	nilable fo	or all Mi	-T Actua	itors						\$1,030
TO SERVICE STATE OF THE SERVIC	UK24MOD Modbus gateway that can connect up to 8 MFT actuators.						Ava	nilable fo	or all Mi	-T Actua	itors						\$1,030
BELIATO ZTH	ZTH US Handheld interface module that allows field programming. Includes ZK1-GEN, ZK2-GEN, and ZK6-GEN cables.						Ava	iilable fo	or all Mi	T Actua	ators						\$767
NFC INTERFACE																	
	ZTH-BT-NFC Bluetooth® to NFC converter for temporary wireless operation of Belimo devices with NFC capabilities.					A	lvailable	e for NF	C Labele	ed Actua	ators Or	ily					\$259

Mechanical Damper Actuator Accessories





CLAMPS		EFB EFX	AFB AFX	NFB NFX	LF	TFB TFX	GKB GKX	NKQB NKQX	GMB GMX	AMB AMX	NMB NMX	LMB LMX	AHB AHX	LHB LHX	LUB LUX	List Price
93	K9-2 Standard EFB clamp (½" to 1.05")	•														\$52
ŲQ.	K7-2 Standard AFB/NFB clamp (½" to 1.05")		•	•												\$32
	K6 US Standard LF clamp (3/8" to ½")				•											\$24
天 🕰	K6-1 Jackshaft clamp (½" to ¾")				•											\$20
() = =	K8 US Standard TF clamp (¼" to ½")					•										\$20
Q PT	K-GM20 Reversible clamp (½" to 1.05")						•		•							\$38
	K-AM25 Standard clamp (½" to 1.05")							•		•	•					\$26
0 200	K-SA Reversible clamp (½" to ¾")							•		•						\$32
	K-NA Reversible clamp (½" to ¾")										•					\$32
	K-LM20 Clamp (¾")											•				\$18
60	K-LM16 Standard clamp (5/ ₃ ")											•				\$18
	K-LM12 Clamp (½")											•				\$18
	K-LM10 Clamp (3/ ₈ ")											•				\$18
	K-LU Spindle clamp (5/16" to ½")														•	\$34





																WARRANTY
POSITION INDICATORS / ROTA	ATION LIMITERS	EFB EFX	AFB AFX	NFB NFX	LF	TFB TFX		NKQB NKQX			NMB NMX	LMB LMX	AHB AHX	LHB LHX	LUX	List Price
0	IND-EFB Position indicator	•														\$19
60	IND-AFB Position indicator		•	•												\$13
	IND-LF Position indicator				•											\$13
~ ~	IND-TF Position indicator					•										\$13
	ZDB-LF Angle of rotation limiter for LF				•											\$13
	ZDB-TF Angle of rotation limiter for TF					•										\$13
COOU	ZDB-LU Angle of rotation limiter for LU														•	\$17
MOUNTING BRACKETS																
	ZG-100 Right angle (17" H x 1111/8" W x 6" base)	•	•	•			•	•	•	•	•					\$94
	ZG-101 Right angle (13" H x 11" W x 7 ⁷ / ₁₆ " base)		•	•			•	•	•	•	•					\$94
	ZG-102 Multiple actuator mounting bracket		•				•		•							\$92
(in the	ZG-103* Right angle (7½" H x 11" W x 2¾" base)						•	•	•	•	•					\$69
	ZG-104 Right angle (13%," H x 7½" W x 4" base)						•	•	•	•	•					\$69

^{*} Positions crank arm in same relative position as crank arm on electric foot mount-type linkage actuators.





MOUNTING BRACKETS		EFB EFX	AFB AFX	NFB NFX	LF	TFB TFX	GKB GKX	NKQB NKQX	GMB GMX	AMB AMX	NMB NMX	LMB LMX	AHB AHX	LHB LHX	LUB LUX	List Price
	ZG-105 Right angle										•				-	\$38
	ZG-112* Right angle (4½" H x 5½" W x 2½" base)				•											\$38
	ZG-113* Right angle (4½" H x 5½" W x 2½" base)					•										\$38
	ZG-118* Channel (5 ⁷ / ₈ " H x 5½" W x 2 ¹⁹ / ₃₂ " base)		•	•												\$63
	ZG-120 Jackshaft mounting bracket	•	•	•			•	•	•	•	•					\$92
0.0	Z-AF AF/NF to AFB, AFX/NFB, NFX retrofit mounting bracket		•	•												\$24
	Z-SF 20 piece Z-AF kit		•	•												\$424
	Z-GMA GM to GMB, GMX retrofit mounting bracket (supplied with non-spring return actuators)						•		•							\$20
	Z-SMA AM, SM to AMB, AMX retrofit mounting bracket (supplied with non-spring return actuators)									•						\$20
	Z-NMA NM to NMB, NMX retrofit mounting bracket (supplied with non-spring return actuators)							•			•					\$20

 $^{^{\}star}$ Positions crank arm in same relative position as crank arm on electric foot mount-type linkage actuators.



CRANK ARM ADAPTOR KITS		EFB EFX	AFB AFX	NFB NFX	LF	TFB TFX	GKB GKX	NKQB NKQX	GMB GMX	AMB AMX	NMB NMX	LMB LMX	AHB AHX	LHB LHX	LUB LUX	List Price
	KH-EFB Crank arm	•														\$48
	KH-AFB Crank arm for shafts to ¾"		•	•												\$32
8	KH-LF Crank arm for shafts to ½"				•											\$30
00	KH-LFV V-bolt kit for direct coupling with KH-LF				•											\$13
	KH-TF US Crank arm with 5/16" slot					•										\$34
	KH-TF-1 US Crank arm with ¼" slot					•										\$34
	AH-GMA GMB, GMX crank arm						•		•							\$40
11	AH-25 NKQ, NMB, NMX and AMB, AMX crank arm							•		•	•					\$34
	ZG-EFB Crank arm adaptor kit	•														\$117
	ZG-AFB Crank arm adaptor kit		•	•												\$97
	ZG-AFB118 Crank arm adaptor kit		•	•												\$94
	ZG-LF112 Crank arm adaptor kit (includes ZG-112 & KH-LF)				•											\$61
	ZG-LF2 Crank arm adaptor kit (includes mounting hardware)				•											\$71
	ZG-LFC114 Trane Voyager retrofit kit (includes retrofit bracket)				•											\$115

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Mechanical Damper Actuator Accessories





CRANK ARM ADAPTOR KITS		EFB EFX	AFB AFX	NFB NFX	LF	TFB TFX	GKB GKX	NKQB NKQX	GMB GMX	AMB AMX	NMB NMX	LMB LMX	AHB AHX	LHB LHX	LUB LUX	List Price
E HTT	ZG-ECON1 Honeywell economizer retrofit kit (includes 20477-00001 retrofit bracket)				•											\$102
	ZG-ECON2 Honeywell economizer retrofit kit (logic module bracket not included)				•											\$82
	20477-00001 Honeywell logic module bracket				•											\$61
	ZG-TF112 Crank arm adaptor kit (includes ZG-113 and KH-TF-1)					•										\$63
	ZG-TF2 Crank arm adaptor kit (includes mounting hardware)					•										\$54
	ZG-GMA Crank arm adaptor kit						•		•							\$102
101	ZG-NMA Crank arm adaptor kit							•		•	•					\$69
LINKAGES																
	ZG-JSL Jackshaft linkage Note: LF requires K6-1 clamp Note: EFB, EFX requires ZG-121	•	•	•	•		•	•	•	•	•					\$284
11	ZG-121 Support plate for ZG-JSL with EF actuator	•														\$62





BALL JOINTS, DAMPER CLIPS	S, PUSH RODS	EFB EFX	AFB AFX	NFB NFX	LF	TFB TFX		NKQB NKQX		AMB AMX	NMB NMX	LMB LMX	AHB AHX	LHB LHX	LUB LUX	List Price
	KH6** Universal crank arm for KG6 ball joint. Slot width ¼" [6.2 mm]. For damper shafts: ¾" to ¹¹/¹6" diameter [10 to 18 mm] or ¾" to ⁰/¹8" sq. [10 to 14 mm].			•	•	•		•			•					\$24
	KH8** Universal crank arm for KG8 or KG10A ball joint. Slot width $^{21}/_{64}$ " [8.2 mm]. For damper shafts: $^{3}/_{8}$ " to $^{11}/_{16}$ " diameter [10 to 18 mm] or $^{3}/_{8}$ " to $^{9}/_{16}$ " sq. [10 to 14 mm].		•	•	•	•		•		•	•					\$24
<u> </u>	KH10** Universal crank arm. Slot width ²¹ / ₆₄ " [8.2 mm]. For damper shafts ⁹ / ₁₆ " to 1" diameter [14 to 25 mm].	•	•	•			•		•							\$54
	KH12** Universal crank arm. Slot width ²¹ / ₆₄ " [8.2 mm]. For damper shafts ¾" to 1" diameter [20 to 25 mm].		•	•	•	•		•		•	•					\$31
	KG6 Ball joint (5/16" diameter rod) zinc plated			•	•	•					•		•	•		\$20
	KG8 Ball joint (5/ ₁₆ " diameter rod, 90°) galvanized steel		•	•	•	•		•	•	•	•		•	•		\$26
	KG10A Ball joint for KH8 (3/8" diameter rod) zinc plated	•	•	•	•	•	•		•	•	•		•	•		\$28
	SH8 Push rod for KG6 & KG8 ball joints (36", 5/16" diameter)		•	•	•	•		•	•	•	•		•	•		\$30
	SH10 Push rod for KG10 ball joints (36", 3/8" diameter)	•	•	•	•	•	•		•	•	•					\$38
	ZG-DC1 Damper clip for damper blade, 3½" width	•	•	•	•	•	•	•	•	•	•					\$45
	ZG-DC2 Damper clip for damper blade, 6" width	•	•	•	•	•	•	•	•	•	•					\$49

^{**}Universal crank arms are not designed to be directly attached to an actuator's universal clamp. They also cannot be modified for the same installation. Universal crank arms are to be mounted to a control shaft only. Crank arm adaptor kits can be found on the respective actuator pages.





HOUSINGS		EFB EFX	AFB AFX	NFB NFX	LF	TFB TFX			GMB GMX	AMB AMX	NMB NMX	LMB LMX	AHB AHX	LHB LHX	LUB LUX	List Price
	ZS-T Terminal cover for NEMA 2 (-T models)									•	•	•				\$26
	ZS-100 Weather shield - galvanneal (13" L x 8" W x 6" D)		•	•	•	•	•	•	•	•	•	•			•	\$170
	ZS-101 Base plate for ZS-100		•	•	•	•	•	•	•	•	•	•			•	\$38
	ZS-150 Weather shield - polycarbonate with foam seal (16" L x 83/8" W x 4" D)		•	•	•	•	•	•	•	•	•	•			•	\$190
	ZS-260 Explosion proof housing		•	•	•		•		•	•						\$2,830
	ZG-109 Right angle bracket for ZS-260		•	•	•		•		•	•						\$135
	ZG-110 Stand-off bracket for ZS-260		•	•	•		•		•	•						\$161
18	ZS-300 NEMA 4X, 304 stainless steel enclosure		•	•	•		•		•	•						\$2,333
	ZS-300-5 NEMA 4X, 316L stainless steel enclosure		•	•	•		•		•	•						\$2,823
	ZS-300-C1 ½" Shaft adaptor (standard with ZS-300)		•	•	•		•		•	•						\$355
	ZS-300-C2 3/4" Shaft adaptor		•	•	•		•		•	•						\$356
	ZS-300-C3 1" Shaft adaptor		•	•	•		•		•	•						\$518

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)





SHAFT ADAPTORS		EFB EFX	AFB AFX	NFB NFX	LF	TFB TFX		NKQB NKQX			NMB NMX	LMB LMX	CM	AHB AHX	LHB LHX	LUB LUX	List Price
	AV6-20 6.7" Shaft extension fits ¼" to ¾" diameter shafts				•	•		•				•					\$56
	AV8-25* 9.8" Shaft extension fits 5/16" to 1" diameter shafts	•	•	•	•		•	•	•	•	•	•					\$66
-3	ZG-JSA-1 1" Jackshaft adaptor [11"]	•	•	•			•	•	•	•	•						\$219
11)	ZG-JSA-2 15/16" Jackshaft adaptor [12"]		•	•			•	•	•	•	•						\$482
	ZG-JSA-3 1.05" Jackshaft adaptor [12"]	•	•	•			•	•	•	•	•						\$404
	ZG-NMSA-1 Shaft extension for ½" diameter shafts [3.8" long]							•			•						\$61
	ZG-LMSA Shaft extension for ½" diameter shafts [3" long]											•					\$69
· .	ZG-LMSA-1 Shaft extension for 3/8" diameter shafts [4" long]				•							•					\$69
35.	ZG-LMSA-½"-5 Shaft extension for ½" diameter shafts [5" long]				•							•					\$77
MISCELLANEOUS																	
- parameter and a	EF-P Anti-rotation bracket	•					•		•								\$11
	AF-P Anti-rotation bracket		•	•													\$11
8	LF-P Anti-rotation bracket				•												\$11
(Control of the Interior of the Interior of the Interior	TF-P Anti-rotation bracket					•		•		•	•	•					\$9
4 4 T	Z-DS1 Rotary support for lateral force compensation													•	•		\$40
	Z-KSA ⁵ / ₁₆ " Shaft clevis														•		\$51
	Z-KSC 3/8" - 16 Shaft clevis													•			\$51
44	ZG-119 Bracket for linear actuators													•	•		\$59
J C	Tool-06 8 mm and 10 mm wrench		•	•	•	•		•		•	•	•					No Charge
0	Tool-07 13 mm wrench	•					•		•								No Charge
	Z-ARCM Anti-rotation bracket (product sold in quantities of 20)												•				\$7
	Z-PICM Position indicator (product sold in quantities of 20)												•				\$9

 $^{^{\}star}\mbox{K6-1}$ Accessory clamp is needed for use with LF actuators.

T15000 - 04/18 - Subject to change. @ Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)





^{*}For use on all NKQ actuators with switches and potentiometers.

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

BELIMO



																WARRANT
CONTROL & POSITIONING		EFB EFX	AFB AFX	NFB NFX	LF	TFB TFX	GKB	NKQB NKQX	GMB	AMB AMX	NMB NMX	LMB LMX	AHB AHX	LHB LHX	LUB LUX	List Price
-	ZG-R01 4 to 20 mA adaptor, 500 Ω , 1/4" W resistor with 6" pigtail wires	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$24
	ZG-R02 50% voltage divider	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$34
	ZG-R03 Resistor kit for -MFT95 actuators in a 0 to 135 Ω control application		•						•	•	•	•				\$24
MISCELLANEOUS																
5.00 · · ·	PS-100 Actuator power supply simulator	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,547
THE PARTY NAMED IN	NSV24 US Battery back-up module								•	•	•	•	•	•	•	\$892
	NSV-BAT 12V 1.2AH battery (2 required for NSV24 US)								•	•	•	•	•	•	•	\$136
	ZG-X40 120 to 24 VAC, 40 VA transformer	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$101
	TF-CC US Conduit connector	•	•	•		•	•	•	•	•	•	•	•	•	•	\$17
	43442-00001 Cable gland (for NEMA 4 models)		•	•			•		•	•	•					\$0
	11097-00001 Gasket for cable gland (for NEMA 4 models)		•	•			•		•	•	•					\$0
	ZG-CBLS Electrical junction hav for LE															¢101

Electrical junction box for LF actuators

\$101



FIRE AND SMOKE ACCESSOR	IIES	FSAFB	FSAF*A	FSNF	FSLF	FSTF	List Price
	BAE165 US 165°F Electric thermal sensor. SPST, NC	•	•	•	•	•	\$227
	IND-AF2 Position indicator			•			\$17
	KH-AF US Actuator arm			•			\$39
	KH-AF-1 US Crank arm for up to 1.05" shaft			•			\$71
	K4-1 US Jackshaft clamp for up to 1.05"			•			\$38
	SGA24 (with enclosure) Remote potentiometer 0-10 VDC for FSAF24-SR & FSAFB24-SR	•					\$172
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SGF24 (no enclosure) Remote potentiometer 0-10 VDC for FSAF24-SR & FSAFB24-SR	•					\$147
	S2A-F US Auxiliary switch, 2x SPDT, 3A resistive (0.5A inductive) @ 250 VAC	•		•	•		\$336
Concess &	ZDB-AF2 US Angle of rotation limiter			•			\$29
	ZG-AF US Crank arm adaptor kit		•	•			\$115
	ZG-AF108 Crank arm adaptor kit		•	•			\$120

NOTE: FSAFB24-SR(-S) uses the same accessories as the AFB series actuators. FSAF*A uses old generation linkages and the new generation KH-AFB crank arm. FSAF and FSNF series actuators use old generation linkages. FSLF series actuators have no linkage capability. FSTF series actuators use TF and TFB series linkages.







Perfect Dynamic Balancing Solutions

Pressure independent valves combine the functions of a balancing valve and control valve to supply an accurate and stable flow independent of changes in pressure.

Features	PIQCV	6-Way ePIV	ePIV	Energy Valve
Glycol Monitoring				•
True Flow		•	•	•
Dynamic Balancing	•	•	•	•
Energy Meter				•
Power Control				•
Delta T Manager				•
Cloud Analytics				•
Live Data		•	•	•
Coil History				•
CCV Technology	•	•	•	•
0% Leakage	•	•	•	•
Field Configuration	•	•	•	•
BACnet MS/TP or IP, Modbus RTU or TCP/IP		•	•	•
5-Year Warranty	•	•	•	•
7-Year Warranty with Cloud Access				•



ENERGY VALVES

Solving Low Delta T Leveraging IoT

- Cloud Optimization
- Manages Delta T
- Energy Monitoring

Energy Valve Nomenclature

NPT 2-way (½" to 2") 1.05 - 713 GPM Rating Non Fail-Safe Supply EV = ½" to 6" -L = 2½" to 3"* to 3"** (½" to 2") 1.00 = 1" pages for a full list 150 = 1½" 250 = 2½" 250 = 2½" 300 = 3" 400 = 4" 500 = 5" 600 = 6" S = Stainless Steel Ball and Stem Start Refer to page 6-3 for programming options.	EV	250S	-127		+ARB	24	-EV	
ANSI 250 electromagnetic models only	Valve NPT 2-way (½" to 2") Flanged 2-way (½" to 6")	$050 = \frac{1}{2}$ " $075 = \frac{3}{4}$ " $100 = 1$ " $125 = \frac{11}{4}$ " $150 = \frac{11}{2}$ " $200 = 2$ " $250 = \frac{21}{2}$ " $300 = 3$ " $400 = 4$ " $500 = 5$ " $600 = 6$ " $S = Stainless$ Steel Ball and Stem	1.65 - 713 GPM Refer to valve pages for a	Rating Blank = ANSI 125 -250 = ANSI 250 "X" m.	Non Fail-Safe LRB, LRX NRB, NRX ARB, ARX GRB, GRX EVX Electronic Fail-Safe AKRB, AKRX GKRB, GKRX AVKX*	Supply 24 = 24 VAC/DC	EV = ½" to 6"	to 3"* $-B = 4"$ to 6"* $-G = Glycol$

Energy Valve Set Up Options- Default Ordering Example

The Energy Valve can be ordered two different ways once the valve and actuator are selected in the valve section starting on page 6-8.

- 1. Default. The product is shipped already programmed with the default settings below. The default models use actuators that contain a **B** in the actuator part number i.e. EV250S-127+AR**B**24-EV.
- 2. Programmed. The product will ship to the specific settings ordered by the customer using the Program Codes in steps 1 through 7 on the next page. The programmed models use actuators that contain an $\bf X$ in the actuator part number i.e. EV250S-127+AR $\bf X$ 24-EV.

NOTE: If no specific settings are selected, the product will ship with the default settings below.

DEFAULT SETTINGS

Maximum Flow	Installation Position	Delta T Manager	Delta T Setpoint	Actuator Setup	Control and Feedback Signal
Maximum flow of the valve	Return	Off	10°F [5.6°C]	Non Fail-Safe Normally Closed (NC)	Control Signal (Y) DC 2 to 10V
				Electronic Fail-Safe Normally Closed (NC) / Fail Closed (FC)	Feedback Signal (U) DC 2 to 10V

Follow steps 1 through 7.

1. SELECT CODE FOR MAXIMUM FLOW

The maximum GPM can be factory set to the values below. Select the flow code for the desired GPM of the corresponding valve size.

Flow Code	½" GPM	¾" GPM	1" GPM	1¼" GPM	1½" GPM	2" (76.1 GPM)	2" (100 GPM)	2½" GPM	3" GPM	4" GPM	5" GPM	6" GPM
30	1.65	3.1	5.5	8.6	11.9	22.8	30	38	54	95	149	214
37	2	3.8	6.7	10.5	14.7	28.2	37	47	67	117	183	264
45	2.5	4.6	8.2	12.8	17.8	34.2	45	57	81	143	223	321
55	3	5.7	10	15.7	21.8	41.9	55	70	99	174	272	392
63	3.5	6.5	11.5	18	24.9	47.9	63	80	113	200	312	449
65	3.6	6.7	11.8	18.5	25.7	49.5	65	83	117	206	322	463
68	3.7	7	12.4	19.4	26.9	51.7	68	86	122	216	337	485
71	3.9	7.3	12.9	20.2	28.1	54	71	90	128	225	351	506
72	4	7.4	13.1	20.5	28.5	54.8	72	91	130	228	356	513
75	4.1	7.7	13.7	21.4	29.7	57.1	75	95	135	238	371	535
76	4.2	7.8	13.8	21.7	30.1	57.8	76	97	137	241	376	542
78	4.3	8	14.2	22.2	30.9	59.4	78	99	140	247	386	556
80	4.4	8.2	14.6	22.8	31.7	60.9	80	102	144	254	396	570
82	4.5	8.4	14.9	23.4	32.5	62.4	82	104	148	260	406	585
83	4.6	8.5	15.1	23.7	32.9	63.2	83	105	149	263	411	592
85	4.7	8.8	15.5	24.2	33.7	64.7	85	108	153	269	421	606
87	4.8	9	15.8	24.8	34.5	66.2	87	110	157	276	431	620
89	4.9	9.2	16.2	25.4	35.2	67.7	89	113	160	282	441	635
91	5	9.4	16.6	25.9	36	69.3	91	116	164	288	450	649
93	5.1	9.6	16.9	26.5	36.8	70.8	93	118	167	295	460	663
95	5.2	9.8	17.3	27.1	37.6	72.3	95	121	171	301	470	677
97	5.3	10	17.7	27.6	38.4	73.8	97	123	175	307	480	692
00	5.5	10.3	18.2	28.5	39.6	76.1	100	127	180	317	495	713

2. SELECT CODE FOR INSTALLATION POSITION

Where the Energy Valve is installed in a system either on the supply or return.

Code	Description
A	Supply
Z	Return

3. SELECT CODE FOR DELTA T MANAGER STATUS

The Delta T Manager provides a fixed delta T setpoint. Delta T Scaling varies the setpoint.

Code	Description
0	OFF
1	ON Delta T Manager
2	ON Delta T Scaling

76°F/ 42.2°C/K

4. SELECT CODE FOR DELTA T SETPOINT

This is the Delta T limit of the coil

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

	ino Dona i illini												
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
02	02°F / 1.1°C/K	17	17°F / 9.4°C/K	32	32°F / 17.8°C/K	47	47°F / 26.1°C/K	62	62°F/ 34.4°C/K	77	77°F/ 42.7°C/K	92	92°F/ 51.1°C/K
03	03°F / 1.7°C/K	18	18°F / 10.0°C/K	33	33°F / 18.3°C/K	48	48°F / 26.7°C/K	63	63°F/ 35.0°C/K	78	78°F/ 43.3°C/K	93	93°F/ 51.6°C/K
04	04°F / 2.2°C/K	19	19°F / 10.6°C/K	34	34°F / 18.9°C/K	49	49°F / 27.2°C/K	64	64°F/ 35.5°C/K	79	79°F/ 43.8°C/K	94	94°F/ 52.2°C/K
05	05°F / 2.8°C/K	20	20°F / 11.1°C/K	35	35°F / 19.4°C/K	50	50°F / 27.8°C/K	65	65°F/ 36.1°C/K	80	80°F/ 44.4°C/K	95	95°F/ 52.7°C/K
06	06°F/3.3°C/K	21	21°F / 11.7°C/K	36	36°F / 20.0°C/K	51	51°F / 28.3°C/K	66	66°F/ 36.6°C/K	81	81°F/ 45.0°C/K	96	96°F/ 53.3°C/K
07	07°F/3.9°C/K	22	22°F / 12.2°C/K	37	37°F / 20.6°C/K	52	52°F / 28.9°C/K	67	67°F/ 37.2°C/K	82	82°F/ 45.5°C/K	97	97°F/ 53.8°C/K
08	08°F / 4.4°C/K	23	23°F / 12.8°C/K	38	38°F / 21.1°C/K	53	53°F / 29.4°C/K	68	68°F/ 37.7°C/K	83	83°F/ 46.1°C/K	98	98°F/ 54.4°C/K
09	09°F / 5.0°C/K	24	24°F / 13.3°C/K	39	39°F / 21.7°C/K	54	54°F / 30.0°C/K	69	69°F/ 38.3°C/K	84	84°F/ 46.6°C/K	99	99°F/ 55.0°C/K
10	10°F / 5.6°C/K	25	25°F / 13.9°C/K	40	40°F / 22.2°C/K	55	55°F / 30.6°C/K	70	70°F/ 38.8°C/K	85	85°F/ 47.2°C/K	100	100°F/ 55.5°C/K
11	11°F / 6.1°C/K	26	26°F / 14.4°C/K	41	41°F / 22.8°C/K	56	56°F / 31.1°C/K	71	71°F/ 39.4°C/K	86	86°F/ 47.7°C/K		
12	12°F / 6.7°C/K	27	27°F / 15.0°C/K	42	42°F / 23.3°C/K	57	57°F / 31.7°C/K	72	72°F/ 40.0°C/K	87	87°F/ 48.3°C/K		
13	13°F / 7.2°C/K	28	28°F / 15.6°C/K	43	43°F / 23.9°C/K	58	58°F / 32.2°C/K	73	73°F/ 40.5°C/K	88	88°F/ 48.8°C/K		
14	14°F / 7.8°C/K	29	29°F / 16.1°C/K	44	44°F / 24.4°C/K	59	59°F / 32.8°C/K	74	74°F/ 41.1°C/K	89	89°F/ 49.4°C/K		
15	15°F / 8.3°C/K	30	30°F / 16.7°C/K	45	45°F / 25.0°C/K	60	60°F / 33.3°C/K	75	75°F/ 41.6°C/K	90	90°F/ 50.0°C/K		

800-543-9038 USA

31°F / 17.2°C/K

16°F / 8.9°C/K

16

866-805-7089 CANADA

61°F/33.8°C/K

46°F / 25.6°C/K

203-791-8396 LATIN AMERICA/CARIBBEAN

91°F/ 50.5°C/K

Energy Valve Set Up Options Programmed Ordering Example Continued



5. SELECT CODE FOR ACTUATOR SETUP

NON FAIL-SAFE

Code	Description
1	NO
2	NC

ELECTRONIC FAIL-SAFE

Code	Description
3	NO/FO
4	NO/FC
5	NC/FO
6	NC/FC

6. SELECT CODE FOR CONTROL AND FEEDBACK SIGNAL

Code	Description
0	Control Signal (Y) DC 0.5 to 10V
	Feedback Signal (U) DC 0.5 to 10V
2	Control Signal (Y) DC 2 to 10V
	Feedback Signal (U) DC 2 to 10V

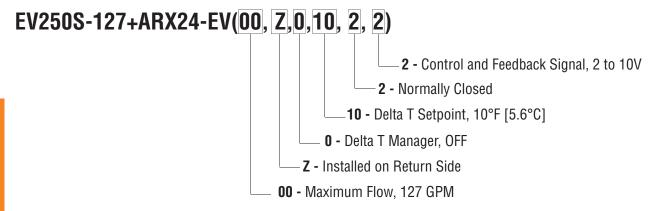
This selection does not affect BACnet functions.

7. DOES THE ORDER REQUIRE TAGGING?

Part number for tagging: 99981-00101 Valves may be tagged per customer specification. (\$10.00 charge per tag) Example: AHU-1 FCU-2

Part Number for tagging: 99981-00101

COMPLETE PROGRAMMED ORDERING EXAMPLE



COMPLETE DEFAULT ORDERING EXAMPLE:

EV250S-127+ARB24-EV

Control Valve Product Range

Energy Valve Product Range

		Valve No Siz		Туре	Suitable A	ctuators		
	GPM Range	Inches	DN [mm]	2-way	Non Fail- Safe	Electronic Fail-Safe		
	1.65 - 5.5*	1/2	15	EV050S-055				
	3.1 - 10.3*	3/4	20	EV075S-103				
	5.5 - 18.2*	1	25	EV100S-182				
NPT	8.6 - 28.5*	11⁄4	32	EV125S-285	4-EV(-G)	EV(-G)		
	11.9 - 39.6*	1½	40	EV150S-396	NRB(X)24-EV(-G)	AKRB(X)24-EV(-G)		
	22.8 - 76.1*	2	50	EV200S-761		AK		
	30-100*	2	50	EV200S-1000**	ARB(X)24-EV(-G)			
	38 - 127*	2½	65	EV250S-127	RB(X)2			
125	54 - 180*	3	80	EV300S-180				
Flanged ANSI 125	95 - 317*	4	100	EV400S-317	J(-G)	.V(-G)		
Flang	149 - 495*	5	125	EV500S-495	GRB(X)24-EV(-G)	GKRB(X)24-EV(-G)		
	214 - 713*	6	150	EV600S-713	GRB	GKRE		
	38 - 127*	2½	65	EV250S-127-250	FEV-L	AVKX24-EV-L		
NSI 250	54 - 180*	3	80	EV300S-180-250	EVX24-EV-L	AVKX2		
Flanged ANSI 250	95 - 317*	4	100	EV400S-317-250		V-B		
Flan	149 - 495*	5	125	EV500S-495-250	EVX24-EV-B	AVKX24-EV-B		
	214 - 713*	6	150	EV600S-713-250	<u>a</u>	AV		

^{*}V'nom = Maximum flow for each valve body size.











Mode of Operation

The Energy Valve is an energy metering pressure independent control valve that optimizes, documents, and proves water coil performance.

Product Features

Measures Energy: using its built-in electronic flow sensor and supply and return temperature sensors.

Controls Power: with its Power Control logic, providing linear heat transfer regardless of temperature and pressure variations. Manages Delta T: by solving Low Delta T Syndrome. In addition, it reduces pumping costs while increasing chiller/boiler efficiency by optimizing coil efficiency.

Actuator Specifications

Control type	modulating
Manual override	LR, NR, AR, GR, AKR, GKR, EV, AVK
Electrical connection	3 ft. [1 m] cable with ½" conduit fitting

Valve Specifications	
Service	chilled or hot water, 60% glycol (open loop and steam not allowed)
Flow characteristic	equal percentage/linear
Controllable flow range	75°
Action	stem up - open A to AB
Sizes	½", ¾", 1", 1¼", 1½", 2", 2½", 3", 4", 5", 6"
End fitting	NPT female (½"-2") pattern to mate with ANSI 125 or 250 flange (2½"-6")
Materials Body	
Valve	forged brass, nickel plated (½"-2") cast iron - GG25 (2½"-6")
Sensor housing	forged brass, nickel plated (½"- 2") ductile iron - GGG50 (2½"- 6")
Ball	stainless steel
Stem	stainless steel
Plug	stainless steel (-250)
Seats	Teflon® PTFF stainless steel (-250)

EPDM (lubricated), NLP (-250) Stem packing Media temp range 14°F to 250°F [-10°C to +120°C] 39°F to 250°F [4°C to 120°C](EV200S-1000) Body pressure rating 360 psi (1/2" - 2"), ANSI 125, Class B (21/2" - 6") ANSI 250 (21/2"-6") Close-off pressure 200 psi (½"-2"), 100 psi (2½"-6"),

varies by size (-250)

Tefzel® (1/2"- 2") stainless steel (2½"-6")

Differential pressure see application pages range (ΔP) 0%, ANSI Class IV (-250) Leakage

Inlet length to meet specified measurement accuracy

Characterizing disc

5x nominal pipe size (NPS) BACnet IP, BACnet MS/TP, listed by BTL, web Communication server, Modbus RTU/IP, Belimo MP-Bus

Remote temperature sensor length

1/2"- 2" 2 ft. 7.5 in. [0.8 m] short, 9.8 ft. [3 m] long 2½"- 6" 32.8 ft. [10 m]

^{**} Media temperature range is 39°F to 250°F [4°C to 120°C]



SET-UP - Specify Upon Ordering

LRX...Series NRX...Series ARX...Series **GRX...Series**

EVX...Series

NC: Normally Closedvalve will open as voltage increases.

NO: Normally Openvalve will close as voltage increases.

2-WAY VALVE

AKRX...Series **GKRX...Series** AVKX...Series

NO/FO Valve: Normally Open-valve will close as voltage increases. Fail Action: Will fail open upon power loss.

NO/FC Valve: Normally Open-valve will close as voltage increases. Fail Action: Will fail closed upon power loss. NC/FO Valve: Normally Closed-valve will open as voltage increases. Fail Action: Will fail open upon power loss.

Delta T Manager ON

NC/FC Valve: Normally Closed-valve will open as voltage increases. Fail Action: Will fail closed upon power loss

FUNCTIONALITY

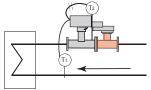
Position Control

The Energy Valve offers different operating modes which can be selected using the Web View or ZTH US.

Delta T Manager OFF Y Signal controls the valve position.

Position Control

The Energy Valve works as a normal pressure dependent valve. The actuator is positioned based on the DDC control signal.



Y Signal controls the valve position as long as the ΔT is above the ΔT setpoint.

Position Control + Delta T Manager

The Energy Valve works as a pressure dependent valve. If the measured ΔT is lower than the ΔT setpoint the flow will be reduced by the Delta T Manager logic to achieve the setpoint, regardless of the control signal Y. Note: In position control, only ΔT Manager can be selected, ΔT Manager Scaling will not be available.

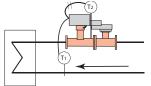
Flow Control

Y Signal controls the flow.

setpoint (BTU/hr or kW)

Pressure Independent Flow Control

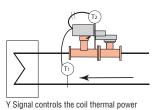
The Energy Valve works as an ePIV (Electronic Pressure Independent Valve). The valve reacts to any change in pressure and modulates the actuator to maintain the flow setpoint based on the DDC control signal.



Y Signal controls the flow as long as the ΔT is above the ΔT setpoint.

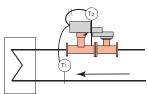
Pressure Independent Flow Control+ Delta T Manager

The Energy Valve works as an ePIV. However, if the measured ΔT is lower than the ΔT setpoint, the flow will be reduced by the Delta T Manager logic to achieve the ΔT setpoint, regardless of the control signal Y.



Power Control

The Energy Valve adjusts flow to maintain the thermal power setpoint. If the measured coil power is below setpoint, flow will be increased. If the measured coil power is above setpoint, flow will be decreased as long as the defined V'max is not exceeded.



Y Signal controls the thermal power setpoint as long as the ΔT is above the ΔT

Power Control + Delta T Manager

The Energy Valve adjusts flow to maintain the thermal power setpoint. If the measured coil power is below setpoint, flow will be increased. If the measured coil power is above setpoint, flow will be decreased as long as the defined V'max is not exceeded. If the measured ΔT is lower than the ΔT setpoint, flow will be reduced by the Delta T Manager logic and will override the thermal power control setpoint.

Power Control



INSTALLATION

Inlet Length

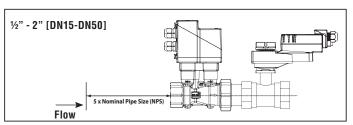
The Energy Valve requires a section of straight pipe on the valve inlet to guarantee sensor accuracy. This section should be at least 5 pipe diameters long with respect to the size of the valve.

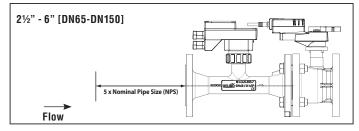
 $\frac{1}{2}$ " [DN15] 5 x nominal pipe size = 2.5" [64 mm] $\frac{1}{2}$ " [DN20] 5 x nominal pipe size = 3.75" [95 mm] 1" [DN25] 5 x nominal pipe size = 5" [127 mm] 1\frac{1}{2}" [DN32] 5 x nominal pipe size = 6.25" [159 mm] 1\frac{1}{2}" [DN40] 5 x nominal pipe size = 7.5" [191 mm] 2" [DN50] 5 x nominal pipe size = 10" [254 mm]

2½" [DN65] 5 x nominal pipe size = 12.5" [317 mm] 3" [DN80] 5 x nominal pipe size = 15" [381 mm] 4" [DN100] 5 x nominal pipe size = 20" [508 mm] 5" [DN125] 5 x nominal pipe size = 25" [635 mm] 6" [DN150] 5 x nominal pipe size = 30" [762 mm]

Outlet Length

No requirements for outlet length. Elbows can be installed directly after the valve.



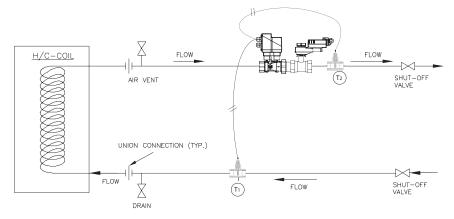


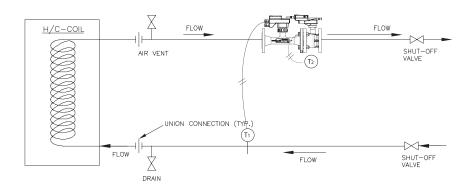
PIPING

The Energy Valve is recommended to be installed on the return side of the coil. This diagram illustrates a typical application. Consult engineering specification and drawings for particular circumstances.

For $2\frac{1}{2}$ " through 6" valves, install the provided thermowell on the other side of the coil (T1). For $\frac{1}{2}$ " through 2" valves, both temperature sensors are remote and are supplied with female NPT threaded pipe body. The (T2) sensor should be installed downstream in the direction of flow after the valve assembly. The (T1) sensor should be installed on the other side of the coil.

Belimo recommends installing one strainer per system. If the system has multiple branches, it is recommended to install one strainer per branch.





Energy Valves with Non Fail-Safe and Electronic Fail-Safe Actuators

2-way Valves with Stainless Steel Ball and Stem, Threaded NPT



Valve Specifications

Service	chilled or hot water, up to 60% glycol max (open loop/steam not allowed)
Flow Characteristic	equal percentage/linear
End Fitting	NPT female
Body	forged brass, nickel plated
Sensor Housing	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Stem Packing	EPDM
Media Temp. Range 1.65 to 76.1 GPM	14°F to 250°F [-10°C to +120°C]
Media Temp. Range EV200S-1000	39°F to 250°F [4°C to 120°C]
Diff. Pressure Range 1.65 to 76.1 GPM	5 to 50 psid or 1 to 50 psid with flow reductions*
Diff. Pressure Range EV200S-1000 (100 GPM)	8 to 50 psid or 1 to 50 psid with flow reductions*
Leakage	0%
Inlet Length to Meet Specified Measurement Accuracy	5X nominal pipe size (NPS)
Flow Sensor Technology	ultrasonic with glycol and temperature compensation
Power Supply for the Flow Sensor	actuator is powered by the sensor
Remote Temperature Sensor Length	standard: 2 ft 7.5 in [0.8m], 9.8 ft. [3m]







connectivity



ACTUATOR PART #	LRX24-EV	LRX24-EV-G	NRX24-EV	NRX24-EV-G	ARX24-EV	ARX24-EV-G	AKRX24-EV	AKRX24-EV-G
Glycol Measurement		•		•		•		•
Control	Modulating							
Manual Override	•	•	•	•	•	•	•	•
Running Time (Motor)	90 seconds							
Electrical Connection	18 GA plenum rated cable and RJ45 socket (Ethernet)							

Model #	GPM	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]								
EV050S-055	5.5	0.5" [15]			\$1,381	\$1,792					\$2,007	\$2,418
EV075S-103	10.3	0.75" [20]			\$1,427	\$1,838					\$2,098	\$2,509
EV100S-182	18.2	1" [25]			\$1,517	\$1,928					\$2,348	\$2,759
EV125S-285	28.5	1.25" [32]	360	200			\$2,005	\$2,416			\$2,425	\$2,836
EV150S-396	39.6	1.5" [40]					\$2,153	\$2,564			\$2,649	\$3,060
EV200S-761	76.1	2" [50]							\$2,546	\$2,957	\$2,974	\$3,385
EV200S-1000	100	2" [50]							\$2,546	\$2,957	\$2,974	\$3,385

Electronic Fail-Safe actuators: AKRX24-EV, AKRX24-EV-G

^{*} See flow reduction chart in technical documentation.



Valve Specifications

Service	chilled or hot water, up to 60% glycol max (open loop/steam not allowed)
Flow Characteristic	equal percentage/linear
End Fitting	pattern to mate with ANSI 125 flange
Body	cast iron - GG25
Sensor Housing	ductile iron - GGG50
Ball	stainless steel
Stem	stainless steel
Seat	PTFE
Stem Packing	EPDM (lubricated)
Media Temperature Range (Water)	14°F to 250°F [-10°C to +120°C]
Differential Pressure Range	5 to 50 psid or 1 to 50 psid with flow reductions*
Leakage	0%
Inlet Length to Meet Specified Measurement Accuracy	5X nominal pipe size (NPS)
Flow Sensor Technology	electromagnetic
Power Supply for the Flow Sensor	actuator is powered by the sensor
Remote Temperature Sensor Length	standard: 32.8 ft. [10m] optional: 4.9 ft. [1.5m], 9.8 ft. [3m], 16.4 ft. [5m]



2-way Valves with Stainless Steel Ball and Stem, Flanged Ends







ACTUATOR PART # ARX24-EV GRX24-EV **GKRX24-EV** Control Modulating Modulating Modulating Modulating Manual Override Running Time (Motor) 90 seconds 90 seconds 90 seconds 90 seconds 18 GA plenum rated cable and **Electrical Connection** RJ45 socket (Ethernet) RJ45 socket (Ethernet) RJ45 socket (Ethernet) RJ45 socket (Ethernet)

2-Way

Model #	GPM	Size [mm]	Pressure Rating [psi]	Pressure [psi]				
EV250S-127	127	2.5" [65]			\$8,705		\$10,053	
EV300S-180	180	3" [80]	ANSI 125,		\$11,297		\$12,646	
EV400S-317	317	4" [100]	Standard	100		\$13,109		\$14,781
EV500S-495	495	5" [125]	Class B			\$16,221		\$17,893
EV600S-713	713	6" [150]				\$20,736		\$22,409

Electronic Fail-Safe actuators: AKRX24-EV and GKRX24-EV

 $^{^{\}star}$ See flow reduction table in technical documentation.

Energy Valves with Non Fail-Safe and Electronic Fail-Safe Actuators

2-way Valves with Stainless Steel Plug and Stem, ANSI 250 Flanged Ends



Valve Specifications

Service	chilled or hot water, up to 60% glycol max (open loop/steam not allowed)
Flow Characteristic	equal percentage/linear
End Fitting	250 lb. flanged
Body	cast iron - GG25
Sensor Housing	ductile iron - GGG50
Plug	stainless steel
Stem	stainless steel
Seat	stainless steel
Stem Packing	EPDM NLP (no lip packing)
Media Temperature Range (Water)	14°F to 250°F [-10°C to +120°C]
Differential Pressure Range	7.5 to 50 psid or 1 to 50 psid with flow reductions*
Leakage	ANSI IV
Inlet Length to Meet Specified Measurement Accuracy	5X nominal pipe size (NPS)
Flow Sensor Technology	electromagnetic
Power Supply for the Flow Sensor	actuator is powered by the sensor
Remote Temperature Sensor Length	standard: 32.8 ft. [10m] optional: 4.9 ft. [1.5m], 9.8 ft. [3m], 16.4 ft. [5m]











ACTUATOR PART #	EVX24-EV-L	EVX24-EV-B	AVKX24-EV-L	AVKX24-EV-B
Control	Modulating	Modulating	Modulating	Modulating
Manual Override	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds	90 seconds
Electrical Connection	18 GA plenum rated cable and RJ45 socket (Ethernet)	18 GA plenum rated cable and RJ45 socket (Ethernet)	18 GA plenum rated cable and RJ45 socket (Ethernet)	18 GA plenum rated cable and RJ45 socket (Ethernet)

2-Way

Model #	GPM Range	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
EV250S-127-250	38-127	2.5" [65]		310	\$12,576		\$14,168	
EV300S-180-250	54-180	3" [80]		310	\$15,177		\$16,768	
EV400S-317-250	95-317	4" [100]	ANSI 250,	310		\$17,473		\$19,064
EV500S-495-250	149-495	5" [125]	Standard	296		\$21,975		
EV500S-495-250	149-495	5" [125]	Class B	202				\$23,566
EV600S-713-250	214-713	6" [150]		215		\$25,887		
EV600S-713-250	214-713	6" [150]		135				\$27,478

Electronic Fail-Safe actuators: AVKX24-EV-L, AVKX24-EV-B

^{*} See flow reduction table in technical documentation.



7

ELECTRONIC PRESSURE INDEPENDENT CONTROL VALVES (ePIV)

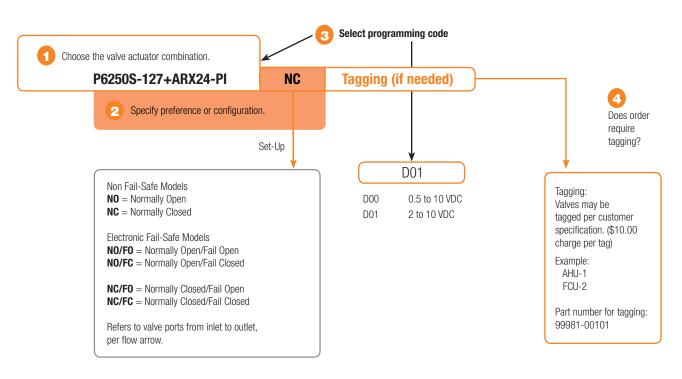
Compact Performance Solution

- True Flow Measurement.
- Automatic Dynamic Balancing optimizes system performance at all times.
- Select valves based on coil flow rate.
 No C_V calculations are needed.

Electronic Pressure Independent Valve (ePIV) Nomenclature

P6	250S	-127		+ARX	24	-PI		-MOD
Electronic Pressure Independent Valve P2- NPT 2-way (½" to 2") P6- Flanged 2-way (2½" to 6")	Valve Size $050 = \frac{1}{2}$ " $075 = \frac{3}{4}$ " $100 = 1$ " $125 = \frac{11}{4}$ " $150 = \frac{11}{2}$ " $200 = 2$ " $250 = \frac{21}{2}$ " $300 = 3$ " $400 = 4$ " $500 = 5$ " $600 = 6$ " $S = Stainless Steel$ Ball and Stem	Flow Rate 127 GPM Refer to valve pages for full list	Pressure Rating Blank = ANSI 125 -250 = ANSI 250	Actuator Type Non Fail-Safe LRX NRX ARX GRX EVX*** Electronic Fail-Safe AKRX GKRX GKRX AVKX**	Power Supply 24 = 24 VAC/DC	EP = ½" to 2" PI = 2½" to 6" Modulating Control	-L = 2½" to 3"** -B = 4" to 6"**	Modbus communication*

Ordering Example



Complete Ordering Example: P6250S-127+ARX24-PI

Configuration: +NC Programming: +D01

 $^{^{\}star}\textsc{Only}$ available with non fail-safe actuators (NPT and ANSI 125 models). $^{\star\star}\textsc{ANSI}$ 250 models only

Control Valve Product Range

Electronic Pressure Independent Control Valve (ePIV) Product Range

		Valve Nominal Size		Туре	Suitable A	Actuators
	GPM Range	Inches	DN [mm]	2-way	Non Fail-Safe	Electronic Fail-Safe
	1.65 - 5.5*	1/2	15	P2050S	(00)	
	3.1 - 10.3*	3/4	20	P2075S	LRX24-EP (-MOD)	
	5.5 - 18.2*	1	25	P2100S		<u> </u>
NPT	8.6 - 28.5*	11⁄4	32	P2125S	NRX24-EP (-MOD)	AKRX24-EP
	11.9 - 39.6*	1½	40	P2150S	NRX2 (-M	₹ F
	22.8 - 76.1*	2	50	P2200S	ARX24-EP (-MOD)	
	30-100**	2	50	P2200S	ARX2 (-M	
	38 - 127*	2½	65	P6250S	ARX24-PI (-MOD)	24-PI
1125	54 - 180*	3	80	P6300S	ARX2 (-MC	AKRX24-PI
Flanged ANSI 125	95 - 317*	4	100	P6400S	(QOV)	=
Flan	149 - 495*	5	125	P6500S	GRX24-PI (-MOD)	GKRX24-PI
	214 - 713*	6	150	P6600S	GRXX	9
	38 - 127*	2½	65	P6250S-250	EVX24-PI-L	AVKX24-PI-L
1 250	54 - 180*	3	80	P6300S-250	EVX2.	AVKX2
Flanged ANSI 250	95 - 317*	4	100	P6400S-250		<u> </u>
Flan	149 - 495*	5	125	P6500S-250	EVX24-PI-B	AVKX24-PI-B
	214 - 713*	6	150	P6600S-250	ш	T W

^{*}V'nom = Maximum flow for each valve body size.

Note: For NPT, ANSI 125 and ANSI 250 versions, flows can be field set to 30% of nominal flow rate.



Mode of Operation

The Electronic Pressure Independent Control Valve (ePIV) is a two-way valve which is unaffected by pressure variations in a system.

Product Features

Provides constant flow regardless of pressure variations in the system. Simplified valve sizing and selection, no Cv calculations required.

Actuator Specifications

Control type	modulating
Manual override	LR, NR, AR, GR, AKR, GKR, EV, AVK
Electrical connection	3 ft. [1 m] cable with ½" conduit fitting

Valve Specifications

Sensor housing

Service	chilled or hot water, 60% glycol (open loop and steam not allowed)
Flow characteristic***	equal percentage/linear
Sizes	½", ¾", 1", 1¼", 1½", 2", 2½", 3", 4", 5", 6"
End fitting	NPT female (½"-2") pattern to mate with ANSI 125 or 250 flange (2½"- 6")
Materials Body Valve	brass, nickel plated (½"-2")

cast iron-GG25 (2½"-6") forged brass, nickel plated (½"-2")

ductile iron- GGG50 (2½"-6") stainless steel Ball Plug stainless steel (-250) Stem stainless steel Teflon® PTFE, stainless steel (-250) Seats Tefzel® (½"- 2") Characterizing disc stainless steel (21/2"-6") Stem packing EPDM (lubricated), NLP (-250) 14°F to 250°F [-10°C to +120°C], Media temp range 39°F to 250°F [4°C to 120°C]

Body pressure rating 360 psi (½" to 2")
ANSI 125, Class B (2½"-6")
ANSI 250 (2½"-6") (-250)
Close-off pressure 200 psi (½"-2")

(P2200S-1000)

see application pages

5x nominal pipe size (NPS)

100 psi (2½"-6") varies by size (-250) Differential pressure

Leakage 0%, ANSI Class IV (-250)
Flow sensor technology ultrasonic (½"-2")
magnetic (2½"-6")
Inlet length to meet

specified measurement accuracy

Conductivity of media

PC-Tool software.

range (ΔP)

Conductivity of media min. 20uS/cm (Applies to sizes 2½" [DN65] to 6" [DN150] only.)

***The flow characteristic can be changed by using the Belimo

^{**} Applies to 2" ePIV models P2200S-800 through P2200S-1000 only.



SET-UP - Specify Upon Ordering

2-WAY VALVE

LRX...Series NRX...Series ARX...Series GRX...Series EVX...Series **NC:** Normally Closedvalve will open as voltage increases.

NO: Normally Openvalve will close as voltage increases.

ELECTRONIC FAIL-SAFE 78 IN FAIL-SAFE POSITION

AKRX...Series GKRX...Series AVKX...Series NO/FO Valve: Normally Open-valve will close as voltage increases. Fail Action: Will fail open upon power loss. NO/FC Valve: Normally Open-valve will close as voltage increases. Fail Action: Will fail closed upon power loss. NC/FO Valve: Normally Closed-valve will open as voltage increases. Fail Action: Will fail open upon power loss. NC/FC Valve: Normally Closed-valve will open as voltage increases. Fail Action: Will fail closed upon power loss.

NOTE: Feedback signal is always direct acting (2V close, 10V open). Feedback signal can be set to true flow or valve position. The default is true flow. Actuator default setting is NC or NC/FC. Changing this setting requires the use of the PC-Tool software.

INSTALLATION

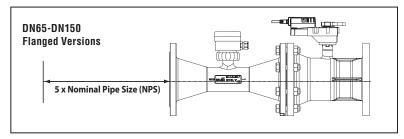
Inlet Length

The ePIV requires a section of straight pipe on the valve inlet to guarantee sensor accuracy. This section should be at least 5 pipe diameters long with respect to the size of the valve.

½" [DN15] 5 x nominal pipe size = 2.5" [64 mm] ¾" [DN20] 5 x nominal pipe size = 3.75" [95 mm] 1" [DN25] 5 x nominal pipe size = 5" [127 mm] 1¼" [DN32] 5 x nominal pipe size = 6.25" [159 mm] 1½" [DN40] 5 x nominal pipe size = 7.5" [191 mm] 2" [DN50] 5 x nominal pipe size = 10" [254 mm]

2½" [DN65] 5 x nominal pipe size = 12.5" [317 mm] 3" [DN80] 5 x nominal pipe size = 15" [381 mm] 4" [DN100] 5 x nominal pipe size = 20" [508 mm] 5" [DN125] 5 x nominal pipe size = 25" [635 mm] 6" [DN150] 5 x nominal pipe size = 30" [762 mm]

DN15-DN50 NPT Version 5 x Nominal Pipe Size (NPS)



Outlet Length

No requirements for outlet length.

Elbows can be installed directly after the valve.

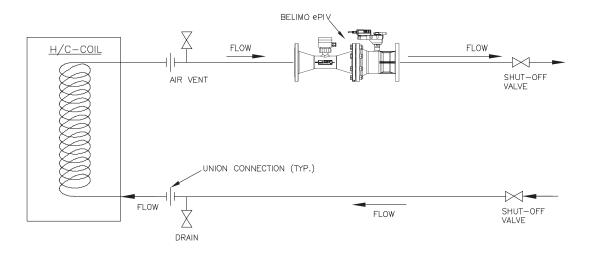
NOTE: All tolerances on flow measurement/control will be affected if requirements are not followed.



PIPING

The ePIV is recommended to be installed on the return side of the coil. This diagram is for typical applications only. Consult engineering specification and drawings for particular circumstances. Refer to ePIV technical documentation for flow verification and commissioning procedures.

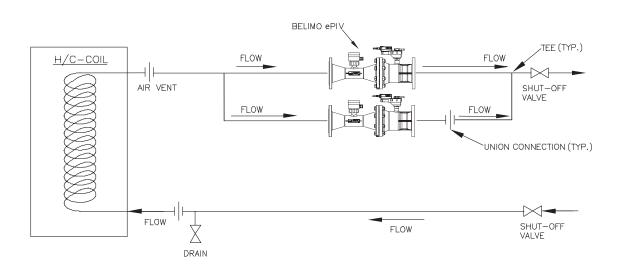
Belimo recommends installing one strainer per system. If the system has multiple branches, it is recommended to install one strainer per branch.



Electronic Pressure Independent Valves can be piped in a parallel orientation to achieve increased flow rates.

TYPICAL PARALLEL PIPING IN RELATION TO THE INPUT AND OUTPUT

To achieve flows larger than nominal flow, it is recommended to connect two valves in parallel leading to a common manifold. To correctly operate these valves, Multi-Function Technology (MFT) will be employed to utilize one common control signal. It is recommended to use the same signal in parallel (2-10 VDC); the two actuators are wired from the same control signal and the two valves control the flow in an identical pattern. The resulting flow will be double an individual valve. This arrangement is preferable to a split signal since it offers a more stable and accurate flow and feedback signal is easier to interpret.



800-543-9038 USA

ePIV

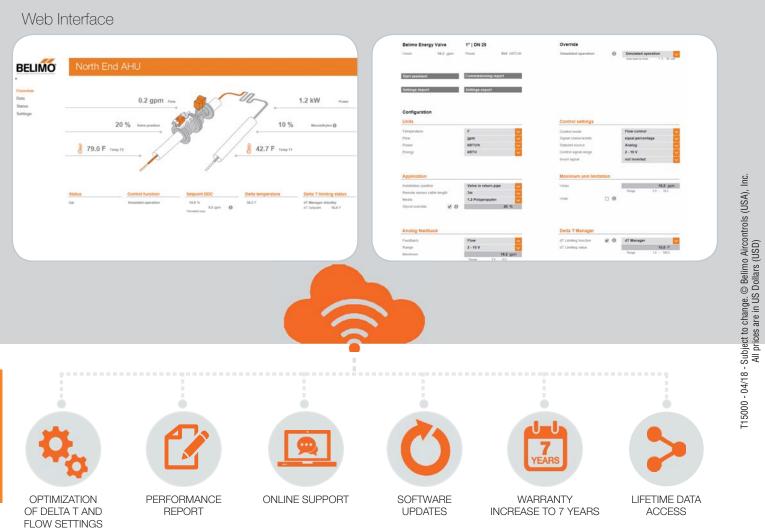
Intelligence Solves Low Delta Tand Generates Maximum Efficiency

Most HVAC hydronic systems struggle to achieve design performance. A major reason for not reaching design performance is low Delta T syndrome. Buildings today account for 40% of global energy usage with HVAC systems accounting for over 33% of that energy.

The solution

By incorporating the Belimo Energy Valve™, a pressure independent valve that measures and manages coil energy by using an embedded ultrasonic flow sensor, along with supply and return water temperature sensors, you can now manage building performance more efficiently. The Energy Valve with a patented Power Control and Belimo Delta T Manager™ logics built-in monitors coil performance and optimizes the available energy of the coil by maintaining Delta T. As an IoT device with cloud based services you can benchmark coil performance, analyze glycol concentration, store energy data, produce commissioning reports, and send alerts for optimal system performance.









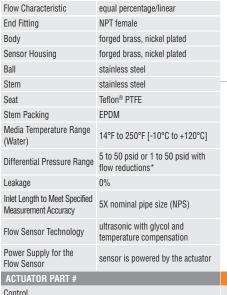
Service

P2 Series Electronic Pressure Independent Valves with Non Fail-Safe Actuators

2-way Valves with Stainless Steel Ball and Stem, NPT Female Ends

Models with V'nom values: P2050S-055, P2075S-103, P2100S-182, P2125S-285. *See flow reduction table in technical documentation.





chilled or hot water, up to 60% glycol

max (open loop/steam not allowed)



ACTUATOR PART #	LRX24-EP	LRX24-EP-MOD	NRX24-EP	NRX24-EP-MOD
Control	Modulating	Modulating	Modulating	Modulating
Manual Override	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds	90 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

z-way								
		Size	Body	Close-Off				
Model #	GPM	[mm]	Pressure	Pressure				
			Rating [psi]	[psi]				
P2050S-165	1.65			200	\$915	\$1,007		
P2050S-020	2			200	\$915	\$1,007		
P2050S-025	2.5			200	\$915	\$1,007		
P2050S-030	3	0.5"		200	\$915	\$1,007		
P2050S-035	3.5	[15]		200	\$915	\$1,007		
P2050S-040	4	[10]		200	\$915	\$1,007		
P2050S-045	4.5			200	\$915	\$1,007		
P2050S-050	5			200	\$915	\$1,007		
P2050S-055	5.5			200	\$915	\$1,007		
P2075S-060	6			200	\$932	\$1,026		
P2075S-065	6.5			200	\$932	\$1,026		
P2075S-070	7			200	\$932	\$1,026		
P2075S-075	7.5			200	\$932	\$1,026		
P2075S-080	8	0.75"		200	\$932	\$1,026		
P2075S-085	8.5	[20]		200	\$932	\$1,026		
P2075S-090	9			200	\$932	\$1,026		
P2075S-095	9.5			200	\$932	\$1,026		
P2075S-103	10.3			200	\$932	\$1,026		
P2100S-111	11.1		360	200	\$964	\$1,061		
P2100S-012	12			200	\$964	\$1,061		
P2100S-131	13.1			200	\$964	\$1,061		
P2100S-142	14.2			200	\$964	\$1,061		
P2100S-151	15.1	1" [25]		200	\$964	\$1,061		
P2100S-016	16			200	\$964	\$1,061		
P2100S-169	16.9			200	\$964	\$1,061		
P2100S-182	18.2			200	\$964	\$1,061		
P2125S-018	18			200	****	¥ 1,122	\$1,696	\$1,866
P2125S-191	19.1			200			\$1,696	\$1,866
P2125S-020	20			200			\$1,696	\$1,866
P2125S-211	21.1			200			\$1,696	\$1,866
P2125S-222	22.2			200			\$1,696	\$1,866
P2125S-231	23.1	1.25"		200			\$1,696	\$1,866
P2125S-242	24.2	[32]		200			\$1,696	\$1,866
P2125S-251	25.1			200			\$1,696	\$1,866
P2125S-262	26.2			200			\$1,696	\$1,866
P2125S-271	27.1			200			\$1,696	\$1,866
P2125S-285	28.5			200			\$1,696	\$1,866
							7.,	T.,

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN

P2 Series Electronic Pressure Independent Valves with Non Fail-Safe Actuators



2-way Valves with Stainless Steel Ball and Stem, NPT Female Ends

Valve Specifications

Service	chilled or hot water, up to 60% glycol max (open loop/steam not allowed)
Flow Characteristic	equal percentage/linear
End Fitting	NPT female
Body	forged brass, nickel plated
Sensor Housing	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Stem Packing	EPDM
Media Temp. Range 26.1 to 76.1 GPM	14°F to 250°F [-10°C to +120°C]
Media Temp. Range 80 to 100 GPM	39°F to 250°F [4°C to +120°C]
Diff. Pressure Range 26.1 to 76.1 GPM	5 to 50 psid or 1 to 50 psid with flow reductions*
Diff. Pressure Range 80 to 100 GPM	8 to 50 psid or 1 to 50 psid with flow reductions*
Leakage	0%
Inlet Length to Meet Specified Measurement Accuracy	5X nominal pipe size (NPS)
Flow Sensor Technology	ultrasonic with glycol and temperature compensation
Power Supply for the Flow Sensor	sensor is powered by the actuator





ACTUATOR PART #	NRX24-EP	NRX24-EP-MOD	ARX24-EP	ARX24-EP-MOD
Control	Modulating	Modulating	Modulating	Modulating
Manual Override	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds	90 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

		Size	Body	Close-Off				
Model #	GPM	[mm]	Pressure	Pressure				
		[]	Rating [psi]	[psi]				
P2150S-261	26.1			200	\$1,822	\$2,005		
P2150S-273	27.3			200	\$1,822	\$2,005		
P2150S-281	28.1			200	\$1,822	\$2,005		
P2150S-293	29.3			200	\$1,822	\$2,005		
P2150S-030	30			200	\$1,822	\$2,005		
P2150S-313	31.3			200	\$1,822	\$2,005		
P2150S-321	32.1	1.5"		200	\$1,822	\$2,005		
P2150S-033	33	[40]		200	\$1,822	\$2,005		
P2150S-341	34.1			200	\$1,822	\$2,005		
P2150S-352	35.2			200	\$1,822	\$2,005		
P2150S-036	36			200	\$1,822	\$2,005		
P2150S-372	37.2			200	\$1,822	\$2,005		
P2150S-038	38			200	\$1,822	\$2,005		
P2150S-396	39.6			200	\$1,822	\$2,005		
P2200S-327	32.7			200			\$2,139	\$2,353
P2200S-342	34.2		360	200			\$2,139	\$2,353
P2200S-358	35.8		300	200			\$2,139	\$2,353
P2200S-381	38.1			200			\$2,139	\$2,353
P2200S-403	40.3			200			\$2,139	\$2,353
P2200S-441	44.1			200			\$2,139	\$2,353
P2200S-479	47.9			200			\$2,139	\$2,353
P2200S-525	52.5			200			\$2,139	\$2,353
P2200S-563	56.3	2"		200			\$2,139	\$2,353
P2200S-601	60.1	[50]		200			\$2,139	\$2,353
P2200S-654	65.4			200			\$2,139	\$2,353
P2200S-070	70			200			\$2,139	\$2,353
P2200S-761	76.1			200			\$2,139	\$2,353
P2200S-800	80			200			\$2,139	\$2,353
P2200S-850	85			200			\$2,139	\$2,353
P2200S-900	90			200			\$2,139	\$2,353
P2200S-950	95			200			\$2,139	\$2,353
P2200S-1000	100			200			\$2,139	\$2,353

Models with V'nom values: P2150S-396, P2200-761, P2200S-1000.

*See flow reduction table in technical documentation.

800-543-9038 USA





P6 Series Electronic Pressure Independent Valves with Non Fail-Safe Actuators

2-way Valves with Stainless Steel Ball and Stem, Flanged Ends

Valve Specifications

Service	chilled or hot water, up to 60% glycol max (open loop/steam not allowed)
Flow Characteristic	equal percentage/linear
End Fitting	pattern to mate with ANSI 125 flange
Body	cast iron - GG25
Sensor Housing	ductile iron - GGG50
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Stem Packing	EPDM
Media Temperature Range (Water)	14°F to 250°F [-10°C to +120°C]
Differential Pressure Range	5 to 50 psid or 1 to 50 psid with flow reductions*
Leakage	0%
Inlet Length to Meet Specified Measurement Accuracy	5X nominal pipe size (NPS)
Flow Sensor Technology	electromagnetic
Power Supply for the Flow Sensor	sensor is powered by the actuator





ACTUATOR PART #	ARX24-PI	ARX24-PI-MOD
Control	Modulating	Modulating
Manual Override	•	•
Running Time (Motor)	90 seconds	90 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

2-Way

Model #	GPM	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]		
P6250S-080	80			100	\$7,348	\$8,083
P6250S-085	85			100	\$7,348	\$8,083
P6250S-090	90			100	\$7,348	\$8,083
P6250S-100	100	0.5"		100	\$7,348	\$8,083
P6250S-105	105	2.5"		100	\$7,348	\$8,083
P6250S-110	110	[03]		100	\$7,348	\$8,083
P6250S-115	115		4001.405	100	\$7,348	\$8,083
P6250S-121	121		ANSI 125, Standard	100	\$7,348	\$8,083
P6250S-127	127		Class B	100	\$7,348	\$8,083
P6300S-133	133		Oluss B	100	\$9,533	\$10,487
P6300S-141	141			100	\$9,533	\$10,487
P6300S-149	149	o"		100	\$9,533	\$10,487
P6300S-157	157	3" [80]		100	\$9,533	\$10,487
P6300S-165	165	լսսյ		100	\$9,533	\$10,487
P6300S-173	173			100	\$9,533	\$10,487
P6300S-180	180			100	\$9,533	\$10,487

Models with V'nom values: P6250S-127, P6300S-180.

^{*}See flow reduction table in technical documentation.

ePIV

P6 Series Electronic Pressure Independent Valves with Non Fail-Safe Actuators



2-way Valves with Stainless Steel Ball and Stem, Flanged Ends

Valve Specifications

Service	chilled or hot water, up to 60% glycol max (open loop/steam not allowed)
Flow Characteristic	equal percentage/linear
End Fitting	pattern to mate with ANSI 125 flange
Body	cast iron - GG25
Sensor Housing	ductile iron - GGG50
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Stem Packing	EPDM
Media Temperature Range (Water)	14°F to 250°F [-10°C to +120°C]
Differential Pressure Range	5 to 50 psid or 1 to 50 psid with flow reductions*
Leakage	0%
Inlet Length to Meet Specified Measurement Accuracy	5X nominal pipe size (NPS)
Flow Sensor Technology	electromagnetic
Power Supply for the Flow Sensor	sensor is powered by the actuator





ACTUATOR PART #	GRX24-PI	GRX24-PI-MOD
Control	Modulating	Modulating
Manual Override	•	•
Running Time (Motor)	90 seconds	90 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

1.6	

z-way						
Model #	GPM	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]		
P6400S-195	195			100	\$11,057	\$12,163
P6400S-210	210			100	\$11,057	\$12,163
P6400S-225	225			100	\$11,057	\$12,163
P6400S-240	240	411		100	\$11,057	\$12,163
P6400S-255	255	4" [100]		100	\$11,057	\$12,163
P6400S-270	270	[100]		100	\$11,057	\$12,163
P6400S-285	285			100	\$11,057	\$12,163
P6400S-300	300			100	\$11,057	\$12,163
P6400S-317	317			100	\$11,057	\$12,163
P6500S-335	335			100	\$13,659	\$15,025
P6500S-353	353			100	\$13,659	\$15,025
P6500S-371	371			100	\$13,659	\$15,025
P6500S-389	389			100	\$13,659	\$15,025
P6500S-407	407	5"	ANSI 125,	100	\$13,659	\$15,025
P6500S-425	425	[125]	Standard	100	\$13,659	\$15,025
P6500S-443	443		Class B	100	\$13,659	\$15,025
6500S-461	461			100	\$13,659	\$15,025
P6500S-479	479			100	\$13,659	\$15,025
P6500S-495	495			100	\$13,659	\$15,025
6600S-515	515			100	\$17,561	\$19,318
P6600S-537	537			100	\$17,561	\$19,318
6600S-559	559			100	\$17,561	\$19,318
P6600S-581	581			100	\$17,561	\$19,318
6600S-603	603	6"		100	\$17,561	\$19,318
6600S-625	625	[150]		100	\$17,561	\$19,318
6600S-647	647			100	\$17,561	\$19,318
6600S-669	669			100	\$17,561	\$19,318
P6600S-691	691			100	\$17,561	\$19,318
P6600S-713	713			100	\$17,561	\$19,318

Models with V'nom values: P6400S-317, P6500S-495, P6600S-713.

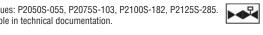
^{*}See flow reduction table in technical documentation.

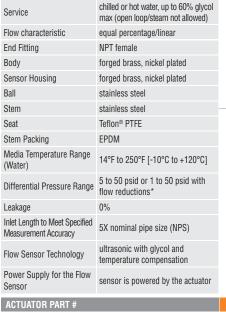


P2 Series Electronic Pressure Independent Valves with Electronic Fail-Safe Actuators

2-way Valves with Stainless Steel Ball and Stem, NPT Female Ends

Models with V'nom values: P2050S-055, P2075S-103, P2100S-182, P2125S-285. *See flow reduction table in technical documentation.





Rody Close Off



ACTUATOR PART #	AKRX24-EP
Control	Modulating/MFT
Manual Override	•
Running Time (Motor)	90 seconds
Running Time (Fail-Safe)	35 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

		Size	Body	Close-Off	
Model #	GPM	[mm]	Pressure Rating [psi]	Pressure	
P2050S-165	1.65		nating [psi]	[psi] 200	\$1,346
P2050S-020	2			200	\$1,346
P2050S-020	2.5			200	\$1,346
P2050S-025	3			200	\$1,346
P2050S-030 P2050S-035	3.5	0.5"		200	
		[15]			\$1,346
P2050S-040	4			200	\$1,346
P2050S-045	4.5			200	\$1,346
P2050S-050	5			200	\$1,346
P2050S-055	5.5			200	\$1,346
P2075S-060	6			200	\$1,371
P2075S-065	6.5			200	\$1,371
P2075S-070	7			200	\$1,371
P2075S-075	7.5	0.75"		200	\$1,371
P2075S-080	8	[20]		200	\$1,371
P2075S-085	8.5			200	\$1,371
P2075S-090	9			200	\$1,371
P2075S-095	9.5			200	\$1,371
P2075S-103	10.3			200	\$1,371
P2100S-111	11.1		360	200	\$1,418
P2100S-012	12			200	\$1,418
P2100S-131	13.1			200	\$1,418
P2100S-142	14.2	1"		200	\$1,418
P2100S-151	15.1	[25]		200	\$1,418
P2100S-016	16			200	\$1,418
P2100S-169	16.9			200	\$1,418
P2100S-182	18.2			200	\$1,418
P2125S-018	18			200	\$2,040
P2125S-191	19.1			200	\$2,040
P2125S-020	20			200	\$2,040
P2125S-211	21.1			200	\$2,040
P2125S-222	22.2			200	\$2,040
P2125S-231	23.1	1.25"		200	\$2,040
P2125S-242	24.2	[32]		200	\$2,040
P2125S-251	25.1			200	\$2,040
P2125S-262	26.2			200	\$2,040
P2125S-271	27.1			200	\$2,040
P2125S-285	28.5			200	\$2,040
					4 2,0.0

P2 Series Electronic Pressure Independent Valves with Electronic Fail-Safe Actuators



2-way Valves with Stainless Steel Ball and Stem, NPT Female Ends

Valve Specifications

Service	chilled or hot water, up to 60% glycol max (open loop/steam not allowed)
Flow Characteristic	equal percentage/linear
End Fitting	NPT female
Body	forged brass, nickel plated
Sensor Housing	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Stem Packing	EPDM
Media Temp. Range 26.1 to 76.1 GPM	14°F to 250°F [-10°C to +120°C]
Media Temp. Range 80 to 100 GPM	39°F to 250°F [4°C to 120°C]
Diff. Pressure Range 26.1 to 76.1 GPM	5 to 50 psid or 1 to 50 psid with flow reductions*
Diff. Pressure Range 80 to 100 GPM	8 to 50 psid or 1 to 50 psid with flow reductions*
Leakage	0%
Inlet Length to Meet Specified Measurement Accuracy	5X nominal pipe size (NPS)
Flow Sensor Technology	ultrasonic with glycol and temperature compensation
Power Supply for the Flow Sensor	sensor is powered by the actuator





ACTUATOR PART #	AKRX24-EP
Control	Modulating
Manual Override	•
Running Time (Motor)	90 seconds
Running Time (Fail-Safe)	35 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector

2	211	
4"	av	

z-way				
	0015	Size	Body	Close-Off
Model #	GPM	[mm]	Pressure Rating [psi]	Pressure [psi]
P2150S-261	26.1			200
P2150S-273	27.3			200
P2150S-281	28.1			200
P2150S-293	29.3			200
P2150S-030	30			200
P2150S-313	31.3			200
P2150S-321	32.1	1.5"		200
P2150S-033	33	[40]		200
P2150S-341	34.1			200
P2150S-352	35.2			200
P2150S-036	36			200
P2150S-372	37.2			200
P2150S-038	38			200
P2150S-396	39.6			200
P2200S-327	32.7			200
P2200S-342	34.2		360	200
P2200S-358	35.8		300	200
P2200S-381	38.1			200
P2200S-403	40.3			200
P2200S-441	44.1			200
P2200S-479	47.9			200
P2200S-525	52.5			200
P2200S-563	56.3	2"		200
P2200S-601	60.1	[50]		200
P2200S-654	65.4			200
P2200S-070	70			200
P2200S-761	76.1			200
P2200S-800	80			200
P2200S-850	85			200
P2200S-900	90			200
P2200S-950	95			200
P2200S-1000	100			200

Models with V'nom values: P2150S-396, P2200S-761, P2200S-1000.

800-543-9038 USA

^{*}See flow reduction table in technical documentation.

P6 Series Electronic Pressure Independent Valves with Electronic Fail-Safe Actuators

2-way Valves with Stainless Steel Ball and Stem, Flanged Ends

Valve Specifications

BELIMO

varro opcomounono	
Service	chilled or hot water, up to 60% glycol max (open loop/steam not allowed)
Flow Characteristic	equal percentage/linear
End Fitting	pattern to mate with ANSI 125 flange
Body	cast iron - GG25
Sensor Housing	ductile iron - GGG50
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Stem Packing	EPDM
Media Temperature Range (Water)	14°F to 250°F [-10°C to +120°C]
Differential Pressure Range	5 to 50 psid or 1 to 50 psid with flow reductions*
Leakage	0%
Inlet Length to Meet Specified Measurement Accuracy	5X nominal pipe size (NPS)
Flow Sensor Technology	electromagnetic
Power Supply for the Flow Sensor	sensor is powered by the actuator





ACTUATOR PART #	AKRX24-PI
Control	Modulating
Manual Override	•
Running Time (Motor)	90 seconds
Running Time (Fail-Safe)	35 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector

2-Way

· · · · · ·				
		Size	Body	Close-Off
Model #	GPM	[mm]	Pressure	Pressure
		[Rating [psi]	[psi]
P6250S-080	80			100
P6250S-085	85			100
P6250S-090	90			100
P6250S-100	100	0.5"		100
P6250S-105	105	2.5"		100
P6250S-110	110	[65]		100
P6250S-115	115		_	100
P6250S-121	121		ANSI 125,	100
P6250S-127	127		Standard Class B	100
P6300S-133	133		UIASS D	100
P6300S-141	141			100
P6300S-149	149			100
P6300S-157	157	3"		100
P6300S-165	165	[80]		100
P6300S-173	173			100
P6300S-180	180			100

Models with V'nom values: P6250S-127, P6300S-180.

^{*}See flow reduction table in technical documentation.

P6 Series Electronic Pressure Independent Valves with Electronic Fail-Safe Actuators



2-way Valves with Stainless Steel Ball and Stem, Flanged Ends

Valve Specifications

Service	chilled or hot water, up to 60% glycol max (open loop/steam not allowed)
Flow Characteristic	equal percentage/linear
End Fitting	pattern to mate with ANSI 125 flange
Body	cast iron - GG25
Sensor Housing	ductile iron - GGG50
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Stem Packing	EPDM
Media Temperature Range (Water)	14°F to 250°F [-10°C to +120°C]
Differential Pressure Range	5 to 50 psid or 1 to 50 psid with flow reductions*
Leakage	0%
Inlet Length to Meet Specified Measurement Accuracy	5X nominal pipe size (NPS)
Flow Sensor Technology	electromagnetic
Power Supply for the Flow Sensor	sensor is powered by the actuator





ACTUATOR PART #	GKRX24-PI
Control	Modulating
Manual Override	•
Running Time (Motor)	90 seconds
Running Time (Fail-Safe)	35 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector

2-Way

2 vvuy										
Model #	GPM	Size	Body Pressure	Close-Off Pressure						
Wouel #	arivi	[mm]	Rating [psi]	[psi]						
P6400S-195	195			100						
P6400S-210	210			100						
P6400S-225	225			100						
P6400S-240	240	4,,		100						
P6400S-255	255	4" [100]		100						
P6400S-270	270	[100]		100						
P6400S-285	285			100						
P6400S-300	300			100						
P6400S-317	317			100						
P6500S-335	335			100						
P6500S-353	353			100						
P6500S-371	371			100						
P6500S-389	389				100					
P6500S-407	407	5"	5"	5"	5"	ANSI 125	ANSI 125	5" ANSI 125,	" ANSI 125	100
P6500S-425	425	[125]	Standard	100						
P6500S-443	443	,	,				Class B		100	
P6500S-461	461			100						
P6500S-479	479			100						
P6500S-495	495			100						
P6600S-515	515			100						
P6600S-537	537			100						
P6600S-559	559	6" [150]	6"			6"	100			
P6600S-581	581						100			
P6600S-603	603			6"				100		
P6600S-625	625			100						
P6600S-647	647			100						
P6600S-669	669			100						
P6600S-691	691			100						
P6600S-713	713			100						
. 00000 1 10	7.10			100						

Models with V'nom values: P6400S-317, P6500S-495, P6600S-713.

^{*}See flow reduction table in technical documentation.





P6 Series Electronic Pressure Independent Valves with Non Fail-Safe Actuators

2-way Valves with Stainless Steel Plug and Stem, ANSI 250 Flanged Ends

Valve Specifications

Service	chilled or hot water, up to 60% glycol max (open loop/steam not allowed)
Flow Characteristic	equal percentage/linear
End Fitting	250 lb. flanged
Body	cast iron
Sensor Housing	ductile iron - GGG50
Plug	stainless steel
Stem	stainless steel
Seat	stainless steel
Stem Packing	EPDM NLP (no lip packing)
Media Temperature Range (Water)	14°F to 250°F [-10°C to +120°C]
Differential Pressure Range	7.5 to 50 psid or 1 to 50 psid with flow reductions*
Leakage	ANSI IV
Inlet Length to Meet Specified Measurement Accuracy	5X nominal pipe size (NPS)
Flow Sensor Technology	electromagnetic
Power Supply for the Flow Sensor	sensor is powered by the actuator





ACTUATOR PART #	EVX24-PI-L	EVX24-PI-B
Control	Modulating	Modulating
Manual Override	•	•
Running Time (Motor)	90 seconds	90 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

2-Way

Model #	GPM Range**	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]		
P6250S-127-250	38-127	2.5" [65]		310	\$9,788	
P6300S-180-250	54-180	3" [80]	ANSI 250,	310	\$12,013	
P6400S-317-250	95-317	4"[100]	Standard	310		\$14,543
P6500S-495-250	149-495	5" [125]	Class B	296		\$19,206
P6600S-713-250	214-713	6" [150]		215		\$23,436

^{*}See flow reduction table in technical documentation. **Valve factory set to maximum flow. Field adjustable with supplied ZTH US

P6 Series Electronic Pressure Independent Valves with Electronic Fail-Safe Actuators

2-way Valves with Stainless Steel Plug and Stem, ANSI 250 Flanged Ends

Valve Specifications

Service	chilled or hot water, up to 60% glycol max (open loop/steam not allowed)
Flow Characteristic	equal percentage/linear
End Fitting	250 lb. flanged
Body	cast iron
Sensor Housing	ductile iron - GGG50
Plug	stainless steel
Stem	stainless steel
Seat	stainless steel
Stem Packing	EPDM NLP (no lip packing)
Media Temperature Range (Water)	14°F to 250°F [-10°C to +120°C]
Differential Pressure Range	7.5 to 50 psid or 1 to 50 psid with flow reductions*
Leakage	ANSI IV
Inlet Length to Meet Specified Measurement Accuracy	5X nominal pipe size (NPS)
Flow Sensor Technology	electromagnetic
Power Supply for the Flow Sensor	sensor is powered by the actuator



BELIMO



	_	
ACTUATOR PART #	AVKX24-PI-L	AVKX24-PI-B
Control	Modulating	Modulating
Manual Override	•	•
Running Time (Motor)	90 seconds	90 seconds
Running Time (Fail-Safe)	35 seconds	35 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

2-Way

Model #	GPM Range**	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]		
P6250S-127-250	38-127	2½" [65]		310	\$10,635	
P6300S-180-250	54-180	3" [80]	ANSI 250,	310	\$12,859	
P6400S-317-250	95-317	4"[100]	Standard	290		\$15,389
P6500S-495-250	149-495	5" [125]	Class B	202		\$20,053
P6600S-713-250	214-713	6" [150]		135		\$24,283

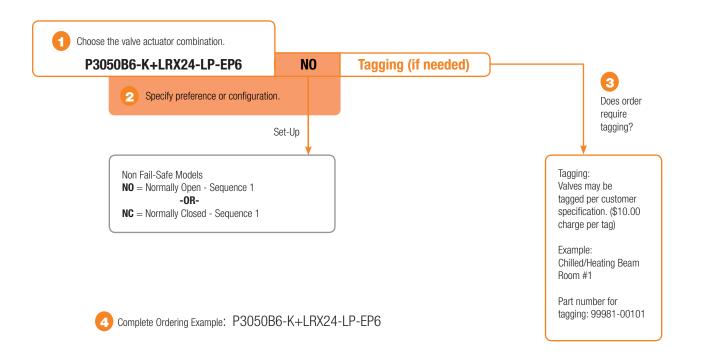
^{*}See flow reduction table in technical documentation.

^{**}Valve factory set to maximum flow. Field adjustable with supplied ZTH US

6-Way Electronic Pressure Independent Characterized Control Valve Nomenclature

Р3	050	В6	-K	+LRX	24	-LP-EP6	
Electronic	Valve Size	6-Way	Flow	Actuator Type	Power Supply	Modulating	Control
Pressure	050 = ½"	Valve	K = 5.5 GPM	LRX	24 = 24 VAC/DC	Control	Input = 2-10 VDC
Independent	$075 = \frac{3}{4}$ "		J = 10.3 GPM				Feedback = 2-10 VDC

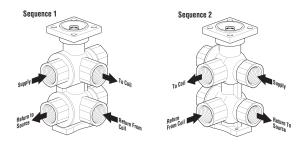
Ordering Example





6-Way Electronic Pressure Independent Characterized Control Valve Product Range

Flow	Valve No	minal Size	Туре	Suitable Actuators
Vnom/GPM	Inches	DN [mm]	ePI 6-way	Non Fail-Safe
5.5	1/2	15	P3050B6-K	LP-EP6
10.3	3/4	20	P3075B6-J	LRX24-







Linear Characteristic

Mode of Operation

The control valve is operated by an electronic actuator that responds to a modulating 2-10 VDC control signal. The actuator will then move the ball of the valve to the position dictated by the control signal and change the flow.

Product Features

Linear characteristic, complete close-off.

Actuator Specifications

Control type	modulating
Manual override	LRX24-LP-EP6
Electrical connection	3 ft. [1 m] cable with ½" conduit fitting
Controllable flow range	90°
Communication	BACnet MS/TP, Modbus RTU, Analog

Valve Specifications

Service	chilled or hot water, 60% glycol
Flow characteristic	linear
Controllable flow range	(0 to 20% angle)
Sequence 1	(0 to 30° angle) Dead zone 30° to 60°
Sequence 2	(60° to 90° angle)
Sizes	½", ¾"
End fitting	NPT
Materials	
Body	nickel plated brass
Ball	chrome plated brass
Stem	nickel plated brass
Seats	Teflon® PTFE
Seat O-rings	EPDM
Characterizing disc	chrome plated steel
Stem 0-rings	EPDM
Media temperature range	43°F to 180°F [6°C to 82°C]
Body pressure rating	232 psi
Close-off pressure	50 psi
Maximum differential	
pressure (ΔP)	15 psi
Leakage	0%
Rangeability	100:1
Flow control tolerance	<u>+</u> 6%
Flow measurement	
tolerance	<u>+</u> 2%
All flow tolerances @ 68°F	to 77°F [20°C to 25°C] and

All flow tolerances @ 68°F to 77°F [20°C to 25°C] and 0% glycol.



6-Way Electronic Pressure Independent Characterized Control Valves with Non Fail-Safe Actuators

Chrome Plated Ball and Nickel Plated Stem, NPT Female Ends

Valve Specifications

Service	chilled or hot water, up to 60% glycol
Flow Characteristic	linear
End Fitting	NPT female ends
Body	nickel plated brass
Ball	chrome plated brass
Stem	nickel plated brass
Seat	Teflon® PTFE
O-ring	EPDM
Characterized Disc	chrome plated steel
Media Temperature Range	43°F to 180°F [6°C to 82°C]
Max Differential Pressure	15 psi
Leakane	0%







ACTUATOR PART #	LRX24-LP-EP6
Control	Modulating
Manual Override	•
Running Time (Motor)	150 seconds (default), variable (35 to 150 seconds)
Electrical Connection	3 ft., 18 GA plenum cable with ½" conduit connector

6-Wav





Innovation Meets Energy Efficient Design Belimo 6-Way Pressure Independent Valve

Belimo 6-way electronic pressure independent control valve feature heating and cooling circuits which are hydronically decoupled because of the innovative ball design. Each sequence is controlled individually by the rotary movement of the actuator. The valve provides zero leakage in the closed position preventing energy losses and reduces operating costs.

- Performs change over and modulating control for single coil four pipe system providing less system maintenance
- Support different flow requirements of both hot and chilled water with multiple GPM's
- True close-off to isolate both heating and cooling loops providing system efficiency
- Near Field Communication (NFC) allows fast programming, commissioning and troubleshooting even when the actuator is not powered it can be programmed
- Enhanced communication with BACnet MS/TP, and Modbus RTU provide superior application data access
- True flow accuracy of ±2% with ultrasonic flow meter





BELIMO ZONETIGHT™ ZONE VALVES (PIQCV, QCV, 6-WAY)

Efficient in Every Way

- Compact size
- Low power consumption
- Zero leakage



Field Adjustable Flow to Meet Your Design Requirements - Flow Capacity Application Tool

The Belimo ZoneTight[™] zone valves online flow capacity application tool provides a quick and efficient way to adjust C_V or GPM to meet your application requirements.

It's as easy as 1, 2, 3.

- 1. Select your valve type.
- 2. Enter your required GPM and Delta P for pressure dependent or enter your desired Cv.
- 3. Click submit.

For pressure independent, select your valve type, enter your desired GPM, and click submit.

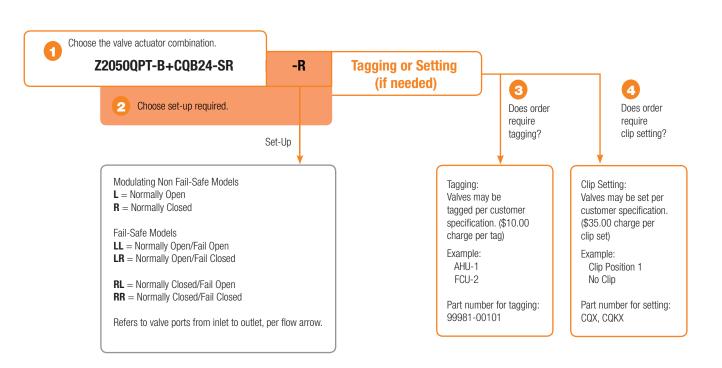
Access the Flow Capacity Application Tool at belimo.us



ZoneTight Pressure Independent Zone Valve (PIQCV) Nomenclature

Z2	050	Q	Р	T	-B	+CQB	24	-SR	-R	
Valve Type Z2 = 2-way ZoneTight Chrome Plated Brass Ball and Brass Stem	Valve Size 050 = ½" 075 = ¾"	Quick Connect	Pressure Independent	T = PT Port	Re	Actuator Type Non Fail- Safe CQB CQX Fail-Safe CQKB CQKX "models are cuss effer to page 8-3 for to clip position opto	or factory	Control -3 = Floating Point -SR = Modulating	Direction of Rotation -L = Open (2 VDC) -R = Close (2 VDC) -LL = Normally Open, Fail Open -RR = Normally Close, Fail Close -LR = Normally Open, Fail Close -RL = Normally Close, Fail Close	-S = Built -in Aux. Switch

Ordering Example



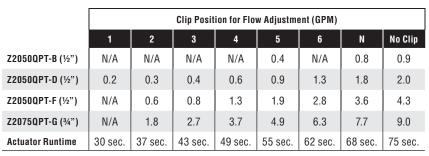
Complete Ordering Example: Z2050QPT-B+CQB24-SR-R

Control Valve Product Range

ZoneTight Pressure Independent Zone Valve (PIQCV) Product Range

	Valve Nominal Size		alve Nominal Size Type		Suitable Actuators	
GPM	Inches	DN [mm]	2-way NPT with PT ports	Non-Spring Return	Fail-Safe	
0.9*	1/2	15	Z2050QPT-B		S	
2.0*	1/2	15	Z2050QPT-D	Series	Series	
4.3*	1/2	15	Z2050QPT-F	co s	COK S	
9.0*	3/4	20	Z2075QPT-G	J	ງ	

^{*}Maximum flow. Max value can be field adjusted, see actuator instructions.



For additional intermediate settings see technical documentation or the ZoneTight flow capacity setting tool on www.belimo.us.







Mode of Operation

The ZoneTight Pressure Independent Zone Valve (PIQCV) 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 set degrees of ball opening. Maximizes chiller Delta T, preventing energizing additional chillers due to low Delta T. Simplified valve sizing and selection, no C_{V} calculations required.

Actuator Specifications

	00
Control type -3 -SR	on/off, floating point modulating, 0.5-10 VDC*, 2-10 VDC*
Manual override	use actuator to turn valve stem
Electrical connection	3 ft. [1 m] cable with ½" conduit fitting screw terminals
Power consumption CQ CQK CQUP	0.3 W running, 0.2 W holding 2.5 W running, 0.5 W holding 1 W running, 0.7 W holding
Power supply	24V (110-240 VAC, UP)
Transformer sizing CQ CQK CO UP	0.6 VA 5 VA 2 VA

Valve Specifications

chilled or hot water, 60% glycol
equal percentage
75°
1/2", 3/4"
NPT female
forged brass
stainless steel
stainless steel
Teflon® PTFE
EPDM
stainless steel
36°F to 212°F [2°C to 100°C]
250°F [120°C]
212°F [100°C]
2
360 psi
200 psi
5 to 50 psi
0%
±5%

If temperature exceeds 212°F [100°C] operating range due to a boiler control failure the valve will safely contain the hot water but manufacturers product warranty becomes invalid.

^{*}Specify upon ordering.



SET-UP- Specify Upon Ordering

2-WAY VALVE

ion	CQB(X)UP-3	Power to brown wire (pin 2 for -T versions) will drive valve CW. Power to blue wire (pin 3 for -T versions) will drive valve CCW.						
IL-SAFI ist Posit	CQB(X)24-3	Power to red wire (pin 2 for -T versions) will drive valve CW. Power to white wire (pin 3 for -T versions) will drive valve CCW.						
NON FAIL-SAFE Stays in Last Position	CQB(X)24-SR	NC: Normally closed A to AB, valve will open as voltage increases	NO: Normally open A to AB, valve will close as voltage increases					
AFE	CQKB(X)24 CQKB(X)24-S	NO/FO: Normally open A to AB, valve will drive closed. Fail-Safe Action: Actuator will fail open A to AB upon power loss.	NC/FC: Normally closed A to AB, valve will drive open. Fail-Safe Action: Actuator will fail closed A to AB upon power loss.					
FAIL-SAFE	CQKB(X)24-SR	NC/FO: Normally closed A to AB, valve will open as voltage increases. Actuator switch on CW. Fail-Safe Action: Will fail open upon power loss.	NC/FC: Normally closed A to AB, valve will open as voltage increases. Actuator switch on CW. Fail-Safe Action: Will fail closed upon power loss.					

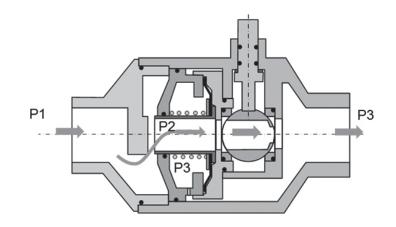


FLOW PATTERN

ZoneTight Pressure Independent Zone Valve (PIQCV) consists of a differential pressure regulator in series with a control valve.

The control valve is throttled to match the flow command of the control signal. The differential pressure regulator holds the pressure drop across the ball of the valve. As system pressures change, the differential pressure regulator moves in response to keep the flow stable.

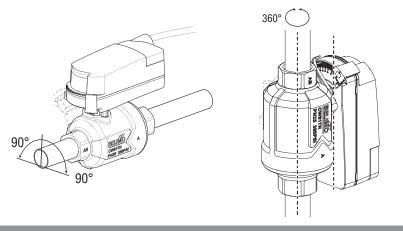
Pressure P1 at the inlet of the ZoneTight Pressure Independent Zone Valve (PIQCV) is high and pressure P3 at the outlet is low. The differential pressure between P1 and P3 must be between 5-50 PSI to achieve pressure independent flow. When differential pressure increases the regulator opening is reduced. When differential pressure decreases the regulator opening is increased. This allows for the constant pressure differential across the ball of the valve.



INSTALLATION

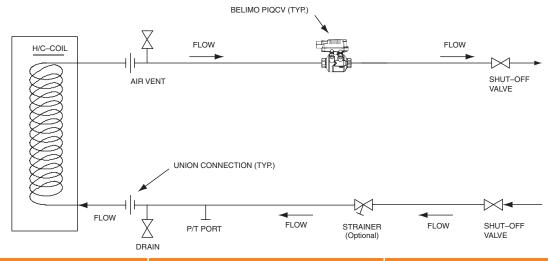
ZoneTight Pressure Independent Zone Valves (PIQCV) should be installed with flow in the direction of the arrow on the valve body. If installed backwards, there could be damage to either the diaphragm or the regulator.

The valve assembly can be installed in a vertical or horizontal arrangement, as long as the actuator is positioned to avoid condensation from dripping on the actuator.



PIPING

ZoneTight Pressure Independent Zone Valves (PIQCV) are recommended to be installed on the return side of the coil. This diagram is for typical applications only. Consult engineering specification and drawings for particular circumstances. PT ports are recommended on the supply side of the heat transfer device to allow for pressure/flow measurement/calculation. Refer to ZoneTight Pressure Independent Zone Valve (PIQCV) technical documentation for flow verification and commissioning procedures.

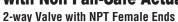


800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN

ZoneTight Pressure Independent Zone Valves (PIQCV) with Non Fail-Safe Actuators





Valve Specifications

Service	chilled, hot water, up to 60% glycol
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterization	incorporated into the ball
Media Temperature Limit	250°F [120°C]*
Differential Pressure Range	5 to 50 psi
Maximum Allowable	212°F [100°C]*
Operating Temperature	212 F [100 6]
Leakage	0%





ACTUATOR PART #	CQB24-3	CQB24-SR-L	CQB24-SR-R	CQBUP-3
Control	On/Off, Floating Point	Modulating, 2-10 VDC	Modulating, 2-10 VDC	On/Off, Floating Point
Power Supply	24 VAC/DC	24 VAC/DC	24 VAC/DC	110-230 VAC
Set-Up		NO	NC	
Running Time (Motor)	75 seconds (0-90°)	75 seconds (0-90°)	75 seconds (0-90°)	75 seconds (0-90°)
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

2-Way with PT Ports

Model #	GPM	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
Z2050QPT-B	0.9			200	\$379	\$447	\$447	\$392
Z2050QPT-D	2.0	0.5" [15]	360	200	\$379	\$447	\$447	\$392
Z2050QPT-F	4.3		300	200	\$400	\$469	\$469	\$415
Z2075QPT-G	9	0.75" [20]		200	\$539	\$608	\$608	\$554

^{*} If temperature exceeds 212°F [100°C] operating range due to a boiler control failure the valve will safely contain the hot water but manufacturers product warranty becomes invalid.





ZoneTight Pressure Independent Zone Valves (PIQCV) with Electronic Fail-Safe Actuators

2-way Valve with NPT Female Ends, PT Ports

Valve Specifications

Service	chilled, hot water, up to 60% glycol
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterization	incorporated into the ball
Media Temperature Limit	250°F [120°C]*
Differential Pressure Range	5 to 50 psi
Maximum Allowable Operating Temperature	212°F [100°C]*
Leakage	0%





ON/OFF

ACTUATOR PART #	CQKB24-LL	CQKB24-RR	CQKB24-S-LL	CQKB24-S-RR
Control	On/Off	On/Off	On/Off	On/Off
Power Supply	24 VAC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC
Set-Up	NO/FO	NC/FC	NO/FO	NC/FC
Running Time (Motor)	75 seconds (0-90°)	75 seconds (0-90°)	75 seconds (0-90°)	75 seconds (0-90°)
Running Time (Fail-Safe)	60 seconds	60 seconds	60 seconds	60 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector
Auxiliary Switch			1 SPST	1 SPST

2-Way

Model #	GPM	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
Z2050QPT-B	0.9			200	\$372	\$372	\$391	\$391
Z2050QPT-D	2.0	0.5" [15]	360	200	\$372	\$372	\$391	\$391
Z2050QPT-F	4.3		300	200	\$392	\$392	\$412	\$412
Z2075QPT-G	9	0.75" [20]		200	\$534	\$534	\$552	\$552



MODULATING								
ACTUATOR PART #	CQKB24-SR-LL	CQKB24-SR-LR	CQKB24-SR-RL	CQKB24-SR-RR				
Control	Modulating, 2-10 VDC	Modulating, 2-10 VDC	Modulating, 2-10 VDC	Modulating, 2-10 VDC				
Power Supply	24 VAC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC				
Set-Up	NO/FO	NO/FC	NC/FO	NC/FC				
Running Time (Motor)	75 seconds (0-90°)	75 seconds (0-90°)	75 seconds (0-90°)	75 seconds (0-90°)				
Running Time (Fail-Safe)	60 seconds	60 seconds	60 seconds	60 seconds				
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector				

2-Way

Model #	# GPM	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
Z2050QP	PT-B 0.9			200	\$469	\$469	\$469	\$469
Z2050QP	PT-D 2.0	0.5" [15]	360	200	\$469	\$469	\$469	\$469
Z2050QP	PT-F 4.3		300	200	\$489	\$489	\$489	\$489
Z2075QP	PT-G 9	0.75" [20]		200	\$573	\$573	\$573	\$573

^{*} If temperature exceeds 212°F [100°C] operating range due to a boiler control failure the valve will safely contain the hot water but manufacturers product warranty becomes invalid.



ZoneTight Zone Valves Efficient in Every Way

The compact Belimo ZoneTight[™] zone valves are based on characterized control ball valve technology and sets new design and performance standards for pressure independent and pressure dependent zone valves.

- Ball valve design offers zero leakage; ensures tight closing to eliminate energy losses and is resistant to clogging
- Equal percentage flow characteristic for effective light load modulation
- Low power consumption up to 95% less than conventional zone valves
- Adjustable Cv and or GPM tailored to meet design needs
- Backed with a 5-Year warranty







BELIMO ZONETIGHT™ ZONE VALVES (QCV)

Space Saving Zone Valves

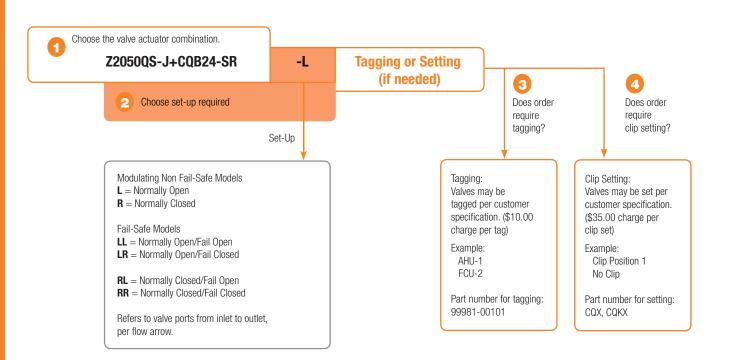
- Belimo ball valve design offers zero leakage; ensures tight closing eliminating energy losses and resistant to clogging.
- Low power consumption up to 95% less than conventional zone valves.
- Adjustable C_V value to meet the design.
- Sweat or NPT connection available.

ZoneTight Zone Valve (QCV) Nomenclature

Z2	050	Q	S	-J	+CQB	24	-SR	-L	
Valve Type Z2 = 2-way Z3 = 3-way ZoneTight Chrome Plated Brass Ball and Brass Stem	Valve Size 050 = ½" 075 = ¾"	Quick Connect	Connection Type Blank = NPT S = Sweat	Cv 2-way F = 1.4 J = 5.9 K = 9.8 3-way* E = 1 H = 2.7 J = 4.6		3 for factory	Control -3 = On/Off, Floating Point -SR = Modulating Input = 2-10 VDC	Direction of Rotation -L = Open (2 VDC) -R = Close (2 VDC) -LL = Normally Open, Fail Open -RR = Normally Close, Fail Close -LR = Normally Open, Fail Close -RL = Normally Close, Fail Open	-S = Built-in Aux. Switch

*On/off only.

Ordering Example



5 Complete Ordering Example: Z2050QS-J+CQB24-SR-L

Control Valve Product Range

ZoneTight Zone Valve (QCV) Product Range

		Valve Nominal Size		Ту	pe	Suitable Actuators	
	C _V	Inches	DN [mm]	2-way	3-way	Non Fail- Safe	Fail-Safe
	1.4*	1/2	15	Z2050Q-F			
	5.9*	1/2	15	Z2050Q-J			
	9.8*	3/4	20	Z2075Q-K			
	1	1/2	15		Z3050Q-E		
	2.7	1/2	15		Z3050Q-H		ω
	4.6	3/4	20		Z3075Q-J	CQ Series	CQK Series
	1.4*	1/2	15	Z2050QS-F		30 S	OK S
	5.9*	1/2	15	Z2050QS-J		J	3
Sweat	9.8*	3/4	20	Z2075QS-K			
Sw	1	1/2	15		Z3050QS-E		
	2.7	1/2	15		Z3050QS-H		
	4.6	3/4	20		Z3075QS-J		

^{*}Maximum flow. Max value can be field adjusted, see actuator instructions.

Order "X" model Actuators for Factory Clip Setting, see Instruction Manual for details.

		Clip Position for Flow Adjustment								No Clip	
	1	2	3-	3	4	4+	5	5+	6	N	No end stop
Z2050Q(S)-F (½")	0.1	N/A	0.2	N/A	N/A	0.4	N/A	0.6	0.8	1.2	1.4
Z2050Q(S)-J (½")	0.5	0.7	N/A	1.2	1.7	N/A	2.4	N/A	3.4	4.8	5.9
Z2075Q(S)-K (¾")	0.5	1.0	N/A	1.5	2.3	N/A	3.3	N/A	4.6	6.6	9.8



Mode of Operation

The ZoneTight Zone Valve (QCV) is operated by a rotary actuator. The actuators are controlled by a standard voltage for on/off control, a modulating signal, or 3-point control system which moves 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 design of the ball. This characteristic provides linear heating or cooling output from the coil improving energy efficiency and comfort.

Actuator Specific	cations
-------------------	---------

riotaatoi opooiiioati	0.10
Control type -3 -SR	on/off, floating point modulating, 2-10 VDC
Manual override	use actuator to turn valve stem
Electrical connection	3 ft. [1 m] cable with ½" conduit fitting screw terminals
Power consumption CQ CQK CQUP	0.3 W running, 0.2 W holding 2.5 W running, 0.5 W holding 1.0 W running, 0.7 W holding
Power supply	24 VAC/DC (100-240 VAC, UP)
Transformer sizing CQ CQK CO UP	0.6 VA 5 VA 2 VA

Valve Specifications

raire epecineanone	
Service	chilled or hot water, 60% glycol
Flow characteristic	equal percentage (2-way) linear (3-way)
Controllable flow range	75° (2-way), 90° (3-way)
Sizes	1/2", 3/4"
End fitting	NPT female sweat
Materials Body Ball Stem Seats	forged brass chrome plated brass brass Teflon® PTFE
0-rings	EPDM (lubricated)
Media temp. range	36°F to 212°F [2°C to 100°C]
Media temp. limit	250°F [120°C]
Maximum allowable operating temperature	212°F [100°C]
Body pressure rating	360 psi
Close-off pressure	75 psi
Maximum differential pressure (ΔP)	40 psi
Leakage	0%
Taflan® is a registered trad	amark of DuDantIM

Teflon® is a registered trademark of DuPont™

If temperature exceeds 212°F [100°C] operating range due to a boiler control failure the valve will safely contain the hot water but manufacturer's product warranty becomes invalid.



SET-UP- Specify Upon Ordering

2-WAY AND 3-WAY VALVES

0	CQB(X)UP-3	Power to brown wire (pin 2 for -T versions) will drive valve CW. Power to blue wire (pin 3 for -T versions) will drive valve CCW.					
NON FAIL-SAFE Stays in Last Position	CQB(X)24-3	Power to red wire (pin 2 for -T versions) will drive valve CW. Power to white wire (pin 3 for -T versions) will drive valve CCW.					
l St	CQB(X)24-SR	CQB24-SR-R: Normally closed, valve will open as voltage increases	CQB24-SR-L: Normally open, valve will close as voltage increases				
SAFE	CQKB(X)24 CQKB(X)24-S	CQKB24-LL, CQKB24-S-LL: Normally open CCW, valve will drive closed when energized. Fail-Safe Action: Actuator will fail open CCW upon power loss.	CQKB24-RR, CQKB24-S-RR: Normally closed CW, valve will drive open when energized. Fail-Safe Action: Actuator will fail closed CW upon power loss.				
RONIC FAIL-SAFE	CQKB(X)24-SR	CQKB24-SR-RL: Normally closed CW, valve will open as voltage increases. Fail-Safe Action: Will fail	CQKB24-SR-RR: Normally closed CW, valve will open as voltage increases. Fail-Safe Action: Will fail				

open upon power loss.

increases.

upon power loss.

CQKB24-SR-LL: Normally open

CCW, valve will close as voltage

Fail-Safe Action: Will fail open

Note: One wire control for CW or CCW rotation.

closed upon power loss.

increases.

upon power loss.

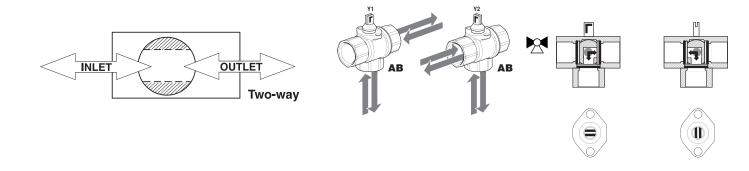
CQKB24-SR-LR: Normally open

CCW, valve will close as voltage

Fail-Safe Action: Will fail closed

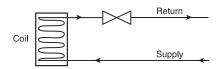


FLOW PATTERN



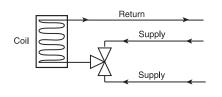
PIPING DIAGRAMS

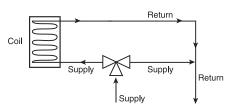
2-way Valve Piping Diagram



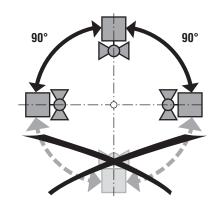
3-way Switching Valve Piping Diagram

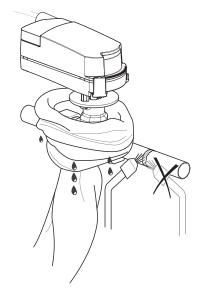
3-way Diverting Valve Piping Diagram

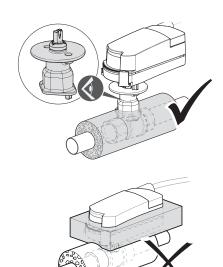




PIPING/MOUNTING ORIENTATION & INSULATION







ZoneTight Zone Valves (QCV) with Non Fail-Safe Actuators

2-way and 3-way Valves with NPT Female Ends and Sweat Connection



Valve Specifications

Service	chilled , hot water, 60% glycol
Flow Characteristic	equal percentage (2-way) linear (3-way)
Controllable Flow Range	75° (2-way) 90° (3-way)
End Fitting	NPT female sweat
Body	forged brass
Ball	chrome plated brass
Stem	brass
Seat	Teflon® PTFE
Media Temperature Limit	250°F [120°C]*
Max Differential Pressure (Water)	40 psi
Maximum Allowable Operating Temperature	212°F [100°C]*
Leakage	0%









ACTUATOR PART #	CQB24-3	CQB24-SR-L	CQB24-SR-R	CQBUP-3
Control	On/Off, Floating Point	Modulating, 2-10 VDC	Modulating, 2-10 VDC	On/Off, Floating Point
Power Supply	24 VAC/DC	24 VAC/DC	24 VAC/DC	100-240 VAC
Set-Up		NO	NC	
Running Time (Motor)	75 seconds (0°-90°)	75 seconds (0°-90°)	75 seconds (0°-90°)	75 seconds (0°-90°)
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

2-Way NPT

L way ivi i														
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]										
Z2050Q-F**	1.4	0.5" [15]			\$186	\$254	\$254	\$201						
Z2050Q-J**	5.9	0.5" [15]	360	75	\$186	\$254	\$254	\$201						
Z2075Q-K**	9.8	0.75" [20]									\$208	\$275	\$275	\$221
3-Way NPT (0	n/Off Only	y)												
Z3050Q-E	1	0 5" [15]			\$208			\$221						
Z3050Q-H	2.7	0.5" [15]	360	75	\$208			\$221						
Z3075Q-J	4.6	0.75" [20]			\$229			\$243						

2-Way Sweat

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]											
Z2050QS-F**	1.4	0.5" [15]			\$186	\$254	\$254	\$201							
Z2050QS-J**	5.9	0.5 [15]	360	75	\$186	\$254	\$254	\$201							
Z2075QS-K**	9.8	0.75" [20]										\$208	\$275	\$275	\$221
3-Way Sweat	(On/Off O	nly)													
Z3050QS-E	1	0 5" [15]			\$208			\$221							
Z3050QS-H	2.7	0.5" [15]	360	75	\$208			\$221							
Z3075QS-J	4.6	0.75" [20]			\$229			\$243							

^{*} If temperature exceeds 212°F [100°C] operating range due to a boiler control failure the valve will safely contain the hot water but manufacturers product warranty becomes invalid.

** Maximum flow. Max value can be field adjusted, see actuator instructions.

ACTUATOR PART #	CQX24-SR-L	CQX24-SR-R
Add to List Price for Factory Clip Setting	+\$35	+\$35

BELIMO

ZoneTight Zone Valves (QCV) with Electronic Fail-Safe Actuators

2-way and 3-way Valves with NPT Female Ends and Sweat Connection

Valve Specifications

Service	chilled , hot water, 60% glycol
Flow Characteristic	equal percentage (2-way) linear (3-way)
Controllable Flow Range	75° (2-way) 90° (3-way)
End Fitting	NPT female sweat
Body	forged brass
Ball	chrome plated brass
Stem	brass
Seat	Teflon® PTFE
Media Temperature Limit	250°F [120°C]*
Max Differential Pressure (Water)	40 psi
Maximum Allowable Operating Temperature	212°F [100°C]*
Leakage	0%







ON/OFF

ACTUATOR PART #	CQKB24-LL	CQKB24-RR	CQKB24-S-LL	CQKB24-S-RR
Control	On/Off	On/Off	On/Off	On/Off
Power Supply	24 VAC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC
Set-Up	NO/FO	NC/FC	NO/FO	NC/FC
Running Time (Motor)	75 seconds (0°-90°)	75 seconds (0°-90°)	75 seconds (0°-90°)	75 seconds (0°-90°)
Running Time (Fail-Safe)	60 seconds	60 seconds	60 seconds	60 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector
Auxiliary Switch			1 SPST	1 SPST

2-Way NPT

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]						
Z2050Q-F**	1.4	0.5" [15]			\$179	\$179	\$199	\$199		
Z2050Q-J**	5.9	0.5 [15]	360	75	\$179	\$179	\$199	\$199		
Z2075Q-K**	9.8	0.75" [20])]		\$201	\$201	\$220	\$220
3-Way NPT										
Z3050Q-E	1	0 5" [45]			\$201	\$201	\$220	\$220		
Z3050Q-H	2.7	0.5" [15]	360	75	\$201	\$201	\$220	\$220		
Z3075Q-J	4.6	0.75" [20]			\$221	\$221	\$241	\$241		

2-Way Sweat

Z-way oweat										
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]						
Z2050QS-F**	1.4	0 5" [15]			\$179	\$179	\$199	\$199		
Z2050QS-J**	5.9	0.5" [15]	360	75	\$179	\$179	\$199	\$199		
Z2075QS-K**	9.8	0.75" [20]			\$201	\$201	\$220	\$220		
3-Way Sweat										
Z3050QS-E	1	0.5" [4.5]			\$201	\$201	\$220	\$220		
Z3050QS-H	2.7	0.5" [15]	360	75	\$201	\$201	\$220	\$220		
Z3075QS-J	4.6	0.75" [20]					\$221	\$221	\$241	\$241

^{*} If temperature exceeds 212°F [100°C] operating range due to a boiler control failure the valve will safely contain the hot water but manufacturers product warranty becomes invalid.

^{**} Maximum flow. Max value can be field adjusted, see actuator instructions.

ZoneTight Zone Valves (QCV) with Electronic Fail-Safe Actuators

2-way Valves with NPT Female Ends and Sweat Connection



Valve Specifications

Service	chilled , hot water, 60% glycol
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	NPT female sweat
Body	forged brass
Ball	chrome plated brass
Stem	brass
Seat	Teflon® PTFE
Media Temperature Limit	250°F [120°C]*
Max Differential Pressure (Water)	40 psi
Maximum Allowable Operating Temperature	212°F [100°C]*
Leakage	0%







MODULATING

ACTUATOR PART #	CQKB24-SR-LL	CQKB24-SR-LR	CQKB24-SR-RL	CQKB24-SR-RR
Control	Modulating, 2-10 VDC	Modulating, 2-10 VDC	Modulating, 2-10 VDC	Modulating, 2-10 VDC
Power Supply	24 VAC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC
Set-Up	NO/FO	NO/FC	NC/FO	NC/FC
Running Time (Motor)	75 seconds (0°-90°)	75 seconds (0°-90°)	75 seconds (0°-90°)	75 seconds (0°-90°)
Running Time (Fail-Safe)	60 seconds	60 seconds	60 seconds	60 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

2-Way NPT

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
Z2050Q-F**	1.4	0 5" [15]			\$274	\$274	\$274	\$274
Z2050Q-J**	5.9	0.5" [15]	360	75	\$274	\$274	\$274	\$274
Z2075Q-K**	9.8	0.75" [20]			\$296	\$296	\$296	\$296

2-Way Sweat

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
Z2050QS-F**	1.4	0.5" [15]			\$274	\$274	\$274	\$274
Z2050QS-J**	5.9	0.5" [15]	360	75	\$274	\$274	\$274	\$274
Z2075QS-K**	9.8	0.75" [20]			\$296	\$296	\$296	\$296

- * If temperature exceeds 212°F [100°C] operating range due to a boiler control failure the valve will safely contain the hot water but manufacturers product warranty becomes invalid.
- ** Maximum flow. Max value can be field adjusted, see actuator instructions.

ACTUATOR PART #	CQKX24-SR-LL	CQKX24-SR-LR	CQKX24-SR-RL	CQKX24-SR-RR
Add to List Price for Factory Clip Setting	+\$35	+\$35	+\$35	+\$35



10

6-WAY CHARACTERIZED CONTROL VALVES

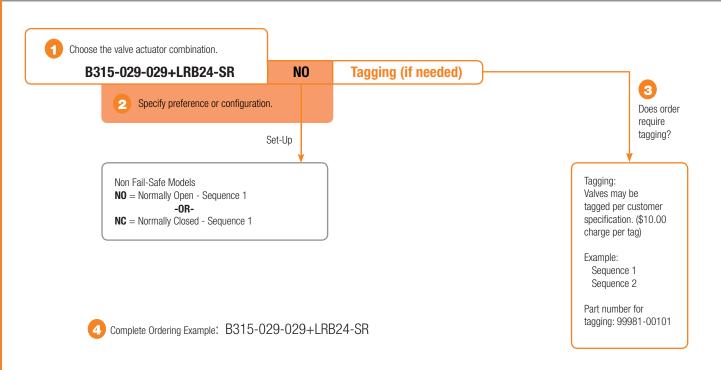
Easy Way to Control both Heating and Cooling Using One Valve

- True close-off to isolate both heating and cooling loops.
- Replaces four 2-way valves drastically simplifying installation.
- Only one actuator to integrate and wire.

6-Way Characterized Control Valve Nomenclature

В3	15	-029	-	029	+LRB	24	-SR
Valve B3 = 3-way	Valve Size 15 = ½" 20 = ¾" 25 = 1"	$\begin{array}{l} \textbf{Sequence 1} \\ 029 = 0.29 \ C_V \\ 046 = 0.46 \ C_V \\ 073 = 0.73 \ C_V \\ 116 = 1.16 \ C_V \\ 150 = 1.50 \ C_V \\ 175 = 1.75 \ C_V \\ 186 = 1.86 \ C_V \\ 200 = 2.00 \ C_V \\ 290 = 2.90 \ C_V \\ 400 = 4.00 \ C_V \\ 490 = 4.90 \ C_V \\ 540 = 5.40 \ C_V \\ 740 = 7.40 \ C_V \end{array}$	= 6-way	$\begin{array}{l} \textbf{Sequence 2} \\ 029 = 0.29 \ C_V \\ 046 = 0.46 \ C_V \\ 073 = 0.73 \ C_V \\ 116 = 1.16 \ C_V \\ 150 = 1.50 \ C_V \\ 175 = 1.75 \ C_V \\ 186 = 1.86 \ C_V \\ 200 = 2.00 \ C_V \\ 290 = 2.90 \ C_V \\ 400 = 4.00 \ C_V \\ 470 = 4.70 \ C_V \\ 540 = 5.40 \ C_V \\ 700 = 7.00 \ C_V \end{array}$		Power Supply 24 = 24 VAC/VDC	

Ordering Example



Control Valve Product Range

6-Way Characterized Control Valve Product Range

		Valve No	ominal Size	Туре	Suitable /	Actuators
Sequence 1 C _V	Sequence 2 C _V	Inches	DN [mm]	6-way NPT	Non Fa	il-Safe
0.29	0.29	1/2	15	B315-029-029		
0.29	0.46	1/2	15	B315-029-046		
0.29	0.73	1/2	15	B315-029-073		
0.29	1.16	1/2	15	B315-029-116		
0.29	1.50	1/2	15	B315-029-150		
0.46	0.29	1/2	15	B315-046-029		
0.46	0.46	1/2	15	B315-046-046		
0.46	0.73	1/2	15	B315-046-073		
0.46	1.16	1/2	15	B315-046-116		
0.46	1.50	1/2	15	B315-046-150		
0.73	0.29	1/2	15	B315-073-029		
0.73	0.46	1/2	15	B315-073-046		
0.73	0.73	1/2	15	B315-073-073	~	
0.73	1.16	1/2	15	B315-073-116	LRB24-SR	LRX24-MF1
0.73	1.50	1/2	15	B315-073-150	RB2	RX2
1.16	0.29	1/2	15	B315-116-029		
1.16	0.46	1/2	15	B315-116-046		
1.16	0.73	1/2	15	B315-116-073		
1.16	1.16	1/2	15	B315-116-116		
1.16	1.50	1/2	15	B315-116-150		
1.50	0.29	1/2	15	B315-150-029		
1.50	0.46	1/2	15	B315-150-046		
1.50	0.73	1/2	15	B315-150-073		
1.50	1.16	1/2	15	B315-150-116		
1.50	1.50	1/2	15	B315-150-150		
1.75	2.0	1/2	15	B315-175-200		
2.0	1.75	1/2	15	B315-200-175		
2.0	2.0	1/2	15	B315-200-200		



Mode of Operation The control valve is operated by an electronic actuator that responds to a modulating VDC/4...20 mA control signal. The actuator will then move the ball of the valve to the position dictated by the control signal thus changing the flow.

Product Features

Linear characteristic, complete close-off resulting in 0%

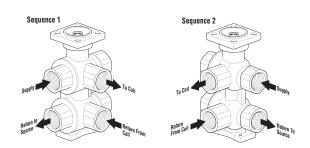
Actuator Specifications

Control type	2-10 VDC multi-function technology (MFT)
Manual override	LR
Electrical connection	3 ft. [1 m] cable with ½" conduit fitting

Valve Specifications

vaive Specifications	
Service	chilled or hot water, 60% glycol
Flow characteristic	linear
Controllable flow range	
Sequence 1	(0 to 30° angle)
	Dead zone 30° to 60°
Sequence 2	(60° to 90° angle)
Sizes	1/2"
End fitting	NPT
Materials	
Body	nickel plated brass
Ball	chrome plated brass
Stem	nickel plated brass
Seats	Teflon® PTFE
Seat O-rings	EPDM
Characterizing disc	chrome plated steel
Stem 0-rings	EPDM
Media temperature range	43°F to 180°F [6°C to 82°C]
Body pressure rating	232 psi
Close-off pressure	50 psi
Maximum differential	
pressure (∆P)	15 psi
Leakage	0%

Teflon® is a registered trademark of DuPont™



Control Valve Product Range

6-Way Characterized Control Valve Product Range

		Valve No	ominal Size	Туре	Suitable	Actuators
Sequence 1 C _V	Sequence 2 C _V	Inches	DN [mm]	6-way NPT	Non Fa	il-Safe
0.73	0.73	3/4	20	B320-073-073		
0.73	1.16	3/4	20	B320-073-116		
0.73	1.86	3/4	20	B320-073-186		
0.73	2.9	3/4	20	B320-073-290		
1.16	0.73	3/4	20	B320-116-073		
1.16	1.16	3/4	20	B320-116-116		
1.16	1.86	3/4	20	B320-116-186		
1.16	2.9	3/4	20	B320-116-290		
1.86	0.73	3/4	20	B320-186-073		
1.86	1.16	3/4	20	B320-186-116		
1.86	1.86	3/4	20	B320-186-186		
1.86	2.9	3/4	20	B320-186-290	LRB24-SR	LRX24-MF1
2.9	0.73	3/4	20	B320-290-073	RB2	RX24
2.9	1.16	3/4	20	B320-290-116		
2.9	1.86	3/4	20	B320-290-186		
2.9	2.9	3/4	20	B320-290-290		
2.9	4.0	3/4	20	B320-290-400		
2.9	4.7	3/4	20	B320-290-470		
4.0	2.9	3/4	20	B320-400-290		
4.0	4.0	3/4	20	B320-400-400		
4.0	4.7	3/4	20	B320-400-470		
4.9	2.9	3/4	20	B320-490-290		
4.9	4.0	3/4	20	B320-490-400		
4.9	4.7	3/4	20	B320-490-470		
7.4	7	1	25	B325-740-700	NRB24-SR	NRX24- MFT



Mode of Operation

The control valve is operated by an electronic actuator that responds to a modulating VDC/4...20 mA control signal. The actuator will then move the ball of the valve to the position dictated by the control signal thus changing the flow.

Product Features

Linear characteristic, complete close-off resulting in 0% leakage.

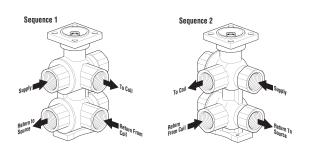
Actuator Specifications

Control type	2-10 VDC multi-function technology (MFT)
Manual override	LR, NR
Electrical connection	3 ft. [1 m] cable with ½" conduit fitting

Valve Specifications

Valve Specifications	
Service	chilled or hot water, 60% glycol
Flow characteristic	linear
Controllable flow range	
Sequence 1	(0 to 30° angle)
	Dead zone 30° to 60°
Sequence 2	(60° to 90° angle)
Sizes	3/4", 1"
End fitting	NPT
Materials	
Body	nickel plated brass
Ball	chrome plated brass
Stem	nickel plated brass
Seats	Teflon® PTFE
Seat O-rings	EPDM
Characterizing disc	chrome plated steel
Stem 0-rings	EPDM
Media temperature range	43°F to 180°F [6°C to 82°C]
Body pressure rating	232 psi
Close-off pressure	50 psi
Maximum differential	
pressure (ΔP)	15 psi
Leakage	0%

Teflon® is a registered trademark of DuPont™



Valve Specifications

•	
Service	chilled or hot water, up to 60% glycol
Flow Characteristic	linear
End Fitting	NPT female ends
Body	nickel plated brass
Ball	chrome plated brass
Stem	nickel plated brass
Seat	Teflon® PTFE
0-ring	EPDM
Characterized Disc	chrome plated steel
Media Temperature Range	43°F to 180°F [6°C to 82°C]
Max Differential Pressure	15 psi for typical applications
Leakage	0%







ACTUATOR PART #	LRB24-SR	LRX24-MFT
Control	2-10 VDC	Modulating/MFT
Manual Override	•	•
Running Time (Motor)	90 seconds	150 seconds (default), variable (35 to 150 seconds)
Electrical Connection	3 ft., 18 GA plenum cable with ½" conduit connector	3 ft., 18 GA plenum cable with ½" conduit connector

6-Way

Model #	Seq 1 Cv	Seq 2 Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]			
B315-029-029		0.29				\$755	\$810	
B315-029-046		0.46				\$755	\$810	
B315-029-073	0.29	0.73				\$755	\$810	
B315-029-116		1.16				\$755	\$810	
B315-029-150		1.5				\$755	\$810	
B315-046-029		0.29				\$755	\$810	
B315-046-046		0.46				\$755	\$810	
B315-046-073	0.46	0.73				\$755	\$810	
B315-046-116		1.16				\$755	\$810	
3315-046-150		1.5				\$755	\$810	
315-073-029		0.29				\$755	\$810	
315-073-046		0.46				\$755	\$810	
315-073-073	0.73	0.73					\$755	\$810
315-073-116		1.16	0.5"	232	50	\$755	\$810	
3315-073-150		1.5	[15]	232	50	\$755	\$810	
315-116-029		0.29				\$755	\$810	
315-116-046		0.46				\$755	\$810	
315-116-073	1.16	0.73				\$755	\$810	
315-116-116		1.16				\$755	\$810	
315-116-150		1.5				\$755	\$810	
315-150-029		0.29				\$755	\$810	
315-150-046	4.5	0.46				\$755	\$810	
315-150-073	1.5	0.73				\$755	\$810	
315-150-116		1.16				\$755	\$810	
315-150-150		1.5				\$755	\$810	
315-175-200	1.75	2.0				\$755	\$810	
3315-200-175	2.0	1.75				\$755	\$810	
3315-200-200	2.0	2.0				\$755	\$810	

6-Way Characterized Control Valves with Non Fail-Safe Actuators

Chrome Plated Brass Ball and Nickel Plated Brass Stem, NPT Female Ends



Valve Specifications

Service	chilled or hot water, up to 60% glycol
Flow Characteristic	linear
End Fitting	NPT female ends
Body	nickel plated brass
Ball	chrome plated brass
Stem	nickel plated brass
Seat	Teflon® PTFE
0-ring	EPDM
Characterized Disc	chrome plated steel
Media Temperature Range	43°F to 180°F [6°C to 82°C]
Max Differential Pressure	15 psi for typical applications
Leakage	0%





ACTUATOR PART #	LRB24-SR	LRX24-MFT	NRB24-SR	NRX24-MFT
Control	2-10 VDC	Modulating/MFT	2-10 VDC	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	90 seconds	150 seconds (default), variable (35 to 150 seconds)	90 seconds	150 seconds (default), variable (45 to 150 seconds)
Electrical Connection	3 ft., 18 GA plenum cable with ½" conduit connector	3 ft., 18 GA plenum cable with $\frac{1}{2}$ " conduit connector	3 ft., 18 GA plenum cable with ½" conduit connector	3 ft., 18 GA plenum cable with ½" conduit connector
6 Way	72 conduct connector	72 defiduit definidates	72 Conduit Connoctor	72 Odiladit Golilloo

6-Way																						
Model #	Seq 1 Cv	Seq 2 Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]																	
B320-073-073		0.73				\$918	\$983															
B320-073-290	0.73	2.9				\$918	\$983															
B320-073-186	0.73	1.86				\$918	\$983															
B320-073-116		1.16				\$918	\$983															
B320-116-116		1.10				\$918	\$983															
B320-116-073	1.16	0.73				\$918	\$983															
B320-116-290	1.10	2.9				\$918	\$983															
B320-116-186		1.86		6															\$918	\$983		
B320-186-186		1.00																		\$918	\$983	
B320-186-116	4.00	1.16						\$918	\$983													
B320-186-073	1.86	0.73				\$918	\$983															
B320-186-290		2.9	0.75"	232		\$918	\$983															
B320-290-290		2.9	[20]		50	\$918	\$983															
B320-290-186		1.86			232 30	232	232	232	30	\$918	\$983											
B320-290-116	2.9	1.16											\$918	\$983								
B320-290-073	2.9	0.73							\$918	\$983												
B320-290-400		4										\$918	\$983									
B320-290-470		4.7				\$918	\$983															
B320-400-290		2.9				\$918	\$983															
B320-400-400	4.0	4							\$918	\$983												
B320-400-470		4.7				\$918	\$983															
B320-490-290		2.9				\$918	\$983															
B320-490-400	4.9	4				\$918	\$983															
B320-490-470		4.7				\$918	\$983															
B325-740-700	7.4	7	1" [25]					\$1,080	\$1,145													

T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



11

ZONE VALVES

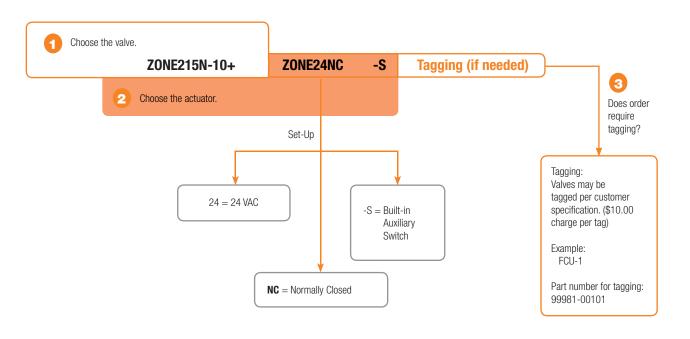
Traditional Solution

- Designed to fit in compact areas where on/off control is required.
- Synchronous motor winds the return spring and moves the valve paddle to the desired position.
- Enhanced motion gear action reduces motor wear and provides quiet operation.

Zone Valve Nomenclature

ZONE2	15	N	-10	+ZONE24NC	-S
Valve	Valve Size	End Fitting	C _V	Actuator Type	
Zone2 = 2-way	15 = ½"	N = NPT Female Connection	-10 = 1.0	24NC = 24 Volt Normally Closed	-S = Built-in
Zone3 = 3-way	20 = 3/4"	S = Sweat Connection	-25 = 2.5	24NO = 24 Volt Normally Open	Auxiliary
	25 = 1"		-35 = 3.5	120NC = 120 Volt Normally Closed	Switch
			-50 = 5.0	120NO = 120 Volt Normally Open	
			-80 = 8.0		

Ordering Example



4 Complete Ordering Example: ZONE215N-10+ZONE24NC-S

Control Valve Product Range

Zone Valve Product Range

	Valve No	ominal Size	Ту	pe	Suitable		Actuators	
Cv	Inches	DN [mm]	2-way NPT	2-way Sweat	Normall	/ Closed	Normally Open	
1	1/2	15	ZONE215N-10	ZONE215S-10				
2.5	1/2	15	ZONE215N-25	ZONE215S-25		Switch)		Switch)
3.5	1/2	15	ZONE215N-35	ZONE215S-35	Zone	h Sw		
3.5	3/4	20	ZONE220N-35	ZONE220S-35	Zo	(with	0Z	(with
5	3/4	20	ZONE220N-50	ZONE220S-50		Zone		Zone
8	1	25	ZONE225N-80	ZONE225S-80				

	Valve No	ominal Size	Ту	Suitable	Actuators	
Cv	Inches	DN [mm]	3-way NPT	3-way Sweat	Normall	y Closed
1	1/2	15	ZONE315N-10	ZONE315S-10		
2.5	1/2	15	ZONE315N-25	ZONE315S-25		(F)
3.5	1/2	15	ZONE315N-35	ZONE315S-35	Zone	Switch)
3.5	3/4	20	ZONE320N-35	ZONE320S-35	Zo	(with
5	3/4	20	ZONE320N-50	ZONE320S-50		Zone (
8	1	25	ZONE325N-80	ZONE325S-80		72





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

Valve Specifications

Close-off pressure

Leakage

Control type	on/off
Manual override	NC versions only
Electrical connection	6" [15 cm] wire lead 120V; 18" [45 cm] wire lead 24V

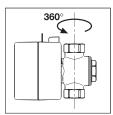
Service	chilled or hot water, 50% glycol			
Flow characteristic				
Two-way Three-way	on/off on/off, diverting			
Sizes	½", ¾" and 1"			
End fitting	NPT female or sweat			
Materials				
Body Stem Stem seals Paddle	forged brass stainless steel EPDM EPDM			
Media temp range	32°F to 212°F [0°C to 100°C]			
Body pressure rating	300 psi			

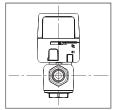
20-75 psi ANSI Class III 0.1%

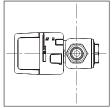
BELIMO

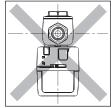
MOUNTING ORIENTATION

The valve can be installed vertically or horizontally, but not below horizontal.









- A 3-way valve cannot be transformed into a 2-way valve and visa versa.
- The NC versions have an override handle.
- 3-way zone valves can be fitted with NC actuator only (rotate the valve body 180° for NO application).

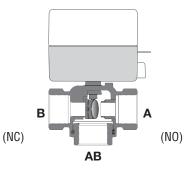
FLOW PATTERN

A D B

Normally closed actuator

2-way Valve

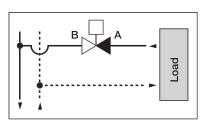
3-way Valve



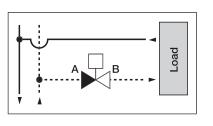
Normally closed actuator

	2-WAY	3-WAY
N.C. without power	Port "A" closed	Port "A" closed Port "B" open Port "AB" open
N.C. open with power	Port "A" open	Port "A" open Port "B" closed Port "AB" open
N.C. manually open	Port "A" open	Port "A" open Port "B" open Port "AB" open

PIPING DIAGRAMS

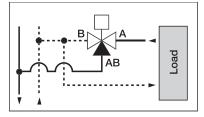


Installed on the return

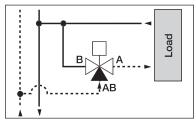


Installed on the supply

Normally open actuator

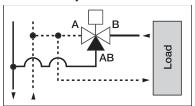


Installed on the return in diverting configuration

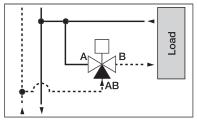


Installed on the supply

Normally closed actuator



Installed on the return in diverting configuration



Installed on the supply

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN

Valve Specifications

Service	chilled or hot water, up to 50% glycol
Flow Characteristic	on/off (2-way) on/off, diverting (3-way)
End Fitting	NPT female sweat
Body	forged brass
Stem	stainless steel
Seat	brass
Stem Seal	EPDM
Paddle	EPDM
Media Temperature Range (Water)	32°F to 212°F [0°C to 100°C]
Leakage	ANSI Class III 0.1%

















ACTUATOR PART #	ZONE24NC	ZONE24NO	ZONE24NC-S	ZONE24NO-S
Control	On/Off	On/Off	On/Off	On/Off
Manual Override	•		•	
Running Time (Motor)	20 to 40 seconds			
Running Time (Fail-Safe)	5 seconds	5 seconds	5 seconds	5 seconds
Electrical Connection	18" wire leads	18" wire leads	18" wire leads	18" wire leads

2-Way with NPT Female Connection

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
ZONE215N-10	1			75	\$204	\$204	\$222	\$222
ZONE215N-25	2.5	0.5" [15]		50	\$204	\$204	\$222	\$222
ZONE215N-35	3.5		200	30	\$204	\$204	\$222	\$222
ZONE220N-35	3.5	0.75" [00]	300	30	\$226	\$226	\$244	\$244
ZONE220N-50	5	0.75" [20]		25	\$226	\$226	\$244	\$244
ZONE225N-80	8	1" [25]		20	\$290	\$290	\$308	\$308
3-Way with NP	T Femal	e Connectio	on					
ZONE315N-10	1			75	\$226		\$244	
ZONE315N-25	2.5	0.5" [15]		50	\$226		\$244	
ZONE315N-35	3.5		000	30	\$226		\$244	
ZONE320N-35	3.5	0.75" [00]	0.75" [20]	30	\$243		\$260	
ZONE320N-50	5	0.75" [20]		25	\$243		\$260	
ZONE325N-80	8	1" [25]		20	\$310		\$328	
2-Way with Sw	eat Con							
Z0NE215S-10	1			75	\$198	\$198	\$216	\$216
ZONE215S-25	2.5	0.5" [15]		50	\$198	\$198	\$216	\$216
ZONE215S-35	3.5		200	30	\$198	\$198	\$216	\$216
ZONE220S-35	3.5	0.75" [00]	300	30	\$226	\$226	\$244	\$244
Z0NE220S-50	5	0.75" [20]		25	\$226	\$226	\$244	\$244
ZONE225S-80	8	1" [25]		20	\$281	\$281	\$299	\$299
3-Way with Sw	eat Con	nection						
ZONE315S-10	1			75	\$217		\$235	
ZONE315S-25	2.5	0.5" [15]		50	\$217		\$235	
ZONE315S-35	3.5	. ,	200	30	\$217		\$235	
ZONE320S-35	3.5	0.75" [00]	300	30	\$236		\$254	
ZONE320S-50	5	0.75" [20]		25	\$236		\$254	
ZONE325S-80	8	1" [25]		20	\$299		\$317	

Three-way valve can be installed in NC or NO configuration using the NC actuator.

Electronic Zone Valves with Spring Return Actuators

2-way and 3-way Valves with NPT or Sweat Connection



Valve Specifications

Service	chilled or hot water, up to 50% glycol
Flow characteristic	on/off (2-way) on/off, diverting (3-way)
End Fitting	NPT female sweat
Body	forged brass
Stem	stainless steel
Seat	brass
Stem Seal	EPDM
Paddle	EPDM
Media Temperature Range (Water)	32°F to 212°F [0°C to 100°C]
Leakage	ANSI Class III 0.1%















ACTUATOR PART #	ZONE120NC	ZONE120NO	ZONE120NC-S	ZONE120NO-S
Control	On/Off	On/Off	On/Off	On/Off
Manual Override	•		•	
Running Time (Motor)	20 to 40 seconds			
Running Time (Fail-Safe)	5 seconds	5 seconds	5 seconds	5 seconds
Electrical Connection	6" wire leads	6" wire leads	6" wire leads	6" wire leads

2-Way with NPT Female Connection

Z way with iti	i i oiiiui	o oominoon						
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
ZONE215N-10	1			75	\$204	\$204	\$222	\$222
ZONE215N-25	2.5	0.5" [15]		50	\$204	\$204	\$222	\$222
ZONE215N-35	3.5		200	30	\$204	\$204	\$222	\$222
ZONE220N-35	3.5	0.75" [00]	300	30	\$226	\$226	\$244	\$244
ZONE220N-50	5	0.75" [20]		25	\$226	\$226	\$244	\$244
ZONE225N-80	8	1" [25]		20	\$290	\$290	\$308	\$308
3-Way with NP	T Femal	e Connecti	on					
ZONE315N-10	1			75	\$226		\$244	
ZONE315N-25	2.5	0.5" [15]		50	\$226		\$244	
ZONE315N-35	3.5			30	\$226		\$244	
ZONE320N-35	3.5	0.75" [00]	300	30	\$243		\$260	
ZONE320N-50	5	0.75" [20]		25	\$243		\$260	
ZONE325N-80	8	1" [25]		20	\$310		\$328	
2-Way with Sw	eat Con	nection						
ZONE215S-10	1			75	\$198	\$198	\$216	\$216
ZONE215S-25	2.5	0.5" [15]		50	\$198	\$198	\$216	\$216
ZONE215S-35	3.5		200	30	\$198	\$198	\$216	\$216
ZONE220S-35	3.5	0.75" [00]	300	30	\$226	\$226	\$244	\$244
Z0NE220S-50	5	0.75" [20]		25	\$215	\$215	\$233	\$233
ZONE225S-80	8	1" [25]		20	\$281	\$281	\$299	\$299
3-Way with Sw	eat Con	nection						
ZONE315S-10	1			75	\$217		\$235	
ZONE315S-25	2.5	0.5" [15]		50	\$217		\$235	
ZONE315S-35	3.5		000	30	\$217		\$235	
ZONE320S-35	3.5	0.75" [00]	300	30	\$236		\$254	
Z0NE320S-50	5	0.75" [20]		25	\$236		\$254	
ZONE325S-80	8	1" [25]		20	\$299		\$317	

Three-way valve can be installed in NC or NO configuration using the NC actuator.

T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)





Belimo Selection Tools Helping You Find the Right Solution

From sizing and selection to estimating savings, Belimo offers various tools to make your job easier.

SelectPro is a quick and simple tool for accurately sizing and selecting valves, actuators, and replacement solutions. The software walks you through step by step, providing the optimal product solution.

Retrofit App quickly and easily finds HVAC replacement solutions for valves and actuators. Download on Google Play and the Apple App.

Energy Valve Savings Estimator profiles chilled water plant performance to estimate the annual dollar and energy savings you can expect by installing an Energy Valve.

Damper Actuator Energy Savings Estimator estimates the annual kWh's saved based on a Belimo actuator's energy efficiency.

PIV Energy Modeling Tool calculates the energy savings when using Pressure Independent Characterized Control Valves in comparison to pressure dependent valves.

Belimo University offers free comprehensive training programs on understanding HVAC fundamentals and Belimo products; from sizing and selection to mounting and installation.



Download Belimo selection tools at belimo.us



12

CHARACTERIZED CONTROL VALVES (CCV)

True Advancement in Control Valves

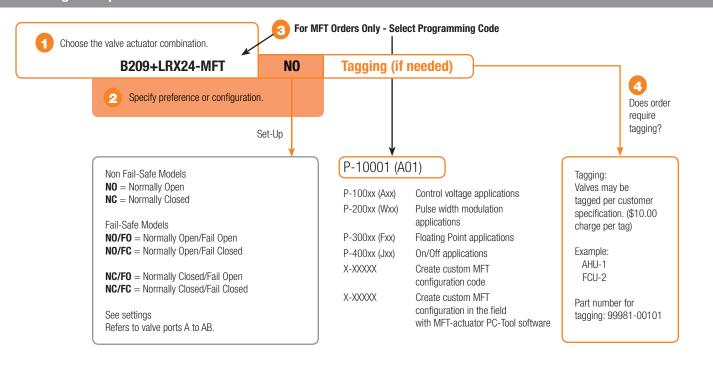
- Ball valve design offers self-cleaning and zero leakage.
- Rated for water temperatures up to 250°F.
- Maintenance free no repacking required after being in service for an extended period of time.

Characterized Control Valve (CCV) Nomenclature

B2	09		+LRX	24	-MFT	
Valve B2 = 2-way B3 = 3-way	Valve Size 07-80 = ½" to 3"	Trim Material B = Chrome Plated Brass Ball, Nickel Plated Stem Blank = Stainless Steel Ball and Stem	Actuator Type Non Fail-Safe TR LRB, LRX LRQX NRB, NRX NRQX ARB, ARX ARQX Fail-Safe Spring Return TFR, TFRX LF AFR, AFRX	Power Supply 24 = 24 VAC/DC 120 = 120 VAC* 230 = 230 VAC UP = 24 to 240 VAC	Control Blank = On/Off $-3 = \text{On/Off}, \text{ Floating Point}$ $-\text{SR} = 2\text{-}10 \text{ VDC}$ $-\text{MFT} = \text{Multi-Function}$ Technology $-\text{MFT95} = 0\text{-}135 \ \Omega$	-S = Built-in Auxiliary Switch -T = Terminal Strip N4 = NEMA 4/4X N4H = NEMA 4/4X with Heater
			Electronic GKR			
		R	" models are customizable. efer to page 12-8 for programi nd cable options.	ming		

*LR and AR include 120-240 VAC

Ordering Example



Complete Ordering Example: B209+LRX24-MFT

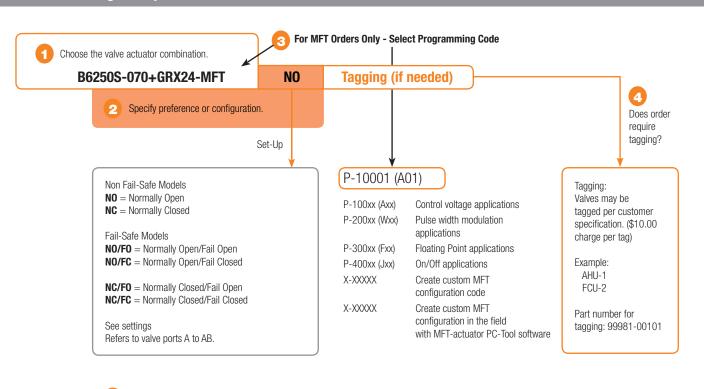
Configuration: +NO
Programming: +A01

Characterized Control Valve (CCV) Nomenclature

В6	250	S	-070	+GRX	24	-MFT	
Valve B6 = 2-way Flanged	Valve Size 250-600 = 2½" to 6"	Trim Material S = Stainless Steel Ball and Stem	Cv $070 = 70 \text{ Cv}$ $110 = 110 \text{ Cv}$ $186 = 186 \text{ Cv}$ $290 = 290 \text{ Cv}$ $400 = 400 \text{ Cv}$	Actuator Type Non Fail-Safe ARB, ARX GRB, GRX Fail-Safe Spring Return AFRB, AFRX Electronic GKRB, GKRX	Power Supply 24 = 24 VAC/DC 120 = 120 VAC* 230 = 230 VAC UP = 24 to 240 VAC		N4 = NEMA 4/4X N4H = NEMA 4/4X with Heater
			Ref	models are customizable. er to page 12-8 for program cable options.	ming		

*AR includes 120-240 VAC

Ordering Example



Complete Ordering Example: B6250S-070+GRX24-MFT

Configuration: +NO Programming: +A01

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Control Valve Product Range

Characterized Control Valve Product Range

	Valve Nor	ninal Size	Ту	pe			S	uitable .	Actuato	rs		
Cv	Inches	DN [mm]	2-way NPT	3-way NPT	No	n Fail-S	afe	NEMA 4X	ا	Fail-Safe	•	NEMA 4
0.3	1/2	15	B207(B)	B307(B)								
0.46	1/2	15	B208(B)	B308(B)								
8.0	1/2	15	B209(B)	B309(B)								
1.2	1/2	15	B210(B)	B310(B)								
1.9	1/2	15	B211(B)	B311(B)								
3	1/2	15	B212(B)	B312(B)								
4.7	1/2	15	B213(B)	B313(B)	TR Series				TFR Series			
7.4	1/2	15	B214(B)		TH S				Œ			
10	1/2	15	B215(B)	B315(B)					_			
16	1/2	15	B216(B)*	B316(B)*								
4.7	3/4	20	B217(B)	B317(B)		eries		eries		eries		
7.4	3/4	20	B218(B)	B318(B)		LR Series		NR Series		LF Series		
10	3/4	20	B219(B)			_						
14	3/4	20	B220(B)*									
14	3/4	20		B320(B)								
24	3/4	20	B221(B)*	B321(B)*								
7.4	1	25	B222	B322								
10	1	25	B223	B323								
19	1	25	B224									
30	1	25	B225*	B325*								
10	11/4	32	B229									
19	11⁄4	32	B230*									
10	11⁄4	32		B329								
19	11⁄4	32		B330								
25	11⁄4	32	B231	B331								
37	11/4	32	B232*									
19	1½	40	B238	B338								
29	1½	40	B239	B339								
37	1½	40	B240*	B340								
46	1½	40		B341			60	6			S	
29	2	50	B248	B347			AR Series	AR Series			AFR Series	
37	2	50		B348			AR S	AR S			FR S	
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*									

^{*} Models without characterizing discs.











Equal Percentage Characteristic

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, a modulating signal, or floating 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, NR, AFR series
Electrical connection	3 ft. [1 m] cable with ½" conduit fitting or covered screw terminal strip

Valve Specifications chilled or hot water, up to Service 60% glycol Flow characteristic A-port equal percentage B-port modified for constant common port flow Controllable flow range Sizes 1/2", 3/4", 1", 11/4", 11/2", 2" End fitting NPT female Materials Body forged brass, nickel plated Ball stainless steel or chrome plated brass stainless steel or nickel plated brass Stem Seats Teflon® PTFE Seat O-rings **EPDM** Characterizing disc ½"- 1 ½" (2-way) Tefzel[®] ½"-1" (3-way) Tefzel[®] 2" (2-way) B248-B249 Tefzel® 2" (2-way) B251-B253 stainless steel 1¼"- 2" (3-way) stainless steel Stem O-rings **EPDM** 0°F to 250°F [-18°C to +120°C] Media temp. range Body pressure rating 2-way All ½", ¾", and 1" 600 psi 11/4" up to B230 600 psi 1¼" from B231 400 psi 11/2" - 2" 400 psi 3-way All ½", ¾", and 1" 600 psi 11/4"- 2" 400 psi

Tefzel® and Teflon® are registered trademarks of DuPont™.

200 psi

50 psi 0% for A to AB

< 2.0% for B to AB B port: 70% of A to AB C_V

Close-off pressure

pressure (ΔP)

Leakage

Maximum differential

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

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Control Valve Product Range

Characterized Control Valve Product Range

	Valve Nominal Size		Туре	Sui	table Actuato	ors
C _V	Inches	DN [mm]	2-way NPT	Non Fail- Safe	Fail-Safe	NEMA 4
60	2½	65	B261			
75	2½	65	B262			
110	2½	65	B263		s	es
150	2½	65	B264	AR Series	AFR Series	AR/AFR Series
210	2½	65	B265*	AR S	FRS	/AFR
70	3	80	B277		⋖	AR
130	3	80	B278			
170	3	80	B280*			

^{*} Models without characterizing disc



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, a modulating signal, or floating point control system which move the ball of the valve to the position dictated by the control system.

Product Features

Control type

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.

on/off, floating point, 2-10 VDC, multi-function technology (MFT)

Actuator Specifications

Manual override	AR and AFR series			
Electrical connection	3 ft. [1 m] cable with ½" conduit fitting or covered screw terminal strip			
Valve Specifications				
Service	chilled or hot water, up to 60% glycol			
Flow characteristic	A-port equal percentage			
Controllable flow range	75°			
Sizes	2½", 3"			
End fitting	NPT female			
Materials				
Body	forged brass, nickel plated			
Ball	stainless steel			
Stem	stainless steel			
Seats	Teflon® PTFE			
Seat o-rings	EPDM			
Characterizing disc	Tefzel [®]			
Stem o-rings	EPDM			
Media temp. range	0°F to 212°F [-18°C to +100°C]			
Body pressure rating	400 psi			
Close-off pressure	100 psi			
Maximum differential pressure (ΔP)	30 psi			

Tefzel® and Teflon® are registered trademarks of DuPont™.

0% for A to AB

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Control Valve Product Range

Characterized Control Valve Product Range

	Valve Nominal Size		Ivno		uitable Act	tuators		-		
Cv	Inches	DN [mm]	2-way Flanged	No Fail-	on Safe	NEMA 4X	Fai	l-Safe	NEW	IA 4
70	2½	65	B6250S-070							
110	2½	65	B6250S-110	AR		AR	AFR			AFR
110	3	80	B6300S-110							
186	4	100	B6400S-186							
290	5	125	B6500S-290		GR			GKR	GR	GKR
400	6	150	B6600S-400							



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, a modulating signal, or floating 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	AR, GR, AFR and GKR series
Electrical connection	3 ft. [1 m] cable with ½" conduit fitting or covered screw terminal strip
Valve Specifications	

Valve Specifications					
Service	chilled or hot water, up to 60% glycol max.				
Flow characteristic	A-port equal percentage				
Controllable flow range	75°				
Sizes	2½", 3", 4", 5", 6"				
End fitting	ANSI Class 125 flange, flat face*				
Materials Body Ball Stem Seats Seat o-rings Characterizing disc Stem o-rings	cast iron GG25 stainless steel stainless steel Teflon® PTFE EPDM rubber stainless steel EPDM				
Media temp. range	0°F to 250°F [-18°C to +120°C]				
Body pressure rating	ANSI 125, Class B °F Psi -20° to +150° 200 200° 180 225° 180 250° 175				
Close-off pressure	100 psi				
Maximum differential pressure (∆P)	50 psi				
Leakage	0% for A to AB				

^{*125} psi flanges have a plain flat face and should not be bolted to a raised face flange.

Tefzel® and Teflon® are registered trademarks of DuPont™.





PIPING REDUCTION CHART

Piping Reduction Factor (Fp) - Correction Factor for Valves

Values in chart are corrected C_V ratings for indicated pipe size.

VALVE SIZE								LINE SIZE									
	Model #	Inches	DN [mm]	C _V Rating	1/2"	3/4"	1"	1¼"	1½"	2"	2 ½"	3"	4"	5"	6"	8"	10"
	B216*	1/2	15	16	16	9	7.2	6.6	-	-	-	-	-	-	-	-	-
	B221*	3/4	20	24	-	24	19	16	14.5	-	-	-	-	-	-	-	-
	B225*	1	25	30	-	-	30	27.4	24.8	22	-	-	-	-	-	-	-
	B230*	11/4	32	19	-	-	-	19	18.8	18.2	17.8	-	-	-	-	-	-
	B232*	11/4	32	37	-	-	-	37	35.5	31.8	29.9	-	-	-	-	-	-
	B240*	1½	40	37	-	-	-	-	37	35.5	34	33	-	-	-	-	-
_	B250*	2	50	57	-	-	-	-	-	57	55.8	54.2	52.2	-	-	-	-
eď	B251	2	50	65	-	-	-	-	-	65	63.2	60.9	58.1	-	-	-	-
(Threaded)	B252	2	50	85	-	-	-	-	-	85	81.1	76.5	71.1	-	-	-	-
hr.	B253	2	50	120	-	-	-	-	-	120	109.7	99	88.1	-	-	-	-
	B254*	2	50	240	-	-	-	-	-	240	179.6	141.6	114.2	-	-	-	-
200	B261	21/2	65	60	-	-	-	-	-	-	60	59.6	58.3	57.5	-	-	-
	B262	21/2	65	75	-	-	-	-	-	-	75	74.2	71.8	70.4	-	-	-
	B263	21/2	65	110	-	-	-	-	-	-	110	107.4	100.7	96.7	-	-	-
	B264	21/2	65	150	-	-	-	-	-	-	150	143.6	128.6	120.6	-	-	-
	B265*	21/2	65	210	-	-	-	-	-	-	210	193.5	160.8	145.9	-	-	-
	B277	3	80	70	-	-	-	-	-	-	-	70	69.3	68.6	68.1	-	-
	B278	3	80	130	-	-	-	-	-	-	-	130	125.8	121.5	118.8	-	-
	B280*	3	80	170	-	-	-	-	-	-	-	170	161	152.3	147	-	-
Q	B6250S-070	21/2	65	70	-	-	-	-	-	-	70	69.3	67.4	66.2	-	-	-
(Flanged)	B6250S-110	21/2	65	110	-	-	-	-	-	-	110	107.4	100.7	96.7	-	-	-
Flai	B6300S-110	3	80	110	-	-	-	-	-	-	-	110	107.4	104.7	103	-	-
>	B6400S-186	4	100	186	-	-	-	-	-	-	-	-	186	183.3	179.8	175.1	-
raccv	B6500S-290	5	125	290	-	-	-	-	-	-	-	-	-	290	287	278.5	273.1
LG	B6600S-400	6	150	400	-	-	-	-	-	-	-	-	-	-	400	392.3	384

^{*} Models without characterizing discs.

NOTE: Please use the corrected C_V values for the valves listed in the chart when installing them in pipes larger than the line size of the valve. All CCVs not listed do not require piping reduction factors.

NOTE: Values also apply to A-AB flow of 3-way versions.

NOTE: The values shown in bold are based on test data. All other values are calculated.



SET-UP - Specify Upon Ordering

		2-WAY	VALVE	3-WAY VALVE		
	TR24-3(-T)	Power to pin 2 will drive valve CCW. Power to pin 3 will drive valve CW.		Power to pin 2 will drive valve CCW. Power to pin 3 will drive valve CW.		
NON FAIL-SAFE Stays in Last Position	LRB24-3(-T), ARB24-3(-T)	Power to pin 2 will drive valve CW. Power to pin 3 will drive valve CCW. The above will fuction when the directional switch is in the "1" position to reverse, select the "0" position.		Power to pin 2 will drive valve CW. Power to pin 3 will drive valve CCW. The above will fuction when the directional switch is in the "1" position to reverse, select the "0" position.		
	TR24-SR(-T), LRB24-SR, LRB(X)24-MFT, ARB24-SR, ARB(X)24-MFT	NC: Normally closed A to AB, valve will open as voltage increases	NO: Normally open A to AB, valve will close as voltage increases	NC: Normally closed A to AB, valve will open as voltage increases	NO: Normally open A to AB, valve will close as voltage increases	
ETURN Position	TFRB24, LF24 US, AFRB24	NO/FO: Normally open A to AB, valve will drive closed. Spring Action: Actuator will fail open A to AB upon power loss.	NC/FC: Normally closed A to AB, valve will drive open. Spring Action: Actuator will fail closed A to AB upon power loss.	NO/FO: Normally open A to AB, valve will drive closed. Spring Action: Actuator will fail open A to AB upon power loss.	NC/FC: Normally closed A to AB, valve will drive open. Spring Action: Actuator will fail closed A to AB upon power loss.	
SPRING RETURN Note Fail Position	TFRB24-3, TFRB24-SR, TFRX24-MFT, LF24-3 US, LF24-SR US, LF24-MFT US, AFRB24-SR, AFRX24-MFT	NC/FO: Normally closed A to AB, valve will open as voltage increases. Actuator switch on CW. Spring Action: Will fail open upon power loss.	NC/FC: Normally closed A to AB, valve will open as voltage increases. Actuator switch on CW. Spring Action: Will fail closed upon power loss.	NO/FC: Normally open A to AB, valve will close as voltage increases. Actuator switch on CCW. Spring Action: Will fail closed upon power loss.	NO/FO: Normally open A to AB, valve will close as voltage increases. Actuator switch on CCW. Spring Action: Will fail open upon power loss.	

ELECTRONIC FAIL-SAFE	GKRB24-3†	Power to pin 4 will drive valve CW. Power to pin 3 will drive valve CCW. The above will fuction when the directional switch is in the "Y2" position to reverse, select the "Y1" position.		Power to pin 4 will drive valve CW. Power to pin 3 will drive valve CCW. The above will fuction when the directional switch is in the "Y2" position to reverse, select the "Y1" position.	
ELECTRO	GKRX24-MFT†	NC: Normally closed A to AB, will open as voltage increases when directional switch is in the "Y2" position.	NO: Normally open A to AB, will close as voltage increases when directional switch is in the "Y1" position.	NC: Normally closed A to AB, will open as voltage increases when directional switch is in the "Y2" position.	NO: Normally open A to AB, will close as voltage increases when directional switch is in the "Y2" position.

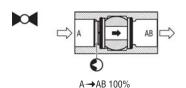
[†] The GK series Electronic Fail-Safe actuator will drive to a predetermined postion using the FO/FC dial on the actuator upon loss of power.

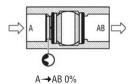


FLOW PATTERNS

2-way Characterized Control Valves™

(Belimo B2 Series)





Two-way valves should be installed with the disc upstream.

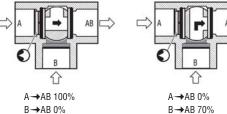




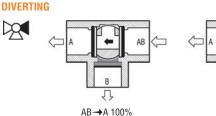
3-way Characterized Control Valves™

(Belimo B3 Series)

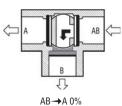
MIXING



The A-port must be piped to the coil to maintain proper control.



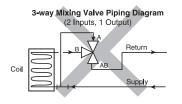
AB→B 0%

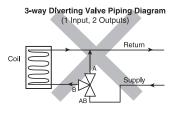


AB→B 70%

INCORRECT PIPING

The A-port must be piped to the coil to maintain proper control.





WARNING! Do Not Pipe in this manner! Note Valve Porting!

The A-port must be piped to the coil, not the B-port!

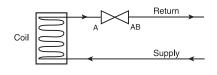
Flow is not possible from A to B. If AB-port is not piped as the common port, the valve must be re-piped. It is good practice to install a balancing valve in the bypass line. These valves are intended for closed loop systems. Do not install in an open loop system or in an application that is open to atmospheric pressure.

OPERATION/INSTALLATION - CORRECT PIPING

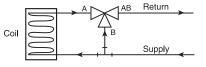
2-way valves should be installed with the disc upstream. If installed with disc downstream, flow curve will be deeper. If installed "backwards" it is NOT necessary to remove and change. No damage or control problems will occur.

3-WAY VALVES MUST BE PIPED CORRECTLY. They can be mixing or diverting. Mixing is the preferred piping arrangement.

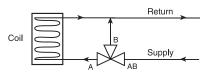
2-way Valve Piping Diagram (1 Input, 1 Output)



3-way Mixing Valve Piping Diagram (2 Inputs, 1 Output)



3-way Diverting Valve Piping Diagram (1 Input, 2 Outputs)



Not for use in change over applications.
Please consider industrial valves in section 14.

The BELIMO Characterized Control Valve is a CONTROL valve, not a manual valve adapted for actuation. The control port is the A-port. It is similar to the globe valve in that the middle port is the B or bypass port. The common port AB is on the main opposite the A-port. These diagrams are for typical applications only. Consult engineering specification and drawings for particular circumstances.

REDUCED B-PORT FLOW

T15000 - 04/18 - Subject to change. ⊚ Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Note: The B-port flow of the 3-way CCV is lower than that of the A-port. In most applications this is beneficial since the reduced flow compensates for the inexistent pressure drop across the coil in the bypass mode. Therefore, proper sizing is important to avoid flow noise in particular when the system is designed with constant speed pumps. Please refer to our valve sizing and selection guidelines.

The flow velocity in the pipe upstream and downstream of the valve should be considered as well. The typical HVAC design maximum flow is 4 to 8 ft./s to avoid noise issues

Also, the pipe reduction factor must be considered. Pipe reducers decrease the C_V value of a valve and consequently increase the pressure drop across the valve creating a situation that could lead to noise or a lower than designed flow.

800-543-9038 USA

ARB...

B = Basic stocked product

- Standard 150 second run time.
- · Standard 3' plenum cable with conduit connector.

Typical Lead Time: 1 day

ARX...

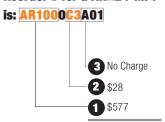
X = Customizable product

- Choice of 10' or 16' cable with conduit connector.
- . Option of 3' right angle cables for tight spaces (-3 version only).
- Factory programming for run time, control signal and feedback.

Typical Lead Time: 3 days or less

Reorder number consists of options which differ from standard product. This number is printed on the actuator for easy reordering. For example:

Reorder # for a ARX24-MFT



\$605 Final Price

1 ACTUATOR TYPE							
2 CABLES							
CABLE (with conduit fitting)	SIZE	CABLE CODE	List Price				
24V Plenum Rated	3 ft.	C1	No Charge				
	10 ft.	C3	\$29				
	16 ft.	C5	\$49				
120V Appliance Rated	3 ft.	A1	No Charge				
	10 ft.	A3	\$29				
	16 ft.	A5	\$49				

			CO	NTROL		
ACTUATOR TYPE	CONFIGURATION DESCRIPTION	P-CODE	CONTROL INPUT	FEEDBACK POSITION	RUNNING TIME	List Price:
3 and SR	N/A	0	2-10 VDC (for -3)	2-10 VDC (for -3)	150 seconds	No Charge
	N/A	2	2-10 VDC (for -SR)	2-10 VDC (for -SR)	90 seconds	No Charge
IFT and PC	P-10001	A01	2-10 VDC	2-10 VDC	150 seconds	No Charge
	P-10002	A02	0.5-10 VDC	0.5-10 VDC	150 seconds	No Charge
	P-10003	A03	2-10 VDC	0.5-5 VDC	150 seconds	No Charg
	P-10004	A04	4-7 VDC	2-10 VDC	150 seconds	\$35
	P-10005	A05	6-9 VDC	2-10 VDC	150 seconds	\$35
	P-10006	A06	10.5 -13.5 VDC	2-10 VDC	150 seconds	\$35
	P-10007	A07	0.5-5 VDC	2-10 VDC	150 seconds	\$35
	P-10009	A09	5-10 VDC	2-10 VDC	150 seconds	\$35
	P-10010	A10	5-10 VDC	0-10 VDC	150 seconds	\$35
	P-10013	A13	0.5-10 VDC	2-10 VDC	150 seconds	\$35
	P-10015	A15	2-5 VDC	2-10 VDC	150 seconds	\$35
	P-10016	A16	2-6 VDC	2-10 VDC	150 seconds	\$35
	P-10017	A17	6-10 VDC	2-10 VDC	150 seconds	\$35
	P-10018	A18	14-17 VDC	2-10 VDC	150 seconds	\$35
	P-10020	A20	9-12 VDC	2-10 VDC	150 seconds	\$35
	P-10028	A28	0.5-10 VDC	0.5-10 VDC	100 seconds	No Charg
	P-10031	A31	0.5-4 VDC	2-10 VDC	150 seconds	\$35
	P-10063	A63	0.5-4.5 VDC	0.5- 4.5 VDC	150 seconds	No Charg
	P-10032	A32	6-14 VDC	2-10 VDC	150 seconds	\$35
	P-10064	A64	5.5-10 VDC	5.5-10 VDC	150 seconds	No Charg
	N/A	AAT	2-10 VDC	2-10 VDC	20 seconds	No Charg
	P-20001	W01	0.59-2.93 seconds	2-10 VDC	150 seconds	\$35
	P-20002	W02	0.02 to 5.00 seconds	2-10 VDC	150 seconds	No Charg
	P-20003	W03	0.10 to 25.50 seconds	2-10 VDC	150 seconds	No Charg
	P-20004	W04	0.10 to 25.60 seconds	2-10 VDC	150 seconds	\$35
	P-20005	W05	0.10 to 5.20 seconds	0.5-5.0 VDC	150 seconds	\$35
	P-30001	F01	Floating Point	2-10 VDC	150 seconds	No Charg
	P-30002	F02	Floating Point	0.5-10 VDC	150 seconds	\$35
	P-40002	J02	On/Off	2-10 VDC	150 seconds	No Charg
	N/A	S01 (-PC only)	Phasecut	2-10 VDC	150 seconds	No Charg
		D04				

0 to 135 Ω

NOTE: Additional P-codes are available, consult factory.

P-16001

No Charge

(-MFT95 only)

150 seconds

2-10 VDC

[‡] Add to list price of assembly. *P-10001 is the default configuration for MFT.

Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic (B2)	A-port equal percentage
Flow Characteristic (B3)	A- port equal percentage; B-port modified linear for constant flow
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	chrome plated brass
Stem	nickel plated brass
Seat	Teflon® PTFE
Characterized Disc	TEFZEL®
Seat 0-ring	EPDM
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0% for A to AB, <2.0% for B to AB
Cv Flow Rating	A-port: as stated in chart B-port: 70% of A to AB Cv

Visit www.belimo.us to see additional non fail-safe actuator options including 120V and -S models.

2-way and 3-way Valves with Chrome Plated Brass Ball and Brass Stem, NPT Female Ends









ACTUATOR PART #	TR24-3-T US	TR24-3 US	TR24-SR-T US	TR24-SR US	LRB24-3	LRB24-SR
Control	On/Off, Floating Point	On/Off, Floating Point	Modulating	Modulating	On/Off, Floating Point	Modulating
Manual Override	•	•	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds	90 seconds	90 seconds	90 seconds
Electrical Connection	screw terminal (for 26 to 14 GA wire)	3 ft, 18 GA plenum cable	screw terminal (for 26 to 14 GA wire)	3 ft, 18 GA plenum cable	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

~	- v	1 V	
		٠,	

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

z-way				01 044						
Model #	Cv	Size	Body Pressure	Close-Off Pressure						
-Mouerπ	- 01	[mm]	Rating [psi]	[psi]						
B207B	0.3			200	\$204	\$217	\$301	\$317	\$280	\$417
B208B	0.46			200	\$204	\$217	\$301	\$317	\$280	\$417
B209B	0.8			200	\$204	\$217	\$301	\$317	\$280	\$417
B210B	1.2			200	\$207	\$220	\$304	\$320	\$283	\$419
B211B	1.9	0.5"		200	\$207	\$220	\$304	\$320	\$283	\$419
B212B	3	[15]		200	\$211	\$224	\$308	\$325	\$289	\$426
B213B	4.7			200	\$213	\$226	\$310	\$327	\$291	\$428
B214B	7.4		600	200	\$217	\$230	\$315	\$331	\$296	\$433
B215B	10			200	\$217	\$230	\$315	\$331	\$298	\$435
B216B*	16			200	\$219	\$233	\$318	\$333	\$301	\$438
B217B	4.7			200	\$261	\$276	\$360	\$375	\$336	\$473
B218B	7.4	0.75"		200	\$264	\$279	\$363	\$378	\$339	\$476
B219B	10	0.75" [20]		200	\$264	\$279	\$363	\$378	\$341	\$478
B220B*	14	[20]		200	\$269	\$285	\$369	\$383	\$343	\$480
B221B*	24			200					\$347	\$485
3-Way Mixin	g/Divertir	ıg								
B307B	0.3			200	\$249	\$264	\$372	\$387	\$326	\$464
B308B	0.46			200	\$249	\$264	\$372	\$387	\$326	\$464
B309B	0.8			200	\$249	\$264	\$372	\$387	\$326	\$464
B310B	1.2	0.5"		200	\$251	\$266	\$374	\$389	\$328	\$466
B311B	1.9	0.5" [15]		200	\$251	\$266	\$374	\$389	\$328	\$466
B312B	3	[13]		200	\$259	\$276	\$382	\$397	\$332	\$470
B313B	4.7		600	200	\$261	\$278	\$384	\$399	\$336	\$474
B315B	10			200	\$262	\$279	\$386	\$401	\$343	\$481
B316B*	16			200	\$271	\$289	\$395	\$411	\$345	\$483
B317B	4.7			200	\$323	\$339	\$446	\$462	\$368	\$506
B318B	7.4	0.75"		200	\$322	\$338	\$445	\$461	\$372	\$510
B320B	14	[20]		200					\$379	\$517
B321B*	24			200					\$382	\$520

 $^{{}^{\}star}\text{Models without characterizing discs.}$

For corrected Cvs with piping reduction factor refer to page 12-5.

B2/B3 Series Characterized Control Valves with Spring Return Actuators

2-way and 3-way Valves with Chrome Plated Brass Ball and Brass Stem, NPT Female Ends



Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic (B2)	A-port equal percentage
Flow Characteristic (B3)	A- port equal percentage; B-port modified linear for constant flow
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	chrome plated brass
Stem	nickel plated brass
Seat	Teflon® PTFE
Characterized Disc	TEFZEL®
Seat 0-ring	EPDM
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0% for A to AB, <2.0% for B to AB
Cv Flow Rating	A-port: as stated in chart B-port: 70% of A to AB Cv

Visit www.belimo.us to see additional spring return actuator options including 120V and -S models.









ACTUATOR PART #	TFRB24	TFRB24-3	TFRB24-SR	LF24 US	LF24-3 US	LF24-SR US
Control	On/Off	Floating Point	Modulating	On/Off	Floating Point	Modulating
Running Time (Motor)	<75 seconds	95 seconds	95 seconds	75 seconds	150 seconds	150 seconds
Running Time (Fail-Safe)	< 25 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds
Electrical Connection	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

2-way										
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]						
B207B	0.3			200	\$395	\$451	\$485	\$450	\$573	\$589
B208B	0.46			200	\$395	\$451	\$485	\$450	\$573	\$589
B209B	0.8	-		200	\$395	\$451	\$485	\$450	\$573	\$589
B210B	1.2			200	\$398	\$455	\$488	\$452	\$575	\$591
B211B	1.9	0.5"		200	\$398	\$455	\$488	\$452	\$575	\$591
B212B	3	[15]		200	\$403	\$460	\$492	\$460	\$581	\$597
B213B	4.7			200	\$405	\$462	\$494	\$462	\$584	\$599
B214B	7.4		600	200	\$407	\$464	\$498	\$464	\$586	\$601
B215B	10			200	\$407	\$464	\$498	\$470	\$592	\$608
B216B*	16		_	200	\$407	\$464	\$498	\$472	\$594	\$610
B217B	4.7			200	\$455	\$511	\$545	\$514	\$636	\$652
B218B	7.4	0.75"		200	\$457	\$513	\$547	\$516	\$638	\$655
B219B	10	0.75"		200	\$457	\$513	\$547	\$519	\$641	\$658
B220B*	14	[20]		200	\$462	\$517	\$551	\$521	\$644	\$660
B221B*	24			200				\$524	\$647	\$663
3-Way Mixin	ng/Divertii	1g								
B307B	0.3			200	\$467	\$545	\$570	\$535	\$657	\$680
B308B	0.46			200	\$467	\$545	\$570	\$535	\$657	\$680
B309B	0.8	-		200	\$467	\$545	\$570	\$535	\$657	\$680
B310B	1.2	0.5"		200	\$469	\$547	\$572	\$537	\$659	\$682
B311B	1.9	0.5"		200	\$472	\$550	\$575	\$537	\$659	\$682
B312B	3	[10]		200	\$476	\$554	\$579	\$548	\$670	\$692
B313B	4.7		600	200	\$481	\$559	\$585	\$550	\$672	\$694
B315B	10			200	\$481	\$559	\$585	\$552	\$674	\$697
B316B*	16			200	\$481	\$559	\$585	\$554	\$676	\$699
B317B	4.7			200	\$521	\$599	\$624	\$592	\$714	\$736
B318B	7.4	0.75"		200	\$519	\$597	\$622	\$594	\$717	\$739
B320B	14	[20]		200				\$598	\$721	\$743
B321B*	24			200				\$601	\$724	\$746

*Models without characterizing discs.
For corrected Cvs with piping reduction factor refer to page 12-5.

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

B2 Series Characterized Control Valves with Non Fail-Safe Actuators

Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	TEFZEL®
Seat 0-ring	EPDM
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0%

Visit www.belimo.us for additional non fail-safe actuator options including 120V and -S models.

2-way Valve with Stainless Steel Ball and Stem, NPT Female Ends









ACTUATOR PART #	TR24-3-T US	TR24-3 US	TR24-SR-T US	TR24-SR US	LRB24-3	LRB24-SR	LRX24-MFT
Control	On/Off, Floating Point	On/Off, Floating Point	Modulating	Modulating	On/Off, Floating Point	Modulating	Modulating/MFT
Manual Override	•	•	•	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds	90 seconds	90 seconds	90 seconds	150 seconds (variable)
Electrical Connection	screw terminal (for 26 to 14 GA wire)	3 ft, 18 GA plenum cable	screw terminal (for 26 to 14 GA wire)	3 ft, 18 GA plenum cable	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector
2-Way							

-		v		v
-	-	-	•••	3

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]							
B207	0.3			200	\$236	\$255	\$359	\$374	\$301	\$420	\$554
B208	0.46			200	\$236	\$255	\$359	\$374	\$301	\$420	\$554
B209	0.8			200	\$236	\$255	\$359	\$374	\$301	\$420	\$554
B210	1.2			200	\$245	\$262	\$366	\$381	\$304	\$424	\$557
B211	1.9	0.5"		200	\$245	\$262	\$366	\$381	\$304	\$424	\$557
B212	3	[15]		200	\$249	\$266	\$371	\$386	\$306	\$426	\$559
B213	4.7			200	\$253	\$270	\$375	\$390	\$321	\$439	\$574
B214	7.4		600	200	\$259	\$278	\$381	\$396	\$328	\$446	\$580
B215	10			200	\$259	\$278	\$381	\$396	\$339	\$447	\$592
B216*	16			200	\$310	\$321	\$425	\$439	\$341	\$447	\$594
B217	4.7			200	\$302	\$321	\$404	\$419	\$354	\$453	\$607
B218	7.4	0.75"		200	\$304	\$323	\$405	\$420	\$356	\$458	\$609
B219	10	0.75" [20]		200	\$304	\$323	\$407	\$421	\$360	\$464	\$613
B220*	14	[20]		200	\$308	\$328	\$408	\$423	\$362	\$465	\$615
B221*	24			200					\$365	\$466	\$618
B222	7.4			200					\$374	\$483	\$627
B223	10	1"		200					\$381	\$487	\$634
B224	19	[25]		200					\$381	\$490	\$634
B225*	30			200					\$384	\$495	\$637
B229	10	1.25"		200					\$425	\$523	\$677
B230*	19	[32]		200					\$427	\$530	\$680

^{*}Models without characterizing discs.

For corrected Cvs with piping reduction factor refer to page 12-5.

Valve Specifications

· ·	
Service	chilled , hot water, up to 60% glycol
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	TEFZEL® or stainless steel
Seat 0-ring	EPDM
Media Temp. Range 1.25" - 2"	0°F to 250°F [-18°C to +120°C]
Media Temp. Range 2.5" - 3"	0°F to 212°F [-18°C to 100°C]
Max Differential Pressure 1.25" - 2"	50 psi
Max Differential Pressure 2.5" - 3"	30 psi
Leakage	0%

Visit www.belimo.us for additional non fail-safe actuator options including 120V and -S models.





ACTUATOR PART #	ARB24-3	ARB24-SR	ARX24-MFT
Control	On/Off, Floating Point	Modulating	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	90 seconds	90 seconds	150 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector
2-Way			

L	-	v	d	v

2-Way										
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]						
B231	25	1.25"		200	\$493	\$655	\$714			
B232*	37	[32]		200	\$504	\$664	\$724			
B238	19	1.5"		200	\$504	\$664	\$724			
B239	29	[40]		200	\$504	\$664	\$724			
B240*	37	[40]		200	\$506	\$666	\$726			
B248	29			200	\$652	\$813	\$873			
B249	46				200	\$656	\$816	\$876		
B250*	57	2"		200	\$658	\$818	\$878			
B251	65	[50]		200	\$950		\$1,186			
B252	85	[00]	400	200	\$1,021		\$1,291			
B253	120		400	200	\$1,105		\$1,343			
B254*	240			200	\$1,117		\$1,579			
B261	60			100	\$1,123		\$1,287			
B262	75	2.5"		100	\$1,126		\$1,363			
B263	110	[65]		100	\$1,202		\$1,438			
B264	150	[00]		100	\$1,281		\$1,518			
B265*	210						100	\$1,439		\$1,533
B277	70	3"		100	\$1,296		\$1,534			
B278	130	[80]		100	\$1,372		\$1,609			
B280*	170	[UU]		100	\$1,691		\$1,930			

^{*}Models without characterizing discs.

For corrected Cvs with piping reduction factor refer to page 12-5.

3-way Valve with Stainless Steel Ball and Stem, NPT Female Ends

Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	A-port equal percentage, B-port modified linear for constant flow
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	TEFZEL [®]
Seat 0-ring	EPDM
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0% for A to AB, <2.0% for B to AB
Cv Flow Rating	A-port: as stated in chart B-port: 70% of A to AB Cv

Visit www.belimo.us for additional non fail-safe actuator options including 120V and -S models.







ACTUATOR PART #	TR24-3-T US	TR24-3 US	TR24-SR-T US	TR24-SR US	LRB24-3	LRB24-SR	LRX24-MFT
Control	On/Off, Floating Point	On/Off, Floating Point	Modulating	Modulating	On/Off, Floating Point	Modulating	Modulating/MFT
Manual Override	•	•	•	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds	90 seconds	90 seconds	90 seconds	150 seconds (variable)
Electrical Connection	screw terminal (for 26 to 14 GA wire)	3 ft, 18 GA plenum cable	screw terminal (for 26 to 14 GA wire)	3 ft, 18 GA plenum cable	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

3-Way Mixing/Diverting

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]							
B307	0.3			200	\$298	\$310	\$429	\$443	\$368	\$494	\$627
B308	0.46			200	\$298	\$310	\$429	\$443	\$368	\$494	\$627
B309	0.8			200	\$298	\$310	\$429	\$443	\$368	\$494	\$627
B310	1.2	0.5"		200	\$300	\$313	\$431	\$445	\$370	\$498	\$629
B311	1.9	0.5"	600	200	\$300	\$313	\$431	\$445	\$370	\$498	\$629
B312	3	[13]		200	\$306	\$320	\$437	\$451	\$379	\$507	\$638
B313	4.7			200	\$308	\$322	\$439	\$454	\$384	\$512	\$644
B315	10			200	\$308	\$322	\$439	\$454	\$391	\$518	\$650
B316*	16			200	\$319	\$332	\$449	\$464	\$394	\$521	\$654
B317	4.7			200	\$373	\$386	\$504	\$517	\$457	\$585	\$717
B318	7.4	0.75"		200	\$374	\$387	\$505	\$518	\$460	\$587	\$719
B320	14	[20]		200					\$467	\$594	\$726
B321*	24			200					\$471	\$598	\$730
B322	7.4	1"		200					\$493	\$621	\$752
B323	10	[25]		200					\$495	\$623	\$755
B325*	30			200					\$500	\$627	\$759

*Models without characterizing discs.
For corrected Cvs with piping reduction factor refer to page 12-5.

B3 Series Characterized Control Valves with Non Fail-Safe Actuators

3-way Valve with Stainless Steel Ball and Stem, NPT Female Ends



Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	A-port equal percentage, B-port modified linear for constant flow
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	stainless steel
Seat 0-ring	EPDM
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0% for A to AB, <2.0% for B to AB
Cv Flow Rating	A-port: as stated in chart B-port: 70% of A to AB Cv

Visit www.belimo.us for additional non fail-safe actuator options including 120V and -S models.





ACTUATOR PART #	ARB24-3	ARB24-SR	ARX24-MFT
Control	On/Off, Floating Point	Modulating	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	90 seconds	90 seconds	150 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum cable with 1/2" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

3-Way Mixing/Diverting

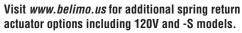
U-Way Minimi	g/Divortini	y					
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]			
B329	10	1.05"		200	\$576	\$682	\$792
B330	19	1.25" [32]		200	\$582	\$685	\$798
B331	25	[32]		200	\$732	\$876	\$949
B338	19			200	\$742	\$886	\$958
B339	29	1.5"		200	\$746	\$890	\$962
B340	37	[40]		200	\$748	\$892	\$964
B341	46		400	200	\$752	\$896	\$968
B347	29			200	\$994	\$1,137	\$1,210
B348	37			200	\$997	\$1,140	\$1,213
B349	46	2"		200	\$997	\$1,140	\$1,213
B350	57	[50]		200	\$1,003	\$1,147	\$1,219
B351	68			200	\$1,011	\$1,154	\$1,226
B352	83			200	\$1,029	\$1,165	\$1,266

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

2-way Valve with Stainless Steel Ball and Stem, NPT Female Ends

Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	TEFZEL®
Seat 0-ring	EPDM
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0%











ACTUATOR PART #	TFRB24	TFRB24-3	TFRB24-SR	TFRX24-MFT	LF24 US	LF24-3 US	LF24-SR US	LF24-MFT US
Control	On/Off	Floating Point	Modulating	Modulating/ MFT	On/Off	Floating Point	Modulating	Modulating/ MFT
Running Time (Motor)	<75 seconds	95 seconds	95 seconds	150 seconds (variable)	75 seconds	150 seconds	150 seconds	150 seconds (variable)
Running Time (Fail-Safe)	< 25 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds
Electrical Connection	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]								
B207	0.3			200	\$409	\$467	\$502	\$585	\$472	\$593	\$610	\$709
B208	0.46			200	\$409	\$467	\$502	\$585	\$472	\$593	\$610	\$709
B209	0.8			200	\$409	\$467	\$502	\$585	\$472	\$593	\$610	\$709
B210	1.2			200	\$413	\$470	\$505	\$588	\$475	\$596	\$614	\$713
B211	1.9	0.5"		200	\$413	\$470	\$505	\$588	\$475	\$596	\$614	\$713
B212	3	[15]		200	\$421	\$478	\$513	\$596	\$481	\$602	\$620	\$720
B213	4.7			200	\$424	\$480	\$515	\$598	\$483	\$604	\$622	\$722
B214	7.4			200	\$426	\$482	\$517	\$600	\$487	\$608	\$625	\$725
B215	10			200	\$426	\$482	\$517	\$600	\$483	\$604	\$622	\$722
B216*	16			200	\$427	\$483	\$518	\$601	\$487	\$608	\$625	\$725
B217	4.7		600	200	\$472	\$529	\$563	\$647	\$531	\$652	\$670	\$769
B218	7.4	0.75"		200	\$474	\$531	\$565	\$649	\$535	\$656	\$673	\$772
B219	10	0.75"		200	\$472	\$529	\$563	\$647	\$537	\$658	\$675	\$774
B220*	14	[20]		200	\$479	\$537	\$572	\$655	\$539	\$660	\$677	\$776
B221*	24			200					\$543	\$663	\$681	\$780
B222	7.4			200					\$548	\$668	\$686	\$785
B223	10	1"		200					\$554	\$675	\$692	\$792
B224	19	[25]		200					\$564	\$686	\$703	\$803
B225*	30			200					\$572	\$692	\$709	\$809
B229	10	1.25"		200					\$582	\$703	\$721	\$819
B230*	19	[32]		200					\$585	\$705	\$723	\$822

^{*}Models without characterizing discs.

For corrected Cvs with piping reduction factor refer to page 12-5.

Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	TEFZEL® or stainless steel
Seat 0-ring	EPDM
Media Temp. Range 1.25" - 2"	0°F to 250°F [-18°C to +120°C]
Media Temp. Range 2.5" - 3"	0°F to 212°F [-18°C to 100°C]
Max Differential Pressure 1.25" - 2"	50 psi
Max Differential Pressure 2.5" - 3"	30 psi
Leakage	0%









ACTUATOR PART #	AFRB24	AFRB24-SR	AFRX24-MFT
Control	On/Off	Modulating	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	75 seconds	95 seconds	150 seconds (variable)
Running Time (Fail-Safe)	< 20 seconds	< 20 seconds	< 20 seconds
Electrical Connection	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

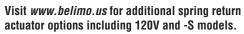
ш		M	2	W	
	v	v	ш	у	

2-Way							
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]			
B231	25	1.25"		200	\$674	\$849	\$967
3232*	37	[32]		200	\$676	\$851	\$969
3238	19	4 5"		200	\$681	\$855	\$975
B239	29	1.5" [40]		200	\$683	\$857	\$977
3240*	37	[40]		200	\$685	\$859	\$979
B248	29			200	\$950	\$1,125	\$1,182
B249	46			200	\$960	\$1,135	\$1,194
3250*	57	2"		200	\$969	\$1,145	\$1,204
3251	65	[50]		200	\$1,182		\$1,339
B252	85	[00]	400	200	\$1,260		\$1,418
3253	120		400	200	\$1,335		\$1,492
B254*	240			200	\$1,339		\$1,497
3261	60			100	\$1,343		\$1,500
B262	75	2.5"		100	\$1,405		\$1,562
B263	110	[65]	_	100	\$1,476		\$1,633
B264	150	[30]		100	\$1,510		\$1,667
B265*	210			100	\$1,674		\$1,829
B277	70	3"		100	\$1,528		\$1,685
3278	130	[80]		100	\$1,608		\$1,765
3280*	170	[00]		100	\$1,923		\$2,079

*Models without characterizing discs.
For corrected Cvs with piping reduction factor refer to page 12-5.

Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	A-port equal percentage, B-port modified linear for constant flow
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	TEFZEL® or stainless steel
Seat 0-ring	EPDM
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0% for A to AB, <2.0% for B to AB
Cv Flow Rating	A-port: as stated in chart B-port: 70% of A to AB C _V











ACTUATOR PART #	TFRB24	TFRB24-3	TFRB24-SR	TFRX24-MFT	LF24 US	LF24-3 US	LF24-SR US	LF24-MFT US
Control	On/Off	Floating Point	Modulating	Modulating/ MFT	On/Off	Floating Point	Modulating	Modulating/ MFT
Running Time (Motor)	<75 seconds	95 seconds	95 seconds	150 seconds (variable)	75 seconds	150 seconds	150 seconds	150 seconds (variable)
Running Time (Fail-Safe)	< 25 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds
Electrical Connection	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector

3-Way Mixing/Diverting

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]								
B307	0.3			200	\$493	\$572	\$585	\$671	\$552	\$676	\$705	\$777
B308	0.46			200	\$493	\$572	\$585	\$671	\$552	\$676	\$705	\$777
B309	0.8			200	\$493	\$572	\$585	\$671	\$552	\$676	\$705	\$777
B310	1.2	0.5"		200	\$495	\$574	\$587	\$673	\$554	\$678	\$707	\$780
B311	1.9	0.5" [15]		200	\$502	\$579	\$592	\$678	\$554	\$678	\$707	\$780
B312	3	[13]		200	\$509	\$587	\$599	\$686	\$566	\$691	\$721	\$793
B313	4.7			200	\$511	\$589	\$601	\$688	\$570	\$693	\$723	\$795
B315	10		600	200	\$511	\$589	\$601	\$688	\$572	\$696	\$725	\$797
B316*	16		600	200	\$510	\$588	\$600	\$687	\$574	\$698	\$727	\$800
B317	4.7			200	\$557	\$635	\$648	\$734	\$604	\$729	\$759	\$831
B318	7.4	0.75"		200	\$557	\$635	\$648	\$734	\$616	\$740	\$769	\$841
B320	14	[20]		200					\$623	\$747	\$776	\$849
B321*	24			200					\$628	\$751	\$781	\$853
B322	7.4	4 22		200					\$643	\$767	\$796	\$869
B323	10	[25]		200					\$650	\$774	\$804	\$876
B325*	30	[23]		200					\$656	\$780	\$809	\$881

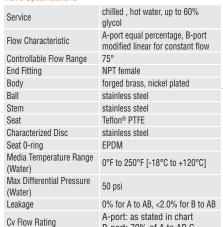
^{*}Models without characterizing discs.

For corrected Cvs with piping reduction factor refer to page 12-5.

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

3-way Valve with Stainless Steel Ball and Stem, NPT Female Ends

Valve Specifications



B-port: 70% of A to AB Cv









ACTUATOR PART #	AFRB24	AFRB24-SR	AFRX24-MFT
Control	On/Off	Modulating	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	75 seconds	95 seconds	150 seconds (variable)
Running Time (Fail-Safe)	< 20 seconds	< 20 seconds	< 20 seconds
Electrical Connection	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

3-Way Mixing/Diverting

3-Way Mixili	ig/Divertili						
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]			
B329	10	4.05"		200	\$768	\$922	\$960
B330	19	1.25"		200	\$774	\$937	\$974
B331	25	[32]		200	\$937	\$1,127	\$1,173
B338	19			200	\$952	\$1,141	\$1,188
B339	29	1.5"		200	\$954	\$1,143	\$1,190
B340	37	[40]		200	\$960	\$1,150	\$1,197
B341	46		400	200	\$1,145	\$1,335	\$1,382
B347	29			200	\$1,350	\$1,541	\$1,587
B348	37			200	\$1,353	\$1,544	\$1,590
B349	46	2"		200	\$1,355	\$1,546	\$1,592
B350	57	[50]		200	\$1,361	\$1,551	\$1,598
B351	68			200	\$1,553	\$1,742	\$1,789
B352	83			200	\$1.621	\$1.811	\$1.858

Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	pattern to mate with ANSI 125 flange, flat face
Body	cast iron - GG25
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	stainless steel
Seat 0-ring	EPDM
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0%

Visit www.belimo.us for additional non fail-safe actuator options including 120V and -S models.







2-way Valve with Stainless Steel Ball and Stem, Flanged Ends

ACTUATOR PART #	ARB24-3-5-14	ARX24-MFT	GRB24-3-5-14	GRX24-MFT
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	90 seconds	150 seconds (variable)	150 seconds	150 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

2-Way

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
B6250S-070	70	2.5"		100	\$1,949	\$2,068		
B6250S-110	110	[65]		100	\$2,035	\$2,155		
B6300S-110	110	3" [80]	ANSI 125, Standard	100	\$2,134	\$2,385		
B6400S-186	186	4" [100]	Class B	100			\$2,468	\$2,647
B6500S-290	290	5" [125]	Olass D	100			\$3,578	\$3,675
B6600S-400	400	6" [150]		100			\$4,543	\$4,639

Add the P... pre-set MFT configuration number and list price to the actuator when ordering, as needed. Note: Most popular configurations available at no additional cost. All other configurations carry a \$34.00 list price. See page 12-8.

B6 Series Characterized Control Valves with Spring Return and Electronic Fail-Safe Actuators



2-way Valve with Stainless Steel Ball and Stem, Flanged Ends

Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	pattern to mate with ANSI 125 flange, flat face
Body	cast iron - GG25
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	stainless steel
Seat 0-ring	EPDM
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakane	0%

Visit www.belimo.us for additional spring return and electronic fail-safe actuator options including 120V and -S models.









ACTUATOR PART #	AFRX24	AFRX24-MFT	GKRX24-3	GKRX24-MFT
Control	On/Off	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	75 seconds	150 seconds (variable)	150 seconds (variable)	150 seconds (variable)
Running Time (Fail-Safe)	< 20 seconds	< 20 seconds	35 seconds	35 seconds
Electrical Connection	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

2-Wav

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
B6250S-070	70	2.5"		100	\$1,987	\$2,244		
B6250S-110	110	[65]		100	\$2,078	\$2,334		
B6300S-110	110	3" [80]	ANSI 125, Standard	100	\$2,243	\$2,498		
B6400S-186	186	4" [100]	Class B	100			\$2,780	\$3,003
B6500S-290	290	5" [125]	Olugo D	100			\$3,961	\$4,117
B6600S-400	400	6" [150]		100			\$4,851	\$5,066

AFRX24 MFT is customizable. Add the P... pre-set MFT configuration number and list price to the actuator when ordering, as needed. Note: Most popular configurations available at no additional cost. All other configurations carry a \$34.00 list price. Refer to page 12-8

Valve Specifications

· ·	
Service	chilled , hot water, up to 60% glycol
Flow characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	TEFZEL® or stainless steel
Seat 0-ring	EPDM
Media Temp. Range 0.5" - 2"	0°F to 250°F [-18°C to +120°C]
Media Temp. Range 2.5" - 3"	0°F to 212°F [-18°C to 100°C]
Max Differential Pressure 0.5" - 2"	50 psi
Max Differential Pressure 2.5" - 3"	30 psi
Leakage	0%





ACTUATOR PART #	NRX24-3-T N4	NRX24-SR-T N4	NRX24-MFT-T N4	ARX24-3-T N4	ARX24-SR-T N4	ARX24-MFT-T N4
Control	On/Off, Floating Point	Modulating	Modulating/MFT	On/Off, Floating Point	Modulating	Modulating/MFT
Manual Override	•	•	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	150 seconds (variable)	90 seconds	90 seconds	150 seconds (variable)
Electrical Connection	terminal block	terminal block	terminal block	terminal block	terminal block	terminal block

2-Way

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

		Size	Body Pressure	Close-Off						
Model #	Cv	[mm]	Rating [psi]	Pressure						
		[]	maning [poi]	[psi]						
B207	0.3			200	\$631	\$739	\$880			
B208	0.46			200	\$631	\$739	\$880			
B209	0.8			200	\$631	\$739	\$880			
B210	1.2			200	\$634	\$742	\$883			
B211	1.9	0.5"		200	\$634	\$742	\$883			
B212	3	[15]		200	\$634	\$742	\$883			
B213	4.7			200	\$638	\$746	\$888			
B214	7.4			200	\$645	\$752	\$894			
B215	10			200	\$650	\$759	\$900			
B216*	16		_	200	\$650	\$759	\$900			
B217	4.7		600	200	\$686	\$794	\$935			
B218	7.4	0.75"		200	\$689	\$797	\$939			
B219	10	[20]		200	\$691	\$800	\$941			
B220*	14	[20]		200	\$697	\$805	\$946			
B221*	24			200	\$701	\$809	\$951			
B222	7.4			200	\$706	\$814	\$956			
B223	10	1"		200	\$711	\$819	\$961			
B224	19	[25]		200	\$711	\$819	\$961			
B225*	30			200	\$717	\$824	\$965			
B229	10			200	\$755	\$862	\$1,004			
B230*	19	1.25"		200	\$758	\$866	\$1,006			
B231	25	[32]		200				\$823	\$985	\$1,051
B232*	37			200				\$825	\$987	\$1,053
B238	19	1.5"		200				\$833	\$995	\$1,061
B239	29	[40]		200				\$833	\$995	\$1,061
B240*	37	[]		200				\$838	\$1,000	\$1,066
B248	29			200				\$861	\$1,024	\$1,090
B249	46			200				\$981	\$1,142	\$1,209
B250*	57	2"		200				\$983	\$1,145	\$1,211
B251	65	[50]		200				\$985	\$1,147	\$1,213
B252	85	[00]	400	200				\$1,281	\$1,442	\$1,509
B253	120			200				\$1,356	\$1,518	\$1,585
B254*	240		-	200				\$1,437	\$1,600	\$1,666
B261	60			100				\$1,451	\$1,612	\$1,679
B262	75	2.5"		100				\$1,453	\$1,614	\$1,681
B263	110	[65]		100				\$1,456	\$1,616	\$1,683
B264	150	[00]		100				\$1,532	\$1,694	\$1,761
B265*	210			100				\$1,608	\$1,770	\$1,837
B277	70	3"		100				\$1,626	\$1,787	\$1,853
B278	130	[80]		100				\$1,703	\$1,866	\$1,933
B280*	170	[00]		100				\$1,769	\$1,932	\$1,996

*Models without characterizing discs. For corrected Cvs with piping reduction factor refer to page 12-5.

ACTUATOR PART #	NRX24-3-T N4H	NRX24-SR-T N4H	NRX24-MFT-T N4H	ARX24-3-T N4H	ARX24-SR-T N4H	ARX24-MFT-T N4H
Add to List Price for Heater	+\$414	+\$414	+\$414	+\$414	+\$414	+\$414

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN

B3 Series Characterized Control Valves with NEMA 4X Non Fail-Safe Actuators

3-way Valve with Stainless Steel Ball and Stem, NPT Female Ends



Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	A-port equal percentage, B-port modified linear for constant flow
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	TEFZEL® or stainless steel
Seat 0-ring	EPDM
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0% for A to AB, <2.0% for B to AB
Cv Flow Rating	A-port: as stated in chart B-port: 70% of A to AB Cv







ACTUATOR PART #	NRX24-3-T N4	NRX24-SR-T N4	NRX24-MFT-T N4	ARX24-3-T N4	ARX24-SR-T N4	ARX24-MFT-T N4
Control	On/Off, Floating Point	Modulating	Modulating/MFT	On/Off, Floating Point	Modulating	Modulating/MFT
Manual Override	•	•	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	150 seconds (variable)	90 seconds	90 seconds	150 seconds (variable)
Electrical Connection	terminal block	terminal block	terminal block	terminal block	terminal block	terminal block

3-Way Mixing/Diverting

o way mixing	g/ Divorting	9								
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]						
B307	0.3			200	\$682	\$816	\$963			
B308	0.46			200	\$682	\$816	\$963			
B309	0.8			200	\$682	\$816	\$963			
B310	1.2	0.5"		200	\$684	\$818	\$965			
B311	1.9	0.5" [15]		200	\$684	\$818	\$965			
B312	3	[10]		200	\$686	\$820	\$967			
B313	4.7			200	\$686	\$820	\$967			
B315	10		600	200	\$689	\$824	\$970			
B316*	16		600	200	\$687	\$822	\$968			
B317	4.7			200	\$775	\$871	\$1,204			
B318	7.4	0.75"		200	\$777	\$873	\$1,206			
B320	14	[20]		200	\$782	\$877	\$1,210			
B321*	24			200	\$785	\$880	\$1,213			
B322	7.4	1"		200	\$801	\$941	\$1,096			
B323	10	[25]		200	\$803	\$943	\$1,098			
B325*	30	[20]		200	\$812	\$953	\$1,108			
B329	10	1.25"		200				\$910	\$1,004	\$1,129
B330	19	[32]		200				\$914	\$1,008	\$1,134
B331	25	[32]		200				\$1,065	\$1,214	\$1,286
B338	19			200				\$1,076	\$1,224	\$1,299
B339	29	1.5"		200				\$1,078	\$1,226	\$1,304
B340	37	[40]		200				\$1,080	\$1,228	\$1,307
B341	46		400	200				\$1,082	\$1,232	\$1,318
B347	29			200				\$1,326	\$1,475	\$1,530
B348	37			200				\$1,329	\$1,477	\$1,532
B349	46	2"		200				\$1,331	\$1,479	\$1,541
B350	57	[50]		200				\$1,336	\$1,484	\$1,545
B351	68			200				\$1,342	\$1,491	\$1,547
B352	83			200				\$1,347	\$1,497	\$1,551

Models without characterizing discs. For corrected Cvs with piping reduction factor refer to page 12-5.

ACTUATOR PART #	NRX24-3-T N4H	NRX24-SR-T N4H	NRX24-MFT-T N4H	ARX24-3-T N4H	ARX24-SR-T N4H	ARX24-MFT-T N4H
Add to List Price for Heater	+\$414	+\$414	+\$414	+\$414	+\$414	+\$414

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



Valve Specifications

vaive opecifications	
Service	chilled , hot water, up to 60% glycol
Flow Characteristic	A-port equal percentage, B-port modified linear for constant flow
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	TEFZEL® or stainless steel
Seat 0-ring	EPDM
Media Temp. Range 1.25" - 2"	0°F to 250°F [-18°C to +120°C]
Media Temp. Range 2.5" - 3"	0°F to 212°F [-18°C to 100°C]
Max Differential Pressure 1.25" - 2"	50 psi
Max Differential Pressure 2.5" - 3"	30 psi
Leakage	0% for A to AB, <2.0% for B to AB
Cv Flow Rating	A-port: as stated in chart B-port: 70% of A to AB Cv





ACTUATOR PART #	AFRX24 N4	AFRX24-MFT N4
Control	On/Off	Modulating/MFT
Manual Override	•	•
Running Time (Motor)	75 seconds	150 seconds (variable)
Running Time (Fail-Safe)	<20 seconds	<20 seconds
Electrical Connection	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

Model #	Cv	Size	Body Pressure	Pressure		
		[mm]	Rating [psi]	[psi]		
B231	25	1.25"		200	\$1,301	\$1,700
B232*	37	[32]		200	\$1,305	\$1,704
B238	19	1.5"		200	\$1,309	\$1,709
B239	29			200	\$1,311	\$1,711
B240*	37	[40]		200	\$1,314	\$1,714
B248	29			200	\$1,578	\$1,768
B249	46			200	\$1,589	\$1,782
B250*	57	2"		200	\$1,599	\$1,792
B251	65	[50]		200	\$1,809	\$2,003
B252	85	[30]	400	200	\$1,888	\$2,081
B253	120		400	200	\$1,965	\$2,158
B254*	240			200	\$2,202	\$2,395
B261	60			100	\$1,908	\$2,102
B262	75	2.5"		100	\$1,985	\$2,178
B263	110	[65]		100	\$2,064	\$2,257
B264	150	[00]		100	\$2,139	\$2,332
B265*	210			100	\$2,303	\$2,496
B277	70	3"		100	\$2,156	\$2,349
B278	130	[80]		100	\$2,238	\$2,431
B280*	170	[00]		100	\$2,548	\$2,742
3-Way Mixing	/Diverting					
B329	10	1.05"		200	\$1,508	\$1,746
B330	19	1.25"		200	\$1,515	\$1,755
B331	25	[32]		200	\$1,676	\$1,913
B338	19			200	\$1,691	\$1,931
B339	29	1.5"		200	\$1,693	\$1,933
B340	37	[40]		200	\$1,699	\$1,939
B341	46		400	200	\$1,884	\$2,122
B347	29			200	\$2,087	\$2,325
B348	37			200	\$2,090	\$2,328
B349	46	2"		200	\$2,092	\$2,330
B350	57	[50]		200	\$2,099	\$2,337
B351	68			200	\$2,290	\$2,530
B352	83			200	\$2,358	\$2,597

 $^{{}^{\}star}$ Models without characterizing discs.

For corrected Cvs with piping reduction factor refer to page 12-5.

ACTUATOR PART #	AFRX24 N4H	AFRX24-MFT N4H
Add to List Price for Heater	+\$1,078	+\$1,078

B6 Series Characterized Control Valves with NEMA 4 Non Fail-Safe Actuators

2-way Valve with Stainless Steel Ball and Stem, Flanged Ends



Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	pattern to mate with ANSI 125 flange, flat face
Body	cast iron - GG25
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	stainless steel
Seat 0-ring	EPDM
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0%





ACTUATOR PART #	ARX24-3-T N4	ARX24-MFT-T N4	GRX24-3-T N4	GRX24-MFT-T N4
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	90 seconds	150 seconds (variable)	150 seconds	150 seconds (variable)
Electrical Connection	terminal block	terminal block	terminal block	terminal block

2-Way

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
B6250S-070	70	2 5"[65]		100	\$2,632	\$2,881		
B6250S-110	110	2.5"[65]	48101 405	100	\$2,807	\$3,057		
B6300S-110	110	3" [80]	ANSI 125, Standard	100	\$2,813	\$3,275		
B6400S-186	186	4" [100]	Class B	100			\$3,141	\$3,569
B6500S-290	290	5" [125]	Oldos D	100			\$4,228	\$4,658
B6600S-400	400	6" [150]		100			\$4,670	\$5,099

ACTUATOR PART #	ARX24-3-T N4H	ARX24-MFT-T N4H	GRX24-3-T N4H	GRX24-MFT-T N4H
Add to List Price for Heater	+\$414	+\$414	+\$414	+\$414

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



B6 Series Characterized Control Valves with NEMA 4 Spring Return and Electronic Fail-Safe Actuators

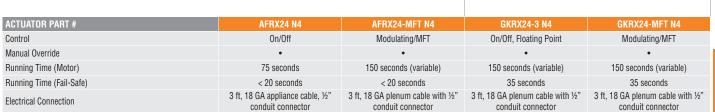
2-way Valve with Stainless Steel Ball and Stem, Flanged Ends

Valve Specifications

Flow Characteristic equal percentage Controllable Flow Range End Fitting pattern to mate with ANSI 125 flange, flat face Body cast iron - GG25 Ball stainless steel Stem stainless steel Seat Teflon® PTFE Characterized Disc stainless steel Seat 0-ring EPDM Media Temperature Range (Water) Max Differential Pressure (Water) Leakage 0%	Service	chilled , hot water, up to 60% glycol		
End Fitting pattern to mate with ANSI 125 flange, flat face Body cast iron - GG25 Ball stainless steel Stem stainless steel Seat Teflon® PTFE Characterized Disc stainless steel Seat 0-ring EPDM Media Temperature Range (Water) Max Differential Pressure (Water) 50 psi	Flow Characteristic	equal percentage		
End Fitting flange, flat face Body cast iron - GG25 Ball Stainless steel Stem stainless steel Seat Teflon® PTFE Characterized Disc Seat 0-ring Media Temperature Range (Water) Max Differential Pressure (Water) flange, flat face stainless steel stainless steel EPDM 0°F to 250°F [-18°C to +120°C] 50 psi	Controllable Flow Range	75°		
Ball stainless steel Stem stainless steel Seat Teflon® PTFE Characterized Disc stainless steel Seat O-ring EPDM Media Temperature Range (Water) Max Differential Pressure (Water) 50 psi	End Fitting			
Stem stainless steel Seat Teflon® PTFE Characterized Disc stainless steel Seat 0-ring EPDM Media Temperature Range (Water) Max Differential Pressure (Water) Stainless steel EPDM 0°F to 250°F [-18°C to +120°C] 50 psi	Body	cast iron - GG25		
Seat Teflon® PTFE Characterized Disc stainless steel Seat 0-ring EPDM Media Temperature Range (Water) Max Differential Pressure (Water) Teflon® PTFE stainless steel EPDM 0°F to 250°F [-18°C to +120°C] 50 psi	Ball	stainless steel		
Characterized Disc stainless steel Seat 0-ring EPDM Media Temperature Range (Water) Max Differential Pressure (Water) 50 psi	Stem	stainless steel		
Seat 0-ring EPDM Media Temperature Range (Water) Max Differential Pressure (Water) Sept 0-ring EPDM 0°F to 250°F [-18°C to +120°C] 50 psi	Seat	Teflon® PTFE		
Media Temperature Range (Water) Max Differential Pressure (Water) 0°F to 250°F [-18°C to +120°C] 50 psi	Characterized Disc	stainless steel		
(Water) UF to 250°F [-18°C to +120°C] Max Differential Pressure (Water) 50 psi	Seat 0-ring	EPDM		
(Water) 50 psi	,	0°F to 250°F [-18°C to +120°C]		
Leakage 0%		50 psi		
	Leakage	0%		







2-Way

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
B6250S-070	70	2.5"		100	\$2,673	\$3,092		
B6250S-110	110	[65]	48101 405	100	\$2,912	\$3,268		
B6300S-110	110	3" [80]	ANSI 125,	100	\$2,917	\$3,486		
B6400S-186	186	4" [100]	Standard Class B	100			\$3,456	\$3,885
B6500S-290	290	5" [125]	Old33 B	100			\$4,545	\$4,973
B6600S-400	400	6" [150]		100			\$5,197	\$5,585

ACTUATOR PART #	AFRX24 N4H	AFRX24-MFT N4H	GKRX24-3 N4H	GKRX24-MFT N4H
Add to List Price for Heater	+\$1,078	+\$1,078	+\$414	+\$414

B2 Series Characterized Control Valves with Quick Running Non Fail-Safe Actuators



2-way Valve with Stainless Steel Ball and Stem, NPT Female Ends

Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	NPT female
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seat	Teflon® PTFE
Characterized Disc	TEFZEL® or stainless steel
Seat 0-ring	EPDM
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0%











ACTUATOR PART #	LRQX24-MFT	NRQX24-MFT	ARQX24-MFT
Control	Modulating/MFT	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	4 seconds (variable)	4 seconds (variable)	10 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

2-Way							
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]			
B207	0.3			200	\$728		
B208	0.46			200	\$728		
B209	0.8			200	\$728		
B210	1.2			200	\$732		
B211	1.9	0.5"		200	\$732		
B212	3	[15]		200	\$738		
B213	4.7			200	\$748		
B214	7.4			200	\$755		
B215	10			200	\$760		
B216*	16			200	\$762		
B217	4.7		600	200	\$775		
B218	7.4	0.75"		200	\$777		
B219	10	[20]		200	\$780		
B220*	14	[20]		200	\$782		
B221*	24			200	\$785		
B222	7.4			200	\$812		
B223	10	1"		200	\$818		
B224	19	[25]		200	\$825		
B225*	30			200	\$829		
B229	10			200	\$851		
B230*	19	1.25"		200	\$855		
B231	25	[32]		200		\$890	
B232*	37			200		\$910	
B238	19	1.5"		200		\$910	
B239	29	[40]		200		\$914	
B240*	37	[40]		200		\$916	
B248	29		400	200			\$1,047
B249	46		400	200			\$1,051
B250*	57	o"		200			\$1,060
B251	65	2" [50]		200			\$1,338
B252	85	[30]		200			\$1,419
B253	120			200			\$1,491
B254*	240			200			\$1.704

^{*}Models without characterizing discs.

For corrected Cvs with piping reduction factor refer to page 12-5.

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



B3 Series Characterized Control Valves with Quick Running Non Fail-Safe Actuators

3-way Valve with Stainless Steel Ball and Stem, NPT Female Ends

Valve Specifications

Service	chilled , hot water, up to 60% glycol		
Flow Characteristic	A-port equal percentage, B-port modified linear for constant flow		
Controllable Flow Range	75°		
End Fitting	NPT female		
Body	forged brass, nickel plated		
Ball	stainless steel		
Stem	stainless steel		
Seat	Teflon® PTFE		
Characterized Disc	TEFZEL® or stainless steel		
Seat 0-ring	EPDM		
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]		
Max Differential Pressure (Water)	50 psi		
Leakage	0% for A to AB, <2.0% for B to AB		
Cv Flow Rating	A-port: as stated in chart B-port: 70% of A to AB Cv		







ACTUATOR PART #	LRQX24-MFT	ARQX24-MFT
Control	Modulating/MFT	Modulating/MFT
Manual Override	•	•
Running Time (Motor)	4 seconds (variable)	10 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

3-1	M	ay	I\Л	ivi	in	rs /	ni	iw	٥r	tin	n
J-1	88	ау	141	IA	m	y/	и,	I W	υı	ш	y

		Size	Body	Close-Off		
Model #	Cv	[mm]	Pressure	Pressure		
B007	0.0		Rating [psi]	[psi]	6044	
B307	0.3			200	\$814	
B308	0.46			200	\$814	
B309	0.8			200	\$814	
B310	1.2	0.5"		200	\$816	
B311	1.9	[15]		200	\$816	
B312	3	[10]		200	\$818	
B313	4.7			200	\$829	
B315	10		600	200	\$831	
B316*	16		600	200	\$830	
B317	4.7			200	\$855	
B318	7.4	0.75"		200	\$859	
B320	14	[20]		200	\$861	
B321*	24	-		200	\$861	
B322	7.4			200	\$956	
B323	10	1"		200	\$958	
B325*	30	[25]		200	\$962	
B329	10			200		\$976
B330	19	1.25"		200		\$1,020
B331	25	[32]		200		\$1,170
B338	19			200		\$1,180
B339	29	1.5"		200		\$1,182
B340	37	[40]		200		\$1,185
B341	46		400	200		\$1,190
B347	29			200		\$1,432
B348	37			200		\$1,434
B349	46	2"		200		\$1,436
B350	57	[50]		200		\$1,440
B351	68			200		\$1,448
B352	83			200		\$1,457

^{*}Models without characterizing discs.

For corrected Cvs with piping reduction factor refer to page 12-5.

Actuator Specifications

Torque	45 in-lbs [5 Nm]
Ambient Temperature	-22°F to +122°F [-30°C to +50°C]
Angle of Rotation ♦	max. 90°, adjustable with mechanical stop electronically variable
Position Indication	handle
Manual Override	external push-button
Direction of Rotation◆	reversible with switch
Dimensions	6.18" x 2.6" x 2.34" [157 x 66 x 59.4 mm]
Electrical Connection	18 GA plenum rated cable, ½" conduit fitting terminal strip (-T) models
Overload Protection	electronic throughout rotation
Auxiliary Switch	(-S) models: 1 SPDT, 3A (0.5A inductive) @ 250V adjustable 5° to 85°
Housing	NEMA 2/IP54
Agency Listings	cULus acc. to UL 60730-1A/- 2-14, CAN/CSA E60730-1:02, CSA C22.2 No. 24-93, CE acc. to 2006/95/EC and 89/336/EEC



MFT= 2-10 VDC Default, or Set, Modify, Read:

- Control (PWM, VDC range, Floating Point)
 Feedback (0-10 VDC, 0-5 VDC, 2-10 VDC, Variable)
 Motion (run time)

Various



90



N/A**



\$444

♦ Variable with MFT

Model	Control Input	Feedback	Power Supply	Running Time(s) [Default]	VA Rating	Cable Length	Re-order Number	List Price‡
LRB24-3	On/Off, Floating Point	Add on	24 VAC/DC	90	2	3 ft.	N/A**	\$226
LRB24-3-S	On/Off, Floating Point	Add on	24 VAC/DC	90	2	3 ft.	N/A**	\$319
LRB24-3-T	On/Off, Floating Point	Add on	24 VAC/DC	90	2	N/A	N/A**	\$214
LRB120-3	On/Off, Floating Point	Add on	100-240 VAC	90	4	3 ft.	N/A**	\$283
LRB24-SR	2-10 VDC (4-20mA*)	2-10 VDC	24 VAC/DC	90	4.5	3 ft.	N/A**	\$336
LRB24-SR-T	2-10 VDC (4-20mA*)	2-10 VDC	24 VAC/DC	90	4.5	N/A	N/A**	\$328
LRB120-SR	2-10 VDC (4-20mA*)	2-10 VDC	100-240 VAC	90	4	3 ft.	N/A**	\$379

Various

24 VAC/DC

LND24-IVIF I			

See page 12-8 for actuator customizing and available P-Codes. ‡ Prices do not reflect additional programming code surcharge.

MFT VERSION

The P-Code programs the actuator for the desired Control Input, Feedback and Running Time.

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

^{*}With 500 Ω resistor- ZG-R01. ** Re-order numbers only available for customizable "X" version actuators (e.g. LRX24-3).

Custom, Direct Coupled, Non Fail-Safe Actuator, 180 in-lbs Minimum Torque

Actuator Specifications Torque

Position Indication

180 in-lbs [20 Nm] Ambient Temperature -22°F to +122°F [-30°C to +50°C]

Angle of Rotation◆ max 90°, adjustable with mechanical stop electronically

variable handle

Manual Override external push-button Direction of Rotation◆ reversible with switch 7.47" x 3.45" x 2.52" Dimensions [189.8 x 88 x 64 mm]

Electrical Connection 18 GA plenum rated cable, ½" conduit connector Overload Protection electronic throughout rotation

(-S) models: 1 SPDT, 3A (0.5A Auxiliary Switch(es) inductive) @ 250V adjustable 5° to 85°

NEMA 2/IP54 Housing cULus acc. to UL 60730-1A/-Agency Listings 2-14, CAN/CSA E60730-1:02,

CSA C22.2 No. 24-93, CE acc. to 2006/95/EC and 89/336/EEC

♦ Variable with MFT



MFT= 2-10 VDC Default, or Set, Modify, Read:

- Control (PWM, VDC range, Floating Point)
 Feedback (0-10 VDC, 0-5 VDC, 2-10 VDC, Variable)
- Motion (run time)







Model	Control Input	Feedback	Power Supply	Running Time(s)	VA Rating	Cable Length	Re-order Number	List Price
ARB24-3	On/Off, Floating Point	Add on	24 VAC/DC	90	5.5	3 ft.	N/A**	\$407
ARB24-3-S	On/Off, Floating Point	Add on	24 VAC/DC	90	5.5	3 ft.	N/A**	\$525
ARB24-3-T	On/Off, Floating Point	Add on	24 VAC/DC	90	5.5	N/A	N/A**	\$390
ARB120-3	On/Off, Floating Point	Add on	100-240 VAC	90	7	3 ft.	N/A**	\$470
ARB24-SR	2-10 VDC (4-20mA*)	2-10 VDC	24 VAC/DC	90	5	3 ft.	N/A**	\$599
ARB24-SR-T	2-10 VDC (4-20mA*)	2-10 VDC	24 VAC/DC	90	5	N/A	N/A**	\$574
ARB120-SR	2-10 VDC (4-20mA*)	2-10 VDC	100-240 VAC	90	7.5	3 ft.	N/A**	\$667

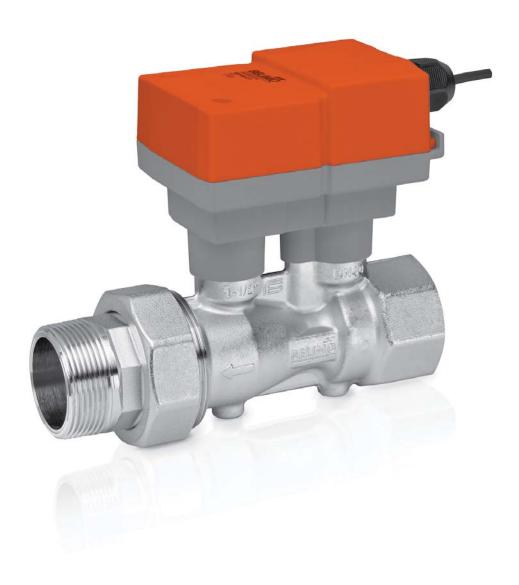
MFT VERSIONS

IIII I VEITOTONO								
ARB24-MFT	Various	Various	24 VAC/DC	90	6	3 ft.	N/A**	\$594
ARX24-MFT95	0 to 135Ω	Various	24 VAC/DC	150	6	3 ft.	AR0L0 0C3 R01	\$610

See page 12-8 for actuator customizing and available P-Codes.

- \ddagger Prices do not reflect additional programming code surcharge. *With 500 Ω resistor- ZG-R01.
- ** Re-order numbers only available for customizable "X" version actuators (e.g. LRX24-3).

The P-Code programs the actuator for the desired Control Input, Feedback and Running Time.





Accurate Flow Measurement Out of the Box

Belimo ultrasonic flow meters are available in ½" - 2" sizes and utilize ultrasonic transit time technology to provide an accurate and repeatable hot or chilled water flow measurement.

The flow meter features a patented temperature and glycol compensation logic eliminating calibration requirements, $\pm 2\%$ accuracy of reading and a $\pm 0.5\%$ repeatability to provide precise flow measurement and the maintenance free design ensures reliable operation.

> Learn more at www.belimo.us



13

HIGH TEMPERATURE CHARACTERIZED CONTROL VALVES (HTCCV)

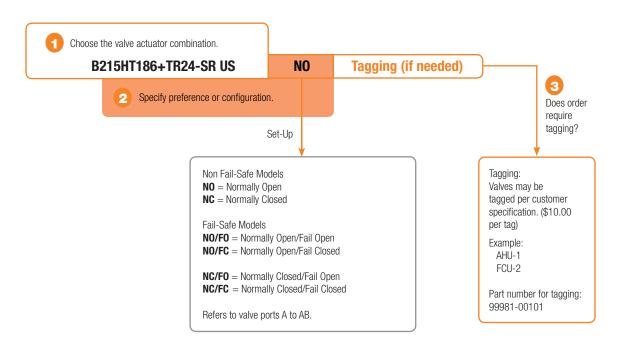
Perfect Solution for Low Pressure Steam

- Elongated, characterizing disc reduces turbulent flow and improves efficiency of the system.
- Maintenance free no repacking required after being in service for an extended period of time.
- Ball valve design offers self-cleaning and zero leakage.

High Temperature Characterized Control Valve Nomenclature

B2	15	HT	186	+TR	24	-SR	
Valve B2 = 2-way	Valve Size 15 = ½" 20 = ¾" 25 = 1"	High Temperature	Cv 1.86 Refer to Table on Page 13-1	Actuator Type Non Fail-Safe TRB, TRX LRB, LRX Fail-Safe Spring Return TFRB, TFRX LF	Power Supply 24 = 24 VAC/DC 120 = 120 VAC*	Control Blank = On/Off -3 = On/Off, Floating Point -SR = 2-10 VDC -MFT = Multi-Function Technology	-S = Built-in Auxiliary Switch
			Re	" models are customizable. fer to page 12-8 for ogramming and cable optio			

Ordering Example



Complete Ordering Example: B215HT186+TR24-SR US

Configuration: +NO

^{*}TFR Series has 100 to 240 VAC nominal power supply.

Control Valve Product Range

High Temperature Characterized Control Valve Product Range

	Valve Nominal Size		Туре	Suitable Actuators				
Cv	Inches	DN [mm]	2-way NPT	Non Fail-Safe		Spring Return		
0.29	1/2	15	B215HT029					
0.46	1/2	15	B215HT046					
0.73	1/2	15	B215HT073	es S				
1.16	1/2	15	B215HT116	TR Series		TFR Series		
1.86	1/2	15	B215HT186	Ĕ		崖		
2.90	1/2	15	B215HT290					
4.55	1/2	15	B215HT455					
1.86	3/4	20	B220HT186					
2.90	3/4	20	B220HT290		eries			
4.64	3/4	20	B220HT464		LR Series			
7.31	3/4	20	B220HT731		_			
9.28	3/4	20	B220HT928				es	
13.20	3/4	20	B220HT1320				LF Series	
4.64	1	25	B225HT464				5	
7.31	1	25	B225HT731					
11.60	1	25	B225HT1160					
18.56	1	25	B225HT1856					
28.00	1	25	B225HT2800					



Mode of Operation

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

Product Features

Equal-percentage flow characteristic.

A -44	C	
Actuator	Speci	ncauons

Control type	on/off, floating point, 2-10 VDC multi-function technology (MFT)
Manual override	only TR, LR series
Electrical connection	3 ft. [1 m] cable with ½"conduit fitting or covered screw terminal strip
Valve Specifications	
Service	hot water, up to 60% glycol, steam
Flow characteristic	A-port equal percentage
Controllable flow range	75°
Sizes	1/2", 3/4", 1"
End fitting	NPT female
Materials Body Ball Stem Seat Stem packing Characterizing disc Seat o-rings Body pressure rating Media temperature range Steam Water	brass (DZR) P-CuZn35Pb2 stainless steel stainless steel ETFE Viton® ETFE EPDM 600 psi
Close-off pressure	200 psi
Maximum differential pressure (ΔP) Steam Water	15 psi 60 psi partially open ball 116 psi full open only (Model #B215HT455)
Maximum inlet pressure	(
Steam	15 psi
Leakage	0%



SET-UP - Specify Upon Ordering

2-WAY VALVE

uo	TR24-3 US	Power to pin 2 will drive valve CCW. Power to pin 3 will drive valve CW.	
NON FAIL-SAFE Stays in Last Position	TR24-SR US	NC: Closed A to AB, will open as voltage increases.	NO: Open A to AB, will close as voltage increases (Can be chosen with switch inside terminal block of actuator).
NON Stays in	LRB24-3, LRX	Power to pin 2 will drive valve CW. Power to pin 3 will drive valve CCW. The above will function when the directional switch is in the "1" position, to reverse select the "0" position.	NO: Open A to AB, will close as power is applied.

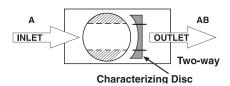
URN O	ition
RE	il Pos
RING	te Fai
SP	£

TFRB24 LF24 US	NO/FO Valve: Open A to AB will drive closed. Spring Action: Will spring open A to AB upon power loss.	NC/FC Valve: Closed A to AB will drive open. Spring Action: Will spring closed A to AB upon power loss.
TFRB (-3), -MFT, -SR LF (-3), -MFT, -SR Floating or Modulating	NC/FO Valve: Closed A to AB will drive open or increase in voltage. Spring Action: Will spring open A to AB upon power loss.	NC/FC Valve: Closed A to AB or Open A to AB. Spring Action: Will spring closed A to AB upon power loss.
type actuators	NO/FO Valve: Open A to AB will drive closed or increase in voltage.	NO/FC Valve: Open A to AB. Spring Action: Will spring closed A to AB upon power loss



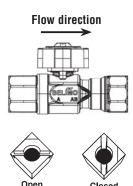
FLOW PATTERN

2-way High Temperature Characterized Control Valves



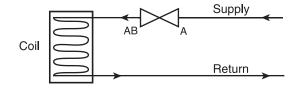
Upstream A Downstream AB

Valve should be installed with the disc downstream unlike the CCV.

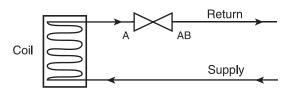


PIPING DIAGRAMS

2-way Valve Piping Diagram Steam (1 Input, 1 Output)

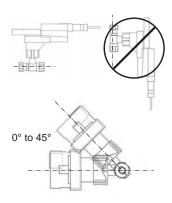


2-way Valve Piping Diagram Water (1 Input, 1 Output)

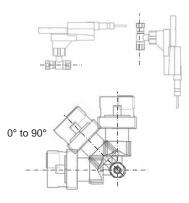


PIPING/MOUNTING ORIENTATION & INSULATION

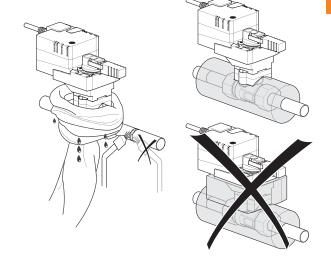
Assembly can be mounted horizontally or vertically for water applications. For steam applications the valve cannot be mounted vertically and if mounted horizontally the valve must be 0° to 45° off center of the pipe. Do not install with actuator below pipe.



Steam Applications



Water Applications



High Temperature Characterized Control Valves with Non Fail-Safe Actuators

2-way Valve with Stainless Steel Ball and Stem, NPT Female Ends



Valve Specifications

varvo oposinoationo	
Service	hot water, up to 60% glycol, steam
Flow Characteristic	A-port equal percentage
Controllable Flow Range	75°
End Fitting	NPT female
Body	brass (DZR) P-CuZn35Pb2
Ball	stainless steel
Stem	stainless steel
Seat	ETFE
Stem packing	Viton
Characterized Disc	ETFE
0-ring	EPDM
Media Temperature Range (Steam)	250°F [120°C]
Media Temperature Range (Water)	60°F to 266°F [16°C to 130°C]
Max Differential Pressure (Water)	60 psi partially open ball, 116 psi full open (#B215HT455)
Max Inlet Pressure (Steam)	15 psi
Laskans	00/

Visit www.belimo.us for additional non fail-safe actuator options.







ACTUATOR PART #	TR24-3 US	TR24-SR US	LRB24-3	LRB24-SR	LRX24-MFT
Control	On/Off, Floating Point	Modulating	On/Off, Floating Point	Modulating	Modulating/MFT
Running Time (Motor)	90 seconds	90 seconds	90 seconds	90 seconds	150 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum cable	3 ft, 18 GA plenum cable	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

2-way									
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]					
B215HT029	0.29			200	\$322	\$462	\$371	\$485	\$655
B215HT046	0.46			200	\$322	\$462	\$371	\$485	\$655
B215HT073	0.73	0.5"		200	\$322	\$462	\$371	\$485	\$655
B215HT116	1.16	0.5"		200	\$330	\$469	\$373	\$487	\$657
B215HT186	1.86	[13]		200	\$330	\$469	\$376	\$489	\$659
B215HT290	2.9			200	\$332	\$471	\$380	\$492	\$664
B215HT455	4.55			200	\$336	\$475	\$421	\$534	\$705
B220HT186	1.86			200			\$421	\$534	\$705
B220HT290	2.9		600	200			\$421	\$534	\$705
B220HT464	4.64	0.75"	600	200			\$423	\$536	\$707
B220HT731	7.31	[20]		200			\$423	\$536	\$707
B220HT928	9.28			200			\$425	\$538	\$709
B220HT1320	13.2	3.2		200			\$431	\$543	\$714
B225HT464	4.64			200			\$474	\$587	\$758
B225HT731	7.31	4"		200			\$474	\$587	\$758
B225HT1160	11.6	[25]		200			\$479	\$593	\$763
B225HT1856	18.56	[23]		200			\$479	\$593	\$763
B225HT2800	28			200			\$485	\$597	\$769

High Temperature Characterized Control Valves with Spring Return Actuators

2-way Valve with Stainless Steel Ball and Stem, NPT Female Ends

Valve Specifications

Service hot water, up to 60% glycol, steam Flow Characteristic A-port equal percentage 75° Controllable Flow Range End Fitting NPT female Body brass (DZR) P-CuZn35Pb2 Ball stainless steel Stem stainless steel Seat ETFE Stem packing Viton Characterized Disc ETFE 0-ring **EPDM** Media Temperature Range 250°F [120°C] (Steam) Media Temperature Range 60°F to 266°F [16°C to 130°C] (Water) Max Differential Pressure 60 psi partially open ball, (Water) 116 psi full open (#B215HT455) Max Inlet Pressure









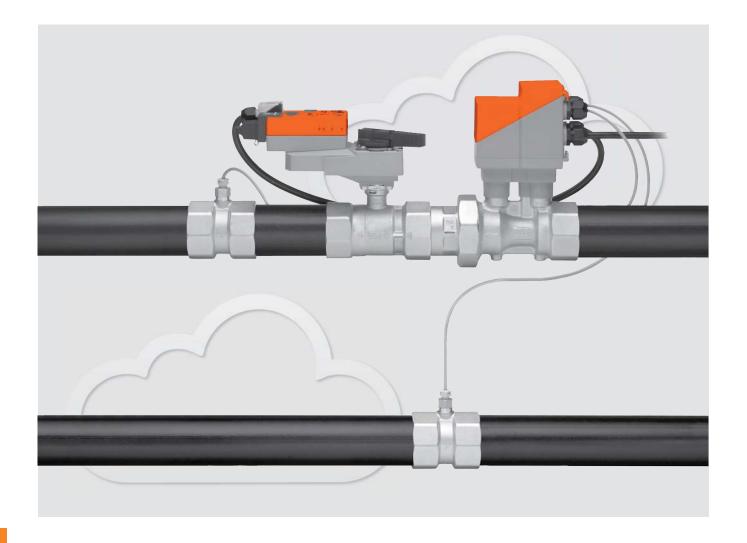
ACTUATOR PART #	TFRB24	TFRB24-3	TFRB24-SR	TFRX24-MFT	LF24 US	LF24-SR US	LF24-MFT US
Control	On/Off	Floating Point	Modulating	Modulating/MFT	On/Off	Modulating	Modulating/MFT
Running Time (Motor)	<75 seconds	95 seconds	95 seconds	150 seconds (variable)	75 seconds	150 seconds	150 seconds (variable)
Running Time (Fail-Safe)	< 75 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds	<25 seconds
Electrical Connection	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector

2-Way

(Steam) Leakage

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]							
B215HT029	0.29			200	\$468	\$552	\$599	\$678			
B215HT046	0.46			200	\$468	\$552	\$599	\$678			
B215HT073	0.73	0.5"		200	\$468	\$552	\$599	\$678			
B215HT116	1.16	0.5" [15]		200	\$470	\$555	\$601	\$680			
B215HT186	1.86	נוטן		200	\$470	\$555	\$601	\$680			
B215HT290	2.9			200	\$479	\$565	\$610	\$690			
B215HT455	4.55			200	\$485	\$569	\$615	\$694			
B220HT186	1.86			200					\$566	\$727	\$888
B220HT290	2.9		600	200					\$566	\$727	\$888
B220HT464	4.64	0.75"	000	200					\$566	\$727	\$888
B220HT731	7.31	[20]		200					\$568	\$729	\$890
B220HT928	9.28			200					\$574	\$736	\$896
B220HT1320	13.2			200					\$577	\$739	\$900
B225HT464	4.64			200					\$654	\$816	\$977
B225HT731	7.31	4"		200					\$654	\$816	\$977
B225HT1160	11.6			200					\$659	\$822	\$983
B225HT1856	18.56	[25]		200					\$665	\$826	\$987
B225HT2800	28			200					\$675	\$836	\$997

Note: Weather shields are not available at this time. Note: 120 V and -S models have appliance cables.



Belimo Energy Valve[™] Solving Low Delta T Leveraging IoT

The Belimo Energy Valve is now an Internet of Things (IoT) device. A smart connected pressure independent valve that utilizes powerful cloud-based computing to analyze system data, further optimizing performance, and efficiency. This technologically advanced valve integrates many useful features such as Energy Measurement, Glycol Monitoring, and Delta T Control all into one easy to use device.

No other valve compares. Discover all the advantages at belimo.us









14

INDUSTRIAL BALL VALVES

Achieve Control and Reliability

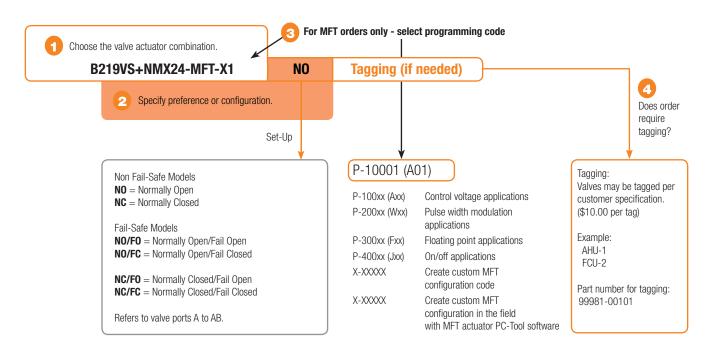
- Bronze, brass, and stainless steel ball valves with NPT connection for low and medium pressure steam applications.
- Range of media temperature ratings suited for chilled, hot water and steam service.
- Fitted with rotary actuators offers easy field assembly and installation.

Industrial Ball Valve Nomenclature

B2	19	VS	+NMX	24	-MFT-X1	
Valve B2 = 2-way B3 = 3-way	Valve Size 15-50 = ½" to 2"	Industrial Construction/ Material VS = Bronze Body, Stainless Steel Ball and Stem VSS = Stainless Steel Body, Ball and Stem L = Nickel Plated Brass Body, Chrome Plated Brass Ball and Stem	Actuator Type Non Fail-Safe LMB, LMX NMB, NMX AMB, AMX GMB, GMX NRB, NRX ARB, ARX LRB, LRX SY PRB, PRX Fail-Safe Spring Return LF NFB, NFX AFB, AFX Electronic GKB, GKX	Power Supply 24 = 24 VAC/DC 120 = 120 VAC 230 = 230 VAC UP = 24-240 VAC or 24-125 VDC	Control -3-X1 = 0n/Off, Floating Point -MFT-X1 =Multi-Function Technology -MFT95-X1 = 0-135 Ω	-S = Built-in Auxiliary Switch
		"X" m	odels are customizable.			

Refer to page 14-5 for programming options.

Ordering Example



Complete Ordering Example: B219VS+NMX24-MFT-X1

Configuration: +N0Programming: +A01

Control Valve Product Range

Industrial Ball Valve Product Range

	Valve Nominal Size Type				Suitable Actuators			
Cv	Inches	DN [mm]	2-way NPT	3-way NPT	Na	n Fail-Sa	fe	Spring Return
1	1/2	15	B2050VS-01*		(0			
2	1/2	15	B2050VS-02*		LM Series			LF Series
4	1/2	15	B2050VS-04*					LF.S
15	1/2	15	B2050VS-15*					
30	3/4	20	B219VS		ies ies	SY Series		NF Series
51	3/4	20	B220VS		NM Series	SY S		Sei
43	1	25	B224VS		Ē			
68	1	25	B225VS					
48	11/4	32	B232VS		Sei			erie
84	1½	40	B239VS		ies		ies	AF Series
177	1½	40	B240VS		GM Series		PR Series	
108	2	50	B249VS		GN			
15	1/2	15	B2050VSS-15*		NM Series	ss		5
30	3/4	20	B219VSS		Ser	SY Series		불
43	1	25	B224VSS		АМ	S		ries
108	2	50	B249VSS		GM		PR Series	AF Series
6.4	1/2	15		B315L**				ries
12.8	3/4	20		B320L**	LR Series			LFR Series
11	1	25		B325L**				=
34	11/4	32		B332L**				es
57	1½	40		B340L**	R ies			AFR Series
87	2	50		B350L**	AR Series			AF

^{*} For hot only or cold only applications. Not for temperature changeover applications.

NOTE: Industrial ball valves (B2..VS, B2..VSS) have serviceable components. Proper maintenance of these parts will ensure a longer in-service life for the valves. The seats of these valves will require replacement at an interval consistent with number of full cycles the valve has be operated, or as field condition dictates.







Mode of Operation

The control valve is operated by an electronic actuator that responds to a standard voltage for on/off control, by a modulating 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 changing the flow.

Modified equal percentage of flow for B2. Modified linear flow

B3...L valves are for diverting applications and are not rated for steam.

Actuator Specifications

Control type	on/off, floating point, modulating, 2-10 VDC multi-function technology (MFT)
Manual override	LM, NM, GM, AM, SY, PR, AF, NF, GK
Electrical connection	3 ft. [1 m] cable with ½" conduit fitting (excluding SY)

Valve Specifications	
Service	chilled or hot water, (60% glycol), steam (2-way)
Flow characteristic	modified equal percentage (B2), modified linear (B3L)
Sizes	½", ¾", 1", 1¼", 1½", 2"
End fitting	FNPT
Materials	
Body	bronze (B2VS) stainless steel (B2VSS) nickel plated brass (B3L)
Ball	stainless steel, bronze (B2050VSS-15) chrome plated brass (B3L)
Stem	stainless steel nickel plated brass (B3L)
Seats	
2-way	MPTFE, RPTFE (B2050)
3-way	Teflon PTFE
Stem packing	
2-way NPT	MPTFE
O-rings	NPT EPDM (B3L)
Media temp range	
B2VS	-22°F to +280°F [-30°C to +138°C
B2VSS	-22°F to +298°F [-30°C to +148°C
B3L	0°F to 250°F [-18°C to +120°C]
Body pressure rating	
3-way	600 psi DN 15-25 (B3L ½"-1") 400 psi DN 32-50 (B3L 1¼" - 2")
Maximum inlet pressure	
Steam	35 psi B2VS 50 psi B2VSS
Leakage	ANSI Class VI (B2VS, VSS)

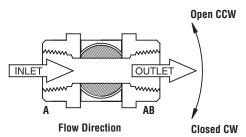
0% (B3..L)

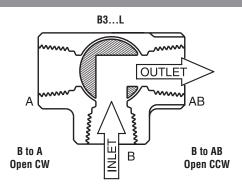
^{**} Not for steam applications



FLOW PATTERN



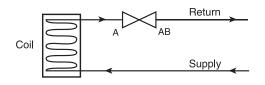




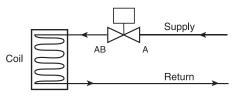
NOTE: B3...L are piped differently than B3 CCV Valves.

PIPING DIAGRAMS

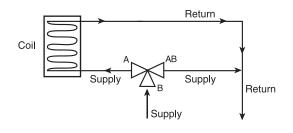
2-way Valve Piping Diagram Water

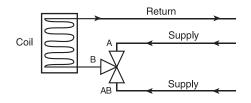


2-way Valve Piping Diagram Steam



B3...L Diverting & Changeover (Switching) Valve Piping Diagram



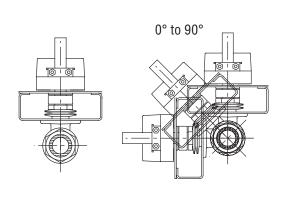


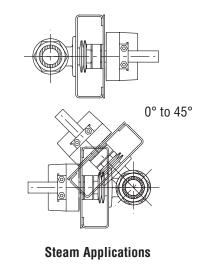
NOTE:

To avoid torque increase during off season shut down or other periods of inactivity longer than 1 month, the valve should be exercised (actuator or manually driven full open-closed cycle) at least once per month. This is necessary to avoid any application problems after an off season shut down. This is not required for B3...L valves.

PIPING/MOUNTING ORIENTATION

Assembly can be mounted horizontally or vertically for water applications. For steam applications the valve cannot be mounted vertically and if mounted horizontally the valve must be 0° to 45° off center of the pipe. Do not install with actuator below pipe.







800-543-9038 USA

Water Applications

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN



SET-UP - Specify Upon Ordering

	_	2-WAY	VALVE	3-WAY	VALVE
NON FAIL-SAFE Stays in Last Position	LMB24-3-X1, NMB24-3-X1, AMB24-3-X1, GMB24-3-X1, LRB24-3, NRB24-3, ARB24-3, SY	Power to pin 2 will drive valve CW. Power to pin 3 will drive valve CCW. The above will fuction when the directional switch is in the "1" position to reverse, select the "0" position.		Power to pin 2 will drive valve CW. Power to pin 3 will drive valve CCW. The above will fuction when the directional switch is in the "1" position to reverse, select the "0" position.	
NO Stays	LMX24-MFT-X1, NMX24-MFT-X1, AMX24-MFT-X1, GMX24-MFT-X1, LRX24-MFT, NRX24-MFT, ARX24-MFT, SYMFT	NC: Normally closed A to AB, valve will open as voltage increases	NO: Normally open A to AB, valve will close as voltage increases	NC: Normally open B to A, valve will open as voltage increases	NO: Normally open B to AB, valve will close as voltage increases
RETURN Position	LF24 US, LF120 US, NFB24-X1, AFB24-X1, AFBUP-X1, AFRBUP	NO/FO: Normally open A to AB, valve will drive closed. Spring Action: Actuator will fail open A to AB upon power loss.	NC/FC: Normally closed A to AB, valve will drive open. Spring Action: Actuator will fail closed A to AB upon power loss.	NO/FO: Normally open B to AB, valve will drive closed. Spring Action: Actuator will fail open B to AB upon power loss.	NC/FC: Normally closed B to AB, valve will drive open. Spring Action: Actuator will fail closed B to AB upon power loss.
SPRING RETURN Note Fail Position	LF24-MFT US, NFX24-MFT-X1, AFX24-MFT-X1, AFRX24-MFT	NC/FO: Normally closed A to AB, valve will open as voltage increases. Actuator switch on CW. Spring Action: Will fail open upon power loss.	NC/FC: Normally closed A to AB, valve will open as voltage increases. Actuator switch on CW. Spring Action: Will fail closed upon power loss.	NO/FC: Normally open B to AB, valve will close as voltage increases. Actuator switch on CCW. Spring Action: Will fail closed upon power loss.	NO/FO: Normally open B to AB, valve will close as voltage increases. Actuator switch on CCW. Spring Action: Will fail open upon power loss.





				LINE SIZE							
VALVE SIZE	Cv	TYPE	MODEL #	³¼" Fp Cv	1" Fp Cv	1¼" Fp Cv	1½" Fp Cv	2" Fp Cv	2½" Fp Cv	3" Fp Cv	4" Fp Cv
1/2"	1	2W NPT	B2050VS-01	1.0	1.0	-	-	-	-	-	-
1/2"	2	2W NPT	B2050VS-02	2.0	1.9	-	-	-	-	-	-
1/2"	4	2W NPT	B2050VS-04	3.8	3.6	-	-	-	-	-	-
1/2"	15	2W NPT	B2050VS-15	8.9	7.2	-	-	-	-	-	-
3/4"	30	2W NPT	B219VS/VSS	30.0	21.6	17.4	15.6	-	-	-	-
3/4"	51	2W NPT	B220VS	51.0	26.5	19.9	17.3	-	-	-	-
1"	43	2W NPT	B224VS/VSS	-	43.0	36.1	30.5	25.8	-	-	-
1"	68	2W NPT	B225VS	-	68.0	48.3	36.7	29.2	-	-	-
1½"	177	2W NPT	B240VS	-	-	-	177.0	102.7	77.9	67.3	-
2"	108	2W NPT	B249VS/VSS	-	-	-	-	108.0	100.4	91.8	83.2
1/2"	6.4	3W NPT	B315L	5.5	5.0	4.8	-	-	-	-	-
3/4"	12.8	3W NPT	B320L	12.8	11.8	11.0	10.5	-	-	-	-
1"	11	3W NPT	B325L	-	11.0	10.9	10.7	10.4	-	-	-
11/4"	34	3W NPT	B332L	-	-	34.0	32.8	29.9	28.2	-	-
1½"	57	3W NPT	B340L	-	-	-	57.0	51.9	47.4	44.9	-
2"	87	3W NPT	B350L	-	-	-	-	87.0	82.8	77.9	72.3



			CONTROL			
ACTUATOR Type	CONFIGURATION DESCRIPTION	P-CODE	CONTROL INPUT	FEEDBACK POSITION	RUNNING TIME	List Price
-MFT	P-10001*	A01*	2-10 VDC	2-10 VDC	150 seconds	No Charge
	P-10002	A02	0.5-10 VDC	0-10 VDC	150 seconds	No Charge
	P-10003	A03	2-10 VDC	0-5.0 VDC	150 seconds	No Charge
	P-10004	A04	4-7 VDC	2-10 VDC	150 seconds	\$35
	P-10005	A05	6-9 VDC	2-10 VDC	150 seconds	\$35
	P-10006	A06	10.5 -13.5 VDC	2-10 VDC	150 seconds	\$35
	P-10007	A07	0.5-5 VDC	2-10 VDC	150 seconds	\$35
	P-10009	A09	5-10 VDC	2-10 VDC	150 seconds	\$35
	P-10010	A10	5-10 VDC	0-10 VDC	150 seconds	\$35
	P-10013	A13	0.5-10 VDC	2-10 VDC	150 seconds	\$35
	P-10015	A15	2-5 VDC	2-10 VDC	150 seconds	\$35
	P-10016	A16	2-6 VDC	2-10 VDC	150 seconds	\$35
	P-10017	A17	6-10 VDC	2-10 VDC	150 seconds	\$35
	P-10018	A18	14-17 VDC	2-10 VDC	150 seconds	\$35
	P-10019	A19	2-10 VDC	2-10 VDC	100 seconds	No Charge
	P-10020	A20	9-12 VDC	2-10 VDC	150 seconds	\$35
	P-10028	A28	0.5-10 VDC	0.5-10 VDC	100 seconds	No Charge
	P-10031	A31	0.5- 4 VDC	2-10 VDC	150 seconds	\$35
	P-10063	A63	0.5-4.5 VDC	0.5- 4.5 VDC	150 seconds	No Charge
	P-10032	A32	6-14 VDC	2-10 VDC	150 seconds	\$35
	P-10064	A64	5.5-10 VDC	5.5-10.0 VDC	150 seconds	No Charge
	P-20001	W01	0.59-2.93 seconds PWM	2-10 VDC	150 seconds	\$35
	P-20002	W02	0.02 to 5.00 seconds PWM	2-10 VDC	150 seconds	No Charge
	P-20003	W03	0.10 to 25.50 seconds PWM	2-10 VDC	150 seconds	No Charge
	P-20004	W04	0.10 to 25.60 seconds PWM	2-10 VDC	150 seconds	\$35
	P-20005	W05	0.10 to 5.20 seconds PWM	0-5.0 VDC	150 seconds	\$35
	P-30001	F01	Floating Point	2-10 VDC	150 seconds	No Charge
	P-30002	F02	Floating Point	0-10 VDC	150 seconds	\$35
	P-40002	J02	On/Off	2-10 VDC	150 seconds	No Charge

^{*} Default configuration

SY MULTI-FUNCTION TECHNOLOGY

OI MULTI-101	ST MOLIT-I ONOTION LEGINOLOGI											
Description	MFT-CODE	Control Input	Built-in Feedback	Loss of Signal	Running Time	List Price						
MFT	ACE	2-10 VDC	2-10 VDC	stop	actuator(s) constant	No Charge						
MFT	ACF	0.5-10 VDC	0.5-10 VDC	stop	actuator(s) constant	No Charge						
MFT	ACG	4-20 mA	4-20 mA	stop	actuator(s) constant	No Charge						
MFT	ACH	4-20 mA	2-10 VDC	stop	actuator(s) constant	No Charge						
MFT	ACJ	2-10 VDC	2-10 VDC	open	actuator(s) constant	No Charge						
MFT	ACK	0.5-10 VDC	0.5-10 VDC	open	actuator(s) constant	No Charge						
MFT	ACL	4-20 mA	4-20 mA	open	actuator(s) constant	No Charge						
MFT	ACM	4-20 mA	2-10 VDC	open	actuator(s) constant	No Charge						
MFT	ACN	2-10 VDC	2-10 VDC	close	actuator(s) constant	No Charge						
MFT	ACP	0.5-10 VDC	0.5-10 VDC	close	actuator(s) constant	No Charge						
MFT	ACR	4-20 mA	4-20 mA	close	actuator(s) constant	No Charge						
MFT	ACS	4-20 mA	2-10 VDC	close	actuator(s) constant	No Charge						

All other configurations carry a \$34.00 list price.

Standard delivery may vary, please consult your customer service representative for the latest lead time(s).

B2...VS Series Ball Valves with Non Fail-Safe Actuators

2-way Valve, Bronze Body, NPT Female Ends



Valve Specifications

Service	chilled or hot water, up to 60% glycol, 35 lbs. steam
Flow Characteristic	modified equal percentage
Controllable Flow Range	90° rotation, valve open CCW, valve closed CW
End Fitting	FNPT
Body	B584-C84400 bronze
Ball	316 stainless steel
Seat	MPTFE, RPTFE (B2050)
Stem	316 stainless steel
Bearing	PEEK/PTFE, RPTFE (B2050)
Stem Packing	MPTFE
Body Seal	PTFE
Retainer	B16 brass
Gland	B16 brass
Jam Nut	stainless steel
Media Temperature Range (Water)	-22°F to +280°F [-30°C to +138°C]
Maximum Velocity	15 FPS
Leakage	ANSI Class VI











ACTUATOR PART #	LMB24-3-X1	NMB24-3-X1	AMB24-3-X1	GMB24-3-X1
Control	On/Off, Floating Point	On/Off, Floating Point	On/Off, Floating Point	On/Off, Floating Point
Manual Override	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds	150 seconds
Electrical Connection	3 ft, 18 GA appliance rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA appliance rated cable with ½" conduit connector

2-Way

Model #	Cv	Size [mm]	Body Pressure	Close-Off Pressure						
		[111111]	Rating [psi]	[psi]						
B2050VS-01	1			100	\$709					
B2050VS-02	2	0 5" [15]		100	\$709					
B2050VS-04	4	0.5" [15]	0.5 [15]	0.5 [15]		100	\$709			
B2050VS-15	15					100	\$709			
B219VS	30	0.75" [00]		400		\$912				
B220VS	51	0.75" [20]	600 psig	400		\$941				
B224VS	43	1" [05]	WOG	400		\$1,046				
B225VS	68	1" [25]		200			\$1,171			
B232VS	48	1.25" [32]		600			\$1,378			
B239VS	84	1 5" [40]		600				\$1,655		
B240VS	177	1.5" [40]		600				\$1,706		
B249VS	108	2" [50]		600				\$1,932		

BELIMO

Valve Specifications

Service	chilled or hot water, up to 60% glycol, 35 lbs. steam
Flow Characteristic	modified equal percentage
Controllable Flow Range	90° rotation, valve open CCW, valve closed CW
End Fitting	FNPT
Body	B584-C84400 bronze
Ball	316 stainless steel
Seat	MPTFE, RPTFE (B2050)
Stem	316 stainless steel
Bearing	PEEK/PTFE, RPTFE (B2050)
Stem Packing	MPTFE
Body Seal	PTFE
Retainer	B16 brass
Gland	B16 brass
Jam Nut	stainless steel
Media Temperature Range (Water)	-22°F to +280°F [-30°C to +138°C
Maximum Velocity	15 FPS
Leakage	ANSI Class VI









2-way Valve, Bronze Body, NPT Female Ends

ACTUATOR PART #	LMX24-MFT-X1	NMX24-MFT-X1	AMX24-MFT-X1	GMX24-MFT-X1
Control	Modulating/MFT	Modulating/MFT	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	150 seconds (variable)	150 seconds (variable)	150 seconds (variable)	150 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

2-Way

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]										
B2050VS-01	1			100	\$965									
B2050VS-02	2	0.5" [15]		100	\$965									
B2050VS-04	4	0.5" [15]	0.5 [15]	0.5 [15]		100	\$965							
B2050VS-15	15									100	\$965			
B219VS	30	0.75" [20]		400		\$1,324								
B220VS	51	0.75" [20]	600 psig	400		\$1,370								
B224VS	43	1" [05]	WOG	400		\$1,417								
B225VS	68	1" [25]		200			\$1,543							
B232VS	48	1.25" [32]		600			\$1,706							
B239VS	84	1 5" [40]		600				\$1,723						
B240VS	177	1.5" [40]		600				\$1,888						
B249VS	108	2" [50]		600				\$2,098						

B2...VS Series Ball Valves with Spring Return Actuators

2-way Valve, Bronze Body, NPT Female Ends



Valve Specifications

Service	chilled or hot water, up to 60% glycol, 35 lbs. steam
Flow Characteristic	modified equal percentage
Controllable Flow Range	90° rotation, valve open CCW, valve closed CW
End Fitting	FNPT
Body	B584-C84400 bronze
Ball	316 stainless steel
Seat	MPTFE, RPTFE (B2050)
Stem	316 stainless steel
Bearing	PEEK/PTFE, RPTFE (B2050)
Stem Packing	MPTFE
Body Seal	PTFE
Retainer	B16 brass
Gland	B16 brass
Jam Nut	stainless steel
Media Temperature Range (Water)	-22°F to +280°F [-30°C to +138°C]
Maximum Velocity	15 FPS
Leakage	ANSI Class VI



Visit www.belimo.us for additional Spring Return options.





ACTUATOR PART #	LF24 US	LF120 US	LF24-MFT US	NFB24-X1	NFBUP-X1	NFX24-MFT-X1
Control	On/Off	On/Off	Modulating/MFT	On/Off	On/Off	Modulating/MFT
Manual Override				•	•	•
Running Time (Motor)	75 seconds	75 seconds	150 seconds (variable)	<75 seconds	<75 seconds	150 seconds (variable)
Running Time (Fail-Safe)	<25 seconds	<25 seconds	<25 seconds	20 seconds	<20 seconds	< 20 seconds
Electrical Connection	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable wtih ½" conduit connector	3 ft, 18 GA appliance cable wtih ½" conduit connector	3 ft, 18 GA appliance cable wtih ½" conduit connector

2-way										
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]						
B2050VS-01	1			100	\$765	\$813	\$1,068			
B2050VS-02	2	0.5" [15]		100	\$765	\$813	\$1,068			
B2050VS-04	4	0.5 [15]	600 psig	100	\$765	\$813	\$1,068			
B2050VS-15	15		WOG	100	\$765	\$813	\$1,068			
B219VS	30	0.75" [20]		400				\$1,040	\$1,101	\$1,338
B220VS	51	0.75" [20]		400				\$1 088	\$1 145	\$1 388



Valve Specifications

Service	chilled or hot water, up to 60% glycol, 35 lbs. steam
Flow Characteristic	modified equal percentage
Controllable Flow Range	90° rotation, valve open CCW, valve closed CW
End Fitting	FNPT
Body	B584-C84400 bronze
Ball	316 stainless steel
Seat	MPTFE, RPTFE (B2050)
Stem	316 stainless steel
Bearing	PEEK/PTFE
Stem Packing	MPTFE
Body Seal	PTFE
Retainer	B16 brass
Gland	B16 brass
Jam Nut	stainless steel
Media Temperature Range (Water)	-22°F to +280°F [-30°C to +138°C]
Maximum Velocity	15 FPS
Leakage	ANSI Class VI







ACTUATOR PART #	AFB24-X1	AFBUP-X1	AFX24-MFT-X1	2*AFX24-MFT-X1
Control	On/Off	On/Off	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	<75 seconds	<75 seconds	150 seconds (variable)	150 seconds (variable)
Running Time (Fail-Safe)	20 seconds	20 seconds	<20 seconds	20 seconds
Electrical Connection	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector

2-Way

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
B224VS	43	1" [05]		600	\$1,173	\$1,253	\$1,462	
B225VS	68	1" [25]		200	\$1,401	\$1,481	\$1,615	
B232VS	48	1.25" [32]	600 psig	600	\$1,483	\$1,562	\$1,708	
B239VS	84	1 5" [40]	WOG	600				\$2,600
B240VS	177	1.5" [40]		600				\$2,618
B249VS	108	2" [50]		600				\$2,933

1½" and 2" use tandem mounted actuators

B3...L Series Ball Valves with Non Fail-Safe Actuators

3-way Valve, Nickel Plated Brass Body, NPT Female Ends



Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	modified linear
End Fitting	FNPT
Body	forged brass, nickel plated
Ball	chrome plated brass
Stem	nickel plated brass
Seat	Teflon PTFE
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0%









ACTUATOR PART #	LRB24-3	LRX24-MFT	NRX24-3	NRX24-MFT	ARB24-3	ARX24-MFT
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•	•
Running Time (Motor)	90 seconds	150 seconds (variable)	90 seconds	150 seconds (variable)	90 seconds	150 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA applicance rated cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA applicance rated cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector

3-Way Diverting

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]						
B315L	6.4	0.5" [15]		200	\$557	\$857				
B320L	12.8	0.75" [20]	600	200	\$588	\$888				
B325L	11	1" [25]		200	\$680	\$980				
B332L	34	1.25" [32]		200			\$886	\$1,174		
B340L	57	1.5" [40]	400	200					\$1,416	\$1,721
B350L	87	2" [50]		200					\$1,804	\$2,109

 ${\sf B3...L} \ {\sf Ball} \ {\sf Valves} \ {\sf are} \ {\sf not} \ {\sf for} \ {\sf steam} \ {\sf applications}.$

3-way Valve, Nickel Plated Brass Body, NPT Female Ends

VS, VSS BALL VALVES



Valve Specifications

Service	chilled , hot water, up to 60% glycol
Flow Characteristic	modified linear
End Fitting	FNPT
Body	forged brass, nickel plated
Ball	chrome plated brass
Stem	nickel plated brass
Seat	Teflon PTFE
Media Temperature Range (Water)	0°F to 250°F [-18°C to +120°C]
Max Differential Pressure (Water)	50 psi
Leakage	0%





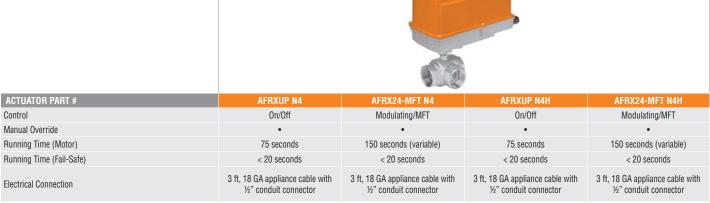


ACTUATOR PART #	LF24-3 US	LF24-MFT US	AFRBUP	AFRX24-MFT
Control	On/Off, Floating Point	Modulating/MFT	On/Off	Modulating/MFT
Manual Override			•	•
Running Time (Motor)	75 seconds	150 seconds (variable)	75 seconds	150 seconds (variable)
Running Time (Fail-Safe)	<25 seconds	<25 seconds	< 20 seconds	< 20 seconds
Electrical Connection	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector

3-Way Diverting

o way bivoit	iiiy							
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
B315L	6.4	0.5" [15]		200	\$755	\$968		
B320L	12.8	0.75" [20]	600	200	\$787	\$1,001		
B325L	11	1" [25]		200	\$876	\$1,090		
B332L	34	1.25" [32]		200			\$1,691	\$2,131
B340L	57	1.5" [40]	400	200			\$1,922	\$2,361
B350L	87	2" [50]		200			\$2,309	\$2,748

B3...L Ball Valves are not for steam applications.



_				_				
٦.	٠١٨	lav	1		IV	Ω	۲î	п
•		u		_	1 4	v		 9

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
B350L	87	2" [50]	400	200	\$2,682	\$3,204	\$2,309	\$2,748

B2...VS Series Ball Valves with NEMA 4X Non Fail-Safe Actuators

2-way Valve, Bronze Body, NPT Female Ends



Valve Specifications

Service	chilled or hot water, up to 60% glycol, 35 lbs. steam
Flow Characteristic	modified equal percentage
Controllable Flow Range	90° rotation, valve open CCW, valve closed CW
End Fitting	FNPT
Body	B584-C84400 bronze
Ball	316 stainless steel
Seat	MPTFE, RPTFE (B2050)
Stem	316 stainless steel
Bearing	PEEK/PTFE, RPTFE (B2050)
Stem Packing	MPTFE
Body Seal	PTFE
Retainer	B16 brass
Gland	B16 brass
Jam Nut	stainless steel
Media Temperature Range (Water)	-22°F to +280°F [-30°C to +138°C]
Maximum Velocity	15 FPS
Leakage	ANSI Class VI







ACTUATOR PART #	SY1-24, SY1-110, SY1-220	SY1-24P, SY1-110P, SY1-220P	PRBUP-3-T	PRXUP-MFT-T*
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	20, 11, 10 seconds	15, 16, 16 seconds	35 seconds (default), 30-120 field adjustable	35 seconds (default), 30-120 field adjustable
Electrical Connection	terminal block	terminal block	terminal block	terminal block

7-			а	
-	×	u	ш	y

~ vvuy								
Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
B2050VS-01	1	0.5" [15] - 0.75" [20] - 1" [25]	600 psig WOG	600	\$1,683	\$4,348		
B2050VS-02	2			600	\$1,683	\$4,348		
B2050VS-04	4			600	\$1,683	\$4,348		
B2050VS-15	15			600	\$1,683	\$4,348		
B219VS	30			600	\$1,865	\$4,530		
B220VS	51			600	\$1,890	\$4,555		
B224VS	43			600	\$1,924	\$4,582		
B225VS	68			600	\$1,943	\$4,609		
B232VS	48	1.25" [32]		600	\$2,110	\$4,775		
B239VS	84	1.5" [40]		600	\$2,185	\$4,850	\$3,218	\$4,618
B240VS	177		1.5 [40]		600			\$3,280
B249VS	108	2" [50]		600			\$3.415	\$4.815

^{*}Factory programmed running time 35, 60, 90, 120 seconds available with "X" model, e.g. PRXUP-MFT-T

2-way Valve, Stainless Steel Body, NPT Female Ends

Valve Specifications

Service	chilled or hot water, up to 60% glycol, 50 lbs. steam
Flow Characteristic	modified equal percentage
Controllable Flow Range	90° rotation, valve open CCW, valve closed CW
End Fitting	FNPT
Body	A351-CF8M 316 stainless steel
Ball	316 stainless steel
Seat	MPTFE, RPTFE (B2050)
Stem	316 stainless steel
Bearing	PEEK/PTFE, RPTFE (B2050)
Stem Packing	MPTFE
Body Seal	PTFE
Retainer	316 stainless steel
Gland	A276-316
Jam Nut	stainless steel
Media Temperature Range (Water)	-22°F to +298°F [-30°C to +148°C]
Maximum Velocity	15 FPS
Leakage	ANSI Class VI









ACTUATOR PART #	LMB24-3-X1	LMX24- MFT-X1	NMB24-3-X1	NMX24- MFT-X1	AMB24-3-X1	AMX24- MFT-X1	GMB24-3-X1	GMX24- MFT-X1
Control	On/Off, Floating Point	Modulating/ MFT	On/Off, Floating Point	Modulating/ MFT	On/Off, Floating Point	Modulating/ MFT	On/Off, Floating Point	Modulating/ MFT
Manual Override	•	•	•	•	•	•	•	•
Running Time (Motor)	90 seconds	150 seconds (variable)	90 seconds	150 seconds (variable)	90 seconds	150 seconds (variable)	150 seconds	150 seconds (variable)
Electrical Connection	3 ft, 18 GA appliance rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA appliance rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector				

2-	V	V	a	٧	
-			•	ú	

Model #	Cv	Size [mm]	Pressure	Close-Off Pressure								
		[Rating [psi]	[psi]								
B2050VSS-15	15	0.5" [15]	2000 psig WOG	1000	\$920	\$1,352						
B219VSS	30	0.75" [20]		1000			\$1,278	\$1,706				
B224VSS	43	1" [25]	1500 psig	1000					\$1,438	\$1,807		
B249VSS	108	2" [50]	WOG	1000							\$2,793	\$2,993

B2...VSS Series Ball Valves with Spring Return Actuators

2-way Valve, Stainless Steel Body, NPT Female Ends



Valve Specifications

Service	chilled or hot water, up to 60% glycol, 50 lbs. steam
Flow Characteristic	modified equal percentage
Controllable Flow Range	90° rotation, valve open CCW, valve closed CW
End Fitting	FNPT
Body	A351-CF8M 316 stainless steel
Ball	316 stainless steel
Seat	MPTFE, RPTFE (B2050)
Stem	316 stainless steel
Bearing	PEEK/PTFE, RPTFE (B2050)
Stem Packing	MPTFE
Body Seal	PTFE
Retainer	316 stainless steel
Gland	A276-316
Jam Nut	stainless steel
Media Temperature Range (Water)	-22°F to +298°F [-30°C to +148°C]
Maximum Velocity	15 FPS
Leakage	ANSI Class VI







ACTUATOR PART #	LF24 US	LF24-MFT US	NFB24-X1	NFX24-MFT-X1	AFB24-X1	AFX24-MFT-X1	2*AFX24- MFT-X1
Control	On/Off	Modulating/MFT	On/Off	Modulating/MFT	On/Off	Modulating/MFT	Modulating/MFT
Manual Override			•	•	•	•	•
Running Time (Motor)	75 seconds	150 seconds (variable)	<75 seconds	150 seconds (variable)	<75 seconds	150 seconds (variable)	150 seconds (variable)
Running Time (Fail-Safe)	<25 seconds	<25 seconds	20 seconds	< 20 seconds	20 seconds	<20 seconds	20 seconds
Electrical Connection	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	18 GA applicance rated cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	18 GA applicance rated cable with ½" conduit connector	18 GA applicance rated cable with ½" conduit connector

2-Way

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]							
B2050VSS-15	15	0.5" [15]	2000 psig WOG	1000	\$958	\$1,499					
B219VSS	30	0.75" [20]		1000			\$1,455	\$1,965			
B224VSS	43	1" [25]	1500 psig	1000					\$1,564	\$2,096	
B249VSS	108	2" [50]	WOG	1000							\$4,443

^{2*} Designates tandem actuators.

Valve Specifications

chilled or hot water, up to 60% glycol, 50 lbs. steam
modified equal percentage
90° rotation, valve open CCW, valve closed CW
FNPT
A351-CF8M 316 stainless steel
316 stainless steel
MPTFE, RPTFE (B2050)
316 stainless steel
PEEK/PTFE, RPTFE (B2050)
MPTFE
PTFE
316 stainless steel
A276-316
stainless steel
-22°F to +298°F [-30°C to +148°C]
15 FPS
ANSI Class VI





2-way Valve, Stainless Steel Body, NPT Female Ends

ACTUATOR PART #	SY1-24 SY1-110 SY1-220	SY1-24P SY1-110P SY1-220P	PRBUP-3-T	PRXUP-MFT-T*
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	20, 11, 10 seconds	15, 16, 16 seconds	35 seconds (default), 30-120 field adjustable	35 seconds (default), 30-120 field adjustable
Electrical Connection	terminal block	terminal block	terminal block	terminal block

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]				
B2050VSS-15	15	0.5" [15]	2000 psig WOG	1000	\$1,935	\$4,600		
B219VSS	30	0.75" [20]		1000	\$2,212	\$4,877		
B224VSS	43	1" [25]	1500 psig	1000	\$2,321	\$4,986		
R2/101/CS	108	2" [50]	WOG	1000			\$4.040	\$5.440

^{*}Factory programmed running time 35, 60, 90, 120 seconds available with "X" model, e.g. PRXUP-MFT-T





Unrivaled. Belimo Advanced Butterfly Valve

Belimo's resilient seat butterfly valve assembly is the most intelligent, energy efficient, and reliable high flow solution for HVAC applications. With a smartphone, easily program, commission, and troubleshoot the butterfly valve. NFC and BACnet communication provide the data access you need to ease installation and ensure optimal performance. Belimo offers the highest quality products that are backed by world-class service and support.

Now available with non fail-safe or fail-safe actuator.

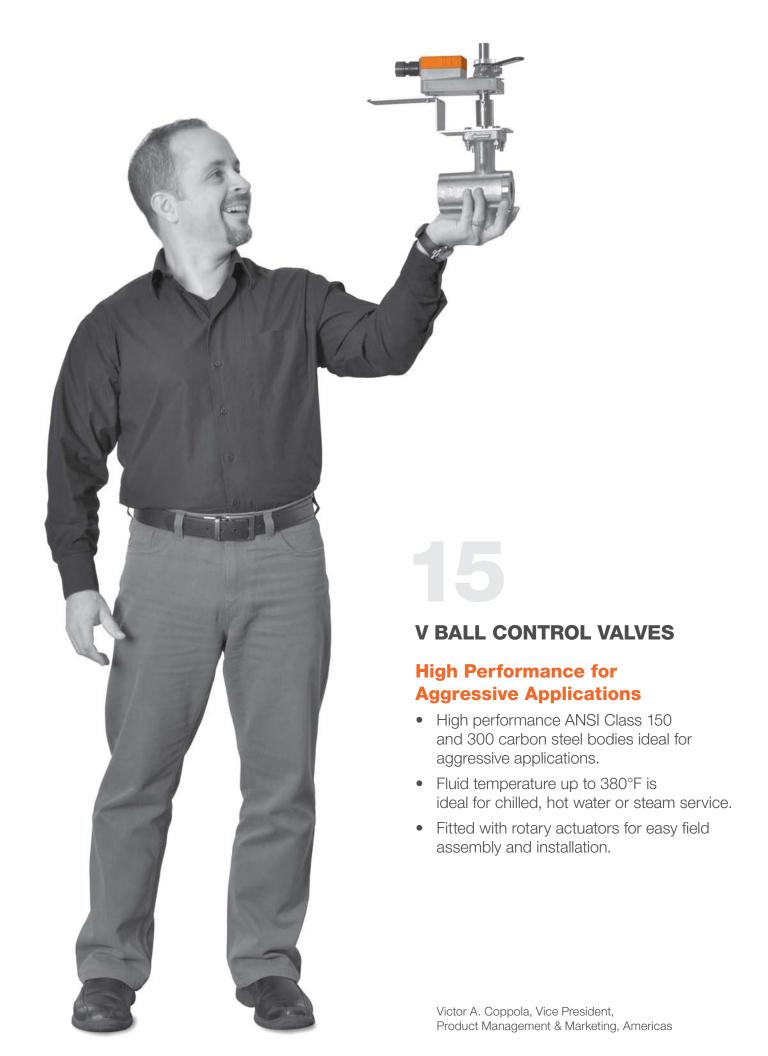
Discover all the advantages at **belimo.us**







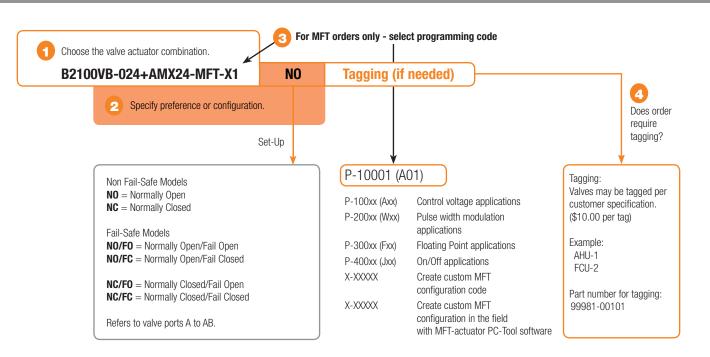




V Ball Control Valve Nomenclature

B2	100	VB	-024	+AMX	24	-MFT-X1	
Valve B2 = 2-way (1" to 2") B6 = 2-way Flanged (3" to 6")	Valve Size 12-50 = 1" to 2" 80-150 = 3" to 6" (Flanged)	Industrial Construction/ Material VB = Chrome plated stainless steel V ball	Cv 24 - 507	Actuator Type Non Fail-Safe AMB, AMX GMB, GMX SY PRB, PRX Fail-Safe Spring Return NFB, NFX AFB, AFX EFX Electronic GKB, GKX		Control -3-X1 = On/Off, Floating Point -MFT-X1 = Multi-Function Technology -MFT95-1X = 0-135 Ω	-S = Built-in Auxiliary Switch

Ordering Example



Complete Ordering Example: B2100VB-024+AMX24-MFT-X1

Configuration: +NO Programming: +A01

Control Valve Product Range

V Ball Control Valve Product Range

	Valve No	minal Size	Ту	pe	Suitable Actuators					3	
		DN	DN 2 NDT 2-way							Fail-	-Safe
Cv	Inches	[mm]	2-way NPT	Flanged	Non Fail-Safe			Spring Return		Electronic	
024	1	25	B2100VB-024								
055	1½	40	B2150VB-055								
077	2	50	B2200VB-077			AM S		Series		AF	
207	3	80		B6300VB-207				PR S		⋖	GK Series
350	4	100		B6400VB-350			GM		出		GK S
507	6	150		B6600VB-507							

NOTE: Industrial ball valves have serviceable components. Proper maintenance of these parts will ensure a longer in-service life for the valves. The seats of these valves will require replacement at an interval consistent with number of full cycles the valve has be operated, or as field condition dictates.



Mode of Operation

The control valve is operated by an electronic actuator that responds to a standard voltage for on/off control, by a modulating 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 changing the flow.

Product Features

Equal percentage of flow 300:1 rangeability ANSI Leakage Class IV

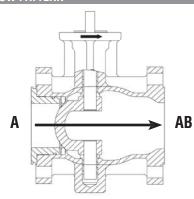
Actuator Specifications

Control type	on/off, floating point, modulating, 2-10 VDC multi-function technology (MFT)
Manual override	all models
Electrical connection	3 ft. [1 m] cable with ½" conduit fitting, terminal block

Valve Specifications	
Service	chilled or hot water, (60% glycol), steam
Flow characteristic	equal percentage
Sizes	1", 1½", 2", 3", 4", 6"
End fitting	SAE NPT female (1" to 2") ANSI flanged (3" to 6")
Materials	
Body	carbon steel
Characterizing ball	hardened chrome plated stainless steel
Stem	stainless steel
Seats	Teflon®
O-rings	ALFAS
Stem packing Bushings	spring loaded Teflon® V-ring Stanyl PA46
Media temp. range	380°F max.
Body pressure rating	NPT ANSI 300 (1" to 2") Flanged ANSI 150 (3" to 6")
Maximum ΔP steam	100 psi
Maximum ∆P water	100 psi
Close-off pressure	
Water	150 psi
Steam	200 psi
Maximum inlet pressure	000
Steam	200 psi
Leakage	ANSI Class VI



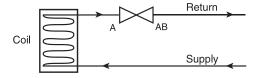
FLOW PATTERN



PIPING DIAGRAMS

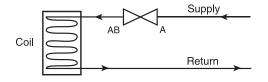
Water Application

2-way Valve Piping Diagram



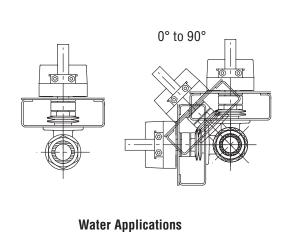
Steam Application

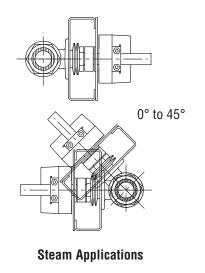
2-way Valve Piping Diagram



PIPING/MOUNTING ORIENTATION

Assembly can be mounted horizontally or vertically for water applications. For steam applications the valve cannot be mounted vertically and if mounted horizontally the valve must be 0° to 45° off center of the pipe. Do not install with actuator below pipe.







800-543-9038 USA



SET-UP - Specify Upon Ordering

2-WAY VALVE

NON FAIL-SAFE Stays in Last Position	AMB24-3-X1, GMB24-3-X1, Sy	Power to pin 2 will drive valve CW. Power to pin 3 will drive valve CCW. The above will fuction when the directional switch is in the "1" position to reverse, select the "0" position.					
NON F Stays in I	AMX24-MFT-X1, GMX24-MFT-X1, SyMFT	NC: Normally closed A to AB, valve will open as voltage increases	NO: Normally open A to AB, valve will close as voltage increases				
ETURN Position	AFB24-X1, AFBUP-X1, NFB24-X1	NO/FO: Normally open A to AB, valve will drive closed. Spring Action: Actuator will fail open A to AB upon power loss.	NC/FC: Normally closed A to AB, valve will drive open. Spring Action: Actuator will fail closed A to AB upon power loss.				
SPRING RETURN Note Fail Position	NFX24-MFT-X1, AFX24-MFT-X1, EFX24-MFT	NC/FO: Normally closed A to AB, valve will open as voltage increases. Actuator switch on CW. Spring Action: Will fail open upon power loss.	NC/FC: Normally closed A to AB, valve will open as voltage increases. Actuator switch on CW. Spring Action: Will fail closed upon power loss.				
ELECTRONIC FAIL-SAFE	GKB24-3-X1†	Power to pin 4 will drive valve CW. Power to pin 3 will drive valve CCW. The above will fuction when the directional switch is in the "Y2" position to reverse, select the "Y1" position.					
ELECTRO	GKX24-MFT-X1†	NC: Normally closed A to AB, will open as voltage increases when directional switch is in the "Y2"	NO: Normally open A to AB, will close as voltage increases when directional switch is in the "Y1" position.				

[†] The GK series Electronic Fail-Safe actuator will drive to a predetermined postion using the FO/FC dial on the actuator upon loss of power.

position.



BELIMO°

					LINE SIZE									
VALVE SIZE	Cv	ТҮРЕ	MODEL #	1" Fp Cv	1¼" Fp Cv	1½" Fp Cv	2" Fp Cv	2½" Fp Cv	3" Fp Cv	4" Fp Cv	5" Fp Cv	6" Fp Cv	8" Fp Cv	10" Fp Cv
1"	24	2-Way NPT	B2100VB-024	24.0	22.6	21.1	19.3	-	-	-	-	-	-	-
1½"	55	2-Way NPT	B2150VB-055	-	-	55.0	50.4	46.3	43.9	-	-	-	-	-
2"	77	2-Way NPT	B2200VB-077	-	-	-	77.0	74.1	70.5	66.2	-	-	-	-
3"	207	2-Way Flanged	B6300VB-027	-	-	-	-	-	207.0	191.3	177.2	168.9	-	-
4"	350	2-Way Flanged	B6400VB-350	-	-	-	-	-	-	350.0	333.0	313.2	290.3	-
6"	507	2-Way Flanged	B6600VB-507	-	-	-	-	-	-	-	-	507.0	491.5	475.5

2-way Valve with Stainless Steel Ball and Stem

BELIMO°

Valve Specifications

Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	NPT female (1" to 2"); ANSI flange (3" to 6")
Body	WCC grade carbon steel
Ball	stainless steel
Stem	stainless steel
Seat	Teflon®
Stem packing	spring loaded Teflon® V-ring
Media Temperature Range (Water)	-22°F to +380°F [-30°C to +193°C]
Media Temperature Range (Steam)	-22°F to +380°F [-30°C to +193°C]
Max Differential Pressure (Water)	150 psi
Max Differential Pressure (Steam)	100 psi
Max Inlet Pressure (Steam)	200 psi
Leakage	ANSI Class VI









ACTUATOR PART #	AMB24-3-X1	AMX24-MFT-X1	GMB24-3-X1	GMX24-MFT-X1	SY1-24, SY1-110, SY1-220	PRBUP-3-T	PRXUP-MFT-T*
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•	•	•
Running Time (Motor)	90 seconds	150 seconds (variable)	150 seconds	150 seconds (variable)	20, 11, 10 seconds	35 seconds (default), 30-120 field adjustable	135 seconds (default), 30-120 field adjustable
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	terminal block	terminal block	terminal block

2-Way

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]							
B2100VB-024	24	1" [25]	A ONAT (ANIOI	200	\$2,789	\$3,026			\$3,481	\$4,589	\$5,989
B2150VB-055	55	1.5" [40]	ASME/ANSI Class 300	200	\$3,286	\$3,523			\$3,975	\$5,142	\$6,542
B2200VB-077	77	2" [50]	01855 500	200	\$3,476	\$3,712			\$4,166	\$5,516	\$6,916
B6300VB-207	207	3" [80]	A CRAE (A NICI	200	\$5,461	\$5,699			\$6,158	\$7,415	\$8,815
B6400VB-350	350	4" [100]	ASME/ANSI Class 150	200			\$7,676	\$7,953		\$9,953	\$11,353
B6600VB-507	507	6" [150]		200						\$13,060	\$14,460

 $^{^{\}star} Factory\ programmed\ running\ time\ 35,\ 60,\ 90,\ 120\ seconds\ available\ with\ "X"\ model,\ e.g.\ PRXUP-MFT-T$



Valve Specifications

Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	equal percentage
Controllable Flow Range	75°
End Fitting	NPT female (1" to 2"); ANSI flange (3" to 6")
Body	WCC grade carbon steel
Ball	stainless steel
Stem	stainless steel
Seat	Teflon®
Stem packing	spring loaded Teflon® V-ring
Media Temperature Range (Water)	-22°F to +380°F [-30°C to +193°C]
Media Temperature Range (Steam)	-22°F to +380°F [-30°C to +193°C]
Max Differential Pressure (Water)	150 psi
Max Differential Pressure (Steam)	100 psi
Max Inlet Pressure (Steam)	200 psi
Leakage	ANSI Class VI

Visit www.belimo.us for additional Spring Return and Electronic Fail-Safe options.











ACTUATOR PART #	NFB24-X1	NFX24- MFT-X1	AFB24-X1	AFBUP-X1	AFX24- MFT-X1	GKB24-3-X1	GKX24- MFT-X1	2*EFX24-MFT
Control	On/Off	Modulating/ MFT	On/Off	On/Off	Modulating/ MFT	On/Off, Floating Point	Modulating/ MFT	Modulating/MFT
Manual Override	•	•	•	•	•	•	•	•
Running Time (Motor)	<75 seconds	150 seconds (variable)	<75 seconds	<75 seconds	150 seconds (variable)	90 seconds	150 seconds (variable)	150 seconds (variable)
Running Time (Fail-Safe)	<20 seconds	<20 seconds	<20 seconds	<20 seconds	<20 seconds	35 seconds	35 seconds	<20 seconds
Electrical Connection	3 ft, 18 GA appliance cable with ½" conduit connector	18 GA applicance rated cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	3 ft, 18 GA appliance cable with ½" conduit connector	18 GA applicance rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	18 GA plenum rated cable with ½" conduit connector	18 GA applicance rated cable with ½" conduit connector

_			
2.	٠W	Иa	W
_	v	A CI	y

Model #	Cv	Size [mm]	Body Pressure Rating [psi]	Close-Off Pressure [psi]								
B2100VB-024	24	1" [25]	A CNAT (ANICI	200	\$2,882	\$3,131						
B2150VB-055	55	1.5" [40]	ASME/ANSI Class 300	200	\$3,378	\$3,626						
B2200VB-077	77	2" [50]	Glass 500	200			\$3,703	\$3,775	\$3,934			
B6300VB-207	207	3" [80]	ASME/ANSI	200				\$6,418	\$6,732	\$7,083	\$7,576	
B6400VB-350	350	4" [100]	Class 150	200						\$8,381	\$8,873	\$9,130

^{2*} Denotes tandem actuators.



16

GLOBE VALVES

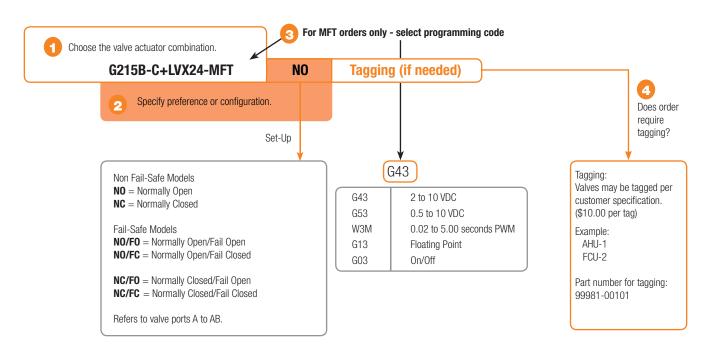
Greater Force and Flexibility

- For use with water and low to high pressure steam control, 15-100 psi inlet.
- ANSI 125 and ANSI 250 compatible with NPT and Flanged options.
- New soft seat design providing ANSI Class VI leakage rating.

Globe Valve Nomenclature

G2	15	В	-C	+LVX	24	-MFT
Valve Type G2 = 2-way NPT G3 = 3-way NPT G6 = 2-way Flanged G7 = 3-way Flanged	Valve Size NPT $15 = \frac{1}{2}$ " $20 = \frac{3}{4}$ " 25 = 1" $32 = \frac{1}{4}$ " $40 = \frac{1}{2}$ " 50 = 2" Flanged $65 = \frac{2}{2}$ " 80 = 3" 100 = 4" 125 = 5" 150 = 6"	Trim Material B = Bronze Trim S = Stainless Trim -250 = ANSI 250 Bronze Trim S-250 = ANSI 250 Stainless Trim C = Bronze Trim Pressure Compensated CS = Stainless Trim Pressure Compensated LCS = Linear Stainless Trim Pressure Compensated D = Diverting Bronze Trim DS = Diverting Stainless Trim	Refe	Actuator Type Non Fail-Safe LVB, LVX SVB, SVX EVB, EVX RVB, RVX Fail-Safe Spring Return LF NFB, NFX AFB, AFX Electronic GKB, GKX LVKB, LVKX SVKB, SVKX AVKB, AVKX models are customizable. r to page 16-6 for ramming options.	Power Supply 24 = 24 VAC/DC 120 = 120 VAC UP = 24-240 VAC or 24-125 VDC	Control Blank = On/Off -3 = On/Off, Floating Point -SR = 2-10 VDC -MFT or -MFT-X1 = Multi- Function Technology -MFT95-X1 = 0-135 Ω

Ordering Example



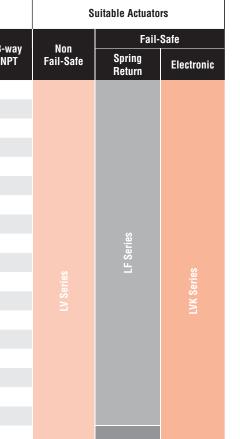
Complete Ordering Example: G215B-C+LVX24-MFT

Configuration: +N0Programming: +G43

Control Valve Product Range

Globe Valve Product Range

		lominal ze	Ту	pe	Suitable Actuators		rs
	Links	DN	2-way	3-way	Non	Fail-	Safe
Cv	Inches	[mm]	NPT	NPT	Fail-Safe	Spring Return	Electronic
0.4	1/2	15	G215B-C				
0.4	1/2	15	G215S-C				
1.3	1/2	15	G215B-F				
1.3	1/2	15	G215S-F				
2.2	1/2	15	G215B-G				
2.2	1/2	15	G215S-G				
4.4	1/2	15	G215B-J				
4.4	1/2	15	G215S-J				
5.5	3/4	20	G220B-J			LF Series	
5.5	3/4	20	G220S-J			LFS	
7.5	3/4	20	G220B-K		LV Series		Serie
7.5	3/4	20	G220S-K			L LVK Series	VK S
10	1	25	G225B-K				
10	1	25	G225S-K				
14	1	25	G225B-L				
14	1	25	G225S-L				
20	11/4	32	G232B-M				
20	11/4	32	G232S-M				
28	1½	40	G240B-N				
28	1½	40	G240S-N				
40	2	50	G250B-N				
40	2	50	G250S-N			ies	
2.2	1/2	15		G315B-G		NF Series	
4.4	1/2	15		G315B-J			
6.75	3/4	20		G320B-K	SV Series		ries
14	1	25		G325B-L			SVK Series
20	11/4	32		G332B-M	8		SV
28	1½	40		G340B-N		AF Series	
40	2	50		G350B-N		Sei	





Mode of Operation

The control valve is operated by an electronic actuator that responds to a standard voltage for on/off control, by a modulating 2-10 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 changing the flow.

Product Features

New G2 and G3 globe valves offer a modified equal percentage flow characteristic for a wide variety of HVAC applications. Capable of being used for heating, cooling, and steam service. Repack kits are available to extend the life of the valve without full replacement.

Actuator Specifications

Control type	on/off, floating point, 2-10 VDC, multi-function technology (MFT)
Manual override	all models except LF
Electrical connection	3 ft [1 m] cable with ½" conduit fitting

Valve Specifications

Service	chilled or hot water, 60% glycol, steam
Flow characteristic	modified equal percentage G3: linear flow from B to AB
Sizes	½", ¾", 1", 1¼", 1½", 2"
End fitting	NPT female
Materials	
Body	bronze
Stem	stainless steel
Plug	G2B, G3B: brass
	G2S: stainless steel
Seat	G2B, G3B: bronze
	G2S: stainless steel
Stem packing	EPDM 0-ring
Media temp. range	G2B, G3B: 20°F to 280°F
	[-7°C to +138°C]
	G2S: 20°F to 338°F [-7°C to +170°C]
Body pressure rating	ANSI Class 250
Maximum inlet pressure	
Steam	G2B: 35 psi [241 kPa]
	G2S: 100 psi [690 kPa]
Maximum differential	
pressure (∆P)	35 psi [241 kPa]*
Leakage	ANSI Class VI
Rangeability	100:1

*Differential pressures above 35 psi may result in additional noise but is acceptable up to 87 psi [600 kPa]. Operating within the cavitation zone may result in internal valve damage.

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Control Valve Product Range

Globe Valve Product Range

	Valve Nom	inal Size	Туре	S	uitable Actuato	rs
		DN		Non Fail Safa	Fail-	-Safe
C _V	Inches	[mm]	2-way Flanged	Fail-Safe	Spring Return	Electronic
65	2½	65	G665C			
65	2½	65	G665CS			
65	2½	65	G665C-250			
65	2½	65	G665CS-250			
65	2½	65	G665LCS			
85	3	80	G680C			
85	3	80	G680CS			
85	3	80	G680C-250			
85	3	80	G680CS-250			
85	3	80	G680LCS			
170	4	100	G6100C			
170	4	100	G6100CS	8	ies	
170	4	100	G6100C-250	EV Series	AFX Series	
170	4	100	G6100CS-250	N N	AF)	
170	4	100	G6100LCS			
263	5	125	G6125C			
263	5	125	G6125CS			
263	5	125	G6125C-250			
263	5	125	G6125CS-250			
263	5	125	G6125LCS			
344	6	150	G6150C			
344	6	150	G6150CS			
344	6	150	G6150C-250			
344	6	150	G6150CS-250			
344	6	150	G6150LCS			

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



Mode of Operation

The control valve is operated by an electronic actuator that responds to a standard voltage for on/off control, a modulating 2-10 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 changing the flow.

Product Features

Equal percentage (G6) and linear (G7) flow curve options available for a wide variety of HVAC applications. Capable of being used for heating, cooling, and steam service. Repack and rebuild kits are available to extend the life of the valve without full replacement.

Actuator Specifications

Control type	on/off, floating point, 2-10 VDC multi-function technology (MFT)
Manual override	all models
Electrical connection	3 ft [1 m] 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", 3", 4", 5", 6"
End fitting	ANSI flanged
Materials	
Body	cast iron
Stem	stainless steel
Plug	bronze
Seat	
G6	stainless steel
G6S	stainless steel
Stem packing	
G6	bronze trimmed: NLP (EPDM)
G6S	stainless trimmed: NLP (EPDM)
Media temp. range	
	refer to valve specification pages in this section
Body pressure rating	
G6, 125# ANSI flange	125 psi
G6, 250# ANSI flange	250 psi
Maximum inlet pressure	
Water	150 psi [1034 kPa] G6C, G6CS
	250 psi [1724 kPa] G6C250,
	G6CS250
Steam	35 psi [241 kPa] G6C, G6C250
	100 psi [690 kPa] G6CS, G6CS250
Maximum differential	
pressure (ΔP)	
Water	25 psi [172 kPa] G6C, G6C250
	50 psi [345 kPa] G6CS, G6CS250
Steam	15 psi [103 kPa] G6C, G6C250
Rangeability	85:1 (G665), 91:1 (G680)
	98:1 (G6100), 100:1 (G6125)
	98:1 (G6150)

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Control Valve Product Range

Globe Valve Product Range

	Valve No	minal Size			Suitable Actuators	
C _V	Inches	DN [mm]	3-Way Flanged	Non Fail-Safe		afe
υγ	IIIGIIGS	Did [illini]	o-way i langeu	Fail-Safe	Spring Return	Electronic
68	2½	65	G765			
68	2½	65	G765S			
68	2½	65	G765-250			Š
68	2½	65	G765S-250			AVK Series
85	3	80	G780	ies	ွှ	N X
85	3	80	G780S	/ Ser	Serie	7
85	3	80	G780-250	EV / RV Series	AFX Series	
85	3	80	G780S-250	N.	4	
190	4	100	G7100			
190	4	100	G7100S			
190	4	100	G7100-250			
190	4	100	G7100S-250			
280	5	125	G7125			
280	5	125	G7125S			
280	5	125	G7125-250			
280	5	125	G7125S-250	RV Series		
340	6	150	G7150			
340	6	150	G7150S			
340	6	150	G7150-250			
340	6	150	G7150S-250			
68	2½	65	G765D			
68	2½	65	G765DS			
68	2½	65	G765DS-250			
85	3	80	G780D			ø
85	3	80	G780DS			AVK Series
85	3	80	G780DS-250			VK S
154	4	100	G7100D	es	ies	⋖
154	4	100	G7100DS	EV Seri	AFX Ser	
154	4	100	G7100DS-250	E	AF	
195	5	125	G7125D			
195	5	125	G7125DS			
195	5	125	G7125DS-250			
248	6	150	G7150D			
248	6	150	G7150DS			
248	6	150	G7150DS-250			



Mode of Operation

The control valve is operated by an electronic actuator that responds to a standard voltage for on/off control, a modulating 2-10 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 changing the flow

Product Features

Equal percentage (G6) and linear (G7) flow curve options available for a wide variety of HVAC applications. Capable of being used for heating, cooling, and steam service. Repack and rebuild kits are available to extend the life of the valve without full replacement.

Actuator Specifications

Control type	on/off, floating point, 2-10 VDC multi-function technology (MFT)
Manual override	all models
Electrical connection	3 ft [1 m] cable with ½" conduit fitting

Valve Specifications

Valve Specifications	
Service	chilled or hot water, 60% glycol
Flow characteristic	linear
Sizes	2½", 3", 4", 5", 6"
End fitting	ANSI flanged
Materials	
Body	cast iron
Stem	stainless steel
Plug	bronze
Seat	
G7	stainless steel
G7S	stainless steel
Stem packing	
G7	bronze trimmed: NLP (EPDM)
G7S	stainless trimmed: NLP (EPDM)
Media temp. range	Refer to valve specification
, ,	pages in this section
Body pressure rating	
G7, 125# ANSI flange	125 psi
G7, 250# ANSI flange	250 psi
Maximum inlet pressure	
Water	150 psi [1034 kPa] G7, G7S
	250 psi [1724 kPa] G7250,
	G7S250
Maximum differential	
pressure (ΔP)	
Water	25 psi [172 kPa] G7, G7250
	50 psi [345 kPa] G7S,G7S250
Rangeability	50:1



FLOW PATTERN AND VALVE ASSEMBLY SET-UP - Specify Upon Ordering

All valves shown stem down

2-WAY VALVE (STEM UP OPEN A TO AB)



G2 2-way Valve

				,	
NON FAIL- SAFE	LV Series	NC: Normally closed A to AB, valve will open upon increase in min. signal/power.	NO: Normally open A to AB, valve will close upon increase in min. signal/ power.		
AFE RN	LVK Series	NC/F0: Normally closed A to AB with power and min. signal applied. When loss of power will fail open A to AB. If desired both normal position and fail position can be reversed in field with direction switch.	NO/FO: Normally open A to AB with power and min. signal applied. When loss of power will fail open A to AB. If desired both normal position and fail position can be reversed in field with direction switch.	NC/FC: Normally closed A to AB with power and min. signal applied. When loss of power will fail closed A to AB. If desired both normal position and fail position can be reversed in field with direction switch.	NO/FC: Normally open A to AB with power and min. signal applied. When loss of power will fail closed A to AB. If desired both normal position and fail position can be reversed in field with direction switch.
ELECTRONIC FAIL-SAFE AND SPRING RETURN	LVK, LF, NF Series (on/off)	NC/FC: Normally closed A to AB, valve will drive open with power. Fall Action: Will fail closed A to AB upon power loss. Can be reversed with direction switch or actuator remounting.	NO/FO: Normally open A to AB, valve will drive open with power. Fail Action: Will fail open A to AB upon power loss. Can be reversed with direction switch or actuator remounting.		
ELECTF AND S	LF, NF, Series	NC/F0: Normally closed A to AB with power and min. signal applied. When loss of power will fail open A to AB. If desired both normal position and fail position can be reversed in field with direction switch and actuator remounting.	NO/FO: Normally open A to AB with power and min. signal applied. When loss of power will fail open A to AB. If desired both normal position and fail position can be reversed in field with direction switch and actuator remounting.	NC/FC: Normally closed A to AB with power and min. signal applied. When loss of power will fail closed A to AB. If desired both normal position and fail position can be reversed in field with direction switch and actuator remounting.	NO/FC: Normally open A to AB with power and min. signal applied. When loss of power will fail closed A to AB. If desired both normal position and fail position can be reversed in field with direction switch and actuator remounting.

3-WAY MIXING VALVE (STEM UP OPEN B TO AB)



G3 3-way Mixing Valve

NON FAIL- SAFE	SV Series	NC: Normally closed A to AB, valve will open upon increase in min. signal/power.	NO: Normally open A to AB, valve will close upon increase in min. signal/ power.		
AFE IRN	SVK Series	NC/FO: Normally closed A to AB with power and min. signal applied. When loss of power will fail open A to AB. If desired both normal position and fail position can be reversed in field with direction switch.	NO/FO: Normally open A to AB with power and min. signal applied. When loss of power will fail open A to AB. If desired both normal position and fail position can be reversed in field with direction switch.	NC/FC: Normally closed A to AB with power and min. signal applied. When loss of power will fail closed A to AB. If desired both normal position and fail position can be reversed in field with direction switch.	NO/FC: Normally open A to AB with power and min. signal applied. When loss of power will fail closed A to AB. If desired both normal position and fail position can be reversed in field with direction switch.
ELECTRONIC FAIL-SAFE And Spring Return	SVK, NF, AF Series (on/off)	NC/FC: Normally closed A to AB, valve will drive open with power. Fail Action: Will fail closed A to AB upon power loss. Can be reversed with direction switch or actuator remounting.	NO/FO: Normally open A to AB, valve will drive open with power. Fail Action: Will fail open A to AB upon power loss. Can be reversed with direction switch or actuator remounting.		
ELECT AND (NF, AF Series	NC/FO: Normally closed A to AB with power and min. signal applied. When loss of power will fail open A to AB. If desired both normal position and fail position can be reversed in field with direction switch and actuator remounting.	NO/FO: Normally open A to AB with power and min. signal applied. When loss of power will fail open A to AB. If desired both normal position and fail position can be reversed in field with direction switch and actuator remounting.	NC/FC: Normally closed A to AB with power and min. signal applied. When loss of power will fail closed A to AB. If desired both normal position and fail position can be reversed in field with direction switch and actuator remounting.	NO/FC: Normally open A to AB with power and min. signal applied. When loss of power will fail closed A to AB. If desired both normal position and fail position can be reversed in field with direction switch and actuator remounting.

3-WAY DIVERTING VALVE (STEM UP OPEN AB TO B)



G3 3-way Diverting Valve

NON FAIL- SAFE		will open upon increase in min. signal/power.	will close upon increase in min. signal/ power.		
AFE IRN	SVK Series	NC/FO: Normally closed B to AB with power and min. signal applied. When loss of power will fail open B to AB. If desired both normal position and fail position can be reversed in field with direction switch.	NO/FO: Normally open B to AB with power and min. signal applied. When loss of power will fail open B to AB. If desired both normal position and fail position can be reversed in field with direction switch.	NC/FC: Normally closed B to AB with power and min. signal applied. When loss of power will fail closed B to AB. If desired both normal position and fail position can be reversed in field with direction switch.	NO/FC: Normally open B to AB with power and min. signal applied. When loss of power will fail closed B to AB. If desired both normal position and fail position can be reversed in field with direction switch.
ELECTRONIC FAIL-SAFE AND SPRING RETURN	SVK, NF, AF Series (on/off)	NC/FC: Normally closed B to AB, valve will drive open with power. Fail Action: Will fail closed B to AB upon power loss. Can be reversed with direction switch or actuator remounting.	NO/FO: Normally open B to AB, valve will drive open with power. Fail Action: Will fail open B to AB upon power loss. Can be reversed with direction switch or actuator remounting.		
	NF, AF Series	NC/FO: Normally closed B to AB with power and min. Signal applied. When loss of power will fail open B to AB. If desired both normal position and fail position can be reversed in field with direction switch and actuator remounting.	NO/FO: Normally open B to AB with power and min. signal applied. When loss of power will fail open B to AB. If desired both normal position and fail position can be reversed in field with direction switch and actuator remounting.	NC/FC: Normally closed B to AB with power and min. signal applied. When loss of power will fail closed B to AB. If desired both normal position and fail position can be reversed in field with direction switch and actuator remounting.	NO/FC: Normally open B to AB with power and min. signal applied. When loss of power will fail closed B to AB. If desired both normal position and fail position can be reversed in field with direction switch and actuator remounting.

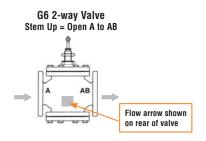
NO: Normally open B to AB, valve

SV Series

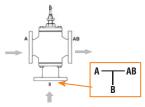
NC: Normally closed B to AB, valve



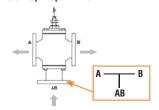
FLOW PATTERN - Flow Pattern is Marked on Valve



G7 3-way Mixing Valve Stem Up = Open B to AB



G7...D 3-way Diverting Valve Stem Up = Open AB to B



VALVE ASSEMBLY SET-UP - Specify Upon Ordering

2-WAY VALVE

	_					
NON Fail-Safe	EV, RV Series	NC: Normally closed A to AB, valve will open upon increase in signal/power. Note: To change valve to A to AB open, reverse the directional switch in actuator.	NO: Normally open A to AB, valve will close upon increase in signal/power. Note: To change valve to A to AB closed, reverse the directional switch in actuator.			
N. N.	AFB, AFX Series On/Off	NO/FO: Normally open A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.	NC/FC: Normally closed A to AB valve will drive open. Spring Action: Will fail closed A to AB upon power loss.			
SPRING RETURN	AFB, AFX MFT Series	NC/FO: Normally closed A to AB, valve will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Spring Action: Will fail open A to	NO/FC or NC/FC: Normally Open/Normally Closed: valve can be open or closed, will drive closed or open A to AB (can be chosen with CW/CCW switch). Spring Action: Closed A to AB upon power loss.			
		AB upon power loss.	NO/FO: Normally open A to AB. Spring Action: Will fail open A to AB upon power loss. (NO or NC action can be chosen with CW/CCW switch).			
ELECTRONIC Fail-Safe	AVK, GK Series	NC/FO: Normally closed A to AB, valve will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch.Fail Position: Will default fail A to	NO/FC or NC/FC: Valve: Can be open or closed, will drive closed or open A to AB (can be chosen with CW/CCW switch). Fail Position: Will default fail A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.			
ELECT		AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.	NO/FO: Normally open A to AB. Fail Position: Will default fail A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.			

3-WAY MIXING VALVE

NON FAIL-SAI	EV, RV Series	NC: Normally closed A to AB, will open upon increase in signal/power. Note: To change valve to A to AB open, reverse the directional switch in actuator.	NO: Normally open A to AB, will close upon increase in signal/power. Note: To change valve to A to AB closed, reverse the directional switch in actuator.			
IRN	AFB, AFX Series On/Off	NO/FO Normally open A to AB, valve will drive closed. Spring Action: Will fail open A to AB upon power loss.	NC/FC Normally closed A to AB, valve will drive open. Spring Action: Will fail closed A to AB upon power loss.			
SPRING RETURN	AFB, AFX MFT	NC/FO Normally closed A to AB, valve will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Spring Action: Will fail open A to AB	NO/FC or NC/FC Normally Open/Normally Closed: valve be open or closed, will drive closed or open A to AB (can be chosen with CW/CCW switch). Spring Action: Closed A to AB upon power loss.			
	Series	upon power loss.	NO/FO Normally open A to AB. Spring Action: Will fail open A to AB upon power loss. (NO or NC action can be chosen with CW/CCW switch).			
ELECTRONIC Fail-Safe	AVK, GK Series	NC/FO Normally closed A to AB, valve will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Fail Position: Will default fail A to AB	NO/FC or NC/FC Valve: Can be open or closed, will drive closed or open A to AB (can be chosen with CW/CCW switch). Fail Position: Will default fail A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.			
FAIL		open, from the factory. Fail position can be set from 0%-100%, in 10% increments.	NO/FO Normally open A to AB. Fail Position: Will default fail A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.			

3-WAY DIVERTING VALVE

NON EV, RV Series		NC: Normally closed AB to B, will open upon increase in signal/power. Note: To change valve to AB to B open, reverse the directional switch in actuator.	NO: Normally open AB to B, will close upon increase in signal/power. Note: To change valve to AB to B closed, reverse the directional switch in actuator.			
IBN	AFB, AFX Series On/Off	NO/FO Normally open AB to B, valve will drive closed. Spring Action: Will fail open AB to B upon power loss.	NC/FC Normally closed AB to B, valve will drive open. Spring Action: Will fail closed AB to B upon power loss.			
SPRING RETURN	AFB, AFX MFT	NC/FO Normally closed AB to B, valve will open upon increase in signal. Note: To change valve to AB to B open, reverse CW/CCW switch. Spring Action: Will fail open AB to B	NO/FC or NC/FC Normally Open/Normally Closed: valve be open or closed, will drive closed or open AB to B (can be chosen with CW/CCW switch). Spring Action: Closed AB to B upon power loss.			
SPR	Series	upon power loss.	NO/FO Normally open AB to B. Spring Action: Will fail open AB to B upon power loss. (NO or NC action can be chosen with CW/CCW switch).			
ELECTRONIC Fail-Safe	AVK, GK Series	NC/FO Normally closed AB to B, valve will open upon increase in signal. Note: To change valve to AB to B open, reverse CW/CCW switch. Fail Position: Will default fail AB to B	NO/FC or NC/FC Valve: Can be open or closed, will drive closed or open AB to B (can be chosen with CW/CCW switch). Fail Position: Will default fail AB to B open, from the factory. Fail position can be set from 0%-100%, in 10% increments.			
ELEC		open, from the factory. Fail position can be set from 0%-100%, in 10% increments.	NO/FO Normally open AB to B. Fail Position: Will default fail AB to B open, from the factory. Fail position can be set from 0%-100%, in 10% increments.			

800-543-9038 USA

866-805-7089 CANADA



			CONTROL						
ACTUATOR TYPE		PE CONFIGURATION P-CODE DESCRIPTION		CONTROL INPUT	FEEDBACK POSITION	RUNNING TIME	List Price		
	-3 and -SR	N/A	0	2-10 VDC (for -3)	2-10 VDC (for -3)	150 seconds	No Charge		
		N/A	2	2-10 VDC (for -SR)	2-10 VDC (for -SR)	90 seconds	No Charge		
	-MFT and -PC	P-10001	A01	2-10 VDC	2-10 VDC	150 seconds	\$35*		
-		P-10002	A02	0.5-10 VDC	0-10 VDC	150 seconds	\$35		
		P-10003	A03	2-10 VDC	0-5.0 VDC	150 seconds	No Charge		
		P-10004	A04	4-7 VDC	2-10 VDC	150 seconds	\$35		
		P-10005	A05	6-9 VDC	2-10 VDC	150 seconds	\$35		
		P-10006	A06	10.5 -13.5 VDC	2-10 VDC	150 seconds	\$35		
		P-10007	A07	0.5-5 VDC	2-10 VDC	150 seconds	\$35		
		P-10009	A09	5-10 VDC	2-10 VDC	150 seconds	\$35		
		P-10010	A10	5-10 VDC	0-10 VDC	150 seconds	\$35		
		P-10013	A13	0.5-10 VDC	2-10 VDC	150 seconds	\$35		
		P-10015	A15	2-5 VDC	2-10 VDC	150 seconds	\$35		
		P-10016	A16	2-6 VDC	2-10 VDC	150 seconds	\$35		
8		P-10017	A17	6-10 VDC	2-10 VDC	150 seconds	\$35		
ΑĬ		P-10018	A18	14-17 VDC	2-10 VDC	150 seconds	\$35		
Ĕ		P-10019	A19	2-10 VDC	2-10 VDC	100 seconds	No Charge		
AC		P-10019	A20	9-12 VDC	2-10 VDC	150 seconds	\$35		
Æ	-	P-10028	A28	0.5-10 VDC	0.5-10 VDC	100 seconds	No Charge		
ROTARY ACTUATOR		P-10028	A31	0.5- 4 VDC	2-10 VDC	150 seconds	\$35		
<u>~</u>	-								
	-	P-10063	A63	0.5-4.5 VDC	0.5- 4.5 VDC	150 seconds	No Charge		
	-	P-10032	A32	6-14 VDC	2-10 VDC	150 seconds	\$35		
		P-10064	A64	5.5-10 VDC	5.5-10.0 VDC	150 seconds	No Charge		
		N/A	AAT	2-10 VDC	2-10 VDC	20 seconds	No Charge		
		P-20001	W01	0.59-2.93 seconds	2-10 VDC	150 seconds	\$35		
		P-20002	W02	0.02 to 5.00 seconds	2-10 VDC	150 seconds	No Charge		
		P-20003	W03	0.10 to 25.50 seconds	2-10 VDC	150 seconds	No Charge		
		P-20004	W04	0.10 to 25.60 seconds	2-10 VDC	150 seconds	\$35		
		P-20005	W05	0.10 to 5.20 seconds	0-5.0 VDC	150 seconds	\$35		
		P-30001	F01	Floating Point	2-10 VDC	150 seconds	No Charge		
		P-30002	F02	Floating Point	0-10 VDC	150 seconds	\$35		
		P-40002	J02	On/Off	2-10 VDC	150 seconds	No Charge		
		N/A	S01 (for -PC only)	Phasecut	2-10 VDC	150 seconds	No Charge		
		P-16001	R01 (for -MFT95 only)	0 to 135 Ω	2-10 VDC	150 seconds	No Charge		
	-3 and -MFT	G	01	On/Off	2-10 VDC MFT only	35 seconds	No Charge		
		G02		On/Off	2-10 VDC MFT only	60 seconds	No Charge		
		G03		On/Off	2-10 VDC MFT only	90 seconds	No Charge		
		G04		On/Off	2-10 VDC MFT only	150 seconds	No Charge		
	l i	G11		Floating Point	2-10 VDC MFT only	35 seconds	No Charge		
		G12 G13		Floating Point	2-10 VDC MFT only	60 seconds	No Charge		
				Floating Point	2-10 VDC MFT only	90 seconds	No Charge		
			14	Floating Point	2-10 VDC MFT only	150 seconds	No Charge		
	OD I MET		1 for -SR)	2-10 VDC	2-10 VDC	35 seconds	No Charge		
OR	-SR and -MFT		2 for -SR)	2-10 VDC	2-10 VDC	60 seconds	No Charge		
JA			3 for -SR)	2-10 VDC	2-10 VDC	90 seconds	No Charge		
E			4 for -SR)	2-10 VDC	2-10 VDC	150 seconds	No Charge		
R A			51		0.5-10 VDC	35 seconds	No Charge		
LINEAR ACTUATOR	-MFT		52	0.5-10 VDC 0.5-10 VDC	0.5-10 VDC	60 seconds	No Charge		
É									
	-		53	0.5-10 VDC	0.5-10 VDC	90 seconds	No Charge		
	-		54	0.5-10 VDC	0.5-10 VDC	150 seconds	No Charge		
			2A	5.5-10 VDC	5.5-10 VDC	150 seconds	No Charge		
			2B	0.5-4.5 VDC	0.5-4.5 VDC	150 seconds	No Charge		
			2C	2-10 VDC	0.5-5 VDC	150 seconds	No Charge		
			2D	6-9 VDC	2-10 VDC	150 seconds	No Charge		
			2E	10.5-13.5 VDC	2-10 VDC	150 seconds	No Charge		
			M**	0.02-5.00 seconds PWM	2-10 VDC	90 seconds	No Charge		
		WO	P**	0.2-5.00 seconds PWM	2-10 VDC	90 seconds	No Charge		

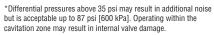
^{*}P-10001 is the default configuration for MFT.
**Not available on RV models.



2-way and 3-way Valves with Bronze Trim, NPT Female Ends

Valve Specifications

Service	G2: chilled or hot water, 60% glycol, steam G3: chilled or hot water, 60% glycol
Flow Characteristic	modified equal percentage, G3B linear flow from B to AB
Action	G2B: stem up - open A to AB G3B (mixing): stem up - open B to AB G3B (diverting): stem up - open AB to B
End Fitting	NPT female
Body	bronze
Seat	bronze
Stem	stainless steel
Stem Packing	EPDM 0-ring
Plug	brass
Media Temperature	20°F to 280°F [-7°C to +138°C]
Max Diff Pressure (ΔP)	35 psi [241 kPa]*
Max Inlet Pressure (Steam)	35 psi [241 kPa]
Leakage	ANSI Class VI











ACTUATOR PART #	LVB24-3	LVB24-SR	LVX24-MFT	SVB24-3	SVB24-SR	SVX24-MFT
Control	On/Off, Floating Point	Modulating	Modulating/MFT	On/Off, Floating Point	Modulating	Modulating/MFT
Manual Override	•	•	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds (variable)	90 seconds	90 seconds	90 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

_		
7.		w
_	a n	· y

Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]								
G215B-C	0.4			250	\$838	\$932	\$990					
G215B-F	1.3	0 5" [45]		250	\$841	\$935	\$993					
G215B-G	2.2	0.5" [15]		250	\$844	\$938	\$996					
G215B-J	4.4		_	250	\$847	\$941	\$999					
G220B-J	5.5	0.75" [00]		250	\$855	\$949	\$1,007					
G220B-K	7.5	0.75" [20]	ANSI 250	250	\$861	\$955	\$1,013					
G225B-K	10	1" [25]	1" [25]	1" [25]	1" [25]		250	\$936	\$1,030	\$1,088		
G225B-L	14						250	\$945	\$1,039	\$1,097		
G232B-M	20	1.25" [32]		250	\$1,023	\$1,117	\$1,175					
G240B-N	28	1.5" [40]		250	\$1,177	\$1,271	\$1,329					
G250B-N	40	2" [50]		250	\$1,337	\$1,431	\$1,489					

2 1110	

o-way										
Model #	Cv	Size [mm]	Body Pressure		se-Off ure [psi]					
		[]	Rating	Mixing	Diverting					
315B-G	2.2	0.5" [15]		250	250			\$914	\$1,009	
315B-J	4.4	0.5" [15]		250	250			\$918	\$1,013	
320B-K	6.75	0.75" [20]		250	182			\$922	\$1,017	
325B-L	14	1" [25]	ANSI 250	250	109			\$994	\$1,089	
G332B-M	20	1.25" [32]		246	82			\$1,090	\$1,185	
G340B-N	28	1.5" [40]		137	46			\$1,449	\$1,544	
G350B-N	41	2" [50]		86	29			\$1,604	\$1,699	

G2...B/G3...B Series Globe Valves with Electronic Fail-Safe Actuators

2-way and 3-way Valves with Bronze Trim, NPT Female Ends



Valve Specifications

Service	G2: chilled or hot water, 60% glycol, steam G3: chilled or hot water, 60% glycol
Flow Characteristic	modified equal percentage G3B: linear flow from B to AB
Action	G2B: stem up - open A to AB G3B: (mixing): stem up - open B to AE G3B: (diverting): stem up - open AB to B
End Fitting	NPT female
Body	bronze
Seat	bronze
Stem	stainless steel
Stem Packing	EPDM O-ring
Plug	brass
Media Temperature	20°F to 280°F [-7°C to +138°C]
Max Diff Pressure (ΔP)	35 psi [241 kPa]*
Max Inlet Pressure (Steam)	35 psi [241 kPa]
Leakage	ANSI Class VI







*Differential pressures above 35 psi may result in additional noise but is acceptable up to 87 psi [600 kPa]. Operating within the cavitation zone may result in internal valve damage.

ACTUATOR PART #	LVKB24-3	LVKB24-SR	LVKB24-MFT	SVK24-3	SVKB24-SR	SVKB24-MFT
Control	On/Off, Floating Point	Modulating	Modulating/MFT	On/Off, Floating Point	Modulating	Modulating/MFT
Manual Override	•	•	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds (variable)	90 seconds	90 seconds	90 seconds (variable)
Running Time (Fail-Safe)	35 seconds					
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

/-	ıαı	
-	 u	y

Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]					
G215B-C	0.4			250	\$1,001	\$1,084	\$1,142		
G215B-F	1.3	0 5" [45]		250	\$1,004	\$1,087	\$1,145		
G215B-G	2.2	0.5" [15]		250	\$1,007	\$1,090	\$1,148		
G215B-J	4.4			250	\$1,010	\$1,093	\$1,151		
G220B-J	5.5	0.75" [20]		250	\$1,067	\$1,150	\$1,208		
G220B-K	7.5	0.75 [20]	ANSI 250	250	\$1,074	\$1,157	\$1,215		
G225B-K	10	1" [25]		250	\$1,185	\$1,268	\$1,326		
G225B-L	14	1 [23]		250	\$1,193	\$1,276	\$1,334		
G232B-M	20	1.25" [32]		250	\$1,316	\$1,399	\$1,457		
G240B-N	28	1.5" [40]		250	\$1,400	\$1,483	\$1,541		
G250B-N	40	2" [50]		250	\$1,645	\$1,728	\$1,786		

o-way									
Model #	Cv	Size [mm]	Body Pressure		se-Off ure [psi]				
			Rating	Mixing	Diverting				
G315B-G	2.2	0 5" [45]		250	250		\$1,071	\$1,153	
G315B-J	4.4	0.5" [15]		250	250		\$1,075	\$1,157	
G320B-K	6.75	0.75" [20]		250	182		\$1,127	\$1,209	
G325B-L	14	1" [25]	ANSI 250	250	109		\$1,258	\$1,340	
G332B-M	20	1.25" [32]		246	82		\$1,475	\$1,557	
G340B-N	28	1.5" [40]		137	46		\$1,712	\$1,794	
G350B-N	41	2" [50]		86	29		\$1,974	\$2,056	



2-way Valve with Stainless Steel Trim, NPT Female Ends

BELIMO

Valve Specifications

Service	chilled, hot water, 60% glycol, steam
Flow Characteristic	modified equal percentage
Action	stem up - open A to AB
End Fitting	NPT female
Body	bronze
Seat	stainless steel
Stem	stainless steel
Stem Packing	EPDM O-ring
Plug	stainless steel
Media Temperature	20°F to 338°F [-7°C to +170°C]
Max Diff Pressure (ΔP)	35 psi [241 kPa]*
Max Inlet Pressure (Steam)	100 psi [690 kPa]
Leakage	ANSI Class VI
*Differential pressures above	35 psi may result in additional noise

^{*}Differential pressures above 35 psi may result in additional nois but is acceptable up to 87 psi [600 kPa]. Operating within the cavitation zone may result in internal valve damage.





ACTUATOR PART #	LVB24-3	LVB24-SR	LVX24-MFT
Control	On/Off, Floating Point	Modulating	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

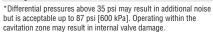
2-Way

Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
G215S-C	0.4			250	\$1,183	\$1,275	\$1,334	
G215S-F	1.3	0.5" [45]	0 5" [45]		250	\$1,186	\$1,278	\$1,337
G215S-G	2.2	0.5" [15]		250	\$1,189	\$1,281	\$1,340	
G215S-J	4.4			250	\$1,192	\$1,284	\$1,343	
G220S-J	5.5	0.75" [20]		250	\$1,308	\$1,400	\$1,459	
G220S-K	7.5	0.73 [20]	ANSI 250	250	\$1,314	\$1,406	\$1,465	
G225S-K	10	1" [05]		250	\$1,491	\$1,583	\$1,642	
G225S-L	14	1" [25]		250	\$1,497	\$1,589	\$1,648	
G232S-M	20	1.25" [32]		250	\$1,780	\$1,872	\$1,931	
G240S-N	28	1.5" [40]		250	\$2,112	\$2,204	\$2,263	
G250S-N	40	2" [50]		250	\$2,354	\$2,446	\$2,505	



Valve Specifications

Service	chilled, hot water, 60% glycol, steam
Flow Characteristic	modified equal percentage
Action	stem up - open A to AB
End Fitting	NPT female
Body	bronze
Seat	stainless steel
Stem	stainless steel
Stem Packing	EPDM 0-ring
Plug	stainless steel
Media Temperature	20°F to 338°F [-7°C to +170°C]
Max Diff Pressure (ΔP)	35 psi [241 kPa]*
Max Inlet Pressure (Steam)	100 psi [690 kPa]
Leakage	ANSI Class VI







ACTUATOR PART #	LVKB24-3	LVKB24-SR	LVKB24-MFT
Control	On/Off, Floating Point	Modulating	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds (variable)
Running Time (Fail-Safe)	35 seconds	35 seconds	35 seconds
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
G215S-C	0.4			250	\$1,348	\$1,430	\$1,489	
G215S-F	1.3	0 5" [15]		250	\$1,351	\$1,433	\$1,492	
G215S-G	2.2	0.5" [15]	2.2		250	\$1,354	\$1,436	\$1,495
G215S-J	4.4			250	\$1,357	\$1,439	\$1,498	
G220S-J	5.5	0.75" [00]		250	\$1,475	\$1,557	\$1,616	
G220S-K	7.5	0.75" [20]	ANSI 250	250	\$1,484	\$1,566	\$1,625	
G225S-K	10	1" [05]		250	\$1,764	\$1,846	\$1,905	
G225S-L	14	1" [25]		250	\$1,824	\$1,906	\$1,965	
G232S-M	20	1.25" [32]		250	\$2,192	\$2,274	\$2,333	
G240S-N	28	1.5" [40]		250	\$2,554	\$2,636	\$2,695	
G250S-N	40	2" [50]		250	\$2,820	\$2,902	\$2,961	



2-way Valve with Bronze Trim / Stainless Steel Trim, NPT Female Ends

BELIMO

Valve Specifications

	chilled, hot water, 60% glycol,
Service	steam
Flow Characteristic	modified equal percentage
Action	stem up - open A to AB
End Fitting	NPT female
Body	bronze
Seat	G2B: bronze G2S: stainless steel
Stem	stainless steel
Stem Packing	EPDM O-ring
Plug	G2B: brass G2S: stainless steel
Media Temperature	G2B: 20°F to 280°F [-7°C to +138°C] G2S: 20°F to 338°F [-7°C to +170°C]
Max Diff Pressure (ΔP)	35 psi [241 kPa]*
Max Inlet Pressure (Steam)	G2B: 35 psi [241 kPa] G2S: 100 psi [690 kPa]
Leakage	ANSI Class VI
Seat Stem Stem Packing Plug Media Temperature Max Diff Pressure (ΔP) Max Inlet Pressure (Steam)	G2B: bronze G2S: stainless steel stainless steel EPDM 0-ring G2B: brass G2S: stainless steel G2B: 20°F to 280°F [-7°C to +138°C] G2S: 20°F to 338°F [-7°C to +170°C] 35 psi [241 kPa]* G2B: 35 psi [241 kPa] G2S: 100 psi [690 kPa]

*Differential pressures above 35 psi may result in additional noise but is acceptable up to 87 psi [600 kPa]. Operating within the cavitation zone may result in internal valve damage.

Visit www.belimo.us for additional Spring Return options.







ACTUATOR PART #	LF24 US	LF24-SR US	LF24-MFT US	NFBUP-X1	NFB24-SR-X1	NFX24-MFT-X1
Control	On/Off	Modulating	Modulating/MFT	On/Off	Modulating	Modulating/MFT
Manual Override				•	•	•
Running Time (Motor)	75 seconds	150 seconds	150 seconds (variable)	<75 seconds	95 seconds	150 seconds (variable)
Running Time (Fail-Safe)	<25 seconds	<25 seconds	<25 seconds	<20 seconds	<20 seconds	<20 seconds
Electrical Connection	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA plenum cable with ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector

2-Way

		Size	Body	Close-Off							
Model #	Cv	[mm]	Pressure	Pressure							
00450.0	0.4		Rating	[psi]	64.40 E	\$1,000	\$1,000				
G215B-C	0.4			160	\$1,185	\$1,298	\$1,369				
G215B-F	1.3	0.5" [15]		160	\$1,187	\$1,301	\$1,373				
G215B-G	2.2	0.0 [.0]		160	\$1,189	\$1,304	\$1,375				
G215B-J	4.4			160	\$1,192	\$1,306	\$1,377				
G220B-J	5.5	0.75" [20]		155	\$1,223	\$1,335	\$1,408				
G220B-K	7.5	0.75 [20]	ANSI 250	155	\$1,225	\$1,341	\$1,415				
G225B-K	10	4" [0.5]		147	\$1,291	\$1,409	\$1,585				
G225B-L	14	1" [25]		147	\$1,293	\$1,412	\$1,587				
G232B-M	20	1.25" [32]		141	\$1,389	\$1,509	\$1,686				
G240B-N	28	1.5" [40]		250				\$1,830	\$1,904	\$1,979	
G250B-N	40	2" [50]		250				\$1,897	\$2,042	\$2,049	
						'					
2-Way								1	1		
G215S-C	0.4			160	\$1,510	\$1,627	\$1,701				
G215S-F	1.3	0.5" [15]		160	\$1,512	\$1,629	\$1,703				
G215S-G	2.2	0.5 [15]		160	\$1,514	\$1,631	\$1,706				
G215S-J	4.4			160	\$1,516	\$1,633	\$1,708				
G220S-J	5.5	0.75" [00]		155	\$1,555	\$1,880	\$1,954				
G220S-K	7.5	0.75" [20]	ANSI 250	155	\$1,557	\$1,882	\$1,956				
G225S-K	10) 4" 5051	0 4,,,,,,,,		147	\$1,795	\$1,924	\$2,105			
G225S-L	14	1" [25]		147	\$1,797	\$1,927	\$2,108				
G232S-M	20	1.25" [32]		141	\$2,146	\$2,283	\$2,461				
G240S-N	28	1.5" [40]		250				\$2,799	\$2,876	\$2,950	
G250S-N	40	2" [50]		250				\$3,022	\$3,099	\$3,168	
-						1	1				

Prices do not reflect additional programming codes surcharge. See page 16-6 for linear actuator MFT codes. Note: All "B" versions available as customizable "X" versions. Please see www.belimo.us for details.

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



Valve Specifications

the state of the s	
Service	chilled, hot water, 60% glycol
Flow Characteristic	modified equal percentage linear flow from B to AB
Action	mixing: stem up - open B to AB diverting: stem up - open AB to B
End Fitting	NPT female
Body	bronze
Seat	bronze
Stem	stainless steel
Stem Packing	EPDM 0-ring
Plug	brass
Media Temp. Water	20°F to 280°F [-7°C to +138°C]
Max Diff Pressure (ΔP)	35 psi [241 kPa]*
Leakage	ANSI Class VI

^{*}Differential pressures above 35 psi may result in additional noise but is acceptable up to 87 psi [600 kPa]. Operating within the cavitation zone may result in internal valve damage.

Visit www.belimo.us for additional Spring Return options.







ACTUATOR PART #	NFBUP-X1	NFB24-SR-X1	NFX24-MFT-X1	AFBUP-X1	AFB24-SR-X1	AFX24-MFT-X1
Control	On/Off	Modulating	Modulating/MFT	On/Off	2-10 VDC	Modulating/MFT
Manual Override	•	•	•	•	•	•
Running Time (Motor)	<75 seconds	95 seconds	150 seconds (variable)	<75 seconds	<75 seconds	150 seconds (variable)
Running Time (Fail-Safe)	<20 seconds	<20 seconds	< 20 seconds	<20 seconds	<20 seconds	< 20 seconds
Electrical Connection	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector

5-way												
Model #	Cv	Size [mm]	Body Pressure	Close-Off Pressure [psi]								
			Rating	Mixing	Diverting							
G315B-G	2.2	0.5" [15]		250	166	\$1,368	\$1,441	\$1,514				
G315B-J	4.4	0.5" [15]	0.5 [15]		250	166	\$1,370	\$1,443	\$1,516			
G320B-K	6.75	0.75" [20]		250	101	\$1,401	\$1,477	\$1,553				
G325B-L	14	1" [25]	ANSI 250	179	60	\$1,420	\$1,539	\$1,715				
G332B-M	20	1.25" [32]		133	44	\$1,514	\$1,636	\$1,823				
G340B-N	28	1.5" [40]		167	56				\$2,058	\$2,134	\$2,208	
G350B-N	40	2" [50]		105	35				\$2,133	\$2,210	\$2,283	



2-way and 3-way Valves with Bronze Trim – ANSI 125 Flanged

BELIMO

Valve Specifications

Service G6,G7	(G6) chilled, hot water, 60% glycol, steam; (G7) chilled, hot water, 60% glycol
Flow Characteristic G6, G7	(G6) equal percentage; (G6LCS, G7) linear
Action G6	stem up - open A to AB
Action G7	stem up - open B to AB
Action G7D	stem up - open AB to B
End Fitting	125 lb. flanged
Body	cast iron - ASTM A126 Class B
Seat	stainless steel
Stem	stainless steel
Stem Packing	NLP (no lip packing) (EPDM)
Plug	bronze
Media Temp. Water G6	32°F to 300°F [0°C to 149°C]
Media Temp. Steam G6	32°F to 280°F [0°C to 138°C]
Media Temp. Water G7	32°F to 350°F [0°C to 176°C]
Media Temp. Water G7D	32°F to 300°F [0°C to 149°C]
Max Differential Pressure (Water)	25 psi [172 kPa]
Max Differential Pressure (Steam) G6	15 psi [103 kPa]
Leakage	ANSI Class III
Max Inlet PSI (Water) G6, G7	150 psi [1034 kPa] @ 250°F
Max Inlet Pressure (Steam) G6	35 psi [241 kPa]







ACTUATOR PART #	EVB24-3	EVB24-SR	EVB24-MFT	RVB24-3	RVB24-MFT
Control	On/Off, Floating Point	Modulating	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds (variable)	90 seconds	90 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

2-Way

z-way																																			
Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]																															
G665C	65	2.5" [65]		140	\$2,879	\$2,974	\$3,033																												
G680C	90	3" [80]		140	\$3,198	\$3,292	\$3,350																												
G6100C	170	4" [100]	ANSI 125	140	\$4,028	\$4,123	\$4,182																												
G6125C	263	5" [125]		140	\$5,984	\$6,079	\$6,137																												
G6150C	344	6" [150]		140	\$6,516	\$6,610	\$6,669																												
3-Way Mixing]																																		
G765	68	0 5" [65]		106	\$2,908	\$3,001	\$3,531																												
G765	68	2.5" [65]	ANSI 125	ANSI 125	ANSI 125								125				\$3,764	\$3,917																	
G780	85	2" [00]				ANSI 125	- ANSI 125	ANSI 125	ANSI 125	73	\$3,172	\$3,265	\$3,548																						
G780	85	3" [80]																	ANSI 125	125				\$4,019	\$4,172										
G7100	190	4" [100]																							ANSI 120	AINSI 123	AN51 125	ANSI 120	ANSI 125	40	\$3,936	\$4,029	\$4,090		
G7100	190	4 [100]																												75				\$4,631	\$4,782
G7125	280	5" [125]		47				\$6,736	\$6,890																										
G7150	340	6" [150]		32				\$7,510	\$7,662																										
3-Way Diverti	ing																																		
G765D	68	2.5" [65]		140	\$5,585	\$5,678	\$5,738																												
G780D	85	3" [80]		140	\$6,288	\$6,383	\$6,444																												
G7100D	154	4" [100]	ANSI 125	140	\$7,297	\$7,391	\$7,451																												
G7125D	195	5" [125]		140	\$9,758	\$9,853	\$9,793																												
G7150D	248	6" [150]		140	\$12,271	\$12,364	\$12,423																												

Prices do not reflect additional programming codes surcharge. See page 16-6 for linear actuator MFT codes. Note: All "B" versions available as customizable "X" versions. Please see www.belimo.us for details.

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

G6...C/G7...(D) Series Flanged Globe Valves with Spring Return Actuators

2-way and 3-way Valves with Bronze Trim- ANSI 125 Flanged



Valve Specifications

Service G6,G7	(G6) chilled, hot water, 60% glycol, steam; (G7) chilled, hot water, 60% glycol
Flow Characteristic G6, G7	(G6) equal percentage; (G6LCS, G7) linear
Action G6	stem up - open A to AB
Action G7	stem up - open B to AB
Action G7D	stem up - open AB to B
End Fitting	125 lb. flanged
Body	cast iron - ASTM A126 Class B
Seat	stainless steel
Stem	stainless steel
Stem Packing	NLP (no lip packing) (EPDM)
Plug	bronze
Media Temp. Water G6	32°F to 300°F [0°C to 149°C]
Media Temp. Steam G6	32°F to 280°F [0°C to 138°C]
Media Temp. Water G7	32°F to 350°F [0°C to 176°C]
Media Temp. Water G7D	32°F to 300°F [0°C to 149°C]
Max Differential Pressure (Water)	25 psi [172 kPa]
Max Differential Pressure (Steam) G6	15 psi [103 kPa]
Leakage	ANSI Class III
Max Inlet PSI (Water) G6, G7	150 psi [1034 kPa] @ 250°F
Max Inlet Pressure (Steam) G6	35 psi [241 kPa]

Visit www.belimo.us for additional Spring Return options.





ACTUATOR PART #	AFBUP-X1	AFX24-MFT-X1	2*AFBUP-X1	2*AFX24-MFT-X1
Control	On/Off	Modulating/MFT	On/Off	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	<75 seconds	150 seconds (variable)	<75 seconds	150 seconds (variable)
Running Time (Fail-Safe)	<20 seconds	<20 seconds	<20 seconds	<20 seconds
Electrical Connection	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector

(Steam) G6

2-Way								
Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
G665C	65	2.5" [65]		140	\$3,264	\$3,427		
G680C	90	3" [80]		140	\$3,576	\$3,741		
G6100C	170	4" [100]	ANSI 125	140			\$4,506	\$4,615
G6125C	263	5" [125]		140			\$6,299	\$6,468
G6150C	344	6" [150]		140			\$6,954	\$7,003
3-Way Mixing	g							
G765	68	0 5" [65]		31	\$2,760	\$2,903		
G765	68	2.5" [65]		70			\$3,545	\$3,814
G780	85	2" [00]	ANSI 125	21	\$3,014	\$3,162		
G780	85	3" [80]		48			\$3,801	\$4,098
G7100	190	4" [100]		26			\$4,678	\$4,734
3-Way Divert	ing							
G765D	68	2.5" [65]		140	\$5,549	\$5,712		
G780D	85	3" [80]		140	\$6,240	\$6,387		
G7100D	154	4" [100]	ANSI 125	140	\$7,182	\$7,354		
G7125D	195	5" [125]		140			\$9,984	\$10,311
G7150D	248	6" [150]		140			\$12,857	\$13,237



2-way and 3-way Valves with Bronze Trim – ANSI 125 Flanged

BELIMO

Valve Specifications

Service G6,G7	(G6) chilled, hot water, 60% glycol, steam; (G7) chilled, hot water, 60% glycol
Flow Characteristic G6, G7	(G6) equal percentage; (G6LCS, G7) linear
Action G6	stem up - open A to AB
Action G7	stem up - open B to AB
Action G7D	stem up - open AB to B
End Fitting	125 lb. flanged
Body	cast iron - ASTM A126 Class B
Seat	stainless steel
Stem	stainless steel
Stem Packing	NLP (no lip packing) (EPDM)
Plug	bronze
Media Temp. Water G6	32°F to 300°F [0°C to 149°C]
Media Temp. Steam G6	32°F to 280°F [0°C to 138°C]
Media Temp. Water G7	32°F to 350°F [0°C to 176°C]
Media Temp. Water G7D	32°F to 300°F [0°C to 149°C]
Max Differential Pressure (Water)	25 psi [172 kPa]
Max Differential Pressure (Steam) G6	15 psi [103 kPa]
Leakage	ANSI Class III
Max Inlet PSI (Water) G6, G7	150 psi [1034 kPa] @ 250°F
Max Inlet Pressure (Steam) G6	35 psi [241 kPa]







ACTUATOR PART #	AVKB24-3	AVKB24-MFT	2*GKX24-MFT-X1
Control	On/Off, Floating Point	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	90 seconds	90 seconds (variable)	150 seconds (variable)
Running Time (Fail-Safe)	35 seconds	35 seconds	35 seconds
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

2-Way

z-way							
Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]			
G665C	65	2.5" [65]		140	\$3,106	\$3,261	
G680C	90	3" [80]		140	\$3,436	\$3,592	
G6100C	170	4" [100]	ANSI 125	140	\$4,386	\$4,539	
G6125C	263	5" [125]		140	\$5,880	\$6,035	
G6150C	344	6" [150]		140	\$6,811	\$6,965	
3-Way Mixing]						
G765	68	2.5" [65]		84	\$2,946	\$3,099	
G765	68	2.0 [00]		125			\$6,001
G780	85	3" [80]		57	\$3,009	\$3,162	
G780	85	3 [00]	ANSI 125	102			\$6,284
G7100	190	4" [100]		56			\$6,939
G7125	280	5" [125]		35			\$9,053
G7150	340	6" [150]		24			\$9,832
3-Way Diverti	ing						
G765D	68	2.5" [65]		140	\$5,558	\$5,712	
G780D	85	3" [80]	ANSI 125	140	\$6,234	\$6,387	
G7100D	154	4" [100]	AIVOI 120	140	\$6,988	\$7,140	
G7125D	195	5" [125]		140	\$9,858	\$10,012	

Prices do not reflect additional programming codes surcharge. See page 16-6 for linear actuator MFT codes. Note: All "B" versions available as customizable "X" versions. Please see www.belimo.us for details.

T15000 - 04/18 - Subject to change. @ Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

G6...CS/G7...(D)S Series Flanged Globe Valves with Non Fail-Safe Actuators

2-way and 3-way Valves with Stainless Steel Trim – ANSI 125 Flanged



Valve Specifications

Service G6,G7	(G6) chilled, hot water, 60% glycol, steam; (G7) chilled, hot water, 60% glycol
Flow Characteristic G6, G7	(G6) equal percentage; (G6LCS, G7) linear
Action G6	stem up - open A to AB
Action G7	stem up - open B to AB
Action G7D	stem up - open AB to B
End Fitting	125 lb. flanged
Body	cast iron - ASTM A126 Class B
Seat	stainless steel
Stem	stainless steel
Stem Packing	NLP (no lip packing) (EPDM)
Plug	stainless steel
Media Temp. Water G6	32°F to 350°F [0°C to 176°C]
Media Temp. Steam G6	32°F to 338°F [0°C to 170°C]
Media Temp. Water G7	32°F to 350°F [0°C to 176°C]
Media Temp. Water G7D	32°F to 300°F [0°C to 149°C]
Max Differential Pressure (Water)	50 psi [345 kPa]
Max Differential Pressure (Steam) G6	50 psi [345 kPa]
Leakage	ANSI Class III
Max Inlet PSI (Water) G6, G7	150 psi [1034 kPa] @ 250°F
Max Inlet Pressure (Steam) G6	100 psi [690 kPa]







ACTUATOR PART #	EVB24-3	EVB24-SR	EVB24-MFT	RVB24-3	RVB24-MFT
Control	On/Off, Floating Point	Modulating	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds (variable)	90 seconds	90 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

2-Way									
Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]					
G665CS	65	2.5" [65]	11411119	125	\$4,112	\$4,208	\$4,265		
G680CS	90	3" [80]		125	\$4,790	\$4,885	\$4,942		
G6100CS	170	4" [100]	ANSI 125	125	\$6,415	\$6,509	\$6,567		
G6125CS	263	5" [125]		125	\$8,515	\$8,610	\$8,667		
G6150CS	344	6" [150]		125	\$9,083	\$9,176	\$9,236		
3-Way Mixin	g								
G765S	68	0 5" [65]		106	\$3,705	\$3,800	\$3,856		
G765S	68	2.5" [65]	ANSI 125	125				\$4,202	\$4,866
G780S	85	3" [80]		73	\$4,382	\$4,475	\$4,534		
G780S	85	3 [00]		125				\$4,876	\$5,536
G7100S	190	4" [100]	ANOI 120	40	\$5,474	\$5,568	\$5,626		
G7100S	190	4 [100]		75				\$5,730	\$6,390
G7125S	280	5" [125]		47				\$8,588	\$9,271
G7150S	340	6" [150]		32				\$10,577	\$11,192
3-Way Divert	ting								
G765DS	68	2.5" [65]		140	\$8,084	\$8,179	\$8,237		
G780DS	85	3" [80]		140	\$9,186	\$9,280	\$9,338		
G7100DS	154	4" [100]	ANSI 125	140	\$10,474	\$10,568	\$10,628		
G7125DS	195	5" [125]		140	\$15,129	\$15,224	\$15,283		
G7150DS	248	6" [150]		140	\$17,341	\$17,436	\$17,496		



2-way and 3-way Valves with Stainless Steel Trim - ANSI 125 Flanged

Valve Specifications

Service G6,G7	(G6) chilled, hot water, 60% glycol, steam; (G7) chilled, hot water, 60% glycol
Flow Characteristic G6, G7	(G6) equal percentage; (G6LCS, G7) linear
Action G6	stem up - open A to AB
Action G7	stem up - open B to AB
Action G7D	stem up - open AB to B
End Fitting	125 lb. flanged
Body	cast iron - ASTM A126 Class B
Seat	stainless steel
Stem	stainless steel
Stem Packing	NLP (no lip packing) (EPDM)
Plug	stainless steel
Media Temp. Water G6	32°F to 350°F [0°C to 176°C]
Media Temp. Steam G6	32°F to 338°F [0°C to 170°C]
Media Temp. Water G7	32°F to 350°F [0°C to 176°C]
Media Temp. Water G7D	32°F to 300°F [0°C to 149°C]
Max Differential Pressure (Water)	50 psi [345 kPa]
Max Differential Pressure (Steam) G6	50 psi [345 kPa]
Leakage	ANSI Class III
Max Inlet PSI (Water) G6, G7	150 psi [1034 kPa] @ 250°F

100 psi [690 kPa]

Visit www.belimo.us for additional Spring Return options.









ACTUATOR PART #	AFBUP-X1	AFX24-MFT-X1	2*AFBUP-X1	2*AFX24-MFT-X1
Control	On/Off	Modulating/MFT	On/Off	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	<75 seconds	150 seconds (variable)	<75 seconds	150 seconds (variable)
Running Time (Fail-Safe)	<20 seconds	<20 seconds	<20 seconds	<20 seconds
Electrical Connection	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector

Max Inlet Pressure

(Steam) G6

\$6,905
\$9,355
\$9,650
\$4,910
\$5,468
\$6,371
\$15,960
\$18,461

Prices do not reflect additional programming codes surcharge. See page 16-6 for linear actuator MFT codes. Note: All "B" versions available as customizable "X" versions. Please see www.belimo.us for details.

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

G6...CS/G7...(D)S Series Flanged Globe Valves with Electronic Fail-Safe Actuators

2-way and 3-way Valves with Stainless Steel Trim - ANSI 125 Flanged



Valve Specifications

Service G6,G7	(G6) chilled, hot water, 60% glycol, steam; (G7) chilled, hot water, 60% glycol		
Flow Characteristic G6, G7	(G6) equal percentage; (G6LCS, G7) linear		
Action G6	stem up - open A to AB		
Action G7	stem up - open B to AB		
Action G7D	stem up - open AB to B		
End Fitting	125 lb. flanged		
Body	cast iron - ASTM A126 Class B		
Seat	stainless steel		
Stem	stainless steel		
Stem Packing	NLP (no lip packing) (EPDM)		
Plug	stainless steel		
Media Temp. Water G6	32°F to 350°F [0°C to 176°C]		
Media Temp. Steam G6	32°F to 338°F [0°C to 170°C]		
Media Temp. Water G7	32°F to 350°F [0°C to 176°C]		
Media Temp. Water G7D	32°F to 300°F [0°C to 149°C]		
Max Differential Pressure (Water)	50 psi [345 kPa]		
Max Differential Pressure (Steam) G6	50 psi [345 kPa]		
Leakage	ANSI Class III		
Max Inlet PSI (Water) G6, G7	150 psi [1034 kPa] @ 250°F		
Max Inlet Pressure (Steam) G6	100 psi [690 kPa]		







ACTUATOR PART #	AVKB24-3	AVKB24-MFT	2*GKX24-MFT-X1
Control	On/Off, Floating Point	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	90 seconds	90 seconds (variable)	150 seconds (variable)
Running Time (Fail-Safe)	35 seconds	35 seconds	35 seconds
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

2-Way

2-Way																
Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]												
G665CS	65	2.5" [65]		125	\$4,293	\$4,388										
G680CS	90	3" [80]		125	\$5,058	\$5,152										
G6100CS	170	4" [100]	ANSI 125	125	\$6,610	\$6,705										
G6125CS	263	5" [125]		125	\$9,261	\$9,355										
G6150CS	344	6" [150]		125	\$9,274	\$9,369										
3-Way Mixing	g															
G765S	68	0 5" [65]		84	\$3,703	\$3,855										
G765S	68	2.5" [65]		125			\$7,095									
G780S	85	0" [00]	0" [00]	0, [00]	2" [00]	0" [00]	0" [00]	0" [00]	0" [00]	0" [00]	0" [00]		57	\$4,365	\$4,519	
G780S	85	3" [80]	ANSI 125	102			\$7,652									
G7100S	190	4" [100]		56			\$8,555									
G7125S	280	5" [125]		35			\$11,447									
G7150S	340	6" [150]		24			\$13,377									
3-Way Divert	ling															
G765DS	68	2.5" [65]		140	\$8,076	\$8,230										
G780DS	85	3" [80]	ANSI 125	140	\$9,185	\$9,337										
G7100DS	154	4" [100]		140	\$10,350	\$10,503										



2-way Linear Valve with Stainless Steel Trim- ANSI 125 Flanged

BELIMO

Valve Specifications

Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	linear
Action	stem up - open A to AB
End Fitting	125 lb. flanged
Body	cast iron - ASTM A126 Class B
Seat	stainless steel
Stem	stainless steel
Stem Packing	NLP (no lip packing) (EPDM)
Plug	stainless steel
Media Temperature Range (Water)	32°F to 350°F [0°C to 176°C]
Media Temperature Range (Steam)	32°F to 338°F [0°C to 170°C]
Max Differential Pressure (Water)	50 psi [345 kPa]
Max Differential Pressure (Steam)	50 psi [345 kPa]
Leakage	ANSI Class III
Max Inlet Pressure (Water)	150 psi [1034 kPa] @ 250°F
Max Inlet Pressure (Steam)	100 psi [690 kPa]





ACTUATOR PART #	EVB24-3	EVB24-SR	EVB24-MFT
Control	On/Off, Floating Point	Modulating	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum rated cable with $\frac{1}{2}$ " conduit connector	3 ft, 18 GA plenum rated cable with $\frac{1}{2}$ " conduit connector	3 ft, 18 GA plenum rated cable with $\frac{1}{2}$ " conduit connector

2-Way

Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]			
G665LCS	65	2.5" [65]		125	\$4,160	\$4,254	\$4,313
G680LCS	90	3" [80]		125	\$4,896	\$4,990	\$5,049
G6100LCS	170	4" [100]	ANSI 125	125	\$6,520	\$6,614	\$6,673
G6125LCS	263	5" [125]		125	\$8,350	\$8,444	\$8,504
G6150LCS	344	6" [150]		125	\$9,025	\$9,119	\$9,176

G6...LCS Series Flanged Globe Valves with Spring Return Actuators

2-way Linear Valve with Stainless Steel Trim – ANSI 125 Flanged



Valve Specifications

Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	linear
Action	stem up - open A to AB
End Fitting	125 lb. flanged
Body	cast iron - ASTM A126 Class B
Seat	stainless steel
Stem	stainless steel
Stem Packing	NLP (no lip packing) (EPDM)
Plug	stainless steel
Media Temperature Range (Water)	32°F to 350°F [0°C to 176°C]
Media Temperature Range (Steam)	32°F to 338°F [0°C to 170°C]
Max Differential Pressure (Water)	50 psi [345 kPa]
Max Differential Pressure (Steam)	50 psi [345 kPa]
Leakage	ANSI Class III
Max Inlet Pressure (Water)	150 psi [1034 kPa] @ 250°F
Max Inlet Pressure (Steam)	100 psi [690 kPa]







ACTUATOR PART #	AFBUP-X1	AFX24-MFT-X1	2*AFBUP-X1	2*AFX24-MFT-X1	
Control	On/Off	Modulating/MFT	On/Off	Modulating/MFT	
Manual Override	•	•	•	•	
Running Time (Motor)	<75 seconds	150 seconds (variable)	<75 seconds	150 seconds (variable)	
Running Time (Fail-Safe)	<20 seconds	<20 seconds	<20 seconds	<20 seconds	
Electrical Connection	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	

2-		V	2	V
_	¥	¥	и	y

Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
G665LCS	65	2.5" [65]		125	\$4,491	\$4,598		
G680LCS	90	3" [80]		125	\$5,168	\$5,380		
G6100LCS	170	4" [100]	ANSI 125	125			\$7,147	\$6,905
G6125LCS	263	5" [125]		125			\$9,453	\$9,355
G6150LCS	344	6" [150]		125			\$9,893	\$9,650



2-way Linear Valve with Stainless Steel Trim – ANSI 125 Flanged

BELIMO

Valve Specifications

Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	linear
Action	stem up - open A to AB
End Fitting	125 lb. flanged
Body	cast iron - ASTM A126 Class B
Seat	stainless steel
Stem	stainless steel
Stem Packing	NLP (no lip packing) (EPDM)
Plug	stainless steel
Media Temperature Range (Water)	32°F to 350°F [0°C to 176°C]
Media Temperature Range (Steam)	32°F to 338°F [0°C to 170°C]
Max Differential Pressure (Water)	50 psi [345 kPa]
Max Differential Pressure (Steam)	50 psi [345 kPa]
Leakage	ANSI Class III
Max Inlet Pressure (Water)	150 psi [1034 kPa] @ 250°F
Max Inlet Pressure (Steam)	100 psi [690 kPa]





ACTUATOR PART #	AVKB24-3	AVKB24-MFT
Control	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•
Running Time (Motor)	90 seconds	90 seconds (variable)
Running Time (Fail-Safe)	35 seconds	35 seconds
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

2-Way

Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]		
G665LCS	65	2.5" [65]		125	\$4,293	\$4,388
G680LCS	90	3" [80]		125	\$4,925	\$5,021
G6100LCS	170	4" [100]	ANSI 125	125	\$6,610	\$6,705
G6125LCS	263	5" [125]		125	\$9,261	\$9,355
G6150LCS	344	6" [150]		125	\$9,274	\$9,369

G6...C-250/G7...-250 Series Flanged Globe Valves with Non Fail-Safe Actuators

2-way and 3-way Valves with Bronze Trim - ANSI 250 Flanged



Valve Specifications

Service G6,G7	(G6) chilled, hot water, 60% glycol, steam; (G7) chilled, hot water, 60% glycol			
Flow Characteristic G6, G7	(G6) equal percentage; (G6LCS, G7) linear			
Action G6	stem up - open A to AB			
Action G7	stem up - open B to AB			
End Fitting	250 lb. flanged			
Body	cast iron - ASTM A126 Class B			
Seat	stainless steel			
Stem	stainless steel			
Stem Packing	NLP (no lip packing) (EPDM)			
Plug	bronze			
Media Temp. Water G6	32°F to 300°F [0°C to 149°C]			
Media Temp. Steam G6	32°F to 280°F [0°C to 138°C]			
Media Temp. Water G7	32°F to 350°F [0°C to 176°C]			
Max Differential Pressure (Water)	25 psi [172 kPa]			
Max Differential Pressure (Steam) G6	15 psi [103 kPa]			
Leakage	ANSI Class III			
Max Inlet PSI (Water)	(G6) 280 psi [1930 kPa] @ 350°F (G7) 310 psi [2137 kPa] @ 300°F			
Max Inlet Pressure (Steam) G6	35 psi [241 kPa]			







ACTUATOR PART #	EVB24-3	EVB24-SR	EVB24-MFT	RVB24-3	RVB24-MFT
Control	On/Off, Floating Point	Modulating	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds (variable)	90 seconds	90 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

2-Way										
Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]						
G665C-250	65	2.5" [65]	ANSI 250	310	\$2,884	\$2,979	\$3,036			
G680C-250	90	3" [80]		310	\$3,371	\$3,466	\$3,524			
G6100C-250	170	4" [100]		310	\$4,441	\$4,534	\$4,594			
G6125C-250	263	5" [125]		310	\$6,299	\$6,392	\$6,452			
G6150C-250	344	6" [150]		310	\$6,583	\$6,676	\$6,734			
3-Way Mixing	l									
G765-250	68	0 E" [GE]		106	\$3,823	\$3,918	\$3,977			
G765-250	68	2.5" [65]		198				\$5,217	\$5,368	
G780-250	85	3" [80] 4" [100]	2" [00]		73	\$4,358	\$4,452	\$4,511		
G780-250	85		ANSI 250	136				\$5,305	\$5,457	
G7100-250	190			40	\$6,450	\$6,544	\$6,602			
G7100-250	190		90 4 [100]		75				\$7,088	\$7,241
G7125-250	280	5" [125]		47				\$10,491	\$10,645	
G7150-250	340	6" [150]		32				\$12,110	\$12,261	



2-way and 3-way Valve with Bronze Trim - ANSI 250 Flanged



Valve Specifications

Service G6,G7	(G6) chilled, hot water, 60% glycol, steam; (G7) chilled, hot water, 60% glycol
Flow Characteristic G6, G7	(G6) equal percentage; (G6LCS, G7) linear
Action G6	stem up - open A to AB
Action G7	stem up - open B to AB
End Fitting	250 lb. flanged
Body	cast iron - ASTM A126 Class B
Seat	stainless steel
Stem	stainless steel
Stem Packing	NLP (no lip packing) (EPDM)
Plug	bronze
Media Temp. Water G6	32°F to 300°F [0°C to 149°C]
Media Temp. Steam G6	32°F to 280°F [0°C to 138°C]
Media Temp. Water G7	32°F to 350°F [0°C to 176°C]
Max Differential Pressure (Water)	25 psi [172 kPa]
Max Differential Pressure (Steam) G6	15 psi [103 kPa]
Leakage	ANSI Class III
Max Inlet PSI (Water)	(G6) 280 psi [1930 kPa] @ 350°F (G7) 310 psi [2137 kPa] @ 300°F
Max Inlet Pressure (Steam) G6	35 psi (241 kPa)

Visit www.belimo.us for additional Spring Return options.







ACTUATOR PART #	AFBUP-X1	AFX24-MFT-X1	2*AFBUP-X1	2*AFX24-MFT-X1
Control	On/Off	Modulating/MFT	On/Off	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	<75 seconds	150 seconds (variable)	<75 seconds	150 seconds (variable)
Running Time (Fail-Safe)	<20 seconds	<20 seconds	<20 seconds	<20 seconds
Electrical Connection	3 ft, 18 GA appliance cable, 1/2" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector

2-Way								
Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
G665C-250	65	2.5" [65]		232	\$3,333	\$3,479		
G680C-250	90	3" [80]		181	\$3,724	\$3,684		
G680C-250	90	3" [80]	ANSI 250	310			\$4,400	\$4,718
G6100C-250	170	4" [100]	ANOI 200	310			\$5,156	\$5,447
G6125C-250	263	5" [125]		241			\$6,314	\$6,604
G6150C-250	344	6" [150]		182			\$8,583	\$8,872
3-Way Mixing								
G765-250	68	2 5" [65]		31	\$3,737	\$3,825		
G765-250	68	2.5" [65]		70			\$4,543	\$4,784
G780-250	85	0" [00]	ANSI 250	21	\$4,294	\$4,486		
G780-250	85	3" [80]		48			\$5,072	\$5,468

Prices do not reflect additional programming codes surcharge. See page 16-6 for linear actuator MFT codes. Note: All "B" versions available as customizable "X" versions. Please see www.belimo.us for details.

G7100-250

4" [100]

190

26

\$6,038

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

G6...C-250/G7...-250 Series Flanged Globe Valves with Electronic Fail-Safe Actuators



2-way and 3-way Valves with Bronze Trim - ANSI 250 Flanged

Valve Specifications

Flow Characteristic G6, G7 (G6) equal percentage; (G6LCS, G7) linear Action G6 Action G7 Stem up - open B to AB End Fitting Body Cast iron - ASTM A126 Class B Seat Stem Stemless steel Stem Stem Packing NLP (no lip packing) (EPDM) Plug G6LCS, G7) linear ACTM AB BOAB Seat Stainless steel Stem Stem packing NLP (no lip packing) (EPDM)	Service G6,G7	(G6) chilled, hot water, 60% glycol, steam; (G7) chilled, hot water, 60% glycol		
Action G7 stem up - open B to AB End Fitting 250 lb. flanged Body cast iron - ASTM A126 Class B Seat stainless steel Stem stainless steel Stem Packing NLP (no lip packing) (EPDM) Plug bronze	Flow Characteristic G6, G7	()		
End Fitting 250 lb. flanged Body cast iron - ASTM A126 Class B Seat stainless steel Stem stainless steel Stem Packing NLP (no lip packing) (EPDM) Plug bronze	Action G6	stem up - open A to AB		
Body cast iron - ASTM A126 Class B Seat stainless steel Stem stainless steel Stem Packing NLP (no lip packing) (EPDM) Plug bronze	Action G7	stem up - open B to AB		
Seat stainless steel Stem stainless steel Stem Packing NLP (no lip packing) (EPDM) Plug bronze	End Fitting	250 lb. flanged		
Stem stainless steel Stem Packing NLP (no lip packing) (EPDM) Plug bronze	Body	cast iron - ASTM A126 Class B		
Stem Packing NLP (no lip packing) (EPDM) Plug bronze	Seat	stainless steel		
Plug bronze	Stem	stainless steel		
1.109	Stem Packing	NLP (no lip packing) (EPDM)		
	Plug	bronze		
Media Temp. Water G6 32°F to 300°F [0°C to 149°C]	Media Temp. Water G6	32°F to 300°F [0°C to 149°C]		
Media Temp. Steam G6 32°F to 280°F [0°C to 138°C]	Media Temp. Steam G6	32°F to 280°F [0°C to 138°C]		
Media Temp. Water G7 32°F to 350°F [0°C to 176°C]	Media Temp. Water G7	32°F to 350°F [0°C to 176°C]		
Max Differential Pressure (Water) 25 psi [172 kPa]		25 psi [172 kPa]		
Max Differential Pressure (Steam) G6 15 psi [103 kPa]		15 psi [103 kPa]		
Leakage ANSI Class III	Leakage	ANSI Class III		
Max Inlet PSI (Water) (G6) 280 psi [1930 kPa] @ 350°F (G7) 310 psi [2137 kPa] @ 300°F	Max Inlet PSI (Water)	. ,		
Max Inlet Pressure (Steam) G6 35 psi [241 kPa]		35 psi [241 kPa]		







ACTUATOR PART #	AVKB24-3	AVKB24-MFT	2*GKX24-MFT-X1
Control	On/Off, Floating Point	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	90 seconds	90 seconds (variable)	150 seconds (variable)
Running Time (Fail-Safe)	35 seconds	35 seconds	35 seconds
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with $\frac{1}{2}$ " conduit connector

2-Way

Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]			
G665C-250	65	2.5" [65]		310	\$3,104	\$3,258	
G680C-250	90	3" [80]		310	\$3,510	\$3,665	
G6100C-250	170	4" [100]	ANSI 250	310	\$5,135	\$5,289	
G6125C-250	263	5" [125]		300	\$6,451	\$6,604	
G6150C-250	344	6" [150]		232	\$8,460	\$8,614	
3-Way Mixing	3-Way Mixing						
G765-250	68	0 5" [65]		84	\$3,932	\$4,086	\$6,971
G765-250	68	2.5" [65]		149	\$3,932	\$4,086	\$6,971
G780-250	85	0" [00]	ANSI 250	57	\$4,330	\$4,486	\$7,652
G780-250	85	3" [80]		102	\$4,330	\$4,486	\$7,652
G7100-250	190	4" [100]		56			\$9,408

Prices do not reflect additional programming codes surcharge. See page 16-6 for linear actuator MFT codes. Note: All "B" versions available as customizable "X" versions. Please see www.belimo.us for details.



G6...CS-250/G7...S(DS)-250 Series Flanged Globe Valves with Non Fail-Safe Actuators

2-way and 3-way Valves with Stainless Steel Trim - ANSI 250 Flanged

Valve Specifications

Service G6,G7	(G6) chilled, hot water, 60% glycol, steam; (G7) chilled, hot water, 60% glycol
Flow Characteristic G6, G7	(G6) equal percentage; (G6LCS, G7) linear
Action G6	stem up - open A to AB
Action G7	stem up - open B to AB
Action G7D	stem up - open AB to B
End Fitting	250 lb. flanged
Body	cast iron - ASTM A126 Class B
Seat	stainless steel
Stem	stainless steel
Stem Packing	NLP (no lip packing) (EPDM)
Plug	stainless steel
Media Temp. Water G6	32°F to 350°F [0°C to 176°C]
Media Temp. Steam G6	32°F to 338°F [0°C to 170°C]
Media Temp. Water G7	32°F to 350°F [0°C to 176°C]
Media Temp. Water G7D	32°F to 300°F [0°C to 149°C]
Max Differential Pressure (Water)	50 psi [345 kPa]
Max Differential Pressure (Steam) G6	50 psi [345 kPa]
Leakage	ANSI Class III
Max Inlet PSI (Water)	(G6) 280 psi [1930 kPa] @ 350°F (G7) 310 psi [2137 kPa] @ 300°F
Max Inlet Pressure	100 psi [690 kPa]

100 psi [690 kPa]







ACTUATOR PART #	EVB24-3	EVB24-SR	EVB24-MFT	RVB24-3	RVB24-MFT
Control	On/Off, Floating Point	Modulating	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•
Running Time (Motor)	90 seconds	90 seconds	90 seconds (variable)	90 seconds	90 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

2-Way

(Steam) G6

z-way																															
Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]																											
G665CS-250	65	2.5" [65]		280	\$4,611	\$4,705	\$4,765																								
G680CS-250	90	3" [80]		280	\$4,937	\$5,032	\$5,089																								
G6100CS-250	170	4" [100]	ANSI 250	280	\$6,728	\$6,823	\$6,881																								
G6125CS-250	263	5" [125]		280	\$9,433	\$9,528	\$9,586																								
G6150CS-250	344	6" [150]		280	\$11,903	\$11,996	\$12,057																								
3-Way Mixing																															
G765S-250	68	0 E" [CE]		106	\$4,082	\$4,176	\$4,233																								
G765S-250	68	2.5" [65]		198				\$5,058	\$5,212																						
G780S-250	85	2" [00]	ANSI 250	ANCI 250	ANCI 250	VNCLOEU	ANCI 250	73	\$4,679	\$4,774	\$4,831																				
G780S-250	85	3" [80]						VIIGI 3EU	VNCLOEU	VVICT 3EU	VIIGI 3EU	VIIGI 3EU	VVICI 3EU	ANICI 250	ANSI 250	ANSI 250	ANGI 250	ANICI 250	ANICI 250	ANGL 250	ANSI 250	ANSI 250	ANSI 250	ANGL 250	ANICI 250	ANICI 250	ANGI 250	ANSI 250	ANGI 250	136	
G7100S-250	190	4" [100]		40	\$7,566	\$7,659	\$7,719																								
G7100S-250	190	4" [100]		75				\$8,189	\$8,342																						
G7125S-250	280	5" [125]		47				\$11,884	\$12,038																						
G7150S-250	340	6" [150]		32				\$12,348	\$12,500																						
3-Way Diverting																															
G765DS-250	68	2.5" [65]		310	\$9,508	\$9,602	\$9,662																								
G780DS-250	85	3" [80]		310	\$10,805	\$10,899	\$10,959																								
G7100DS-250	154	4" [100]	ANSI 250	310	\$12,234	\$12,327	\$12,387																								
G7125DS-250	195	5" [125]		310	\$17,629	\$17,725	\$17,783																								
G7150DS-250	248	6" [150]		310	\$21,587	\$21,680	\$21,739																								

Prices do not reflect additional programming codes surcharge. See page 16-6 for linear actuator MFT codes. Note: All "B" versions available as customizable "X" versions. Please see www.belimo.us for details.

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

G6...CS-250/G7...S(DS)-250 Series Flanged Globe Valves with Spring Return Actuators

2-way and 3-way Valves with Stainless Steel Trim - ANSI 250 Flanged

Valve Specifications

(G6) chilled, hot water, 60% Service G6,G7 glycol, steam; (G7) chilled, hot water, 60% glycol (G6) equal percentage; Flow Characteristic G6, G7 (G6LCS, G7) linear Action G6 stem up - open A to AB Action G7 stem up - open B to AB Action G7D stem up - open AB to B **End Fitting** 250 lb. flanged cast iron - ASTM A126 Class B Body Seat stainless steel Stem stainless steel Stem Packing NLP (no lip packing) (EPDM) Plug stainless steel Media Temp. Water G6 32°F to 350°F [0°C to 176°C] 32°F to 338°F [0°C to 170°C] Media Temp. Steam G6 Media Temp. Water G7 32°F to 350°F [0°C to 176°C] 32°F to 300°F [0°C to 149°C] Media Temp. Water G7D Max Differential Pressure 50 psi [345 kPa] (Water) Max Differential Pressure 50 psi [345 kPa] (Steam) G6 Leakage ANSI Class III (G6) 280 psi [1930 kPa] @ 350°F Max Inlet PSI (Water) (G7) 310 psi [2137 kPa] @ 300°F Max Inlet Pressure

100 psi [690 kPa]

Visit www.belimo.us for additional Spring Return options.









ACTUATOR PART #	AFBUP-X1	AFX24-MFT-X1	2*AFBUP-X1	2*AFX24-MFT-X1
Control	On/Off	Modulating/MFT	On/Off	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	<75 seconds	150 seconds (variable)	<75 seconds	150 seconds (variable)
Running Time (Fail-Safe)	<20 seconds	<20 seconds	<20 seconds	<20 seconds
Electrical Connection	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector	3 ft, 18 GA appliance cable, ½" conduit connector

2-Way

(Steam) G6

Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
G665CS-250	65	2.5" [65]	ANCLOSO	232	\$3,737	\$4,447		
G680CS-250	90	3" [80]	ANSI 250	181	\$5,879	\$6,046	\$5,656	\$6,051
3-Way Mixing								
G765S-250	68	0 E" [CE]		31	\$3,996	\$4,192		
G765S-250	68	2.5" [65]		70			\$4,746	\$5,131
G780S-250	85	2" [00]	ANSI 250	21	\$4,598	\$4,519		
G780S-250	85	3" [80]		48			\$5,349	\$5,468
G7100S-250	190	4" [100]		18				\$6,371
3-Way Diverting	g							
G765DS-250	68	2.5" [65]		310	\$9,462	\$9,657		
G780DS-250	85	3" [80]		310	\$10,811	\$10,989		
G7100DS-250	154	4" [100]	ANSI 250	310	\$12,572	\$12,779		
G7125DS-250	195	5" [125]		310			\$17,251	\$17,641
G7150DS-250	248	6" [150]		310			\$22,337	\$22,727

Prices do not reflect additional programming codes surcharge. See page 16-6 for linear actuator MFT codes. Note: All "B" versions available as customizable "X" versions. Please see www.belimo.us for details.





G6...CS-250/G7...S(DS)-250 Series Flanged Globe Valves with Electronic Fail-Safe Actuators

2-way and 3-way Valves with Stainless Steel Trim - ANSI 250 Flanged

Valve Specifications

Service G6,G7	(G6) chilled, hot water, 60% glycol, steam; (G7) chilled, hot water, 60% glycol
Flow Characteristic G6, G7	(G6) equal percentage; (G6LCS, G7) linear
Action G6	stem up - open A to AB
Action G7	stem up - open B to AB
Action G7D	stem up - open AB to B
End Fitting	250 lb. flanged
Body	cast iron - ASTM A126 Class B
Seat	stainless steel
Stem	stainless steel
Stem Packing	NLP (no lip packing) (EPDM)
Plug	stainless steel
Media Temp. Water G6	32°F to 350°F [0°C to 176°C]
Media Temp. Steam G6	32°F to 338°F [0°C to 170°C]
Media Temp. Water G7	32°F to 350°F [0°C to 176°C]
Media Temp. Water G7D	32°F to 300°F [0°C to 149°C]
Max Differential Pressure (Water)	50 psi [345 kPa]
Max Differential Pressure (Steam) G6	50 psi [345 kPa]
Leakage	ANSI Class III
Max Inlet PSI (Water)	(G6) 280 psi [1930 kPa] @ 350°F (G7) 310 psi [2137 kPa] @ 300°F
Max Inlet Pressure (Steam) G6	100 psi [690 kPa]







ACTUATOR PART #	AVKB24-3	AVKB24-MFT	2*GKX24-MFT-X1
Control	On/Off, Floating Point	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	90 seconds	90 seconds (variable)	150 seconds (variable)
Running Time (Fail-Safe)	35 seconds	35 seconds	35 seconds
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

2-Way

· u y																																																
Model #	Cv	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]																																												
G665CS-250	65	2.5" [65]		280	\$5,051	\$5,204																																										
G680CS-250	90	3" [80]		280	\$5,869	\$5,810																																										
G6100CS-250	170	4" [100]	ANSI 250	ANCLOED	280	\$7,357	\$7,511																																									
G6125CS-250	263	5" [125]	AIV51 200	280	\$10,123	\$10,277																																										
G6150CS-250	344	6" [150]		280	\$13,422	\$13,575																																										
G6150CS-250	344	0 [130]		280			\$14,401																																									
3-Way Mixing																																																
G765S-250	68	0 5" [05]	ANSI 250		84	\$4,039	\$4,192																																									
G765S-250	68	2.5" [65]				149			\$6,967																																							
G780S-250	85	2" [00]		57	\$4,365	\$4,519																																										
G780S-250	85	3" [80]																	7.1107.200	71101 200	711101 200	74101 200	7.110. 200	7.110.1 200	711101 200	711401 200	711101 200	7.110.7 200	7.110. 200			7.11.01.200	711101 200	7.1101.200		71101 200	711101 200	711401 200	7.1.5. 200				7.1107.200	711101 200	ANOT 230	102		
G7100S-250	190	4" [100]		41			\$10,057																																									
3-Way Diverting	g																																															
G765DS-250	68	2.5" [65]		310	\$9,504	\$9,657																																										
G780DS-250	85	3" [80]	ANSI 250	310	\$10,834	\$10,989																																										
G7100DS-250	154	4" [100]		310	\$12,252	\$12,407																																										

Prices do not reflect additional programming codes surcharge. See page 16-6 for linear actuator MFT codes. Note: All "B" versions available as customizable "X" versions. Please see www.belimo.us for details.



Greater Force and Flexibility Globe Valve Assemblies

Belimo now offers a full range of NPT pressure compensated globe valves. The new G2 and G3 with ANSI Class VI leakage and 100:1 rangeability provide accurate modulation at low flow. Belimo globe valve actuators incorporate Multi-Function Technology™ (MFT) to allow for easy and flexible field configuration (pulse width modulation, analog DC proportional control, floating point or on/off control).

Discover all the advantages at belimo.us







17

BUTTERFLY VALVES HD, HDU, L, LU, VIC, AND SHP SERIES

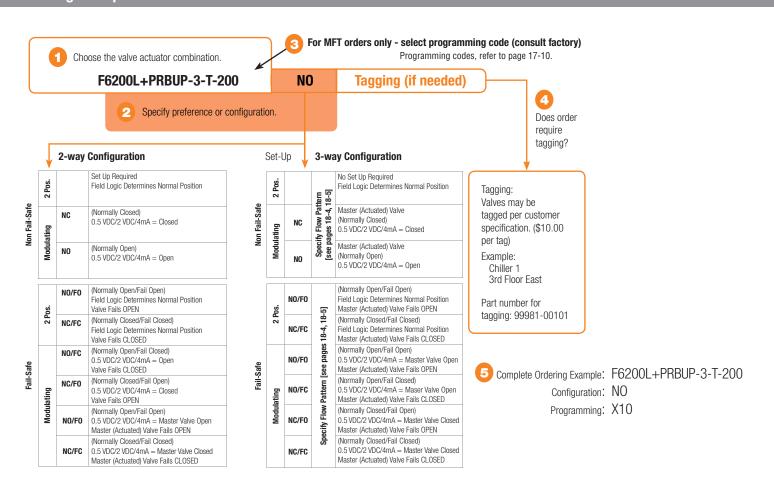
High Performance for a Wide Range of Applications

- Resilient seat, grooved and high performance butterfly valves meet a wide range of applications.
- Innovative seat and disc design provides zero percent leakage capability at each valve's rated temperature/pressure while maintaining a low seating torque.
- Stainless steel disc and shaft on HD, L and SHP series are standard for superior durability and long lasting operation.

Butterfly Valve Nomenclature

F6	200	L	+PRB	UP	-3	-Т	-200
Valve F6 = 2-way F7 = 3-way	Valve Size 50 = 2" 65 = 2½" 80 = 3" 100 = 4" 125 = 5" 150 = 6" 200 = 8" 250 = 10" 300 = 12" 350 = 14" 400 = 16" 450 = 18" 500 = 20" 600 = 24"	Trim Material HD = Stainless Disc, Ductile Iron Body, EPDM Liner, 0% Leakage to 200 psi (2" to 6"), 150 psi (14"+) L = Stainless Disc, Ductile Iron Body, EPDM Liner, 0% Leakage to 200 psi (8" to 12") HDU/LU = Stainless Disc, Ductile Iron Body, EPDM Liner, 0% Leakage to 50 psi (3" to 10") VIC = Ductile Iron Grooved End Body, Nickel Coated Ductile Iron Disc, 0% Leakage up to 200 psi -150SHP = ANSI Class 150, Stainless Disc, Steel Body, RPTFE Seat, 0% Leakage up to 285 psi -300SHP = ANSI Class 300, Stainless Disc, Steel Body, RPTFE Seat, 0% Leakage up to 600 psi	Actuator Type Non Fail-Safe ARB, ARX AMB, AMX GMB, GMX GRB, GRX GR/GM N4(H) DRB, DRX DR N4(H) PRB, PRX SY Fail-Safe Electronic GKB, GKX DKRB, DKRX DKRN, DKRX DKRN, DKRX TRAN TO THE TO THE TENT		Control -3-X1 = On/Off, Floating Point MFT or MFT-X1 = Multi-Function Technology	-S = Built-in Auxiliary Switch N4 = NEMA 4/4X N4H = NEMA 4 with Heater -T = Terminal Block	-200 = 8" -250 = 10"

Ordering Example



T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Control Valve Product Range

Resilient Seat Butterfly Valve Product Range

			2-wa	У			;	Suitable	Actuato	ors				
		V.	alve								Fail-	Safe		
			nal Size	Туре		Non Fail-Safe				Spring Return	I	Electronic		
C _V 90°	C _V 60°	IN	DN [mm]	2-way	HDU Lu	L		HD		HD	L	HD)	
115	44	2	50	F650			AR	10		es				
196	75	2½	65	F665			¥	Series		AF Series				
302	116	3	80	F680	AR GR			GR S		AF		GKR		
600	230	4	100	F6100	GR		В					DKR	ies	
1022	392	5	125	F6125	5				PR Series				PKR Series	
1579	605	6	150	F6150	R				Æ				PKF	
3136	1202	8	200	F6200L	PR									
5340	2047	10	250	F6250L	<u> </u>	뚪					PKR			
8250	3162	12	300	F6300L										
11917	4568	14	350	F6350					S					
16388	6282	16	400	F6400					ies					
21705	8320	18	450	F6450					/ Ser ar Wa	SY Series 2 Year Warranty)				
27908	10698	20	500	F6500					SY (2 Yea					
43116	16528	24	600	F6600										

			3-way	1			Suit	able Actua	itors				
		V-	alve						Fail-Safe				
			nal Size	Type	Non Fail-Safe				Spring Return	Elect	ronic		
C _V	C _V 60°	IN	DN [mm]	3-way	HDU	L	Н	D	HD	L	HD		
115	44	2	50	F750			AM	ies	AF				
196	75	2½	65	F765				GM Series	⋖				
302	116	3	80	F780	GM			GM			GK		
600	230	4	100	F7100	- 0			es			ies		
1022	392	5	125	F7125	2*GM Series			PR Series			PKR Series		
1579	605	6	150	F7150	W 03			Æ			PKF		
3136	1202	8	200	F7200L									
5340	2047	10	250	F7250L		A.				PKR			
8250	3162	12	300	F7300L									
11917	4568	14	350	F7350				ies r ty)					
16388	6282	16	400	F7400			SY Series (2 Year Warranty)						
21705	8320	18	450	F7450				S ×					



Mode of Operation

Butterfly valves are capable of handling higher flow rates with relatively low pressure loss. These valves may be used for isolation (shut-off) service or throttling service within a range of 0-60 degrees for two-way valves. Butterfly valves are controlled with a maintenance-free electronic actuator or manually with an ergonomic handle or gear operator. or gear operator.

Product Features

The unique disc and seat design ensures positive valve seating while maintaining low seating torque.

Actuator Specifications

Actuator opcomodin	Olio
Control type	on/off, floating point, modulating, 2-10 VDC, multi-function technology (MFT)
Manual override	all models
Electrical connection	3 ft. [1 m] cable terminal block (-T models)
Communication (PR)	BACnet MS/TP, NFC, listed by BTL

Valve Specifications	
Service	chilled, hot water, 60% glycol
Flow characteristic	F6 modified equal percentage F7 modified linear
Sizes	2" to 24"
End fitting	for ASME/ANSI Class 125/150 flanges
Materials	
Body	ductile iron ASTM A536
Body finish	HD Series: epoxy powder coat L Series: polyester powder coat
Disc	304 stainless steel
Shaft	HD Series: 416 stainless steel L Series: 420 stainless steel
Seat	EPDM
O-rings	EPDM
Bushings	HD Series: RPTFE
	L Series: bronze, steel, PTFE
Media (water) temp. range	-22°F to +250°F [-30°C to +120°C]
Body pressure rating	consistent with ASME/ANSI Class 125
Close-off pressure	HDU, LU: 50 psi, 3" to 10" HD: 200 psi, 2" to 6"
	HD: 150 psi, 14" to 24" L Series: 200 psi 8" to 12"
Rangeability	10:1
Maximum velocity	12 FPS
Leakage	0%

Control Valve Product Range

Grooved Butterfly Valve Product Range

			2-wa	ау	Suitable			le Actuators				
			ilve nal Size	Туре	Non Fail-Safe				Fail-Safe			
C _V 90°	C _V 60°	IN	DN [mm]	2-way					Spring Return	Electronic		
115	36	2	50	F650VIC	M ies				es			
260	80	2½	65	F665VIC	Ser	Series GM Series		Series	AF Series			
440	140	3	80	F680VIC								
820	250	4	100	F6100VIC		G M	es	PR / PKR		ĞK		
1200	370	5	125	F6125VIC			Series	PR.		R ies		
1800	560	6	150	F6150VIC			DR			PKR Series		
3400	1050	8	200	F6200VIC				ear ty)				
5800	1800	10	250	F6250VIC				SY (2 Year Warranty)				
9000	2790	12	300	F6300VIC				SY				

			3-wa	ау		Suitable	Actuators		
		Valve Nominal Size		Туре	Non Fail-Safe		e	Fail	-Safe
C _V 90°	C _V 60°	IN	DN [mm]	3-way				Spring Return	Electronic
115	36	2	50	F750VIC	AM		స		
260	80	2½	65	F765VIC		GM Series	Serie		ries
440	140	3	80	F780VIC		G	KR (PKR Series
820	250	4	100	F7100VIC			PR / PKR Series		PK
1200	370	5	125	F7125VIC			<u> </u>		
1800	560	6	150	F7150VIC					
3400	1050	8	200	F7200VIC			Y Series (2 Year Varranty		
5800	1800	10	250	F7250VIC			SY Series (2 Year Warranty)		
9000	2790	12	300	F7300VIC		_			



Mode of Operation

Grooved butterfly valves are designed for body pressures ranging from full vacuum to 300 psi and for bi-directional, dead end services to full body pressure. The valve patented seat design ensures full 360° sealing. The pressure-enhanced seat compresses to form a larger seating area as the pressure increases. Valve construction and performance meet and exceed MSS-SP-67 requirements.

Product Features

The unique single offset disc and seat design ensures positive valve seating while maintaining low seating torque.

Actuator Specifications

on/off, floating point, modulating, 2-10 VDC, multi-function technology (MFT)
all models
3 ft. [1 m] cable terminal block (-T models)
BACnet MS/TP, NFC, listed by BTL

Valve Specifications

Service	chilled, hot water,
	60% glycol
Flow characteristic	F6 modified equal percentage
	F7 modified linear
Sizes	2" to 12"
End fitting	grooved ANSI/AWWA (C606)
Materials*	
Body	ductile iron ASTM A536,
	grade 65-45-12
Body finish	black alkyd enamel
Disc	electrolysis nickel coated
	ductile iron
Shaft	416 stainless steel
Seat	EPDM
Bearings	fiberglass with TFE lining
Media temp. range	-22°F to +250°F
	[-30°C to +120°C]
Body pressure rating	300 psi
Close-off pressure	200 psi (for most combinations)
Rangeability	100:1
Maximum velocity	20 FPS
Leakage	0%

*VIC® 300 Masterseal™ is manufactured by Victaulic Company

Control Valve Product Range

High Performance Butterfly Valve Product Range

			2-way Valve	s			Suitable Actuators							
		Valve							Fail-Safe					
		Nominal Size	Ту	I	Non Fa	iil-Safe)	Spring Return		Electronic				
C _V 90°	C _V 60°	Inches	ANSI 150 2-way	ANSI 300 2-way	150		300		150	300	150	300		
102	56	2	F650-150SHP	F650-300SHP	GM Series eries		10		- 10	40		- 10		
146	80	2½	F665-150SHP	F665-300SHP		60	GM Series	' 0	AF Series	AF Series	GK Series	GK Series		
228	125	3	F680-150SHP	F680-300SHP	S WE	Series	GIM S	eries	Series AF Se	AF S	GK S	GK S		
451	248	4	F6100-150SHP	F6100-300SHP		PR S		PR S						
714	392	5	F6125-150SHP	F6125-300SHP							PKR	PKR		
1103	607	6	F6150-150SHP	F6150-300SHP							<u>a</u>			
2064	1135	8	F6200-150SHP	F6200-300SHP				<u>~</u>						
3517	1934	10	F6250-150SHP	F6250-300SHP		anty)		rant						
4837	2660	12	F6300-150SHP	F6300-300SHP		Narr		SY (2 Year Warranty)						
6857	3592	14*	F6350-150SHP	F6350-300SHP		ear \		Year						
9287	4865	16*	F6400-150SHP	F6400-300SHP		; (2 Y		γ (2						
11400	6270	18*	F6450-150SHP	F6450-300SHP		SY Series (2 Year Warranty)		6						
14420	7590	20*	F6500-150SHP	F6500-300SHP		SY S								
22050	11550	24*	F6600-150SHP	F6600-300SHP										

Note: C_V values listed for ANSI Class 150 Butterfly Valves. Please consult the technical documentation for ANSI Class 300 C_V values and configurations.

^{*}Call Customer Service at 1-800-543-9038 for product availability. Longer lead times may apply.

			3-way Valve		Su	itable .	Actuat	ors		
		Valve Nominal Type Size				Non Fa	il-Safe)	Elect Fail-	ronic Safe
C _V 90°	C _V 60°	Inches	ANSI 150 ANSI 300 3-way 3-way			50	3(00	150	300
100	52	2	F750-150SHP	F750-300SHP			ies			es
143	75	2½	F765-150SHP	F765-300SHP	eries	Series	GM Series	Series	Series	GK Series
223	117	3	F780-150SHP	F780-300SHP	GM Series	PR S	S S	PR S	GK S	휹
435	228	4	F7100-150SHP	F7100-300SHP						PKR
688	361	5	F7125-150SHP	F7125-300SHP						
1041	546	6	F7150-150SHP	F7150-300SHP		anty)		anty)		
1911	1001	8	F7200-150SHP	F7200-300SHP		Year Warranty)		Year Warranty)		
3194	1673	10	F7250-150SHP	F7250-300SHP		ear \		ear \		
4428	2319	12	F7300-150SHP	F7300-300SHP		(2		; (2 Y		
5702	2986	14*	F7350-150SHP	F7350-300SHP		SY Series		SY Series (2		
8243	3988	16*	F7400-150SHP	F7400-300SHP		SY S		SY S		
9712	5088	18*	F7450-150SHP	F7450-300SHP						

Note: C_V values listed for ANSI Class 150 Butterfly Valves. Please consult the technical documentation for ANSI Class 300 C_V values and configurations.



Mode of Operation

High performance butterfly valves are designed for modulating and isolation service and feature a machined seat design and blow out proof solid shaft, providing better torque consistency, which offers longer actuator life and reduced risk of leakage. Available for a variety of high temperature and pressure ratings i.e., ASME/ANSI Class 300 or 150. Valve sizes range from 2 to 24 inches, with rangeabilities of 100:1, 0% leakage ratings, and a maximum valve velocity of 32 FPS.

Product Features

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

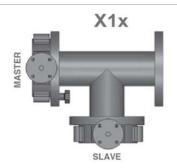
Actuator Specificati	ons
Control type	on/off, floating point, modulating, 2-10 VDC, multi-function technology (MFT)
Manual override	all models
Electrical connection	3 ft. [1 m] cable terminal block (-T models)
Communication (PR)	BACnet MS/TP, NFC, listed by BTL

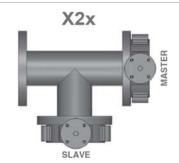
Valve Specifications	
Service	chilled or hot water,
	60% glycol, steam to 50 psi
Flow characteristic	F6 modified equal percentage,
	unidirectional
	F7 modified linear,
	unidirectional
Sizes	2" to 24"
End fitting	ASME/ANSI Class 150 or 300
Materials	
Body	carbon steel full lug
Disc	316 stainless steel
Shaft	17-4 PH stainless
Seat	RTFE
Gland seal	TFE
Bearings	glass backed PTFE
Media temp. range	-22°F to +400°F
	[-30°C to +204°C]
Body pressure rating	150 SHP: ASME/ANSI Class 150
	300 SHP: ASME/ANSI Class 300
Close-off pressure	150: 285 psi, 300: 600 psi
Rangeability	100:1
Maximum velocity	32 FPS
Leakage	0%

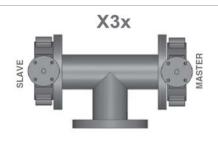
Double Dead End Service: Utilizes larger retainer ring set screws to allow the valve to be placed at the end of the line without a down stream flange in either flow direction while still holding full pressure.

^{*}Call Customer Service at 1-800-543-9038 for product availability. Longer lead times may apply.









CONFIG CODE	ON/OFF OR MOD@2 VDC MASTER VALVE IS	MASTER VALVE @ FAIL
X10	OPEN	FAIL IN PLACE
X11	OPEN	OPEN
X12	OPEN	CLOSED
X13	CLOSED	FAIL IN PLACE
X14	CLOSED	OPEN
X15	CLOSED	CLOSED

ON/OFF OR MOD@2 VDC MASTER VALVE IS	MASTER VALVE @ FAIL
OPEN	FAIL IN PLACE
OPEN	OPEN
OPEN	CLOSED
CLOSED	FAIL IN PLACE
CLOSED	OPEN
CLOSED	CLOSED
	MOD@2 VDC MASTER VALVE IS OPEN OPEN OPEN CLOSED CLOSED

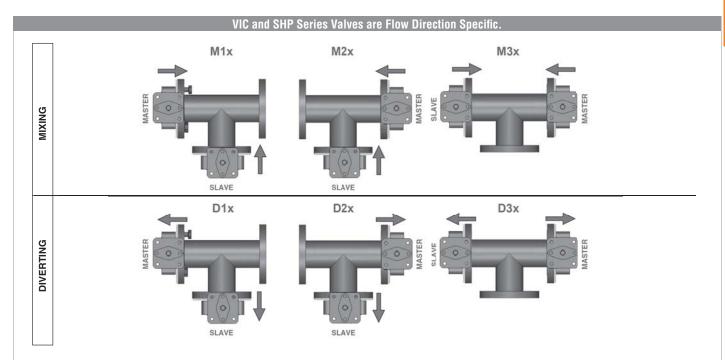
CONFIG CODE	ON/OFF OR MOD@2 VDC MASTER VALVE IS	MASTER VALVE @ FAIL
X30	OPEN	FAIL IN PLACE
X31	OPEN	OPEN
X32	OPEN	CLOSED
X33	CLOSED	FAIL IN PLACE
X34	CLOSED	OPEN
X35	CLOSED	CLOSED

X Specifies Bi-Directional Flow Capability

Notes:

- 1. Slave Valve operates inversely of the Master Valve.
- 2. The Master Valve is always located on the run.
- 3. The Slave Valve may also have an actuator if required (Direct Coupled).
- 4. On/Off actuator normal position is a function of field logic.
- 5. Modulating actuator normal position (i.e., fully CW or fully CCW) is set by the direction control switch or field programming via NFC app.
- 6. All 3-way assemblies are designed for 90 degree actuator rotation.
- 7. Actuators installed default over Master Valve.





CONFIG CODE	ON/OFF OR MOD@2VDC MASTER VALVE IS	MASTER VALVE @ FAIL
M(D)10	OPEN	FAIL IN PLACE
M(D)11	OPEN	OPEN
M(D)12	OPEN	CLOSED
M(D)13	CLOSED	FAIL IN PLACE
M(D)14	CLOSED	OPEN
M(D)15	CLOSED	CLOSED

CONFIG CODE	ON/OFF OR MOD@2VDC MASTER VALVE IS	MASTER VALVE @ FAIL
M(D)20	OPEN	FAIL IN PLACE
M(D)21	OPEN	OPEN
M(D)22	OPEN	CLOSED
M(D)23	CLOSED	FAIL IN PLACE
M(D)24	CLOSED	OPEN
M(D)25	CLOSED	CLOSED

CONFIG CODE	ON/OFF OR MOD@2VDC MASTER VALVE IS	MASTER VALVE @ FAIL
M(D)30	OPEN	FAIL IN PLACE
M(D)31	OPEN	OPEN
M(D)32	OPEN	CLOSED
M(D)33	CLOSED	FAIL IN PLACE
M(D)34	CLOSED	OPEN
M(D)35	CLOSED	CLOSED

M Specifies MIXING, D Specifies DIVERTING

Notes:

- 1. Slave Valve operates inversely of the Master Valve.
- 2. The Master Valve is always located on the run.
- 3. The Slave Valve may also have an actuator if required (Direct Coupled).
- 4. On/Off actuator normal position is a function of field logic.
- 5. Modulating actuator normal position (i.e., fully CW or fully CCW) is set by the direction control switch or field programming via NFC app.
- 6. All 3-way assemblies are designed for 90 degree actuator rotation.
- 7. Actuators installed default over Master Valve.

Butterfly Valve Selection

Velocity Chart



Flow in Sche	Flow in Schedule 40 Pipe (Fluid Velocity in GPM). Use with HD/L Series Butterfly Valves.								
VALVE	SIZE	2 FPS	4 FPS	6 FPS	8 FPS	10 FPS	12 FPS		
HD	2"	19	39	59	78	98	117		
HD	2½"	30	61	92	122	153	184		
HD	3"	44	88	132	176	220	264		
HD	4"	78	157	235	313	392	470		
HD	5"	122	245	367	490	612	734		
HD	6"	176	352	529	705	881	1058		
L	8"	313	627	940	1253	1567	1880		
L	10"	490	979	1469	1958	2448	2738		
L	12"	705	1410	2115	2820	3525	4230		
HD	14"	959	1919	2879	3838	4798	5758		
HD	16"	1253	2507	3760	5013	6267	7520		
HD	18"	1586	3173	4759	6345	7931	9518		
HD	20"	1958	3917	5875	7834	9792	11750		
HD	24"	2820	5640	8460	11280	14100	16921		

It is not recommended to exceed 12 feet per second through resilient seat butterfly valves.

Velocities greater than 12 fps may damage the valve liner and disc. Torque may increase, potentially exceeding the actuator's capacity.

Flow in Sch	Flow in Schedule 40 Pipe (Fluid Velocity in GPM). Use with Grooved Series Butterfly Valves.										
SIZE	1 FPS	3 FPS	5 FPS	8 FPS	10 FPS	12 FPS	15 FPS	16 FPS	20 FPS		
2"	10	31	52	84	105	126	157	167	209		
2½"	15	45	75	119	149	179	224	239	298		
3"	23	69	115	184	230	277	346	369	461		
4"	40	119	198	317	397	476	595	635	794		
5"	62	187	312	499	624	748	935	998	1247		
6"	90	270	450	720	900	1081	1351	1441	1801		
8"	156	468	780	1247	1559	1871	2339	2495	3119		
10"	246	737	1229	1966	2458	2949	3687	3932	4916		
12"	353	1058	1763	2820	3525	4230	5288	5640	7050		

It is not recommended to exceed 20 feet per second through grooved butterfly valves. Velocities greater than 20 fps may damage the valve.

SHP Flow in So	SHP Flow in Schedule 40 Pipe (Fluid Velocity in GPM). Use with SHP Series Butterfly Valves.									
SIZE	4 FPS	8 FPS	12 FPS	16 FPS	20 FPS	24 FPS	28 FPS	32 FPS		
2"	39	78	118	157	196	235	274	313		
2½"	61	122	184	245	306	367	428	490		
3"	88	176	264	353	441	529	617	705		
4"	157	313	470	627	783	940	1097	1253		
5"	245	490	734	979	1224	1469	1714	1958		
6"	352	705	1058	1410	1763	2115	2468	2820		
8"	627	1253	1880	2507	3133	3760	4387	5013		
10"	979	1958	2738	3917	4896	5875	6854	7834		
12"	1410	2820	4230	5640	7050	8460	9870	11280		
14"	1919	3838	5758	7677	9596	11515	13435	15354		
16"	2507	5013	7520	10027	12534	15040	17547	20054		
18"	3173	6345	9518	12690	15863	19036	22208	25381		
20"	3917	7834	11750	15667	19584	23501	27418	31334		
24"	5640	11280	16921	22561	28201	33841	39481	45121		

It is not recommended to exceed 32 feet per second through high performance butterfly valves. Velocities greater than 32 fps may damage the valve.



					CC	ONTROL TYPE			
SERIES	MODEL #	Run Time(s) 90° @60Hz	Power Supply	Duty Cycle	Modulating	3 Point	On/Off	Feedback	List Price
	PRBUP-3-T*	35 seconds (default)	24-240 VAC/ 24-125 VDC, 50/60 Hz	100%		•	•	none	\$2,421
PR	PRXUP-3-T*	35, 30 - 120 seconds	24-240 VAC/ 24-125 VDC, 50/60 Hz	100%		•	•	none	\$2,421
	PRXUP-MFT-T*	35, 30 - 120 seconds	24-240 VAC/ 24-125 VDC, 50/60 Hz	100%	•			2-10 VDC	\$4,639
PKR	PKRXUP-MFT-T*	35, 30 - 120 seconds	24-240 VAC/ 24-125 VDC, 50/60 Hz	100%	•			2-10 VDC	\$5,639
	SY4-110	18 seconds	120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$3,197
	SY4-24	30 seconds	24 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$3,197
SY4	SY4-220	18 seconds	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$3,197
314	SY4-24MFT	23 seconds	24 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC	\$5,873
	SY4-120MFT	17 seconds	120 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC	\$5,873
	SY4-230MFT	17 seconds	230 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC	\$5,873
	SY5-110	25 seconds	120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$3,697
	SY5-24	35 seconds	24 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$3,697
SY5	SY5-220	25 seconds	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$3,697
313	SY5-24MFT	29 seconds	24 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC	\$6,395
	SY5-120MFT	21 seconds	120 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC	\$6,395
	SY5-230MFT	22 seconds	230 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC	\$6,395
	SY6-110	36 seconds	120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$4,481
SY6	SY6-220	31 seconds	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$4,481
310	SY6-120MFT	29 seconds	120 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC	\$7,221
	SY6-230MFT	32 seconds	230 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC	\$7,221
	SY7-110	49 seconds	120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$5,379
SY7	SY7-220	48 seconds	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$5,379
317	SY7-120MFT	44 seconds	120 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC	\$8,057
	SY7-230MFT	44 seconds	230 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC	\$8,057
	SY8-110	50 seconds	120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$7,445
SY8	SY8-220	49 seconds	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$7,445
310	SY8-120MFT	48 seconds	120 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC	\$10,182
	SY8-230MFT	57 seconds	230 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC	\$10,182
	SY9-110	57 seconds	120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$9,214
SY9	SY9-220	57 seconds	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$9,214
313	SY9-120MFT	47 seconds	120 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC	\$11,973
	SY9-230MFT	61 seconds	230 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC	\$11,973
	SY10-110	62 seconds	120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$9,670
SY10	SY10-220	62 seconds	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$9,670
0110	SY10-120MFT	51 seconds	120 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC	\$12,433
	SY10-230MFT	70 seconds	230 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC	\$12,433
	SY11-110	69 seconds	120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$12,870
SY11	SY11-220	64 seconds	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$12,870
0111	SY11-120MFT	56 seconds	120 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC	\$15,648
	SY11-230MFT	48 seconds	230 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC	\$15,648
	SY12-110	60 seconds	120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$13,777
SY12	SY12-220	61 seconds	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k Ω	\$13,777
0112	SY12-120MFT	62 seconds	120 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC	\$16,374
	SY12-230MFT	51 seconds	230 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC	\$16,374

Modulating actuators will accept 0-10 VDC or 2-10 VDC control signals as standard.

All SY actuators are non fail-safe, but can be used with back up systems for fail-safe applications. Fail safe options available with PKR.

SY products carry a two year warranty when sold as part of an assembly or with a UFLK retrofit kit.
*-200 and -250 versions have the same ratings.

BELIMO

Power Supply 24 VAC/VDC Single Phase

Model #	Torque	Speed 50 Hz/60 Hz	Current Draw (50 Hz)	Current Draw (60 Hz)	W (50 Hz)	W (60 Hz)	VA (50 Hz)	VA (60 Hz)	Override	Weight
PRBUP-3-T*	1400 in-lbs/ 160 Nm	35 seconds	0.8 A	0.8 A	20	20	20	20	Manual override crank	5.8 kg/12.8 lbs.
PRXUP-3-T*	1400 in-lbs/ 160 Nm	35, 30-120 seconds	0.8 A	0.8 A	20	20	20	20	Manual override crank	5.8 kg/12.8 lbs.
SY4-24	3540 in-lbs/ 400 Nm	30 seconds	9.5 A	9.5 A	208	212	228	228	Hand wheel	22 kg/48.5 lbs.
SY5-24	4430 in-lbs/ 500 Nm	35 seconds	9.3 A	9.4 A	178	168	223	227	Hand wheel	22 kg/48.5 lbs.

Power Supply 120 VAC Single Phase

Model #	Torque	Speed 50 Hz	Speed 60 Hz	Current Draw (50 Hz)	Current Draw (60 Hz)	W (50 Hz)	W (60 Hz)	VA (50 Hz)	VA (60 Hz)	Override	Weight
PRBUP-3-T*	1400 in-lbs/ 160 Nm	35 seconds	35 seconds	0.2 A	0.2 A	18	18	23	23	Manual override crank	5.8 kg/12.8 lbs.
PRXUP-3-T*	1400 in-lbs/ 160 Nm	35, 30-120 seconds	35, 30-120 seconds	0.2 A	0.2 A	18	18	23	23	Manual override crank	5.8 kg/12.8 lbs.
SY4-110	3540 in-lbs/ 400 Nm	21 seconds	18 seconds	2.2 A	1.8 A	240	196	264	216	Hand wheel	22 kg/48.5 lbs.
SY5-110	4430 in-lbs/ 500 Nm	29 seconds	25 seconds	2.2 A	1.8 A	242	193	264	216	Hand wheel	22 kg/48.5 lbs.
SY6-110	5750 in-lbs/ 650 Nm	37 seconds	32 seconds	2.2 A	1.8 A	247	198	264	216	Hand wheel	22 kg/48.5 lbs.
SY7-110	8850 in-lbs/ 1000 Nm	59 seconds	49 seconds	6.4 A	3.5 A	670	385	768	420	Hand wheel	36 kg/79.5 lbs.
SY8-110	13280 in-lbs/ 1500 Nm	60 seconds	50 seconds	8.2 A	4.8 A	847	514	984	576	Hand wheel	36 kg/79.5 lbs.
SY9-110	17700 in-lbs/ 2000 Nm	68 seconds	57 seconds	2.7 A	2.8 A	304	311	324	336	Hand wheel	72 kg/176.4 lbs.
SY10-110	22130 in-lbs/ 2500 Nm	75 seconds	62 seconds	2.8 A	2.9 A	318	335	336	348	Hand wheel	72 kg/176.4 lbs.
SY11-110	26550 in-lbs/ 3000 Nm	78 seconds	69 seconds	3.3 A	3.6 A	365	387	396	432	Hand wheel	72 kg/176.4 lbs.
SY12-110	30980 in-lbs/ 3500 Nm	72 seconds	60 seconds	3.7 A	3.8 A	415	422	444	456	Hand wheel	72 kg/176.4 lbs.

Power Supply 230 VAC Single Phase

1 ower ouppry	Zou VAG olligie Filase										
Model #	Torque	Speed 50 Hz	Speed 60 Hz	Current Draw (50 Hz)	Current Draw (60 Hz)	W (50 Hz)	W (60 Hz)	VA (50 Hz)	VA (60 Hz)	Override	Weight
PRBUP-3-T*	1400 in-lbs/ 160 Nm	35 sec.	35 sec.	0.2 A	0.2 A	20	20	52	52	Manual override crank	5.8 kg/12.8 lbs.
PRXUP-3-T*	1400 in-lbs/ 160 Nm	35, 30-120 sec.	35, 30-120 sec.	0.2 A	0.2 A	20	20	52	52	Manual override crank	5.8 kg/12.8 lbs.
SY4-220	3540 in-lbs/ 400 Nm	21 seconds	18 seconds	1.1 A	0.9 A	221	180	253	207	Hand wheel	22 kg/48.5 lbs.
SY5-220	4430 in-lbs/ 500 Nm	29 seconds	25 seconds	1.1 A	0.9 A	216	179	253	207	Hand wheel	22 kg/48.5 lbs.
SY6-220	5750 in-lbs/ 650 Nm	38 seconds	31 seconds	1.0 A	0.9 A	193	177	230	207	Hand wheel	22 kg/48.5 lbs.
SY7-220	8850 in-lbs/ 1000 Nm	58 seconds	48 seconds	1.8 A	1.4 A	381	290	414	322	Hand wheel	36 kg/79.5 lbs.
SY8-220	13280 in-lbs/ 1500 Nm	59 seconds	49 seconds	1.9 A	1.4 A	428	294	437	322	Hand wheel	36 kg/79.5 lbs.
SY9-220	17700 in-lbs/ 2000 Nm	68 seconds	57 seconds	1.6 A	2.4 A	356	509	368	552	Hand wheel	72 kg/176.4 lbs.
SY10-220	22130 in-lbs/ 2500 Nm	73 seconds	62 seconds	1.7 A	2.5 A	377	531	391	579	Hand wheel	72 kg/176.4 lbs.
SY11-220	26550 in-lbs/ 3000 Nm	46 seconds	64 seconds	1.8 A	2.5 A	397	547	414	579	Hand wheel	72 kg/176.4 lbs.
SY12-220	30980 in-lbs/ 3500 Nm	74 seconds	61 seconds	1.8 A	2.4 A	409	505	414	552	Hand wheel	72 kg/176.4 lbs.

 $^{^{\}star}\text{-}200$ and -250 versions have the same ratings.



Power Supply 24 VAC/VDC Single Phase

Model #	Torque	Speed 50 Hz/60 Hz	Current Draw (50 Hz)	Current Draw (60 Hz)	W (50 Hz)	W (60 Hz)	VA (50 Hz)	VA (60 Hz)	Override	Weight
PRXUP-MFT-T*	1400 in-lbs/160 Nm	30-120 sec.	0.9 A	0.9 A	20	20	20	20	Manual override crank	5.8 kg/12.8 lbs.
PKRXUP-MFT-T*	1400 in-lbs/160 Nm	30-120 sec.	2.2 A	2.2 A	52	52	55	55	Manual override crank	6.4 kg/14.1 lbs.
SY4-24MFT	3540 in-lbs/ 400 Nm	23 seconds	11.0 A	11.0 A	254	251	264	264	Hand wheel	22 kg/48.5 lbs.
SY5-24MFT	4430 in-lbs/ 500 Nm	30 seconds	10.2 A	10.2 A	232	230	245	245	Hand wheel	22 kg/48.5 lbs.

Power Supply 120 VAC Single Phase

Model #	Torque	Speed 50 Hz	Speed 60 Hz	Current Draw (50 Hz)	Current Draw (60 Hz)	W (50 Hz)	W (60 Hz)	VA (50 Hz)	VA (60 Hz)	Override	Weight
PRXUP-MFT-T*	1400 in-lbs/160 Nm	30-120 sec.	30-120 sec.	0.2 A	0.2 A	18	18	23	23	Manual override crank	5.8 kg/12.8 lbs.
PKRXUP-MFT-T*	1400 in-lbs/160 Nm	30-120 sec.	30-120 sec.	0.3 A	0.3 A	40	40	43	43	Manual override crank	6.4 kg/14.1 lbs.
SY4-120MFT	3540 in-lbs/ 400 Nm	16 seconds	17 seconds	2.3 A	2.4 A	258	256	276	288	Hand wheel	22 kg/48.5 lbs.
SY5-120MFT	4430 in-lbs/ 500 Nm	21 seconds	21 seconds	2.3 A	2.3 A	216	208	276	276	Hand wheel	22 kg/48.5 lbs.
SY6-120MFT	5750 in-lbs/ 650 Nm	28 seconds	29 seconds	2.2 A	2.2 A	240	236	264	264	Hand wheel	22 kg/48.5 lbs.
SY7-120MFT	8850 in-lbs/ 1000 Nm	41 seconds	44 seconds	1.8 A	1.7 A	198	192	216	204	Hand wheel	36 kg/79.5 lbs.
SY8-120MFT	13280 in-lbs/ 1500 Nm	48 seconds	48 seconds	2.6 A	2.6 A	275	266	312	312	Hand wheel	36 kg/79.5 lbs.
SY9-120MFT	17700 in-lbs/ 2000 Nm	47 seconds	47 seconds	3.6 A	3.4 A	397	382	432	408	Hand wheel	72 kg/176.4 lbs.
SY10-120MFT	22130 in-lbs/ 2500 Nm	52 seconds	51 seconds	4.0 A	4.0 A	450	445	480	480	Hand wheel	72 kg/176.4 lbs.
SY11-120MFT	26550 in-lbs/ 3000 Nm	55 seconds	56 seconds	3.1 A	3.0 A	332	318	372	360	Hand wheel	72 kg/176.4 lbs.
SY12-120MFT	30980 in-lbs/ 3500 Nm	61 seconds	62 seconds	3.6 A	3.4 A	386	368	432	408	Hand wheel	72 kg/176.4 lbs.

Power Supply 230 VAC Single Phase

Model #	Torque	Speed 50 Hz	Speed 60 Hz	Current Draw (50 Hz)	Current Draw (60 Hz)	W (50 Hz)	W (60 Hz)	VA (50 Hz)	VA (60 Hz)	Override	Weight
PRXUP-MFT-T*	1400 in-lbs/160 Nm	30-120 sec.	30-120 sec.	0.1 A	0.1 A	20	20	52	52	Manual override crank	5.8 kg/12.8 lbs.
PKRXUP-MFT-T*	1400 in-lbs/160 Nm	30-120 sec.	30-120 sec.	0.2 A	0.2 A	40	40	68	68	Manual override crank	6.4 kg/14.1 lbs.
SY4-230MFT	3540 in-lbs/ 400 Nm	16 seconds	17 seconds	1.1 A	1.1 A	222	217	253	253	Hand wheel	22 kg/48.5 lbs.
SY5-230MFT	4430 in-lbs/ 500 Nm	22 seconds	22 seconds	1.1 A	1.0 A	211	200	253	230	Hand wheel	22 kg/48.5 lbs.
SY6-230MFT	5750 in-lbs/ 650 Nm	32 seconds	32 seconds	1.1 A	1.1 A	236	232	253	253	Hand wheel	22 kg/48.5 lbs.
SY7-230MFT	8850 in-lbs/ 1000 Nm	44 seconds	44 seconds	0.9 A	0.8 A	167	157	207	184	Hand wheel	36 kg/79.5 lbs.
SY8-230MFT	13280 in-lbs/ 1500 Nm	55 seconds	57 seconds	1.3 A	1.4 A	288	286	299	322	Hand wheel	36 kg/79.5 lbs.
SY9-230MFT	17700 in-lbs/ 2000 Nm	61 seconds	61 seconds	1.1 A	1.1 A	240	233	253	253	Hand wheel	72 kg/176.4 lbs.
SY10-230MFT	22130 in-lbs/ 2500 Nm	72 seconds	70 seconds	1.4 A	1.4 A	277	284	322	322	Hand wheel	72 kg/176.4 lbs.
SY11-230MFT	26550 in-lbs/ 3000 Nm	44 seconds	48 seconds	2.0 A	1.9 A	376	363	460	437	Hand wheel	72 kg/176.4 lbs.
SY12-230MFT	30980 in-lbs/ 3500 Nm	47 seconds	51 seconds	2.2 A	2.0 A	490	456	506	460	Hand wheel	72 kg/176.4 lbs.

 $[\]ensuremath{^{*}\text{-}200}$ and $\ensuremath{^{\text{-}250}}$ versions have the same ratings.

Customize Products

Default and MFT Programming Codes



				CONTROL			
ACTUATOR	ТҮРЕ	CONFIGURATION DESCRIPTION	CODE	CONTROL INPUT	FEEDBACK POSITION	RUNNING TIME**	List Price
	-MFT	P-10001*	A01*	2-10 VDC	2-10 VDC	150 seconds	No Charge
GR,		P-10002	A02	0.5-10 VDC	0-10 VDC	150 seconds	No Charge
Standard Actuator Series: AR, AM, GR, GM,GKR, AFR, AF, DKR		P-10003	A03	2-10 VDC	0-5.10 VDC	150 seconds	No Charge
d Actuator Series: AR, A GM,GKR, AFR, AF, DKR		P-10019	A19	2-10 VDC	2-10 VDC	100 seconds	No Charge
ries:		P-10028	A28	0.5-10 VDC	0.5-10 VDC	100 seconds	No Charge
r Sei		P-10063	A63	0.5-4.5 VDC	0.5- 4.5 VDC	150 seconds	No Charge
uato XKR,		P-10064	A64	5.5-10 VDC	5.5-10.0 VDC	150 seconds	No Charge
a Act		P-20002	W02	0.02 to 5.00 seconds PWM	2-10 VDC	150 seconds	No Charge
nd arc		P-20003	W03	0.10 to 25.50 seconds PWM	2-10 VDC	150 seconds	No Charge
Star		P-30001	F01	Floating Point	2-10 VDC	150 seconds	No Charge
		P-40002	J02	On/Off	2-10 VDC	150 seconds	No Charge
	-3, -T	N/A	L01*	On/Off	N/A	35 seconds	No Charge
		N/A	L02	On/Off	N/A	60 seconds	No Charge
	-MFT	NC	L05*	2-10 VDC	2-10 VDC	35 seconds	No Charge
		NC	L06	2-10 VDC	2-10 VDC	60 seconds	No Charge
		NC	L09	0.5-10 VDC	0.5-10 VDC	35 seconds	No Charge
ries		NC	LOA	0.5-10 VDC	0.5-10 VDC	60 seconds	No Charge
PR Series		NC	LOD	4-20 mA	2-10 VDC	35 seconds	No Charge
		NC	LOE	4-20 mA	2-10 VDC	60 seconds	No Charge
		NO	LOH	2-10 VDC	2-10 VDC	35 seconds	No Charge
		NO	LOJ	2-10 VDC	2-10 VDC	60 seconds	No Charge
		NO	LOM	0.5-10 VDC	0.5-10 VDC	35 seconds	No Charge
		NO	LOR	4-20 mA	2-10 VDC	35 seconds	No Charge
		NC-FC	L21	On/Off, Floating Point	2-10 VDC	35 seconds	No Charge
		NC-FO	L25	On/Off, Floating Point	2-10 VDC	35 seconds	No Charge
		NO-FC	L29	On/Off, Floating Point	2-10 VDC	35 seconds	No Charge
		NO-FO	L2D	On/Off, Floating Point	2-10 VDC	35 seconds	No Charge
		NC-FC	L31*	2-10 VDC	2-10 VDC	35 seconds	No Charge
		NC-FO	L35	2-10 VDC	2-10 VDC	35 seconds	No Charge
		NO-FC	L39	2-10 VDC	2-10 VDC	35 seconds	No Charge
S		NO-FO	L3D	2-10 VDC	2-10 VDC	35 seconds	No Charge
PKR Series		NC-FC	L41	0.5-10 VDC	0.5-10 VDC	35 seconds	No Charge
ΚR		NC-FO	L45	0.5-10 VDC	0.5-10 VDC	35 seconds	No Charge
		NO-FC	L49	0.5-10 VDC	0.5-10 VDC	35 seconds	No Charge
		NO-FO	L4D	0.5-10 VDC	0.5-10 VDC	35 seconds	No Charge
		NC-FC	L51	4-20 mA	2-10 VDC	35 seconds	No Charge
		NC-FO	L55	4-20 mA	2-10 VDC	35 seconds	No Charge
		NO-FC	L59	4-20 mA	2-10 VDC	35 seconds	No Charge
		NO-FO	L59	4-20 mA	2-10 VDC	35 seconds	No Charge
		NO-FO	L5E	4-20 mA		60 seconds	
	-MFT	Loss of Signal Stop	ACE*	2-10 VDC	2-10 VDC 2-10 VDC	Varies (15-20 seconds)	No Charge
	-IVIT I	Loss of Signal Stop	ACF	0.5-10 VDC	0.5-10 VDC	Varies (15-20 seconds)	No Charge
		Loss of Signal Stop	ACG	4-20 mA	4-20 mA	,	No Charge
						Varies (15-20 seconds)	
SY Series		Loss of Signal Open	ACJ	2-10 VDC	2-10 VDC 0.5-10 VDC	Varies (15-20 seconds)	No Charge
S. Y. S.		Loss of Signal Open	ACK	0.5-10 VDC		Varies (15-20 seconds)	No Charge
3,		Loss of Signal Open	ACL	4-20 mA	4-20 mA	Varies (15-20 seconds)	No Charge
		Loss of Signal Close	ACN	2-10 VDC	2-10 VDC	Varies (15-20 seconds)	No Charge
		Loss of Signal Close	ACP	0.5-10 VDC	0.5-10 VDC	Varies (15-20 seconds)	No Charge
*Default co		Loss of Signal Close	ACR	4-20 mA	4-20 mA	Varies (15-20 seconds)	No Charge

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

^{*}Default configuration **Additional running times available upon request

BELIMO

F6/F7 HD and HDU Series Butterfly Valves with Non Fail-Safe Actuators

2-way and 3-way Valves, Undercut and Full Rated Disc

Valve Specifications

Service	chilled or hot water, up to 60% glycol
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ANSI Class 125/150 flanges
Body	ductile iron ASTM A536
Body Finish	epoxy powder coated
Disc	304 stainless steel
Shaft	416 stainless steel
Seat	EPDM
O-ring	EPDM
Bushings	RPTFE
Media Temperature Range (Water)	-22°F to +250°F [-30°C to +120°C]
Rangeabilty	10:1
Maximum Velocity	12 FPS







ACTUATOR PART #	ARX24-3	ARX24-MFT	GRX24-3	GRCX120-3	GRX24-MFT	DRCX24-3-T	DRCX120-3	DRX24-MFT-T
Control	On/Off, Floating Point	Modulating/ MFT	On/Off, Floating Point	On/Off, Floating Point	Modulating/ MFT	On/Off, Floating Point	On/Off, Floating Point	Modulating/ MFT
Manual Override	•	•	•	•	•	•	•	•
Running Time (Motor)	90 seconds	150 seconds (variable)	150 seconds	35 seconds	150 seconds (variable)	35 seconds	35 seconds	150 seconds (variable)
Electrical Connection	3 ft, 18 GA appliance rated cable with ½" conduit connector	3 ft, 18 GA appliance rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA appliance rated cable with ½" conduit connector	3 ft, 18 GA appliance rated cable with ½" conduit connector	screw terminal (for 22 to 12 AWG wire)	3 ft, 18 GA appliance rated cable with ½" conduit connector	screw terminal (for 22 to 12 AWG wire)

2-Way Undercut Disc

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]								
F680HDU	302	116	3" [80]		50	\$763	\$924						
F6100HDU	600	230	4" [100]	Consistent with ANSI	50			\$992	\$980	\$1,088			
F6125HDU	1022	392	5" [125]	Class 125	50			\$1,102	\$1,100	\$1,198			
F6150HDU	1579	605	6" [125]	01033 123	50						\$1 622	\$1,600	\$1.832

2-Way Full Rated Disc

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]								
F650HD	115	44	2" [50]		200	\$702	\$851		\$747				
F665HD	196	75	2.5" [65]	Consistent	200	\$733	\$888		\$777				
F680HD	302	116	3" [80]	with ANSI	200			\$881	\$925	\$997			
F6100HD	600	230	4" [100]	Class 125	200						\$1,196	\$1,200	\$1,347
F6125HD	1022	392	5" [125]		200						\$1,292	\$1,350	\$1,441

ACTUATOR PART #	AMB24-3-X1	AMX24-MFT-X1	GMB24-3-X1	GMX24-MFT-X1	2*GMX24-MFT-X1
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•	•	•
Running Time (Motor)	90 seconds	150 seconds (variable)	150 seconds	150 seconds (variable)	150 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	18 GA applicance rated cable with ½" conduit connector

3-Way Mixing/Diverting Undercut Disc

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F780HDU	302	116	3" [80]		50		\$1,792	\$2,014	
F7100HDU	600	230	4" [100]	Consistent with ANSI	50				\$2,984
F7125HDU	1022	392	5" [125]	Class 125	50				\$3,258
F7150HDU	1579	605	6" [125]	01033 120	50				\$3,352

3-Way Mixing/Diverting Full Rated Disc

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]					
F750HD	115	44	2" [50]	Consistent	200	\$1,468	\$1,667			
F765HD	196	75	2.5" [65]	with ANSI	200			\$1,771	\$2,005	
F780HD	302	116	3" [80]	Class 125	200					\$2,732

800-543-9038 USA

866-805-7089 CANADA

F6/F7 HD...Series Butterfly Valves with Spring Return and Electronic Fail-Safe Actuators



2-way and 3-way Valves, Standard (Full Rated) Disc

Valve Specifications

Service	chilled or hot water, up to 60% glycol
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ANSI Class 125/150 flanges
Body	ductile iron ASTM A536
Body Finish	epoxy powder coated
Disc	304 stainless steel
Shaft	416 stainless steel
Seat	EPDM
O-ring	EPDM
Bushings	RPTFE
Media Temperature Range (Water)	-22°F to +250°F [-30°C to +120°C]
Rangeabilty	10:1
Maximum Velocity	12 FPS





ACTUATOR PART #	AFRXUP	AFRX24-MFT	2*AFX24-MFT-X1	GKX24-MFT-X1	DKRX24-3-T	DKRX24-MFT-T
Control	On/Off	Modulating/MFT	Modulating/MFT	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•	•
Running Time (Motor)	<75 seconds	150 seconds (variable)	150 seconds (variable)	150 seconds (variable)	150 seconds (variable)	150 seconds (variable)
Running Time (Fail-Safe)	20 seconds	20 seconds	20 seconds	35 seconds	35 seconds	35 seconds
Electrical Connection	3 ft, 18 GA appliance cables with ½" conduit connector	18 GA applicance rated cable with ½" conduit connector	18 GA applicance rated cable with ½" conduit connector	18 GA applicance rated cable with ½" conduit connector	terminal block	terminal block

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]						
F650HD	115	44	2" [50]		200	\$1,006	\$1,093				
F665HD	196	75	2.5" [65]	Consistent	200	\$1,030	\$1,229				
F680HD	302	116	3" [80]	with ANSI	200			\$2,000	\$2,084		
F6100HD	600	230	4" [100]	Class 125	200					\$1,572	\$2,167
F6125HD	1200	370	5" [125]		200					\$2,308	\$2,715

ACTUATOR PART #	AFBUP-X1	AFX24-MFT-X1	GKX24-MFT-X1	2*GKX24-MFT-X1
Control	On/Off	Modulating/MFT	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	<75 seconds	150 seconds (variable)	150 seconds (variable)	150 seconds (variable)
Running Time (Fail-Safe)	20 seconds	<20 seconds	35 seconds	35 seconds
Electrical Connection	3 ft, 18 GA appliance cable, with ½" conduit connector	18 GA applicance rated cable with ½" conduit connector	18 GA plenum rated cable with ½" conduit connector protected	18 GA plenum rated cable with ½" conduit connector

3-Way Mixing/Diverting

Model	# Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F750HD	115	44	2" [50]	Consistent	200	\$1,722	\$2,014		
F765HD	196	75	2.5" [65]	with ANSI	200			\$2,935	
F780HD	302	116	3" [80]	Class 125	200				\$3,808

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



chilled or hot water, up to 60%

modified equal percentage for use with ANSI Class 125/150

-22°F to +250°F [-30°C to +120°C]

ductile iron ASTM A536

304 stainless steel

glycol

HD Series epoxy powder coated
L Series polyester powder coated

HD Series 416 stainless steel L Series 420 stainless steel EPDM

EPDM HD Series RPTFE

10:1

L Series bronze, steel, PTFE

Valve Specifications

Flow Characteristic

Service

End Fitting

Body Body Finish

Disc

Shaft

Seat O-ring

Bushings

(Water) Rangeabilty

Media Temperature Range

F6/F7 HD, HDU, and L Series Butterfly Valves with NEMA 4 Non Fail-Safe Actuators

2-way and 3-way Valves, Undercut and Full Rated Disc







Maximum Velocity	12 FPS						-		
ACTUATOR PART #	GRCX24-3-T N4	GRX24-MFT-T N4	DRCX24-3-T N4	DRX24-MFT-T N4	PRBUP- 3-T-200	PRBUP- 3-T-250	PRXUP- MFT-T-200	PRXUP- MFT-T-250	
Control		On/Off, Floating Point	Modulating/ MFT	On/Off, Floating Point	Modulating/ MFT	On/Off, Floating Point	On/Off, Floating Point	Modulating/ MFT	Modulating/ MFT
Manual Override	•	•	•	•	•	•	•	•	
Running Time (Motor)	Running Time (Motor)			35 seconds	150 seconds (variable)	35 seconds (default)	35 seconds (default)	35 seconds (default)	35 seconds (default)
(2) Temperature Sensor Inp	uts							•	•
BACnet Communication							•	•	
Electrical Connection	terminal block	terminal block	screw terminal	screw terminal	terminal block	terminal block	terminal block	terminal block	
2-Way Undercut Disc									

/ Undercu	

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]								
F680HDU	302	116	3" [80]		50	\$1,683	\$1,798						
F6100HDU	600	230	4" [100]	Consistent	50	\$1,776	\$1,892						
F6125HDU	1022	392	5" [125]	with ANSI Class 125	50	\$1,848	\$1,963						
F6150HDU	1579	605	6" [125]	01000 120	50			\$2,710	\$2,924				
F6200LU	3136	1202	8" [200]	Max.	50					\$3,959		\$5,398	
F6250LU	5340	2047	10" [250]	Pressure 232 psi	50						\$5,046		\$7,250

ACTUATOR PART #	PRBUP-3-T	PRBUP-3-T-200	PRBUP-3-T-250	PRXUP-MFT-T	PRXUP-MFT-T-200	PRXUP-MFT-T-250
Control	On/Off, Floating Point	On/Off, Floating Point	On/Off, Floating Point	Modulating/MFT	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•	•	•	•
Running Time (Motor)	35 seconds (default), 30-120 field adjustable					
(2) Temperature Sensor Inputs				•	•	•
BACnet Communication				•	•	•
Electrical Connection	terminal block					

2-Way Full Rated Disc

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]						
F6100HD	600	230	4" [100]	Consistent	200	\$2,619			\$4,019		
F6125HD	1022	392	5" [125]	with ANSI Class	200	\$3,309			\$4,720		
F6150HD	1579	605	6" [150]	125	200	\$3,441			\$4,831		
F6200L	3136	1202	8" [200]	Max.	200		\$4,994			\$6,435	
F6250L	5340	2047	10" [250]	Pressure	200			\$6,131			\$7,511
F6300L	8250	3162	12" [300]	232 psi	200	\$7,885			\$9,522		

3-Way Mixing/Diverting Full Rated Disc

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]						
F7100HD	600	230	4" [100]	Consistent	200	\$5,390			\$6,719		
F7125HD	1022	392	5" [125]	with ANSI Class	200	\$5,623			\$7,095		
F7150HD	1579	605	6" [150]	125	200	\$6,425			\$7,765		
F7200L	3136	1202	8" [200]	Max.	200		\$7,572			\$9,054	
F7250L	5340	2047	10" [250]	Pressure	200			\$10,180			\$11,530
F7300L	8250	3162	12" [300]	232 psi	200	\$12,835			\$14,217		

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN

F6/F7 HD, and L Series Butterfly Valves with NEMA 4X Electronic Fail-Safe Actuators



2-way and 3-way Valves, Standard (Full Rated) Disc

Valve Specifications

Service		chilled or hot water, up to 60% glycol
Flow Characte	ristic	modified linear
End Fitting		for use with ANSI Class 125/150 flanges
Body		ductile iron ASTM A536
Body Finish	HD Series	epoxy powder coated
	L Series	polyester powder coated
Disc		304 stainless steel
Shaft	HD Series	416 stainless steel
	L Series	420 stainless steel
Seat		EPDM
0-ring		EPDM
Bushings	HD Series	RPTFE
	L Series	bronze, steel, PTFE
Media Temper (Water)	ature Range	-22°F to +250°F [-30°C to +120°C]
Rangeabilty		10:1
Maximum Velo	ocity	12 FPS







ACTUATOR PART #	PKRXUP-MFT-T	PKRXUP-MFT-T-200	PKRXUP-MFT-T-250
Control	Modulating/MFT	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	35 seconds (default), 30-120 field adjustable	35 seconds (default), 30-120 field adjustable	35 seconds (default), 30-120 field adjustable
Running Time (Fail-Safe)	30 seconds	30 seconds	30 seconds
(2) Temperature Sensor Inputs	•	•	•
BACnet Communication	•	•	•
Noise Level (Motor)	<68 dB (A)	<68 dB (A)	<68 dB (A)
Electrical Connection	terminal block	terminal block	terminal block

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]			
F6100HD	600	230	4" [100]	Consistent	200	\$5,099		
F6125HD	1022	392	5" [125]	with ANSI Class	200	\$5,808		
F6150HD	1579	605	6" [150]	125	200	\$5,921		
F6200L	3136	1202	8" [200]	Max.	200		\$7,560	
F6250L	5340	2047	10" [250]	Pressure	200			\$8,652
F6300L	8250	3162	12" [300]	232 psi	200	\$10,379		

3-Way Mixing/Diverting

O WULY ITTIAL	iig/Divo	itiliy						
Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]			
F7100HD	600	230	4" [100]	Consistent	200	\$7,833		
F7125HD	1022	392	5" [125]	with ANSI Class	200	\$8,214		
F7150HD	1579	605	6" [150]	125	200	\$8,892		
F7200L	3136	1202	8" [200]	Max.	200		\$10,218	
F7250L	5340	2047	10" [250]	Pressure	200			\$12,731
F7300L	8250	3162	12" [300]	232 psi	200	\$14,506		



F6/F7 HD... Series Butterfly Valves with NEMA 4 Non Fail-Safe Actuators

2-way and 3-way Valves, Standard (Full Rated) Disc

Valve Specifications

Service	chilled or hot water, up to 60% glycol
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ANSI Class 125/150 flanges
Body	ductile iron ASTM A536
Body Finish	epoxy powder coated
Disc	304 stainless steel
Shaft	416 stainless steel
Seat	EPDM
O-ring	EPDM
Bushings	RPTFE
Media Temperature Range (Water)	-22°F to +250°F [-30°C to +120°C]
Rangeabilty	10:1
Maximum Velocity	12 FPS







ACTUATOR PART #	GRCX24-3-T N4	GRCX120-3 N4	GRX24-MFT-T N4	GRCX24-3-T N4H	GRX24-MFT-T N4H
Control	On/Off, Floating Point	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•
Running Time (Motor)	35 seconds	35 seconds	150 seconds (variable)	35 seconds	150 seconds (variable)
Electrical Connection	terminal block	3 ft, 18 GA appliance cables	terminal block	terminal block	terminal block

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Pressure Rating	Pressure [psi]					
F650HD	115	44	2" [50]	Consistent	200	\$1,516	\$1,553	\$1,889	\$1,915	\$2,288
F665HD	196	75	2.5" [65]	with ANSI	200	\$1,736	\$1,771	\$2,109	\$2,136	\$2,523
F680HD	302	116	3" [80]	Class 125	200	\$1,764	\$1,798	\$2,136	\$2,163	\$2,536

ACTUATOR PART #	DRCX24-3-T N4	DRCX120-3 N4	DRCX24-MFT-T N4	DRX24-MFT-T N4	DRCX24-3-T N4H	DRCX24-MFT-T N4H	DRX24-MFT-T N4H
Control	On/Off, Floating Point	On/Off, Floating Point	Modulating/MFT	Modulating/MFT	On/Off, Floating Point	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•	•	•	•	•
Running Time (Motor)	35 seconds	35 seconds	35 seconds (variable)	150 seconds (variable)	35 seconds	35 seconds (variable)	150 seconds (variable)
Electrical Connection	screw terminal (for 22 to 12 AWG wire)	3 ft, 18 GA appliance cables with ½" conduit connector	screw terminal (for 22 to 12 AWG wire)				

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]							
F6100HD	600	230	4" [100]	Consistent with ANSI	200	\$2,644	\$2,671	\$2,838	\$2,838	\$3,034	\$3,204	\$3,229
F6125HD	1200	370	5" [125]	Class 125	200	\$2,767	\$5,465	\$2,962	\$2,962	\$3,157	\$3,326	\$3,352

ACTUATOR PART #	GMCX24-3- T-X1 N4	GMX24-MFT- T-X1 N4	2*GMCX24- 3-T-X1 N4	2*GMX24- MFT-T-X1 N4	GMCX24-3- T-X1 N4H	GMX24-MFT- T-X1 N4H	2*GMCX24- 3-T-X1 N4H	2*GMX24- MFT-T-X1 N4H
Control	On/Off, Floating Point	Modulating/ MFT						
Manual Override	•	•	•	•	•	•	•	•
Running Time (Motor)	35 seconds	150 seconds (variable)						
Electrical Connection	terminal block							

3-Way Mixing/Diverting

Model #	Cv 90°	Cv 60°	Size [mm]	Pressure Rating	Pressure [psi]								
F750HD	115	44	2" [50]	Consistent	200	\$2,305	\$2,643			\$2,719	\$3,055		
F765HD	196	75	2.5" [65]	with ANSI	200	\$2,642	\$3,014			\$3,056	\$3,427		
F780HD	302	116	3" [80]	Class 125	200			\$4,007	\$4,753			\$4,822	\$5,567

NEMA 4 Heater: add "H" to the end of select "N4" products.

F6 HD...Series Butterfly Valves with NEMA 4 Spring Return and Electronic Fail-Safe Actuators



2-way Valves, Standard (Full Rated) Disc

Valve Specifications

Service	chilled or hot water, up to 60% glycol
Flow Characteristic	modified equal percentage
End Fitting	for use with ANSI Class 125/150 flanges
Body	ductile iron ASTM A536
Body Finish	epoxy powder coated
Disc	304 stainless steel
Shaft	416 stainless steel
Seat	EPDM
O-ring	EPDM
Bushings	RPTFE
Media Temperature Range (Water)	-22°F to +250°F [-30°C to +120°C]
Rangeabilty	10:1
Maximum Velocity	12 FPS





ACTUATOR PART #	AFRXUP N4	AFRXUP N4H	AFRX24-MFT N4	AFRX24-MFT N4H	GKRX24-MFT N4H
Control	On/Off	On/Off	Modulating/MFT	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•	•	•
Running Time (Motor)	75 seconds	75 seconds	150 seconds (variable)	150 seconds (variable)	150 seconds (variable)
Running Time (Fail-Safe)	< 20 seconds	< 20 seconds	< 20 seconds	< 20 seconds	35 seconds
Electrical Connection	3 ft, 18 GA appliance cables with ½" conduit connectors	3 ft, 18 GA appliance cables with ½" conduit connectors	18 GA applicance rated cable with ½" conduit connector	18 GA applicance rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]					
F650HD	115	44	2" [50]	Consistent	200	\$1,590	\$2,710	\$1,812	\$2,932	
F665HD	196	75	2.5" [65]	Consistent with ANSI Class 125	200	\$1,808	\$2,928	\$2,076	\$3,195	
F680HD	302	116	3" [80]		200					\$3,782

ACTUATOR PART #	DKRX24-3-T N4	DKRX24-MFT-T N4	DKRX24-3-T N4H	DKRX24-MFT-T N4H
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	150 seconds (variable)	150 seconds (variable)	150 seconds (variable)	150 seconds (variable)
Running Time (Fail-Safe)	35 seconds	35 seconds	35 seconds	35 seconds
Electrical Connection	terminal block	terminal block	terminal block	terminal block

2-Way

IV	lodel #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F6	100HD	600	230	4" [100]	Consistent with ANSI	200	\$2,803	\$3,218	\$3,190	\$3,617
F6	125HD	1200	370	5" [125]	Class 125	200	\$2,912	\$3,327	\$3,353	\$3,768

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

F6/F7 HD...Series Butterfly Valves with NEMA 4X Non Fail-Safe Actuators

2-way and 3-way Valves, Standard (Full Rated) Disc

Valve Specifications

Service	chilled or hot water, up to 60% glycol
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ANSI Class 125/150 flanges
Body	ductile iron ASTM A536
Body Finish	epoxy powder coated
Disc	304 stainless steel
Shaft	416 stainless steel
Seat	EPDM
O-ring	EPDM
Bushings	RPTFE
Media Temperature Range (Water)	-22°F to +250°F [-30°C to +120°C]
Rangeabilty	10:1
Maximum Velocity	12 FPS







ACTUATOR PART #	SY5-24, SY5-110, SY5-220	SY5-24MFT, SY5-120MFT, SY5-230MFT	SY6-110, SY6-220	SY6-120MFT, SY6-230MFT	SY8-110, SY8-220	SY8-120MFT, SY8-230MFT
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•	•
Running Time (Motor)	35, 25, 25 seconds	30, 21, 22 seconds	32, 31 seconds	29, 32 seconds	50, 49 seconds	48, 57 seconds
Electrical Connection	terminal block	terminal block	terminal block	terminal block	terminal block	terminal block

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]		Close-Off Pressure [psi]						
F6350HD	11917	4568	14" [350]	Consistent	150	\$8,897	\$12,087				
F6400HD	16388	6282	16" [400]					\$12,195	\$13,568		
F6450HD	21705	8320	18" [450]	Class	150					\$14,994	\$16,675
F6500HD	27908	10698	20" [500]	125	150					\$18,114	\$20,170

ACTUATOR PART #	SY6-110, SY6-220	SY6-120MFT, SY6-230MFT	SY7-110, SY7-220	SY7-120MFT, SY7-230MFT
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	32, 31 seconds	29, 32 seconds	49, 48 seconds	44 seconds
Electrical Connection	terminal block	terminal block	terminal block	terminal block

3-Way Mixing/Diverting

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F7350HD	11917	4568	14" [350]	Consistent	150	\$21,529	\$22,889		
F7400HD	16388	6282	16" [400]	with ANSI Class 125	150			\$24,050	\$25,154

F6/F7 HD...Series Butterfly Valves with NEMA 4X Non Fail-Safe Actuators

2-way and 3-way Valves, Standard (Full Rated) Disc



Valve Specifications

Service	chilled or hot water, up to 60% glycol
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ANSI Class 125/150 flanges
Body	ductile iron ASTM A536
Body Finish	epoxy powder coated
Disc	304 stainless steel
Shaft	416 stainless steel
Seat	EPDM
O-ring	EPDM
Bushings	RPTFE
Media Temperature Range (Water)	-22°F to +250°F [-30°C to +120°C]
Rangeabilty	10:1
Maximum Velocity	12 FPS







ACTUATOF	R PART :	#			SY11-120MFT, SY11-230MFT				
Control						On/Off, Floating Point	Modulating/MFT		
Manual Override						•	•		
Running Tin	ne (Moto	r)				69, 64 seconds	56, 48 seconds		
Electrical Co	onnection	1				terminal block terminal block			
2-Way									
Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F6600HD	43116	16528	24" [600]	Consistent with ANSI Class 125	150	\$29,928	\$32,627		

ACTUATOR	ACTUATOR PART #					SY8-110, SY8-220	SY8-120MFT, SY8-230MFT		
Control						On/Off, Floating Point	Modulating/MFT		
Manual Override						•	•		
Running Time (Motor)						50, 49 seconds	48, 57 seconds		
Electrical Connection					terminal block	terminal block			
3-Way Mixi	ing/Diver	ting							
Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F7450HD	21705	8320	18" [450]	Consistent with ANSI Class 125	150	\$38,380	\$41,966		

F6/F7 Grooved Series Butterfly Valves with Non Fail-Safe Actuators

2-way and 3-way Valves, Grooved End Body

Valve Specifications

BELIMO

Service	chilled or hot water, up to 60% glycol
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	grooved ANSI\AWWA (C606)
Body	ductile iron ASTM A536 grade 65-45-12
Body Finish	black alkyd enamel
Disc	electroless nickel coated ductile iron
Shaft	416 stainless steel
Seat	EPDM
Media Temperature Range (Water)	-22°F to +250°F [-30°C to +120°C]
Rangeabilty	100:1
Maximum Velocity	20 FPS





ACTUATOR PART #	AMB24-3-X1	AMX24-MFT-X1	GMB24-3-X1	GMX24-MFT-X1	2*GMX24- MFT-X1	DRCX24-3-T	DRX24-MFT-T
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•	•	•
Running Time (Motor)	90 seconds	150 seconds (variable)	150 seconds	150 seconds (variable)	150 seconds	35 seconds	150 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	screw terminal (for 22 to 12 AWG wire)	screw terminal (for 22 to 12 AWG wire)

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]						
F650VIC	115	36	2" [50]		200	\$1,619	\$1,809				
F665VIC	260	80	2.5" [65]		200	\$1,960	\$2,151	\$2,128	\$2,229		
F680VIC	440	140	3" [80]	300	200			\$2,228	\$2,332		
F6100VIC	820	250	4" [100]	300	200					\$3,514	\$3,663
F6125VIC	1200	370	5" [125]		200					\$3,798	\$3,948
F6150VIC	1800	560	6" [150]		200					\$4,195	\$4,344

3-Way Mixing/Diverting

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F750VIC	115	36	2" [50]		200	\$3,886	\$3,988		
F765VIC	260	80	2.5" [65]	000	50	\$4,595	\$4,695		
F765VIC	260	140	2.5" [65]	300	200			\$5,595	
F780VIC	440	140	3" [80]		50			\$5,914	

F6/F7 Grooved Series Butterfly Valves with Spring Return and Electronic Fail-Safe Actuators



2-way and 3-way Valves, Grooved End Body

Valve Specifications

· ·	
Service	chilled or hot water, up to 60% glycol
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	grooved ANSI\AWWA (C606)
Body	ductile iron ASTM A536 grade 65-45-12
Body Finish	black alkyd enamel
Disc	electroless nickel coated ductile iron
Shaft	416 stainless steel
Seat	EPDM
Media Temperature Range (Water)	-22°F to +250°F [-30°C to +120°C]
Rangeabilty	100:1
Maximum Velocity	20 FPS





ACTUATOR PART #	AFBUP-X1	AFX24-MFT-X1	2*AFX24-MFT-X1	2*GKX24-MFT-X1	PKRUP-MFT
Control	On/Off	Modulating/MFT	Modulating/MFT	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•	•	•
Running Time (Motor)	<75 seconds	150 seconds (variable)	150 seconds (variable)	150 seconds (variable)	35 seconds (default), 30-120 field adjustable
Running Time (Fail-Safe)	20 seconds	<20 seconds	20 seconds	35 seconds	30 seconds
Electrical Connection		3 ft, 18 GA appliance cable with ½" conduit connector			terminal block

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]					
F650VIC	115	36	2" [50]		200	\$1,841	\$1,965			
F665VIC	260	80	2.5" [65]		50	\$2,505	\$2,629			
F665VIC	260	80	2.5" [65]		200			\$3,083		
F680VIC	440	140	3" [80]	300	50			\$3,244		
F6100VIC	820	250	4" [100]		200				\$5,915	
F6125VIC	1200	370	5" [125]		200					\$8,200
F6150VIC	1800	560	6" [150]		200					\$8,000

3-Way Mixing/Diverting

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]					
F750VIC	115	36	2" [50]		50	\$3,892	\$4,041			
F750VIC	115	36	2" [50]		200			\$5,711		
F765VIC	260	80	2.5" [65]	300	200				\$6,335	\$9,000
F780VIC	440	140	3" [80]	300	200				\$6,835	\$9,500
F7100VIC	820	250	4" [100]		200					\$10,000
F7125VIC	1200	370	5" [125]		200					\$12,000



F6/F7 Grooved Series Butterfly Valves with NEMA 4X Non Fail-Safe Actuators

2-way and 3-way Valves, Grooved End Body

Valve Specifications

Service	chilled or hot water, up to 60% glycol
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	grooved ANSI\AWWA (C606)
Body	ductile iron ASTM A536 grade 65-45-12
Body Finish	black alkyd enamel
Disc	electroless nickel coated ductile iron
Shaft	416 stainless steel
Seat	EPDM
Media Temperature Range (Water)	-22°F to +250°F [-30°C to +120°C]
Rangeabilty	100:1
Maximum Velocity	20 FPS





ACTUATOR PART #	GRCX24-3-T N4	GRCX120-3 N4	GRCX24-MFT- T N4	PRBUP-3-T	PRXUP-MFT-T	SY4-24, SY4-110, SY4-220	SY4-24MFT, SY4-120MFT, SY4-230MFT
Control	On/Off, Floating Point	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•	•	•
Running Time (Motor)	35 seconds	35 seconds	35 seconds	35 seconds (default), 30-120 field adjustable	35 seconds (default), 30-120 field adjustable	30, 18, 18 seconds	23, 17, 17 seconds
(2) Temperature Sensor Outputs					•		
BACnet Communication					•		
Electrical Connection	terminal block	3 ft, 18 GA appliance rated cable	terminal block	terminal block	terminal block	terminal block	terminal block

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]							
F650VIC	115	36	2" [50]		200	\$1,825	\$1,925	\$2,150				
F665VIC	260	80	2.5" [65]		200	\$2,025	\$2,125	\$2,350				
F680VIC	440	140	3" [80]		50	\$2,155	\$2,255	\$2,425				
F680VIC	440	140	3" [80]	300	200				\$3,366	\$4,881		
F6100VIC	820	250	4" [100]	300	200				\$3,673	\$5,188		
F6125VIC	1200	370	5" [125]		200				\$3,913	\$5,897		
F6150VIC	1800	560	6" [150]		200				\$4,243	\$6,228		
F6200VIC	3400	1050	8" [200]		200						\$7.135	\$8.142

ACTUATOR PART #	GMCX24-3-T -X1 N4	GMCX120-3-X1 N4	GMCX24-MFT-T -X1 N4	PRBUP-3-T	PRXUP-MFT-T	SY4-24, SY4-110, SY4-220	SY4-24MFT, SY4-120MFT, SY4-230MFT
Control	On/Off, Floating Point	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•	•	•
Running Time (Motor)	35 seconds	35 seconds	35 seconds	35 seconds (default), 30-120 field adjustable	35 seconds (default), 30-120 field adjustable	30, 18, 18 seconds	23, 17, 17 seconds
(2) Temperature Sensor Outputs					•		
BACnet Communication					•		
Electrical Connection	terminal block	3 ft, 18 GA appliance rated	terminal block	terminal block	terminal block	terminal block	terminal block

3-Way Mixing/Diverting

Model #	Gv Gv	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]							
F750VIC	115	36	2" [50]		200	\$3,325	\$3,425	\$3,625				
F765VIC	260	140	2.5" [65]		200	\$4,525	\$4,625	\$4,725				
F780VIC	440	140	3" [80]		200				\$5,709	\$7,263		
F7100VIC	820	250	4" [100]	300	200				\$6,406	\$7,958		
F7125VIC	1200	370	5" [125]		200				\$10,083	\$11,302		
F7150VIC	1800	560	6" [150]		200						\$11,322	\$13,007
F7200VIC	3400	1050	8" [200]		200						\$15,509	\$17,445

NEMA 4 Heater: add "H" to the end of select "N4" products.

F6/F7 Grooved Series Butterfly Valves with NEMA 4X Non Fail-Safe Actuators

2-way and 3-way Valves, Grooved End Body



Valve Specifications

Service	chilled or hot water, up to 60% glycol
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	grooved ANSI\AWWA (C606)
Body	ductile iron ASTM A536 grade 65-45-12
Body Finish	black alkyd enamel
Disc	electroless nickel coated ductile iron
Shaft	416 stainless steel
Seat	EPDM
Media Temperature Range (Water)	-22°F to +250°F [-30°C to +120°C]
Rangeabilty	100:1
Maximum Velocity	20 FPS





ACTUATOR PART #						SY5-24, SY5-110, SY5-220	SY5-24MFT, SY5-120MFT, SY5-230MFT	SY6-110, SY6-220	SY6-120MFT, SY6-230MFT
Control						On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override						•	•	•	•
Running Time (Motor)						35, 25, 25 seconds	30, 21, 22 seconds	32, 31 seconds	29, 32 seconds
Electrical Connection				terminal block	terminal block	terminal block	terminal block		
2-Way									
Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F6250VIC	5800	1800	10" [250]	200	200	\$9,108	\$10,201		
F6300VIC	9000	2790	12" [300]	300 200				\$10,104	\$11,204

ACTUATOR PART #						SY6-110, SY6-220	SY6-120MFT, SY6-230MFT	SY7-110, SY7-220	SY7-120MFT, SY7-230MFT
Control						On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override						•	•	•	•
Running Time (Motor)						32, 31 seconds	29, 32 seconds	49, 48 seconds	44 seconds
Electrical Connection				terminal block	terminal block	terminal block	terminal block		
3-Way Mixin	g/Dive	rting							
Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F7250VIC	5800	1800	10" [250]	300	50	\$22,758	\$24,806		
F7300VIC	9000	2790	12" [300]	300	200			\$27,146	\$29,028



F6/F7 ANSI Class 150 Butterfly Valves with Non Fail-Safe Actuators

2-way and 3-way Valves, Reinforced Teflon Seat, 316 Stainless Steel Disc

Valve Specifications

•	
Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ASME/ANSI Class 150 flanges
Body	carbon steel full lug
Disc	316 stainless steel
Shaft	17-4 PH stainless steel
Seat	RPTFE
Gland Seal	TFE
Bushings	glass backed PTFE
Media Temperature Range (Water)	-22°F to +400°F [-30°C to +204°C]
Rangeabilty	100:1
Maximum Velocity	32 FPS





ACTUATOR PART #	GMB24-3-X1	GMX24-MFT-X1	2*GMX24-MFT-X1
Control	On/Off, Floating Point	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	150 seconds	150 seconds (variable)	150 seconds
Noise Level (Motor)	<45 dB (A)	<45 dB (A)	<45 dB (A)
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]			
F650-150SHP	102	56	2" [50]		285	\$2,803	\$2,912	
F665-150SHP	146	80	2.5" [65]	ASME/	285	\$2,820	\$2,928	
F680-150SHP	228	125	3" [80]	ANSI Class	285	\$2,835	\$2,947	
F6100-150SHP	451	248	4" [100]	150	150	\$3,430	\$3,539	
F6100-150SHP	451	248	4" [100]		285			\$3.967

3-Way Mixing/Diverting

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]			
F750-150SHP	102	52	2" [50]		150	\$5,667	\$5,771	
F750-150SHP	102	52	2" [50]	401457	285			\$6,188
F765-150SHP	146	75	2.5" [65]	ASME/ ANSI Class	150	\$5,814	\$5,915	
F765-150SHP	146	75	2.5" [65]	150	285			\$6,336
F780-150SHP	228	117	3" [80]	100	150	\$5,822	\$5,926	
F780-150SHP	228	117	3" [80]		285			\$6,372

F6/F7 ANSI Class 150 Butterfly Valves with Spring Return and Electronic Fail-Safe Actuators



2-way and 3-way Valves, Reinforced Teflon® Seat, 316 Stainless Disc

Valv			

raire opcomoduone	
Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ASME/ANSI Class 150 flanges
Body	carbon steel full lug
Disc	316 stainless steel
Shaft	17-4 PH stainless steel
Seat	RPTFE
Gland Seal	TFE
Bushings	glass backed PTFE
Media Temperature Range (Water)	-22°F to +400°F [-30°C to +204°C]
Rangeabilty	100:1
Maximum Velocity	32 FPS



ACTUATOR PART #	2*AFX24-MFT-X1	GKX24-MFT-X1	2*GKX24-MFT-X1	PKRXUP-MFT-T
Control	Modulating/MFT	Modulating/MFT	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	150 seconds (variable)	150 seconds (variable)	150 seconds (variable)	35 seconds (default), 30-120 field adjustable
Running Time (Fail-Safe)	20 seconds	35 seconds	35 seconds	30 seconds
(2) Temperature Sensor Outputs				•
BACnet Communication				•
NEMA Rating	2	2	2	4
Electrical Connection	18 GA applicance rated cable with ½" conduit connector	18 GA plenum rated cable with ½" conduit connector	18 GA plenum rated cable with ½" conduit connector	terminal block

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F650-150SHP	102	56	2" [50]		150	\$3,258	\$3,730		
F650-150SHP	102	56	2" [50]		285				\$6,980
F665-150SHP	146	80	2.5" [65]		150	\$3,277	\$3,748		
F665-150SHP	146	80	2.5" [65]	A O N 4 E /	285				\$7,000
F680-150SHP	228	125	3" [80]	ASME/ ANSI	150	\$3,293	\$3,765		
F680-150SHP	228	125	3" [80]	Class 150	285				\$7,290
F6100-150SHP	451	248	4" [100]	01000 100	150	\$3,885	\$4,356		
F6100-150SHP	451	248	4" [100]		285			\$5,509	\$7,575
F6125-150SHP	714	392	5" [125]		285				\$8,794
F6150-150SHP	1103	607	6" [150]		285				\$10,800

ACTUATOR PART #	GKX24-MFT-X1	2*GKX24-MFT-X1	PKRXUP-MFT-T
Control	Modulating/MFT	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	150 seconds (variable)	150 seconds (variable)	35 seconds (default), 30-120 field adjustable
Running Time (Fail-Safe)	35 seconds	35 seconds	30 seconds
(2) Temperature Sensor Outputs			•
BACnet Communication			•
NEMA Rating	2	2	4
Electrical Connection	18 GA plenum rated cable with ½" conduit connector	18 GA plenum rated cable with ½" conduit connector	terminal block

3-Way Mixing/Diverting

o way mixing/L	,1401111	·y						
Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]			
F750-150SHP	102	56	2" [50]		150	\$6,541		
F750-150SHP	102	56	2" [50]		285		\$7,730	\$10,968
F765-150SHP	146	80	2.5" [65]	ASME/	150	\$6,687		
F765-150SHP	146	80	2.5" [65]	ANSI	285		\$7,877	\$11,150
F780-150SHP	228	125	3" [80]	Class 150	150	\$6,696		
F780-150SHP	228	125	3" [80]		285		\$7,914	\$11,300
F7100-150SHP	451	248	4" [100]		285			\$13,317

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN



F6/F7 ANSI Class 150 Butterfly Valves with NEMA 4X Non Fail-Safe Actuators

2-way and 3-way Valves, Reinforced Teflon Seat, 316 Stainless Steel Disc

Valve Specifications

Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ASME/ANSI Class 150 flanges
Body	carbon steel full lug
Disc	316 stainless steel
Shaft	17-4 PH stainless steel
Seat	RPTFE
Gland Seal	TFE
Bushings	glass backed PTFE
Media Temperature Range (Water)	-22°F to +400°F [-30°C to +204°C]
Rangeabilty	100:1
Maximum Velocity	32 FPS











ACTUATOR PART #	PRBUP-3-T	PRXUP-MFT-T	SY4-24, SY4-110, SY4-220	SY4-24MFT, SY4-120MFT, SY4-230MFT
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	35 seconds (default), 30-120 field adjustable	35 seconds (default), 30-120 field adjustable	30, 18, 18 seconds	23, 17, 17 seconds
(2) Temperature Sensor Outputs		•		
BACnet Communication		•		
Electrical Connection	terminal block	terminal block	terminal block	terminal block

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F650-150SHP	102	56	2" [50]		285	\$4,380	\$6,025		
F665-150SHP	146	80	2.5" [65]		285	\$4,398	\$6,040		
F680-150SHP	228	125	3" [80]		285	\$4,416	\$6,062		
F6100-150SHP	451	248	4" [100]	ASME/	285	\$5,196	\$6,642		
F6125-150SHP	714	392	5" [125]	ANSI Class	285	\$6,229	\$7,872		
F6150-150SHP	1103	607	6" [150]	150	285	\$6,262	\$7,909		
F6200-150SHP	2064	1135	8" [200]		285			\$8,149	\$10,080
F6250-150SHP	3517	1934	10" [250]		285			\$11,037	\$12,967
F6300-150SHP	4837	2660	12" [300]		150			\$13,491	\$15,423

3-Way Mixing/Diverting

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F750-150SHP	100	52	2" [50]		285	\$7,218	\$8,862		
F765-150SHP	143	75	2.5" [65]		285	\$7,365	\$9,009		
F780-150SHP	223	117	3" [80]	ASME/	285	\$7,376	\$9,016		
F7100-150SHP	435	228	4" [100]	ANSI	285	\$9,120	\$10,760		
F7125-150SHP	688	361	5" [125]	Class	285			\$11,677	\$13,326
F7150-150SHP	1041	546	6" [150]	150	285			\$11,684	\$13,336
F7200-150SHP	1911	1001	8" [200]		285			\$15,260	\$17,191
F7250-150SHP	3194	1673	10" [250]		150			\$22,107	\$24,038

F6/F7 ANSI Class 150 Butterfly Valves with NEMA 4X Non Fail-Safe Actuators

2-way and 3-way Valves, Reinforced Teflon Seat, 316 Stainless Disc



Valve Specifications

•	
Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ASME/ANSI Class 150 flanges
Body	carbon steel full lug
Disc	316 stainless steel
Shaft	17-4 PH stainless steel
Seat	RPTFE
Gland Seal	TFE
Bushings	glass backed PTFE
Media Temperature Range (Water)	-22°F to +400°F [-30°C to +204°C]
Rangeabilty	100:1
Maximum Velocity	32 FPS







ACTUATOR PART #	SY5-24, SY5-110, SY5-220	SY5-24MFT, SY5-120MFT, SY5-230MFT	SY7-110, SY7-220	SY7-120MFT, SY7-230MFT	SY8-110, SY8-220	SY8-120MFT, SY8-230MFT
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•	•
Running Time (Motor)	35, 25, 25 seconds	30, 21, 22 seconds	49, 48 seconds	44 seconds	50, 49 seconds	48, 57 seconds
Electrical Connection	terminal block	terminal block	terminal block	terminal block	terminal block	terminal block

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]						
F6300-150SH	P 4837	2660	12" [300]		285	\$13,820	\$15,743				
F6350-150SH	P 6857	3592	14" [350]	ASME/	150	\$17,193	\$19,130				
F6350-150SH	P 6857	3592	14" [350]	ANSI	285			\$18,315	\$20,194		
F6400-150SHF	9287	4865	16" [400]		150			\$25,388	\$27,268		
F6450-150SHF	* 11400	6270	18" [450]	150	285					\$30,706	\$32,593
F6500-150SHF	* 14420	7590	20" [500]		150					\$37,489	\$39,371

3-Way Mixing/Diverting

o way mixing/b	1101111119										
Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]						
F7250-150SHP	3517	1934	10" [250]		285	\$22,439	\$24,377				
F7300-150SHP	4837	2660	12" [300]	ASME/	285			\$29,700	\$31,582		
F7350-150SHP*	6857	3592	14" [350]	ANSI Class	285			\$39,602	\$41,484		
F7400-150SHP*	9287	4865	16" [400]	150	150			\$57,729	\$59,677		
F7450-150SHP*	11400	6270	18" [450]		150					\$67,022	\$68,905

^{*}Call Customer Service at 1-800-543-9038 for product availability. Longer lead times may apply.



F6/F7 ANSI Class 150 Butterfly Valves with NEMA 4X Non Fail-Safe Actuators

2-way and 3-way Valves, Reinforced Teflon Seat, 316 Stainless Disc

Valve Specifications

Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ASME/ANSI Class 150 flanges
Body	carbon steel full lug
Disc	316 stainless steel
Shaft	17-4 PH stainless steel
Seat	RPTFE
Gland Seal	TFE
Bushings	glass backed PTFE
Media Temperature Range (Water)	-22°F to +400°F [-30°C to +204°C]
Rangeabilty	100:1
Maximum Velocity	32 FPS







ACTUATOR PART #	SY9-110, SY9-220	SY9-120MFT, SY9-230MFT	SY10-110, SY10-220	SY10-120MFT, SY10-230MFT
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	57 seconds	47, 61 seconds	62 seconds	51, 70 seconds
Electrical Connection	terminal block	terminal block	terminal block	terminal block
0.111				

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]		Close-Off Pressure [psi]				
F6500-150SHP*	14420	7590	20" [500]	ASME/ ANSI	285	\$38,697	\$40,577		
F6600-150SHP*	22050	11550	24" [600]	Class 150	150			\$51,760	\$53,644

ACTUATOR PA	ART#					SY9-110, SY9-220	SY9-120MFT, SY9-230MFT
Control						On/Off, Floating Point	Modulating/MFT
Manual Override	е					•	•
Running Time (Motor)					57 seconds	47, 61 seconds
Electrical Conne	ection					terminal block	terminal block
3-Way Mixing/D	Diverting						
Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]		
F7400-150SHP*	9287	4865	16" [400]	ASME/ ANSI Class 150	285	\$60,284	\$62,233

^{*}Call Customer Service at 1-800-543-9038 for product availability. Longer lead times may apply.

F6 ANSI 300 Class Butterfly Valves with Non Fail-Safe Actuators

2-way and 3-way Valves, Reinforced Teflon Seat, 316 Stainless Disc



Valve Specifications

Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ASME/ANSI Class 300 flanges
Body	carbon steel full lug
Disc	316 stainless steel
Shaft	17-4 PH stainless steel
Seat	RPTFE
Gland Seal	TFE
Bushings	glass backed PTFE
Media Temperature Range (Water)	-22°F to +400°F [-30°C to +204°C]
Rangeabilty	100:1
Maximum Velocity	32 FPS







ACTUATOR PART #	GMB24-3-X1	GMX24-MFT-X1
Control	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•
Running Time (Motor)	150 seconds	150 seconds (variable)
Electrical Connection	3 ft, 18 GA plenum rated cable with ½" conduit connector	3 ft, 18 GA plenum rated cable with ½" conduit connector

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]		
F650-300SHP	100	52	2" [50]	40145	285	\$3,129	\$3,237
F665-300SHP	143	75	2.5" [65]	ASME/ ANSI	285	\$3,145	\$3,253
F680-300SHP	223	117	3" [80]	Class 300	285	\$3,192	\$3,300
F6100-300SHP	435	228	4" [100]	01000 000	150	\$3,668	\$3,776

ACTUATOR PART #	2*GMX24-MFT-X1
Control	Modulating/MFT
Manual Override	•
Running Time (Motor)	150 seconds
Electrical Connection	18 GA applicance rated cable with ½" conduit connector

3-Way Mixing/Diverting

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]
E750_2009HD				Rating	
F750-300SHP	100	52	2" [50]	4045/	285
F765-300SHP	143	75	2.5" [65]	ASME/ ANSI	285
F780-300SHP	223	117	3" [80]	Class 300	285
F7100-300SHP	435	228	4" [100]	01033 000	150

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



F6/F7 ANSI 300 Class Butterfly Valves with Electronic Fail-Safe Actuators

2-way and 3-way Valves, Reinforced Teflon Seat, 316 Stainless Disc

Valve Specifications

· ·	
Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ASME/ANSI Class 300 flanges
Body	carbon steel full lug
Disc	316 stainless steel
Shaft	17-4 PH stainless steel
Seat	RPTFE
Gland Seal	TFE
Bushings	glass backed PTFE
Media Temperature Range (Water)	-22°F to +400°F [-30°C to +204°C]
Rangeabilty	100:1
Maximum Velocity	32 FPS











ACTUATOR PART #	GKX24-MFT-X1	2*GKX24-MFT-X1	PKRXUP-MFT-T
Control	Modulating/MFT	Modulating/MFT	Modulating/MFT
Manual Override	•	•	•
Running Time (Motor)	150 seconds (variable)	150 seconds (variable)	30 seconds (default), 30-120 field adjustable
Running Time (Fail-Safe)	35 seconds	35 seconds	30 seconds
(2) Temperature Sensor Outputs			•
BACnet Communication			•
NEMA Rating	2	2	4
Electrical Connection	18 GA plenum rated cable with ½" conduit connector	18 GA plenum rated cable with ½" conduit connector	terminal block

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]			
F650-300SHP	100	52	2" [50]		285	\$4,024		
F650-300SHP	100	52	2" [50]		400		\$5,221	\$7,291
F665-300SHP	143	75	2.5" [65]		285	\$4,044		
F665-300SHP	143	75	2.5" [65]		400		\$5,241	\$7,407
F680-300SHP	223	117	3" [80]	ASME/ANSI	285	\$4,062		
F680-300SHP	223	117	3" [80]	Class 300	400		\$5,254	\$7,500
F6100-300SHP	435	228	4" [100]		150	\$4,566		
F6100-300SHP	435	228	4" [100]		285		\$5,768	\$7,814
F6125-300SHP	688	361	5" [125]		285			\$9,650
F6150-300SHP	1041	546	6" [150]		285			\$9,800

ACTUATOR PART #	2*GKX24-MFT-X1	PKRXUP-MFT-T
Control	Modulating/MFT	Modulating/MFT
Manual Override	•	•
Running Time (Motor)	150 seconds (variable)	30 seconds (default), 30-120 field adjustable
Running Time (Fail-Safe)	35 seconds	30 seconds
(2) Temperature Sensor Outputs		•
BACnet Communication		•
NEMA Rating	2	4
Electrical Connection	18 GA plenum rated cable with ½" conduit connector	terminal block

3-Way Mixing/Diverting

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]		
F750-300SHP	100	52	2" [50]		285	\$8,932	\$11,850
F765-300SHP	143	75	2.5" [65]	ASME/ANSI	285	\$10,087	\$13,127
F780-300SHP	223	117	3" [80]	Class 300	285	\$10,270	\$15,115
F7100-300SHP	435	228	4" [100]		285	\$12,307	\$15,763

F6/F7 ANSI 300 Class Butterfly Valves with NEMA 4X Non Fail-Safe Actuators

2-way and 3-way Valves, Reinforced Teflon Seat, 316 Stainless Disc



Valve Specifications

Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ASME/ANSI Class 300 flanges
Body	carbon steel full lug
Disc	316 stainless steel
Shaft	17-4 PH stainless steel
Seat	RPTFE
Gland Seal	TFE
Bushings	glass backed PTFE
Media Temperature Range (Water)	-22°F to +400°F [-30°C to +204°C]
Rangeabilty	100:1
Maximum Velocity	32 FPS









ACTUATOR PART #	PRBUP-3-T	PRXUP-MFT-T	SY4-24, SY4-110, SY4-220	SY4-24MFT, SY4-120MFT, SY4-230MFT
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•
Running Time (Motor)	35 seconds (default), 30-120 field adjustable	35 seconds (default), 30-120 field adjustable	30, 18, 18 seconds	23, 17, 17 seconds
(2) Temperature Sensor Outputs		•		
BACnet Communication		•		
Electrical Connection	terminal block	terminal block	terminal block	terminal block

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F650-300SHP	100	52	2" [50]		600	\$4,662	\$6,291		
F665-300SHP	143	75	2.5" [65]		600	\$4,679	\$6,307		
F680-300SHP	223	117	3" [80]		600	\$4,696	\$6,324		
F6100-300SHP	435	228	4" [100]	ASME/	600	\$5,188	\$6,814		
F6125-300SHP	688	361	5" [125]	ANSI Class	400	\$6,870	\$8,513		
F6150-300SHP	1041	546	6" [150]	300	285	\$7,049	\$8,653		
F6200-300SHP	1911	1001	8" [200]		600			\$9,652	\$11,618
F6250-300SHP	3194	1673	10" [250]		285			\$14,009	\$15,946
F6300-300SHP	4428	2319	12" [300]		150			\$18,094	\$19,866

3-Way Mixing/Diverting

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]				
F750-300SHP	100	52	2" [50]		600	\$9,211	\$10,850		
F765-300SHP	143	75	2.5" [65]		600	\$10,488	\$12,127		
F780-300SHP	223	117	3" [80]	ASME/	600	\$12,477	\$14,115		
F7100-300SHP	435	228	4" [100]	ANSI	400	\$13,126	\$14,763		
F7125-300SHP	688	361	5" [125]	Class	600			\$18,001	\$19,886
F7150-300SHP	1041	546	6" [150]	300	600			\$21,020	\$22,960
F7200-300SHP	1911	1001	8" [200]		400			\$25,380	\$27,320
F7250-300SHP	3194	1673	10" [250]		150			\$36,729	\$38,669

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



F6/F7 ANSI 300 Class Butterfly Valves with NEMA 4X Non Fail-Safe Actuators

2-way and 3-way Valves, Reinforced Teflon Seat, 316 Stainless Disc

Valve Specifications

Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	F6- modified equal percentage F7- modified linear
End Fitting	for use with ASME/ANSI Class 300 flanges
Body	carbon steel full lug
Disc	316 stainless steel
Shaft	17-4 PH stainless steel
Seat	RPTFE
Gland Seal	TFE
Bushings	glass backed PTFE
Media Temperature Range (Water)	-22°F to +400°F [-30°C to +204°C]
Rangeabilty	100:1
Maximum Velocity	32 FPS







ACTUATOR PART #	SY5-24, SY5-110, SY5-220	SY5-24MFT, SY5-120MFT, SY5-230MFT	SY7-110, SY7-220	SY7-120MFT, SY7-230MFT	SY8-110, SY8-220	SY8-120MFT, SY8-230MFT
Control	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Manual Override	•	•	•	•	•	•
Running Time (Motor)	35, 25, 25 seconds	30, 21, 22 seconds	49, 48 seconds	44 seconds	50, 49 seconds	48, 57 seconds
Electrical Connection	terminal block	terminal block	terminal block	terminal block	terminal block	terminal block

2-Way

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]															
F6250-300SHP	3194	1673	10" [250]		400	\$14,338	\$16,277													
F6250-300SHP	3194	1673	10" [250]	ASME/	ASME/	ASME/	ASME/							600			\$15,456	\$17,349		
F6300-300SHP	4428	2319	12" [300]																285	\$18,259
F6300-300SHP	4428	2319	12" [300]					600			\$19,380	\$21,267								
F6350-300SHP*	5702	2986	14" [350]						ASME/ ANSI	150	\$29,589	\$31,531								
F6350-300SHP*	5702	2986	14" [350]	Class	400			\$30,713	\$31,531											
F6350-300SHP*	5702	2986	14" [350]	300	600					\$31,975	\$33,865									
F6400-300SHP*	8243	3988	16" [400]		150			\$31,803	\$33,638											
F6400-300SHP*	8243	3988	16" [400]		285					\$33,032	\$34,869									
F6450-300SHP*	9712	5088	18" [450]		285					\$43,027	\$44,830									
F6500-300SHP*	10658	5775	20" [500]		150					\$54,149	\$55,985									

3-Way Mixing/Diverting

Model #	Cv 90°	Cv 60°	Size [mm]	Body Pressure Rating	Close-Off Pressure [psi]						
F7200-300SHP	1911	1001	8" [200]		600	\$25,714	\$27,652				
F7250-300SHP	3194	1673	10" [250]		600			\$38,184	\$40,073		
F7300-300SHP*	4428	2319	12" [300]	ASME/	400			\$50,460	\$52,351		
F7300-300SHP*	4428	2319	12" [300]	ANSI Class	600					\$51,716	\$53,614
F7350-300SHP*	5702	2986	14" [350]	300	400					\$79,777	\$81,664
F7400-300SHP*	8243	3988	16" [400]		150			\$90,678	\$92,631		
F7450-300SHP*	9712	5088	18" [450]		150					\$112,984	\$114,873

ACTUATOR PART #						SY10-110, SY10-220	SY10-120MFT, SY10-230MFT				
Control						On/Off, Floating Point	Modulating/MFT				
Manual Override	е					•	•				
Running Time (Motor)					62 seconds	51, 70 seconds				
Electrical Conne	ection					terminal block	terminal block				
3-Way Mixing/[Diverting]									
Model # Cv Cv Size Body Close-Off				Pressure	Close-Off Pressure [psi]						
F7350-300SHP*	5702	2986	14" [350]	ASME/ ANSI	600	\$79,077	\$80,913				
F7400-300SHP* 8243 3988 16" [400] Class 300 400					400	\$91,006 \$92,906					

^{*}Call Customer Service at 1-800-543-9038 for product availability. Longer lead times may apply.

Manual Handles and Gear Operators

For HD or L Series Butterfly Valves





LIST PRICE

\$242

\$258

\$284

\$375

\$542

M	и	١.		w
ν	1	٩	L	v



	HD	
$\label{eq:f650HD+HND01} \textbf{2" HD series valve with manual handle ductile iron, 200 psi close-off, C_V 115}$	•	
	•	
	•	
F6100HD+HND02 4" HD series valve with manual handle ductile iron, 200 psi close-off, C _V 600	•	
F6125HD+HND02 5" HD series valve with manual handle ductile iron, 200 psi close-off, C _V 1022	•	
F6150HD+HND02 6" HD series valve with manual handle ductile iron, 200 psi close-off, C _V 1579	•	

GEAR OPERATORS



5" HD series valve with manual handle ductile iron, 200 psi close-off, C_V 1022			ψυτΔ
F6150HD+HND02 6" HD series valve with manual handle ductile iron, 200 psi close-off, C _V 1579	•		\$632
			'
F650HD+GW01 2" HD series valve with manual gear operator ductile iron, 200 psi close-off, C _V 115	•		\$387
F665HD+GW01 2½" HD series valve with manual gear operator ductile iron, 200 psi close-off, C _V 196	•		\$509
F680HD+GW01 3" HD series valve with manual gear operator ductile iron, 200 psi close-off, C_V 302	•		\$557
F6100HD+GW02 4" HD series valve with manual gear operator ductile iron, 200 psi close-off, C _V 600	•		\$644
F6125HD+GW02 5" HD series valve with manual gear operator ductile iron, 200 psi close-off, C _V 1022	•		\$763
F6150HD+GW02 6" HD series valve with manual gear operator ductile iron, 200 psi close-off, C _V 1579	•		\$820
F6200L+ZDGN-S150 8" L series valve with manual gear operator ductile iron, 200 psi close-off, C _V 3136		•	\$1,192
F6250L+ZDGN-\$150 10" L series valve with manual gear operator ductile iron, 200 psi close-off, C _V 5340		•	\$1,924
F6300L+ZDGN-\$150 12" L series valve with manual gear operator ductile iron, 200 psi close-off, C _V 5340		•	\$2,204
F6350HD+GW04 14" HD series valve with manual gear operator ductile iron, 150 psi close-off, C _V 11917	•		\$3,009
F6400HD+GW05 16" HD series valve with manual gear operator ductile iron, 150 psi close-off, C _V 16388	•		\$5,125
F6450HD+GW06 18" HD series valve with manual gear operator ductile iron, 150 psi close-off, C _V 21705	•		\$6,175
F6500HD+GW07 20" HD series valve with manual gear operator ductile iron, 150 psi close-off, C _V 27908	•		\$8,870
F6600HD+GW08 24" HD series valve with manual gear operator ductile iron, 150 psi close-off, C _V 43116	•		\$14,916

Manual Handles and Gear Operators

For SHP Series Butterfly Valves

MANUAL HANDLES		VALVE	LIGT PRIOR
MANUAL HANDLES		150SHP	LIST PRICE
	F650-150SHP+HND05 2" SHP series valve with manual handle cast steel, ANSI 150 close-off limitations, C _V 102	•	\$2,552
	F665-150SHP+HND05 2½" SHP series valve with manual handle cast steel, ANSI 150 close-off limitations, C _V 146	•	\$2,624
() ()	F680-150SHP+HND06 3" SHP series valve with manual handle cast steel, ANSI 150 close-off limitations, C _V 228	•	\$2,680
	F6100-150SHP+HND06 4" SHP series valve with manual handle cast steel, ANSI 150 close-off limitations, C _V 451	•	\$2,856
	F6125-150SHP+HND07 5" SHP series valve with manual handle cast steel, ANSI 150 close-off limitations, C _V 714	•	\$4,585
	F6150-150SHP+HND07 6" SHP series valve with manual handle cast steel, ANSI 150 close-off limitations, C _V 1103	•	\$4,188
	F6200-150SHP+HND08 8" SHP series valve with manual handle cast steel, ANSI 150 close-off limitations, C _V 2064	•	\$5,357
GEAR OPERATORS			
	F650-150SHP+GW10 2" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 102	•	\$3,511
	F665-150SHP+GW10 2½" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 146	•	\$3,590
^	F680-150SHP+GW11 3" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 228	•	\$3,644
		•	\$3,756
34, 041	F6125-150SHP+GW12		\$5 171



F6150-150SHP+HND07 6" SHP series valve with manual handle cast steel, ANSI 150 close-off limitations, C _V 1103	•	\$4,188
F6200-150SHP+HND08 8" SHP series valve with manual handle cast steel, ANSI 150 close-off limitations, C _V 2064	•	\$5,357
F650-150SHP+GW10 2" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C_V 102	•	\$3,511
F665-150SHP+GW10 2½" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 146	•	\$3,590
F680-150SHP+GW11 3" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 228	•	\$3,644
F6100-150SHP+GW11 4" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 451	•	\$3,756
F6125-150SHP+GW12 5" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 714	•	\$5,171
F6150-150SHP+GW12 6" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 1103	•	\$5,249
F6200-150SHP+GW13 8" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 2064	•	\$6,209
F6250-150SHP+GW15 10" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 3517	•	\$9,237
F6300-150SHP+GW17 12" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 4837	•	\$12,165
F6350-150SHP+GW19 14" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 6857	•	\$16,083
F6400-150SHP+GW21 16" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 9287	•	\$22,827
F6450-150SHP+GW23* 18" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 11500	•	\$26,611
F6500-150SHP+GW25* 20" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 14420	•	\$35,707
F6600-150SHP+GW27* 24" SHP series valve with manual gear operator cast steel, ANSI 150 close-off limitations, C _V 22050	•	\$49,561

^{*}Call Customer Service at 1-800-543-9038 for product availability. Longer lead times may apply.

Manual Handles and Gear Operators

For SHP Series Butterfly Valves





	VALVE	
	300SHP	LIST PRICE
	•	\$3,008
F665-300SHP+HND05 2½" SHP series valve with manual handle cast steel, ANSI 300 close-off limitations, C _V 143	•	\$3,028
F680-300SHP+HND06 3" SHP series valve with manual handle cast steel, ANSI 300 close-off limitations, C _V 223	•	\$2,784
F6100-300SHP+HND06 4" SHP series valve with manual handle cast steel, ANSI 300 close-off limitations, C _V 435	•	\$2,980
$\begin{tabular}{ll} F6125-300SHP+HND07\\ 5" SHP series valve with manual handle cast steel, ANSI 300 close-off limitations, C_V 688\\ \end{tabular}$	•	\$5,203
F6150-300SHP+HND08 6" SHP series valve with manual handle cast steel, ANSI 300 close-off limitations, C _V 1041	•	\$4,211

GEAR OPERATORS



F6125-300SHP+HND07 5" SHP series valve with manual handle cast steel, ANSI 300 close-off limitations, C _V 688	•	\$5,203
F6150-300SHP+HND08 6" SHP series valve with manual handle cast steel, ANSI 300 close-off limitations, C _V 1041	•	\$4,211
F650-300SHP+GW10 2" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 100	•	\$3,704
F665-300SHP+GW10 2½" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 143	•	\$3,724
F680-300SHP+GW11 3" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 223	•	\$3,480
F6100-300SHP+GW11 4" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 435	•	\$3,671
F6125-300SHP+GW12 5" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 688	•	\$5,882
F6150-300SHP+GW13 6" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 1041	•	\$4,889
F6200-300SHP+GW14 8" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 1911	•	\$6,511
F6250-300SHP+GW16 10" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 3194	•	\$10,797
F6300-300SHP+GW18 12" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 4428	•	\$14,259
F6350-300SHP+GW20* 14" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 5702	•	\$25,198
F6400-300SHP+GW22* 16" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 8243	•	\$29,778
F6450-300SHP+GW24* 18" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 9712	•	\$38,891
F6500-300SHP+GW26* 20" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, Cv 10658	•	\$48,410
F6600-300SHP+GW28* 24" SHP series valve with manual gear operator cast steel, ANSI 300 close-off limitations, C _V 16205	•	\$71,000

^{*}Call Customer Service at 1-800-543-9038 for product availability. Longer lead times may apply.



VALVE ASSEMBLY ACCESSORIES

Added Protection

- Weather shields are designed for additional valve protection when mounted outdoors.
- Auxiliary switches to indicate when the desired position of a valve is reached or to interface controls for a particular control sequence.
- Feedback potentiometers to provide a resistive signal.

EXPERIENCE **EFFICIENCY**



WEATHER SHIELDS		VALVES	LR	NR	AR	GR	AKR	GK/ GKR	LF	NF	AF/ AFR	LM	NM	AM	GM	List Price
nes elles	ZS-EPIV-EV-20-NF	Energy Valves	•													
	For valve sizes ½" [DN15] to ¾" [DN20] (cover only)	ePIV	•													\$563
	ZS-EPIV-EV-50-SCNF For valve sizes 1" [DN25] to 2" [DN50] on non-fail-safe actuator series (cover only)	Energy Valves	•	•	•		•									\$563
	For valve sizes ½" [DN15] to 2" [DN50] on electronic fail-safe actuator series (cover only)	ePIV	•	•	•		•									φυσυ
	ZS-EPIV-EV-80 For ANSI 125, valve sizes 2½"	Energy Valves			•		•									4
æ4n	[DN65] and 3" [DN80] (cover only). For assemblies with electromagnetic flow sensor only	ePIV			•		•									\$1,235
	ZS-EPIV-EV-150 For ANSI 125, valve sizes 4" [DN100], 5" [DN125], and 6"	Energy Valves				•		•								\$1,235
	[DN150] (cover only). For assemblies with electromagnetic flow sensor only	ePIV				•		•								ψ·,200
	ZS-EPIV-EV-80U For ANSI 125, valve sizes 2½" [DN65] and 3" [DN80] (cover only). For assemblies with ultrasonic flow sensor only	Energy Valves			•		•									\$1,235
		ePIV			•		•									
	ZS-EPIV-EV-150U For ANSI 125, valve sizes 4" [DN100], 5" [DN125], and 6"	Energy Valves				•		•								\$1,235
	[DN100], 5" [DN125], and 6" [DN150] (cover only). For assemblies with ultrasonic flow sensor only	ePIV				•		•								
	ZS-CCV-90*	PICCV							•							\$245
	Kit for LF actuator series	CCV							•							φ240
	ZS-CCV-100*	PICCV	•		•											\$245
	Kit for LR/AR actuator series	CCV	•		•											φ240
	ZS-CCV-110*	PICCV									•					\$245
	Kit for AFR actuator series	CCV									•					φ240
	ZS-SPBV-10 For NM, AM,GM, NF, AF, and GK actuator series							•		•	•		•	•	•	\$316
	ZS-SPBV-20 For dual mounted GM, AF, and GK actuator series	Pall Valvos						•			•				•	\$316
	ZS-BVVS-0002 For LM actuator series on VS/VSS models	Ball Valves										•				\$312
	ZS-BVVS-0003 For LF actuator series on VS/VSS models								•							\$312
*Designed for NEMA 4 specifics																

*Designed for NEMA 4 specifications.

NOTE: Weather shield are not available for B6 CCV, TFR, TR, ARQ, and KR actuators at this time. Please call 800-543-9038 for assistance.



		VALVES	GM	GM	GKR	LF	NF	AF	AF	GK	2* GK	LV/ SV	EV/ RV	LVK/ SVK	AVK	List Price
ZS-SPGV-60 For LF actuators on G2	2/G3 series					•										\$418
ZS-SPGV-10 For dual AF series actuglobe valves	ators on flanged								•							\$440
ZS-SPGV-20 For single NF, AF actua	tor series						•	•								\$440
ZS-SPGV-40 For GM, GK series on	fl anged globe valves	Globe Valves	•							•						\$440
ZS-SPGV-50 For dual GM, GK series of	n fl anged globe valves			•							•					\$440
ZS-GV-001 For LV, SV actuators o	n NPT series											•		•		\$534
ZS-GV-002 For EV, RV, AVK actuator	on flanged series												•		•	\$565
ZS-BFV-20** For GM, GK actuators HDU, SHP, and VIC se			•							•						\$323
ZS-BFV-30** For AF actuators on F6 and VIC series	, F7, HD, HDU SHP,							•								\$323
ZS-BFV-60** For dual GM, GK actual butterfly valves F6, HD and VIC series				•							•					\$573
ZS-BFV-70** For dual AF series on I HD, HDU (2½" - 3"), S		Butterfly							•							\$573
ZS-BFV-80** For dual AF series on I HD, HDU (4" - 5"), SH	outterfly valves F6, P and VIC series	Valves							•							\$573
ZS-BFV-90** Dual AF, GM, GK serie: SHP below 4" (specify series				•					•		•					\$573
ZS-BFV-100** Dual GM/GK series for (4-6"). Two required	F7, HD, HDU, SHP			•							•					\$573
ZS-BFV-110 DR, GR, GKR series fo					•											\$573

^{**}Cannot be used with direct mount actuators.

EPIV SENSORS		VALVES	LR	NR	AR	GR	AK	GK	List Price
	M2415-EP ½" ultrasonic flow sensor		•				•		\$643
	M2420-EP ¾" ultrasonic flow sensor		•				•		\$650
	M2425-EP 1" ultrasonic flow sensor		•				•		\$853
	M2432-EP 1¼" ultrasonic flow sensor	ePIV		•			•		\$1,311
	M2440-EP 1½" ultrasonic flow sensor	GLIV		•			•		\$1,407
	M2450-EP 2" ultrasonic flow sensor, 76.1 GPM				•		•		\$1,620
	M2450-EP-100 2" ultrasonic flow sensor, 80 to 100 GPM				•		•		\$1,620
T4	EPIVFS-60 2½"-6" ANSI 125 electromagnetic flow sensor				•	•	•	•	\$1,721



ENERGY VALVE ACCESSO	RIES	VALVES	LR	NR	AR	GR	AKR	GKR	List Price
	EV050S-055 ½" Energy unit includes flow sensor, control valve, 2 temperature sensors and 2 fittings for temperature sensors		•				•		\$1,136
	EV075S-103 34" Energy unit includes flow sensor, control valve, 2 temperature sensors and 2 fittings for temperature sensors		•				•		\$1,222
	EV100S-182 1" Energy unit includes flow sensor, control valve, 2 temperature sensors and 2 fittings for temperature sensors		•				•		\$1,502
220	EV125S-285 11/4" Energy unit includes flow sensor, control valve, 2 temperature sensors and 2 fittings for temperature sensors			•			•		\$1,556
1	EV150S-396 1½" Energy unit includes flow sensor, control valve, 2 temperature sensors and 2 fittings for temperature sensors			•			•		\$1,822
	EV200S-761 2" Energy unit includes 76.1 GPM flow sensor, control valve, 2 temperature sensors, and 2 fittings for temperature sensors	_			•		•		\$2,003
	EV200S-1000 2" Energy unit includes 80 to 100 GPM flow sensor, control valve, 2 temperature sensors, and 2 fittings for temperature sensors	_			•		•		\$2,096
	M2415-EV ½" Energy Valve Ultrasonic flow sensor		•				•		\$1,039
	M2420-EV 34" Energy Valve Ultrasonic flow sensor		•				•		\$1,078
	M2425-EV 1" Energy Valve Ultrasonic flow sensor		•				•		\$1,147
	M2432-EV 1¼" Energy Valve Ultrasonic flow sensor			•			•		\$1,530
	M2440-EV 1½" Energy Valve Ultrasonic flow sensor	-		•			•		\$1,637
-	M2450-EV 2" Energy Valve Ultrasonic flow sensor, up to 76.1 GPM	Energy Valves			•		•		\$1,943
	M2450-EV-100 2" Energy Valve flow sensor, 30 to 100 GPM	Lifergy varves			•		•		\$1,943
	EV FS-60 2½" - 6" ANSI 125 Energy Valve electromagnetic flow sensor includes 2 temperature sensors	_			•	•	•	•	\$2,022
	M24250-EV 2½" ANSI 125 Energy Valve flow sensor includes 2 temperature sensors. Replacement for ANSI 125 Ultrasonic Sensor				•			•	\$3,491
	M24300-EV 3" ANSI 125 Energy Valve flow sensor includes 2 temperature sensors. Replacement for ANSI 125 Ultrasonic Sensor				•			•	\$3,568
	M24400-EV 4" ANSI 125 Energy Valve flow sensor includes 2 temperature sensors. Replacement for ANSI 125 Ultrasonic Sensor					•		•	\$3,662
	M24500-EV 5" ANSI 125 Energy Valve flow sensor includes 2 temperature sensors. Replacement for ANSI 125 Ultrasonic Sensor					•		•	\$3,778
	M24600-EV 6" ANSI 125 Energy Valve flow sensor includes 2 temperature sensors. Replacement for ANSI 125 Ultrasonic Sensor					•		•	\$4,223
	ZF15-50 Temperature sensor, threaded pipe body ½"		•				•		\$119
	ZF15-75 Temperature sensor, threaded pipe body 3/4"		•				•		\$135
	ZF15-100 Temperature sensor, threaded pipe body 1"		•				•		\$138
	ZF15-125 Temperature sensor, threaded pipe body 1¼"			•			•		\$157
	ZF15-150 Temperature sensor, threaded pipe body 1½"			•			•		\$210
	ZF15-200 Temperature sensor, threaded pipe body 2"				•		•		\$312



BATTERY BACKUP		VALVES	LM/ LR	NM/ NR	AM	GM	AR	GR/ DR	EV	RV	PR	SY	List Price
47		Ball Valves	•	•	•	•							
	NSV24 US Battery backup module	Globe Valves							•	•			\$892
JIIIII mass		Butterfly Valves					•	•			•		
	NSV-BAT	Ball Valves	•	•	•	•							
2	12VDC 1.2 AH battery	Globe Valves							•	•			\$136
	(2 required)	Butterfly Valves					•	•			•		
	EXT-NSV-B03-120* Battery backup system for SY4 - SY6 120 VAC, on/off actuators											•	\$6,483
	EXT-NSV-B04-120* Battery backup system for SY4 - SY6 120 VAC, MFT actuators											•	\$7,438
	EXT-NSV-B05-120* Battery backup system for SY7 - SY12 120 VAC, on/off actuators											•	\$7,506
	EXT-NSV-B06-120* Battery backup system for SY7 - SY12 120 VAC, MFT actuators											•	\$7,652
	EXT-NSV-B13-24* Battery backup system for SY4 - SY5 24 VAC, on/off actuators	Butterfly Valves										•	\$8,023
	EXT-NSV-B14-24* Battery backup system for SY4 - SY5 24 VAC, MFT actuators	Butterny valves										•	\$7,865
3 6	EXT-NSV-B23-230* Battery backup system for SY4 - SY6 230 VAC, on/off actuators											•	\$7,203
	EXT-NSV-B24-230* Battery backup system for SY4 - SY6 230 VAC, MFT actuators											•	\$8,145
EXT-NSV-B25-230* Battery backup system for SY7 - SY12 230 VAC, on/off actuators												•	\$8,224
	EXT-NSV-B26-230* Battery backup system for SY7 - SY12 230 VAC, MFT actuators											•	\$8,359

NOTE: Each NSV-24 US requires 2 NSV-BAT. *All EXT part numbers are not returnable.

COVERS			List Price
	ZS-T Terminal cover for NEMA 2, -T models	Available for all -T Model Actuators (except TR)	\$26



REPLACEMENT TEM	PERATURE SENSORS	VALVES	LR	NR	AR	GR	AKR	GKR	EV	AVK	List Price
	EV-RT-15 Remote temperature sensor 4.9 ft. [1.5 m] for valve sizes 2½" to 6" [DN65-DN150]				•	•	•	•	•	•	\$602
22	EV-RT-30 Remote temperature sensor 9.8 ft. [3 m] for valve sizes 2½" to 6" [DN65-DN150]				•	•	•	•	•	•	\$602
	EV-RT-50 Remote temperature sensor 16.4 ft. [5 m] for valve sizes 2½" to 6" [DN65-DN150]	Energy Valvas			•	•	•	•	•	•	\$602
	EV-RT-100 Remote temperature sensor 32.8 ft. [10 m] for valve sizes 2½" to 6" [DN65-DN150]	Energy Valves			•	•	•	•	•	•	\$602
	ZM-T30 Remote temperature sensor 9.8 ft. [3 m] for valve sizes ½" to 2" [DN15-DN50]		•	•	•		•				\$490
	ZM-T15 Remote temperature sensor 4.9 ft. [1.5 meters] for valve sizes ½" to 2" [DN15-DN50]		•	•	•		•				\$490

ZTH REPLACEMENT CABLES		VALVES	AM	GM	AR	GR	DR	GK	DK	SY	List Price
1	ZK1-GEN Cable for use with ZTH US to	Ball Valves	•	•							
	connect to new generation non fail-safe and electronic fail- safe actuators via diagnostic/ programming socket	Butterfly Valves	•	•	•	•	•	•	•		\$117
	ZK2-GEN Cable for use with ZTH US to connect to actuators not equipped with diagnostic/programming socket	Available for all MFT Actuators Only							\$54		
1	ZK6-GEN	Ball Valves								•	
	Cable for use with ZTH US to connect to SY actuator via RJII port	Butterfly Valves								•	\$56

PROGRAMMING TOOLS			List Price
	Belimo Assistant (NFC) App Allows fast programming, commissioning, and troubleshooting even when the actuator is not powered. Available through Google Play and Apple App Store	Available on NFC Labeled Actuators Only	No Charge
** Table 1	MFT-P Belimo MFT configuration software (V3.X), includes PC-Tool software (interface cables [ZTH US] not included). Physical copy of software. Free download also available at www.belimo.us under "Document Downloads"	Available for all MFT Actuators Only	\$181
E CODE	ZTH US Handheld interface module that allows field programming. Includes ZK1-GEN, ZK2-GEN, and ZK6-GEN cables	Available for all MFT Actuators Only	\$767
	ZTH-BT-NFC Bluetooth® to NFC converter for temporary wireless operation of Belimo devices with NFC capabilities.	Available for NFC Labeled Actuators Only	\$259

800-543-9038 USA



AUXILIARY SWITCHES &	POTENTIOMETERS	VALVES	LR/LM	NR/NM	AR/AM	GR/GM	AK	GK/GKR	DR	List Price
	S1A Auxiliary switch 1x SPDT, 3A (0.5A inductive) @ 250 VAC		•	•	•	•	•	•	•	\$96
	S2A Auxiliary switch 2x SPDT, 3A (0.5A inductive) @ 250 VAC		•	•	•	•	•	•	•	\$143
	P140A GR Feedback potentiometer 140 Ω		•	•	•	•	•	•	•	\$157
	P500A GR Feedback potentiometer 500 Ω	Available for	•	•	•	•	•	•	•	\$157
	P500A GR Feedback potentiometer 500 Ω	Available for All Valves	•	•	•	•	•	•	•	\$157
	P1000A GR Feedback potentiometer 1000 Ω		•	•	•	•	•	•	•	\$157
TO THE	P2800A GR Feedback potentiometer 2800 Ω		•	•	•	•	•	•	•	\$157
	P5000A GR Feedback potentiometer 5000 Ω		•	•	•	•	•	•	•	\$157
	P10000A GR Feedback potentiometer 10000 Ω		•	•	•	•	•	•	•	\$157
		VALVES	LV/SV	EV	R	V LVI	K/SVK	AVK	SY	List Price
AND TO THE STATE OF THE STATE O	S2A-GV Auxiliary switch 2x SPDT, 3A	Energy Valves		•				•		
7	(0.5A inductive) @ 250 VAC for LV,	ePIV		•				•		\$142
	SV, EV, and AVK series actuators.	Globe Valves	•	•	•	1	•	•		
	$\begin{array}{l} \text{SY-1000-FB01} \\ \text{Feedback potentiometer 1000 } \Omega, 2 \\ \text{position, factory installed option only} \end{array}$	Ball Valves Butterfly Valves							•	\$280
	SY-1000-FB02	Ball Valves							•	
	Feedback potentiometer 1000 Ω , modulating (models SYxMFT), factory installed option only	Butterfly Valves							•	\$280
EXTENSION BRACKET			VAL	/ES	LR	AR	LF	AF	AFR	List Price
The state of the s	CCV-EXT-KIT Neck extension kit for M5 screw for CCV	/ hadies up to 2011	CCV							\$219
		7 bodies up to 2011	PICC'	V	•	•	•		•	
	CCV-EXT-M4 Linkage extension kit for CCV and PICC present	V bodies 2012 to	CCV		•	•	•		•	\$219
NOTE: CCV-EXT-KIT and CCV-E	EXT-M4 are options for all CCV models ex	xcept B6 flanged val	ves.							
ELECTRIC DISCONNECT				VALVES			SY		Li Pri	
	HOA-120V			Ball Valves			•		\$5	
0	Local electric disconnect for SY4-SY12	! 110/230V - 2 posit	ion	Butterfly Valves			•		φυ	
HOA-120VMFT Local electric disconnect for SY4-SY12		! 110/230V - modula	Ball Valves			•		\$5	20	
			3	Butterfly Valves			•			
	Least electric disconnect for CV4 CV40 04V . O position			Ball Valves Butterfly Valves		•			\$5	20
	HOA-24VMFT			Ball Valves •						
Local electric disconnect for SY4-SY		24V - modulating		Butterfly Va		•		\$5	20	

866-805-7089 CANADA

HAND CRANK

ZG-HND PR

800-543-9038 USA

Replacement hand crank for PR and PKR actuators

List

Price

\$40

203-791-8396 LATIN AMERICA/CARIBBEAN



VALVE TYPE

			VALVE	: TYPE	
ZONETIGHT VALVE ACCESSORIES		VALVES	Z2 (2-WAY)	Z3 (3-WAY)	List Price
	ZCQB-FL	PIQCV	•		\$56
	Flow setter	QCV	•		φυσ
	ZCQ-E QCV or PIQCV valve stem extension.	PIQCV	•		#0 5
	Designed for chilled water service up to 104°F [40°C] media temperature	QCV	•	•	\$25
FLOW ORIFICE					
	F015010	PIQCV	•		\$82
	½" Flow orifice for 1.0 GPM	QCV	•		\$82
	F015025	PIQCV	•		\$82
	½" Flow orifice for 2.5 GPM	QCV	•		Ψ02
	F015055	PIQCV	•		\$82
	½" Flow orifice for 5.5 GPM	QCV	•		ΨΟΣ
	F020100 34" Flow orifice for 10.0 GPM	QCV	•		\$87
ARCHITECTURAL COVER					
	ZCQB-W	PIQCV	•		\$21
	Housing cover for CQ actuators (white)	QCV	•	•	ΨΔ Ι

VALVE TYPE

MOUNTING BRACKET		6-WAY CCV	List Price
ZR-00 Mount kit M4	ting bracket for 6-way CCV. Includes screw	•	\$31

VALVE TYPE

PR/PKR RETROFIT LINKAGE		BUTTERFLY	List Price
	IND-PR01 Valve linkage for 4" - 6" HDU/HD series 2-way with indicator	•	\$120
	IND-PR02 Valve linkage for 4" - 6" HDU/HD series 2-way without indicator	•	\$60
	IND-PR03 Valve linkage for 8" - 12" L series 2-way with indicator	•	\$120
	IND-PR04 Valve linkage for 8" - 12" L series 2-way without indicator	•	\$60

NOTE: Butterfly Manual Handle and Gear Operator options located on page 17-32.

800-543-9038 USA



19

SENSORS

Seamlessly Integrated

- Innovative technology to work seamlessly with all leading control companies ensuring performance.
- Reliable and accurate readings providing energy and cost-efficient control backed with a 5-year warranty.
- Universal compact modular design features a screw-less snap cover with a detachable mounting plate and NEMA 4X/ IP 65 rating for optimum installation and commissioning.

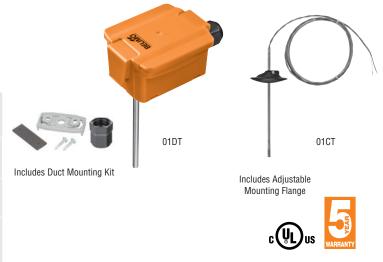
Duct / Immersion Sensor Nomenclature

Temperature

01	D	Т	5	Α	Н
Power 01 = Passive	Application C = Cable Flange D = Duct / Immersion	Medium T = Temperature	Region 5 = Americas	Signal Type A = PT100 B = PT1000 E = Ni1000 L = NTC10k2 M = NTC10k3 Q = NTC20k	Length [mm] H = 2" [50] L = 4" [100] N = 6" [150] P = 8" [200] R = 12" [300] T = 18" [450]

Duct and immersion temperature sensors for duct and pipe applications provides air or water temperature (with A-22P-A series Thermowell) readings to air handling equipment, unitary HVAC equipment, and central plants. Duct flange mount sensors with adjustable mounting flange are ideal for HVAC equipment that do not require electrical conduit for example AHU, FCU and VAV applications.

Accuracy	$\begin{array}{l} \text{PT} = \pm 0.5^{\circ}\text{F} @ 32^{\circ}\text{F} \ [\pm 0.3^{\circ}\text{C} @ 0^{\circ}\text{C}] \\ \text{Ni} = \pm 0.7^{\circ}\text{F} @ 32^{\circ}\text{F} \ [\pm 0.4^{\circ}\text{C} @ 0^{\circ}\text{C}] \\ \text{NTC} = \pm 0.3^{\circ}\text{F} @ 77^{\circ}\text{F} \ [\pm 0.2^{\circ}\text{C} @ 25^{\circ}\text{C}] \end{array}$
Cable Entry	cable gland PG11 Ø6 to 10 mm, with strain relief Ø6 to 8 mm, ½" conduit adapter included
Ambient Temperature	
01DT 01CT	-30°F to 120°F [-35°C to 50°C] -30°F to 210°F [-35°C to 100°C]
Operating Temperature	
01DT 01CT	-60°F to 300°F [-50°C to 150°C] -60°F to 320°F [-50°C to 160°C] -30°F to 210°F [-35°C to 100°C]
Degree of Protection	-30 1 to 210 1 [-33 6 to 100 6]
01DT	NEMA 4X, IP65
01CT	NEMA 4X, IP67
Agency Listing	cULus acc. to UL60730-1A/-2-9, CAN/CSA E60730-1:02/-2-9, CE acc. to 2004/108/EC and 2006/95/EC, UL Enclosure Type 4X







Me	asuring Values			uring Ra				List Price
			ler	nperatur	е			
Temperature		Output Signal Temperature	-60°F to +320°F [-50°C to +160°C]	-60°F to +300°F [-50°C to +150°C]	-30°F to +210°F [-35°C to +100°C]	Probe Length [mm]	Cable Length [m]	
01DT-5AH 01DT-5AL 01DT-5AN 01DT-5AP 01DT-5AR 01DT-5BH 01DT-5BL 01DT-5BN 01DT-5BP 01DT-5BR 01DT-5BT 01DT-5EH 01DT-5EL		PT100 PT100 PT100 PT100 PT100 PT100 PT100 PT1000 PT1000 PT1000 PT1000 PT1000 Ni1000 Ni1000 Ni1000				2" [50] 4" [100] 6" [150] 8" [200] 12" [300] 18" [450] 2" [50] 4" [100] 6" [150] 8" [200] 12" [300] 18" [450] 2" [50] 4" [100] 6" [150]		\$49 \$49 \$49 \$49 \$56 \$49 \$49 \$49 \$49 \$56 \$39 \$39
01DT-5EP 01DT-5ER 01DT-5ET 01DT-5LH 01DT-5LL 01DT-5LP 01DT-5LR 01DT-5LT 01DT-5MH 01DT-5MH 01DT-5MH 01DT-5MN 01DT-5MN 01DT-5MP 01DT-5MR 01DT-5MR 01DT-5MT 01DT-5QH 01DT-5QL	Passive	Ni1000 Ni1000 Ni1000 Ni1000 NTC10k2 NTC10k2 NTC10k2 NTC10k2 NTC10k2 NTC10k2 NTC10k3 NTC20K NTC20K	•			8" [200] 12" [300] 18" [450] 2" [50] 4" [100] 6" [150] 8" [200] 12" [300] 18" [450] 2" [50] 4" [100] 6" [150] 8" [200] 12" [300] 12" [300] 18" [450] 2" [50] 4" [100] 6" [150] 8" [200]		\$39 \$39 \$56 \$32 \$32 \$32 \$32 \$32 \$32 \$32 \$32
O1DT-5QR O1DT-5QT Cable Flange O1CT-5BL O1CT-5BP O1CT-5LL O1CT-5LP O1CT-5ML O1CT-5ML O1CT-5MP O1CT-5QL	Passive	NTC20K NTC20K PT1000 PT1000 NTC10k2 NTC10k2 NTC10K3 NTC10K3 NTC20K NTC20K		•	•	12" [300] 18" [450] 4" [100] 8" [200] 4" [100] 8" [200] 4" [100] 8" [200] 4" [100] 8" [200]	6.5 ft. [2] 6.5 ft. [2] 6.5 ft. [2] 6.5 ft. [2] 6.5 ft. [2] 6.5 ft. [2] 6.5 ft. [2]	\$32 \$49 \$37 \$37 \$26 \$26 \$26 \$26 \$26 \$26 \$26

Please note: For temperature and humidity sensors, the °F and °C are not direct conversions. °F is the standard range for the United States, and °C is the standard range for Canada and Latin America.

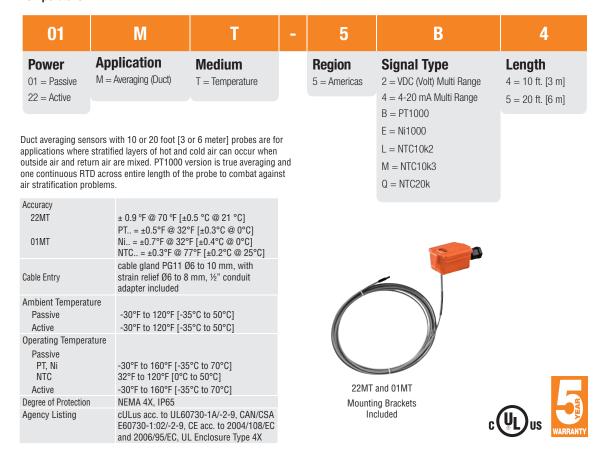
Duct / Immersion Sensor Nomenclature

Temperature

	lication	Madium	,				
ZZ — 7 louvo	uct / Immersion	Medium T = Temperature		Region 5 = Americas	Signal Type 2 = VDC (Volt) Multi 4 = 4-20 mA Multi	Range $H = 2$ " [
					4 – 4-20 MA Multi	Range $L = 4$ " [$N = 6$ "]	
						P = 8" [[200]
						R = 12"	[300]
Duct and immersion tempe applications provides air o						T = 18"	[450]
handling equipment, unitar	ry HVAC equipment,	and central plants.					
Accuracy	± 0.9 °F @ 70 °F [±0	0.5 °C @ 21 °C]					
	DC 1524 V (± 10% DC 15.	%), AC 24 V (± 10%) %) (4-20 mA)				A	
Cable Entry	cable gland PG11 Ø strain relief Ø6 to 8 adapter included		•	17		22DT Optional Acc	cessory
Ambient Temperature	-30°F to 120°F [-35	°C to 50°C]	Inclu	des Duct Mounting	Kit	A-22D-A03 Adjusta	
Operating Temperature	-60°F to 320°F [-50	°C to 160°C]			22DT	Mounting Flar	ige
Degree of Protection	NEMA 4X, IP65						
Agency Listing		730-1A/-2-9, CAN/CSA CE acc. to 2004/108/EC L Enclosure Type 4X				c(ÚL).	VEAR SI

Duct Averaging Sensor Nomenclature

Temperature



800-543-9038 USA

866-805-7089 CANADA

Temperature

	Measuring \	<i>V</i> alues				Me	asurin	g Ranç	jes			Additional	
							Tempe	rature				Features	List Price
Duct / Immersion Temperature		Output Signals (default)	Multirange	-30°F to +130°F [-50°C to +50°C]	0°F to 150°F [0°C to 160°C]	0°F to 100°F [-15°C to +35°C]	0°F to 250°F [-10°C to +120°C]	30°F to 480°F [0°C to 250°C]	40°F to 90°F [-20°C to +80°C]	40°F to 140°F [0°C to 50°C]	40°F to 240°F [0°C to 100°C]	Probe Length [mm]	
22DT-52H		DC 0-5V (DC 0-10V)	8	•	•	•	•	•	•	•	•	2" [50]	\$157
22DT-52L		DC 0-5V (DC 0-10V)	8	•	•	•	•	•	•	•	•	4" [100]	\$157
22DT-52N		DC 0-5V (DC 0-10V)	8	•	•	•	•	•	•	•	•	6" [150]	\$157
22DT-52P		DC 0-5V (DC 0-10V)	8	•	•	•	•	•	•	•	•	8" [200]	\$157
22DT-52R		DC 0-5V (DC 0-10V)	8	•	•	•	•	•	•	•	•	12" [300]	\$157
22DT-52T	Active	DC 0-5V (DC 0-10V)	8	•	•	•	•	•	•	•	•	18" [450]	\$157
22DT-54H	Active	4-20 mA	8	•	•	•	•	•	•	•	•	2" [50]	\$157
22DT-54L		4-20 mA	8	•	•	•	•	•	•	•	•	4" [100]	\$157
22DT-54N		4-20 mA	8	•	•	•	•	•	•	•	•	6" [150]	\$157
22DT-54P		4-20 mA	8	•		•	•	•	•	•	•	8" [200]	\$157
22DT-54R		4-20 mA	8	•	•	•	•	•	•	•	•	12" [300]	\$157
22DT-54T		4-20 mA	8	•	•	•	•	•	•	•	•	18" [450]	\$157

	Measuring Values						Mea	surin	g Rai	ıges				Additional	
							T	empe	ratur	е				Features	List Price
Duct Averaging Temperature		Output Signals (default)	Multirange	-60°F to +175°F [-50°C to +80°C]	-30°F to +130°F [-50°C to +50°C]	0°F to 150°F [0°C to 160°C]	0°F to 100°F [-15°C to +35°C]	0°F to 250°F [-10°C to +120°C]	32°F to 120°F [0°C to 50°C]	30°F to 480°F [0°C to 250°C]	40°F to 90°F [-20°C to +80°C]	40°F to 140°F [0°C to 50°C]	40°F to 240°F [0°C to 100°C]	Probe Length [m]	
01MT-5B4		PT1000		•										10 ft [3]	\$262
01MT-5B5		PT1000		•										20 ft [6]	\$300
01MT-5E4		Ni1000		•										10 ft [3]	\$243
01MT-5E5		Ni1000		•										20 ft [6]	\$300
01MT-5L4	Paggiya	NTC10k2							•					10 ft [3]	\$187
01MT-5L5	Passive	NTC10k2							•					20 ft [6]	\$232
01MT-5M4		NTC10K3							•					10 ft [3]	\$187
01MT-5M5		NTC10K3							•					20 ft [6]	\$232
01MT-5Q4		NTC20K							•					10 ft [3]	\$187
01MT-5Q5		NTC20K							•					20 ft [6]	\$232
22MT-524		DC 0-5V (DC 0-10V)	8		•	•	•	•		•	•	•	•	10 ft [3]	\$393
22MT-525	Active	DC 0-5V (DC 0-10V)	8		•	•	•	•		•	•	•	•	20 ft [6]	\$431
22MT-544	Active	4-20 mA	8		•	•	•	•		•	•	•	•	10 ft [3]	\$393
22MT-545		4-20 mA	8		•	•	•	•		•	•	•	•	20 ft [6]	\$431

[•] Factory setting (setting ranges are configurable on the sensor).

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Please note: For temperature and humidity sensors, the °F and °C are not direct conversions. °F is the standard range for the United States, and °C is the standard range for Canada

Cable Sensor Nomenclature

Temperature

22	C	T	-	5	2	Н
	Application C = Cable	Medium T = Temperature		Region 5 = Americas	Signal Type 2 = VDC (Volt) Multi Range 4 = 4-20 mA Multi Range	Length [mm] H = 2" [50]
		ch stainless steel probe a perature for duct and pip			A = PT100 B = PT1000 E = Ni1000 L = NTC10k2	
Accuracy 22CT 01CT	PT = ±0.5°F Ni = ±0.7°F) °F [±0.5 °C @ 21 °C] 6 @ 32°F [±0.3°C @ 0°C] 6 @ 32°F [±0.4°C @ 0°C] °F @ 77°F [±0.2°C @ 25	ĺ		M = NTC10k3 Q = NTC20k	
Power Supply 22CT	DC 1524 V	(± 10%), AC 24 V (± 10 (± 10%) (4-20 mA)			Regs.	
Cable Entry 22CT		PG11 Ø6 to 10 mm, with Ø6 to 8 mm, ½" conduit Ided				
Ambient Tempera Passive Active	-30°F to 210 -30°F to 120	0°F [-35°C to 100°C] 0°F [-35°C to 50°C]				
Operating Tempe Passive Active	-30°F to 210 -60°F to 355	°F [-35°C to 100°C] °F [-50°C to 180°C]		Includ	22CT es Mounting Plate	01CT
Degree of Protection 22CT 01CT	NEMA 4X, IF NEMA 4X, IF	P67				_
Agency Listing	E60730-1:02	o UL60730-1A/-2-9, CAI 2/-2-9, CE acc. to 2004/1 /EC, UL Enclosure Type	08/EC			ıŲL

Low Limit Detection Sensor Nomenclature

Temperature

01	D	TS	-	5	0	4	X
Power 01 = Passive	Application D = Low Limit Detection	Medium TS = Temperature & Switch		Region 5 = Americas	Signal Type 0 = Switch	Length 4 = 10 ft. [3 m] 5 = 20 ft. [6 m]	Details X = Manual Reset

Duct mounted low-temperature detection sensors with vapor filled copper capillary tube are used to protect water coils from freezing within the air handling equipment. Any section of the capillary tube that is below the setpoint will cause the vapor to condense to a liquid and trip the SPDT contact. Reset option is manual or automatic.

Accuracy	±0.9°F [±0.5°C]
Cable Entry	cable gland cap nut with strain relief $\emptyset 6$ to 8 mm
Ambient Temperature	-30°F to 160°F [-35°C to 70°C]
Operating Temperature	-30°F to 160°F [-35°C to 70°C]
Degree of Protection	NEMA 4, IP65







ľ	Aeasuring Va	lues					easu empe			es			Additiona	l Features	List Price
Cable Temperature		Output Signals (default)	Multirange	-30°F to 130°F [-50°C to 50°C]	-30°F to 210°F [-35°C to 100°C]	0°F to 100°F [-15°C to 35°C]	0°F to 150°F [0°C to 160°C]	0°F to 250°F [-10°C to 120°C]	30°F to 480°F [0°C to 250°C]	40°F to 90°F [-20°C to 80°C]	40°F to 140°F [0°C to 50°C]	40°F to 240°F [0°C to 100°C]	Probe Length [mm]	Cable Length [m]	
22CT-52H	Antivo	DC 0-5V (DC 0-10V)	8	•		•	•	•	•	•	•	•	2" [50]	6.5 ft [2]	\$157
22CT-54H	Active	4-20 mA	8	•		•	•	•	•	•	•	•	2" [50]	6.5 ft [2]	\$157
01CT-5AH		PT100			•								2" [50]	6.5 ft [2]	\$37
01CT-5BH		PT1000			•								2" [50]	6.5 ft [2]	\$37
01CT-5EH	Doggiya	Ni1000			•								2" [50]	6.5 ft [2]	\$37
01CT-5LH	Passive	NTC10k2			•								2" [50]	6.5 ft [2]	\$22
01CT-5MH		NTC10K3			•								2" [50]	6.5 ft [2]	\$22
01CT-5QH		NTC20K			•								2" [50]	6.5 ft [2]	\$22

	N	leasuring Val	ues			Measuring Ranges	Additional	
		Output Signal	Reset		Setpoint Range	Temperature	Features	List Price
Low Limit Detection Temperature (Frost Protection)		SPDT	Auto	Manual	5°F to 55°F [-10°C to 12°C]	-30°F to 160°F [-35°C to 70°C]	Probe Length [m]	
01DTS-504		•	•		•	•	10 ft [3]	\$240
01DTS-504X	Switch	•		•	•	•	10 ft [3]	\$258
01DTS-505	SWILLII	•	•		•	•	20 ft [6]	\$262
01DTS-505X		•		•	•	•	20 ft [6]	\$288

[•] Factory setting (setting ranges are configurable on the sensor).

Please note: For temperature and humidity sensors, the °F and °C are not direct conversions. °F is the standard range for the United States, and °C is the standard range for Canada and Latin America.

Duct Sensor Nomenclature

Temperature / Humidity

22	D	TH	5	1	M	В
Power 22 = Active	Application D = Duct	Medium TH = Temperature & Humidity	Region 5 = Americas	Signal Type 1 = VDC (Volt) 3 = 4-20 mA 5 = Modbus 6 = BACnet	Length [mm] M = 5" [140]	Details B = PT1000 E = Ni1000 L = NTC10k2 M = NTC10k3 Q = NTC20k

Duct mounted combination temperature and humidity sensors are factory set to relative humidity to manage occupant comfort settings. Field selectable with absolute humidity output which determines the moisture content, dew point output manages space moisture, enthalpy output defines the amount of outside air for free cooling by the air handling equipment with integrated economizer sequence. Available with active or passive temperature outputs.

Accuracy	
Temperature	Active = $\pm 0.5^{\circ}$ F @ 70° F [$\pm 0.3^{\circ}$ C @ 21° C] PT = $\pm 0.5^{\circ}$ F @ 32° F [$\pm 0.3^{\circ}$ C @ 0° C] Ni = $\pm 0.7^{\circ}$ F @ 32° F [$\pm 0.4^{\circ}$ C @ 0° C] NTC = $\pm 0.3^{\circ}$ F @ 77° F [$\pm 0.2^{\circ}$ C @ 25° C]
Humidity	±2% between 10 to 90% RH @ 70°F [21°C]
Power Supply	DC 1524 V (± 10%), AC 24 V (± 10%) DC 1524 V (± 10%) (4-20 mA)
Cable Entry	cable gland PG11 Ø6 to 10 mm, with strain relief Ø6 to 8 mm, ½" conduit adapter included
Ambient Temperature	-30°F to 120°F [-35°C to 50°C]
Operating Temperature	-30°F to 160°F [-35°C to 70°C]
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus acc. to UL60730-1A/-2-9/-2-13, CAN/CSA E60730-1:02/-2-9, CE acc. to 2004/108/EC and 2006/95/EC, UL Enclosure Type 4X











	Measurii	ng Values								Meas	uring Range	s s					
						Terr	ipera	ture			Relative Humidity	Absolute Humidity	Dewpoint	Enthalpy	Additional F	eatures	List Price
Humidity / Temperature	Temperature	Output Signal Temperature (default)	Output Signal Humidity (default)	Multirange	-30°F to 160°F [-35°C to 70°C]	-30°F to 195°F [-35°C to 90°C]	40°F to 140°F [0°C to 50°C]	-40°F to 160°F [-40°C to 60°C]	0°F to 100°F [-15°C to 35°C]	0°F to 200°F [-20°C to 80°C]	0 to 100% RH non-condensing	0 to 50 g/m³ (default) 0 to 80 g/m³	0°F to 200°F [-20°C to +80°C] 40°F to 140°F [0°C to 50°C] (default)	0 to 85 kJ/kg	Communication	Probe Length [mm]	
22DTH-51M	Activo	DC 0-5V (DC 0-10V)	DC 0-5V (DC 0-10V)	4			•	•	•	•	•	•	•	•		5.5" [140]	\$307
22DTH-53M	Active	4-20 mA	4-20 mA	4			•	•	•	•	•	•	•	•		5.5" [140]	\$307
22DTH-51MB		PT1000	DC 0-5V (DC 0-10V)		•						•	•	•	•		5.5" [140]	\$307
22DTH-51ME		Ni1000	DC 0-5V (DC 0-10V)		•						•	•	•	•		5.5" [140]	\$307
22DTH-51ML	Passive	NTC10k2	DC 0-5V (DC 0-10V)		•						•	•	•	•		5.5" [140]	\$307
22DTH-51MM		NTC10k3	DC 0-5V (DC 0-10V)		•						•	•	•	•		5.5" [140]	\$307
22DTH-51MQ		NTC20k	DC 0-5V (DC 0-10V)		•						•	•	•	•		5.5" [140]	\$307
22DTH-53MB		PT1000	4-20 mA		•						•	•	•	•		5.5" [140]	\$307
22DTH-53ME		Ni1000	4-20 mA		•						•	•	•	•		5.5" [140]	\$307
22DTH-53ML	Passive	NTC10k2	4-20 mA		•						•	•	•	•		5.5" [140]	\$307
22DTH-53MM		NTC10k3	4-20 mA		•						•	•	•	•		5.5" [140]	\$307
22DTH-53MQ		NTC20k	4-20 mA		•						•	•	•	•		5.5" [140]	\$307
22DTH-55M	Antivo	DC 0-5V (DC 0-10V)	DC 0-5V (DC 0-10V)			•					•	•	•	•	Modbus RTU	5.5" [140]	\$375
22DTH-56M	Active	DC 0-5V (DC 0-10V)	DC 0-5V (DC 0-10V)			•					•	•	•	•	BACnet MS/TP	5.5" [140]	\$375

[•] Factory setting (setting ranges are configurable on the sensor).

Please note: For temperature and humidity sensors, the °F and °C are not direct conversions. °F is the standard range for the United States, and °C is the standard range for Canada and Latin America.

Duct Sensor Nomenclature

Air Quality

22	D	ТМ	-	5	1	0	6
Power 22 = Active	Application D = Duct	$\begin{tabular}{ll} \textbf{Medium} \\ \textbf{C} &= \textbf{CO}_2 \\ \textbf{CK} &= \textbf{CO}_2, \textbf{VOC}, \textbf{Temperature}, \textbf{CO}_2 / \textbf{VOC} \textbf{Mix} \\ \textbf{CM} &= \textbf{CO}_2, \textbf{VOC}, \textbf{Temperature} \\ \textbf{CV} &= \textbf{CO}_2, \textbf{VOC} \\ \textbf{TC} &= \textbf{Temperature}, \textbf{CO}_2 \\ \textbf{TM} &= \textbf{Temperature}, \textbf{Humidity}, \textbf{CO}_2 \\ \end{tabular}$		Region 5 = Americas 1 = Canada/LA	Signal Type 1 = VDC (Volt) 3 = 4-20 mA 6 = BACnet	Length 0 = N/A	Details 6 = LCD Display

Combined duct mounted air quality sensors for detection of CO₂, VOC, temperature, and humidity. The dual channel CO2 sensor monitors building occupancy levels and is used to control the amount of outside air supplied by the air handling equipment to ensure air quality and maximize energy savings over the life-cycle of the building.

Accuracy	
Temperature	±0.9 °F @ 70 °F [±0.5 °C @ 21 °C]
Humidity	±2% between 10 to 90% RH @ 70°F [21°C]
CO ₂	±50 ppm and 3% of reading
Power Supply	DC 1524 V (±10%), AC 24 V (±10%)
Cable Entry	cable gland PG11 Ø6 to 10 mm, with strain relief Ø6 to 8 mm, ½" conduit adapter included
Ambient Temperature	32°F to 120°F [0°C to 50°C]
Operating Temperature	32°F to 120°F [0°C to 50°C]
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus acc. to UL60730-1A/-2-9, CAN/CSA E60730-1:02/-2-9, CE acc. to 2004/108/EC and 2006/95/EC, UL Enclosure Type 4X











Measu	ring Values				Measuring I	Ranges			_	_	
			Tempe	erature	Relative Humidity	CO ₂	VOC	Addi	tional Features		List Price
\mathtt{CO}_2		Output Signals	40°F to 140°F	0°C to 50°C	0 to 100% RH	0 to 2000 ppm	0 to 100%	Communication	Probe Length [mm]	Display	
22DC-51 22DC-53		DC 0-5V, DC 0-10V 4-20 mA				•			7" [180] 7" [180]		\$524 \$524
CO ₂ / Temperature 22DTC-51 22DTC-11* 22DTC-53 22DTC-13* CO ₂ / Humidity / Temperature 22DTM-51 22DTM-11* 22DTM-5106 22DTM-1106*	Active	DC 0-5 V, DC 0-10 V DC 0-5 V, DC 0-10 V 4-20 mA 4-20 mA DC 0-10 V DC 0-10 V DC 0-10 V DC 0-10 V	•	•	•	• • • • • • • • • • • • • • • • • • •			7" [180] 7" [180] 7" [180] 7" [180] 7" [180] 7" [180] 7" [180] 7" [180] 7" [180]	LCD LCD	\$599 \$599 \$599 \$599 \$787 \$787 \$918 \$918
22DTM-56		DC 0-5/10 V	•		•	•		BACnet MS/TP	7" [180]		\$805
22DTM-16* CO ₂ / VOC		DC 0-5/10 V		•	•	•		BACnet MS/TP	7" [180]		\$805
22DCV-51 CO ₂ / VOC / Mix CO ₂ + VOC / Temperature		DC 0-5 V, DC 0-10 V				•	•		7" [180]		\$861
22DCK-51		DC 0-5 V, DC 0-10 V	•			•	•		7" [180]		\$1011
22DCK-11* CO ₂ / VOC / Temperature		DC 0-5 V, DC 0-10 V		•		•	•		7" [180]		\$1011
22DCM-51		DC 0-5 V, DC 0-10 V	•			•	•		7" [180]		\$936
22DCM-11*		DC 0-5 V, DC 0-10 V		•		•	•		7" [180]		\$936

^{*}Degree Celsius.

Duct Switch Nomenclature

Pressure

01	A	PS	-	5	0	1	.1
Power	Application	Medium		Region	Signal Type	Range	Option
01 = Passive	A = Air	PS = Pressure Switch		5 = Americas	0 = Switch	R = 0.08" to 1.2"wc [20-300Pa]	.1=Multi-pack
						U = 0.2" to 2.0"wc [50-500Pa]	
						1 = 0.8" to 4.0"wc [200-1000Pa]	
						4 = 2.0" to 10"wc [500-2500Pa]	

Duct mounted pressure sensors monitor overpressure, vacuum and differential pressure of air or other noncombustible, non-aggressive gases. The differential pressure switches with automatic reset and field adjustable differential setpoint are used in air handling applications to monitor air filter cleanliness and fan status.

Accuracy	±15% (tolerance for upper and lower switching pressure)
Cable Entry	cable gland M20 x 1.5 mm with strain relief Ø6 to 8 mm, ½" conduit adapter included
Ambient Temperature	-5°F to 185°F [-20°C to 85°C]
Operating Temperature	-5°F to 185°F [-20°C to 85°C]
Degree of Protection	NEMA 13, IP54
Agency Listing	ETL listed



01APS Includes Probes and Tubing





Duct Sensor Nomenclature

Pressure

22	Α	DP	-	5	5	Q	Α
Power	Application	Medium		Region	Signal Type	Range	Details
22 = Active	A = Air	DP = Differential Pressure		5 = Americas	5 = Modbus	Q = 1"wc [250Pa] Selectable	Blank = Standard
					8 = 4-20 mA & VDC	4 = 10"wc [2500Pa] Selectable	A = Auto Zero
					Multi Range	1 = 28"wc [7000Pa] Selectable	B = Auto Zero + LCD
							L = LCD

Duct mounted pressure sensors monitor overpressure, vacuum and differential pressure of air or other noncombustible, non-aggressive gases. The differential pressure sensors with optional LCD, Modbus communications, true auto-zero or manual calibration are used to control air handler supply and return fan speed, maintain a differential pressure between spaces such as hospital isolation rooms or building entrances.

Accuracy	Refer to datasheet for accuracy on all field selectable pressure ranges
Power Supply	DC 1524 V (± 10%), AC 24 V (± 10%)
Cable Entry	cable gland PG11 Ø6 to 10 mm, with strain relief Ø6 to 8 mm, ½" conduit adapter included
Ambient Temperature	-15°F to 120°F [-10°C to 50°C]
Operating Temperature	-15°F to 120°F [-10°C to 50°C]
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus acc. to UL60730-1A/-2-6, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC. UL Enclosure Type 4X



22ADP Includes Probes and Tubing





	Measurin	ig Values	Mea	surin	g Rar	iges		
				Pres	sure		Units	List Price
Differential Pr Switch	essure	Output Signals (default)	0.08 to 1.20 inch WC [20300 Pa]	0.20 to 2.00 inch WC [50500 Pa]	0.80 to 4.00 inch WC [2001000 Pa]	2.00 to 10.00 inch WC [5002500 Pa]	package of 45	
01APS-501		SPDT			•			\$66
01APS-501.1		SPDT			•		•	\$54
01APS-504		SPDT				•		\$66
01APS-504.1	Curitah	SPDT				•	•	\$54
01APS-50R	Switch	SPDT	•					\$66
01APS-50R.1		SPDT	•				•	\$54
01APS-50U		SPDT		•				\$66
01APS-50U.1		SPDT		•			•	\$54

	Measurin	ıg Values		Measuring Ranges																				
											Pı	ressu	re									Additional Featur	es	List Price
Differential Pro	essure	Output Signals (default)	Multirange	-0.1 to 0.1 inch WC [-25 to 25 Pa]	-0.2 to 0.2 inch WC [-50 to 50 Pa]	-0.4 to 0.4 inch WC [-100 to 100 Pa]	-0.6 to 0.6 inch WC [-150 to 150 Pa]	0 to 0.1 inch WC [0 to 25 Pa]	0 to 0.2 inch WC [0 to 50 Pa]	0 to 0.4 inch WC [0 to 100 Pa]	0 to 1 inch WC [0 to 250 Pa]	0 to 2 inch WC [0 to 500 Pa]	0 to 4 inch WC [0 to 1000 Pa]	0 to 6 inch WC [0 to 1500 Pa]	0 to 8 inch WC [0 to 2000 Pa]	0 to 10 inch WC [0 to 2500 Pa]	0 to 12 inch WC [0 to 3000 Pa]	0 to 16 inch WC [0 to 4000 Pa]	0 to 20 inch WC [0 to 5000 Pa]	0 to 28 inch WC [0 to 7000 Pa]	Auto Zero - Calibration	Communication	Display	
22ADP-58Q		DC 0-5 V (DC 0-10 V, 4-20 mA)	8	•	•	•	•	•	•	•	•													\$281
22ADP-58QA		DC 0-5 V (DC 0-10 V, 4-20 mA)	8	•	•	•	•	•	•	•	•										•			\$360
22ADP-58QB		DC 0-5 V (DC 0-10 V, 4-20 mA)	8	•	•	•	•	•	•	•	•										•		LCD	\$468
22ADP-58QL		DC 0-5 V (DC 0-10 V, 4-20 mA)	8	•	•	•	•	•	•	•	•												LCD	\$345
22ADP-55Q		DC 0-5 V (DC 0-10 V)	8	•	•	•	•	•	•	•	•											Modbus RTU		\$345
22ADP-55QA		DC 0-5 V (DC 0-10 V)	8	•	•	•	•	•	•	•	•										•	Modbus RTU		\$449
22ADP-55QB		DC 0-5 V (DC 0-10 V)	8	•	•	•	•	•	•	•	•										•	Modbus RTU	LCD	\$524
22ADP-55QL	Antivo	DC 0-5 V (DC 0-10 V)	8	•	•	•	•	•	•	•	•											Modbus RTU	LCD	\$449
22ADP-584	Active	DC 0-5 V (DC 0-10 V, 4-20 mA)	8			•				•	•	•	•	•	•	•								\$281
22ADP-584L		DC 0-5 V (DC 0-10 V, 4-20 mA)	8			•				•	•	•	•	•	•	•							LCD	\$345
22ADP-554		DC 0-5 V (DC 0-10 V)	8			•				•	•	•	•	•	•	•						Modbus RTU		\$345
22ADP-554L		DC 0-5 V (DC 0-10 V)	8			•				•	•	•	•	•	•	•						Modbus RTU	LCD	\$449
22ADP-556		DC 0-5 V (DC 0-10 V)	8										•	•	•	•	•	•	•	•		Modbus RTU		\$345
22ADP-556L		DC 0-5 V (DC 0-10 V)	8										•	•	•	•	•	•	•	•		Modbus RTU	LCD	\$449
22ADP-586		DC 0-5 V (DC 0-10 V, 4-20 mA)	8										•	•	•	•	•	•	•	•				\$281
22ADP-586L		DC 0-5 V (DC 0-10 V, 4-20 mA)	8										•	•	•	•	•	•	•	•			LCD	\$345

 $[\]bullet$ Factory setting (setting ranges are configurable on the sensor).

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Pipe Sensor Nomenclature

Temperature

incorporates a spring loaded brass contact to ensure fast response and accurate hydronic temperature readings. 01ST range offers a 2" brass	22	Н	T	-	5	А	3
A = PT100 B = PT1000 01HT and 22HT are surface mounted strap-on temperature sensors that incorporates a spring loaded brass contact to ensure fast response and accurate hydronic temperature readings. 01ST range offers a 2" brass probe arched surface for fast response and has a plenum rated cable. M = NTC10k3	01 = Passive	H = Surface Mount (Housing)			•	2 = VDC (Volt) Multi Range	_
	incorporates a sprin accurate hydronic te probe arched surfac	g loaded brass contact to ensure fa imperature readings. 01ST range of e for fast response and has a plenu	st response and fers a 2" brass			A = PT100 B = PT1000 E = Ni1000 L = NTC10k2 M = NTC10k3	

PT.. = ±0.5°F @ 32°F [±0.3°C @ 0°C] 01ST, 01HT Ni.. = ±0.7°F @ 32°F [±0.4°C @ 0°C] NTC.. = ± 0.3 °F @ 77°F [± 0.2 °C @ 25°C] 22HT ±0.9°F @ 70°F [±0.5°C @ 21°C] DC 15...24 V (± 10%), AC 24 V (± 10%) Power Supply DC 15...24 V (± 10%) (4-20 mA) cable gland PG11 Ø6 to 10 mm, with strain relief Ø6 to 8 mm, ½" conduit Cable Entry adapter included Ambient Temperature -30°F to 210°F [-35°C to 100°C] Passive -30°F to 120°F [-35°C to 50°C] Active Operating Temperature Passive (01HT) -30°F to 195°F [-35°C to 90°C] Active (22HT) -30°F to 160°F [-35°C to 70°C] Degree of Protection 01ST NEMA 4, IP65 01HT NEMA 4X, IP65 cULus acc. to UL60730-1A/-2-6, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC, UL Enclosure Type 4X Agency Listing cULus acc. to UL60730-1A/-2-9, CAN/CSA E60730-1:02/-2-9, CE acc. to 2004/108/EC and 2006/95/EC, UL Enclosure Type 4X





Includes Pipe Clamp

01HT & 22HT Includes Pipe Clamp





Pipe Sensor Nomenclature

Condensation

22	Н	н	5	0	0	X
Power 22 = Active	Application H = Surface Mount (Housing)	Medium H = Humidity / Condensation	Region 5 = Americas	Signal Type 0 = Switch	Length 0 = N/A	Details X = Remote Cable Probe

Condensation sensor with LED indication has a SPDT switched contact to prevent condensation on chilled beams or other cold surfaces. Also available with 6.5' [2m] cable.

Power Supply	DC 1524 V (±10%), AC 24 V (±10%)
Cable Entry	cable gland PG11 Ø6 to 10 mm, with strain relief Ø6 to 8 mm, ½" conduit adapter included
Ambient Temperature	-5°F to 120°F [-20°C to 50°C]
Operating Temperature	-5°F to 140°F [-20°C to 60°C]
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus acc. to UL60730-1A/-2-9, CAN/CSA E60730-1:02/-2-9, CE acc. to 2004/108/EC and 2006/95/EC, UL Enclosure Type 4X



Includes Mounting Ties







Measuring Values							M	easu	ring I	Range	es			Additional	
							T	empe	eratur	е				Features	List Price
		Output Signals (default)	Multirange	-30°F to 210°F [-35°C to 100°C]	-30°F to +130°F [-50°C to 50°C]	-30°F to +195°F [-35°C to +90°C]	0°F to 250°F [-10°C to +120°C]	0°F to 100°F [-15°C to 35°C]	40°F to 90°F [-20°C to 80°C]	40°F to 140°F [0°C to 50°C]	0°F to 150°F [0°C to 160°C]	40°F to 240°F [0°C to 100°C]	30°F to 480°F [0°C to 250°C]	Cable Length [m]	
Temperature			Σ		ကု	ကု	ô	ô	4	40	ô	40	9		***
01ST-5A3		PT100		•										6.5 ft. [2]	\$39
01ST-5B3		PT1000		•										6.5 ft. [2]	\$39
01ST-5E3	Passive	Ni1000		•										6.5 ft. [2]	\$39 \$29
01ST-5L3 01ST-5M3		NTC10k2 NTC10K3		•										6.5 ft. [2] 6.5 ft. [2]	\$29 \$29
01ST-5W3		NTC20K		•										6.5 ft. [2]	\$29
01HT-5A		PT100				•								0.0 11. [2]	\$54
01HT-5B		PT1000				•									\$54
01HT-5E		Ni1000				•									\$54
01HT-5L	Passive	NTC10k2				•									\$43
01HT-5M		NTC10K3				•									\$43
01HT-5Q		NTC20K				•									\$43
22HT-52		DC 0-5V (DC 0-10V)	8		•		•	•	•	•	•		•		\$157
22HT-54	Active	4-20 mA	8		•		•	•	•	•	•	•	•		\$157

[•] Factory setting (setting ranges are configurable on the sensor).

Please note: For temperature and humidity sensors, the °F and °C are not direct conversions. °F is the standard range for the United States, and °C is the standard range for Canada and Latin America.

	Measuring \	/alues	Measuring Ranges			
			Temperature	Additional	l Features	List Price
Condensation		Output Signals (default)	-5°F to +140°F [-20°C to +60°C]	Cable Length [m]	Remote Probe	
22HH-50	Switch	SPDT	•			\$206
22HH-500X	SWILLII	SPDT	•	6.5 ft. [2]	•	\$225

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Pipe Sensor Nomenclature

Pressure

22	W	Р	-	5	1	1
Power 22 = Active	Application W = Water	Medium P = Pressure		Region 5 = Americas	Signal type 1 = VDC (Volt)	Length 1 = 0 to 15 psi
					3 = 4-20 mA	4 = 0 to 50 psi 6 = 0 to 100 psi 7 = 0 to 200 psi

Pressure sensors incorporate stainless steel strain gauge technology to measure liquids and provide gauge pressure readings for a wide variety of applications in industrial process and HVAC controls.

Accuracy	±0.5% FS @ 77°F [25°C]
Power Supply	DC 1524 V (±10%), AC 24 V (±10%) DC 1524 V (±10%)
Cable Entry	mvs plug according to DIN EN175301- 803 / type A
Thread/Port Connection	1/4" NPT (external)
Ambient Temperature	-40°F to 220°F [-40°C to 105°C]
Operating Temperature	-40°F to 255°F [-40°C to 125°C]
Degree of Protection	NEMA 4, IP65



Adaptor and Screw Connection sold separately



Pipe Sensor Nomenclature

Differential Pressure

22	W	DP	5	1	1
Power 22 = Active	Application W = Water	Medium DP = Differential Pressure	Region 5 = Americas	Signal type 1 = VDC (Volt) 3 = 4-20 mA	Length 1 = 0 to 15 psi 2 = 0 to 30 psi 4 = 0 to 50 psi 5 = 0 to 100 psi

Differential pressure sensors measure water and or non-aggressive gases are used with the building management system (BMS) to maintain adequate air or water pressure to critical zones.

Accuracy	<±1% of measuring range @ 23°F to 167 °F [-5°C to 75°C]
Power Supply	DC 1524 V (±10%), AC 24 V (±10%) DC 1524 V (±10%)
Cable Entry	angle plug according to DIN 43650, construction A
Ambient Temperature	15°F to 120°F [-10°C to 50°C]
Operating Temperature	15°F to 175°F [-10°C to 80°C]
Thread/Port Connection	1/4" NPT (internal)
Degree of Protection	NEMA 4, IP65



22WDP Adaptor and Screw Connection sold separately





Measuring Values				Measurii	ng Range		
				Pres	sure		List Price
Gauge Pressure		Output Signals	0 to 15 psi	0 to 50 psi	0 to 100 psi	0 to 200 psi	
22WP-511		DC 0-10V	•				\$330
22WP-514		DC 0-10V		•			\$330
22WP-516		DC 0-10V			•		\$330
22WP-517	Activo	DC 0-10V				•	\$330
22WP-531	Active	4-20 mA	•				\$330
22WP-534		4-20 mA		•			\$330
22WP-536		4-20 mA			•		\$330
22WP-537		4-20 mA				•	\$330

Measuring Values				Measurii	ng Range		
				Pres	sure		List Price
Differential Pressu	re	Output Signals	0 to 15 psi	0 to 30 psi	0 to 50 psi	0 to 100 psi	
22WDP-511		DC 0-10V	•				\$824
22WDP-512		DC 0-10V		•			\$824
22WDP-514		DC 0-10V			•		\$824
22WDP-515	Active	DC 0-10V				•	\$824
22WDP-531	Active	4-20 mA	•				\$824
22WDP-532		4-20 mA		•			\$824
22WDP-534		4-20 mA			•		\$824
22WDP-535		4-20 mA				•	\$824

Pipe Sensor Nomenclature

FM	050			
FM = Flow Meter	Valve Size 050 = ½" 075 = ¾" 100 = 1" 125 = 1½" 150 = 1½" 200 = 2"	GPM Range 0.07 to 6.6* 0.13 to 12.4* 0.22 to 21.8* 0.35 to 34.2* 0.48 to 47.5* 0.92 to 91.2*	Power Supply 24 = 24 VAC/DC	Output Signal 0 to 10 VDC

Flow meters utilizes ultrasonic technology with glycol and temperature compensation to accurately measure water flow for HVAC plant applications and sub-metering of hot or chilled water flow.

Power Supply	24 VAC/DC
Electrical Connection	1/2" NPT conduit connection with 3ft. [1 m], 18 GA appliance cable
Degree of Protection	NEMA 2, IP54
Service	chilled or hot water, up to 60% glycol max, condenser water (open loop/steam not allowed)
End Fitting	NPT female inlet, NPT male outlet
Sensor Housing	forged brass, nickel plated
Sensor Housing Pressure Ratng	360 psi
Media Temp. Range	-4°F to +250°F [-20°C to +120°C]
Ambient Temp. Range	-22°F to +122°F [-30°C to +50°C]
Inlet Length to Meet Specified Measurement Accuracy	inlet: 5x nominal pipe size (NPS) outlet: no requirement
Flow Sensor Technology	ultrasonic with glycol and temperature compensation
Output Signal OV	analog (0 to 10 VDC) sensor has no supply voltage
0.3V	sensor has supply voltage but is in error state
0.5V 10V	0% of V'nom* 100% of V'nom*
Flow Measurement Tolerance	±2%**
Flow Measurement Repeatability	±0.5%
Agency Listing	cULus: UL 94 D5 E108966, UL Enclosure Type 2



FM Flow Meter





^{*}V'nom is the maximum/nominal flow rate for each size **All flow accuracies are at 68°F to 77°F [20°C to 25°C] / Glycol 0% vol.

		M	easuring Val	ues			Class ((CDM)			Value Cire	Lint Duine
						Flow ((GPIVI			Valve Size	List Price	
		Flow Meters		Output Signals	0.07 - 6.6	0.13 - 12.4	0.22 - 21.8	0.35 - 34.2	0.48 - 47.5	0.92 - 91.2	Inches [mm]	
		FM050		DC 0-10V	•						½" [15]	\$582
		FM075		DC 0-10V		•					3/4" [20]	\$590
	NPT	FM100	Active	DC 0-10V			•				1" [25]	\$780
	Z	FM125	Notive	DC 0-10V				•			1¼" [32]	\$1,210
		FM150		DC 0-10V					•		1½" [40]	\$1,300
		FM200		DC 0-10V							2" [50]	\$1,500

Outdoor Air Sensor Nomenclature

Temperature

22	U	T	-	5	Α
Power 01 = Passive 22 = Active	Application U = Outside	Medium T = Temperature		Region 5 = Americas	Signal Type 2 = VDC (Volt) Multi Range 4 = 4-20 mA Multi Range A = PT100 B = PT1000 E = Ni1000 L = NTC10k2 M = NTC10k3 Q = NTC20k

Outside air mounted combined humidity and temperature sensors with selectable relative humidity, absolute humidity, dewpoint and enthalpy outputs. Optional BACnet and Modbus communications and optional weather / sun shield.

Accuracy	
Temperature	
	PT = ±0.5°F @ 32°F [±0.3°C @ 0°C]
01UT	Ni = ±0.7°F @ 32°F [±0.4°C @ 0°C] NTC = ±0.3°F @ 77°F [±0.2°C @ 25°C]
22UT	±0.9°F @ 70°F [±0.5°C @ 21°C]
Power Supply	DC 1524 V (±10%), AC 24 V (±10%) DC 1524 V (±10%), (420 mA)
Cable Entry	cable gland PG11 Ø6 to 10 mm, with strain relief Ø6 to 8 mm, ½" conduit adapter included
Ambient Temperature	
Passive(01UT)	-30°F to 120°F [-35°C to 50°C]
Active (22UT)	-30°F to 120°F [-35°C to 50°C]
Operating Temperature	
Passive(01UT)	-30°F to 120°F [-35°C to 50°C]
Active (22UT)	-30°F to 120°F [-35°C to 50°C]
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus acc. to UL60730-1A/-2-9, CAN/CSA E60730-1:02/-2-9, CE acc. to 2004/108/EC and 2006/95/EC, UL Enclosure Type 4X











22UT Includes Mounting Plate



Measuring Values			Measuring Ranges							Additional			
Output Signal Temperature (default)			Measuring Range Temperature							Features	List Price		
			Multirange	-30°F to +120°F [-35°C to +50°C]	-30°F to +130°F [-50°C to +50°C]	0°F to 100°F [-15°C to +35°C]	0°F to 150°F [0°C to 160°C]	0°F to 250°F [-10°C to +120°C]	30°F to 480°F [0°C to 250°C]	40°F to 90°F [-20°C to +80°C]	40°F to 240°F [0°C to 100°C]	Probe Length [mm]	
01UT-5A	PT100 PT1000			•									\$71
01UT-5B				•									\$71
01UT-5E	Passive	Ni1000		•									\$64
01UT-5L	r assive	NTC10k2		•									\$45
01UT-5M		NTC10K3		•									\$45
01UT-5Q		NTC20K		•									\$45
22UT-52	Active	DC 0-5V (DC 0-10V)	8	•	•	•	•	•	•	•	•	1" [25]	\$169
22UT-54	AGLIVE	4-20 mA	8	•	•	•	•	•	•	•	•	1" [25]	\$169

[•] Factory setting (setting ranges are configurable on the sensor).

Please note: For temperature and humidity sensors, the °F and °C are not direct conversions. °F is the standard range for the United States, and °C is the standard range for Canada and Latin America.

Outdoor Air Sensor Nomenclature

Temperature / Humidity

22	U	TH	-	5	1	0	X
Power 22 = Active	Application U = Outside	Medium TH = Temperature & Humidity		Region 5 = Americas	Signal Type 1 = VDC (Volt) 3 = 4-20 mA 5 = Modbus 6 = BACnet	Length 0 = N/A	Details X = Weather Shield B = PT1000 E = Ni1000 JCI L = NTC10k2 M = NTC10k3 Q = NTC20k

Outside air mounted combined humidity and temperature sensors with selectable relative humidity, absolute humidity, dewpoint and enthalpy outputs. Optional BACnet and Modbus communications and optional weather/sun shield.

Accuracy	
Temperature	
Active	±0.5°F @ 70°F [±0.3°C @ 21°C]
Passive, PT	±0.5°F @ 32°F [±0.3°C @ 0°C]
Passive, Ni	±0.7°F @ 32°F [±0.4°C @ 0°C]
Passive, NTC	±0.3°F @ 77°F [±0.2°C @ 25°C]
Humidity	±2% between 10 to 90% RH @ 70°F [21°C]
Power Supply	DC 1524 V (±10%), AC 24 V (±10%) DC 1524 V (±10%), (420 mA)
Cable Entry	cable gland PG11 Ø6 to 10 mm, with strain relief Ø6 to 8 mm, ½" conduit adapter included
Ambient Temperature	-30°F to 120°F [-35°C to 50°C]
Operating Temperature	-30°F to 120°F [-35°C to 50°C]
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus acc. to UL60730-1A/-2-9/-2-13, CAN/CSA E60730-1:02/-2-9, CE acc. to 2004/108/EC and 2006/95/EC, UL Enclosure Type 4X











		Measuring Values					M	easu	ring Range	S							
								ng Ra			Relative	Absolute	Dewpoint	Enthalpy	Additional Feat	ires	List Price
						I	empe	ratu	re		Humidity	Humidity					
	Temperature	Output Signal Temperature (default)	Output Signal Humidity (default)	Multirange	-30°F to +120°F [-35°C to +50°C]	-30°F to +195°F [-35°C to +90°C]	-40°F to +160°F [-40°C to +60°C]	0°F to 200°F [-20°C to +80°C]	40°F to 140°F [0°C to 50°C]	0°F to 100°F [-15°C to +35°C]	0 to 100% RH (non condensing)	0 to 50 g/m³ (default) 0 to 80 g/m³	0°F to 200°F [-20°C to +80°C] 40°F to 140°F [0°C to 50°C] (default)	0 to 85 kJ/kg	Communication	Weather Shield	
22UTH-51		DC 0-5V (DC 0-10V)	DC 0-5V (DC 0-10V)	4			•	•	•	•	•	•	•	•			\$318
22UTH-53		4-20 mA	4-20 mA	4			•	•	•	•	•	•	•	•			\$318
22UTH-510B		PT1000	DC 0-5V (DC 0-10V)		•						•	•	•	•			\$318
22UTH-510E		Ni1000	DC 0-5V (DC 0-10V)		•						•	•	•	•			\$318
22UTH-510L		NTC10k2	DC 0-5V (DC 0-10V)		•						•	•	•	•			\$318
22UTH-510M		NTC10K3	DC 0-5V (DC 0-10V)		•						•	•	•	•			\$318
22UTH-510Q		NTC20K	DC 0-5V (DC 0-10V)		•						•	•	•	•			\$318
22UTH-530B	ctive	PT1000	4-20 mA		•						•	•	•	•			\$318
22UTH-530E	Clive	Ni1000	4-20 mA		•						•	•	•	•			\$318
22UTH-530L		NTC10k2	4-20 mA		•						•	•	•	•			\$318
22UTH-530M		NTC10K3	4-20 mA		•						•	•	•	•			\$318
22UTH-530Q		NTC20K	4-20 mA		•						•	•	•	•			\$318
22UTH-510X		DC 0-5V (DC 0-10V)	DC 0-5V (DC 0-10V)	4			•	•	•	•	•	•	•	•		•	\$655
22UTH-530X		4-20 mA	4-20 mA	4			•	•	•	•	•	•	•	•		•	\$655
22UTH-550X		DC 0-5V (DC 0-10V)	DC 0-5V (DC 0-10V)			•					•	•	•	•	Modbus RTU	•	\$730
22UTH-560X		DC 0-5V (DC 0-10V)	DC 0-5V (DC 0-10V)			•					•	•	•	•	BACnet MS/TP	•	\$730

[•] Factory setting (setting ranges are configurable on the sensor).

Please note: For temperature and humidity sensors, the °F and °C are not direct conversions. °F is the standard range for the United States, and °C is the standard range for Canada and Latin America.



Model Number		TOTO	01DTS	01MT	22MT	22CT	22HH	MUT	22UT	22UTH	22DT	22DTH	22DTC	22DTM	22DC	22DCV	22DCK	22DCM	OTAPS	22ADP	List Price
	A-22AP-A01 Metal duct connectors, L = 1.5" (40 mm)																		•	•	\$15
	A-22AP-A03 Metal duct connectors, L = 4" (100 mm)																		•	•	\$21
101	A-22AP-A05.1 6 ft. (2 m) PVC tube and 2 plastic duct probes for 01APS pressure switch (multipack - 50 pcs)																		•		\$15
I I	A-22D-A03 Mounting flange for duct temperature sensors Ø 0.25" (6 mm)	•									•										\$9
	A-22D-A05 Brass mounting flange for duct temperature sensors, up to 500°F [260°C]	•									•										\$21
Pi	A-22D-A08 Mounting kit for duct averaging and low temp limit detection			•																	\$16
8	A-22D-A09 Mounting plate for sensors with small housing	•		•	•	•	•	•	•		•										\$7
	A-22D-A10 Mounting plate for sensors with large housing									•										•	\$8
	A-22D-A11 Mounting clip for duct temperature										•										\$3
0	A-22D-A34 Mounting flange for duct humidity and CO ₂ sensor											•	•	•	•	•	•	•			\$15
-	A-22U-A01 Weather shield for outdoor humidity sensors									•		•									\$15 \$180
	A-22G-A04.1 %" NPT conduit adaptor (Pack of 10 parts)	•		•	•		•		•	•	•	•	•	•	•	•		•	•	•	\$50

1 3000 - 04/10 - 300Jet. to change. © benind All Collings (US) All prices are in US Dollars (USD)



Model Number		01DT	22DT	01ST	01HT	22WP	22WDP	List Price
	A-22P-A05 Thermowell (2 part) stainless steel 2" (50 mm) ½" NPT	•	•					\$28
	A-22P-A07 Thermowell (2 part) stainless steel 4" (100 mm) ½" NPT	•	•					\$29
	A-22P-A09 Thermowell (2 part) stainless steel 6" (150 mm) ½" NPT	•	•					\$35
	A-22P-A11 Thermowell (2 part) stainless steel 8" (200 mm) ½" NPT	•	•					\$44
	A-22P-A13 Thermowell (2 part) stainless steel 12" (300 mm) ½" NPT	•	•					\$66
¥	A-22P-A15 Thermowell (2 part) stainless steel 18" (450 mm) ½" NPT	•	•					\$89
	A-22P-A17 Thermowell (2 part) brass 2" (50 mm) ½" NPT	•	•					\$20
	A-22P-A19 Thermowell (2 part) brass 4" (100 mm) ½" NPT	•	•					\$24
	A-22P-A21 Thermowell (2 part) brass 6" (150 mm) ½" NPT	•	•					\$29
	A-22P-A23 Thermowell (2 part) brass 8" (200 mm) ½" NPT	•	•					\$35
	A-22P-A25 Thermowell (2 part) brass) 12" (300 mm) ½" NPT	•	•					\$51
	A-22P-A27 Thermowell (2 part) brass 18" (450 mm) ½" NPT	•	•					\$64
	A-22P-A36 Thermowell (machined) stainless steel 2" (50 mm) ½" NPT	•	•					\$93
	A-22P-A37 Thermowell (machined) stainless steel 4" (100 mm) ½" NPT	•	•					\$124
	A-22P-A38 Thermowell (machined) stainless steel 6" (150 mm) ½" NPT	•	•					\$128
	A-22P-A39 Thermowell (machined) stainless steel 8" (200 mm) ½" NPT	•	•					\$146
	A-22P-A40 Tightening strap 2" (50 mm) for pipe sensor with contact fluid			•	•			\$11
	A-22P-A42 Tightening strap 2-35" (900 mm) for pipe sensor with contact fluid			•	•			\$19
	A-22P-A44 Thermal contact fluid 0.04 oz (1.2 ml)	•	•	•	•			\$7
	A-22WP-A01 Adapter 1/4" NPT to 1/2" NPT					•		\$21
-	A-22WP-A03 Adapter connection set 6 mm ½" NPT brass (2x)						•	\$32
	A-22WP-A05 Adapter connection set 6 mm ¼" NPT stainless steel (2x)						•	\$142
	A-22WP-A07 Adapter connection set 8 mm ¼" NPT brass (2x)						•	\$36
	A-22WP-A09 Adapter connection set 8 mm ¼" NPT stainless steel (2x)						•	\$165
	A-22G-A04.1 ½" NPT conduit adaptor (Pack of 10 parts)	•	•		•			\$50





Seamlessly integrated. The new sensor range from Belimo.

Belimo HVAC sensors offer trusted reliability, easy installation, and seamless integration with major Building Automation Systems and are designed with an innovative screwless snap-on cover housing that allows for easy commissioning and provides NEMA 4X / IP65 protection. The new range includes accurate sensors for measuring temperature, humidity, pressure, CO2, and VOC in duct, pipe, and outdoor applications. Belimo sensors provide the highest quality and are backed by world-class service and support.

Discover all the advantages at **belimo.us**



800-543-9038 USA



ECONOMIZER AND RETROFIT SOLUTIONS

Cutting Edge Technology

- Quick and convenient replacement without any interruption in service.
- Innovative universal solutions offering quality and reliability for your entire system.
- Simple way to replace actuators of any brand in existing buildings whether electronic or pneumatic.

EXPERIENCE EFFICIENCY



The Source for HVAC Replacement Solutions Belimo Retrofit App

Valves and actuators are responsible for ensuring reliable, functioning hydronic and air control HVAC systems all over the world. With innovative technology, verified quality, and easy handling during installations and operation, they boost the performance and efficiency of integrated building technology. The Belimo Retrofit App provides air and water retrofit application solutions with direct coupled or remote access linkages and energy efficient actuators.

Use the Retrofit App on your next renovation project.



Download Belimo Retrofit App at Apple App Store or Google Play.







20

ZIP ECONOMIZER

Fast Route to Reliable Energy Savings

- Efficient free cooling.
- Fault detection and diagnostics.
- Plug and play.

ASHRAE BACnet®



BACnet® is a registered trademark of ASHRAE.

Justin Lindstrom, Product Manager





Economizer Base

AND



Select Actuator



TFB24-SR up to 7.5 Tons

LF24-SR US 7.5-12 Tons





15-30 Tons

Select High Limit Changeover Sensors



DIFFERENTIAL DRY BULB



ECON-ZIP-10K

OR



SINGLE ENTHALPY





DIFFERENTIAL ENTHALPY

ECON-ZIP-TH

Optional Add-On Modules



- Demand Control Ventilation (DCV)* ECON-ZIP-EM + CO2 sensor of your choice (0-2000 PPM, 0-10 VDC).
- Preoccupancy Purge* ECON-ZIP-EM Requires thermostat with purge setting and contacts.
- Remote Damper Override ECON-ZIP-EM + SGA24
- Exhaust Fan ECON-ZIP-EM
- 2 Speed fan control or remote diagnostic alarm notification ECON-ZIP-EM



- Remote Diagnostic Alarm Notification* ECON-ZIP-COM • Required for BACnet MS/TP communication
 - * May be required by local codes

See page 20-5 for a list of ZIP Pack Solutions & Retrofit Kits.

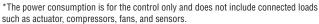
Learn More: www.belimo.us

BACnet® is a registered trademark of ASHRAE.



Specifications

Оробинованопо	
Power Supply	24 VAC ±20%, 50/60 Hz, class 2 power
	4 VA base control (ECON-ZIP-BASE)
	5.5 VA base control with Energy Module (ECON-ZIP-BASE + ECON-ZIP-EM)
Power Consumption*	5 VA base control with Communication Module (ECON-ZIP-BASE + ECON-ZIP-COM)
	6.5 VA base control with Energy Module and Communication Module.
Supported Temperature Sensor	NTC 10K-2 Thermistor sensor auto-detection
Supported Humidity Sensor	0-10 VDC; sensor auto-detection
Supported CO ₂ Sensor	0-10 VDC; sensor auto-detection
Environmental	RoHS, conformally coated
Ambient Temperature	-40°F to +158°F [-40°C to +70°C]
Storage Temperature	-40°F to +176°F [-40°C to +80°C]
Humidity	5 to 95% R.H. (non-condensing)
Wiring	1/4" male spade connectors
Housing Material	UL94-5VA
Housing	NEMA 1
Display	2x16 character LCD display; LED backlight
Display Operating Temperature**	-22°F to +176°F [-30°C to +80°C]
Agency Listings	EMC according to UL60730-1, cULus according to UL873, CAN/CSA C22.2, No. 24-93, IECC
Energy Code Compliant	ASHRAE 90.1, CA Title 24, NECB



^{**}At low temperatures the display has decreased response time. Below -22°F [-30°C] it will not function.





MODEL	List Price
ECON-ZIP-BASE	\$476

SPRING RETURN ACTUATORS***

Model #	Tavava	Control Innut	Foodbook	Power	Running	Time(s)	VA Rating	List Dries	
Model #	Torque	Control Input	Feedback	Supply	M	-@	VA Hating	List Price	
AFB24-SR	180 in-lbs [20 Nm]	2-10 VDC	2-10 VDC	24 VAC/DC	95 seconds	<20 seconds	8.5	\$663	
NFB24-SR	90 in-lbs [10 Nm]	2-10 VDC	2-10 VDC	24 VAC/DC	95 seconds	<20 seconds	6	\$582	
LF24-SR US	35 in-lbs [4 Nm]	2-10 VDC	2-10 VDC	24 VAC/DC	150 seconds	<25 seconds	5	\$497	
TFB24-SR	22 in-lbs [2.5 Nm]	2-10 VDC	2-10 VDC	24 VAC/DC	95 seconds	<25 seconds	4	\$427	

^{***} Up to three actuators can be used. Visit www.belimo.us for details.

Belimo Spring Return actuators must be used to facilitate faster commissioning procedures (-SR acceptable).

ECON-ZIP-TH The ECON-ZIP-TH Sensor may be used to measure temperature and humidity in the outdoor or return air stream. The temperature and humidity output is via 2 discrete analog channels that can be independently measured with a multimeter. One sensor is used in the outdoor air intake for single enthalpy changeover strategy. An additional sensor can be added in the return air stream for differential enthalpy changeover strategy. Note: When using the ECON-ZIP-TH it is not necessary to use a separate temperature sensor ECON-ZIP-10K for outdoor air (OAT), return air (RAT). ECON-ZIP-10K The ECON-ZIP-10K allows for reliable air temperature readings. The sensor may be used for outdoor air (OAT), return air (RAT), or supply air (SAT) temperature measurements and control, with no configuration required. A minimum of one SAT and one OAT sensor is required for the ZIP Economizer to function. An RAT sensor can be added for differential temperature change over strategy. For best control results, sensors should be placed in the air stream. The T-Bracket mounting is universal and can be inserted through the ductwork, fan housing or surface mounted.



\$109

\$169

List Price Accessories



ECON-ZIP-EM

The ZIP Economizer Energy Module provides additional I/Os to offer higher control functionalities that will save even more energy. The Energy Module is needed for demand control ventilation, indoor fan- 2 speed control or remote diagnostic alarm notification, power exhaust fan, remote override for damper positioning, and preoccupancy purge. The auto-detection and plug and play capability offers quick set up.

Technical Dat	a		
Туре	Name	Description	Electrical Specification
Input	CO2 <u>+</u>	CO2 sensor input for DCV	requires CO2 sensor capable of 0-10 VDC signal representing 0-2000 ppm. (not supplied)
Output*	ALM/IF	Remote diagnostic alarm/indoor fan low speed enable	24 VAC output (1.5A max.) impedance for IF auto detection @ 24 VAC: <600 Ω @ 60 Hz <800 Ω @ 50 Hz
Output	EF	Exhaust fan enable	24 VAC output (1.5A max.) impedance for auto detection @ 24 VAC: <600 Ω @ 60 Hz <800 Ω @ 50 Hz
Input	AUX1 ±	Preoccupancy purge contact input	on/off, 24 VAC, 50/60 Hz current load min. 10mA
Input**	AUX2 ±	Remote damper override input	2-10 VDC signal represents 0-100% damper position

^{*}IF output is configured via the Settings menu (default output is remote diagnostic alarm).
** Use remote override potentiometer; Belimo part number SGA24 or SGF24.



⊕BACnet

BACnet® is a registered

trademark of ASHRAE.

The ZIP Economizer Communication Module provides remote diagnostic alarm indication with future capabilities such as data trending and building automation integration. Required for BACnet MS/TP communication.

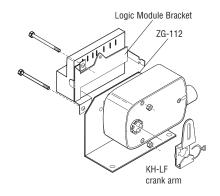
Technical	Data		
Туре	Name	Description	Electrical Specification
1/0	Comm	Communication interface	RS485 Interface Optical isolation max. 1k VDC (for max. 1 min.) Terminal assignments: (+) Data B (-) Data A GND Ground
Relay	ALM	Diagnostic alarm	Relay contact 24V Normal current: 0.5A Inrush current: 1A

Retrofit Kits for Honeywell Foot Mounted <i>I</i>	Actuators	Components (# included in kit)	List Price
	ECON-ZIP-ACT Actuator Shaft Adapter allows easy retrofit from Honeywell® black box motors (M7XXX) to Belimo spring return actuator.	Shaft, M4x8 Screws (4), Locking Nuts (4)	\$64
	ECON-ZIP-LF1 Bracket with hole patterns to mount the LF Series actuator, horizontal or vertical position to meet space requirements.	ECON-ZIP-ACT, ZG-112, Screws	\$92
	ECON-ZIP-TF1 Bracket with hole patterns to mount the TF Series actuator, horizontal or vertical position to meet space requirements.	ECON-ZIP-ACT, ZG-113, Spacers and Screws	\$92
ZIP Packs		Components (# included in kit)	List Price
	ECON-ZIP-SDTF Single Dry Bulb with DCV Capability and TF Spring Return Actuator (22 in-lbs)	ECON-ZIP-BASE, ECON-ZIP-EM, ECON-ZIP-10K (2), TFB24-SR, ECON-ZIP-TF1	\$989
	ECON-ZIP-DDTF Differential Dry Bulb with DCV Capability and TF Spring Return Actuator (22 in-lbs)	ECON-ZIP-BASE, ECON-ZIP-EM, ECON-ZIP-10K (3), TFB24-SR, ECON-ZIP-TF1	\$1,011
	ECON-ZIP-SETF Single Enthalpy with DCV Capability and TF Spring Return Actuator (22 in-lbs)	ECON-ZIP-BASE, ECON-ZIP-EM, ECON-ZIP-10K, ECON-ZIP-TH, TFB24-SR, ECON-ZIP-TF1	\$1,088
	ECON-ZIP-DETF Differential Enthalpy with DCV Capability and TF Spring Return Actuator (22 in-lbs)	ECON-ZIP-BASE, ECON-ZIP-EM ECON-ZIP-10K, ECON-ZIP-TH (2) TFB24-SR, ECON-ZIP-TF1	\$1,196
	ECON-ZIP-SDLF Single Dry Bulb with DCV Capability and LF Spring Return Actuator (35 in-lbs)	ECON-ZIP-BASE, ECON-ZIP-EM, ECON-ZIP-10K (2), LF24-SR US, ECON-ZIP-LF1	\$1,044
	ECON-ZIP-DDLF Differential Dry Bulb with DCV Capability and LF Spring Return Actuator (35 in-lbs)	ECON-ZIP-BASE, ECON-ZIP-EM, ECON-ZIP-10K (3), LF24-SR US, ECON-ZIP-LF1	\$1,066
	ECON-ZIP-SELF Single Enthalpy with DCV Capability and LF Spring Return Actuator (35 in-lbs)	ECON-ZIP-BASE, ECON-ZIP-EM, ECON-ZIP-10K, ECON-ZIP-TH, LF24-SR US, ECON-ZIP-LF1	\$1,142
	ECON-ZIP-DELF Differential Enthalpy with DCV Capability and LF Spring Return Actuator (35 in-lbs)	ECON-ZIP-BASE, ECON-ZIP-EM ECON-ZIP-10K, ECON-ZIP-TH (2) LF24-SR US, ECON-ZIP-LF1	\$1,250



Retrofit Replacement Solutions - Honeywell M8405 Actuator

List Price



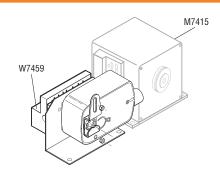
M8405 Actuator

The three-position control functionality of the LF24-SR-E US allows direct replacement of a Honeywell M8405A foot mounted economizer actuator.

LF24-SR-E US 35 in-lb spring return actuator, 2-10V, 24 VAC with minimum position selection	\$537
ZG-LF112 Crank arm adaptor kit - includes KH-LF crank arm and clip, ZG-112 bracket and mounting hardware.	\$61
20477-00001 Logic module bracket for Honeywell	\$61
KG6 Ball joint (if needed)	\$20

Retrofit Replacement Solutions - Honeywell M7415 Actuator

List Price



M7415 Actuator

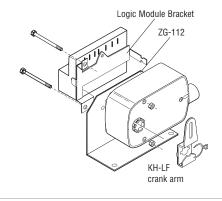
The proportional control of a mixed air set point of the LF24-ECON-RO3 US allows direct replacement of a Honeywell M7415 economizer actuator.

LF24-EC0N-R03 US 35 in-lb spring return actuator, 24 VAC, 3K Ω thermistor	\$564
ZG-ECON1 Includes ZG-112, KH-LF, 20477-00001 (logic module bracket), KG6 (ball joint), and 4 male spade connectors.	\$102
ZG-ECON2 Includes ZG-112, KH-LF, KG6 (ball joint), and 4 female spade connectors.	\$82

Choose either ZG-ECON1 or ZG-ECON2.

Retrofit Replacement Solutions - Honeywell M7215 Actuator

List Price



M7215 Actuator

The proportional control of a mixed air set point of the LF24-SR US allows direct replacement of a Honeywell M7215 economizer actuator.

LF24-SR US 35 in-lb spring return actuator, 2-10V, 24 VAC	\$497
ZG-ECON1 Includes ZG-112, KH-LF, 20477-00001 (logic module bracket), KG6 (ball joint), and 4 male spade connectors.	\$102

Note: For economizer retrofit, please visit www.belimo.us



Pipe Package Nomenclature

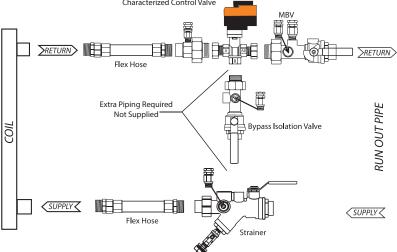
P 2	111	1213	1211	2
Pipe Package P = Pipe Package Valve Type 2 = 2-way CCV 3 = 3-way CCV Z = Zone QCV* PIQCV* ePIV* Options X = Extension Package S = Supply Side Package	Union Valve Size 1 = ½" 2 = ¾" 3 = 1" 4 = 1" to ¾" 5 = ¾" to ½" A = 1½" B = 1¼" C = 2" D = 1¼" to 1" E = 1½" to 1½" F = 2" to 1½" G = 1" to ½" H = 1¼" to 34" J = 1½" to 1" K = 2" to 1¼" Body End 1 = Female NPT 2 = Copper Sweat Configuration 1 = Standard Tailpiece End Male NPT Only	Isolation Valve / Manual Balance Valve Valve Size 1 = ½" 2 = ¾" 3 = 1" 4 = 1" to ¾" 5 = ¾" to ½" A = 1½" B = 1½" C = 2" D = 1½" to 1" E = 1½" to 1½" F = 2" to 1½" G = 1" to ½" H = 1½" to 1" K = 2" to 1½" Sody End 1 = Female NPT 2 = Copper Sweat Configuration 1 = Standard Tailpiece End Male NPT Only	Strainer / Isolation Valve Valve Size 1 = ½" 2 = ¾4" 3 = 1" 4 = 1" to ¾" 5 = ¾4" to ½" A = 1½" B = 1½" B = 1½" C = 2" D = 1½" to 1½" E = 1½" to 1½" G = 1" to ½" H = 1½" to 1½" K = 2" to 1½" W = 1½" to 1" K = 2" to 1½" Body End 1 = Female NPT 2 = Copper Sweat Configuration 1 = Standard Tailpiece End (Strainer Option) 1 = Female NPT 2 = Copper Sweat 3 = Male NPT Tailpiece End (Isolation Valve Option)	Hose Diameter & Length 1 = ½" (12" length) 2 = ½" (24" length) 3 = ¾" (12" length) 4 = ¾" (24" length) 5 = 1" (12" length) 6 = 1" (24" length) 7 = ½" (18" length) 8 = ¾" (18" length) 9 = 1" (18" length) H = 1¼" (24" length) B = 1½" (36" length) C = 1½" (18" length) D = 1½" (24" length) E = 1½" (36" length) F = 2" (24" length) G = 2" (36" length)
			0 = Select "0" for Isolation Valve Option Male NPT Only	

Please refer to typical Pipe Package layouts on pages prior to ordering. Nomenclature chart does not include all options or press connection types. Download Select-Pro software for complete options and available configurations.

*QCV, PIQCV, and ePIV Pipe packages available. Contact Customer Service or Technical Support for more information.

Note: Pipe Package Smart Code does not include the Belimo Control Valve in the price.

UNION BODY x TAIL	PART NUMBER	UNION List Price	ISOLATION Valve Body x Tail	PART NUMBER	ISOLATION Valve List Price	MANUAL BALANCE VALVE BODY x TAIL*	PART NUMBER	MANUAL BALANCE Valve List Price
½" x ½"	PPU111	\$56	½" x ½"	PPV1110	\$99	½" x ½" (Cv 1.30, 0.48 - 1.21 GPM)	PPL1111	\$168
3/4" X 3/4"	PPU211	\$64	3/4" X 3/4"	PPV2110	\$113	½" x ½" (Cv 2.65, 0.89 - 2.47 GPM)	PPL1112	\$168
1" x 1"	PPU311	\$84	1" x 1"	PPV3110	\$170	½" x ½" (Cv 7.00, 2.22 - 6.60 GPM)	PPL1113	\$168
1" x ¾"	PPU411	\$84	1" x ¾"	PPV4110	\$170	3/4" x 3/4" (Cv 1.30, 0.48 - 1.21 GPM)	PPL2111	\$172
3/4" X 1/2"	PPU511	\$64	3/4" X 1/2"	PPV5110	\$114	3/4" x 3/4" (Cv 2.65, 0.89 - 2.47 GPM)	PPL2112	\$172
1½" x 1½"	PPUA11	\$169	1½" x 1½"	PPVA110	\$498	3/4" x 3/4" (Cv 7.00, 2.22 - 6.60 GPM)	PPL2113	\$172
11/4" x 11/4"	PPUB11	\$121	1¼" x 1¼"	PPVB110	\$387	1" x 1" (Cv 7.00, 2.6 - 6.60 GPM)	PPL3114	\$261
2" x 2"	PPUC11	\$246	2" x 2"	PPVC110	\$673	1" x 1" (Cv 17.6, 5.5 - 16.5 GPM)	PPL3115	\$261
11/4" x 1"	PPUD11	\$121	11/4" x 1"	PPVD110	\$387	1" x 3/4" (Cv 2.65, 0.89 - 2.47 GPM)	PPL4114	\$261
1½" x 1¼"	PPUE11	\$169	1½" x 1¼"	PPVE110	\$498	1" x ¾" (Cv 3.61, 1.56 - 3.36 GPM)	PPL4115	\$172
2" x 1½"	PPUF11	\$246	2" x 1½"	PPVF110	\$673	1" x 3/4" (Cv 7.05, 2.22 - 6.60 GPM)	PPL5111	\$172
1" x ½"	PPUG11	\$84	1" x ½"	PPVG110	\$170	1" x ¾" (Cv 17.6, 5.50 - 16.5 GPM)	PPL5112	\$172
11/4" to 3/4"	PPUH11	\$121	11/4" to 3/4"	PPVH110	\$387	3/4" x 1/2" (Cv 1.30, 0.48 - 1.21 GPM)	PPL5113	\$172
1½" x 1"	PPUJ11	\$169	1½" x 1"	PPVJ110	\$498	1½" x 1½" (Cv 57.0, 12.8 - 38.0 GPM)	PPLA11B	\$578
2" x 11/4"	PPUK11	\$246	2" x 11/4"	PPVK110	\$673	11/4" x 11/4" (Cv 34.0, 10.6 - 31.8 GPM)	PPLB11A	\$261
						2" x 2" (Cv 57.0, 18.0 - 38.0 GPM)	PPLC11C	\$632
						2" x 2" (Cv 88, 30.0 - 88.0 GPM)	PPLC11D	\$632
Characterized Control Valve						11/4" x 1" (Cv 17.6, 5.5 - 16.5 GPM)	PPLD114	\$383
						1½" x 1¼" (Cv 34.0, 10.6 - 31.8 GPM)	PPLE11B	\$462
	acterized Control V	aive	MBV		2" x 1½" (Cv 57.0, 12.8 - 38.0 GPM)	PPLF11C	\$632	
		=				1" x ½" (Cv 7.05, 2.6 - 6.6 GPM)	PPLG114	\$261
						1" x ½" (Cv 11.4, 4.0 - 11 GPM)	PPLG115	\$261



*Referenced flow values are based on 10"-90" Dp range at 2 ft. head.

PPLH11A

PPLJ11B

PPLK11C

\$478

\$463

\$632

1¾" x ¾" (Cv 11.4, 4.0 - 11 GPM)

1½" x 1" (Cv 17.6, 5.5 - 16.5 GPM)

2" x 11/4" (Cv 34.0, 10.6 - 31.8 GPM)

STRAINER Body x Tail	PART NUMBER	STRAINER LIST PRICE	HOSE	PART NUMBER	HOSE (1) List price
½" x ½"	PPS1111	\$135	½" (12" length)	PH0SE1	\$43
3/4" X 3/4"	PPS2111	\$165	½" (24" length)	PHOSE2	\$54
1" x 1"	PPS3111	\$183	3/4" (12" length)	PHOSE3	\$68
1" x ¾"	PPS4111	\$183	3/4" (24" length)	PHOSE4	\$88
3/4" X 1/2"	PPS5111	\$165	1" (12" length)	PHOSE5	\$130
1½" x 1½"	PPSA111	\$335	1" (24" length)	PHOSE6	\$151
11/4" x 11/4"	PPSB111	\$299	½" (18" length)	PHOSE1C	\$54
2" x 2"	PPSC111	\$514	3/4" (18" length)	PHOSE3C	\$85
11/4" x 1"	PPSD111	\$299	1" (18" length)	PHOSE5C	\$154
1½" x 1¼"	PPSE111	\$335	11/4" (18" length)	PHOSEAA	\$233
2" x 1½"	PPSF111	\$514	11/4" (24" length)	PHOSEAB	\$259
1" x ½"	PPSG111	\$183	11/4" (36" length)	PHOSEAC	\$303
11/4" x 3/4"	PPSH111	\$299	1½" (18" length)	PHOSEBA	\$333
1½" x 1"	PPSJ111	\$335	1½"(24" length)	PHOSEBB	\$367
2" x 11/4"	PPSK111	\$514	1½" (36" length)	PHOSEBC	\$464
			2" (24" length)	PHOSECA	\$710
			2" (36" length)	PHOSECB	\$827

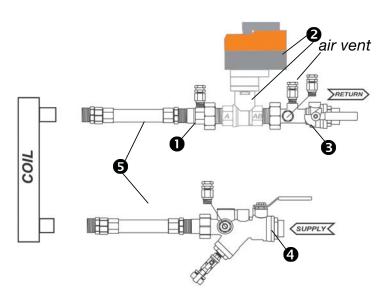
Add price for Isolation Bypass Valve for 3-way CCV Packages. Bypass Valve is not shown in the reorder number. Example: A $\frac{1}{2}$ " 3-way CCV, will get a $\frac{1}{2}$ " Isolation Valve for the Bypass Port. The adder for the Isolation Valve in this example is \$96 List Price.

F-NPT configurations shown above. For complete selection of all available connection types including press and sweat, refer to Select-Pro software.

1 ¼"- 2" components, components without P/T ports, components with extentions, double reduction, and press fit connections have increased lead time.

Please Note: For return policy, refer to Piping Package section in Terms and Conditions.





2-way CCV ($\frac{1}{2}$ " to 2") Return Side Package (Standard)

- Union
- Belimo Valve and Actuator (Not included in Smart Code or List Price)
- Manual Balance Valve
- Strainer
- Optional hoses are available

Supply side packages feature the Belimo control valve on the supply side of the coil and the above components arranged in a supply configuration. Refer to the SelectPro software for supply side configurations.



Union Technical Specifications

emen recimient operations	
Service	chilled or hot water, 60% glycol
Sizes	1/2", 3/4", 1", 11/4", 11/2", 2"
Materials:	
Body	forged brass
Union nut	forged brass
Tailpiece	forged brass
Gasket	EPDM
Readout port body & cap	extruded brass
Readout port seal	Nordel
Pressure/temperature ratings:	
½" to 2"	400 psi
Component temperature	250°F maximum
Media temperature range	0°F to 212°F [-18°C to +100°C]

Manual Balance Valve Technical Specifications

Service	chilled or hot water, 60% glycol
Sizes	1/2", 3/4", 1", 11/4", 11/2", 2"
Materials:	
Body	forged brass
Ball	chrome plated/forged brass
Stem	extruded brass
Union	forged brass
Tailpiece	forged brass
Gland nut	extruded brass
Seats & packing	virgin PTFE
O-rings	viton
Venturi	extruded brass
Readout port body & cap	extruded brass
Readout port seal	Nordel
Memory stop	forged brass
Pressure/temperature ratings:	
½" to 2"	400 psi
Component temperature	300°F maximum
Media temperature range	0°F to 212°F [-18°C to +100°C]
Leakage	0%

Strainer Technical Specifications

Service	chilled or hot water, 60% glycol
Sizes	1/2", 3/4", 1", 11/4", 11/2", 2"
Materials:	
Body	forged brass
Union nut	forged brass
Ball	chrome plated/forged brass
Stem & gland nut	forged brass
Tailpiece	forged brass
Seals & packing	PTFE
Stem o-rings	Viton
Strainer screen	304 stainless steel /20 mesh standard
Readout port body & cap	extruded brass
Readout port seal	Nordel
Pressure/temperature ratings:	
½" to 2"	600 psi
Component temperature	325°F maximum
Media temperature range	0°F to 212°F [-18°C to +100°C]
Leakage	0%

Hose Technical Specifications

External braiding	stainless steel AISI 304
Crimping ferrules	stainless steel AISI 304
Connectors	machined brass
Fiber gasket	BA-U fiber washer
Core	formulated EPDM
Operating & burst pressure rating:	
1/2"	375 psi operating
	1500 psi burst pressure
3/4"	300 psi operating
	1200 psi burst pressure
1"	225 psi operating
	900 psi burst pressure
11⁄4"	200 psi operating
	800 psi burst pressure
1½"	175 psi operating
	600 psi burst pressure
2"	150 psi operating
	500 burst pressure
Component temperature	5°F to 230°F [-15°C to +110°C] less than 41°F with use of glycol additive.

Note: Media temperature may be limited by the hose rating

800-543-9038 USA







COMPONENT ORDER NOMENCLATURE

EXAMPLE: P2	111	1111	1111	1	
	Union	MBV	Strainer	Hose	
	PPU111	PPL1111	PPS1111	PHOSE1	



Extension Packages Include:

- Extended handle for Manual Balance Valve, Isolation Valve and Strainer
- Extended P/T ports for Union, Manual Balance Valve, Strainer or Isolation Valve
- Extended air vent for Manual Balance Valve and Isolation Valve

PIPE PACKAGE SMARTCODE (CCV)			UNION	MANUAL Balance Valve	STRAINER	LIST
Pipe Package Model # (2-way CCV) without hose	Valve No Inches	minal Size DN [mm]	Body End/ Tailpiece End	Body End/ Tailpiece End	Body End/ Tailpiece End	PRICE
P2 111 1111 1111 0	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$358
P2 121 1211 1212 0	1/2	15	Sweat/M-NPT	Sweat/M-NPT	Sweat/Sweat	\$358
P2 131 1111 1113 0	1/2	15	M-NPT/M-NPT	F-NPT/M-NPT	F-NPT/M-NPT	\$358
P2 111 1211 1211 0	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$358
P2 131 1211 1213 0	1/2	15	M-NPT/M-NPT	Sweat/M-NPT	Sweat/M-NPT	\$358
P2 211 2111 2111 0	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$401
P2 221 2211 2212 0	3/4	20	Sweat/M-NPT	Sweat/M-NPT	Sweat/Sweat	\$401
P2 231 2111 2113 0	3/4	20	M-NPT/M-NPT	F-NPT/M-NPT	F-NPT/M-NPT	\$401
P2 211 2211 2211 0	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$401
P2 231 2211 2213 0	3/4	20	M-NPT/M-NPT	Sweat/M-NPT	Sweat/M-NPT	\$401
P2 311 3114 3111 0	1	25	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$528
P2 321 3214 3212 0	1	25	Sweat/M-NPT	Sweat/M-NPT	Sweat/Sweat	\$528
P2 331 3114 3113 0	1	25	M-NPT/M-NPT	F-NPT/M-NPT	F-NPT/M-NPT	\$528
P2 311 3214 3211 0	1	25	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$528
P2 331 3214 3213 0	1	25	M-NPT/M-NPT	Sweat/M-NPT	Sweat/M-NPT	\$528

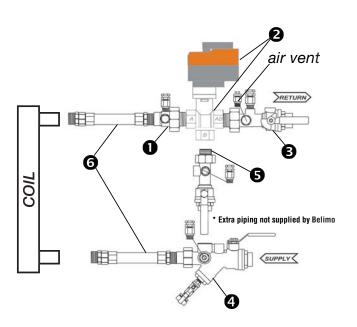
PIPE PACKAGE SMARTCODE (CCV)		UNION	MANUAL Balance Valve	STRAINER	LIST	
Pipe Package Model #	Valve Nominal Size		Body End/	Body End/	Body End/	PRICE
(2-way CCV) with 12" hose	Inches	DN [mm]	Tailpiece End	Tailpiece End	Tailpiece End	
P2 111 1111 1111 1	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$445
P2 111 1111 1211 1	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$445
P2 111 1211 1111 1	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$445
P2 111 1211 1211 1	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$445
P2 211 2111 2111 3	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$537
P2 211 2111 2211 3	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$537
P2 211 2211 2111 3	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$537
P2 211 2211 2211 3	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$537
P2 311 3114 3111 5	1	25	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$789
P2 311 3114 3211 5	1	25	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$789
P2 311 3214 3111 5	1	25	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$789
P2 311 3214 3211 5	1	25	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$789

PIPE PACKAGE SMARTCODE (CCV)			UNION	MANUAL BALANCE VALVE	STRAINER	LIST
Pipe Package Model # (2-way CCV) with 24" hose	Valve Nominal Size Inches DN [mm]		Body End/ Tailpiece End	Body End/ Tailpiece End	Body End/ Tailpiece End	PRICE
P2 111 1111 1111 2	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$466
P2 111 1111 1211 2	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$466
P2 111 1211 1111 2	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$466
P2 111 1211 1211 2	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$466
P2 211 2111 2111 4	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$576
P2 211 2111 2211 4	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$576
P2 211 2211 2111 4	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$576
P2 211 2211 2211 4	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$576
P2 311 3114 3111 6	1	25	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$830
P2 311 3114 3211 6	1	25	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$830
P2 311 3214 3111 6	1	25	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$830
P2 311 3214 3211 6	1	25	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$830

All combinations of reorder numbers are not reflected above. Please use the nomenclature or download the SelectPro software at www.belimo.us to configure other possible combinations. Reference 21-1 for Manual Balance Valve flow rates

 ${\bf Please\ Note: For\ return\ policy,\ refer\ to\ Piping\ Package\ section\ in\ Terms\ and\ Conditions.}$





3-way CCV ($\frac{1}{2}$ " to 2") Return Side Package (Standard)

- Union
- Belimo Valve and Actuator (Not included in Smart Code or List Price)
- Manual Balance Valve
- Strainer
- **s** Isolation Valve
- Optional hoses are available

*Note: Extra piping for Isolation Valve to CCV and Strainer is required (not supplied).

Supply side packages feature the Belimo control valve on the supply side of the coil and the above components arranged in a supply configuration. Refer to the SelectPro software for supply side configurations.

Union Technical Specifications

Service	chilled or hot water, 60% glycol
Sizes	1/2", 3/4", 1", 11/4", 11/2", 2"
Materials:	
Body	forged brass
Union nut	forged brass
Tailpiece	forged brass
Gasket	EPDM
Readout port body & cap	extruded brass
Readout port seal	Nordel
Pressure/temperature ratings:	
½" to 2"	400 psi
Component temperature	250°F maximum
Media temperature range	0°F to 212°F [-18°C to +100°C]

Manual Balance Valve Technical Specifications

Service	chilled or hot water, 60% glycol
Sizes	1/2", 3/4", 1", 11/4", 11/2", 2"
Materials:	
Body	forged brass
Ball	chrome plated/forged brass
Stem	extruded brass
Union	forged brass
Tailpiece	forged brass
Gland nut	extruded brass
Seats & packing	virgin PTFE
O-rings	Viton
Venturi	extruded brass
Readout port body & cap	extruded brass
Readout port seal	Nordel
Memory stop	forged brass
Pressure/temperature ratings:	
½" to 2"	400 psi
Component temperature	300°F maximum
Media temperature range	0°F to 212°F [-18°C to +100°C]
Leakage	0%

Strainer Technical Specifications

Strainer Technical Specification	ations
Service	chilled or hot water, 60% glycol
Sizes	1/2", 3/4", 1", 11/4", 11/2", 2"
Materials:	
Body	forged brass
Union nut	forged brass
Ball	chrome plated/forged brass
Stem & gland nut	forged brass
Tailpiece	forged brass
Seals & packing	PTFE
Stem o-rings	Viton
Strainer screen	304 stainless steel / 20 mesh standard
Readout port body & cap	extruded brass
Readout port seal	Nordel
Pressure/temperature ratings:	
½" to 2"	600 psi
Component temperature	325°F maximum
Media temperature range	0°F to 212°F [-18°C to +100°C]
Leakage	0%

Isolation Valve Technical Specifications

Toolation valve reciniteal opeon	ioationo
Service	chilled or hot water, 60% glycol
Sizes	1/2", 3/4", 1", 11/4", 11/2", 2"
Materials:	
Body	forged brass
Gland nut	extruded brass
Ball	chrome plated/hot forged brass
Stem	extruded brass
Union nut	forged brass
Tailpiece	forged brass
Seats	virgin PTFE
Packing	virgin PTFE
Stem o-rings	Viton
Readout port body & cap	extruded brass
Readout port seal	Nordel
Pressure/temperature ratings:	
½" to ¾"	600 psi
1" to 2"	500 psi
Component temperature	300°F maximum
Media temperature range	0°F to 212°F [-18°C to +100°C]
Leakage	0%

Hose Technical Specifications

External braiding	stainless steel AISI 304
Crimping ferrules	stainless steel AISI 304
Connectors	machined brass
Fiber gasket	BA-U fiber washer
Core	formulated EPDM
Operating & burst pressure rating:	
1/2"	375 psi operating
	1500 psi burst pressure
3/4"	300 psi operating
	1200 psi burst pressure
1"	225 psi operating
	900 psi burst pressure
11⁄4"	200 psi operating
	800 psi burst pressure
1½"	175 psi operating
	600 psi burst pressure
2"	150 psi operating
	500 burst pressure
Component temp.	5°F to 230°F [-15°C to +110°C] less than 41°F with use of glycol additive.
Make Make Lake and a section of the Control	

Note: Media temperature may be limited by the hose rating

800-543-9038 USA





COMPONENT ORDER NOMENCLATURE

EXAMPLE: P3	311	3114	3111	5
	Union	MBV	Strainer	Hose
	PPU311	PPL3114	PPS3111	PHOSE5



Extension Packages Include:

- Extended handle for Manual Balance Valve, Isolation Valve and Strainer
- Extended P/T ports for Union, Manual Balance Valve, Strainer or Isolation Valve
- Extended air vent for Manual Balance Valve and Isolation Valve

PIPE PACKAGE SMARTCODE	(CCV)		UNION	MANUAL Balance Valve	STRAINER	LIST
Pipe Package Model #	Valve No	minal Size	Body End/	Body End/	Body End/	PRICE
(3-way CCV) without hose	Inches	DN [mm]	Tailpiece End	Tailpiece End	Tailpiece End	
P3 111 1111 1111 0	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$457
P3 121 1211 1212 0	1/2	15	Sweat/M-NPT	Sweat/M-NPT	Sweat/Sweat	\$457
P3 131 1111 1113 0	1/2	15	M-NPT/M-NPT	F-NPT/M-NPT	F-NPT/M-NPT	\$457
P3 111 1211 1211 0	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$457
P3 131 1211 1213 0	1/2	15	M-NPT/M-NPT	Sweat/M-NPT	Sweat/M-NPT	\$457
P3 211 2111 2111 0	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$513
P3 221 2211 2212 0	3/4	20	Sweat/M-NPT	Sweat/M-NPT	Sweat/Sweat	\$513
P3 231 2111 2113 0	3/4	20	M-NPT/M-NPT	F-NPT/M-NPT	F-NPT/M-NPT	\$513
P3 211 2211 2211 0	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$513
P3 231 2211 2213 0	3/4	20	M-NPT/M-NPT	Sweat/M-NPT	Sweat/M-NPT	\$513
P3 311 3114 3111 0	1	25	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$698
P3 321 3214 3212 0	1	25	Sweat/M-NPT	Sweat/M-NPT	Sweat/Sweat	\$698
P3 331 3114 3113 0	1	25	M-NPT/M-NPT	F-NPT/M-NPT	F-NPT/M-NPT	\$698
P3 311 3214 3211 0	1	25	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$698
P3 331 3214 3213 0	1	25	M-NPT/M-NPT	Sweat/M-NPT	Sweat/M-NPT	\$698

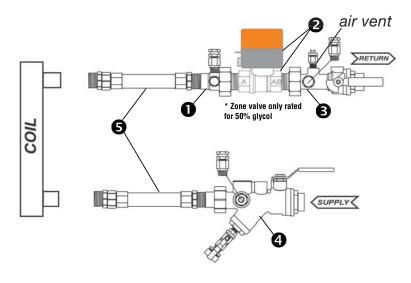
PIPE PACKAGE SMARTCODE	(CCV)		UNION	MANUAL Balance Valve	STRAINER	LIST
Pipe Package Model #	Valve No	minal Size	Body End/	Body End/	Body End/	PRICE
(3-way CCV) with 12" hose	Inches	DN [mm]	Tailpiece End	Tailpiece End	Tailpiece End	
P3 111 1111 1111 1	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$544
P3 111 1111 1211 1	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$544
P3 111 1211 1111 1	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$544
P3 111 1211 1211 1	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$544
P3 211 2111 2111 3	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$650
P3 211 2111 2211 3	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$650
P3 211 2211 2111 3	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$650
P3 211 2211 2211 3	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$650
P3 311 3114 3111 5	1	25	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$958
P3 311 3114 3211 5	1	25	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$958
P3 311 3214 3111 5	1	25	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$958
P3 311 3214 3211 5	1	25	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$958

PIPE PACKAGE SMARTCODE	(CCV)		UNION	MANUAL BALANCE VALVE	STRAINER	LIST
Pipe Package Model # (3-way CCV) with 24" hose	Valve No Inches	minal Size	Body End/ Tailpiece End	Body End/ Tailpiece End	Body End/ Tailpiece End	PRICE
P3 111 1111 1111 2	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$565
P3 111 1111 1211 2	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$565
P3 111 1211 1111 2	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$565
P3 111 1211 1211 2	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$565
P3 211 2111 2111 4	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$689
P3 211 2111 2211 4	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$689
P3 211 2211 2111 4	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$689
P3 211 2211 2211 4	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$689
P3 311 3114 3111 6	1	25	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$1,000
P3 311 3114 3211 6	1	25	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$1,000
P3 311 3214 3111 6	1	25	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$1,000
P3 311 3214 3211 6	1	25	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$1,000
All			and all according to the same	and the same and a second	and the second second	0 - I + D

All combinations of reorder numbers are not reflected above. Please use the nomenclature or download the SelectPro software at www.belimo.us to configure other possible combinations. Reference 21-1 for Manual Balance Valve flow rates.

Please Note: For return policy, refer to Piping Package section in Terms and Conditions.





2-way Zone Valve (½" to 1" NPT) Return Side Package (Standard)

- Union
- Belimo Valve and Actuator (Not included in Smart Code or List Price)
- Manual Balance Valve
- Strainer
- Optional hoses are available

Supply side packages feature the Belimo control valve on the supply side of the coil and the above components arranged in a supply configuration. Refer to the SelectPro software for supply side configurations.



Union Technical Specifications

Service	chilled or hot water, 60% glycol
Sizes	1/2", 3/4", 1", 11/4", 11/2", 2"
Materials:	
Body	forged brass
Union nut	forged brass
Tailpiece	forged brass
Gasket	EPDM
Readout port body & cap	extruded brass
Readout port seal	Nordel
Pressure/temperature ratings:	
½" to 2"	400 psi
Component temperature	250°F maximum
Media temperature range	32°F to 212°F [0°C to 100°C]

Manual Balance Valve Technical Specifications

ivialiual balance valve recinnical	Specifications
Service	chilled or hot water, 60% glycol
Sizes	1/2", 3/4", 1", 11/4", 11/2", 2"
Materials:	
Body	forged brass
Ball	chrome plated/forged brass
Stem	extruded brass
Union	forged brass
Tailpiece	forged brass
Gland nut	extruded brass
Seats & packing	virgin PTFE
O-rings	Viton
Venturi	extruded brass
Readout port body & cap	extruded brass
Readout port seal	Nordel
Memory stop	forged brass
Pressure/temperature ratings:	
½" to 2"	400 psi
Component temperature	300°F maximum
Media temperature range	32°F to 212°F [0°C to 100°C]
Leakage	0%

Strainer Technical Specifications

Service	chilled or hot water, 60% glycol
Sizes	1/2", 3/4", 1", 11/4", 11/2", 2"
Materials:	
Body	forged brass
Union nut	forged brass
Ball	chrome plated/forged brass
Stem & gland nut	forged brass
Tailpiece	forged brass
Seals & packing	PTFE
Stem o-rings	Viton
Strainer screen	304 stainless steel /20 mesh standard
Readout port body & cap	extruded brass
Readout port seal	Nordel
Pressure/temperature ratings:	
½" to 2"	600 psi
Component temperature	325°F maximum
Media temperature range	32°F to 212°F [0°C to 100°C]
Leakage	0%

Hose Technical Specifications

External braiding stainless steel AISI 304 Crimping ferrules stainless steel AISI 304 Connectors machined brass Fiber gasket BA-U fiber washer
Connectors machined brass Fiber gasket BA-U fiber washer
Fiber gasket BA-U fiber washer
·
Core formulated EPDM
Operating & burst pressure rating:
½" 375 psi operating
1500 psi burst pressure
3/4" 300 psi operating
1200 psi burst pressure
1" 225 psi operating
900 psi burst pressure
1¼" 200 psi operating
800 psi burst pressure
1½" 175 psi operating
600 psi burst pressure
2" 150 psi operating
500 burst pressure
5°F to 230°F [-15°C to +110°C] Component temperature less than 41°F with use of glycol additive.

Note: Media temperature may be limited by the hose rating

800-543-9038 USA









COMPONENT ORDER NOMENCLATURE

EXAMPLE: PP2	111	1111	1111	0
	Union PPII111	MBV PPI 1111	Strainer PPS1111	No Hose



Extension Packages Include:

- Extended handle for Manual Balance Valve, Isolation Valve and Strainer
- Extended P/T ports for Union, Manual Balance Valve, Strainer or Isolation Valve
- Extended air vent for Manual Balance Valve and Isolation Valve

PIPE PACKAGE SMARTCODE (ZONE)			UNION	MANUAL Balance Valve	STRAINER	LIST
Pipe Package Model #	Valve No	minal Size	Body End/	Body End/	Body End/	PRICE
(2-way Zone Valve) without hose	Inches	DN [mm]	Tailpiece End	Tailpiece End	Tailpiece End	
PZ 111 1111 1111 0	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$358
PZ 121 1211 1212 0	1/2	15	Sweat/M-NPT	Sweat/M-NPT	Sweat/Sweat	\$358
PZ 131 1111 1113 0	1/2	15	M-NPT/M-NPT	F-NPT/M-NPT	F-NPT/M-NPT	\$358
PZ 111 1211 1211 0	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$358
PZ 131 1211 1213 0	1/2	15	M-NPT/M-NPT	Sweat/M-NPT	Sweat/M-NPT	\$358
PZ 211 2111 2111 0	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$401
PZ 221 2211 2212 0	3/4	20	Sweat/M-NPT	Sweat/M-NPT	Sweat/Sweat	\$401
PZ 231 2111 2113 0	3/4	20	M-NPT/M-NPT	F-NPT/M-NPT	F-NPT/M-NPT	\$401
PZ 211 2211 2211 0	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$401
PZ 231 2211 2213 0	3/4	20	M-NPT/M-NPT	Sweat/M-NPT	Sweat/M-NPT	\$401
PZ 311 3114 3111 0	1	25	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$528
PZ 321 3214 3212 0	1	25	Sweat/M-NPT	Sweat/M-NPT	Sweat/Sweat	\$528
PZ 331 3114 3113 0	1	25	M-NPT/M-NPT	F-NPT/M-NPT	F-NPT/M-NPT	\$528
PZ 321 3214 3211 0	1	25	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$528
PZ 331 3214 3213 0	1	25	M-NPT/M-NPT	Sweat/M-NPT	Sweat/M-NPT	\$528

PIPE PACKAGE SMARTCODE (ZONE)			UNION	MANUAL Balance Valve	STRAINER	LICT
Pipe Package Model #	Valve No	minal Size	Body End/	Body End/	Body End/	LIST PRICE
(2-way Zone Valve) with 12" hose	Inches	DN [mm]	Tailpiece End	Tailpiece End	Tailpiece End	111102
PZ 111 1111 1111 1	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$445
PZ 111 1111 1211 1	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$445
PZ 111 1211 1111 1	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$445
PZ 111 1211 1211 1	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$445
PZ 211 2111 2111 3	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$537
PZ 211 2111 2211 3	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$537
PZ 211 2211 2111 3	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$537
PZ 211 2211 2211 3	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$537
PZ 311 3114 3111 5	1	25	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$789
PZ 311 3114 3211 5	1	25	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$789
PZ 311 3214 3111 5	1	25	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$789
PZ 311 3214 3211 5	1	25	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$789

PIPE PACKAGE SMARTCODE (ZONE)			UNION	BALANCE VALVE	STRAINER	LICT	
Pipe Package Model #	Valve No	minal Size	Body End/	Body End/	Body End/	LIST Price	
(2-way Zone Valve) with 24" hose	Inches	DN [mm]	Tailpiece End	Tailpiece End	Tailpiece End	THOL	
PZ 111 1111 1111 2	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$466	
PZ 111 1111 1211 2	1/2	15	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$466	
PZ 111 1211 1111 2	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$466	
PZ 111 1211 1211 2	1/2	15	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$466	
PZ 211 2111 2111 4	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$576	
PZ 211 2111 2211 4	3/4	20	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$576	
PZ 211 2211 2111 4	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$576	
PZ 211 2211 2211 4	3/4	20	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$576	
PZ 311 3114 3111 6	1	25	F-NPT/M-NPT	F-NPT/M-NPT	F-NPT/F-NPT	\$830	
PZ 311 3114 3211 6	1	25	F-NPT/M-NPT	F-NPT/M-NPT	Sweat/F-NPT	\$830	
PZ 311 3214 3111 6	1	25	F-NPT/M-NPT	Sweat/M-NPT	F-NPT/F-NPT	\$830	
PZ 311 3214 3211 6	1	25	F-NPT/M-NPT	Sweat/M-NPT	Sweat/F-NPT	\$830	

All combinations of reorder numbers are not reflected above. Please use the nomenclature or download the SelectPro software at www.belimo.us to configure other possible combinations. Reference 21-1 for Manual Balance Valve flow rates.

Please Note: For return policy, refer to Piping Package section in Terms and Conditions.



Tough Piping Package Projects are a Snap with SelectPro

Belimo's pipe packages incorporate valve assemblies and common piping components to simplify the contractor's job by eliminating numerous piping connections, thus saving time and money with less opportunity for error. With a wealth of available options, SelectPro makes it easy for you to accurately configure pipe packages and enables a single point of ordering providing quick reliable solutions, 100% tested, and fast delivery. Use SelectPro on your next pipe package project.





22

RETROFIT SOLUTIONS

Get Up and Running in Record Time

- Quickly and conveniently restores applications without any interruption in service.
- Custom solutions are available with our in-house retrofit shop with lead times of 5 days or less.
- Simple way to implement Belimo actuators in existing buildings whether electronic or pneumatic.

RETRO FIT

Retrofit Solutions Nomenclature

U	F	L	K	XXXX	AFB	24	-MFT
Series U = Universal S = Schneider W = Warren F = Flanged	Valve Type F = Butterfly G = Globe B = Ball	Retrofit Type L = Linkage V = Valve SP = Special Order S = Short Stroke	Packaging K = Kit L = Linkage Blank with SP	Dependent upon valve you are selecting to retrofit	Actuator Type Non Fail-Safe LVB, LVX SVB, SVX EVB, EVX RVB, RVX Fail-Safe Spring Return LF NFB, NFX AFB, AFX Electronic LVKB, LVKX SVKB, SVKX AVKB, AVKX GKB, GKX	Power Supply 24 = 24 VAC/DC 120 = 120 VAC	Control Blank = 0 n/Off -3-X1 = 0 n/Off, Floating Point -SR = 2 - 10 VDC -MFT or MFT-X1 = Multi-Function Technology -MFT95-X1 = 0 - 135 Ω

"X" models are customizable. Refer to pages 22-16 and 22-47 for programming options.

Ordering Example

Select linkage solution based on the Valve Number, Configuration, and Size; select the proper Linkage Solution for your valve.

Example: Siemens Series #658,-2-Way, 11/4" valve to be retrofitted.

Choose correct kit UGLK1214 or UGVL.

> Verify close-off is suitable for application. Looking at the **UGLK or**

UGVL, the AF and SVK Series actuator will provide 200 psi close-off for the 11/4" valve.

Select actuator based on needed control type. Decide between AFB24,

or SVKX24-3, SVKB24-MFT.

AFB24-MFT

Siemens\Landis\Powers

658 Series Valves Linkage/Actuator Selection Guide

Valve Body Model	Valve Configuration	Size	Fail-safe	Close-Off psi	Belimo Actuator Series	Belimo Linkage
658 Series	2-way	1¼"	No	78	LM	UGLK1350
				156	NM	UGLK1350
				236	SV	UGVL
				250	AM	UGLK1214
			Yes	61	Į.	UGLK1350
				156	NF	UGLK1214
				239	SVK	UGVL
				250	AF	UGLK1214

BASIC PRODUCTS

		Control Invest	Fandback.	Power	Running Tin		VA Datina	Auxiliary
Moi	del	Control Input	геепраск	Feedback Supply	M	-@ 	VA Rating	Switch
AF	24	On/Off	-	24 VAC/DC	<75 seconds	20 secs	7.5	-
AFB	324-S	On/Off	-	24 VAC/DC	<75 seconds	20 secs	7.5	Built-In
AFB	BUP	On/Off		24-240 VAC	<75 seconds	20 secs	8.5	
AFB	BUP-S	On/Off	-	24-240 VAC	<75 seconds	20 secs	8.5	Built-In
AFB	324-SR	2-10 VDC (4-20mA)	2-10 VDC	24 VAC/DC	95 seconds	<20 secs	8.5	
AFB	324-SR-S	2-10 VDC (4-20mA)	2-10 VDC	24 VAC/DC	95 seconds	<20 secs	8.5	Built-In
AFB	324-PC	0-10 V Phasecut	2-10 VDC	24 VAC/DC	150 seconds	<20 secs	10	-
AFB	324-MFT	2-10 VDC (4-20mA)	2-10 VDC	24 VAC/DC	150 seconds	<20 secs	10	-
AFB	324-MFT-S	2-10 VDC (4-20mA)	2-10 VDC	24 VAC/DC	150 seconds	<20 secs	10	Built-In
AFB	324-MFT95	0 to 135	2-10 VDC	24 VAC/DC	150 seconds	<20 secs	10	-

Complete Ordering Example Option One:

Item 1: UGLK1214 Item 2: AFB24-MFT

> Complete Ordering Example Option Two:

Item 1: **UGVL** + **SVKB24-MFT**

					*		*
ACTUATOR PAI	RT#	LVKX24-3	LVKB24-SR	LVKX24-MFT	SVKX24-3	SVKB24-SR	SVKB24-MFT
Control type		On/Off, Floating Point	Modulating	Modulating/MFT	On/Off, Floating Point	Modulating	Modulating/MFT
Input signal / Fe	eedback		2-10 VDC	Variable	-	2-10 VDC	Variable
Running time	Motor	150 seconds	150 seconds	Variable	150 seconds	150 seconds	Variable
	Fail-Safe	35 seconds	35 seconds	35 seconds	35 seconds	35 seconds	35 seconds
Actuator travel		24mm	24mm	24mm	24mm	24mm	24mm
Actuator noise	level	<45 dB(A)	<45 dB(A)	<45 dB(A)	<45 dB(A)	<45 dB(A)	<45 dB(A)
GVL LINKAGES	3						
UGVL	Universal Adjustable for 1/2" to 2"	\$	\$	\$	\$	\$	\$
SGVL	Schnieder VB7, VB9	\$	\$	\$	\$	\$	\$



Why Retrofitting Makes Sense

Valves and actuators are responsible for ensuring reliable functioning hydronic and air control HVAC systems all over the world. With innovative technology, verified quality and easy handling during installations and operation, they boost the performance and efficiency of integrated building technology.

Are you in need of a solution for a broken linkage, leaky hydraulic actuator, non-functioning electric or pneumatic actuator, within a day or so?

Belimo provides airside and waterside retrofit application solutions, with direct coupled or remote access linkages, and efficient actuators.

Damaged linkages and/or actuators resulting in non-functioning HVAC system applications used to mean a loss of properly functioning systems leading to a degradation of energy efficiency, consumer comfort, time, and labor. Replacing a valve along with the actuator or trying to determine how to fix an airside linkage is not always a sensible solution. Taking a system off-line to replace various components is not only laborious, it's expensive. Facilities can lose thousands of dollars a day during maintenance shut-down. With retrofit solutions this problem simply goes away. Valves and damper applications can be quickly and conveniently restored without any interruption in service. In fact, entire systems can often be updated in a day. A poorly functioning or even non-functioning system can be transformed into a highly functioning, more efficient system.

Belimo provides many retrofit solutions that are compatible with all major control systems, so there is no need to replace other system controls. MFT Technology is also available and can be reprogrammed to suit your controller needs with just one MFT model actuator.

In addition, Belimo's design team is ready and willing to customize a solution for non-standard retrofit solutions. Call Belimo at 800-543-9038 for assistance in fulfilling your retrofit application requirements.







Globe valve retrofit with new UGVL linkage in Heinz Field, Pittsburgh, PA.



Replacement of Discontinued Belimo Products

When replacing an actuator, whether Belimo or other, be sure to consider the application parameters before selecting the replacement. The new product may not be the best fit for the application.

An example would be an existing SM24-SR US mounted to a valve linkage. The direct replacement of the actuator is the AMX24-MFT. Since the SM... and AM... are different lengths, the linkage would need to be replaced as well. When retrofitting or replacing actuators, it is always best to select the new product based on application parameters. This ensures the selected actuator is fit for the application.

SPRING RETURN ACTUA	ATORS		
DISCONTINUED MODEL	REPLACEMENT MODEL	DISCONTINUED MODEL	REPLACEMENT MODEL
AF120 US	AFBUP	FSAF230-S US	FSAF230A-S
AF120-S US	AFBUP-S	FSAF24 US	FSAF24A
AF230 US	AFBUP	FSAF24-BAL US	FSAFB24-SR + SGA24 or SGF24
AF230-S US	AFBUP-S	FSAF24-BAL-S US	FSAFB24-SR-S + SGA24 or SGF24
AF24 US	AFB24	FSAF24-S US	FSAF24A-S
AF24-3 US	AFX24-MFT + P-300	FSAF24-SR US	FSAFB24-SR
AF24-3-S US	AFX24-MFT-S + P-300	FSAF24-SR-S US	FSAFB24-SR-S
AF24-MFT US	AFB24-MFT	LF24-SR-MP US	LF24-MFT-20 US
AF24-MFT95 US	AFB24-MFT95	LF24-SR-S-MP US	LF24-MFT-S-20 US
AF24-MFT-S US	AFB24-MFT-S	NF120 US	NFBUP
AF24-PC US	AFB24-PC	NF120-S US	NFBUP-S
AF24-PWM US	AFX24-MFT + P-200	NF230 US	NFBUP
AF24-S US	AFB24-S	NF230-S US	NFBUP-S
AF24-SR US	AFB24-SR**	NF24 US	NFB24
AF24-SR US*	AFB24-PC if phasecut is needed	NF24-MFT US	NFB24-MFT
AF24-SR95 US	AFB24-MFT95	NF24-S US	NFB24-S
AF24-SR-S US	AFB24-SR-S**	NF24-S2 US	NFB24-S
AFA24-SR US**	AFB24-SR**	NF24-SR US	NFB24-SR
AFR120 US	AFBUP	NF24-SR-S US	NFB24-SR-S
AFR120-S US	AFBUP-S	SF120 US	AFBUP
AFR24 US	AFB24	SF120-S US	AFBUP-S
AFR24-3 US	AFX24-MFT + P-300	SF24 US	AFB24
AFR24-3-S US	AFX24-MFT-S + P-300	SF24-S US	AFB24-S
AFR24-S US	AFB24-S	TF120 US	TFB120
AFR24-SR US	AFB24-SR**	TF120-S US	TFB120-S
FM24 US	AFB24	TF24 US	TFB24
FM24-SR US	AFB24-SR	TF24-3 US	TFB24-3
FM24-SR90 US	AFB24-MFT95	TF24-3-S US	TFB24-3-S
FM24-SR95 US	AFB24-MFT95	TF24-MFT US	TFB24-MFT
FS24	AFB24	TF24-MFT-S US	TFB24-MFT-S
FS24-S	AFB24-S	TF24-S US	TFB24-S
FSAF120 US	FSAF120A	TF24-SR US	TFB24-SR
FSAF120-S US	FSAF120A-S	TF24-SR-S US	TFB24-SR-S
FSAF230 US	FSAF230A	TFC120-S US	TFCB120-S

Purchased before May 2003.

Not piggy back capable.





NON FAIL-SAFE ACTUAT	ORS		
DISCONTINUED MODEL	REPLACEMENT MODEL	DISCONTINUED MODEL	REPLACEMENT MODEL
AM24 US	AMB24-3	LM24-SR-T US	LMB24-SR-T
AM24-MFT 95 US	AMX24-MFT95 + # AM0L0 1C1 R01	LM24-SR-T.1 US	LMB24-SR-T.1
AM24-MFT US	AMX24-MFT + # AM100 1C1 □ □ □	LM24-SR-T-2.0 US	LMB24-SR-T
AM24-PC US	AMX24-PC + # AM0N0 1C1 □ □ □	LMC24-SR US	LMCB24-SR
AM24-PWM-A US	AMX24-MFT + # AM100 1C1 W02	NM24 EU	NMB24-3
AM24-PWM-B US	AMX24-MFT + # AM100 1C1 W03	NM24 US	NMB24-3
AM24-PWM-C US	AMX24-MFT + # AM100 1C1 W01	NM24-1 US	NMB24-3
AM24-S US	AMB24-3-S	NM24-1/200 US	NMX24-3 + # NM00 1C3 000
AM24-SR US	AMB24-SR	NM24-1/300 US	NMX24-3 + # NM00 1C3 000
AM24-SRS-A US	AMX24-MFT + # AM100 1C1 A04	NM24-MFT US	NMX24-MFT + # NM100 1C1 🗆 🗅 🗅
AM24-SRS-B US	AMX24-MFT + # AM100 1C1 A05	NM24-MFT.1 US	NMX24-MFT + # NM100 1C1 🗆 🗅 🗅
AM24-SRS-C US	AMX24-MFT + # AM100 1C1 A06	NM24-PWM US	NMX24-MFT + # NM100 1C1 W □ □
GM24 US	GMB24-3	NM24-SR US	NMB24-SR
GM24-MFT US	GMX24-MFT+ # GM110 1C1 □ □ □	NM24-SRS US	NMX24-MFT + # NM100 1C1 A □ □
GM24-SR US	GMB24-SR	NMQ24-MFT US	NMQX24-MFT + #NMQD00 1C1 □ □ □
GM24-SR US	GMX24-PC if phasecut is needed	NMV24-D US	NMV-D3-MFT
LM24 US	LMB24-3	NMV24-V US	NMV-D3-MFT
LM24-3 US	LMB24-3	SM24 US	AMB24-3
LM24-MFT US	LMX24-MFT + # LM100 1C1 🗆 🗅 🗅	SM24-S US	AMX24-MFT + # AM110 1C1 □ □ □ + S1A/S2A
LM24-MFT.1 US	LMX24-MFT+ # LM100 1C1 🗆 🗅 🗅	SM24-SR US	AMB24-SR
LM24-SR US	LMB24-SR	SM24-SR US	AMX24-PC if phasecut is needed
LM24-SR.1 US	LMB24-SR.1	SM24-SR94 US	AMX24-MFT95 + # AM0L0 1C1 R01
LM24-SR-2.0 US	LMB24-SR	SM24-SRS US	AMX24-MFT + # AM100 1C1 A □ □

^{*} Purchased before May 2003.

^{**} Not piggy back capable.

[☐] Placeholder for custom options.



Replacement of Discontinued Belimo Products

When replacing an actuator on a valve, whether Belimo or other, be sure to consider the application parameters before selecting the replacement. The new product may not be the best fit for the application.

An example would be an existing MAR actuator mounted to a valve linkage. The direct replacement of the actuator would be the SY or PR series actuator. However, the MAR, SY, and PR have different linkage construction, and the linkage would need to be replaced as well. When retrofitting or replacing actuators, it is always best to select the new product based on application parameters. This ensures the selected actuator is fit for the application.

Please consult Belimo for assistance with valve actuator replacement.

SPRING RETURN ACTUATORS	
DISCONTINUED MODEL	REPLACEMENT MODEL
AF24 US	AFRB24
AF24-SR US	AFRB24-SR
AF24-3 US	AFX24-MFT + P-300
AF24-3-S US	AFX24-MFT-S + P-300
AF24-PWM US	AFX24-MFT + P-200
AF24-SR95 US	AFB24-MFT95
AF24-SR-S US	AFB24-SR-S
LF24-SR-MP US	LF24-MFT-20 US
LF24-SR-S-MP US	LF24-MFT-S-20 US
NVF24-MFT US	SVKX24-MFT* or SVKB24-SR*
NVF24-MFT-E US	SVKX24-MFT* or SVKB24-SR*

^{*}New linkage required.

New Illikage required.	
NON FAIL-SAFE ACTUATORS	
DISCONTINUED MODEL	REPLACEMENT MODEL
LR24 US	LRB24-3
LR24/200 US*	LRX24-3 + # LR000 RC3 002
LR24/300 US	LRX24-3 + # LR000 RC3 002
LR24-1 US	LRB24-3
LR24-1/200 US*	LRX24-3 + # LR000 RC3 002
LR24-1/300 US	LRB24-3 + # LR000 RC3 002
LR24-3-1 US	LRB24-3
LR24-3-1/200 US*	LRX24-3 + # LR000 RC3 002
LR24-3-1/300 US	LRX24-3 + # LR000 RC3 002
LR24-MFT US	LRX24-MFT + # LR100 RC1 🗆 🗅 🗅
LR24-MFT/200 US*	LRX24-MFT + # LR100 RC3 □ □ □
LR24-MFT/300 US	LRX24-MFT + # LR100 RC3 □ □ □
LR24-SR/200 US*	LRX24-SR + # LR030 RC3 002
LR24-SR/300 US	LRX24-SR + # LR030 RC3 002
LR24-SR-1 US	LRB24-SR
LR24-SR-1/200 US*	LRX24-SR + # LR030 RC3 002
LR24-SR-1/300 US	LRX24-SR + # LR030 RC3 002
LR24-SR-1-2.0 US	LRB24-SR
LR24-SR-1-2.0/200 US*	LRX24-SR + # LR030 RC3 002
LR24-SR-1-2.0/300 US	LRX24-SR + # LR030 RC3 002
LR24-SR-2.0 US	LRB24-SR
LR24-SR-2.0/200 US*	LRX24-SR + # LR030 RC3 002
LR24-SR-2.0/300 US	LRX24-SR + # LR030 RC3 002
LV24 US	CCV with LRor TRor Zonetight with CQ
LV24/200 US*	CCV with LRor TRor Zonetight with CQ
LV24/300 US	CCV with LRor TRor Zonetight with CQ
LV24-1 US	CCV with LRor TRor Zonetight with CQ
LV24-1/200 US*	CCV with LRor TRor Zonetight with CQ
LV24-1/300 US	CCV with LRor TRor Zonetight with CQ
LV24-3 US	CCV with LRor TRor Zonetight with CQ
LV24-3-1 US	CCV with LRor TRor Zonetight with CQ
LV24-SR US	CCV with LRor TRor Zonetight with CQ
LV24-SR/200 US*	CCV with LRor TRor Zonetight with CQ
LV24-SR/300 US	CCV with LRor TRor Zonetight with CQ
LV24-SR-1 US	CCV with LRor TRor Zonetight with CQ
LV24-SR-1/200 US*	CCV with LRor TRor Zonetight with CQ
LV24-SR-1/300 US	CCV with LRor TRor Zonetight with CQ CCV with LRor TRor Zonetight with CQ
LV24-SR-1-2.0 US	CCV with LRor TRor Zonetight with CQ
LV24-SR-1-2.0/200 US* LV24-SR-1-2.0/300 US	CCV with LRor TRor Zonetight with CQ
□ Placeholder for custom options.	COV WILLI LNUI TNUI ZUHELIGIL WILLI CQ

[□] Placeholder for custom options.

DISCONTINUED MODEL REPLACEMENT MODEL AM24 US ARB24-3 AM24-MFT US ARX24-MFT + # AR100 RC1 □ □ AM24-S US ARB24-S US NM24 US ARB24-3 NM24-MFT US ARX24-MFT + # AR100 RC1A □ □ NM24-SR US ARX24-SR + # AR030 RC1 □ □ □ NM24-SRS US ARX24-MFT + # AR100 RC1W □ □ NR24-3 US** LRB24-3 NR24-SR US** LRX24-MFT + # LR100 RC1 □ □ □ NV24-SR US SVX24-3* NV24-MFT US SVX24-MFT or SVB24-SR* NVG24-MFT US FVX24-MFT or FVX24-3*	NON FAIL-SAFE ACTUATORS	
AM24-MFT US ARX24-MFT + # AR100 RC1	DISCONTINUED MODEL	REPLACEMENT MODEL
AM24-S US NM24 US NM24-MFT US NM24-MFT US ARX24-MFT + # AR100 RC1A	AM24 US	ARB24-3
NM24 US ARB24-3 NM24-MFT US ARX24-MFT + # AR100 RC1A □ □ NM24-SR US ARX24-SR + # AR030 RC1 □ □ □ NM24-SRS US ARX24-MFT + # AR100 RC1W □ □ NR24-3 US** LRB24-3 NR24-SR US** LRX24-MFT + # LR100 RC1 □ □ □ NV24-3 US SVX24-3* NV24-MFT US SVX24-MFT* or SVB24-SR*	AM24-MFT US	ARX24-MFT + # AR100 RC1 □ □ □
NM24-MFT US ARX24-MFT + # AR100 RC1A □ □ NM24-SR US ARX24-SR + # AR030 RC1 □ □ □ NM24-SRS US ARX24-MFT + # AR100 RC1W □ □ NR24-3 US** LRB24-3 NR24-SR US** LRX24-MFT + # LR100 RC1 □ □ □ NV24-3 US SVX24-3* NV24-MFT US SVX24-MFT* or SVB24-SR*	AM24-S US	ARB24-S US
NM24-SR US ARX24-SR + # AR030 RC1 □ □ □ NM24-SRS US ARX24-MFT + # AR100 RC1W □ □ NR24-3 US** LRB24-3 NR24-SR US** LRX24-MFT + # LR100 RC1 □ □ □ NV24-3 US SVX24-3* NV24-MFT US SVX24-MFT* or SVB24-SR*	NM24 US	ARB24-3
NM24-SRS US ARX24-MFT + # AR100 RC1W □ NR24-3 US** LRB24-3 NR24-SR US** LRX24-MFT + # LR100 RC1 □ □ NV24-3 US SVX24-3* NV24-MFT US SVX24-MFT* or SVB24-SR*	NM24-MFT US	ARX24-MFT + # AR100 RC1A □ □
NR24-3 US** LRB24-3 NR24-SR US** LRX24-MFT + # LR100 RC1 □ □ NV24-3 US SVX24-3* NV24-MFT US SVX24-MFT* or SVB24-SR*	NM24-SR US	ARX24-SR + # AR030 RC1 □ □ □
NR24-SR US** LRX24-MFT + # LR100 RC1 □ □ NV24-3 US SVX24-3* NV24-MFT US SVX24-MFT* or SVB24-SR*	NM24-SRS US	ARX24-MFT + # AR100 RC1W □ □
NV24-3 US SVX24-3* NV24-MFT US SVX24-MFT* or SVB24-SR*	NR24-3 US**	LRB24-3
NV24-MFT US SVX24-MFT* or SVB24-SR*	NR24-SR US**	LRX24-MFT + # LR100 RC1 🗆 🗅 🗅
	NV24-3 US	SVX24-3*
NVG24-MFT US FVX24-MFT* or FVX24-3*	NV24-MFT US	SVX24-MFT* or SVB24-SR*
27/21/11/10	NVG24-MFT US	EVX24-MFT* or EVX24-3*

^{*} New linkage required

^{**} Consider ambient temperature for application.

NON FAIL-SAFE – 24 V	AC	NON FAIL-SAFE – 24 VAC				
DISCONTINUED MODEL	Torque (in-lbs)	REPLACEMENT MODEL	Torque (in-lbs)			
MAR100B-24V	1,500	SY4-24*	3,560			
MAR160-B-24V	2,000	SY4-24*	3,560			
MAR100BP-24V	1,800	SY4-24MFT*	3,560			
MAR160-BP-24V	2,500	SY4-24MFT*	3,560			
MAR250-60-24V	5,000	SY5-24*	4,450			
MAR250-60P-24V	5,000	SY5-24MFT*	4,450			

^{*}New linkage required.

NON FAIL-SAFE – 110 V	AC	NON FAIL-SAFE – 110 VAC				
DISCONTINUED MODEL	Torque (in-lbs)	REPLACEMENT MODEL	Torque (in-lbs)			
SY3-110*	1,335	PRBUP-3-T	1,400			
SY3-120MFT*	1,335	PRBUP-MFT-T	1,400			
MAR100B	1,500	SY4-110*	3,559			
MAR160B	2,000	SY4-110*	3,560			
MAR100BP	1,800	SY4-120MFT*	3,560			
MAR160-BP	2,500	SY4-120MFT*	3,560			
MAR250-30	5,000	SY5-110*	4,450			
MAR250-30P	5,000	SY5-120MFT*	4,450			
		SY6-110*	6,450			
		SY6-120MFT*	6,450			
MAR800-30	10,000	SY7-110*	9,790			
MAR800-30P	10,000	SY7-120MFT*	9,790			
		SY8-110 *	13,350			
		SY8-120MFT*	13,350			
MAR1600-70	21,000	SY10-110*	22,250			
MAR1600-70P	21,000	SY10-120MFT*	22,250			
MAR4000-70	48,000	SY12-110*	31,150			
MAR4000-70P	48,000	SY12-120MFT*	31,150			
*New linkage required						

^{*}New linkage required.

NON FAIL-SAFE	– 110 VAC	ELECTRONIC FAIL-SAFE – 240 VAC					
DISCONTINUED MODEL	Torque (in-lbs) & Battery System	REPLACEMENT MODEL	Torque (in-lbs)				
SY2-110*	800 + EXT-NSV-B01-120	PKRBUP-MFT-T	1,400				
SY3-110*	1,335 + EXT-NSV-B01-120	PKRBUP-MFT-T	1,400				
SY2-120MFT*	800 + EXT-NSV-B01-120	PKRBUP-MFT-T	1,400				
SY3-120MFT*	1,335 + EXT-NSV-B01-120	PKRBUP-MFT-T	1,400				

^{*}New linkage required.

T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

^{*}These models had a 2m/6; long cable and the replacement is a 3m/10; long cable.

CV must be known for proper replacement.

[☐] Placeholder for custom options.



ZONE VALVES*							
DISCONTINUED MODEL	Size	C _V Rating	Close-off (psi)	REPLACEMENT MODEL	Size	C _V Rating	Close-off (psi)
Z214T+SEF24 NO	1/2"	2.3	43.5	ZONE215N-10+ZONE24NO ZONE215N-25+ZONE24NO	1/2"	1 2.5	75 50
Z215T+SEF24 NO	1/2"	3.7	30	ZONE215N-35+ZONE24NO	1/2"	3.5	30
Z220T+SEF24 NO	3/4"	3.7	30	ZONE220N-35+ZONE24NO ZONE220N-50+ZONE24NO	3/4"	3.5 5	30
Z214T+SEF120 NO	1/2"	2.3	43.5	ZONE215N-10+ZONE120NO ZONE215N-25+ZONE120NO	1/2"	1 2.5	75
Z215T+SEF120 NO	1/2"	3.7	30	ZONE215N-25+ZONE120NO ZONE215N-35+ZONE120NO	1/2"	3.5	30
Z220T+SEF120 NO	3/4"	3.7	30	ZONE220N-35+ZONE120NO ZONE220N-50+ZONE120NO	3/4"	3.5 5	30 25
Z214T+SEF24 NC	1/2"	2.3	43.5	ZONE215N-10+ZONE24NC ZONE215N-25+ZONE24NC	1/2"	1 2.5	75 50
Z215T+SEF24 NC	1/2"	3.7	30	ZONE215N-25+ZONE24NC	1/2"	3.5	30
Z220T+SEF24 NC	3/4"	3.7	30	ZONE220N-35+ZONE24NC ZONE220N-50+ZONE24NC	3/4"	3.5 5	30 25
Z214T+SEF120 NC	1/2"	2.3	43.5	ZONE215N-10+ZONE120NC	1/2"	1	75
7215T+SEF120 NC	1/2"	3.7	30	ZONE215N-25+ZONE120NC ZONE215N-35+ZONE120NC	1/2"	2.5 3.5	50 30
Z220T+SEF120 NC	3/4"	3.7	30	ZONE220N-35+ZONE120NC ZONE220N-50+ZONE120NC	3/4"	3.5 5	30 25
70447 05504 NO	477	0.0	40.5	ZONE220N-30+ZONE120NC ZONE215N-10+ZONE24NC	447	1	75
Z214T+SEF24 NC	1/2"	2.3	43.5	ZONE215N-25+ZONE24NC	1/2"	2.5	50
Z215T+SEF24 NC	1/2"	3.7	30	ZONE215N-35+ZONE24NC ZONE220N-35+ZONE24NC	1/2"	3.5	30 30
Z220T+SEF24 NC	3/4"	3.7	30	ZONE220N-50+ZONE24NC	3/4"	5	25
Z214T+SEF120 NC	1/2"	2.3	43.5	ZONE215N-10+ZONE120NC ZONE215N-25+ZONE120NC	1/2"	1 2.5	75 50
Z215T+SEF120 NC	1/2"	3.7	30	ZONE215N-35+ZONE120NC	1/2"	3.5	30
Z220T+SEF120 NC	3/4"	3.7	30	ZONE220N-35+ZONE120NC ZONE220N-50+ZONE120NC	3/4"	3.5 5	30 25
Z315T+SEF24 NC	1/2"	5	30	ZONE315N-10+ZONE24NC ZONE315N-25+ZONE24NC ZONE315N-35+ZONE24NC	1/2"	1 2.5 3.5	75 50 30
Z315T+SEF120 NC	1/2"	5	30	ZONE315N-35+ZONE24NC ZONE315N-10+ZONE120NC ZONE315N-25+ZONE120NC ZONE315N-35+ZONE120NC	1/2"	1 2.5 3.5	75 50 30
Z320T+SEF24 NC	3/4"	5.4	30	ZONE320N-35+ZONE24NC ZONE320N-50+ZONE24NC	3/4"	3.5	30 25
Z320T+SEF120 NC	3/4"	5.4	30	ZONE320N-35+ZONE120NC ZONE320N-50+ZONE120NC	3/4"	3.5 5	30 25
Z814T+SEF24 NO	1/2"	2.3	43.5	ZONE215S-10+ZONE24NC	1/2"	1	75
Z815T+SEF24 NO	1/2"	3.7	30	ZONE215S-25+ZONE24NC ZONE215S-35+ZONE24NO	1/2"	2.5 3.5	50 30
Z820T+SEF24 NO	3/4"	3.7	30	ZONE220S-35+ZONE24NO	3/4"	3.5	30
Z814T+SEF120 NO	1/2"	2.3	43.5	ZONE220S-50+ZONE24NO ZONE215S-10+ZONE120NO	1/2"	5 1	25 75
				ZONE215S-25+ZONE120NO		2.5	50
Z815T+SEF120 NO	1/2"	3.7	30	ZONE215S-35+ZONE120NO ZONE220S-35+ZONE120NO	1/2"	3.5	30 30
Z820T+SEF120 NO	3/4"	3.7	30	ZONE220S-50+ZONE120NO	3/4"	5	25
Z814T+SEF24 NC	1/2"	2.3	43.5	ZONE215S-10+ZONE24NC ZONE215S-25+ZONE24NC	1/2"	1 2.5	75 50
Z815T+SEF24 NC	1/2"	3.7	30	ZONE215S-35+ZONE24NC	1/2"	3.5	30
Z820T+SEF24 NC	3/4"	3.7	30	ZONE220S-35+ZONE24NC ZONE220S-50+ZONE24NC	3/4"	3.5 5	30 25
Z814T+SEF120 NC	1/2"	2.3	43.5	ZONE215S-10+ZONE120NC ZONE215S-25+ZONE120NC	1/2"	1 2.5	75 50
Z815T+SEF120 NC	1/2"	3.7	30	ZONE215S-35+ZONE120NC	1/2"	3.5	30
Z820T+SEF120 NC	3/4"	3.7	30	ZONE220S-35+ZONE120NC ZONE220S-50+ZONE120NC	3/4"	3.5 5	30 25
Z915T+SEF24 NC	1/2"	5	30	ZONE315S-10+ZONE24NC ZONE315S-25+ZONE24NC ZONE315S-35+ZONE24NC	1/2"	1 2.5 3.5	75 50 30
Z915T+SEF120 NC	1/2"	5	30	ZONE315S-10+ZONE120NC ZONE315S-25+ZONE120NC ZONE315S-35+ZONE120NC	1/2"	1 2.5 3.5	75 50 30
Z920T+SEF24 NC	3/4"	5.4	30	ZONE320S-35+ZONE24NC ZONE320S-50+ZONE24NC	3/4"	3.5 5	30 25
Z920T+SEF120 NC	3/4"	5.4	30	ZONE320S-35+ZONE120NC ZONE320S-50+ZONE120NC	3/4"	3.5 5	30 25

^{*}The recommended replacements must be considered depending on the C_V rating and Close-off requirement involving your application.

800-543-9038 USA

T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



Replacement of Competitor Fire and Smoke Actuators

DISCLAIMER:

For Fire and Smoke series actuators, use the UL555S test results to select the correct actuator for your application - do not match actuator to actuator. Different methods have been employed by different manufacturers to achieve the fire spring-closed function. For example, Pottorff with the MA220 used a single spring. To replace the MA220, which is no longer made, the fusible link must be removed and a thermal sensor installed. Alternately, Ruskin used an external spring and a thermal sensor so removal of the old MA220 and external spring and replacement with Belimo is all that is required.

Note that NFPA 80 & NFPA 105 require that dampers be repaired as soon as possible. In most jurisdictions, this is a normal repair. In some a permit and 3rd party inspection may be required. In all cases, a log of periodic testing and any repairs must be maintained within the facility.

Repair of any fire and smoke damper is required by codes. A permit and retest may be required if the replacement is not an ordinary repair. Where any fire alarm wiring is touched or any structural changes are made, the fire department or building official must be consulted and a permit plus inspection may be required.

Visit www.belimo.us for detailed instructions for each damper manufacturer.

	Model	Replacement Model						
NOTES	HONEYWELL	BELIMO	Spring Return	Control Signal	Power Supply	Torque (in-lbs)	Motor (seconds)	Spring (seconds)
	ML4105A1000	FSLF120 US	Yes	On/Off	120 VAC	30	14, 25, 75	15
	ML4105B1009	FSLF120 US	Yes	On/Off	120 VAC	30	14, 25, 75	15
	ML4105C1008	FSLF230 US	Yes	On/Off	230 VAC	30	14, 25, 75	15
	ML4105D1007	FSLF230 US	Yes	On/Off	230 VAC	30	14, 25, 75	15
	ML4115A1009	FSLF120 US	Yes	On/Off	120 VAC	30	18	15
	ML4115A1017	FSLF120 US	Yes	On/Off	120 VAC	30	15	15
	ML4115B1008	FSLF120 US	Yes	On/Off	120 VAC	30	18	15
	ML4115B1016	FSLF120 US	Yes	On/Off	120 VAC	30	15	15
	ML4115C1007	FSLF230 US	Yes	On/Off	230 VAC	30	15	15
	ML4115C1015	FSLF230 US	Yes	On/Off	230 VAC	30	18	15
	ML4115D	FSLF230 US	Yes	On/Off	230 VAC	30	18	15
	ML4115D1006	FSLF230 US	Yes	On/Off	230 VAC	30	15	15
	ML4115H	FSLF120 US	Yes	On/Off	120 VAC	30	18	15
	ML4115H1002	FSLF120 US	Yes	On/Off	120 VAC	30	15	15
Go to www.belimo.us for Installation	ML4115J	FSLF120 US	Yes	On/Off	120 VAC	30	18	15
Instructions.	ML4202	FSLF120 US	Yes	On/Off	120 VAC	30	25	15
	ML4202F1000	FSLF120 US	Yes	On/Off	120 VAC	30	15	15
FSTF may be used on dampers	ML4302F1008	FSLF120 US	Yes	On/Off	120 VAC	30	15	15
<1.5 sq.ft.	ML4702	FSLF120 US	Yes	On/Off	120 VAC	30	25	15
Use FSLF for dampers < 4 sq.ft.	ML4802	FSLF230 US	Yes	On/Off	230 VAC	30	25	15
Use FSNF for dampers between 4 sq.ft.	ML8105A1006	FSLF24 US	Yes	On/Off	24 VAC	30	25	15
and 12 sq.ft.	ML8105B1005	FSLF24 US	Yes	On/Off	24 VAC	30	25	15
Use FSAF*A for dampers up to 16 sq.ft.	ML8115A1005	FSLF24 US	Yes	On/Off	24 VAC	30	18	15
	ML8115A1013	FSLF24 US	Yes	On/Off	24 VAC	30	15	15
Multi-section dampers should be	ML8115B1004	FSLF24 US	Yes	On/Off	24 VAC	30	18	15
investigated for number of actuators required.	ML8115B1012	FSLF24 US	Yes	On/Off	24 VAC	30	15	15
·	ML8115H	FSLF24 US	Yes	On/Off	24 VAC	30	22	15
See data sheets for linkages. FSLF is	ML8115J	FSLF24 US	Yes	On/Off	24 VAC	30	22	15
direct couple only.	ML8202	FSLF24 US	Yes	On/Off	24 VAC	30	25	15
	ML8302	FSLF24 US	Yes	On/Off	24 VAC	30	25	15
	MS4104F1010	FSLF120 US	Yes	On/Off	120 VAC	30	15	15
	MS4104F1010	FSLF120 US	Yes	On/Off	120 VAC	30	15	15
	MS4104F1210	FSLF120-S US	Yes	On/Off	120 VAC	30	15	15
	MS4109F1010	FSNF120 US	Yes	On/Off	120 VAC	70	15	15
	MS4109F1210	FSNF120-S US	Yes	On/Off	120 VAC	70	15	15
	MS4120F1006	FSAF120A	Yes	On/Off	120 VAC	180	15	25/15
	MS4120F1204	FSAF120A-S	Yes	On/Off	120 VAC	180	15	25/15
	MS4209F	FSNF120 US	Yes	On/Off	120 VAC	70	14, 25, 75	15
	MS4209F1007	FSNF120 US	Yes	On/Off	120 VAC	70	15	15
	MS4309F	FSNF120 US	Yes	On/Off	120 VAC	70	14, 25, 75	15
	MS4309F1005	FSNF120 US	Yes	On/Off	120 VAC	70	15	15
	MS4604F1010	FSLF230 US	Yes	On/Off	230 VAC	30	15	15
	MS4604F1210	FSLF230-S US	Yes	On/Off	230 VAC	30	15	15



Model

Danissament Madel

	Model	Replacement Model						
NOTES	HONEYWELL	BELIMO	Spring Return	Control Signal	Power Supply	Torque (in-lbs)	Motor (seconds)	Spring (seconds)
	MS4609F1010	FSNF230 US	Yes	On/Off	230 VAC	70	15	15
	MS4609F1210	FSNF230-S US	Yes	On/Off	230 VAC	70	15	15
	MS4620F1005	FSAF230A	Yes	On/Off	230 VAC	180	15	25/15
	MS4620F1203	FSAF230A-S	Yes	On/Off	230 VAC	180	15	25/15
Go to www.belimo.us for Installation	MS4709F	FSNF230 US	Yes	On/Off	230 VAC	70	14, 25, 75	15
Instructions.	MS4709F1014	FSNF230 US	Yes	On/Off	230 VAC	70	15	15
CCTC may be used an dempare	MS4809F	FSNF230 US	Yes	On/Off	230 VAC	70	14, 25, 75	15
FSTF may be used on dampers <1.5 sq.ft.	MS4809F1012	FSNF230 US	Yes	On/Off	230 VAC	70	15	15
·	MS7520A2015	FSAFB24-SR	Yes	2-10V, 4-20mA	24 VAC	180	25	15
Use FSLF for dampers < 4 sq.ft.	MS8104F1010	FSLF24 US	Yes	On/Off	24 VAC	30	15	15
Use FSNF for dampers between 4 sq.ft.	MS8104F1210	FSLF24 US	Yes	On/Off	24 VAC	30	15	15
and 12 sq.ft.	MS8109F1010	FSNF24 US	Yes	On/Off	24 VAC	70	15	15
Use FSAF*A for dampers up to 16 sq.ft.	MS8109F1210	FSNF24-S US	Yes	On/Off	24 VAC	70	15	15
	MS8120F1002	FSAF24A	Yes	On/Off	24 VAC	180	15	25/15
Multi-section dampers should be	MS8120F1200	FSAF24A-S	Yes	On/Off	24 VAC	180	15	25/15
investigated for number of actuators required.	MS8209F	FSNF24 US	Yes	On/Off	24 VAC	70	14, 25, 75	15
·	MS8209F1003	FSNF24 US	Yes	On/Off	24 VAC	70	15	15
See data sheets for linkages. FSLF is	MS8309F	FSNF24 US	Yes	On/Off	24 VAC	70	14, 25, 75	15
direct couple only.	MS8309F1001	FSNF24 US	Yes	On/Off	24 VAC	70	15	15
	S20230-F	FSAF230A	Yes	On/Off	230 VAC	180	25	15
	S20230-F-SW2	FSAF230A-S	Yes	On/Off	230 VAC	180	25	15
	S2024-F	FSAF24A	Yes	On/Off	24 VAC	180	25	15
	S2024-F-SW2	FSAF24A-S	Yes	On/Off	24 VAC	180	25	15
Auxiliary switch packages	32003532-002 Aux Switch Package	Use Belimo "-S" models	N/A	N/A	N/A	N/A	N/A	N/A

ЕСМ	Call Belimo for assistance. Digital photographs of damper and old motor mounting will be needed. Generally replaced by FSLF for direct coupled and FSNF if linkages are needed. Motors were non-spring. Damper OEM external spring must be removed or disabled.
Prefco	Honeywell, 5800 EMB 2X and other models can easily be replaced if damper shaft is present. Call Belimo for more information.
Modulating	Various models of Honeywell and other modulating can be replaced. FSAFB24-SR and FSAFB24-SR-S are available.
Pneumatic	Retrofit of pneumatic actuators with Belimo electronic will usually require some re-control also. Depending on age and manufacturer, the fusible links, fusible air valve, smoke control relays, or other components may have to be replaced or upgraded.

	Model	Replacement Model						
NOTES	RUSKIN	BELIMO	Spring Return	Control Signal	Power Supply	Torque (in-lbs)	Motor (seconds)	Spring (seconds)
	H-2000A/3 Low	FSLF120 US	Yes	On/Off	120 VAC	30	25 nominal	15
	H-2000A/6 Medium	FSNF120 US	Yes	On/Off	120 VAC	70	25 nominal	15
	H-2000A/8 High	FSNF120 US	Yes	On/Off	120 VAC	70	25 nominal	15
	H-2000B/3 Low	FSLF120 US	Yes	On/Off	120 VAC	30	25 nominal	15
	H-2000B/6 Medium	FSNF120 US	Yes	On/Off	120 VAC	30	25 nominal	15
	H-2000B/8 High	FSNF120 US	Yes	On/Off	120 VAC	30	25 nominal	15
	H-2024A/3 Low	FSLF24 US	Yes	On/Off	24 VAC	30	25 nominal	15
	H-2024A/6 Medium	FSNF24 US	Yes	On/Off	24 VAC	70	25 nominal	15
	H-2024A/8 High	FSNF24 US	Yes	On/Off	24 VAC	70	25 nominal	15
The Ruskin/HW motors vary irregularly	H-2024B/3 Low	FSLF24 US	Yes	On/Off	24 VAC	30	25 nominal	15
in torque. It is best to use damper size	H-2024B/6 Medium	FSNF24 US	Yes	On/Off	24 VAC	70	25 nominal	15
to select.	H-2024B/8 High	FSNF24 US	Yes	On/Off	24 VAC	70	25 nominal	15
< 4 sq.ft. use FSLF Series.	H-2230A/3 Low	FSLF230 US	Yes	On/Off	230 VAC	30	25 nominal	15
> 4 sq.ft. use FSNF Series.	H-2230A/6 Medium	FSNF230 US	Yes	On/Off	230 VAC	70	25 nominal	15
	H-2230A/8 High	FSNF230 US	Yes	On/Off	230 VAC	70	25 nominal	15
	H-2230B/3 Low	FSLF230 US	Yes	On/Off	230 VAC	30	25 nominal	15
	H-2230B/6 Medium	FSNF230 US	Yes	On/Off	230 VAC	70	25 nominal	15
	H-2230B/8 High	FSNF230 US	Yes	On/Off	230 VAC	70	25 nominal	15
	RH-24	FSNF24 US	Yes	On/Off	24 VAC	70	15	15
	RH-24-S	FSNF24-S US	Yes	On/Off	24 VAC	70	15	15
	RH-120	FSNF120 US	Yes	On/Off	120 VAC	70	15	15
	RH-120-S	FSNF120-S US	Yes	On/Off	120 VAC	70	15	15
	RH-24-MOD	FSAFB24-SR	Yes	2-10 VDC	24 VAC	180	75	20

Retrofit and Replacement, Fire and Smoke Actuators

Ruskin/Multiproducts to Belimo



Replacement Model Model

NOTES- PHILLIPS P150	RUSKIN	BELIMO	Spring Return	Power Supply	Torque	Motor (seconds)	Spring (seconds)
Shaft spring must be disabled. See Ruskin with Phillips P150 at www.belimo.us							
Linkages and switch model available. Some used with Negator springs; if so, call for assistance.	Phillips P150	See notes at left	Yes	On/Off	See notes	15 or 25	15
Use FSNF for dampers up to 12 sq.ft.					at left		
Use FSNF*A for dampers up to 16 sq.ft							

Replacement

	Model	Model					1	
NOTES	MULTIPRODUCTS	BELIMO	Spring Return	Control Signal	Power Supply	Torque (in-lbs)	Motor (seconds)	Spring (seconds)
Greenheck. Typically these were linkaged using a crank arm on the square motor shaft and the spring was on the round shaft. Remove all linkage parts and direct couple to damper shaft.	2430			On/Off	120 VAC	30	15	15
Air Balance. Square shaft inserted into damper sleeve with special crankarm. If a smoke damper, replacement may be possible and requires a new shaft and other linkage parts. If a combination fire and smoke damper, it is possible Belimo cannot be used. contact Multiproducts or replace damper.	2553A		No	On/Off	120 VAC	30	15	15
Greenheck. Typically these were linkaged using a crank arm on the square motor shaft and the spring was on the round shaft. Remove all linkage parts and direct couple to damper shaft.	2585, 2586		No	On/Off	120 VAC	30	15	15
Safe-Air / Imperial. Typically linkaged. There was an internal spring and fusible link for the fire function.	2659		No	On/Off	120 VAC	30	15	15
Air Balance. FSLF < 3 sq.ft.; FSNF 3 to 8 sq.ft. Remove old motor and external spring. Belimo mounts on shaft without linkages. Use old motor as a mounting platform for anti-rotation strap.	2724		No	On/Off	120 VAC	30	15	15
Ruskin. FSLF120/MP Kit available from Ruskin Reps. See instructions for negator spring removal. Some dampers will need fusible link replaced and thermal sensor installed.	2781		No	On/Off	24/120 VAC	30	15	15
Ruskin. 10 in-lb. "A" model = CW rotation; plain = CCW. Check voltage. FSLF replaces both in most cases. Use FSTF when linkages necessary.	2814A-SQ		No	On/Off	120 VAC	30	15	15
Depends on specific geometry of installation. All FSTF & FSNF parts can be used. Inside clamp mounting or a shaft extension required. Inside clamp mounting or a shaft extension may be required.	2920	FSLF120 US if direct coupled.	No	On/Off	120 VAC	30	15	15
Greenheck. Typically these were linkaged using a crank arm on the square shaft and the spring was on the round shaft. Remove all linkage parts and direct couple to damper shaft. (Model difference is CW vs. CCW.)	2985, 2986	See notes 1, 2, 3 below	No	On/Off	120 VAC	30	15	15
Greenheck. Some were direct coupled to the damper shaft with an external spring. Some were linkaged using a crank arm on the square motor shaft and the spring was on the round shaft. Remove all linkage parts and direct couple to damper shaft. (Model difference is CW vs. CCW.)	3158, 3159		No	On/Off	120 VAC	30	15	15
Prefco. Outside the duct, 1 is top mount, power open. 10 is bottom mount, power closed. Review of linkages, springs, fusible link or McCabeLink® must be performed. Power closed typically used in smoke control systems so switches may be needed.	5800EMB1,10		No	On/Off	120 VAC	30	15	15
Prefco. Review of linkages, springs, fusible link or McCabeLink® must be performed.	5800EMB2XPC, PO, 5800EMB8, 9		No	On/Off	120 VAC	30	15	15
Prefco. Inside the duct, 5 is top mount, power open. 7 is bottom mount, power closed. Review of linkages, springs, fusible link or McCabeLink® must be performed. Power closed typically used in smoke control systems so switches may be needed.	5800EMB5, 7		No	On/Off	120 VAC	30	15	15
Nailor. Remove linkage parts and mount to damper shaft. FSLF for dampers	6247		No	On/Off	120 VAC	30	15	15
< 4 sq.ft. and FSNF for dameprs > 4 sq.ft.	MZRHM		No	On/Off	120 VAC	30	15	15
Greenheck and others. Typically these were linkaged using a crank arm on the square motor shaft and the spring was on the round shaft. Remove all linkage parts and direct couple to damper shaft.	TB2001, TSB2000		No	On/Off	120 VAC	30	15	15

- 1. In general, use FSLF If a shaft is available for direct coupling and damper is < 4 sq.ft. Use FSNF and ZG-AF US or other linkage if linkage is necessary and damper is > 4 sq.ft. Use FSTF if damper < 1.5 sq.ft. Linkage or direct couple.
- 2. Note that in almost all cases the old linkage, spring, and motor can be removed and mounting Belimo to the shaft is the accepted procedure to make the assembly conform to modern fire
- 3. Investigation of each application is necessary. Check voltage and breakers. In all cases disconnect external motor spring without compromising fusible link and internal spring ability to close the blades. These are quite old and changes may have been made by others over the years. Check fusible links or McCabe® Link. Verify damper functions after replacement by testing damper open and spring closed. Use a heat gun for McCabe[©] Link and any thermal discs.

T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



	Model	Replacement Model						
NOTES	SIEMENS*	BELIMO	Spring Return	Control Signal	Power Supply	Torque (in-lbs)	Motor (seconds)	Spring (seconds)
	GGD121.1U	FSAF24A	Yes	On/Off	24 VAC	180	15	25/15
	GGD121.3U	FSAF24A	Yes	On/Off	24 VAC	180	15	25/15
	GGD221.1U	FSAF120A	Yes	On/Off	120 VAC	180	15	25/15
	GGD221.3U	FSAF120A	Yes	On/Off	120 VAC	180	15	25/15
	GGD321.1U	FSAF230A	Yes	On/Off	230 VAC	180	15	25/15
	GND12x.1x	FSLF24 US	Yes	On/Off	24 VAC	30	15	15
	GND22x.1x	FSLF120 US	Yes	On/Off	120 VAC	30	15	15
	GND32x.1x	FSLF230 US	Yes	On/Off	230 VAC	30	15	15
This is a 165°F thermal sensor. Call for information.	ASK79.165	BAE165 US						

^{*} While drive torque of Siemens is 142 in-lbs, spring torque is 110 in-lbs. Belimo has passed UL555S at 12 sq.ft.

	Model	Replacement Model				
NOTES	SIEBE	BELIMO	Spring Return	Control Signal	Power Supply	Damper Size
	MA220	FSLF120 US	Yes	On/Off	120 VAC	
	MA221	FSLF230 US	Yes	On/Off	240 VAC	
	MA223	FSLF24 US	Yes	On/Off	24 VAC	
Where linkages are needed, use FSNF. Timing is a function of	MA230	FSNF120 US	Yes	On/Off	120 VAC	F 4 #
damper spring. When replacing the actuator, remove the old spring from the damper.	MA231	FSNF230 US	Yes	On/Off	240 VAC	For <4 sq. ft. dampers use FSLF Series
	MA233	FSNF24 US	Yes	On/Off	24 VAC	use i oli odiles
	MA240		Yes	On/Off	120 VAC	For >4 sq. ft.
If the damper has one spring, add a new electric thermal	MA250	FSNF120 US	Yes	On/Off	120 VAC	use FSNF Series
sensor. (Belimo BAE 165)	MA251	FSNF230 US	Yes	On/Off	230 VAC	
A -500 part number indicates an auxiliary switch. Replace with a Belimo "-S" version.	MA253	FSNF24 US	Yes	On/Off	24 VAC	
	MA-318	FSNF24 US	Yes	On/Off	24 VAC	
	MA-318-500	FSNF24 -S US	Yes	On/Off	24 VAC	
	MA-418	FSNF120 US	Yes	On/Off	120 VAC	
	MA-418-500	FSNF120-S US	Yes	On/Off	120 VAC	<4 sq.ft use FSLF >4.sq.ft. use FSNF

Qualifications for Belimo in Replacing Defective Competitive Actuators

Belimo is UL 555S Listed with all damper manufacturers. In addition, all Belimo F&S actuators have passed UL 2043 in accordance to requirements of the NEC 300.22 (c) and the IMC 602 for use in plenums. The basic UL listings are either UL 873 or UL 60730 which has supplanted UL 873. UL 873 has been grandfathered.

Infrequently, the fire alarm standard, UL 864, and list of qualified smoke control systems, UUKL, are specified. UL has clearly stated that it will not investigate dampers or actuators in accordance with these standards and that UL 555 (fire) and UL 555S (smoke) are the only correct standards.

UL has stated that while field replacement of actuators is allowed, the local AHJ is in charge; UL does not regulate field repairs. NFPA 80 (fire) & NFPA 105 (smoke) are the standards referenced by the IBC which regulate replacement and repair.

Visit www.belimo.us for detailed instructions for each damper manufacturer.



How to Select a Globe Valve Retrofit Solution

Follow the four steps listed below when ordering a globe valve retrofit kit for either UGLK or GVL series linkages.

Example: Siemens 658 series, 1¼" valve, needing 200 psi close-off pressure and Fail-Safe actuation.

Based on the **Valve Number, Configuration** and **Size**, select the proper linkage or linkages for your valve.

Some valves will have more than one linkage offered, use the actuator or combination pages to determine the appropriate linkage for a given application. In this example there is a **UGLK1214**, **UGLK1350** and a **UGVL** series linkage available.

- Use the selection guide and your close-off pressure requirement to select the correct actuator series for your application. Looking at the **UGLK1350** there are no fail-safe actuators that will achieve 200 psi close-off for 1½" valve. Looking at the **UGLK1214** or **UGVL**, the **AF** or **SVK** Series actuator will provide over **200** psi close-off for the 1½" valve.
- 3 Use the actuator listings to make your final actuator selection.

4 HOW TO ORDER: Option One: Option Two:

| Item 1 | 1pc | UGLK1214 | Item 1 | 1pc | UGVL + SVKB24-MFT

Item 2 1pc AFB24-MFT

BASIC PRODUCTS





Siemens\Landis\Powers

658 Series Valves Linkage/Actuator Selection Guide

2-way

11/4"

No

78

156

236

250

61

156

236

250

658 Series

Example: Siemens Series #658, 2-Way, 1¼" valve to be retrofitted.

Choose correct kit **UGLK1214** or **UGVL**.

Verify close-off is suitable for application.

Looking at the UGLK or UGVL, the AF and SVK Series actuator will provide 200 psi close-off for the 1¼" valve.

Select actuator based on needed control type.
Decide between AFB24,

or SVKX24-3, SVKB24-MFT.

AFB24-MFT

Consult actuator overview section for full details.

Complete Ordering Example Option One:

1tem 1: UGLK1214 Item 2: AFB24-MFT

Complete Ordering Example Option Two:

ltem 1: UGVL + SVKB24-MFT

			Power	Running Time(s)		— VA Rating	Auxiliary Switch
Model	Control Input	Feedback Supply		pply M - +			
A 324	On/Off	-	24 VAC/DC	<75 seconds	20 secs	7.5	-
AFB24-S	On/Off	-	24 VAC/DC	<75 seconds	20 secs	7.5	Built-In
AFBUP	On/Off		24-240 VAC	<75 seconds	20 secs	8.5	-
AFBUP-S	On/Off	-	24-240 VAC	<75 seconds	20 secs	8.5	Built-In
AFB24-SR	2-10 VDC (4-20mA)	2-10 VDC	24 VAC/DC	95 seconds	<20 secs	8.5	-
AFB24-SR-S	2-10 VDC (4-20mA)	2-10 VDC	24 VAC/DC	95 seconds	<20 secs	8.5	Built-In
AFB24-PC	0-10 V Phasecut	2-10 VDC	24 VAC/DC	150 seconds	<20 secs	10	-
AFB24-MFT	2-10 VDC (4-20mA)	2-10 VDC	24 VAC/DC	150 seconds	<20 secs	10	-
AFB24-MFT-S	2-10 VDC (4-20mA)	2-10 VDC	24 VAC/DC	150 seconds	<20 secs	10	Built-In
AFB24-MFT95	0 to 135	2-10 VDC	24 VAC/DC	150 seconds	<20 secs	10	-

ACTUATOR PAR	RT#	LVKX24-3	LVKB24-SR	LVKB24-MFT	SVKX24-3	SVKB24-SR	SVKB24-MFT
Control type		On/Off, Floating Point	Modulating	Modulating/MFT	On/Off, Floating Point	Modulating	Modulating/MFT
Input signal / Fe	eedback	-	2-10 VDC	Variable	-	2-10 VDC	Variable
Running time	Motor	150 seconds	150 seconds	Variable	150 seconds	150 seconds	Variable
	Fail-Safe	35 seconds	35 seconds	35 seconds	35 seconds	35 seconds	35 seconds
Actuator travel		24mm	24mm	24mm	24mm	24mm	24mm
Actuator noise	level	<45 dB(A)	<45 dB(A)	<45 dB(A)	<45 dB(A)	<45 dB(A)	<45 dB(A)
GVL LINKAGES							
UGVL	Universal Adjustable for 1/2" to 2"	\$	\$	\$	\$	\$	\$
SGVL	Schnieder VB7, VB9	\$	\$	\$	\$	\$	\$

T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

800-543-9038 USA

LM

MM

SV

AM

LF

SVK

UGLK1350

UGLK1350

UGVL

UGLK1214

UGLK1350

UGLK1214

UGVL

UGLK1214



Retrofit and Replacement, Siemens 599 MT/MZ

UGSL1200 Short-Stroke Valve Retrofit Kit for CM and TF Series Actuators

Application

The UGSL1200 retrofit kit is designed to easily attach to the valve bonnet on select Siemens 599 MT/MZ short-stroke valves utilizing Belimo CM and TF* series actuators. See accessories in Technical Data table for all available competitor collars.

The unique coupler design allows the UGSL1200 to be mounted on any $\frac{1}{2}$ " to $\frac{1}{4}$ " two-way or three-way valves. In addition, the linkage is suitable for both normally open and normally closed valves.

Default/Configuration

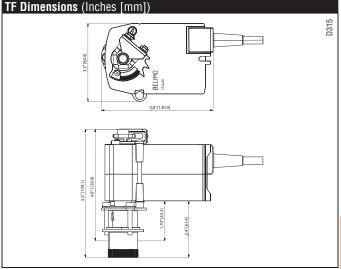
The default set up for this linkage is for usage with the CM actuator. Included in the kit is an extension piece for TF actuators. Hardware is supplied to attach the shaft extension and anti-rotation screws to both a CM or TF actuator.

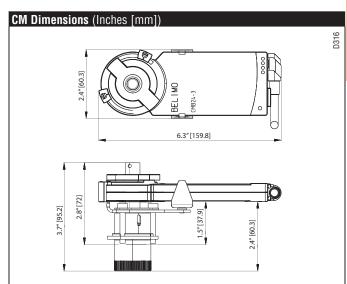
Operation

The UGSL1200 linkage provides 6 mm of downward stroke with 95° CW rotation on the actuator. This allows the valve to extend fully open or closed based on signal. The slot located on the housing provides indication when the maximum stroke has been reached. For troubleshooting when using a CM actuator, the operator may use the manual override feature to rotate the linkage up or down. When using the TF, refer to electronic override instructions according to actuator model

Note: Linkage cannot be used on 1½" normally closed valves.

- *TFL actuators required for on/off applications.
- ** CMB24-SR-R for 2V stem down, CMB24-SR-L for 2V stem up.







Technical Data	UGSL1200
Housing	aluminum
Materials:	
Coupling nut	brass
Shafts	stainless steel
Base plate	aluminum
Upper plate	stainless steel
Cams	nylon 6/6 with MDS
Stroke	6 mm in CW direction
Max out force	67 lbf [300 N]
Mounting position	360° mountable as shown
Ambient temperature	-22°F to +122°F [-30°C to +50°C]
Storage temperature	-40°F to +176°F [-40°C to +80°C]
Servicing	chilled or hot water
	max steam inlet 15 psi
Weight	1.25 lbs [0.57 kg]
Accessories	UGSL-ADPT Collar for:
	Danfoss HW Braukman
	Oventrop Siemens
	Cazzaniga JCI
	Spartan Taco

Mounting Configurations

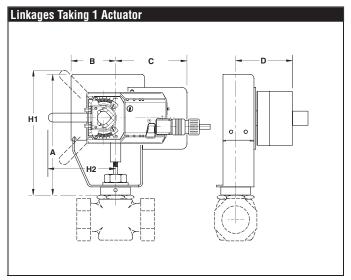
T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

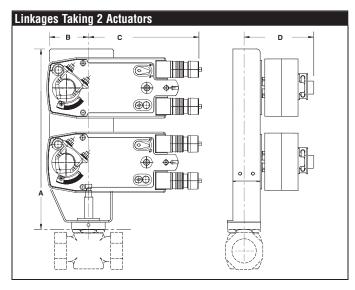


CM Actuator**



MAXIMUM DIMENSIONS - UGLK Linkages with Rotary Actuators





UGLK1150 and UGLK1550

MAXIMUM DIMENSIONS

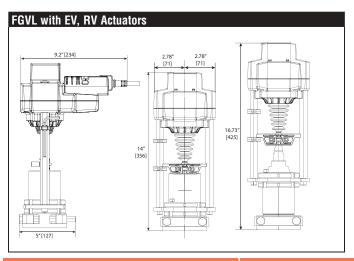
If the required spring return direction is not known, a UGLK linkage and spring return actuator may be selected. The rotary actuators can be turned over on the linkage and produce a spring return function in either direction.

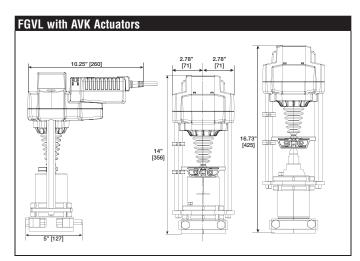
Linkages Taking 1 Actuator						
Α	7"-14" [356]	D	5" [127]			
В	3" [76]	H1	9.5" [241]			
С	9" [229]	H2	9.5"			

Linkage	s Taking 2 Actuators		
Α	19" [483]	D	5" [127]
В	3" [76]		
С	9" [229]		
U	9 [229]		

UGLK115	0 and UGLK1550		
Α	6.5" [165]	D	4.0" [102]
В	1.5" [33]	H1	4.0" [102]
С	5.0" [127]	H2	3.5" [89]

MAXIMUM DIMENSIONS – GVL Linkages with New Generation Linear Series Actuators





800-543-9038 USA

866-805-7089 CANADA

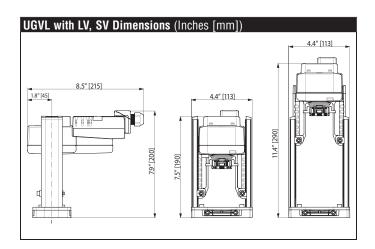
203-791-8396 LATIN AMERICA/CARIBBEAN

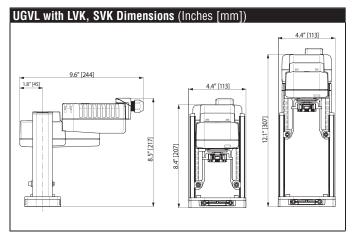


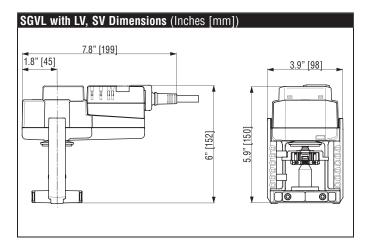
MAXIMUM DIMENSIONS - GVL Linkages with New Generation Linear Series Actuators

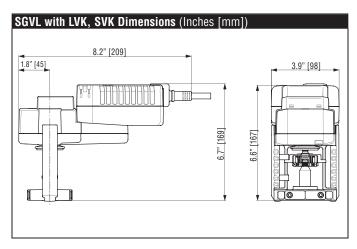
Self Adapting Stroke

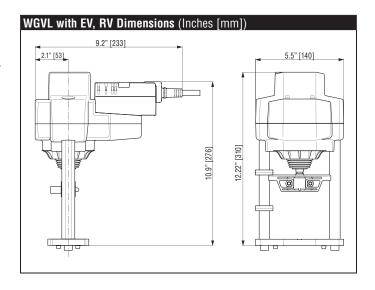
The "V" Series actuators, which are used with the UGVL, SGVL, FGVL, and WGVL retrofit kits, are stroke adapting actuators. In modulating applications, the actuator will recognize the stroke length requirement and automatically adjust the control signal for maximum resolution.

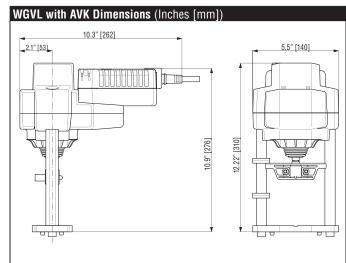












UGVL, SGVL, FGVL, and WGVL Series Linkages with Non Fail-Safe Actuators

Retrofit Linkages for NPT and Flanged Globe Valves



Actuator/Linkage Specifications

Motuator/Errikage Opeor	Houtions
Force (valve size)	
LV	112 lbf [500N] (½" to ¾")
SV	337 lbf [1500N] (1" to 2")
EV	562 lbf [2500N] (2½" to 4")
RV	1011 lbf [4500N] (4" to 6")
Linkage Material	aluminum and steel
Fits Valve Bonnet Diameter	up to 1.7" [43.18 mm] UGVL up to 2.7" [68.5 mm] FGVL
Position Indication	adjustable inserts on linkage
Manual Override	external push button
LV, SV	4 mm hex (wrench supplied)
EV, RV	5 mm hex (wrench supplied)
Direction of Rotation◆	external switch
Dimensions	
UGVL	7.5" to 11.4" x 7.8" x 4.5"
SGVL	6" x 7.8" x 3.9"
FGVL	14" x 9.2" x 5.5"
WGVL	10" x 9.2" x 5.5"
Electrical Connection (24V)	3 ft., 18 GA plenum rated cable, ½" conduit fitting
120V	appliance cable
Overload Protection	electronic throughout stroke
Auxiliary Switch(es)	add on: 2 SPDT, 3A @ 250V
Housing	NEMA 2/IP54, UL Enclosure Type 2
Agency Listings	cULus according to UL 60730-1A/-2-14, CAN/CSA E60730-1:02, CE according to 2004/108/EC and 2006/95/EC











ACTUATO	R PART #	LVB24-3	LVX120-3	LVB24-SR	LVX24-MFT	SVX24-3	SVX120-3	SVB24-SR	SVX24-MFT
Control Ty	ре	On/Off, Floating Point	On/Off, Floating Point	Modulating	Modulating/ MFT	On/Off, Floating Point	On/Off, Floating Point	Modulating	Modulating/ MFT
Input Sign	al / Feedback	-	-	2-10 VDC*	Variable	-	-	2-10 VDC*	Variable
Running T	ime	90 seconds	90 seconds (variable)	90 seconds	90 seconds (variable)	90 seconds (variable)	90 seconds (variable)	90 seconds	90 seconds (variable)
Actuator T	ravel	15 mm (0.60")	15 mm (0.60")	15 mm (0.60")	15 mm (0.60")	20 mm (0.75")	20 mm (0.75")	20 mm (0.75")	20 mm (0.75")
Actuator N	loise Level	55 dB(A)	55 dB(A)	55 dB(A)	55 dB(A)	45 dB(A)	45 dB(A)	45 dB(A)	45 dB(A)
GVL LINK	AGES								
UGVL	Universal adjustable for ½" to 2"	\$668	\$700	\$731	\$803**	\$781	\$812	\$843	\$918**
SGVL	Schneider VB7000 (½" to 2"), VB9000 (½" to 1¼")	\$617	\$650	\$680	\$745**	\$695	\$784	\$762	\$831**

- ♦ Variable with MFT.
- * 4-20 mA with 500 Ω resistor ZG-R01
- **Prices do not reflect additional programming codes surcharge. See page 22-16 for linear actuator MFT codes.



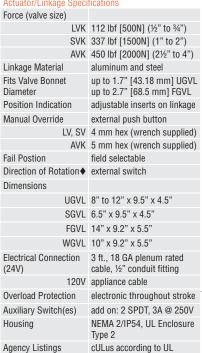
ACTUATO	R PART #	EVB24-3	EVB120-3	EVB24-SR	EVB24-MFT	RVB24-3	RVB24-MFT
Control Ty	ре	On/Off, Floating Point	On/Off, Floating Point	Modulating	Modulating/MFT	On/Off, Floating Point	Modulating/MFT
Input Sign	al / Feedback	-	-	2-10 VDC*	2-10 VDC*	-	2-10 VDC*
Running T	ïme	90 seconds	90 seconds	90 seconds	90 seconds (variable)	90 seconds	90 seconds (variable)
Actuator T	ravel	50 mm (2")	50 mm (2")	50 mm (2")	50 mm (2")	50 mm (2")	50 mm (2")
Actuator N	loise Level	65 dB(A)	65 dB(A)	65 dB(A)	65 dB(A)	65 dB(A)	65 dB(A)
GVL LINK	AGES						
FGVL	Flanged valves adjustable for 2½" to 6"	\$1,661	\$1,756	\$1,716	\$1,728**	\$1,872	\$1,953**
WGVL	Warren Controls Type 20, 22, 30, 32	\$955	\$1,266	\$1,009	\$1,085**	\$1,071	\$1,200**

^{* 4-20} mA with 500 Ω resistor ZG-R01

^{**}Prices do not reflect additional programming codes surcharge. See page 22-16 for linear actuator MFT codes.

Note: All "B" versions available as customizable "X" versions. Please see www.belimo.us for details.

Actuator/Linkage Specifications Force (valve size)



60730-1A/-2-14, CAN/CSA E60730-1:02, CE according to 2004/108/EC and

2006/95/EC









SGVL

ACTUATO	R PART #		LVKX24-3	LVKX120-3	LVKB24-SR	LVKB24-MFT	SVKX24-3	SVKX120-3	SVKB24-SR	SVKB24-MFT
Control Type		On/Off, Floating Point	On/Off, Floating Point	Modulating	Modulating/ MFT	On/Off, Floating Point	On/Off, Floating Point	Modulating	Modulating/ MFT	
Input Signal / Feedback		-	-	2-10 VDC*	2-10 VDC*	-	-	2-10 VDC*	2-10 VDC*	
Running 1	Time	Motor	90 seconds (variable)	90 seconds (variable)	90 seconds	90 seconds (variable)	90 seconds (variable)	90 seconds (variable)	90 seconds	90 seconds (variable)
		Fail-Safe	35 seconds	35 seconds	35 seconds	35 seconds	35 seconds	35 seconds	35 seconds	35 seconds
Actuator 7	Fravel		15 mm (0.60")	15 mm (0.60")	15 mm (0.60")	15 mm (0.60")	20 mm (0.75")	20 mm (0.75")	20 mm (0.75")	20 mm (0.75")
Actuator I	Noise Level		55 dB(A)	55 dB(A)	55 dB(A)	55 dB(A)	45 dB(A)	45 dB(A)	45 dB(A)	45 dB(A)
GVL LINK	AGES									
UGVL	Universal adjustable f	or ½" to 2"	\$972	\$1,012	\$1,028	\$1,112**	\$1,092	\$1,132	\$1,149	\$1,231**
SGVL Schneider VB7000 (½" to 2"), VB9000 (½" to 1¼")		\$851	\$890	\$909	\$1,018**	\$937	\$975	\$999	\$1,074**	

- ♦ Variable with MFT.
- * 4-20 mA with 500 Ω resistor ZG-R01
- **Prices do not reflect additional programming codes surcharge. See page 22-16 for linear actuator MFT codes.



ACTUATO	R PART #		AVKB24-3	AVKB120-3	AVKB24-MFT
Control Ty	уре		On/Off, Floating Point	On/Off, Floating Point	Modulating/MFT
Input Sigr	nal / Feedback		-	-	2-10 VDC*
Running 1	Time	Motor	90 seconds	90 seconds	90 seconds (variable)
		Fail-Safe	35 seconds	35 seconds	35 seconds
Actuator 1	Travel		32 mm (1.25")	32 mm (1.25")	32 mm (1.25")
Actuator I	Noise Level		60 dB(A)	60 dB(A)	60 dB(A)
GVL LINK	AGES				
FGVL	Flanged valves adjustable f	or 2½" to 4"	\$2,108	\$1,968	\$2,201**
WGVL	Warren Controls Type 20,	, 22, 30, 32	\$1,172	\$1,686	\$1,292**
+ 4 00	A :: 500 G : 1 70 DO4				

^{* 4-20} mA with 500 Ω resistor ZG-R01

RETROFIT SOLUTIONS

^{**}Prices do not reflect additional programming codes surcharge. See page 22-16 for linear actuator MFT codes. Note: All "B" versions available as customizable "X" versions. Please see www.belimo.us for details.



ROTARY ACTUATORS SUGGESTION

SERIES	TORQUE	MODEL	Spring Return	Electronic Fail-Safe	Tandem Mounting Available	Control Input	Feedback Position	Power Supply	Standard Running Time	List Price
	35 in-lbs	LF24 US	•			On/Off	-	24 VAC/DC		\$364
LF Series*	[4 Nm]	LF24-MFT US	•			Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	24 VAC/DC		\$564
	90 in-lbs	NFBUP-X1	•			On/Off	-	24-240 VAC		\$495
NF Series*	[10 Nm]	NFX24-MFT-X1	•			(24 VAC/DC) Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	24 VAC/DC		\$650
	180 in-lbs	AFBUP-X1	•		•	On/Off	-	24-240 VAC		\$614
AF Series*	[20 Nm]	AFX24-MFT-X1	•		•	Variable with MFT (VDC, PWM, Floating Pt., On/Off)	variable VDC	24 VAC/DC	SUC	\$752
	45 in-lbs	LMB24-3-X1				Floating Point, On/Off	-	24 VAC/DC	aţic	\$211
LM Series*	[5 Nm]	LMX24-MFT-X1				Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	24 VAC/DC	ecifica	\$424
	90 in-lbs	NMB24-3-X1				Floating Point, On/Off	-	24 VAC/DC	Spi	\$289
NM Series*	[10 Nm]	NMX24-MFT-X1				Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	24 VAC/DC	Consult Specifications	\$499
	180 in-lbs	AMB24-3-X1				Floating Point, On/Off	-	24 VAC/DC	- Co	\$407
AM Series*	[20 Nm]	AMX24-MFT-X1				Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	24 VAC/DC		\$629
	360 in-lbs	GMB24-3-X1			•	Floating Point, On/Off	-	24 VAC/DC		\$554
GM Series*	[40 Nm]	GMX24-MFT-X1			•	Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	24 VAC/DC		\$811
	360 in-lbs	GKB24-3-X1		•		Floating Point, On/Off	-	24 VAC		\$1,228
GK Series*	[40 Nm]	GKX24-MFT-X1		•	•	Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	24 VAC/DC		\$1,690

^{*}Please consult the damper actuator sections for a full list of product offerings. Standard run times should be considered in the selection. All airside products are applicable for retrofit kits. Select "X1" actuators come with a handle.

MULTI-F	UNCTION TECHNO	OLOGY				
	PROGRAMMING C		Control Input	Running Time	Built-in Feedback	List Price
	P-10001	A01	2-10 VDC	150 seconds	2-10 VDC	No Charge
8	P-10002	A02	0.5-10 VDC	150 seconds	0.5-10 VDC	No Charge
ΑĬ	P-10028	A28	0.5-10 VDC	150 seconds	0.5-10 VDC	No Charge
<u> </u>	P-10063	A63	0.5-4.5 VDC	150 seconds	0.5-4.5 VDC	No Charge
À	P-10064	A64	5.5-10 VDC	150 seconds	5.5-10 VDC	No Charge
ROTARY ACTUATOR	P-20002	W02	0.02-5.00 seconds PWM	150 seconds	2-10 VDC	No Charge
7	P-20003	W03	0.10-25.5 seconds PWM	150 seconds	2-10 VDC	No Charge
<u>~</u>	P-30001	F01	Floating Point	150 seconds	2-10 VDC	No Charge
	P-40002	J02	On/Off	150 seconds	2-10 VDC	No Charge
	G01		On/Off	35 seconds	2-10 VDC MFT only	No Charge
	G02		On/Off	60 seconds	2-10 VDC MFT only	No Charge
	G03	3	On/Off	90 seconds	2-10 VDC MFT only	No Charge
	G04	4	On/Off	150 seconds	2-10 VDC MFT only	No Charge
	G11	1	Floating Point	35 seconds	2-10 VDC MFT only	No Charge
	G12	2	Floating Point	60 seconds	2-10 VDC MFT only	No Charge
	G13		Floating Point	90 seconds	2-10 VDC MFT only	No Charge
	G14	4	Floating Point	150 seconds	2-10 VDC MFT only	No Charge
~-	G41(G21 f	or -SR)	2-10 VDC	35 seconds	2-10 VDC	No Charge
2	G42 (G22 1	for -SR)	2-10 VDC	60 seconds	2-10 VDC	No Charge
ξ	G43 (G23 t	for -SR)	2-10 VDC	90 seconds	2-10 VDC	No Charge
ACI	G44 (G24 t	for -SR)	2-10 VDC	150 seconds	2-10 VDC	No Charge
#	G51	1	0.5-10 VDC	35 seconds	0.5-10 VDC	No Charge
LINEAR ACTUATOR	G52	2	0.5-10 VDC	60 seconds	0.5-10 VDC	No Charge
=	G53	3	0.5-10 VDC	90 seconds	0.5-10 VDC	No Charge
	G54	4	0.5-10 VDC	150 seconds	0.5-10 VDC	No Charge
	G2A	A	5.5-10 VDC	150 seconds	5.5-10 VDC	No Charge
	G2E	3	0.5-4.5 VDC	150 seconds	0.5-4.5 VDC	No Charge
	G20		2-10 VDC	150 seconds	0.5-5 VDC	No Charge
	G2[6-9 VDC	150 seconds	2-10 VDC	No Charge
	G2E		10.5-13.5 VDC	150 seconds	2-10 VDC	No Charge
	W3N		0.02-5.00 seconds PWM	90 seconds	2-10 VDC	No Charge
	W3I		0.2-5.00 seconds PWM	90 seconds	2-10 VDC	No Charge
	VVSI		U.Z-J.UU SELUIIUS F WIVI	an accollas	2-10 VDG	No onarge

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN

Style 4 xternal Packing Nut (i.e. JCI)

Style 5 Inverted Taper (i.e. Honeywell)

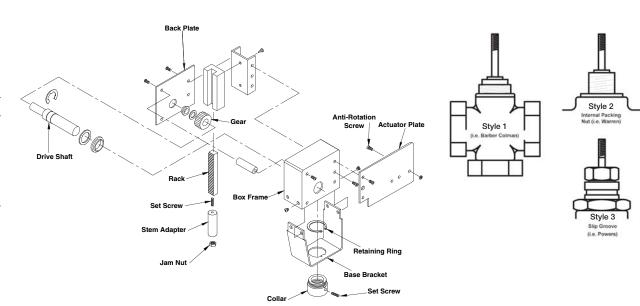


UGLK Collars*				Most Comn	nonly Used	Valve Style)	
Part Number	Inside Diameter	Description	Style 1	Style 2	Style 3	Style 4	Style 5	List Price
UGLK-COL-1005	1.000"	3 setscrews, for frame type		•				\$198
UGLK-COL-1063	1.063"	3 setscrews, for frame type		•				\$198
UGLK-COL-1100	1.100"	3 setscrews, for frame type, counterbored top				•		\$198
UGLK-COL-1255	1.250"	3 setscrews, for frame type		•				\$198
UGLK-COL-1315	1.315"	3 setscrews, for frame type, can be used with VB7 with shim			•			\$198
UGLK-COL-1375	1.375"	3 setscrews, for frame type		•				\$198
UGLK-COL-BC10	1.250"- 16 Thd.	Fits Siebe VB7/VB9. Use on frame type only	•					\$198
UGLK-COL-HY02	1.370"	1 setscrew, for frame type					•	\$198
UGLK-COL-LG02	1.740"	1 setscrew, for frame type			•			\$198
UGLK-COL-LG04	1.740"	1 setscrew, for frame type			•			\$198
UGLK-COL-JC05	1.070"	3 setscrews, for frame type		•				\$198
UGLK-COL-JC06	1.562- 14 Thd.	Threaded, brass		•				\$198
UGLK-COL-JC08	0.760"	3 setscrews, for frame type, counterbored top				•		\$198
UGLK-COL-JC15	1.070"	Ring, no setscrews		•				\$198
UGLK-COL-0880	0.880"	3 setscrews, for frame type, counterbored top				•		\$198
UGLK-COL-WNUT	1.375"- 20 Thd.	Replacement Warren nut. Will not go over damaged threads		•				\$198
UGLK-COL-AD01	1.250"- 16 Thd.	Fits Siebe VB7/VB9. For VB7 frame only	•					\$198
UGLK-COL-UNIV	Custom	3 setscrews, for frame type. Must be machined		•	•	•	•	\$347
UGSL-ADPT	Custom	Custom collar for UGSL1200. Must be machined						\$80

^{*} Must reuse retaining clip and set screws.

UGLK Stem Adapters								
Part Number	Inside Diameter	Description	Style 1	Style 2	Style 3	Style 4	Style 5	List Price
UGLK-STM-1800	1/4"- 28 Stem Thd.	Stem adapter for 1/4" - 28 valve stems	•	•	•	•	•	\$110
UGLK-STM-1801	3/8"- 24 Stem Thd.	Stem adapter for 3/8" - 24 valve stems	•	•	•	•	•	\$110
UGLK-STM-1802	1/2"- 20 Stem Thd.	Stem adapter for 1/2"- 20 valve stems	•			•	•	\$110
UGLK-STM-1803	7/16"- 20 Stem Thd.	Stem adapter for 7/16"- 20 valve stems					•	\$110
UGLK-STM-1501	3/8"- 24 Stem Thd.	For Warren FLG valves with UGLK		•				\$110
UGLK-STM-1805	3/8" OD Grooved	Landis 2.5-3" -599 Series			•			\$110
UGLK-STM-2305	1/2" OD Grooved	Landis 4-6" -599 Series			•			\$110
UGLK-STM-UNIV	Custom	Must be machined	•	•	•	•	•	\$159

UGLK Stem Adapters UGLK Collars



Honeywell

VP5.., V5011, V5013, V5045 Series Valves Linkage/Actuator Selection Guide



T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

						WARRA
Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
VP526 Series		No	58	CM	UGLK1808	\$469
VI 320 361163	5/8"	Yes	30	TF	UGLK1808	\$469
VP531 Series	0/0	No	70	CM	UGLK1808	\$469
VI 001 001103		Yes	70	TF	UGLK1808	\$469
VP531 Series	7/8"	No	70	CM	UGLK1808	\$469
VI doi delles	170	Yes	70	TF	UGLK1808	\$469
		No		LV	UGVL	Pg # 23-14
V5011 Series		Yes	236	LVK	UGVL	Pg # 23-15
		103		LF	UGLK1806	\$649
V5011F		Yes	236	NF	UGLK1800	\$649
(1014, 1022, 1030, 1048, 1121, 1139)		103	200	LF	UGLK1806	\$649
V5011G		Yes	236	NF	UGLK1800	\$649
(1137, 1145, 1152, 1160, 1178, 1186)		103	200	LF	UGLK1806	\$649
V5011H (1002, 1010)		Yes	236	NF	UGLK1800	\$649
7301111 (1002, 1010)		169	230	LF	UGLK1806	\$649
/5011J (1012, 1079)		Yes	236	NF	UGLK1800	\$649
30113 (1012, 1079)		169	230	LF	UGLK1806	\$649
V5013 Series		No	236	LV	UGVL	Pg # 23-14
10010 Selles		Yes	230	LVK	UGVL	Pg # 23-15
[F040F (4004 4040 4070)	1/7	V	000	NF	UGLK1800	\$649
/5013F (1004, 1012, 1079)	1/2"	Yes	236	LF	UGLK1806	\$649
		No		LV	UGVL	Pg # 23-14
/5013N Series			236	LVK	UGVL	Pg # 23-15
		Yes		LF	UGLK1806	\$649
		No		AM	UGLK1804	\$539
/5045		Yes	236	NF	UGLK1804	\$539
		No		CM	UGLK1808	\$469
P525 Series		Yes	110	TF	UGLK1808	\$469
		No		CM	UGLK1808	\$469
/P526 Series		Yes	50	TF	UGLK1808	\$469
		No		CM	UGLK1808	\$469
/P527 Series		Yes	45	TF	UGLK1808	\$469
		No		CM	UGLK1808	\$469
/P531 Series		Yes	70	TF	UGLK1808	\$469
		Yes	236	NF	UGLK1800	\$649
/5011 (H1028, G1194, J1023)		Yes	110	LF	UGLK1806	\$649
		No	110	LV	UGVL	Pg # 23-14
/5011 Series		Yes	211	LVK	UGVL	Pg # 23-15
3011 361163		Yes	110	LF		
		Yes	236	NF	UGLK1806	\$649 \$649
/5011F (1055, 1147)					UGLK1800	
		Yes	110	LF LV	UGLK1806 UGVL	\$649
/5013 Series		No	211			Pg # 23-14
	3/"	Yes	000	LVK	UGVL	Pg # 23-15
/5013F (1020, 1087)	3/4"	Yes	236	NF LF	UGLK1800	\$649
		Yes	110		UGLK1806	\$649
IE012N Cavina		No	211	LV	UGVL	Pg # 23-14
/5013N Series		Yes		LVK	UGVL	Pg # 23-15
		Yes	110	LF	UGLK1806	\$649
5045		Yes	236	NF	UGLK1804	\$539
P525 Series		No	55	CM	UGLK1808	\$469
		Yes		TF	UGLK1808	\$469
P531 Series		No	70	CM	UGLK1808	\$469
		Yes		TF	UGLK1808	\$469
5011 (F1063, F1154, H1028, G1194)		Yes	236	AF	UGLK1800	\$649
		Yes	65	LF	UGLK1806	\$649
		No	93	LV	UGVL	Pg # 23-14
		Yes	30	LVK	UGVL	Pg # 23-15
5011 Series		No		SV	UGVL	Pg # 23-14
3011 351153	1"	Voo	236	SVK	UGVL	Pg # 23-15
	1	Yes		AF	UGLK1800	\$649
		Yes	65	LF	UGLK1806	\$649
		No		LV	UGVL	Pg # 23-14
JE012 Cavica		Yes	93	LVK	UGVL	Pg # 23-15
/5013 Series		No	000	SV	UGVL	Pg # 23-14
		Yes	236	SVK	UGVL	Pg # 23-15
			1			J J

All close-off pressures listed are approximate and actual close-off pressures are based on valve condition and application.

203-791-8396 LATIN AMERICA/CARIBBEAN

V5013, V5045, V5011 Series Valves Linkage/Actuator Selection Guide

/alve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
/5013F (1038, 1095)		Yes	236	AF	UGLK1800	\$649
130131 (1030, 1033)		Yes	65	LF	UGLK1806	\$649
		No	93	LV	UGVL	Pg # 23-14
		Yes		LVK	UGVL	Pg # 23-15
/5013N Series	1"	No	236	SV SVK	UGVL UGVL	Pg # 23-14 Pg # 23-15
		Yes	230	AF	UGLK1800	\$649
		Yes	65	LF	UGLK1806	\$649
150.45		No		AM	UGLK1804	\$539
75045		Yes	236	NF	UGLK1804	\$539
/5011 (H1044, G1210, J1049)		Yes	221	AF	UGLK1800	\$649
3011 (11044, 01210, 31049)		Yes	40	LF	UGLK1806	\$649
		Yes	221	AF	UGLK1800	\$649
/5011 Series		No	236	SV	UGVL	Pg # 23-14
		Yes		SVK	UGVL	Pg # 23-15
		Yes	40	LF	UGLK1806	\$649
/5011F (1071, 1162)		Yes Yes	221 40	AF LF	UGLK1800 UGLK1806	\$649 \$649
		No	40	SV	UGVL	Pg # 23-14
5013 Series	11/4"	Yes	236	SVK	UGVL	Pg # 23-15
		Yes	221	AF	UGLK1800	\$649
5013F (1046, 1103)		Yes	40	LF	UGLK1806	\$649
		Yes	221	AF	UGLK1800	\$649
15040N 0		No	000	SV	UGVL	Pg # 23-14
5013N Series		Yes	236	SVK	UGVL	Pg # 23-15
		Yes	40	LF	UGLK1806	\$649
5045		No	236	AM	UGLK1804	\$539
5045		Yes	160	NF	UGLK1804	\$539
5011 (F1089, F1178, G1228)		Yes	153	AF	UGLK1800	\$649
0011 (11000, 11110, 01220)		Yes	26	LF	UGLK1806	\$649
		Yes	153	AF	UGLK1800	\$649
/5011 Series		No	160	SV	UGVL	Pg # 23-14
		Yes Yes	26	SVK LF	UGVL UGLK1806	Pg # 23-15 \$649
		No	20	SV	UGVL	Pg # 23-14
/5013 Series		Yes	160	SVK	UGVL	Pg # 23-15
	1½"	Yes	153	AF	UGLK1800	\$649
/5013F (1053, 1111)		Yes	26	LF	UGLK1806	\$649
		Yes	153	AF	UGLK1800	\$649
/5013N Series		No	160	SV	UGVL	Pg # 23-14
TOU ION SELLES		Yes	100	SVK	UGVL	Pg # 23-15
		Yes	26	LF	UGLK1806	\$649
75045		No	211	AM	UGLK1804	\$539
		Yes		AF	UGLK1804	\$539
		Yes	86	AF	UGLK1800	\$649
5011 (F1097, F1188, G1103)		Yes Yes	173 40	GK NF	UGLK1800 UGLK1800	\$649 \$649
		Yes	14	LF	UGLK1806	\$649
		Yes	86	AF	UGLK1800	\$649
		Yes	173	GK	UGLK1800	\$649
5011 Series		No		SV	UGVL	Pg # 23-14
		Yes	85	SVK	UGVL	Pg # 23-15
		Yes	14	LF	UGLK1806	\$649
5013 Series		No	85	SV	UGVL	Pg # 23-14
UU IU UUIIU	2"	Yes		SVK	UGVL	Pg # 23-15
	_	Yes	86	AF	UGLK1800	\$649
5013F (1061, 1129)		Yes	173	GK	UGLK1800	\$649
,,		Yes	40	NF	UGLK1800	\$649
		Yes	14	LF	UGLK1806	\$649
		Yes	86	AF	UGLK1800	\$649
E012N Carios		Yes	173	GK SV	UGLK1800	\$649
5013N Series		No Yes	85	SV SVK	UGVL UGVL	Pg # 23-14 Pg # 23-15
		Yes	14	LF	UGLK1806	Pg # 23-15 \$649
		162	14	LF	UULN 1000	φυ45
75045		No	120	AM	UGLK1804	\$539

Honeywell

V3350, V3351, V3360, V3450, V3451, V3460, V5011, V5013 Series Valves Linkage/Actuator Selection Guide



T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
i		Yes	211	2*GK	UGLK1870	\$824
/3350		Yes	110	2*AF	UGLK1870	\$824
A2009, A2017, B2007, C2013, D2003)		No	55	SV	UGVL	Pg # 23-14
		Yes		SVK	UGVL	Pg # 23-15
		Yes	211	2*GK	UGLK1870	\$824
3351 (A2008, C2005, D2002)		Yes	110	2*AF	UGLK1870	\$824
0001 (112000, 02000, 02002)		No	55	SV	UGVL	Pg # 23-14
		Yes		SVK	UGVL	Pg # 23-15
		Yes	211	2*GK	UGLK1870	\$824
		Yes	110	2*AF	UGLK1870	\$824
3360E2008, V3361E2007		No	55	SV	UGVL	Pg # 23-14
		Yes		SVK	UGVL	Pg # 23-15
		Yes	52	AF	UGLK1800	\$649
		Yes	211	2*GK	UGLK1870	\$824
3450		Yes	110	2*AF	UGLK1870	\$824
A2008, A2016, B2006, C2012, D2002)		No	55	SV	UGVL	Pg # 23-14
-	01/11	Yes		SVK	UGVL	Pg # 23-15
	2½"	Yes	52	AF	UGLK1800	\$649
		Yes	211	2*GK	UGLK1870	\$824
2454 (40007, 00002, 00004)		Yes	110	2*AF	UGLK1870	\$824
3451 (A2007, C2003, C2004)		No	77	SV	UGVL	Pg # 23-14
		Yes	EO	SVK	UGVL	Pg # 23-15
		Yes	52	AF 2*CV	UGLK1800	\$649
		Yes	211	2*GK	UGLK1870	\$824
246052007 V246452006		Yes	110	2*AF	UGLK1870	\$824
3460E2007, V3461E2006		No	55	SV	UGVL	Pg # 23-14
		Yes	F0	SVK	UGVL	Pg # 23-15
E044 /8479A F440E F440C C4444\		Yes	52	AF 0*CV	UGLK1800	\$649
5011 (A1734, F1105, F1196, G1111)		Yes	211	2*GK	UGLK1870	\$824
5011 Series		No	52	SV	UGVL	Pg # 23-14
		Yes	044	SVK	UGVL	Pg # 23-15
5013 (B1003, C1001)		Yes	211	2*GK	UGLK1870	\$824
		Yes	52	AF	UGLK1800	\$649
5013 Series		No	52	SV	UGVL	Pg # 23-14
		Yes	77	SVK	UGVL	Pg # 23-15
		Yes	77	2*AF	UGLK1870	\$824
3350		Yes	38	AF	UGLK1800	\$649
A3007, A3015, B3005, C3011, D3001)		Yes	136	2*GK	UGLK1870	\$824
-		No	38	SV	UGVL	Pg # 23-14
		Yes		SVK	UGVL	Pg # 23-15
		Yes	77	2*AF	UGLK1870	\$824
		Yes	38	AF	UGLK1800	\$649
3351 (A3006, C3002, C3003)		Yes	136	2*GK	UGLK1870	\$824
		No	38	SV	UGVL	Pg # 23-14
		Yes		SVK	UGVL	Pg # 23-15
		Yes	77	2*AF	UGLK1870	\$824
		Yes	38	AF	UGLK1800	\$649
3360E3006, V3361E3005		Yes	136	2*GK	UGLK1870	\$824
		No	38	SV	UGVL	Pg # 23-14
	3"	Yes		SVK	UGVL	Pg # 23-15
	Ü	Yes	77	2*AF	UGLK1870	\$824
3450		Yes	38	AF	UGLK1800	\$649
A3006, A3014, B3004, C3010, D3000)		Yes	136	2*GK	UGLK1870	\$824
10000, 110014, 20004, 00010, 20000,		No	38	SV	UGVL	Pg # 23-14
		Yes		SVK	UGVL	Pg # 23-15
		Yes	77	2*AF	UGLK1870	\$824
		Yes	38	AF	UGLK1800	\$649
3451 (A3005, C3001, C3002)		Yes	136	2*GK	UGLK1870	\$824
		No	20	SV	UGVL	Pg # 23-14
		Yes	38	SVK	UGVL	Pg # 23-15
		Yes	77	2*AF	UGLK1870	\$824
		Yes	38	AF	UGLK1800	\$649
/3460E3005, V3461E3004		Yes	136	2*GK	UGLK1870	\$824
-			+			
		No	38	SV	UGVL	Pg # 23-14

All close-off pressures listed are approximate and actual close-off pressures are based on valve condition and application.

203-791-8396 LATIN AMERICA/CARIBBEAN



V5011, V5013, V3350, V3351, V3360, V3450, V3451, V3460 Series Valves Linkage/Actuator Selection Guide

				D.II	D-II	15.4
Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
NE011 (A1767 E1112 E1204 C1120)		Yes	38	AF	UGLK1800	\$649
/5011 (A1767, F1113, F1204, G1129)		Yes	136	2*GK	UGLK1870	\$824
/5011 Series		No	40	SV	UGVL	Pg # 23-14
	3"	Yes		SVK	UGVL	Pg # 23-15
/5013 (B1011, C1019)		Yes Yes	77 136	GK 2*GK	UGLK1800 UGLK1870	\$649 \$824
		No		SV	UGVL	Pg # 23-14
5013 Series		Yes	40	SVK	UGVL	Pg # 23-15
		No		EV	FGVL	Pg # 23-14
		Yes	22	2*AF	UGLK1872	\$818
3350		No	40	RV	FGVL	Pg # 23-14
A4005, A4013, B4003, C4019, D4009)		Yes	40	2*GK	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649
		No	22	EV	FGVL	Pg # 23-14
		Yes	22	2*AF	UGLK1872	\$818
3351 (A4004, C4000, C4001)		No	40	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649
		No	22	EV	FGVL	Pg # 23-14
226054004 V226454002		Yes		2*AF RV	UGLK1872 FGVL	\$818 Pg # 23-14
3360E4004, V3361E4003		No Yes	40	2*GK	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649
		No		EV	FGVL	Pg # 23-14
		Yes	22	2*AF	UGLK1872	\$818
3450		No		RV	FGVL	Pg # 23-14
4004, A4012, B4002, C4018, D4008)	4"	Yes	40	2*GK	UGLK1872	\$818
	4"	Yes	10	AF	UGLK1802	\$649
		No	22	EV	FGVL	Pg # 23-14
		Yes	22	2*AF	UGLK1872	\$818
3451 (A4003, C4000, C4009)		No	40	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649
		No	22	EV	FGVL	Pg # 23-14
0400F4000 W0404F4000		Yes		2*AF	UGLK1872	\$818
3460E4003, V3461E4002		No	40	RV 2*CV	FGVL	Pg # 23-14
		Yes Yes	10	2*GK AF	UGLK1872 UGLK1802	\$818 \$649
		No	22	EV	FGVL	Pg # 23-14
		No	22	RV	FGVL	Pg # 23-14
5011 (A1858, B1013)		Yes	40	2*GK	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649
		No		EV	FGVL	Pg # 23-14
5040 (B4000 04007)		Yes	22	GK	UGLK1802	\$649
5013 (B1029, C1027)		No	40	RV	FGVL	Pg # 23-14
		Yes	40	2*GK	UGLK1872	\$818
		No	22	RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1872	\$818
3350		No	_	EV	FGVL	Pg # 23-14
15002, A5010, B5000, C5016, D5006)		Yes	14	GK	UGLK1802	\$649
			40	2*AF	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649
		No Vac	22	S*CK	FGVL	Pg # 23-14
		Yes No		2*GK EV	UGLK1872 FGVL	\$818 Pg # 23-14
3351 (A5001, C5008, D5005)	5"	INU	14	GK	UGLK1802	Pg # 23-14 \$649
		Yes	14	2*AF	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649
		No		RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1872	\$818
220055004 V220455000		No		EV	FGVL	Pg # 23-14
/3360E5001, V3361E5000		Yes	14	GK	UGLK1802	\$649
				2*AF	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649

22-22

Honeywell

V3360, V3450, V3451, V3460, V5011, V5013, V3350, V3351, VGF2, VGF3 Series Valves Linkage/Actuator Selection Guide



T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		No	00	RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1872	\$818
/3450		No		EV	FGVL	Pg # 23-14
A5001, A5019, B5009, C5015, D5005)		Vaa	14	GK	UGLK1802	\$649
		Yes		2*AF	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649
		No	00	RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1872	\$818
		No		EV	FGVL	Pg # 23-14
/3451 (A5000, C5006, C5007)			14	GK	UGLK1802	\$649
		Yes		2*AF	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649
		No		RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1872	\$818
	5"	No		EV	FGVL	Pg # 23-14
3460E5000, V3461E5009	J	INU	14	GK	UGLK1802	\$649
		Yes	14			·
			10	2*AF	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649
		No	22	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1872	\$818
5011 (A1882, B1047)		Yes	14	GK	UGLK1802	\$649
				2*AF	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649
		No	22	RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1872	\$818
5013 (B1037, C1035)		No		EV	FGVL	Pg # 23-14
			14	GK	UGLK1802	\$649
		Yes		2*AF	UGLK1872	\$818
		Yes	10	AF	UGLK1802	\$649
		No		RV	FGVL	Pg # 23-14
3350		Yes	22	2*GK	UGLK1872	\$818
A6000, A6008, A6018, C6014, D6004)		103		GK	UGLK1802	\$649
10000, 10000, 10010, 00014, 00004)		Yes	10	2*AF	UGLK1872	\$818
		No		RV	FGVL	Pg # 23-14
		No	- 22			-
3351 (A6009, C6005, C6006)		Yes		2*GK	UGLK1872	\$818
, , , , , , , , , , , , , , , , , , , ,		Yes	10	GK	UGLK1802	\$649
				2*AF	UGLK1872	\$818
		No	22	RV	FGVL	Pg # 23-14
3360E6009, V3361E6008		Yes		2*GK	UGLK1872	\$818
, 1000120000		Yes	10	GK	UGLK1802	\$649
		103	10	2*AF	UGLK1872	\$818
		No	22	RV	FGVL	Pg # 23-14
3450		Yes	22	2*GK	UGLK1872	\$818
(6009, A6007, A6017, C6013, D6003)		Vaa	10	GK	UGLK1802	\$649
	C"	Yes	10	2*AF	UGLK1872	\$818
	6"	No	60	RV	FGVL	Pg # 23-14
AFT (10000 0000 00000		Yes	22	2*GK	UGLK1872	\$818
3451 (A6008, C6004, C6005)				GK	UGLK1802	\$649
		Yes	10	2*AF	UGLK1872	\$818
		No		RV	FGVL	Pg # 23-14
		Yes	- 22	2*GK	UGLK1872	\$818
3460E6008, V3461E6007		103		GK	UGLK1802	\$649
		Yes	10			\$818
		Na		2*AF	UGLK1872	
		No	- 22	RV	FGVL	Pg # 23-14
011 (A1916, B1078)		Yes		2*GK	UGLK1872	\$818
· · · · · · · · · · · · · · · · · · ·		Yes	10	GK	UGLK1802	\$649
				2*AF	UGLK1872	\$818
		No	22	RV	FGVL	Pg # 23-14
5013 (B1045, C1043)		Yes		2*GK	UGLK1872	\$818
0010 (01040, 01040)		Vac	10	GK	UGLK1802	\$649
		Yes	10	2*AF	UGLK1872	\$818
CE2 Carios		No		EV	FGVL	Pg # 23-14
GF2 Series	01/"	Yes	F0	AVK	FGVL	Pg # 23-15
	2½"	No	52	EV	FGVL	Pg # 23-14
GF3 Series		Yes	1	AVK	FGVL	Pg # 23-15
			I			. 9 " 20 10

All close-off pressures listed are approximate and actual close-off pressures are based on valve condition and application.

866-805-7089 CANADA

V5013, VGF2, VGF3 Series Valves Linkage/Actuator Selection Guide

Honeywell

V-37, V-38, V-39, V-43, VG7, VTM, V(B)-37, V(B)39, V(B)43, V(B)-58 Series Valves
Linkage/Actuator Selection Guide

Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
MOTO Ossiss		No		EV	FGVL	Pg # 23-14
VGF2 Series	3"	Yes	40	AVK	FGVL	Pg # 23-15
VGF3 Series	3	No	40	EV	FGVL	Pg # 23-14
vars series		Yes		AVK	FGVL	Pg # 23-15
VGF2 Series	4"	No	50	EV	FGVL	Pg # 23-14
VGF3 Series	4	No	50	EV	FGVL	Pg # 23-14
VGF2 Series	5"	No	40	RV	FGVL	Pg # 23-14
VGF3 Series	3	No	40	RV	FGVL	Pg # 23-14
VGF2 Series	6"	No	30	RV	FGVL	Pg # 23-14
VGF3 Series JOHNSON CONTROLS	0	No	30	RV	FGVL	Pg # 23-14
V-3766		No	236	LM	UGLK1552	\$415
V-3700		Yes	230	LF	UGLK1552	\$415
V-3854-5		No	236	LM	UGLK1554	\$415
V-0034-0		Yes	200	LF	UGLK1554	\$415
V-3966		No	236	LM	UGLK1552	\$415
0.000		Yes	200	LF	UGLK1552	\$415
V-4332		No	236	LV	UGVL	Pg # 23-14
¥-700£	1/2"	Yes	230	LVK	UGVL	Pg # 23-15
VG7000 Series		No	236	LV	UGVL	Pg # 23-14
VG/000 361162		Yes	۷٥٥	LVK	UGVL	Pg # 23-15
VG7XXX-(C, E, GT) *Threaded Stem Only		Yes	236	LF	UGLK1416	\$542
		No		LM	UGLK1550	\$415
VTM-TN-(007, 019, 047)			236	LF	UGLK1550	\$415
*Threaded Stem Only		Yes	230	LV	UGVL	Pg # 23-14
	_			LVK	UGVL	Pg # 23-15
V(D) 2754 Carias Drawes Trim		No	011	LV	UGVL	Pg # 23-14
V(B)-3754 Series, Bronze Trim		Yes	211	LVK	UGVL	Pg # 23-15
V/D) 2074 Carica Branza Trim		No	011	LV	UGVL	Pg # 23-14
V(B)-3974 Series, Bronze Trim		Yes	211	LVK	UGVL	Pg # 23-15
V/D) 4204 Coving Browns Trim		No	011	LV	UGVL	Pg # 23-14
V(B)-4324 Series, Bronze Trim		Yes	211	LVK	UGVL	Pg # 23-15
V/D) FOAA Corios		No	011	LV	UGVL	Pg # 23-14
V(B)-5844 Series	9./11	Yes	211	LVK	UGVL	Pg # 23-15
V-3754-(4, 1008, 1022, 1026)	3/4"	Yes	211	LF	UGLK1550	\$415
V-3974-(4, 1004, 1010)		Yes	211	LF	UGLK1550	\$415
V-4324-(4, 1005, 1006, 1013)		Yes	211	LF	UGLK1550	\$415
V 4220		No		LV	UGVL	Pg # 23-14
V-4332		Yes	211	LVK	UGVL	Pg # 23-15
VC7000 Covice		No	211	LV	UGVL	Pg # 23-14
VG7000 Series		Yes		LVK	UGVL	Pg # 23-15
VG7XXX-LT *Threaded Stem Only		Yes	169	LF	UGLK1416	\$542
		No	02	LV	UGVL	Pg # 23-14
V/D) 2754 Carios Drongo Trim		Yes	93	LVK	UGVL	Pg # 23-15
V(B)-3754 Series, Bronze Trim		No	226	SV	UGVL	Pg # 23-14
		Yes	236	SVK	UGVL	Pg # 23-15
		No	02	LV	UGVL	Pg # 23-14
V(D) 2074 Carica Branza Tri-		Yes	93	LVK	UGVL	Pg # 23-15
V(B)-3974 Series, Bronze Trim		No	006	SV	UGVL	Pg # 23-14
		Yes	236	SVK	UGVL	Pg # 23-15
V/D) 4224 Corica Branza Trim		No	02	LV	UGVL	Pg # 23-14
V(B)-4324 Series, Bronze Trim		Yes	93	LVK	UGVL	Pg # 23-15
V(D) 4224 Carios Branzo T-:	4"	No	006	SV	UGVL	Pg # 23-14
V(B)-4324 Series, Bronze Trim	1"	Yes	236	SVK	UGVL	Pg # 23-15
		No	00	LV	UGVL	Pg # 23-14
W/D) EQAA Corio-		Yes	93	LVK	UGVL	Pg # 23-15
V(B)-5844 Series		No	000	SV	UGVL	Pg # 23-14
		Yes	236	SVK	UGVL	Pg # 23-15
W 07F4 /F 4040 4000 1007		Yes	173	NF	UGLK1402	\$598
V-3754-(5, 1010, 1023, 1027)		Yes	236	AF	UGLK1402	\$598
N 2074 (E 400E 4044)		Yes	173	NF	UGLK1402	\$598
V-3974-(5, 1005, 1011)		Yes	236	AF	UGLK1402	\$598
V-4324-(5, 1007, 1008, 1014)		Yes	173	NF	UGLK1402	\$598

Johnson Controls

V(B)-58, V-37, V-39, V-43, VG7, V(B)-37, V(B)-39, V(B)-43, V(B)-58, V-52 Series Valves Linkage/Actuator Selection Guide



alve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		No	00	LV	UGVL	Pg # 23-14
4332		Yes	93	LVK	UGVL	Pg # 23-15
332		No	006	SV	UGVL	Pg # 23-14
		Yes	236	SVK	UGVL	Pg # 23-15
	1"	No	93	LV	UGVL	Pg # 23-14
7000 Carias		Yes	93	LVK	UGVL	Pg # 23-15
'000 Series		No	236	SV	UGVL	Pg # 23-14
		Yes	230	SVK	UGVL	Pg # 23-15
7XXX-NT *Threaded Stem Only		Yes	93	LF	UGLK1418	\$542
)-3754 Series, Bronze Trim		No	000	SV	UGVL	Pg # 23-14
1-3754 Series, Bronze Irim		Yes	236	SVK	UGVL	Pg # 23-15
2074 Carias Branca Trim		No	000	SV	UGVL	Pg # 23-14
)-3974 Series, Bronze Trim		Yes	236	SVK	UGVL	Pg # 23-15
A004 Ossiss Busans Tries		No	000	SV	UGVL	Pg # 23-14
)-4324 Series, Bronze Trim		Yes	236	SVK	UGVL	Pg # 23-15
		No		SV	UGVL	Pg # 23-14
)-5844 Series		Yes	236	SVK	UGVL	Pg # 23-15
	11/4"	Yes	221	AF	UGLK1402	\$598
754-8		Yes	110	NF	UGLK1402	\$598
-4324-8		Yes	221	AF	UGLK1402	\$598
		Yes	110	NF	UGLK1402	\$598
		No	110	SV	UGVL	Pg # 23-14
332		Yes	236	SVK	UGVL	Pg # 23-15
		No		SV	UGVL	Pg # 23-14
7000 Series			236	SVK	UGVL	Pg # 23-14
VVV DT *Threeded Ctem Only		Yes	C.F.			
XXX-PT *Threaded Stem Only		Yes	65	LF	UGLK1418	\$542
)-3754 Series, Bronze Trim		No	160	SV	UGVL	Pg # 23-14
•		Yes		SVK	UGVL	Pg # 23-15
)-3974 Series, Bronze Trim		No	160	SV	UGVL	Pg # 23-14
3)-4324 Series, Bronze Trim		Yes		SVK	UGVL	Pg # 23-15
		No	160	SV	UGVL	Pg # 23-14
		Yes		SVK	UGVL	Pg # 23-15
B)-5844 Series		No	160	SV	UGVL	Pg # 23-14
		Yes		SVK	UGVL	Pg # 23-15
		Yes	77	NF	UGLK1402	\$598
754-(6, 1028, 1029, 1030)		Yes	153	AF	UGLK1402	\$598
10 1 (0, 1020, 1020, 1000)		Yes	236	GK	UGLK1402	\$598
		Yes	211	2*AF	UGLK1478	\$827
		Yes	77	NF	UGLK1402	\$598
974-(6, 1012, 1013)		Yes	153	AF	UGLK1402	\$598
974-(0, 1012, 1013)		Yes	236	GK	UGLK1402	\$598
		Yes	211	2*AF	UGLK1478	\$827
		Yes	77	NF	UGLK1402	\$598
224 (6 1016 1016 1017)		Yes	153	AF	UGLK1402	\$598
324-(6,1015, 1016, 1017)	41/7	Yes	236	GK	UGLK1402	\$598
	1½"	Yes	211	2*AF	UGLK1478	\$827
222		No		SV	UGVL	Pg # 23-14
332		Yes	160	SVK	UGVL	Pg # 23-15
		Yes	77	NF	UGLK1404	\$598
		No		AM	UGLK1404	\$598
254-(1, 2, 3, 11)		Yes	153	AF	UGLK1404	\$598
			_	GM	UGLK1404	\$598
		No	236	2*GM	UGLK1472	\$832
				GK	UGLK1404	\$598
254-(1, 2, 3, 11)		Yes	236	2*AF	UGLK1472	\$832
(1, 2, 0, 11)		163	200	2*GK	UGLK1472	\$832
		Yes	77	NF	UGLK1472	\$598
			11			
		No Voc	153	AM	UGLK1404	\$598
		Yes		AF	UGLK1404	\$598
464-(1, 2, 11)		No		GM	UGLK1404	\$598
• • •			000	2*GM	UGLK1472	\$832
			236	GK	UGLK1404	\$598
		Yes		2*AF	UGLK1472	\$832
				2*GK	OGLICITIE	\$832

All close-off pressures listed are approximate and actual close-off pressures are based on valve condition and application.

T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



V-54, V-58. VG7, V(B)-37, V(B)-39, V(B)-43, V(B)-58, V-37, V-39, V-43, V-52, V-54 Series Valves Linkage/Actuator Selection Guide

Jalve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		Yes	77	NF	UGLK1404	\$598
		Yes	153	AF	UGLK1404	\$598
⁷ -5844-(1, 2, 3, 11)		No		2*GM	UGLK1472	\$832
-3044-(1, 2, 3, 11)			236	GK	UGLK1404	\$598
		Yes	250	2*AF	UGLK1472	\$832
				2*GK		\$832
G7000 Series	1½"	No	160	SV	UGVL	Pg # 23-14
07000 OCITICS		Yes	100	SVK	UGVL	Pg # 23-15
		Yes	77	NF	UGLK1422	\$598
		Yes	153	AF	UGLK1422	\$598
G7XXX-RT *Threaded Stem Only		No	236	GM	UGLK1422	\$598
		Yes	230	GK	UGLK1422	\$598
		Yes	26	LF	UGLK1420	\$542
(B)-3754 Series, Bronze Trim		No	85	SV	UGVL	Pg # 23-14
(D)-3734 Series, Diolize IIIII		Yes	00	SVK	UGVL	Pg # 23-15
(B)-3974 Series, Bronze Trim		No	85	SV	UGVL	Pg # 23-14
D)-0374 Octios, biolize itilii		Yes	00	SVK	UGVL	Pg # 23-15
(B)-4324 Series, Bronze Trim		No	85	SV	UGVL	Pg # 23-14
D)-4324 Selles, Divilze IIIIII		Yes	00	SVK	UGVL	Pg # 23-15
B)-5844 Series		No	85	SV	UGVL	Pg # 23-14
D)-3044 Selles		Yes	00	SVK	UGVL	Pg # 23-15
		Yes	86	AF	UGLK1406	\$598
		No		GM	UGLK1406	\$598
		Yes	173	GK	UGLK1406	\$598
3754-7		165		2*AF	UGLK1474	\$827
		No	236	2*GM	UGLK1474	\$827
		Yes	230	2*GK	UGLK1474	\$827
		Yes	40	NF	UGLK1406	\$598
		Yes	86	AF	UGLK1406	\$598
		No		GM	UGLK1406	\$598
		Yes	173	GK	UGLK1406	\$598
-3974-7		162		2*AF	UGLK1474	\$827
		No	236	2*GM	UGLK1474	\$827
		Yes	230	2*GK	UGLK1474	\$827
		Yes	40	NF	UGLK1406	\$598
		Yes	86	AF	UGLK1406	\$598
	2"	No		GM	UGLK1406	\$598
		Yes	173	GK	UGLK1406	\$598
4324-7		res		2*AF	UGLK1474	\$827
		No	236	2*GM	UGLK1474	\$827
		Yes	230	2*GK	UGLK1474	\$827
		Yes	40	NF	UGLK1406	\$598
4332		No	85	SV	UGVL	Pg # 23-14
4332		Yes	00	SVK	UGVL	Pg # 23-15
		No	86	AM	UGLK1406	\$598
		Yes	00	AF	UGLK1406	\$598
		No		GM	UGLK1406	\$598
5254-(4 5 6 12)		Voc	173	GK	UGLK1406	\$598
5254-(4, 5, 6, 12)		Yes		2*AF	UGLK1474	\$827
		No	236	2*GM	UGLK1474	\$827
		Yes	230	2*GK	UGLK1474	\$827
		Yes	40	NF	UGLK1406	\$598
		No	86	AM	UGLK1406	\$598
		Yes	60	AF	UGLK1406	\$598
		No	173	GM	UGLK1406	\$598
EACA (2 A 12)		Vaa		GK	UGLK1406	\$598
-5464-(3, 4, 12)		Yes	173	2*AF	UGLK1474	\$827
		No	000	2*GM	UGLK1474	\$827
	1	V	236	2*GK	UGLK1474	\$827
		Yes		2 UN	UGLK14/4	φο21

Johnson Controls

V-54, V-58, VG7, V-52, VB-37, VB-39, VB-43 Series Valves Linkage/Actuator Selection Guide



T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		Yes	86	AF	UGLK1406	\$598
		No		GM	UGLK1406	\$598
		Yes	173	GK	UGLK1406	\$598
<i>I</i> -5844-(4, 5, 6, 12)				2*AF	UGLK1474	\$827
		No	236	2*GM	UGLK1474	\$827
		Yes		2*GK	UGLK1474	\$827
		Yes	40	NF 2) /	UGLK1406	\$598
/G7000 Series	2"	No	85	SV	UGVL	Pg # 23-14
		Yes	0.0	SVK	UGVL	Pg # 23-15
		Yes	86	AF	UGLK1422	\$598
		No Yes	173	GM GK	UGLK1422 UGLK1422	\$598 \$598
G7XXX-ST *Threaded Stem Only		Yes	153	AF	UGLK1422	\$598
		Yes	40	NF	UGLK1422	\$598
		Yes	14	LF	UGLK1422	\$542
		No	14	RV	FGVL	Pg # 23-14
		140	75	AVK	FGVL	Pg # 23-15
		Yes	73	2*AF	UGLK1478	\$827
-5210-4595		Yes	38	AF	UGLK1412	\$598
		No		RV	FGVL	Pg # 23-14
		Yes	136	2*GK	UGLK1478	\$827
		No		RV	FGVL	Pg # 23-14
		Yes	110	AVK	FGVL	Pg # 23-15
-5252-(2, 4, 5, 6, 7, 8, 32, 33)		No		EV	FGVL	Pg # 23-14
5252-(4, 5, 6, 7, 8, 32, 33)		Yes	52	AF	UGLK1404	\$598
		Yes	211	2*GK	UGLK1472	\$832
		Yes	110	2*AF	UGLK1472	\$832
-5410-4595		No		RV	FGVL	Pg # 23-14
			75	AVK	FGVL	Pg # 23-15
		Yes		2*AF	UGLK1478	\$827
		Yes	38	AF	UGLK1412	\$598
		No	400	RV	FGVL	Pg # 23-14
		Yes	136	2*GK	UGLK1478	\$827
		No	011	RV	FGVL	Pg # 23-14
		Yes	211	2*GK	UGLK1472	\$832
		No		RV	FGVL	Pg # 23-14
5462-(6, 7, 34)		Yes	110	AVK	FGVL	Pg # 23-15
				2*AF	UGLK1472	\$832
		No	F0	EV	FGVL	Pg # 23-14
	01/"	Yes	52	AF	UGLK1404	\$598
	2½"	No	211	RV	FGVL	Pg # 23-14
		Yes	211	2*GK	UGLK1472	\$832
		No		RV	FGVL	Pg # 23-14
5842-(7, 8, 31)		Yes	110	AVK	FGVL	Pg # 23-15
		165		2*AF	UGLK1472	\$832
		No	52	EV	FGVL	Pg # 23-14
		Yes	JŁ	AF	UGLK1404	\$598
		Yes	211	2*GK	UGLK1472	\$832
		Yes No	200	RV	FGVL	Pg # 23-14
s-3752-19		Yes No Yes	200 120	RV AVK	FGVL FGVL	Pg # 23-14 Pg # 23-15
3-3752-19		Yes No Yes Yes	200 120 110	RV AVK 2*AF	FGVL FGVL UGLK1472	Pg # 23-14 Pg # 23-15 \$832
3-3752-19		Yes No Yes Yes	200 120 110 75	RV AVK 2*AF EV	FGVL FGVL UGLK1472 FGVL	Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14
9-3752-19		Yes No Yes Yes No Yes	200 120 110 75 52	RV AVK 2*AF EV AF	FGVL FGVL UGLK1472 FGVL UGLK1404	Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598
3-3752-19		Yes No Yes Yes No Yes No Yes Yes	200 120 110 75 52 211	RV AVK 2*AF EV AF 2*GK	FGVL FGVL UGLK1472 FGVL UGLK1404 UGLK1472	Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832
3-3752-19		Yes No Yes Yes No Yes	200 120 110 75 52	RV AVK 2*AF EV AF 2*GK RV	FGVL FGVL UGLK1472 FGVL UGLK1404 UGLK1472 FGVL	Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14
		Yes No Yes Yes No Yes No Yes No Yes	200 120 110 75 52 211 110	RV AVK 2*AF EV AF 2*GK RV AVK	FGVL FGVL UGLK1472 FGVL UGLK1404 UGLK1472 FGVL FGVL	Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14 Pg # 23-15
		Yes No Yes Yes No Yes No Yes Yes No Yes	200 120 110 75 52 211	RV AVK 2*AF EV AF 2*GK RV AVK 2*AF	FGVL FGVL UGLK1472 FGVL UGLK1404 UGLK1472 FGVL FGVL UGLK1472	Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14 Pg # 23-15 \$832
		Yes No Yes Yes No Yes No Yes Yes No No No	200 120 110 75 52 211 110	RV AVK 2*AF EV AF 2*GK RV AVK 2*AF	FGVL FGVL UGLK1472 FGVL UGLK1404 UGLK1472 FGVL FGVL UGLK1472 FGVL UGLK1472 FGVL	Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14
		Yes No Yes Yes No Yes No Yes No Yes No Yes No Yes	200 120 110 75 52 211 110 110	RV AVK 2*AF EV AF 2*GK RV AVK 2*AF EV AF	FGVL FGVL UGLK1472 FGVL UGLK1404 UGLK1472 FGVL FGVL UGLK1472 FGVL UGLK1472 FGVL UGLK1472 UGLK1404	Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598
B-3970-11		Yes No Yes Yes No Yes Yes No Yes No Yes No Yes No Yes	200 120 110 75 52 211 110 110 52	RV AVK 2*AF EV AF 2*GK RV AVK 2*AF EV AF EV AF EV AF	FGVL FGVL UGLK1472 FGVL UGLK1404 UGLK1472 FGVL FGVL UGLK1472 FGVL UGLK1472 FGVL UGLK1472 UGLK1404 UGLK1472	Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832
B-3970-11		Yes No Yes Yes No Yes No Yes No Yes No Yes No Yes	200 120 110 75 52 211 110 110	RV AVK 2*AF EV AF 2*GK RV AVK 2*AF EV AF EV AF EV AF 2*GK	FGVL FGVL UGLK1472 FGVL UGLK1404 UGLK1472 FGVL FGVL UGLK1472 FGVL UGLK1472 FGVL UGLK1472 FGVL UGLK1404 UGLK1472 FGVL	Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14
B-3970-11		Yes No Yes Yes No Yes Yes No Yes No Yes No Yes No Yes	200 120 110 75 52 211 110 110 52	RV AVK 2*AF EV AF 2*GK RV AVK 2*AF EV AVK 2*AF EV AF	FGVL FGVL UGLK1472 FGVL UGLK1404 UGLK1472 FGVL FGVL UGLK1472 FGVL UGLK1472 FGVL UGLK1472 FGVL UGLK1404 UGLK1472 FGVL FGVL FGVL FGVL FGVL	Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14
B-3752-19 B-3970-11 B-4322-9		Yes No Yes Yes No Yes Yes No Yes No Yes No Yes No No No Yes	200 120 110 75 52 211 110 52 211 110	RV AVK 2*AF EV AF 2*GK RV AVK 2*AF EV AF EV AF EV AF 2*GK	FGVL FGVL UGLK1472 FGVL UGLK1404 UGLK1472 FGVL FGVL UGLK1472 FGVL UGLK1472 FGVL UGLK1472 FGVL UGLK1404 UGLK1472 FGVL	Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14 Pg # 23-15 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14 \$598 \$832 Pg # 23-14

All close-off pressures listed are approximate and actual close-off pressures are based on valve condition and application.

203-791-8396 LATIN AMERICA/CARIBBEAN



VB-43, VG22, VG24, VG28, V-52, V-54 Series Valves Linkage/Actuator Selection Guide

/alve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		No	211	RV	FGVL	Pg # 23-14
		No	110	EV	FGVL	Pg # 23-14
G2231 TM		Yes		AVK	FGVL	Pg # 23-15
		Yes	211	2*GK	UGLK1472	\$832
		Yes	110	2*AF	UGLK1472	\$832
		Yes	52	AF	UGLK1404	\$598
		No	211	RV	FGVL	Pg # 23-14
		No	110	EV	FGVL	Pg # 23-14
2431 TM	2½"	Yes		AVK	FGVL	Pg # 23-15
2.10.1.111	2/2	Yes	211	2*GK	UGLK1472	\$832
		Yes	110	2*AF	UGLK1472	\$832
		Yes	52	AF	UGLK1404	\$598
		No	211	RV	FGVL	Pg # 23-14
		No	110	EV	FGVL	Pg # 23-14
2831 TM		Yes		AVK	FGVL	Pg # 23-15
2031 TWI		Yes	211	2*GK	UGLK1472	\$832
		Yes	110	2*AF	UGLK1472	\$832
		Yes	52	AF	UGLK1404	\$598
		No	02	RV	FGVL	Pg # 23-14
		Yes	93	2*GK	UGLK1478	\$827
2040 4500		No		EV	FGVL	Pg # 23-14
210-4596			52	AVK	FGVL	Pg # 23-15
		Yes		2*AF	UGLK1478	\$827
		Yes	26	AF	UGLK1412	\$598
<i>J</i> -5252-(12, 13, 35)		No		RV	FGVL	Pg # 23-14
		Yes	93	2*GK	UGLK1476	\$827
		No		EV	FGVL	Pg # 23-14
			52	AVK	FGVL	Pg # 23-15
		Yes	-	2*AF	UGLK1476	\$827
		Yes	26	AF	UGLK1410	\$598
		Yes	77	2*AF	UGLK1472	\$832
		Yes	38	AF	UGLK1404	\$598
		Yes	136	2*GK	UGLK1472	\$832
5252-(9, 10, 11, 34)		No	93	RV	FGVL	Pg # 23-14
		No		EV	FGVL	Pg # 23-14
		Yes	52	AVK	FGVL	Pg # 23-15
		No	93	RV	FGVL	
		Yes		2*GK	UGLK1478	Pg # 23-14 \$827
				EV		
5410-4596	3"	No			FGVL	Pg # 23-14
		Yes		AVK	FGVL	Pg # 23-15
			00	2*AF	UGLK1478	\$827
		Yes	26	AF	UGLK1412	\$598
		No	93	RV	FGVL	Pg # 23-14
		Yes	-	2*GK	UGLK1478	\$827
5462-10		No		EV	FGVL	Pg # 23-14
		Yes	52	AVK	FGVL	Pg # 23-15
			_	2*AF	UGLK1478	\$827
		Yes	26	AF	UGLK1412	\$598
		No	93	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1476	\$827
6462-35		No	_	EV	FGVL	Pg # 23-14
		Yes	52	AVK	FGVL	Pg # 23-15
				2*AF	UGLK1476	\$827
		Yes	26	AF	UGLK1410	\$598
		No	93	RV	FGVL	Pg # 23-14
		Yes	უა	2*GK	UGLK1478	\$827
5460 26		No		EV	FGVL	Pg # 23-14
5462-36		Vee	52	AVK	FGVL	Pg # 23-15
		Yes		2*AF	UGLK1478	\$827
	1	Yes	26	AF	UGLK1412	\$598

Johnson Controls

V-54, V-58, VB-37, VB-39, VB-43 Series Valves Linkage/Actuator Selection Guide



alve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		No	93	RV	FGVL	Pg # 23-14
		Yes	93	2*GK	UGLK1476	\$827
5462-8		No		EV	FGVL	Pg # 23-14
J4UZ-0		Yes	52	AVK	FGVL	Pg # 23-15
		103		2*AF	UGLK1476	\$827
		Yes	26	AF	UGLK1410	\$598
		No	93	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1476	\$827
5462-9		No		EV	FGVL	Pg # 23-14
		Yes	52	AVK	FGVL	Pg # 23-15
				2*AF	UGLK1476	\$827
		Yes	26	AF	UGLK1410	\$598
		No	93	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1476	\$827
842-10		No		EV	FGVL	Pg # 23-14
		Yes	52	AVK	FGVL	Pg # 23-15
		.,		2*AF	UGLK1476	\$827
		Yes	26	AF	UGLK1410	\$598
		No	93	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1478	\$827
842-17		No		EV	FGVL	Pg # 23-14
		Yes	52	AVK	FGVL	Pg # 23-15
			00	2*AF	UGLK1478	\$827
		Yes	26	AF	UGLK1412	\$598
		No	93	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1478	\$827
5842-18		No	F0	EV AVK	FGVL FGVL	Pg # 23-14
		Yes	52			Pg # 23-15
		Yes	26	2*AF AF	UGLK1478 UGLK1412	\$827 \$598
		No	20	RV	FGVL	Pg # 23-14
		Yes	93	2*GK	UGLK1476	Fy # 23-14 \$827
		No		EV	FGVL	
5842-32	3"	INO	52	AVK	FGVL	Pg # 23-14
		Yes	52	2*AF	UGLK1476	Pg # 23-15 \$827
		Yes	26	AF	UGLK1470	\$598
		No		RV	FGVL	Pg # 23-14
		Yes	93	2*GK	UGLK1478	\$827
		No		EV	FGVL	Pg # 23-14
5842-33		Yes	52	AVK	FGVL	Pg # 23-15
				2*AF	UGLK1478	\$827
		Yes	26	AF	UGLK1412	\$598
		No		RV	FGVL	Pg # 23-14
		Yes	93	2*GK	UGLK1476	\$827
		No	52	EV	FGVL	Pg # 23-14
5842-9				AVK	FGVL	Pg # 23-15
		Yes		2*AF	UGLK1476	\$827
		Yes	26	AF	UGLK1410	\$598
		No		RV	FGVL	Pg # 23-14
		Yes	93	2*GK	UGLK1476	\$827
2750 00		No	70	EV	FGVL	Pg # 23-14
-3752-22		Yes	60	AVK	FGVL	Pg # 23-15
		Yes	52	2*AF	UGLK1476	\$827
		Yes	26	AF	UGLK1410	\$598
		No	93	RV	FGVL	Pg # 23-14
		Yes	93	2*GK	UGLK1476	\$827
2070 14		No		EV	FGVL	Pg # 23-14
-3970-14		Voc	52	AVK	FGVL	Pg # 23-15
		Yes		2*AF	UGLK1476	\$827
		Yes	26	AF	UGLK1410	\$598
		No	93	RV	FGVL	Pg # 23-14
		Yes	უა	2*GK	UGLK1476	\$827
-4322-11		No		EV	FGVL	Pg # 23-14
-4322-11		Vaa	52	AVK	FGVL	Pg # 23-15
		Yes		2*AF	UGLK1476	\$827
		Yes	26	AF	UGLK1410	\$598

All close-off pressures listed are approximate and actual close-off pressures are based on valve condition and application.

800-543-9038 USA

VG22, VG24, VG28, V-52, V-54 Series Valves Linkage/Actuator Selection Guide

Jalve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		No	93	RV	FGVL	Pg # 23-14
		No	52	EV	FGVL	Pg # 23-14
G2231 UM		Yes	32	AVK	FGVL	Pg # 23-15
32231 UW		Yes	93	2*GK	UGLK1476	\$827
		Yes	52	2*AF	UGLK1476	\$827
		Yes	26	AF	UGLK1410	\$598
		No	93	RV	FGVL	Pg # 23-14
		No		EV	FGVL	Pg # 23-14
10004 UN		Yes	52	AVK	FGVL	Pg # 23-15
2231 UN		Yes	93	2*GK	UGLK1478	\$827
		Yes	52	2*AF	UGLK1478	\$827
		Yes	26	AF	UGLK1412	\$598
		No	93	RV	FGVL	Pg # 23-14
		No	33	EV	FGVL	Pg # 23-14
			52			
2431 UM		Yes	00	AVK	FGVL	Pg # 23-15
		Yes	93	2*GK	UGLK1476	\$827
		Yes	52	2*AF	UGLK1476	\$827
	3"	Yes	26	AF	UGLK1410	\$598
		No	93	RV	FGVL	Pg # 23-14
		No	52	EV	FGVL	Pg # 23-14
2/21 IIN		Yes	32	AVK	FGVL	Pg # 23-15
2431 UN		Yes	93	2*GK	UGLK1478	\$827
		Yes	52	2*AF	UGLK1478	\$827
		Yes	26	AF	UGLK1412	\$598
		No	93	RV	FGVL	Pg # 23-14
		No		EV	FGVL	Pg # 23-14
		Yes	52	AVK	FGVL	Pg # 23-15
2831 UM		Yes	93	2*GK	UGLK1476	\$827
			<u> </u>			
		Yes	52	2*AF	UGLK1476	\$827
G2831 UN		Yes	26	AF	UGLK1410	\$598
		No	93	RV	FGVL	Pg # 23-14
		No	52	EV	FGVL	Pg # 23-14
		Yes		AVK	FGVL	Pg # 23-15
		Yes	93	2*GK	UGLK1478	\$827
		Yes	52	2*AF	UGLK1478	\$827
		Yes	26	AF	UGLK1412	\$598
		No	52	RV	FGVL	Pg # 23-14
		Yes	32	2*GK	UGLK1478	\$827
5040 4507		No		EV	FGVL	Pg # 23-14
5210-4597		.,	26	AVK	FGVL	Pg # 23-15
		Yes		2*AF	UGLK1478	\$827
		Yes	14	AF	UGLK1412	\$598
		No		RV	FGVL	Pg # 23-14
		Yes	52	2*GK	UGLK1476	\$827
		No		EV	FGVL	Pg # 23-14
5252-(14, 36)		INU	26	AVK	FGVL	•
		Yes	20			Pg # 23-15
		\/	4.4	2*AF	UGLK1476	\$827
		Yes	14	AF	UGLK1410	\$598
		No	52	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1478	\$827
5252-(15, 16, 37)	4"	No		EV	FGVL	Pg # 23-14
\ -/ =/ ==/	,	Yes	26	AVK	FGVL	Pg # 23-15
				2*AF	UGLK1478	\$827
		Yes	14	AF	UGLK1412	\$598
		No	52	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1478	\$827
440 4507		No		EV	FGVL	Pg # 23-14
6410-4597			26	AVK	FGVL	Pg # 23-15
		Yes		2*AF	UGLK1478	\$827
		Yes	14	AF	UGLK1412	\$598
		No		RV	FGVL	Pg # 23-14
		Yes	52			\$827
		Yes No		2*GK EV	UGLK1476 FGVL	
5462-11		INU	00			Pg # 23-14
		Yes	26	AVK	FGVL	Pg # 23-15
				2*AF	UGLK1476	\$827
		Yes	14	AF	UGLK1410	\$598

Johnson Controls

V-54, V-58, VB-37, VB-39, VB-43 Series Valves Linkage/Actuator Selection Guide



T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

alve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		No	50	RV	FGVL	Pg # 23-14
		Yes	52	2*GK	UGLK1476	\$827
		No		EV	FGVL	Pg # 23-14
5462-12		.,	26	AVK	FGVL	Pg # 23-15
		Yes		2*AF	UGLK1476	\$827
		Yes	14	AF	UGLK1410	\$598
		No		RV	FGVL	Pg # 23-14
		Yes	52	2*GK	UGLK1478	\$827
		No		EV	FGVL	Pg # 23-14
5462-13			26	AVK	FGVL	Pg # 23-15
		Yes		2*AF	UGLK1478	\$827
		Yes	14	AF	UGLK1412	\$598
		No		RV	FGVL	Pg # 23-14
		Yes	52	2*GK	UGLK1478	\$827
		No		EV	FGVL	Pg # 23-14
5462-14			26	AVK	FGVL	Pg # 23-15
		Yes	20	2*AF	UGLK1478	\$827
		Yes	14	AF	UGLK1412	\$598
		No		RV	FGVL	Pg # 23-14
		Yes	52	2*GK	UGLK1476	\$827
		Yes No		Z*GK EV	FGVL	
462-37		IVO	O.C.	AVK	FGVL FGVL	Pg # 23-14
		Yes	26			Pg # 23-15
			4.4	2*AF	UGLK1476	\$827
		Yes	14	AF	UGLK1410	\$598
		No	52	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1478	\$827
462-38		No		EV	FGVL	Pg # 23-14
		Yes	26	AVK	FGVL	Pg # 23-15
				2*AF	UGLK1478	\$827
		Yes	14	AF	UGLK1412	\$598
		No	52	RV	FGVL	Pg # 23-14
		Yes	32	2*GK	UGLK1478	\$827
i842-11	4"	No		EV	FGVL	Pg # 23-14
1042-11	4	Yes	26	AVK	FGVL	Pg # 23-15
		res		2*AF	UGLK1478	\$827
		Yes	14	AF	UGLK1412	\$598
		No	F0.	RV	FGVL	Pg # 23-14
		Yes	52	2*GK	UGLK1478	\$827
2040.40		No		EV	FGVL	Pg # 23-14
i842-12		.,	26	AVK	FGVL	Pg # 23-15
		Yes		2*AF	UGLK1478	\$827
		Yes	14	AF	UGLK1412	\$598
		No		RV	FGVL	Pg # 23-14
		Yes	52	2*GK	UGLK1478	\$827
		No		EV	FGVL	Pg # 23-14
842-34			26	AVK	FGVL	Pg # 23-15
		Yes		2*AF	UGLK1478	\$827
		Yes	14	AF	UGLK1412	\$598
		No		RV	FGVL	Pg # 23-14
		Yes	52	2*GK	UGLK1476	\$827
		No	40	EV	FGVL	Pg # 23-14
3752-25		Yes	30	AVK	FGVL	Pg # 23-15
		Yes	26	2*AF	UGLK1476	\$827
		Yes	14	AF	UGLK1476 UGLK1410	\$598
		No	14	RV	FGVL	Pg # 23-14
			52		UGLK1476	
		Yes		2*GK		\$827
3970-17		No	00	EV	FGVL	Pg # 23-14
		Yes	26	AVK	FGVL	Pg # 23-15
				2*AF	UGLK1476	\$827
		Yes	14	AF	UGLK1410	\$598
		No	52	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1476	\$827
-4322-13		No		EV	FGVL	Pg # 23-14
10		Yes	26	AVK	FGVL	Pg # 23-15
				2*AF	UGLK1476	\$827
	1	Yes	14	AF	UGLK1410	\$598

All close-off pressures listed are approximate and actual close-off pressures are based on valve condition and application.

203-791-8396 LATIN AMERICA/CARIBBEAN

VG22, VG24, VG28, V-52, V-54 Series Valves Linkage/Actuator Selection Guide

alve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		No	52	RV	FGVL	Pg # 23-14
		No	26	EV	FGVL	Pg # 23-14
2231 VM		Yes Yes	52	AVK 2*GK	FGVL UGLK1476	Pg # 23-15 \$827
		Yes	26	2*AF	UGLK1476	\$827
		Yes	14	AF	UGLK1410	\$598
		No	52	RV	FGVL	Pg # 23-14
		No	00	EV	FGVL	Pg # 23-14
2231 VN		Yes	26	AVK	FGVL	Pg # 23-15
.231 VN		Yes	52	2*GK	UGLK1478	\$827
		Yes	26	2*AF	UGLK1478	\$827
		Yes	14	AF	UGLK1412	\$598
		No	52	RV	FGVL	Pg # 23-14
		No	26	EV	FGVL	Pg # 23-14
431 VM		Yes		AVK	FGVL	Pg # 23-15
		Yes	52	2*GK	UGLK1476	\$827
		Yes	26 14	2*AF AF	UGLK1476 UGLK1410	\$827 \$598
	4"	Yes No	52	RV	FGVL	Pg # 23-14
		No	32	EV	FGVL	Pg # 23-14
		Yes	26	AVK	FGVL	Pg # 23-15
431 VN		Yes	52	2*GK	UGLK1478	\$827
		Yes	26	2*AF	UGLK1478	\$827
		Yes	14	AF	UGLK1412	\$598
		No	52	RV	FGVL	Pg # 23-14
		No	00	EV	FGVL	Pg # 23-14
004 1/84		Yes	26	AVK	FGVL	Pg # 23-15
831 VM		Yes	52	2*GK	UGLK1476	\$827
		Yes	26	2*AF	UGLK1476	\$827
		Yes	14	AF	UGLK1410	\$598
G2831 VN		No	52	RV	FGVL	Pg # 23-14
		No	26	EV	FGVL	Pg # 23-14
		Yes		AVK	FGVL	Pg # 23-15
		Yes	52	2*GK	UGLK1478	\$827
		Yes	26	2*AF	UGLK1478	\$827
		Yes No	14	AF RV	UGLK1412 FGVL	\$598 Pg # 23-14
		Yes	22	2*GK	UGLK1480	\$832
		No		EV	FGVL	Pg # 23-14
252-17			14	GK	UGLK1414	\$602
		Yes	17	2*AF	UGLK1414	\$832
		Yes	10	AF	UGLK1414	\$602
		No		RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1480	\$832
000 40		No		EV	FGVL	Pg # 23-14
252-18		Yes	14	GK	UGLK1414	\$602
				2*AF	UGLK1480	\$832
		Yes	10	AF	UGLK1414	\$602
		No	22	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1480	\$832
252-38	5"	No		EV	FGVL	Pg # 23-14
		Yes	14	GK 2*AF	UGLK1414	\$602
			10	2*AF AF	UGLK1480	\$832 \$602
		Yes No		RV	UGLK1414 FGVL	\$602 Pg # 23-14
		Yes	22	2*GK	UGLK1480	Pg # 23-14 \$832
		No		EV	FGVL	Pg # 23-14
162-15			14	GK	UGLK1414	\$602
		Yes	17	2*AF	UGLK1414	\$832
		Yes	10	AF	UGLK1414	\$602
		No		RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1480	\$832
400.40		No		EV	FGVL	Pg # 23-14
462-16			14	GK	UGLK1414	\$602
		Yes		2*AF	UGLK1480	\$832
		Yes	10	AF	UGLK1414	\$602

Johnson Controls

V-54, V-58, VB-37, VB-39, VB-43, VG22, VG24, VG28, V-52 Series Valves Linkage/Actuator Selection Guide



T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

-						WARRAN
Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		No	00	RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1480	\$832
V-5462-39		No		EV	FGVL	Pg # 23-14
V-0402-03		Yes	14	GK	UGLK1414	\$602
				2*AF	UGLK1480	\$832
		Yes	10	AF	UGLK1414	\$602
		No	- 22	RV 2*GK	FGVL UGLK1480	Pg # 23-14
		Yes No		EV	FGVL	\$832 Pg # 23-14
<i>I</i> -5842-13		140	14	GK	UGLK1414	\$602
		Yes	17	2*AF	UGLK1480	\$832
		Yes	10	AF	UGLK1414	\$602
		No		RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1480	\$832
/ F040 44		No		EV	FGVL	Pg # 23-14
7-5842-14		Yes	14	GK	UGLK1414	\$602
		163		2*AF	UGLK1480	\$832
		Yes	10	AF	UGLK1414	\$602
		No	22	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1480	\$832
7-5842-35		No	-	EV	FGVL	Pg # 23-14
		Yes	14	GK 0*AF	UGLK1414	\$602
		Vac	10	2*AF AF	UGLK1480	\$832
		Yes No	10	RV	UGLK1414 FGVL	\$602 Pg # 23-14
		Yes	22	2*GK	UGLK1480	\$832
		No		EV	FGVL	Pg # 23-14
/B-3752-28			14	GK	UGLK1414	\$602
		Yes		2*AF	UGLK1480	\$832
	5"	Yes	10	AF	UGLK1414	\$602
	5"	No	00	RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1480	\$832
VB-3970-20		No		EV	FGVL	Pg # 23-14
VD-0370-20		Yes	14	GK	UGLK1414	\$602
				2*AF	UGLK1480	\$832
		Yes	10	AF	UGLK1414	\$602
		No	- 22	RV	FGVL	Pg # 23-14
		Yes No		2*GK EV	UGLK1480 FGVL	\$832 Pg # 23-14
/B-4322-19		Yes	14	GK	UGLK1414	\$602
			17	2*AF	UGLK1480	\$832
		Yes	10	AF	UGLK1414	\$602
		No	22	RV	FGVL	Pg # 23-14
		No	14	EV	FGVL	Pg # 23-14
100004 WN		Yes	22	2*GK	UGLK1480	\$832
/G2231 WN		Yes		GK	UGLK1414	\$602
		res	14	2*AF	UGLK1480	\$832
		Yes	10	AF	UGLK1414	\$602
		No	22	RV	FGVL	Pg # 23-14
		No	14	EV	FGVL	Pg # 23-14
/G2431 WN		Yes	22	2*GK	UGLK1480	\$832
		Yes	14	GK	UGLK1414	\$602
		Voo		2*AF	UGLK1480	\$832
		Yes No	10 22	AF RV	UGLK1414	\$602
		No	14	EV	FGVL FGVL	Pg # 23-14 Pg # 23-14
		Yes	22	2*GK	UGLK1480	\$832
/G2831 WN				GK	UGLK1414	\$602
		Yes	14	2*AF	UGLK1480	\$832
		Yes	10	AF	UGLK1414	\$602
		No		RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1480	\$832
V-5252-19	6"	No		EV	FGVL	Pg # 23-14
		Yes	10	GK	UGLK1414	\$602
		103		2*AF	UGLK1480	\$832

All close-off pressures listed are approximate and actual close-off pressures are based on valve condition and application.

800-543-9038 USA

866-805-7089 CANADA

WARRANTY

T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

V-52, V-54, V-58, VB-37, VB-39, VB-43, VG22, VG24, VG28 Series Valves Linkage/Actuator Selection Guide

Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		No	22	RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1480	\$832
V-5252-39		No		EV	FGVL	Pg # 23-14
		Yes	10	GK	UGLK1414	\$602
				2*AF	UGLK1480	\$832
		No	22	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1480	\$832
V-5462-17		No		EV	FGVL	Pg # 23-14
		Yes	10	GK	UGLK1414	\$602
				2*AF	UGLK1480	\$832
		No	22	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1480	\$832
V-5462-18		No	40	EV	FGVL	Pg # 23-14
		Yes	10	GK	UGLK1414	\$602
				2*AF	UGLK1480	\$832
		No	22	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1480	\$832
V-5462-40		No		EV	FGVL	Pg # 23-14
		Yes	10	GK	UGLK1414	\$602
				2*AF	UGLK1480	\$832
		No	22	RV	FGVL	Pg # 23-14
		Yes		2*GK	UGLK1480	\$832
<i>I</i> -5842-15		No		EV	FGVL	Pg # 23-14
		Yes	10	GK	UGLK1414	\$602
				2*AF	UGLK1480	\$832
		No	22	RV	FGVL	Pg # 23-14
J-5842-16		Yes		2*GK	UGLK1480	\$832
		No	10	EV	FGVL	Pg # 23-14
		Yes		GK	UGLK1414	\$602
		No		2*AF	UGLK1480	\$832
			- 22	RV	FGVL	Pg # 23-14
	C"	6" Yes No		2*GK EV	UGLK1480 FGVL	\$832
<i>I</i> -5842-36	6	INO	10			Pg # 23-14
		Yes		GK	UGLK1414	\$602
		No		2*AF	UGLK1480	\$832
		No Yes	22	RV 2*GK	FGVL UGLK1480	Pg # 23-14 \$832
/B-3752-31		No		EV	FGVL	φο32 Pg # 23-14
10-3/32-31		IVU	10	GK	UGLK1414	\$602
		Yes	10	2*AF	UGLK1414 UGLK1480	\$832
		No		RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1480	\$832
/B-3970-23		No		EV	FGVL	Pg # 23-14
ID 0310-E0		INU	10	GK	UGLK1414	\$602
		Yes	10	2*AF	UGLK1414	\$832
		No		RV	FGVL	Pg # 23-14
		Yes	22	2*GK	UGLK1480	\$832
B-4322-18		No		EV	FGVL	Pg # 23-14
10			10	GK	UGLK1414	\$602
		Yes	10	2*AF	UGLK1480	\$832
		No	22	RV	FGVL	Pg # 23-14
		No	10	EV	FGVL	Pg # 23-14
G2231 YN		Yes	22	2*GK	UGLK1480	\$832
				GK	UGLK1414	\$602
		Yes	10	2*AF	UGLK1480	\$832
		No	22	RV	FGVL	Pg # 23-14
		No	10	EV	FGVL	Pg # 23-14
G2431 YN		Yes	22	2*GK	UGLK1480	\$832
				GK	UGLK1414	\$602
		Yes	10	2*AF	UGLK1480	\$832
		No	22	RV	FGVL	Pg # 23-14
		No	10	EV	FGVL	Pg # 23-14
/G2831 YN		Yes	22	2*GK	UGLK1480	\$832
-				GK	UGLK1414	\$602
		Yes	10	2*AF	UGLK1480	\$832

Robertshaw

Siebe\Invensys\Barber Colman\Schneider

V6600, V6700, V6800 Series Valves Linkage/Actuator Selection Guide

Belimo USA G2, Belimo USA G3, VB30..., VB7..., VB80..., VB9.. Series Valves Linkage/Actuator Selection Guide



Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
V6600		No	236	LV	UGVL	Pg # 23-14
	1/2"	Yes	200	LVK	UGVL	Pg # 23-15
V6700		No Yes	236	LV LVK	UGVL UGVL	Pg # 23-14
		No		LVK	UGVL	Pg # 23-15 Pg # 23-14
V6600		Yes	211	LVK	UGVL	Pg # 23-15
	3/4"	No		LV	UGVL	Pg # 23-14
V6700, V6800		Yes	211	LVK	UGVL	Pg # 23-15
		No	93	LV	UGVL	Pg # 23-14
V6600		Yes	93	LVK	UGVL	Pg # 23-15
V0000		No	236	SV	UGVL	Pg # 23-14
	1"	Yes	230	SVK	UGVL	Pg # 23-15
	'	No	93	LV	UGVL	Pg # 23-14
V6700		Yes	00	LVK	UGVL	Pg # 23-15
V6700		No	236	SV	UGVL	Pg # 23-14
		Yes		SVK	UGVL	Pg # 23-15
V6600		No	236	SV	UGVL	Pg # 23-14 Pg # 23-15
	11/4"	Yes No		SVK SV	UGVL UGVL	Pg # 23-15 Pg # 23-14
V6700		Yes	236	SVK	UGVL	Pg # 23-15
		No		SV	UGVL	Pg # 23-14
V6600		Yes	160	SVK	UGVL	Pg # 23-15
VC700	1½"	No	100	SV	UGVL	Pg # 23-14
V6700		Yes	160	SVK	UGVL	Pg # 23-15
Vecon		No	85	SV	UGVL	Pg # 23-14
V6600	2"	Yes	00	SVK	UGVL	Pg # 23-15
V6700	2	No	85	SV	UGVL	Pg # 23-14
		Yes	00	SVK	UGVL	Pg # 23-15
SIEBE\INVENSYS\BARBER COLMAN\S	SCHNEIDER	Voc	250	LF	LICL V11EO	¢200
Belimo USA G2/G2S Series		Yes No	250	LV	UGLK1150 SGVL	\$398 Pg # 23-14
Delillio USA 02/023 Series		Yes	250	LVK	SGVL	Pg # 23-15
		Yes	250	LF	UGLK1150	\$398
Belimo USA G3 Series		No		LV	SGVL	Pg # 23-14
		Yes	250	LVK	SGVL	Pg # 23-15
		No		LM	UGLK1002	\$536
VB304X-0-1-4		Voo	236	LF	UGLK1002	\$536
		Yes		AF	UGLK1004	\$593
VB7000 Series		No	236	LV	SGVL	Pg # 23-14
		Yes		LVK	SGVL	Pg # 23-15
VB7XXX-0-4-1	1/2"	Yes	236	LF	UGLK1150	\$398
VB7XXX-0-4-2		Yes	236	LF	UGLK1150	\$398
VB7XXX-0-4-3		Yes	236	LF	UGLK1150	\$398
VB7XXX-0-4-4		Yes	236	LF	UGLK1150 UGLK1002	\$398 \$536
VB804X-0-1-4		No	236	LM LF	UGLK1002	\$536 \$536
V DOUTA "U" 1"4		Yes	230	AF	UGLK1002	\$593
		No		LV	SGVL	Pg # 23-14
VB9000 Series		Yes	236	LVK	SGVL	Pg # 23-15
VB9XXX-0-4-1		Yes	236	LF	UGLK1150	\$398
VB9XXX-0-4-2		Yes	236	LF	UGLK1150	\$398
VB9XXX-0-4-3		Yes	236	LF	UGLK1150	\$398
VB9XXX-0-4-4		Yes	236	LF	UGLK1150	\$398
		Yes	215	LF	UGLK1150	\$398
Belimo USA G2/G2S Series		No	250	LV	SGVL	Pg # 23-14
		Yes		LVK	SGVL	Pg # 23-15
Polimo IIOA CO Occio-		Yes	215	LF	UGLK1150	\$398
Belimo USA G3 Series		No	250	LV	SGVL	Pg # 23-14
	3/4"	Yes		LVK	SGVL	Pg # 23-15
VB304X-0-1-7		No Vas	236	NM LF	UGLK1002	\$536 \$536
		Yes No	110	LF	UGLK1002 SGVL	\$536 Pg # 23-14
VB7000 Series		Yes	211	LVK	SGVL	Pg # 23-15
V D / 000 001103						
VB7XXX-0-4-5		Yes	211	LF	UGLK1150	\$398

All close-off pressures listed are approximate and actual close-off pressures are based on valve condition and application.

T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



Siebe\Invensys\Barber Colman\Schneider

VB80..., VB9..., Belimo USA G2, Belimo USA G3, VB30..., VB7.. Series Valves Linkage/Actuator Selection Guide

/alve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
B804X-0-1-7		No	236	NM	UGLK1002	\$536
		Yes	110	LF	UGLK1002	\$536
39000 Series	3/4"	No	211	LV	SGVL SGVL	Pg # 23-14
39XXX-0-4-5		Yes Yes	211	LVK LF	UGLK1150	Pg # 23-15 \$398
39XXX-0-4-6		Yes	211	LF	UGLK1150	\$398
55AAA 0 4 0		Yes	95	LF	UGLK1150	\$398
		Yes	250	AF	UGLK1000	\$597
Belimo USA G2/G2S Series		No	250	SV	SGVL	Pg # 23-14
		Yes	236	SVK	SGVL	Pg # 23-15
		Yes	95	LF	UGLK1150	\$398
olima IICA C2 Carias		Yes	250	AF	UGLK1000	\$597
elimo USA G3 Series		No	250	SV	SGVL	Pg # 23-14
		Yes	236	SVK	SGVL	Pg # 23-15
		No	173	NM	UGLK1002	\$536
3304X-0-1-8		No	236	AM	UGLK1004	\$593
3304A-0-1-0		Yes	230	AF	UGLK1004	\$593
		Yes	65	LF	UGLK1002	\$536
		No	93	SV	SGVL	Pg # 23-14
7000 Series		Yes		SVK	SGVL	Pg # 23-15
	1"	No	236	SV	SGVL	Pg # 23-14
		Yes		SVK	SGVL	Pg # 23-15
37XXX-0-4-(7, 8)		Yes	236	AF	UGLK1000	\$597
B7XXX-0-4-7		Yes	93	LF	UGLK1150	\$398
37XXX-0-4-8		Yes	93	LF	UGLK1150	\$398
		No	173	NM	UGLK1002	\$536
3804X-0-1-8		No	236	AM	UGLK1004	\$593
		Yes	CE	AF LF	UGLK1004	\$593
		Yes No	65	SV	UGLK1002 SGVL	\$536
		Yes	93	LVK	SGVL	Pg # 23-14 Pg # 23-15
39000 Series		No		SV	SGVL	-
		Yes	236	SVK	SGVL	Pg # 23-14 Pg # 23-15
B9XXX-0-4-(7, 8)		Yes	236	AF	UGLK1000	\$597
39XXX-0-4-7		Yes	93	LF	UGLK1000	\$398
B9XXX-0-4-8		Yes	93	LF	UGLK1150	\$398
, , , , , , , , , , , , , , , , , , ,		Yes	61	LF	UGLK1150	\$398
		Yes	250	AF	UGLK1000	\$597
elimo USA G2/G2S Series		Yes	236	SVK	SGVL	Pg # 23-15
		No	235	SV	SGVL	Pg # 23-14
		Yes	61	LF	UGLK1150	\$398
		Yes	250	AF	UGLK1000	\$597
elimo USA G3 Series		Yes	236	SVK	SGVL	Pg # 23-15
		No	235	SV	SGVL	Pg # 23-14
		No	004	AM	UGLK1004	\$593
3304X-0-1-9		Yes	221	AF	UGLK1004	\$593
JUU4A^U- I - 3		No	110	NM	UGLK1002	\$536
	11/4"	Yes	40	LF	UGLK1002	\$536
37000 Series	1 74	No	236	SV	SGVL	Pg # 23-14
7,000 001103		Yes		SVK	SGVL	Pg # 23-15
B7XXX-0-4-9		Yes	236	AF	UGLK1000	\$597
		Yes	65	LF	UGLK1150	\$398
		No	221	AM	UGLK1004	\$593
3804X-0-1-9		Yes		AF	UGLK1004	\$593
		No	110	NM	UGLK1002	\$536
		Yes	40	LF	UGLK1002	\$536
89000 Series		No	236	SV	SGVL	Pg # 23-14
		Yes		SVK	SGVL	Pg # 23-15
39XXX-0-4-9		Yes	236	AF	UGLK1000	\$597
		Yes	65	LF	UGLK1150	\$398
		Yes	217	AF	UGLK1000	\$597
elimo USA G2/G2S Series		No	160	SV	SGVL	Pg # 23-14
	1½"	Yes		SVK	SGVL	Pg # 23-15
olima IICA C2 Carias		Yes	217	AF CV	UGLK1000	\$597
elimo USA G3 Series		No	160	SV	SGVL	Pg # 23-14

Siebe\Invensys\Barber Colman\Schneider

VB30.., VB7.. VB80.., VB9.., Belimo USA G2, Belimo USA G3 Series Series Valves Linkage/Actuator Selection Guide



						WAR
Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		No	77	NM	UGLK1002	\$536
VB304X-0-1-10		No	153	AM	UGLK1004	\$593
		Yes	153	AF	UGLK1004	\$593
/B3U4X-U-1-1U		No	000	GM	UGLK1004	\$593
		Yes	236	GK	UGLK1004	\$593
		Yes	26	LF	UGLK1002	\$536
		No		SV	SGVL	Pg # 23-14
/B7000 Series		Yes	160	SVK	SGVL	Pg # 23-15
B7XXX-0-4-10		Yes	211	AF	UGLK1000	\$597
		No	77	NM	UGLK1002	\$536
		No		AM	UGLK1004	\$593
		Yes	153	AF	UGLK1004	\$593
B804X-0-1-10		No		GM	UGLK1004	\$593
		Yes	236	GK	UGLK1004	\$593
	41/"		26	LF		-
	1½"	Yes			UGLK1002	\$536
		Yes	79	AF	UGLK1016	\$593
		No	236	2*GM	UGLK1066	\$818
B9XXX-0-4-10 (Post '94)*		Yes		2*GK	UGLK1066	\$818
		Yes	211	2*AF	UGLK1066	\$818
		No	160	GM	UGLK1016	\$593
		Yes	100	GK	UGLK1016	\$593
		No	000	2*GM	UGLK1064	\$818
		Yes	236	2*GK	UGLK1064	\$818
		No		GM	UGLK1008	\$593
			211	GK	UGLK1008	\$593
39XXX-0-4-10 (Pre '94)		Yes		2*AF	UGLK1064	\$818
				AF	UGLK1008	\$593
		Yes	110	SV	UGVL	Pg # 23-14
		Ne	110			
		No	400	SVK	UGVL	Pg # 23-15
Belimo USA G2/G2S Series		Yes	122	AF	UGLK1000	\$597
		No	90	SV	SGVL	Pg # 23-14
		Yes	85	SVK	SGVL	Pg # 23-15
		Yes	122	AF	UGLK1000	\$597
elimo USA G3 Series		No	90	SV	SGVL	Pg # 23-14
		Yes	85	SVK	SGVL	Pg # 23-15
		No	00	AM	UGLK1004	\$593
		Yes	86	AF	UGLK1004	\$593
		No		GM	UGLK1004	\$593
B304X-0-1-11		Yes	173	GK	UGLK1004	\$593
		No	40	NM	UGLK1002	\$536
		Yes	14	LF	UGLK1002	\$536
		No	14	SV	SGVL	Pg # 23-14
37000 Series		Yes	85	SVK		•
D7WW 0 4 44			400		SGVL	Pg # 23-15
37XXX-0-4-11		Yes	120	AF	UGLK1000	\$597
		No	86	AM	UGLK1004	\$593
		Yes		AF	UGLK1004	\$593
3804X-0-1-11	2"	No	173	GM	UGLK1004	\$593
		Yes		GK	UGLK1004	\$593
		No	40	NM	UGLK1002	\$536
		Yes	14	LF	UGLK1002	\$536
		No	00	GM	UGLK1016	\$593
		Yes	89	GK	UGLK1016	\$593
10VDV 0 4 44 (D - 1/2)		No	0	2*GM	UGLK1066	\$818
9XXX-0-4-11 (Post '94)		Yes	211	2*GK	UGLK1066	\$818
		Yes	110	2*AF	UGLK1066	\$818
		Yes	40	AF	UGLK1016	\$593
	-	No		2*GM	UGLK1016	\$818
			211			
		Yes		2*GK	UGLK1064	\$818
		No	110	GM	UGLK1008	\$593
B9XXX-0-4-11 (Pre '94)		Yes	110	GK	UGLK1008	\$593
- , , , , , , , , , , , , , , , , , , ,				2*AF	UGLK1064	\$818
		1	52	AF	UGLK1008	\$593
		Yes	JZ			
		Yes	110	SV SVK	UGVL UGVL	Pg # 23-14 Pg # 23-15

All close-off pressures listed are approximate and actual close-off pressures are based on valve condition and application. *Will also work with UGVL+SV+SGVL kit

800-543-9038 USA 866-805-7089 CANADA 203-791-8396 LATIN AMERICA/CARIBBEAN

Siebe\Invensys\Barber Colman\Schneider

VB30.., VB80.., VB9 Series Valves Linkage/Actuator Selection Guide

/alve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		Yes	75	2*AF	UGLK1072	\$818
3304X-0-2-12	2½"	Yes	38	AF	UGLK1006	\$593
004X-0-2-12	2/2	No	136	2*GM	UGLK1072	\$818
		Yes	130	2*GK	UGLK1072	\$818
		No	90	RV	FGVL	Pg # 23-14
304X-0-2-12		Yes	80	AVK	FGVL	Pg # 23-15
		No	45	EV	FGVL	Pg # 23-14
		Yes	75	2*AF	UGLK1072	\$818
		Yes	38	AF	UGLK1006	\$593
/B804X-0-2-12		No	400	2*GM	UGLK1072	\$818
		Yes	136	2*GK	UGLK1072	\$818
		No	90	RV	FGVL	Pg # 23-14
		Yes	85	AVK	FGVL	Pg # 23-15
		No	40	EV	FGVL	Pg # 23-14
		No		GM	UGLK1010	\$593
	2½"		75	GK	UGLK1010	\$593
	2/2	Yes	70	2*AF	UGLK1070	\$824
XXX-0-4-12		No		AM	UGLK1010	\$593
ΛΛΛ-U -4- 12		Yes	38	AF	UGLK1010 UGLK1010	\$593 \$593
		No	136	2*GM	UGLK1070	\$824
		Yes		2*GK	UGLK1070	\$824
		Yes	75	2*AF	UGLK1070	\$824
		Yes	38	AF	UGLK1010	\$593
XXX-0-5-12		Yes	136	2*GK	UGLK1070	\$824
755X 0 0 12		No	150	RV	FGVL	Pg # 23-14
		No	80	EV	FGVL	Pg # 23-14
		Yes	00	AVK	FGVL	Pg # 23-15
		No	93	2*GM	UGLK1072	\$818
		Yes	93	2*GK	UGLK1072	\$818
		No	70	RV	FGVL	Pg # 23-14
04X-0-2-13		Yes	60	AVK	FGVL	Pg # 23-15
		Yes	52	2*AF	UGLK1072	\$818
		No	35	EV	FGVL	Pg # 23-14
		Yes	26	AF	UGLK1006	\$593
		No		2*GM	UGLK1072	\$818
		Yes	93	2*GK	UGLK1072	\$818
		No	65	RV	FGVL	Pg # 23-14
04V 0 2 12		Yes	60		FGVL	-
04X-0-2-13				AVK		Pg # 23-15
		Yes	52	2*AF	UGLK1072	\$818
		No	30	EV	FGVL	Pg # 23-14
	3"	Yes	26	AF	UGLK1006	\$593
		No	93	2*GM	UGLK1070	\$824
		Yes		2*GK	UGLK1070	\$824
		No		GM	UGLK1010	\$593
XXX-0-4-13		Yes	52	GK	UGLK1010	\$593
		162		2*AF	UGLK1070	\$824
		No	0.6	AM	UGLK1010	\$593
		Yes	26	AF	UGLK1010	\$593
		Yes	93	2*GK	UGLK1070	\$824
		No	90	RV	FGVL	Pg # 23-14
		Yes	52	2*AF	UGLK1070	\$824
XXX-0-5-13		No		EV	FGVL	Pg # 23-14
		Yes	40	AVK	FGVL	Pg # 23-15
		Yes	26	AF	UGLK1010	\$593
		No	20	2*GM	UGLK1072	\$818
		Yes	52	2*GK	UGLK1072	\$818
			25			
047.0.0.44		No	35	RV	FGVL	Pg # 23-14
04X-0-2-14		Yes	30	AVK	FGVL	Pg # 23-15
		Yes	26	2*AF	UGLK1072	\$818
	4"	No	20	EV	FGVL	Pg # 23-14
		Yes	14	AF	UGLK1006	\$593
		No	52	2*GM	UGLK1072	\$818
04X-0-2-14		Yes	JŁ	2*GK	UGLK1072	\$818
UTA-U-L-14		No	45	RV	FGVL	Pg # 23-14
		Yes	30	AVK	FGVL	Pg # 23-15

Siebe\Invensys\Barber Colman\Schneider

VB9.., VB30.., VB80.. Series Valves Linkage/Actuator Selection Guide

Siemens\Landis\Powers

591, 599, 656, 658 Series Valves Linkage/Actuator Selection Guide



T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		Yes	26	2*AF	UGLK1072	\$818
VB804X-0-2-14		No	20	EV	FGVL	Pg # 23-14
		Yes	14	AF	UGLK1006	\$593
		Yes	22	2*AF	UGLK1074	\$818
	4"	No	40	2*GM	UGLK1074	\$818
	T	Yes	40	2*GK	UGLK1074	\$818
VB9XXX-0-5-14		No	30	RV	FGVL	Pg # 23-14
		Yes	25	AVK	FGVL	Pg # 23-15
		No	15	EV	FGVL	Pg # 23-14
		Yes	10	AF	UGLK1012	\$593
		No	22	2*GM	UGLK1076	\$818
		Yes	22	2*GK	UGLK1076	\$818
VP204V 0 2 4E		No	24	RV	FGVL	Pg # 23-14
/B304X-0-2-15		No	15	EV	FGVL	Pg # 23-14
		Yes	14	2*AF	UGLK1076	\$818
		Yes	10	AF	UGLK1014	\$593
	5"	Yes	22	2*GK	UGLK1076	\$818
		No	20	RV	FGVL	Pg # 23-14
		No	15	EV	FGVL	Pg # 23-14
/B804X-0-2-15				GK	UGLK1014	\$593
		Yes	14	2*AF	UGLK1076	\$818
		Yes	10	AF	UGLK1014	\$593
/B9XXX-0-5-15		No	20	RV	FGVL	Pg # 23-14
VD3AAA-0-0-10		No	20	2*GM	UGLK1076	\$818
		Yes	22	2*GK	UGLK1076	\$818
			15			
VB304X-0-2-16		No	15	RV	FGVL	Pg # 23-14
		No	13	EV	FGVL	Pg # 23-14
		Yes	10	AF	UGLK1014	\$593
		.,		2*AF	UGLK1076	\$818
	6"	Yes	22	2*GK	UGLK1076	\$818
		No	22	RV	FGVL	Pg # 23-14
VB804X-0-2-16		No	13	EV	FGVL	Pg # 23-14
20017.02.10				AF	UGLK1014	\$593
		Yes	10	GK		\$593
				2*AF	UGLK1076	\$818
VB9XXX-0-5-16		No	15	RV	FGVL	Pg # 23-14
SIEMENS\LANDIS\POWERS		No		LV	UGVL	Pg # 23-14
EO1 Carios		INU	006			-
591 Series		Yes	236	LVK	UGVL	Pg # 23-15
		p.1		NF	UGLK1200	\$598
		No	-	LV	UGVL	Pg # 23-14
599 Flowrite	1/2"	Yes	236	LVK	UGVL	Pg # 23-15
				NF	UGLK1208	\$598
599 MZ/MT Series		No	10-120	CM	UGSL1200	\$105
		Yes		TF	UGSL1200	\$105
656, 658 Series		Yes	236	LF	UGLK1350	\$394
		Yes	236	NF	UGLK1200	\$598
591 Series		No	211	LV	UGVL	Pg # 23-14
		Yes	411	LVK	UGVL	Pg # 23-15
		No	236	AM	UGLK1208	\$598
500 Flourito	3/4"	Yes	230	AF	UGLK1208	\$598
599 Flowrite	9/4	No	044	LV	UGVL	Pg # 23-14
		Yes	211	LVK	UGVL	Pg # 23-15
		No	10 :00	CM	UGSL1200	\$105
599 MZ/MT Series		Yes	10-120	TF	UGSL1200	\$105
656, 658 Series		Yes	211	LF	UGLK1350	\$394
750, 500 001103			211	SV	UGVL	Pg # 23-14
		No		AM	UGLK1200	\$598
591 Series	1"		236			
		Yes		SVK	UGVL	Pg # 23-15
				AF	UGLK1200	\$598



Siemens\Landis\Powers

599, 656, 658, 591 Series Valves Linkage/Actuator Selection Guide

alve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		Yes	173	NF	UGLK1208	\$598
		No		SV	UGVL	Pg # 23-14
9 Flowrite		INO	236	AM	UGLK1208	\$598
		Yes	230	SVK	UGVL	Pg # 23-15
		165		AF	UGLK1208	\$598
9 MZ/MT Series	1"	No	10-120	CM	UGSL1200	\$105
9 WIZ/WIT SELLES	Į.	Yes	10-120	TF	UGSL1200	\$105
6, 658 Series		Yes	93	LF	UGLK1350	\$394
		No	93	LV	UGVL	Pg # 23-14
9 Carias		Yes	93	LVK	UGVL	Pg # 23-15
8 Series		No	236	SV	UGVL	Pg # 23-14
		Yes	230	SVK	UGVL	Pg # 23-15
		Ne		SV	UGVL	Pg # 23-14
		No	000	AM	UGLK1200	\$598
1 Series		.,	236	SVK	UGVL	Pg # 23-15
		Yes		AF	UGLK1200	\$598
		Yes	160	NF	UGLK1200	\$598
		No		AM	UGLK1208	\$598
		Yes	221	AF	UGLK1208	\$598
) Flowrite	11/4"	No	_	SV	UGVL	Pg # 23-14
	177	Yes	236	SVK	UGVL	Pg # 23-15
		Yes	110	NF	UGLK1208	\$598
		No	110	CM	UGSL1200	\$105
9 MZ/MT Series		Yes	10-120	TF	UGSL1200	\$105
6, 658 Series		Yes	65	LF	UGLK1350	\$394
J, 030 Series		No	00	SV	UGVL	Pg # 23-14
B Series		Yes	236	SVK	UGVL	Pg # 23-15
		No		GM	UGLK1200	\$598
			236	GK	UGLK1200	\$598
		Yes		SV	UGVL	
		No				Pg # 23-14
			211	AM	UGLK1200	\$598
1 Series		Yes		SVK	UGVL	Pg # 23-15
				AF	UGLK1200	\$598
		No Yes	209	GM	UGLK1202	\$598
				GK	UGLK1202	\$598
		No	104	AM	UGLK1202	\$598
	1½"	Yes		AF	UGLK1202	\$598
		Yes	77	NF	UGLK1208	\$598
		No		SV	UGVL	Pg # 23-14
			153	AM	UGLK1208	\$598
9 Flowrite		Yes		SVK	UGVL	Pg # 23-15
				AF	UGLK1208	\$598
		No	236	GM	UGLK1208	\$598
		Yes		GK	UGLK1208	\$598
		No	153	SV	UGVL	Pg # 23-14
MZ/MT Series		No	10-120	CM	UGSL1200	\$105
		Yes	10 120	TF	UGSL1200	\$105
		No	236	GM	UGLK1200	\$598
		Yes	200	GK	UGLK1200	\$598
		No	120	AM	UGLK1200	\$598
Series		Yes	120	AF	UGLK1200	\$598
		No	85	SV	UGVL	Pg # 23-14
		Yes	00	SVK	UGVL	Pg # 23-15
		No	52	SV	UGVL	Pg # 23-14
	2"	Yes	JZ	SVK	UGVL	Pg # 23-15
		No	90	AM	UGLK1208	\$598
		Yes	86	AF	UGLK1208	\$598
		No	170	GM	UGLK1208	\$598
			173	GK	UGLK1208	\$598
9 Flowrite		Yes				
9 Flowrite			-			Pa # 23-14
9 Flowrite		No	85	SV	UGVL	Pg # 23-14 Pa # 23-15
9 Flowrite		No Yes		SV SVK	UGVL UGVL	Pg # 23-15
9 Flowrite 1 Series	2½"	No	85 40 - 211	SV	UGVL	

591, 599 Series Valves Linkage/Actuator Selection Guide

100, 1800, Type 20-22, Type 23, Type 30-32 Series Val	ves
Linkage/Actuator Selection Gu	iide

Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		No		EV	FGVL	Pg # 23-14
591 Series		Yes	110	AVK	FGVL	Pg # 23-15
	2½"	103		2*AF	UGLK1270	\$832
599 Flowrite		Yes	211	2*GK	UGLK1272	\$832
Jaa i iowille		Yes	110	2*AF	UGLK1272	\$832
		Vac	77	AVK	FGVL	Pg # 23-15
		Yes	11	2*AF	UGLK1270	\$832
591 Series		No	100	RV	FGVL	Pg # 23-14
	3"	Yes	136	2*GK	UGLK1270	\$832
		No	90	EV	FGVL	Pg # 23-14
500 FI ''		Yes	77	2*AF	UGLK1272	\$832
599 Flowrite		Yes	136	2*GK	UGLK1272	\$832
				GK	UGLK1206	\$598
		Yes	22	2*AF	UGLK1274	\$832
		No		RV	FGVL	Pg # 23-14
591 Series		Yes	40	2*GK	UGLK1274	\$832
		No	30	EV	FGVL	Pg # 23-14
	4"	Yes	10	AF	UGLK1206	\$598
		169		GK	UGLK1200	\$598
		Yes	22	2*AF		\$832
599 Flowrite		Voo	40		UGLK1276	
		Yes	40	2*GK	UGLK1276	\$832
		Yes	10	AF	UGLK1212	\$598
		Yes	22	2*GK	UGLK1274	\$832
		No	25	RV	FGVL	Pg # 23-14
i91 Series		No	20	EV	FGVL	Pg # 23-14
	5"	Yes	14	GK	UGLK1206	\$598
				2*AF	UGLK1274	\$832
599 Flowrite		Yes	22	2*GK	UGLK1276	\$832
		Yes	14	GK	UGLK1212	\$598
		103	17	2*AF	UGLK1276	\$832
		No	22	RV	FGVL	Pg # 23-14
591 Series	6"	Yes	22	2*GK	UGLK1274	\$832
		Yes	10	2*AF	UGLK1274	\$832
WARREN CONTROLS						
		Voo	110	0*CV	LICL KOOZO	¢010
		Yes	110	2*GK	UGLK2272	\$818
100 SGL SEAT		No	110 - 52	RV	WGVL	Pg # 23-14
100 SGL SEAT		No Yes	- 52	RV AVK	WGVL WGVL	Pg # 23-14 Pg # 23-15
100 SGL SEAT		No Yes No		RV AVK EV	WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14
		No Yes No No	52 26	RV AVK EV 2*GM	WGVL WGVL WGVL UGLK2272	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818
		No Yes No No Yes	52 26 110	RV AVK EV 2*GM 2*GK	WGVL WGVL WGVL UGLK2272 UGLK2272	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818
		No Yes No No Yes No	52 26	RV AVK EV 2*GM 2*GK EV	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14
1800 3-Way		No Yes No No Yes No Yes No	52 26 110 52	RV AVK EV 2*GM 2*GK EV 2*GM	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14 \$818
1800 3-Way	21%"	No Yes No No Yes No Yes No Yes	52 26 110 52 110	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14 \$818 \$818
1800 3-Way	2½"	No Yes No No Yes No Yes No	52 26 110 52	RV AVK EV 2*GM 2*GK EV 2*GM	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14
800 3-Way	2½"	No Yes No No Yes No Yes No Yes	52 26 110 52 110	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14 \$818 Pg # 23-14 \$818 Pg # 23-14 Pg # 23-14
800 3-Way 800 BAL	2½"	No Yes No No Yes No Yes No No No Yes No	52 26 110 52 110 52	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 UGLK2272 UGLK2272	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14
800 3-Way 800 BAL	2½"	No Yes No No Yes No No No No No Yes No No No No No No	52 26 110 52 110 52 93	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 UGLK2272 WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14 \$818 Pg # 23-14 \$818 Pg # 23-14 Pg # 23-14
1800 3-Way 1800 BAL Type 20-22	2½"	No Yes No No Yes No No No No No Yes No No No No No	52 26 110 52 110 52 93 185 71	RV AVK EV 2*GM 2*GK EV 2*GM 2*GM EV EV RV	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14 \$818 Pg # 23-14 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-14
800 3-Way 800 BAL Type 20-22	2½"	No Yes No No Yes No No No Yes No No Yes No No No Yes	52 26 110 52 110 52 93 185	RV AVK EV 2*GM 2*GK EV 2*GM 2*GM EV EV RV AVK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14 \$818 Pg # 23-14 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14
800 3-Way 800 BAL ype 20-22	2½"	No Yes No No Yes No No No Yes No No Yes No No No No No No Yes No	52 26 110 52 110 52 93 185 71	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV EV RV EV EV EV	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-15
800 3-Way 800 BAL Type 20-22 Type 23	2½"	No Yes No No Yes No No No Yes No No No Yes No	52 26 110 52 110 52 93 185 71 211	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV EV RV EV AVK EV AVK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 \$9 # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-15 Pg # 23-15 Pg # 23-14
800 3-Way 800 BAL Type 20-22 Type 23	2½"	No Yes No No Yes No No No Yes No No No Yes No No No No No No Yes No No No Yes No No No Yes No No No	52 26 110 52 110 52 93 185 71 211 93 185	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV 2*GW AVK EV AVK EV AVK EV RV	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14
800 3-Way 800 BAL Type 20-22 Type 23	2½"	No Yes No No Yes No No No Yes No No No No No No No No Yes No No Yes No Yes No Yes No Yes	52 26 110 52 110 52 93 185 71 211 93 185 71	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV 2*GW AVK EV AVK EV AVK EV AVK AVK AVK AVK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-15
800 3-Way 800 BAL Type 20-22 Type 23	2½"	No Yes No No Yes No No No Yes No No No No Yes No No Yes No Yes No Yes No Yes No Yes Yes	52 26 110 52 110 52 93 185 71 211 93 185 71 70	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV EV RV AVK EV AVK EV AVK EV RV AVK EV RV AVK EV RV AVK EV RV AVK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-15 \$818
800 3-Way 800 BAL Type 20-22 Type 23	2½"	No Yes No No Yes No No Yes No No No Yes No No Yes No Yes No Yes No Yes No Yes No No No	52 26 110 52 110 52 93 185 71 211 93 185 71 70 22	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV EV RV AVK EV AVK EV AVK EV RV	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-15 \$818 Pg # 23-14
1800 3-Way 1800 BAL Type 20-22 Type 23	2½"	No Yes No No Yes No No No Yes No No No No Yes No No Yes No No Yes No Yes No	52 26 110 52 110 52 93 185 71 211 93 185 71 70	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV 2*GM 2*GK EV EV RV AVK EV AVK EV AVK EV RV AVK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-15 \$818 Pg # 23-14 Pg # 23-15
1800 3-Way 1800 BAL Type 20-22 Type 23	2½"	No Yes No No Yes No No No Yes No No No Yes No No Yes No Yes No Yes No No Yes No No Yes No No Yes No No Yes	52 26 110 52 110 52 93 185 71 211 93 185 71 70 22	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV 2*GM A*GK EV EV EV RV AVK EV AVK EV RV AVK EV RV AVK EV RV AVK EV RV AVK AVK AVK AVK AVK AVK AVK AVK AVK AV	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 \$818 Pg # 23-14 Pg # 23-15 \$818 Pg # 23-14 Pg # 23-15 \$818 Pg # 23-14 Pg # 23-15
1800 3-Way 1800 BAL Type 20-22 Type 23 Type 30-32	2½"	No Yes No No Yes No No Yes No No No Yes No No Yes No Yes No Yes No Yes No No No Yes No No No Yes No No No Yes No No No No Yes No	52 26 110 52 110 52 93 185 71 211 93 185 71 70 22	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV EV RV AVK EV AVK EV AVK EV RV AVK EV RV AVK EV RV AVK EV RV AVK EV AVK EV AVK 2*GK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 \$818
1800 3-Way 1800 BAL Type 20-22 Type 23 Type 30-32		No Yes No No Yes No No No Yes No No No Yes No No Yes No Yes No No Yes	52 26 110 52 110 52 93 185 71 211 93 185 71 70 22 40	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV EV RV AVK EV AVK EV AVK EV RV AVK EV AVK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-15 \$818 Pg # 23-14 Pg # 23-15 \$818 \$818
1800 3-Way 1800 BAL Type 20-22 Type 23 Type 30-32		No Yes No No Yes No No Yes No No No Yes No No Yes No Yes No Yes No Yes No No No Yes No No No Yes No No No No Yes No	52 26 110 52 110 52 93 185 71 211 93 185 71 70 22 40	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV EV RV AVK EV AVK EV AVK EV RV AVK EV AVK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-15 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-15
1800 3-Way 1800 BAL Type 20-22 Type 23 Type 30-32 100 SGL SEAT		No Yes No No Yes No No Yes No No No Yes No No Yes No Yes No No No Yes No No No Yes No	52 26 110 52 110 52 93 185 71 211 93 185 71 70 22 40 70 40	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV 2*GM 2*GK EV AVK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-15 \$818 \$818 \$818 Pg # 23-14
100 SGL SEAT 1800 3-Way 1800 BAL Type 20-22 Type 23 Type 30-32 100 SGL SEAT 1800 3-Way		No Yes No No Yes No No Yes No No No Yes No No Yes No Yes No Yes No Yes No No No Yes No No No Yes No No No No Yes No	52 26 110 52 110 52 93 185 71 211 93 185 71 70 22 40	RV AVK EV 2*GM 2*GK EV 2*GM 2*GK EV EV RV AVK EV AVK EV AVK EV RV AVK EV AVK	WGVL WGVL WGVL UGLK2272 UGLK2272 WGVL UGLK2272 UGLK2272 WGVL WGVL WGVL WGVL WGVL WGVL WGVL WGVL	Pg # 23-14 Pg # 23-15 Pg # 23-14 \$818 \$818 \$818 Pg # 23-14 \$818 \$818 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-14 Pg # 23-15 Pg # 23-14 Pg # 23-15 \$818 Pg # 23-14

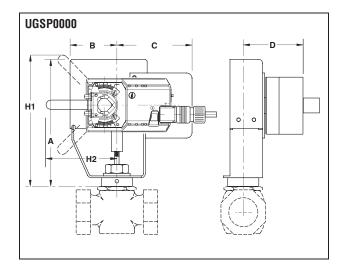


Type 20-22, Type 23, Type 30-32, 100, 1800 Series Valves
Linkage/Actuator Selection Guide

Valve Body Model	Size	Fail-Safe	Close-Off (psi)	Belimo Actuator Series	Belimo Linkage	Linkage List Price
		No	126	RV	WGVL	Pg # 23-14
/pe 20-22		No	65	EV	WGVL	Pg # 23-14
		Yes	40	AVK	WGVL	Pg # 23-15
rpe 23	3"	No	160	EV	WGVL	Pg # 23-14
, pc 20		Yes	100	AVK	WGVL	Pg # 23-15
		No	126	RV	WGVL	Pg # 23-14
Туре 30-32		No	65	EV	WGVL	Pg # 23-14
		Yes	40	AVK	WGVL	Pg # 23-15
		No	22	RV	WGVL	Pg # 23-14
		Yes	22	AVK	WGVL	Pg # 23-15
OO SGL SEAT		Yes	40	2*GK	UGLK2272	\$818
		No	40	EV	WGVL	Pg # 23-14
		Yes	10	AF	UGLK2202	\$607
		No	22	EV	WGVL	Pg # 23-14
300 3-Way		No		2*GM	UGLK2272	\$818
•	4"	Yes	40	2*GK	UGLK2272	\$818
		No	22	EV	WGVL	Pg # 23-14
300 BAL		No		2*GM	UGLK2272	\$818
1000 BAL		Yes	40	2*GK	UGLK2272	\$818
pe 20-22		No	65	RV	WGVL	Pg # 23-14
he 50-55		No	03	EV	WGVL	Pg # 23-14
/pe 23		Yes	236	AVK	WGVL	
ma 20 22			CE	RV	WGVL	Pg # 23-15
Гуре 30-32		No	65			Pg # 23-14
100 SGL SEAT		Yes	22	2*GK	UGLK2272	\$818
		No Voc	14	RV	WGVL	Pg # 23-14
		Yes		AVK	WGVL	Pg # 23-15
		Yes	10	AF	UGLK2202	\$607
		No	22	2*GM	UGLK2272	\$818
300 3-Way		Yes		2*GK	UGLK2272	\$818
		No	14	EV	WGVL	Pg # 23-14
	5"	No	22	2*GM	UGLK2272	\$818
800 BAL		Yes	22	2*GK	UGLK2272	\$818
DOU DAL		No	14	EV	WGVL	Pg # 23-14
		Yes	14	AVK	WGVL	Pg # 23-15
rpe 20-22		No	40	RV	WGVL	Pg # 23-14
		No	000	EV	WGVL	Pg # 23-14
rpe 23		Yes	236	AVK	WGVL	Pg # 23-15
/pe 30-32		No	40	RV	WGVL	Pg # 23-14
		Yes	22	2*GK	UGLK2272	\$818
		No		RV	WGVL	Pg # 23-14
OO SGL SEAT			10	AF	UGLK2202	\$607
		Yes		AVK	WGVL	Pg # 23-15
		No		2*GM	UGLK2272	\$818
800 3-Way		Yes	22	2*GK	UGLK2272	\$818
,		No	10	EV	WGVL	Pg # 23-14
		No		2*GM	UGLK2272	\$818
800 BAL	6"	Yes	22	2*GK	UGLK2272	\$818
DO DAL			10	EV	WGVL	-
		No Voo	10			Pg # 23-14
rpe 20-22		Yes	22	2*GK	UGLK2272	\$818
•		Yes	10	2*AF	UGLK2272	\$818
/pe 30		Yes	22	2*GK	UGLK2272	\$818
• •		Yes	10	2*AF	UGLK2272	\$818
ype 32		Yes	22	2*GK	UGLK2272	\$818
1 PO OL		Yes	10	2*AF	UGLK2272	\$818



Globe valve retrofits that cannot be matched to one of the Belimo UGLK part numbers; please use part number UGSP0000 for valves requiring single actuation and UGSP0002 for valves requiring dual actuation. These part numbers have no Bill of Materials (BOM) associated with them, therefore cannot be produced and shipped. When these two part numbers are quoted, sold and orders processed, the "Globe Valve Retrofit" form must be completed and accompany the order. Belimo's engineering department will establish the correct UGSP linkage number for production. UGSP0000 and UGSP0002 will NOT show up on final paperwork. The correct UGSP part number will be stated.

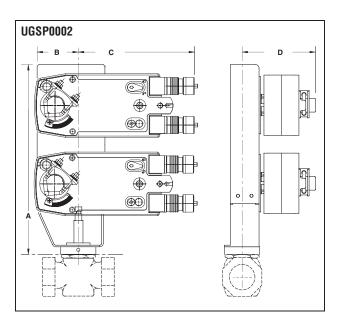


The single actuated globe retrofit linkage (shown left) depicts dimensional data for use in determining the envelope space required to mount the linkage. These dimensions do NOT include VALVE dimensions which will affect combined height requirements.

Dims H1 & **H2** are used only when override handles are utilized on the linkage system, and are not required for proper operation of the linkage system.

Dim A	7.5" [190] to 14" [356]	Dim H1	9.5" [242]
Dim B	3" [76]	Dim H2	9.5" [242]
Dim C	9" [229]		
Dim D	5" [127]		

List Price for UGSP0000 \$802



The dual actuated globe retrofit linkage (shown left) depicts dimensional data for use in determining the envelope space required to mount the linkage. These dimensions do NOT include VALVE dimensions which will affect combined height requirements.

Dim A 9.5" [241] to 19" [483] Dim B 3" [76] Dim C 9" [229] Dim D 5" [127]

List Price for UGSP0002 \$1,161



Custom kits are designed to your unique specifications and are not returnable.

UGSP Series



Instructions for Completing this Form

Before completing this form, check with Belimo technical support if a UGVL will fit your valve.

Required tools needed a caliper, thread gauge, retrofit form, flashlight, and ladder (if applicable).

Dimensions A, B, & C relate to the existing valve stem. Dim A is the stem diameter where it is NOT threaded (Style A), or grooved (Style B). Dim B refers to the length of the threaded region on the valve stem or top region of the grooved stem. Dim C is the actual thread specification for the threaded style stem (1/4-28, 5/16-24, 3/8-24, 7/16-20 & 1/2-20 are typical). Dim C for the grooved style is the measurement of the stem groove height. This information is used to design a stem adapter which will connect the valve stem to the new linkage drive rack. It is important to specify the correct thread pattern, as incorrect data will prevent the stem adapter from attaching to your valve. If you cannot determine the correct thread spec, you can send a nut from the valve stem and we will match the correct specification. In some cases where older valves are concerned, some valve stems must be trimmed in the field to allow attachment of the linkage system. In these cases, a stem adapter is designed to "bite" into the smooth surface of the valve stem itself.

Dimensions D1, D2 & D3 are used to determine the height of the linkage assembly required to clear the valves' full stroke. A minimum of **two** dimensions are required to manufacture the correct linkage system for your valve. These dimensions also provide the information necessary to determine valve stroke. The **maximum stroke** from Belimo globe valve retrofit systems is 1.500".

Dimension E refers to the valve bonnet diameter (regardless if threads are present or not). Over time, impurities will react to the bonnet threads and corrode them to the point where they no longer meet the original thread specification. Because of this, we manufacture **slip fit** collars designed to **slide over** the bonnet threads, and locking setscrews are provided which "bite" into the original threads. All retrofit systems are designed to work with the raw valve body and do not account for previous actuation components which **must** be removed from the valve body before attaching the new linkage system.

Dimension F refers to the thread specification on threaded bonnets, and refers to the minor diameter on slip on bonnets (Landis type). This information helps us determine the length of the locking devices required to hold the collar onto the bonnet.

Dimensions G & H are used to determine working height of the bonnet region of your globe valve, while **Dim I** is used in calculating the minimum ID of the collar that will fit over the packing nut. Additionally, information about the environment and process in which this linkage system will be utilized should be provided.

All the requested information contained on this form is required to guarantee the complete, perfect fit of your retrofit system. Keep in mind that retrofit kits are designed with close-tolerance components which afford the most efficient linkage systems. Measurements rounded to the nearest 1/8 or 1/16 inch will not perform as well as a kit designed around careful measurements using proper equipment. Our designs are typically +.005" tolerance.

DISCLAIMER:

We will do our best to provide a linkage system designed around your specifications and measurements. However, we cannot be held responsible for linkages which do not fit as a result of incorrect data given to Belimo. We will re-work components which do not fit properly for a nominal fee.

To reduce the possibility of incorrect linkage solutions, we respectfully request that you fill out the retrofit form completely and forward that information with your order. This will serve as a double check between your valve and the actuator/linkage package designed for your application.

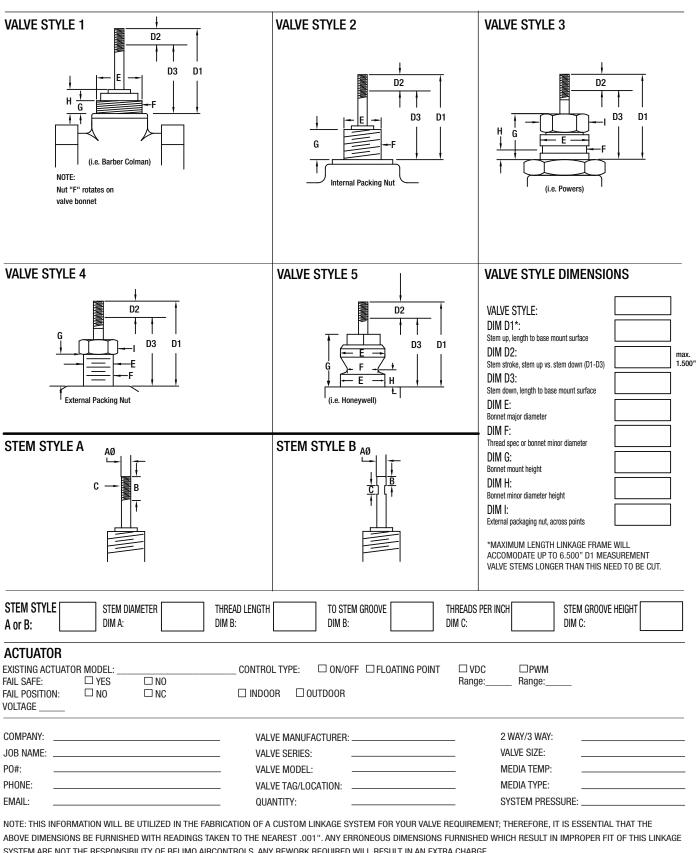
Actuation, weather shields and linkages cannot be pre-assembled at the Belimo factory prior to your receipt. The linkages are designed to be attached onto the valve body first, then optional weather shields, and finally actuation products.

Close-off pressures are calculated using actuator torque, valve stroke, and valve area. Other factors may affect the rated close-off pressures, including flow rates, system maintenance schedules, chemicals used in the shot feeder process, vicinity to pumps, condition of valve stem seals, and assembly of linkage material in the field.

Valves that are being considered for retrofit of actuation should be analyzed for their life expectancy before the retrofit has taken place. Valves that leak through stem seals or casings will continue to leak with the new linkage system in place, maybe even more so. Rebuilding the packing on these valves may be more costly than replacing the valves themselves. In some instances, older valve stem heights will require field modifications to the valve in order to utilize the retrofit kit. Belimo takes no responsibility for the operation of these valves after they have been modified.

RETROFIT SOLUTIONS





SYSTEM ARE NOT THE RESPONSIBILITY OF BELIMO AIRCONTROLS. ANY REWORK REQUIRED WILL RESULT IN AN EXTRA CHARGE.

CUSTOM KITS ARE DESIGNED TO YOUR UNIQUE SPECIFICATIONS AND ARE NOT RETURNABLE.

COMPANY CONTACT/DIMENSIONS PROVIDED BY: DATE:



How to Select a Butterfly Valve Retrofit Solution

Follow the four steps listed below when ordering a butterfly valve retrofit kit.

Example: Centerline C200 Series, 21/2" valve, using a Non Fail-Safe Belimo actuator.

1 Identify the Valve Manufacturer, Valve Series and Valve Size.

Determine the type of actuator you require: Belimo spring-return, non fail-safe, or electronic failsafe. Belimo spring and non fail-safe actuators are typically only available on smaller sizes.

Look at the solution using the Non Fail-Safe Belimo Actuator. Looking at the **UFLK3500**, the **GM** Series actuator will provide a **200 psi close-off** for the **2½" valve** with **Non Fail-Safe** actuation.

Use the actuator listings to make your final actuator selection. Decide between GMB24-3-X1 and GMB24-MFT-X1.

ACTUATOR NOT INCLUDED IN THE LIST PRICE OF THE LINKAGE.

4 HOW TO ORDER: Item 1 1pc UFLK3500

Item 2 1pc GMB24-MFT-X1





based on the Valve Number, Configuration, and Size; select the proper Linkage Solution for your valve.

Select linkage solution

Centerline

C200 Round Top Series Butterfly Valves Linkage/Actuator Selection Guide

	valve Body Model	Configuration	Size	Fall-Sate	psi	Actuator Series	Linkage
1	C200 Round Top Series Butterfly Valves	2-way	2"	No	200	AM	UFLK3500
	vaives					SY1	UFLK3538
				Yes	200	AF	UFLK3500
			2½"	No	200	→ GM	UFLK3500
						SY1	UFLK3538
				Yes	200	2*AF	UFLK3502
						GK	UFLK3500
			3"	No	200	GM	UFLK3500
						SY1	UFLK3538
				Yes	200	2*AF	UFLK3502
						CK	LIEL KOEGO

UFLK3500

T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD) Example: Centerline C200 Series, 2½" valve using a non fail-safe Belime-actuation.

Choose correct linkage UFLK3500. -

Verify close-off is suitable for application.

Looking at the UFLK3500, the GM Series actuator will provide 200 psi close-off for the 2½" valve.

110 272 14110.

Select actuator based on needed control type.

Decide between GMB24-3-X1

and GMB24-MFT-X1.

Consult actuator overview section for full details.

BASIC PRODUCTS

	Model	Control Input	Feedback	Power Supply	Running Time(s) [Default]	VA Rating	Auxiliary Switch	Cable Length
	GMB24-3-X1	On/Off, Floating Point	Add-on	24 VAC/DC	150 seconds	6	Add-on	3 ft.
7	GMB24-SR	2-10 VDC (4-20 mA*)	2-10 VDC	24 VAC/DC	150 seconds	6.5	Add-on	3 ft.
_	GMR2/LMFT_Y1	2-10 VDC	2-10 VDC	24 V/AC/DC	150 caronde	7	Add-on	3 ft

Variable with MFT

NOTE: 10' and 16' cables are available with a \$28.00 and \$48.00 adder except for the PC and MFT95 version, which are only available with a 3' cab

Complete Ordering Example:

4 Item 1: UFLK3500 Item 2: GMB24-MFT-X1

Butterfly Valve Retrofit Actuators

Actuator Selection Guide



SY ACTUATORS

						CO	NTROL TYPE			
SERIES	MODEL	Run Time(s) 90°@60Hz	Torque	Power Supply	Duty Cycle	Modulating	Floating Point	On/Off	Feedback	List Price
	SY1-110	12 seconds		120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$1,403
	SY1-24	20 seconds		24 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$1,403
SY1	SY1-220	11 seconds	310 in-lbs	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$1,403
011	SY1-110P	18 seconds	[35 Nm]	120 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$3,304
	SY1-24P	15 seconds		24 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$3,304
	SY1-220P	16 seconds		230 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$3,304
	SY4-110	18 seconds		120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$3,197
	SY4-24	30 seconds		24 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$3,197
SY4	SY4-220	18 seconds	3560 in-lbs	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$3,197
011	SY4-24MFT	23 seconds	[400 Nm]	24 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$5,873
	SY4-120MFT	17 seconds		120 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$5,873
	SY4-230MFT	17 seconds		230 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$5,873
	SY5-110	25 seconds		120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$3,697
	SY5-24	35 seconds		24 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$3,697
SY5	SY5-220	25 seconds	4450 in-lbs	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$3,697
	SY5-24MFT	29 seconds	[500 Nm]	24 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$6,395
	SY5-120MFT	21 seconds		120 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$6,395
	SY5-230MFT	22 seconds		230 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$6,395
	SY6-110	36 seconds		120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$4,481
SY6	SY6-220	31 seconds	5785 in-lbs	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$4,481
0.0	SY6-120MFT	29 seconds	[650 Nm]	120 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$7,221
	SY6-230MFT	32 seconds		230 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$7,221
	SY7-110	49 seconds		120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$5,379
SY7	SY7-220	48 seconds	8900 in-lbs	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$5,379
011	SY7-120MFT	44 seconds	[1000 Nm]	120 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$8,057
	SY7-230MFT	44 seconds		230 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$8,057
	SY8-110	50 seconds		120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$7,445
SY8	SY8-220	49 seconds	13350 in-lbs	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$7,445
010	SY8-120MFT	48 seconds	[1500 Nm]	120 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$10,182
	SY8-230MFT	57 seconds		230 VAC ±10%, 50/60 Hz	75%	•			2-10 VDC/4-20 mA	\$10,182
	SY9-110	57 seconds		120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$9,214
SY9	SY9-220	57 seconds	17800 in-lbs	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$9,214
010	SY9-120MFT	47 seconds	[2000 Nm]	120 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC/4-20 mA	\$11,973
	SY9-230MFT	61 seconds		230 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC/4-20 mA	\$11,973
	SY10-110	62 seconds		120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$9,670
SY10	SY10-220	62 seconds	22250 in-lbs	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$9,670
0110	SY10-120MFT	51 seconds	[2500 Nm]	120 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC/4-20 mA	\$12,433
	SY10-230MFT	70 seconds		230 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC/4-20 mA	\$12,433
	SY11-110	69 seconds		120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$12,870
SY11	SY11-220	64 seconds	26700 in-lbs	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$12,870
0111	SY11-120MFT	56 seconds	[3000 Nm]	120 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC/4-20 mA	\$15,648
	SY11-230MFT	48 seconds		230 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC/4-20 mA	\$15,648
	SY12-110	60 seconds		120 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$13,777
SY12	SY12-220	61 seconds	31150 in-lbs	230 VAC ±10%, 50/60 Hz	30%		•	•	none, opt 1k	\$13,777
0112	SY12-120MFT	62 seconds	[3500 Nm]	120 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC/4-20 mA	\$16,374
Madulation ast	SY12-230MFT	51 seconds	0 4 00 4	230 VAC ±10%, 50/60 Hz	50%	•			2-10 VDC/4-20 mA	\$16,374

Modulating actuators will accept 0-10 VDC, 2-10 VDC, or 4-20 mA control signals as standard. All SY-MFT actuators are 0.5VDC start. Below this will be considered a loss of signal.

All SY actuators are non fail-safe, but can be used with NSV-SY back up systems for spring return applications.

These products carry a two year warranty when sold as part of an assembly or with a UFLK retrofit kit.



ROTARY ACTUATORS

SERIES	TORQUE	MODEL	Spring Return	Electronic Fail-Safe	Tandem Mounting Available	Control Input	Feedback Position	Power Supply	List Price
	180 in-lbs	AFBUP-X1	•		•	On/Off	-	24-240 VAC	\$614
AF Series*	[20 Nm]	AFX24-MFT-X1	•		•	Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	24 VAC/DC	\$752
	180 in-lbs	AMB24-3-X1				Floating Point, On/Off	-	24 VAC/DC	\$407
AM Series*	[20 Nm]	AMX24-MFT-X1				Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	24 VAC/DC	\$629
	360 in-lbs	GMB24-3-X1				Floating Point, On/Off	-	24 VAC/DC	\$554
GM Series*	[40 Nm]	GMX24-MFT-X1			•	Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	24 VAC/DC	\$811
	360 in-lbs	GKB24-3-X1		•		Floating Point, On/Off	-	24 VAC	\$1,228
GK Series*	[40 Nm]	GKX24-MFT-X1		•	•	Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	24 VAC/DC	\$1,690
PR Series	1400 in-lbs	PRBUP-3-T				Floating Point, On/Off	-	24-240 VAC/ 24-125 VDC.	\$2,421
rn oelles		PRBUP-MFT-T				Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	50/60 Hz	\$4,639
PKR Series	[]	PKRBUP-MFT-T		•		Variable with MFT (VDC, PWM, Floating Point, On/Off)	variable VDC	24-240 VAC/ 24-125 VDC, 50/60 Hz	\$5,639

^{*}Please consult the Damper sections for a full list of product offerings. Standard run times should be considered in the selection. All air side products are applicable for retrofit kits. Select "X1" actuators come with a handle.

MULTI-FUNCTION TECHNOLOGY

P-CODE		Control Input	Running Time	Built-in Feedback	List Price
P-10001	A01	2-10 VDC	150 seconds	2-10 VDC	No Charge
P-10002	A02	0-10 VDC	150 seconds	0-10 VDC	No Charge
P-10028	A28	0-10 VDC	150 seconds	0-10 VDC	No Charge
P-10063	A63	0.5-4.5 VDC	150 seconds	0.5-4.5 VDC	No Charge
P-10064	A64	5.5-10 VDC	150 seconds	5.5-10 VDC	No Charge
P-20002	W02	0.02-5.00 seconds PWM	150 seconds	2-10 VDC	No Charge
P-20003	W03	0.10-25.5 seconds PWM	150 seconds	2-10 VDC	No Charge
P-30001	F01	Floating Point	150 seconds	2-10 VDC	No Charge
P-40002	J02	On/Off	150 seconds	2-10 VDC	No Charge
	P-10001 P-10002 P-10028 P-10063 P-10064 P-20002 P-20003 P-30001	P-10001 A01 P-10002 A02 P-10028 A28 P-10063 A63 P-10064 A64 P-20002 W02 P-20003 W03 P-30001 F01	P-10001 A01 2-10 VDC P-10002 A02 0-10 VDC P-10028 A28 0-10 VDC P-10063 A63 0.5-4.5 VDC P-10064 A64 5.5-10 VDC P-20002 W02 0.02-5.00 seconds PWM P-20003 W03 0.10-25.5 seconds PWM P-30001 F01 Floating Point P-40002 J02 On/Off	P-10001 A01 2-10 VDC 150 seconds P-10002 A02 0-10 VDC 150 seconds P-10028 A28 0-10 VDC 150 seconds P-10063 A63 0.5-4.5 VDC 150 seconds P-10064 A64 5.5-10 VDC 150 seconds P-20002 W02 0.02-5.00 seconds PWM 150 seconds P-20003 W03 0.10-25.5 seconds PWM 150 seconds P-30001 F01 Floating Point 150 seconds P-40002 J02 On/Off 150 seconds	P-10001 A01 2-10 VDC 150 seconds 2-10 VDC P-10002 A02 0-10 VDC 150 seconds 0-10 VDC P-10028 A28 0-10 VDC 150 seconds 0-10 VDC P-10063 A63 0.5-4.5 VDC 150 seconds 0.5-4.5 VDC P-10064 A64 5.5-10 VDC 150 seconds 5.5-10 VDC P-20002 W02 0.02-5.00 seconds PWM 150 seconds 2-10 VDC P-20003 W03 0.10-25.5 seconds PWM 150 seconds 2-10 VDC P-30001 F01 Floating Point 150 seconds 2-10 VDC P-40002 J02 On/Off 150 seconds 2-10 VDC

Consult Belimo for programming code, if not shown on chart.

SY MULTI-FUNCTION TECHNOLOGY

Description	MFT-CODE	Control Input	Built-in Feedback	Loss of Signal	Running Time	List Price
MFT	ACE	2-10 VDC	2-10 VDC	stop	actuator(s) constant	No Charge
MFT	ACF	0.5-10 VDC	0.5-10 VDC	stop	actuator(s) constant	No Charge
MFT	ACG	4-20 mA	4-20 mA	stop	actuator(s) constant	No Charge
MFT	ACH	4-20 mA	2-10 VDC	stop	actuator(s) constant	No Charge
MFT	ACJ	2-10 VDC	2-10 VDC	open	actuator(s) constant	No Charge
MFT	ACK	0.5-10 VDC	0.5-10 VDC	open	actuator(s) constant	No Charge
MFT	ACL	4-20 mA	4-20 mA	open	actuator(s) constant	No Charge
MFT	ACM	4-20 mA	2-10 VDC	open	actuator(s) constant	No Charge
MFT	ACN	2-10 VDC	2-10 VDC	close	actuator(s) constant	No Charge
MFT	ACP	0.5-10 VDC	0.5-10 VDC	close	actuator(s) constant	No Charge
MFT	ACR	4-20 mA	4-20 mA	close	actuator(s) constant	No Charge
MFT	ACS	4-20 mA	2-10 VDC	close	actuator(s) constant	No Charge

All other configurations carry a \$35.00 list price.
Standard delivery may vary, please consult your customer service representative for the latest lead time(s).

30/31, 40/41 Series Butterfly Valves Linkage/Actuator Selection Guide



alve Body Model	Valve Configuration	Fail-Safe	Size	Belimo Linkage	Belimo Actuator Series	Linkage List Price	
			2"	UFLK1100	AM	\$415	
				UFLK1130	SY1	\$758	
				UFLKP004	PR	\$758	
			2½"	UFLK1100	GM	\$415	
						\$758	
				UFLKP004		\$758	
			3"			\$528	
						\$758	
			4"			\$536	
		No				\$758	
			5"			\$758	
			6"			\$758	
	2-way					\$758	
						\$758	
						\$758 \$874	
						\$874	
						\$952	
						\$952	
						\$528	
		LIFI K1102			\$528		
			2½"			\$415	
31 Series Butterfly Valves		Yes	3"			\$528	
		100				\$536	
						\$758	
						\$758	
			2"			\$1,383	
			01/11	UFLK4102	2*GM	\$874	
			21/2"	14" UFLK1144 SY7 16" UFLK1144 SY8 18" UFLK1146 SY9 20" UFLK1146 SY10 2" UFLK1102 2*AF 2½" UFLK1102 2*AF 2½" UFLK1100 GK 3" UFLK1102 2*GK 4" UFLK1102 2*GK 5" UFLK1108 2*GK 5" UFLKP014 PKR 6" UFLKP014 PKR 2" UFLKP104 PR 2½" UFLK9104 PR 3" UFLK9104 PR 4" UFLK9108 PR 5" UFLK4136 SY4 6" UFLK4136 SY4 8" UFLK4148 SY5 10" UFLK4140	\$1,383		
			0.11		2*GM	\$874	
			3"	UFLKP104	PR	\$1,383	
			4"	UFLKP108	PR	\$1,101	
			5"	UFLK4136	SY4	\$1,101	
		No 6" UFLK4136 8" UFLK4138 10" UFLK4140				\$1,101	
	3-way					\$1,101	
	5 way			\$1,383			
						\$1,383 \$1,489	
					UFLK4144 SY8		
					UFLK4144 SY8 UFLK4146 SY9		
				_		\$2,243	
	_					\$2,243	
		V-				\$874	
		Yes				\$874	
			3″			\$874	
			2½"			\$524	
						\$758 \$524	
			3"			\$524 \$758	
						\$758 \$524	
			4"			\$758	
			8" UFLK1138 SY4 10" UFLK1140 SY4 112" UFLK1142 SY6 14" UFLK1144 SY7 16" UFLK1144 SY8 18" UFLK1146 SY9 20" UFLK1102 2*AF 22" UFLK1102 2*AF 22" UFLK1102 2*AF 24" UFLK1102 2*AF 3" UFLK1103 2*GF 4" UFLK1104 PKR 6" UFLK9014 PKR 6" UFLK9014 PKR 2" UFLK102 2*GF 3" UFLK102 2*GF 4" UFLK104 PR 2" UFLK104 PR 2" UFLK104 PR 3" UFLK105 2*GF 5" UFLK9104 PR 3" UFLK9104 PR 4" UFLK9104 PR 5" UFLK9104 PR 10FLK9104 PR 3" UFLK4102 2*GF 4" UFLK4102 2*GF 10FLK9104 PR 4" UFLK9104 PR 4" UFLK9104 PR 5" UFLK9104 PR 4" UFLK9104 PR 4" UFLK9104 PR 4" UFLK9104 PR 5" UFLK9104 PR 5" UFLK9104 PR 5" UFLK9104 PR 4" UFLK9108 PR 5" UFLK4102 2*GF 6" UFLK4136 SY4 6" UFLK4136 SY4 8" UFLK4136 SY4 8" UFLK4138 SY5 10" UFLK4144 SY8 16" UFLK4144 SY8 16" UFLK4144 SY8 16" UFLK4140 SY6 12" UFLK4148 SY11 20" UFLK4102 2*AF 22" UFLK4102 2*AF 22			\$758	
		No				\$752	
	_	140				\$752	
	2-way					\$752	
40					SY7	\$752	
1 Series Butterfly Valves					UFLK1100 AM UFLK1130 SY1 UFLK1100 GM UFLK1100 GM UFLK1130 SY1 UFLK1100 GM UFLK1130 SY1 UFLK1102 2°GM UFLK1102 2°GM UFLK108 PR UFLK1108 2*GM UFLKP004 PR UFLK108 PR UFLK1108 PR UFLKP014 PR UFLK1138 SY4 UFLK1140 SY4 UFLK1140 SY4 UFLK1140 SY7 UFLK1144 SY8 UFLK1146 SY9 UFLK1146 SY10 UFLK1102 2*AF UFLK1102 2*AF UFLK1102 2*AF UFLK1102 2*GK UFLK1103 2*GK UFLK1104 PKR UFLK104 PKR UFLK105 2*GK UFLK106 PR UFLK144 SY8 UFLK1108 2*GK UFLK1108 2*GK UFLK1108 2*GK UFLK1108 2*GK UFLK109 QK UFLK104 PKR UFLK9014 PKR UFLK9014 PKR UFLK9014 PKR UFLK9014 PKR UFLK9104 PR UFLK4102 2*GM UFLK9104 PR UFLK4102 2*GM UFLK9104 PR UFLK4102 2*GM UFLK4103 SY4 UFLK4146 SY9 UFLK4140 SY6 UFLK4140 SY6 UFLK4140 SY6 UFLK4140 SY6 UFLK4102 2*GK UFLK4102 3*GM UFLK4103 SY4 UFLK4104 SY8 UFLK4105 SY9 UFLK4106 SY9 UFLK4108 PR UFLK4109 3*GM UFLK4109 3*		
						\$951 \$1,068	
						\$1,068	
						\$1,068	
					2*GK	\$524	
		Yes	3"		2*GK	\$524	
			4"			\$524	
			21/4"			\$874	
	3-way	No	£/2			\$1,101	
	o way	INO	3"			\$874	
			U	HELKP108	PR	\$1,101	

C200 Round Top Series Butterfly Valves Linkage/Actuator Selection Guide

Valve Body Model	Valve Configuration	Fail-Safe	Size	Belimo Linkage	Belimo Actuator Series	Linkage List Price
			4"	UFLKP108	PR	\$1,101
			5"	UFLK4224	SY4	\$1,101
			6"	UFLK4224	SY4	\$1,101
		No	8"	UFLK4226	SY5	\$1,101
0/44 Caving Dutterfly Values	2	No	10"	UFLK4228	SY7	\$1,383
0/41 Series Butterfly Valves	3-way		12"	UFLK4230	SY8	\$1,383
			14"	UFLK4232	SY10	\$2,833
			16"	UFLK4234	SY12	\$2,833
		V	2½"	UFLK4200	2*GK	\$874
		Yes	3"	UFLK4200	2*GK	\$874
ENTERLINE				UFLK3500	AM	\$420
			2"	UFLK3538	SY1	\$705
			_	UFLKP004	PR	\$758
				UFLK3500	GM	\$420
			2½"	UFLK3538	SY1	\$705
			272	UFLKP004	PR	
						\$758
			3"	UFLK3500	GM SV1	\$420 \$705
			3"	UFLK3538	SY1	\$705
				UFLKP004	PR	\$758
			4"	UFLK3508	2*GM	\$528
		No		UFLKP011	PR	\$758
			5"	UFLKP016	PR	\$758
			6"	UFLKP016	PR	\$758
			8"	UFLK3546	SY4	\$812
	2-way	2-way	10"	UFLK3548	SY4	\$877
			12"	UFLK3550	SY5	\$802
			14"	UFLK3550	SY5	\$802
			16"	UFLK3552	SY7	\$917
			18"	UFLK3554	SY8	\$917
			20"	UFLK3556	SY8	\$917
			24"	UFLK3558	SY10	\$1,408
			2"	UFLK3500	AF	\$420
				UFLK3502	2*AF	\$649
			2½"	UFLK3500	GK	\$420
				UFLK3502	2*AF	\$649
			3"	UFLK3502	GK	\$420
			4"	UFLK3508	2*GK	\$528
200 Round Top Series Butterfly Valves			5"			
				UFLKP016	PKR	\$758
			6"	UFLKP016	PKR	\$758
			0,1	UFLK6500	AM	\$758
			2"	UFLK6536	SY1	\$977
				UFLKP104	PR	\$1,383
				UFLK6500	GM	\$758
			2½"	UFLK6536	SY1	\$977
				UFLKP104	PR	\$1,383
				UFLK6502	2*GM	\$823
			3"	UFLK6536	SY1	\$977
				UFLKP104	PR	\$1,383
		NJ -	477	UFLK6508	2*GM	\$823
		No	4"	UFLKP111	PR	\$1,383
			5"	UFLKP116	PR	\$1,101
	3-way		6"	UFLK6544	SY4	\$1,383
			8"	UFLK6546	SY4	\$1,383
			10"	UFLK6548	SY5	\$1,383
			12"	UFLK6550	SY7	\$1,467
			14"	UFLK6550	SY7	\$1,467
			16"	UFLK6552	SY8	\$2,141
			18"	UFLK6554	SY9	\$2,833
			20"	UFLK6556	SY10	\$2,833
			2"	UFLK6502	2*AF	\$823
		V/	2½"	UFLK6502	2*AF	\$823
		Yes	3"	UFLK6500 UFLK6502	GK 2*GK	\$758 \$823

Centerline

C200 Square Top, C225 Square Top Series Butterfly Valves Linkage/Actuator Selection Guide



						WANNANTT
Valve Body Model	Valve Configuration	Fail-Safe	Size	Belimo Linkage	Belimo Actuator Series	Linkage List Price
				UFLK1300	AM	\$420
			2"	UFLK1338	SY1	\$593
			2	UFLKP004	PR	\$758
			84411	UFLK1300	GM	\$420
			2½"	UFLK1338	SY1	\$593
				UFLKP004	PR	\$758
				UFLK1300	GM	\$420
			3"	UFLK1338	SY1	\$593
				UFLKP004	PR	\$758
				UFLK1308	2*GM	\$528
		No	4"	UFLKP011	PR	\$758
		INO	5"			
				UFLKP016	PR	\$758
			6"	UFLKP016	PR	\$758
			8"	UFLK1346	SY4	\$758
	2-way		10"	UFLK1348	SY4	\$758
			12"	UFLK1350	SY5	\$758
			14"	UFLK1350	SY5	\$758
			16"	UFLK1352	SY7	\$758
			18"	UFLK1354	SY8	\$758
			20"	UFLK1356	SY8	\$758
			24"			
				UFLK1358	SY10	\$812
			2"	UFLK1300	AF	\$420
			2½"	UFLK1302	2*AF	\$528
			2/2	UFLK1300	GK	\$420
		Yes	0"	UFLK1302	2*AF	\$528
			3"	UFLK1300	GK	\$420
C200 Square Top Series Butterfly Valves			4"	UFLK1308	2*GK	\$528
			5"	UFLKP016	PKR	\$758
			6"			
			р	UFLKP016	PKR	\$758
				UFLK4300	AM	\$758
			2"	UFLK4338	SY1	\$874
				UFLKP104	PR	\$1,383
			01/"	UFLK4300	GM	\$758
			2½"	UFLKP104	PR	\$1,383
				UFLK4302	2*GM	\$812
			3"	UFLKP104	PR	\$1,383
				UFLK4308	2*GM	\$812
			4"			
		No		UFLKP111	PR	\$1,383
			5"	UFLKP116	PR	\$1,101
			6"	UFLK4346	SY4	\$1,124
	3-way		8"	UFLK4348	SY4	\$1,101
			10"	UFLK4350	SY5	\$1,154
			12"	UFLK4352	SY7	\$1,421
			14"	UFLK4352	SY7	\$1,421
			16"	UFLK4354	SY8	\$2,202
			18"	UFLK4356	SY9	\$2,833
			20"	UFLK4358	SY10	\$2,833
			2"	UFLK4302	2*AF	\$812
			2½"	UFLK4302	2*AF	\$812
		Yes		UFLK4300	GK	\$758
			3"	UFLK4302	2*GK	\$812
			4"	UFLK4308	2*GK	\$812
				UFLK1400	GM	\$474
			2"	UFLK1436	SY1	\$593
				UFLKP004	PR	
						\$758
				UFLK1400	GM	\$474
			2½"	UFLK1436	SY1	\$593
				UFLKP004	PR	\$758
COOF Causes Ton Covice Bull-off Value	0	B1 -		UFLK1400	GM	\$474
C225 Square Top Series Butterfly Valves	2-way	No	3"	UFLK1436	SY1	\$593
				UFLKP004	PR	\$758
				UFLK1408	2*GM	\$528
			4"			\$758
				UFLKP011	PR	
			5"	UFLKP016	PR	\$758
			6"	UFLK1444	SY4	\$812
			8"	UFLK1446	SY4	\$758

T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

alve Body Model	Valve	Fail-Safe	Size	Belimo	Belimo	Linkage	
	Configuration			Linkage	Actuator Series	List Price	
			10"	UFLK1448	SY5	\$758	
			12"	UFLK1450	SY6	\$758	
		No	14" 16"	UFLK1452 UFLK1454	SY7 SY9	\$758 \$1,043	
			18"	UFLK1454	SY10	\$1,043	
			20"	UFLK1458	SY10	\$812	
				UFLK1402	2*AF	\$638	
	2-way		2"	UFLK1400	GK	\$474	
	2 way			UFLK1402	2*AF	\$638	
			2½"	UFLK1400	GK	\$474	
		Yes		UFLK1402	2*AF	\$638	
			3"	UFLK1400	GK	\$474	
			4"	UFLK1408	2*GK	\$528	
			4"	UFLKP011	PKR	\$758	
			5"	UFLKP016	PKR	\$758	
				UFLK4400	GM	\$758	
			2"	UFLK4436	SY1	\$977	
Square Top Series Butterfly Valves				UFLKP104	PR	\$1,383	
oquais top octios bullettly valves			2½"	UFLK4400	GM	\$758	
			£/2	UFLKP104	PR	\$1,383	
			3"	UFLK4402	2*GM	\$812	
				UFLKP104	PR	\$1,383	
		No	4"	UFLKP111	PR	\$1,383	
			5"	UFLKP116	PR	\$1,101	
			6"	UFLK4444	SY4	\$1,101	
	3-way		8"	UFLK4446	SY5	\$1,383	
			10"	UFLK4448	SY7	\$1,383	
			12"	UFLK4450	SY8	\$1,383	
			14"	UFLK4452	SY8	\$1,383	
			16"	UFLK4454	SY12	\$2,833	
			2"	UFLK4400	GK	\$758	
			2½"	UFLK4400	GK 0*0K	\$758	
		Yes	3"	UFLK4402	2*GK	\$812	
			4"	UFLKP104 UFLKP111	PKR PKR	\$1,383	
			5"	UFLKP116	PKR	\$1,383 \$1,101	
NSON CONTROLS			J	OILKITIO	LIVII	φ1,101	
			0"	UFLK2100	GM	\$414	
			2"	UFLK2136	SY1	\$758	
				UFLK2100	GM	\$414	
			2½"	UFLK2136	SY1	\$758	
				UFLKP007	PR	\$812	
				UFLK2100	GM	\$414	
			3"	UFLK2136	SY1	\$758	
				UFLKP007	PR	\$812	
		No	4"	UFLK2108	2*GM	\$528	
				UFLKP009	PR	\$812	
			5"	UFLKP015	PR	\$812	
	2-way		6"	UFLK2144	SY4	\$812	
	2 way		8"	UFLK2158	SY4	\$812	
(H) Series Butterfly Valves			12"	UFLK2148	SY7	\$812	
· ,			14"	UFLK2156	SY7	\$812	
			18"	UFLK2152	SY10	\$972	
			20"	UFLK2154	SY10	\$972	
			2"	UFLK2102	2*AF	\$528	
			•	UFLK2100	GK	\$414	
		Vac	2½"	UFLK2102	2*AF	\$528	
		Yes		UFLK2100	GK	\$414	
			3"	UFLK2102	2*AF	\$528	
			4"	UFLK2100	GK 2*CK	\$414	
			4	UFLK2108	2*GK	\$528 \$912	
			2"	UFLK5100 UFLK5130	GM SY1	\$812 \$874	
	3-way	No	2½"	UFLK5130	2*GM	\$874	
		,		4 72	UFLK5102	Z UIVI	φ0/4

VF...(H) Series Butterfly Valves

Linkage/Actuator Selection Guide

Keystone

 $360/362,\,370/372,\,AR1/AR2\,\,Series\,\,Butterfly\,\,Valves$ Linkage/Actuator Selection Guide



Valve Body Model	Valve Configuration	Fail-Safe	Size	Belimo Linkage	Belimo Actuator Series	Linkage List Price
			4"	UFLKP109	PR	\$1,101
			5"	UFLK5136	SY4	\$1,383
			6"	UFLK5136	SY4	\$1,383
			8"	UFLK5138	SY5	\$1,383
		No	12"	UFLK5142	SY7	\$1,383
			14"	UFLK5144	SY8	\$1,383
VF (H) Series Butterfly Valves	3-way		16"	UFLK5146	SY9	\$2,833
			18"	UFLK5148	SY11	\$2,833
			20"	UFLK5150	SY12	\$2,833
			2"	UFLK5102	2*AF	\$874
		Yes		UFLK5100	GK	\$812
			2½"	UFLK5102	2*GK	\$874
VEVETONE			3"	UFLK5102	2*GK	\$874
KEYSTONE			2½"	UFLK2440	SY1	\$758
			3"	UFLK2440	2*GM	\$528
			J	UFLK2414	2*GM	\$528
			4"	UFLKP013	PR	\$812
			5"	UFLKP013 UFLKP013	PR PR	\$812
		No	10"	UFLK2452	SY4	\$812
		INO	14"	UFLK2452 UFLK2456	SY6	\$758
	2-way		16"	UFLK2456 UFLK2458	SY6	\$758
	Z-way		18"	UFLK2456	SY7	\$958
			20"	UFLK2462	SY9	\$1,078
			24"	UFLK2464	SY9	\$1,078
			24	UFLK2404 UFLK2402	2*AF	\$484
60/362 Series Butterfly Valves, K-LOK			2½"	UFLK2402 UFLK2400	GK	\$484
		Yes	3"	UFLK2400 UFLK2408	2*GK	\$528
			4"	UFLK2414	2*GK	\$528
			2½"	UFLK5400	GM	\$758
			4"	UFLK5414	2*GM	\$874
	3-way		10"	UFLK5414 UFLK5450	SY4	
			14"	UFLK5450	SY7	\$1,383 \$2,202
		No	16"	UFLK5454 UFLK5456	SY8	\$2,202
			18"	UFLK5458	SY9	\$2,202
			20"	UFLK5460	SY11	\$2,833
			24"	UFLK5462	SY12	\$2,833
	-	Yes	24	UFLK5402	2*AF	\$2,633 \$874
			2½"	UFLK5402	GK	\$758
			3"	UFLK5400 UFLK5408	2*GK	\$758 \$874
			4"	UFLK5414	2*GK	\$874
			4"	UFLK2530	SY4	\$812
			5"	UFLK2530	SY4 SY4	\$812
	2-way	No	12"	UFLK2538	SY9	\$1,454
			14"	UFLK2536 UFLK2540	SY9	\$1,454
370/372 Series Butterfly Valves, K-LOK			4"	UFLK2540 UFLK5530	SY4	\$1,043
			5"	UFLK5530	SY4	\$1,383
	3-way	No	8"	UFLK5534	SY8	\$1,383
			14"	UFLK5540	SY12	\$1,383
				UFLK2300	GM	\$2,033 \$483
			2"	UFLK2334	SY1	\$483 \$752
				UFLK2300	GM	\$483
			2½"	UFLK2334	SY1	\$483 \$752
				UFLK2334 UFLK2300	GM	\$483
			3"	UFLK2300 UFLK2334	SY1	\$483 \$752
				UFLK2334 UFLK2308	2*GM	\$526
	2-way	No	4"	UFLK2308 UFLKP009	PR	\$812
AD1/AD2 Carios Butterfly Values				UELKPUU9	r K	Φ01∠
AR1/AR2 Series Butterfly Valves	2-way	No	5"			
AR1/AR2 Series Butterfly Valves	2-way	No	5" 6"	UFLKP013	PR	\$812
AR1/AR2 Series Butterfly Valves	2-way	No	6"	UFLKP013 UFLK2356	PR SY4	\$812 \$752
AR1/AR2 Series Butterfly Valves	2-way	No	6" 8"	UFLKP013 UFLK2356 UFLK2342	PR SY4 SY4	\$812 \$752 \$758
AR1/AR2 Series Butterfly Valves	2-way	No	6" 8" 10"	UFLKP013 UFLK2356 UFLK2342 UFLK2344	PR SY4 SY4 SY5	\$812 \$752 \$758 \$800
AR1/AR2 Series Butterfly Valves	2-way	No	6" 8"	UFLKP013 UFLK2356 UFLK2342	PR SY4 SY4	\$812 \$752 \$758

WARRANTY

AR1/AR2, Figure 222/221 Series Butterfly Valves Linkage/Actuator Selection Guide

Valve Body Model	Valve Configuration	Fail-Safe	Size	Belimo Linkage	Belimo Actuator Series	Linkage List Price
			2"	UFLK2300	GK	\$483
			2½"	UFLK2302	2*AF	\$526
	2-way	Yes	272	UFLK2300	GK	\$483
	Z-way	163	3"	UFLK2302	2*AF	\$526
				UFLK2300	GK	\$483
			4"	UFLK2308	2*GK	\$526
			2"	UFLK5300	GM	\$758
				UFLK5332	SY1	\$977
			2½"	UFLK5300	GM	\$758
			4"	UFLKP109	PR	\$1,101
AR1/AR2 Series Butterfly Valves		No	5"	UFLK5338	SY4	\$1,383
		140	6"	UFLK5338	SY4	\$1,383
			8"	UFLK5340	SY5	\$1,383
	3-way		12"	UFLK5344	SY8	\$1,489
			16"	UFLK5348	SY10	\$2,833
			18"	UFLK5350	SY12	\$2,833
			2"	UFLK5302	2*AF	\$874
				UFLK5300	GK	\$758
		Yes	2½"	UFLK5302	2*AF	\$874
				UFLK5300	GK	\$758
			3"	UFLK5302	2*GK	\$874
				UFLK2200	GM	\$415
			2"	UFLK2224	SY1	\$758
				UFLKP003	PR	\$812
			2½"	UFLK2200	GM	\$415
				UFLK2224	SY1	\$758
				UFLKP003	PR	\$812
				UFLK2200	GM	\$415
		Ne	3"	UFLK2224	SY1	\$758
		No		UFLKP003	PR	\$812
			421	UFLK2208	2*GM	\$528
			4"	UFLKP009	PR	\$812
	2-way		5"	UFLKP013	PR	\$812
			6"	UFLK2232	SY4	\$758
			8"	UFLK2234	SY4	\$758
			10"	UFLK2236	SY5	\$758
			12"	UFLK2238	SY7	\$984
			2"	UFLK2202	2*AF	\$528
				2"	UFLK2200	GK
			2½"	UFLK2202	2*AF	\$528
i 000/004 0i D		Yes		UFLK2200	GK	\$415
Figure 222/221 Series Butterfly Valves			0"	UFLK2202	2*AF	\$528
			3"	UFLK2200	GK	\$415
			4"	UFLK2208	2*GK	\$528
			O"	UFLK5200	GM	\$661
			2"	UFLKP103	PR	\$1,383
			01/"	UFLK5200	GM	\$661
			2½"	UFLKP103	PR	\$1,383
			3"	UFLK5202	2*GM	\$874
		N a	J	UFLKP103	PR	\$1,383
		No	4"	UFLKP109	PR	\$1,101
			5"	UFLK5228	SY4	\$1,383
	3-way		6"	UFLK5228	SY4	\$1,383
			8"	UFLK5230	SY5	\$1,383
			10"	UFLK5232	SY7	\$1,489
			12"	UFLK5234	SY8	\$1,489
				UFLK5202	2*AF	\$874
			2"	UFLK5200	GK	\$661
		Yes	04411	UFLK5202	2*AF	\$874
			2½"	UFLK5200	GK	\$661
			3"	UFLK5202	2*GK	\$874

Milwaukee

CL, ML Series Butterfly Valves Linkage/Actuator Selection Guide



Part	Valve Body Model	Valve Configuration	Fail-Safe	Size	Belimo Linkage	Belimo Actuator Series	Linkage List Price
2				0"	UFLK2600	AM	\$528
No				2"	UFLK2624	SY1	\$695
DILECTION September Sept				01/."	UFLK2600	AM	\$528
No				2/2"	UFLK2624	SY1	\$695
No.				o"	UFLK2600	GM	\$528
PR S012				3	UFLK2624	SY1	\$695
2-vay 5" UH, KPUIS PR S172			No	4"	UFLK2608	2*GM	\$649
2-way 6			INO	4	UFLKP005	PR	\$812
### STREET				5"	UFLK2608	2*GM	\$649
8" UFL6293 5"4 5"58 10" UFL6293 5"5 5"5 5"58 12" UFL6200 AF 5528 2" UFL6200 AF 5528 2" UFL6200 AF 5528 4" UFL6200 2"6K 5649 2" UFL6502 5"1 51,043 21%" UFL6502 5"1 51,043 21%" UFL6502 5"1 51,043 4" UFL6502 5"1 51,043 4" UFL6502 5"1 51,043 4" UFL6502 5"1 51,043 4" UFL6500 GM 5868 5" UFL6500 GM 5868 5" UFL6500 GM 5868 4" UFL6500 GM 5868 4" UFL6500 GM 5868 5" UFL6500 GM 5868 5" UFL6500 GM 5868 5" UFL6500 GM 5868 4" UFL6500 GM 5868 5" UFL6500 GM 5868 4" UFL6500 GM 5868 4" UFL6500 GM 5868 4" UFL6500 GM 5868 5" UFL6500 GM 5868		2-way		J	UFLKP005	PR	\$812
10" UHLK2688				6"	UFLKP010	PR	\$758
12" UFLK/508 SY5 SY58 2" UFLK/500				8"	UFLK2634	SY4	\$758
CL Series Bulterfly Valves 2				10"	UFLK2636	SY4	\$758
Page 2015 UFLK2600 AF S228				12"	UFLK2636	SY5	\$758
Ves 3" UFLK2600 GK \$228 4" UFLK2608 2"GK \$649 5" UFLK2608 2"GK \$649 2" UFLK2608 2"GK \$649 4" UFLK2608 2"GK \$649 4" UFLK2608 2"GK \$649 4" UFLK2608 5"G \$1,383 10" UFLK2608 5"G \$1,383 10" UFLK2608 5"G \$1,383 10" UFLK2600 GK \$868 3" UFLK2600 GK \$868 3" UFLK2600 GK \$868 3" UFLK2600 GK \$868 4" UFLK2700 AM \$414 2" UFLK2700 AM \$414 2" UFLK2700 AM \$414 2" UFLK2700 GM \$414 UFLK2700 GM \$516 UFLK2708 2"GM \$516 UFLK2708 3"GM \$516 UFLK2704 5"Y4 \$812 1" UFLK2704 5"Y4 \$812 1" UFLK2704 5"Y4 \$812 1" UFLK2744 5"Y7 \$812 1" UFLK2744 5"Y7 \$812 1" UFLK2744 5"Y7 \$812 1" UFLK2744 5"Y7 \$812 1" UFLK2700 AF \$4144 Yes 3" UFLK2700 GK \$61 3" UFLK2700 GK \$66 3" UFLK2700 GK \$66 4" UFLK2700 SY4 \$812 UFLK2700 SY4 \$812 UFLK2700 SY4 \$812 UFLK2700 GK \$66 3" UFLK2700 GK \$66 4" UFLK2700 GK \$66 4" UFLK2700 GK \$66 UFLK2700 GK \$61 3" UFLK2700 GK \$61 UFLK2700 G				2"	UFLK2600	AF	\$528
Yes 3" UFLIX-200	Cl. Cavina Duttarilly Values			2½"	UFLK2600	AF	\$528
5°	CL Series Butterny valves		Yes	3"	UFLK2600	GK	\$528
5°				4"			
2" UFLK5000 AM \$888 21/4" UFLK5000 GM \$888 21/4" UFLK5602 SY1 \$1,043 4" UFLK5600 GM \$888 4" UFLK5600 CM \$888 4" UFLK5600 CM \$868 4" UFLK5600 CM \$868 4" UFLK5600 CM \$868 4" UFLK5600 SW1 \$1,883 100" UFLK5600 SW1 \$1,883 100" UFLK5600 SW1 \$1,883 100" UFLK5600 CM \$868 4" UFLK5600 CM \$1,883 1,883 10" UFLK5600 CM \$868 4" UFLK5600 CM \$1,883 1,883 10" UFLK5600 CM \$868 4" UFLK5700 CM \$844 4" UFLK2700 CM \$845 4" UFLK2700 CM \$846 4" U							
No				2			
No 3" UFLKS602 SY1 S1,043				2"			
No 3" UPLK5622 SY1 \$1,043				0111			
No 3" UFLK5600 GM \$868				2½"			
3-way 4" UFLK6608 2*GM \$888 6" UFLK6628 SY4 \$1,383 8" UFLK6630 SY4 \$1,383 10" UFLK6632 SY6 \$1,383 10" UFLK6602 2*NF \$868 21% UFLK6600 GK \$868 3" UFLK6600 GK \$868 2" UFLK6700 AM \$414 29%" UFLK7700 AM \$414 21%" UFLK7700 FM \$414 3" UFLK7700 FM \$516 4" UFLK700 FP \$312 4" UFLK700 FP \$312 4" UFLK7005 PR \$312 4" UFLK7005 PR \$312 4" UFLK7005 PR \$312 10" UFLK742 SY4 \$812 112" UFLK742 SY4 \$812 112" UFLK744 SY7 \$812 112" UFLK744 SY7 \$812 114" UFLK744 SY7 \$812 116" UFLK744 SY7 \$812 116" UFLK744 SY7 \$812 116" UFLK746 SY8 \$812 114" UFLK700 AF \$414 Yes 3" UFLK700 GK \$516 16" UFLK700 GM \$661 16" UFLK732 SY1 \$1,043 16" UFLK700 GM \$661 16" UFLK732 SY1 \$1,043 16" UFLK730 SY1 \$1,043 16" UFLK730 SY4 \$1,383 16" UFLK5746 SY8 \$1,383 16" UFLK5740 SY4 \$1,383 16" UFLK5740 SY4 \$1,383 16" UFLK5740 SY4 \$1,383 16" UFLK5746 SY8 \$1,383 16" UFLK5746 SY8 \$1,383 16" UFLK5746 SY8 \$1,383 16" UFLK5744 SY7 \$1,383 16" UFLK5744 SY7 \$1,383 16" UFLK5744 SY7 \$1,383 16" UFLK5745 SY8 \$1,383 16" UFLK5744 SY7 \$1,383 16" UFLK5744 SY7 \$1,383 16" UFLK5744 SY7 \$1,383 16" UFLK5745 SY8 \$1,383 16" UFLK5746 SY8 \$1,383 16" UFLK5748 SY8 \$1,383 16" UFLK5748 SY8 \$1,383 16" UFLK5748 SY8 \$1,383			No	3"			. ,
S-way 6"							
B*		3-way					
10"		5ay					
Yes 21/6" UFLK5602 2*AF \$888 UFLK5600 GK \$888 3" UFLK5600 GK \$888 2" UFLK2700 AM \$414 21/2" UFLK2700 AM \$414 21/2" UFLK2700 AM \$414 3" UFLK2720 GM \$414 4" UFLK2722 SY1 \$770 4" UFLK2728 2*GM \$516 UFLK2724 SY4 \$812 10" UFLK2742 SY4 \$812 12" UFLK2742 SY4 \$812 14" UFLK2742 SY5 \$812 14" UFLK2744 SY7 \$812 16" UFLK2744 SY7 \$812 18" UFLK2746 SY8 \$812 24" UFLK2760 SY10 \$968 2" UFLK2700 AF \$414 4" UFLK2700 GK \$414 4" UFLK2700 GK \$414 4" UFLK2700 GK \$414 4" UFLK2700 GK \$414 4" UFLK2700 AF \$414 4" UFLK2700 GK \$414 4" UFLK2700 GK \$516 5" UFLK2700 AM \$661 2" UFLK5732 SY1 \$1,043 3" UFLK5700 AM \$661 2" UFLK5732 SY1 \$1,043 3" UFLK5700 SY4 \$1,383 4" UFLK5744 SY7 \$1,383 12" UFLK5746 SY8 \$1,383 12" UFLK5746 SY8 \$1,383 14" UFLK5746 SY8 \$1,383 16"							
Yes							
No				2½"			
No			Yes				
2" UFLK2700 AM \$414 21/4" UFLK2700 AM \$414 21/4" UFLK2702 SY1 \$770 3" UFLK2703 SY1 \$770 4" UFLK2708 2"GM \$516 UFLK2700 PR \$312 10" UFLK2742 SY4 \$312 12" UFLK2742 SY4 \$312 14" UFLK2742 SY5 \$312 14" UFLK2744 SY7 \$312 16" UFLK2744 SY7 \$312 16" UFLK2744 SY7 \$312 18" UFLK2744 SY7 \$312 18" UFLK2744 SY7 \$312 18" UFLK2746 SY8 \$312 18" UFLK2700 AF \$414 Yes 3" UFLK2700 AF \$414 Yes 3" UFLK2700 GK \$414 Yes 3" UFLK2700 GK \$414 Yes 3" UFLK2708 2"GK \$516 5" UFLK2708 2"GK \$516 5" UFLK2708 2"GK \$516 5" UFLK5709 CM \$661 4" UFLK5709 2"GM \$661 4" UFLK5709 3"GM \$661 4" UFLK5709 3"GM \$661 4" UFLK5709 3"GM \$661 4" UFLK5704 SY4 \$1,383 12" UFLK5744 SY7 \$1,383 12" UFLK5744 SY7 \$1,383 12" UFLK5744 SY7 \$1,383 12" UFLK5744 SY9 \$1,383 12" UFLK5744 SY9 \$1,383 14" UFLK5745 SY8 \$1,383 16" UFLK5748 SY8 \$1,383 16" UFLK5748 SY8 \$1,383 16" UFLK5748 SY9 \$2,833 16" UFLK5748 SY9 \$2,833 10" UFLK5748 SY9 \$2,833 10" UFLK5748 SY9 \$2,833 10" UFLK5748 S				3"			
21/4" UFLK2700				2"			
No							
No				2½"			
No							
No 8-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1				3"			
No							
No 5" UFLK2708 2*GM \$516 UFLKP015 PR \$812 6" UFLKP010 PR \$758 8" UFLK2740 SY4 \$812 10" UFLK2742 SY4 \$812 12" UFLK2742 SY5 \$812 14" UFLK2744 SY7 \$812 16" UFLK2744 SY7 \$812 16" UFLK2744 SY7 \$812 18" UFLK2746 SY8 \$812 18" UFLK2760 SY10 \$968 24" UFLK2760 SY10 \$968 22" UFLK2700 AF \$414 2½" UFLK2700 AF \$414 2½" UFLK2700 AF \$414 4" UFLK2700 AF \$414 4" UFLK2708 2*GK \$516 5" UFLK2708 2*GK \$516 5" UFLK5700 AM \$661 5" UFLK5732 SY1 \$1,043 2½" UFLK5732 SY1 \$1,043 2½" UFLK5732 SY1 \$1,043 2½" UFLK5730 GM \$661 4" UFLK5740 SY4 \$1,383 10" UFLK5740 SY4 \$1,383 10" UFLK5741 SY7 \$1,383 12" UFLK5742 SY6 \$1,383 12" UFLK5746 SY8 \$1,383 14" UFLK5746 SY8 \$1,383 16" UFLK5746 SY8 SY9 \$2,283 18" UFLK5746 SY8 SY8 SY8 18				4"			
No							
2-way 6"			No	5"			
8" UFLK2740 SY4 \$812			INU	6"			
10" UFLK2742 SY4 \$812 12" UFLK2742 SY5 \$812 14" UFLK2744 SY7 \$812 18" UFLK2744 SY7 \$812 18" UFLK2746 SY8 \$812 18" UFLK2746 SY8 \$812 24" UFLK2750 SY10 \$968 2" UFLK2700 AF \$414 4" UFLK2700 AF \$414 4" UFLK2700 GK \$516 5" UFLK2708 2°6K \$516 5" UFLK2708 2°6K \$516 5" UFLK2708 2°6K \$516 5" UFLK5732 SY1 \$1,043 3" UFLK5732 SY1 \$1,043 3" UFLK5730 GM \$661 4" UFLK5732 SY1 \$1,043 3" UFLK5700 GM \$661 4" UFLK5700 GM \$661 4" UFLK5700 GM \$661 4" UFLK5700 SY4 \$1,383 10" UFLK5744 SY7 \$1,383 12" UFLK5746 SY8 \$1,383 14" UFLK5746 SY8 \$1,383 14" UFLK5746 SY8 \$1,383 16" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833							
12" UFLK2742 SY5 \$812 14" UFLK2744 SY7 \$812 16" UFLK2744 SY7 \$812 18" UFLK2746 SY8 \$812 18" UFLK2750 SY10 \$968 24" UFLK2700 AF \$414 2½" UFLK2700 AF \$414 2½" UFLK2700 AF \$414 2½" UFLK2700 AF \$414 4" UFLK2700 AF \$414 5" UFLK2700 AF \$414 4" UFLK2700 AF \$414 4" UFLK2700 AF \$414 5" UFLK2700 AF \$414 4" UFLK2708 2*GK \$516 5" UFLK2708 2*GK \$516 5" UFLK2708 2*GK \$516 5" UFLK2708 2*GK \$516 6" UFLK5708 2*GM \$868 3-way No 8" UFLK5700 GM \$661 4" UFLK5708 2*GM \$868 3-way No 8" UFLK5700 SY4 \$1,383 10" UFLK5704 SY4 \$1,383 12" UFLK5744 SY7 \$1,383 14" UFLK5746 SY8 \$1,383 14" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833 16" UFLK5748 SY9 \$2,833 16" UFLK5748 SY9 \$2,833		2-way					
14" UFLK2744 SY7 \$812							
16"							
ML Series Butterfly Valves 18"							
24" UFLK2750 SY10 \$968							
2" UFLK2700 AF \$414	MI Carina Duttouthy Values						
Yes	INIT SELIES BRITTELIN ASIAES						
Yes 3" UFLK2700 GK \$414 4" UFLK2708 2*GK \$516 5" UFLK2708 2*GK \$516 2" UFLK5700 AM \$661 UFLK5732 SY1 \$1,043 2½" UFLK5732 SY1 \$1,043 3" UFLK5700 GM \$661 4" UFLK5700 GM \$661 10" UFLK5700 GM \$661 10" UFLK5708 2*GM \$868 3-way No 8" UFLK5708 SY4 \$1,383 10" UFLK5744 SY7 \$1,383 12" UFLK5744 SY7 \$1,383 14" UFLK5746 SY8 \$1,383 14" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833						AF	
4" UFLK2708 2*GK \$516 5" UFLK2708 2*GK \$516 2" UFLK5700 AM \$661 UFLK5732 SY1 \$1,043 2½" UFLK5732 SY1 \$1,043 3" UFLK5700 GM \$661 4" UFLK5700 GM \$661 4" UFLK5708 2*GM \$868 3-way No 8" UFLK5708 2*GM \$868 10" UFLK5742 SY6 \$1,383 10" UFLK5744 SY7 \$1,383 14" UFLK5746 SY8 \$1,383 14" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833							
5" UFLK2708 2*GK \$516 2" UFLK5700 AM \$661 UFLK5732 SY1 \$1,043 2½" UFLK5732 SY1 \$1,043 3" UFLK5732 SY1 \$1,043 3" UFLK5700 GM \$661 4" UFLK5708 2*GM \$868 3-way No 8" UFLK5708 SY4 \$1,383 10" UFLK5740 SY4 \$1,383 10" UFLK5742 SY6 \$1,383 12" UFLK5744 SY7 \$1,383 14" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833			Yes				
2" UFLK5700 AM \$661 UFLK5732 SY1 \$1,043 2½" UFLK5732 SY1 \$1,043 3" UFLK5700 GM \$661 4" UFLK5708 2*GM \$868 3-way No 8" UFLK5700 SY4 \$1,383 10" UFLK5740 SY4 \$1,383 10" UFLK5742 SY6 \$1,383 12" UFLK5744 SY7 \$1,383 14" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833							
2				5"			
3-way No 8" UFLK5742 SY1 \$1,043 3" UFLK5700 GM \$661 4" UFLK5708 2*GM \$868 10" UFLK5742 SY6 \$1,383 12" UFLK5744 SY7 \$1,383 14" UFLK5746 SY8 \$1,383 14" UFLK5746 SY8 \$1,383				2"			
3" UFLK5700 GM \$661 4" UFLK5708 2*GM \$868 3-way No 8" UFLK5740 SY4 \$1,383 10" UFLK5742 SY6 \$1,383 12" UFLK5744 SY7 \$1,383 14" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833							
3-way No 8" UFLK5708 2*GM \$868 10" UFLK5740 SY4 \$1,383 10" UFLK5742 SY6 \$1,383 12" UFLK5744 SY7 \$1,383 14" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833							
3-way No 8" UFLK5740 SY4 \$1,383 10" UFLK5742 SY6 \$1,383 12" UFLK5744 SY7 \$1,383 14" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833							
10" UFLK5742 SY6 \$1,383 12" UFLK5744 SY7 \$1,383 14" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833							
12" UFLK5744 SY7 \$1,383 14" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833		3-way	No				
14" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833							
14" UFLK5746 SY8 \$1,383 16" UFLK5748 SY9 \$2,833							
16" UFLK5748 SY9 \$2,833				14"		SY8	
					UFLK5748	SY9	
					UFLK5750		\$2,833

LD1/WD1, LD2/WD2, LD3 Series Butterfly Valves Linkage/Actuator Selection Guide

Nibco

27 Series Butterfly Valves Linkage/Actuator Selection Guide

	Valve			Belimo	Belimo	Linkage
Valve Body Model	Configuration	Fail-Safe	Size	Linkage	Actuator Series	List Price
			2"	UFLK5702	2*AF	\$868
MI Ossisa Postkarija Vala			2½"	UFLK5702	2*AF	\$868
ML Series Butterfly Valves	2-way	Yes	3"	UFLK5702	2*AF	\$868
			4"	UFLK5700 UFLK5708	GK 2*GK	\$661 \$868
NIBCO			7	OI ENOTOO	Z UK	φοσο
			14"	UFLK2960	SY7	\$977
			16"	UFLK2968	SY8	\$977
	2-way	No	18"	UFLK2962	SY8	\$886
LD1/WD1 Series Butterfly Valves			20" 24"	UFLK2964 UFLK2966	SY9 SY11	\$812 \$812
LDI/WD1 Selles butterily valves			14"	UFLK5956	SY8	\$2,202
			16"	UFLK5958	SY9	\$2,202
	3-way	No	18"	UFLK5960	SY10	\$2,202
			20"	UFLK5962	SY12	\$2,202
			2"	UFLK2900	GM	\$454
				UFLK2942	SY1	\$593
			2½"	UFLK2908 UFLKP002	GM PR	\$415 \$812
				UFLK2910	2*GM	\$593
			3"	UFLKP002	PR	\$812
		No	4"	UFLK2916	2*GM	\$593
				UFLKP006	PR	\$812
			5"	UFLKP012	PR	\$710
	0		6"	UFLKP012	PR	\$710
	2-way		8" 10"	UFLK2954 UFLK2956	SY4 SY4	\$758 \$762
			12"	UFLK2958	SY6	\$886
				UFLK2902	2*AF	\$528
			2"	UFLK2900	GK	\$454
			2½"	UFLK2910	2*AF	\$593
LD2/WD2, LD3 Series Butterfly Valves		Yes		UFLK2908	GK	\$415
			3"	UFLK2910	2*GK	\$593
			4" 5"	UFLK2916 UFLKP012	2*GK PKR	\$593 \$710
			6"	UFLKP012	PKR	\$710
		No	2"	UFLK5900	GM	\$705
			2½"	UFLK5910	2*GM	\$874
			3"	UFLK5910	2*GM	\$874
			4"	UFLKP106	PR	\$1,101
			5"	UFLK5948	SY4	\$1,383
	3-way		6" 8"	UFLK5948 UFLK5950	SY4 SY6	\$1,383 \$1,383
			12"	UFLK5954	SY8	\$1,454
				UFLK5902	2*AF	\$874
		Yes	2"	UFLK5900	GK	\$705
		162	2½"	UFLK5910	2*GK	\$874
PD0			3"	UFLK5910	2*GK	\$874
PDC				UFLK3100	GM	\$484
			2"	UFLK3122	SY1	\$758
			2½"	UFLK3102	2*GM	\$649
		No	3"	UFLK3102	2*GM	\$649
			4"	UFLK3108	2*GM	\$528
	2-way		6"	UFLKP010	PR	\$758
	,		8"	UFLK3132	SY4	\$758
27 Series Butterfly Valves (Pinned Shaft Type)			2"	UFLK3102 UFLK3100	2*AF GK	\$649 \$484
		Yes	2½"	UFLK3102	2*GK	\$649
		.00	3"	UFLK3102	2*GK	\$649
			4"	UFLK3108	2*GK	\$528
			2"	UFLK6100	GM	\$758
	3-way	No	2½"	UFLK6102	2*GM	\$874
	<i>j</i>		3"	UFLK6102	2*GM	\$874
			5"	UFLK6126	SY4	\$1,383

27 Series Butterfly Valves Linkage/Actuator Selection Guide

Victaulic

Masterseal, Vic300 Series Butterfly Valves Linkage/Actuator Selection Guide



Valve Body Model	Valve Configuration	Fail-Safe	Size	Belimo Linkage	Belimo Actuator Series	Linkage List Price
			6"	UFLK6128	SY4	\$1,383
		No	8"	UFLK6130	SY4	\$1,383
		INO	10"	UFLK6132	SY6	\$1,383
27 Series Butterfly Valves (Pinned Shaft Type)	2 14/01/		12"	UFLK6134	SY7	\$1,421
27 Series Butterny valves (Pinneu Shait Type)	3-way		2"	UFLK6102	2*AF	\$874
		Vaa	2	UFLK6100	GK	\$758
		Yes	21/2"	UFLK6102	2*GK	\$874
			3"	UFLK6102	2*GK	\$874
VICTAULIC						
				UFLK8172	AM	\$388
			2"	UFLK8178	SY1	\$424
				UFLKP001	PR	\$762
				UFLK8172	GM	\$388
			2½"	UFLK8178	SY1	\$424
				UFLKP001	PR	\$762
			3"	UFLK8172	GM	\$388
		No		UFLKP001	PR	\$762
			4"	UFLK8176	2*GM	\$520
				UFLKP008	PR	\$758
			5"	UFLKP013	PR	\$812
	2-way		6"	UFLKP013	PR	\$812
			8"	UFLK8188	SY4	\$772
			10"	UFLK8190	SY5	\$772
			12"	UFLK8190	SY6	\$772
			2"	UFLK8174	2*AF	\$449
		Yes	2½"	UFLK8174	2*AF	\$449
				UFLK8172	GK	\$388
			3"	UFLK8172	GK	\$388
			4"	UFLK8176	2*GK	\$520
Masterseal (New Style) Series Butterfly Valves			4"	UFLKP008	PKR	\$758
musiciscal (New Otyle) delics butterny valves			5"	UFLKP013	PKR	\$812
			6"	UFLKP013	PKR	\$812
				UFLK7400	GM	\$758
			2"	UFLK7404	SY1	\$812
				UFLKP101	PR	\$1,551
			21/2"	UFLK7402	2*GM	\$801
				UFLKP101	PR	\$1,551
		No	3"	UFLKP101	PR	\$1,551
			4"	UFLKP108	PR	\$1,101
			5"	UFLKP113	PR	\$1,110
			6"	UFLK7412	SY4	\$1,110
	3-way		8"	UFLK7414	SY4	\$1,794
			10"	UFLK7416	SY6	\$1,409
			12"	UFLK7418	SY7	\$1,776
			2"	UFLK7402	2*AF	\$801
				UFLK7400	GK	\$758
		.,	2½"	UFLK7402	2*GK	\$801
		Yes	2½"	UFLKP101	PKR	\$1,551
			3"	UFLKP101	PKR	\$1,551
			4"	UFLKP108	PKR	\$1,101
			5"	UFLKP113	PKR	\$1,110
			2"	UFLK3300	AM	\$556
				UFLK3338	SY1	\$741
			2½"	UFLK3308	AM	\$491
				UFLK3340	SY1	\$741
		No	3"	UFLK3308	GM	\$491
				UFLK3340	SY1	\$741
Wi-000 (Old Obd-) O-siz- B W S W I	0.		4"	UFLK3316	2*GM	\$542
Vic300 (Old Style) Series Butterfly Valves	2-way		8"	UFLK3352	SY4	\$824
			10"	UFLK3354	SY4	\$832
			12"	UFLK3356	SY4	\$763
			2"	UFLK3300	AF	\$556
			2½"	UFLK3308	AF	\$491
		Yes	3"	UFLK3310	2*AF	\$474
				UFLK3308	GK	\$491
			4"	UFLK3316	2*GK	\$542





Victaulic

Vic300 Series Butterfly Valves Linkage/Actuator Selection Guide

Valve Body Model	Valve Configuration	Fail-Safe	Size	Belimo Linkage	Belimo Actuator Series	Linkage List Price
			2"	UFLK6300	GM	\$1,043
				UFLK6336	SY1	\$1,043
			2½"	UFLK6308	GM	\$1,043
		No	272	UFLK6338	SY1	\$1,043
	2		6"	UFLK6348	SY4	\$1,380
Vic300 (Old Style) Series Butterfly Valves			8"	UFLK6350	SY4	\$1,393
vicado (dia atyle) aeries butterny valves	3-way		10"	UFLK6352	SY5	\$1,464
			12"	UFLK6354	SY6	\$1,464
			2"	UFLK6300	AF	\$1,043
		Yes	2	UFLK6300	GK	\$1,043
		162	2½"	UFLK6310	2*AF	\$984
			Z 1/2	UFLK6308	GK	\$1,043



Specialty Retrofit Solutions for Valve Manufacturers

Belimo offers specialty linkage solutions for the manufacturers in the chart below. Please contact technical support for a quotation.

Valve Company	Butterfly Valve Series	Valve Configuration
Analla	141/143 Series	2-way
Apollo	141/143 Selles	3-way
Belimo	HC HCH HD HDH Coring	2-way
Bellillo	HS, HSU, HD, HDU Series	3-way
Challenger	CH100 Series	2-way
Onancingor	Offico Octics	3-way
Chemtrol	PVC Model C Series	2-way
Onomico	1 VO MIOUGI O COTICO	3-way
Dezurik	BRS Series	2-way
Bozum	5110 001100	3-way
	1 L/W Series	2-way
Flowseal	I L/W OCHOS	3-way
Tiowseal	3 L/W Series	2-way
	5 L/W Series	3-way
FNW	Figure 1000/2000 Series	2-way
		3-way
	Figure 7700 (Double D Shaft 2003 and Newer) Series	2-way
Gruvlok		3-way
	Figure 7700 (Sheared Pin Shaft Pre 2003) Series	2-way
		3-way
Hammond	61/62 Series	2-way
		3-way
	815 L/W Series	2-way
Jamesbury		3-way
-	830 L/W Series	2-way
		3-way
Jenkins	22XXEXJ Series	2-way
		3-way
Metraflex	200 WOG Series	2-way
		3-way
Mueller	65/66 Series	2-way
		3-way
PDC	27 Series (Double D Shaft)	2-way
	,	3-way
Quartermaster	42/44 Series	2-way
		3-way 2-way
Watts	DBF Series (pre 2009)	
		3-way

Considerations:

- Every retrofit solution is available in 2-way and 3-way configurations.
- Kits do not require completed retrofit form; only the make, model, and size of the competitor valve are required.
- · Pricing and delivery vary with complexity.



T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



Instructions for Completing this Form

Required tools needed a caliper, thread gauge, retrofit form, flashlight, and ladder (if applicable).

Please keep in mind that all dimensions should be taken with ALL original actuation and hardware components removed from the valve body.

Examples of dimensions A & B (Dim A and Dim B) relate to the TOP mounting holes on the butterfly valve body. These holes are usually arranged on the body in either an "X" pattern (MOUNT STYLE 1), or a cross pattern (MOUNT STYLE 2). This information is entered on the UFSP Series Butterfly Valve Retrofit Form in the MOUNT STYLE section. The length of the valve stem sticking out of the top of the valve body is recorded under Dim C. The TOP mounting holes are usually drilled through the top flange, but sometimes are threaded. Enter this information on the form next to the mount style information previously recorded.

Next is the valve stem data. The five styles of valve stems cover 98% of the butterfly valves ever produced. Examine the valve being retrofitted to establish which shaft style matches the diagrams above. Use caution when recording these dimensions. Careless use of calipers will result in a sloppy and possibly dysfunctional linkage system. **Dim D** refers to the valve stem diameter and should be measured at several points up and down as well as around the stem itself. **Dim E** refers to the length of the drive surface available, whether it be a key, flatted surface, or the distance a drive hole is from the top of the stem. There are two types of keys (Keyway-Shaft Style 4 and Woodruff Key-Shaft Style 5). Please select the key size as noted in the column "For Shaft Style 4 & 5". **Dim F** refers to the width of the drive surface. This is the most critical dimension for correct linkage operation. Please measure accordingly.

In addition, we require information about the environment and process in which this linkage system will be utilized.

The form must be completed in its entirety to guarantee the complete, perfect fit of your retrofit system. Keep in mind that retrofit kits are designed with close-tolerance components which afford the most efficient linkage system for the facility. Measurements rounded to the nearest $\frac{1}{16}$ or $\frac{1}{16}$ inch will not perform as well (sometimes not at all) as a kit designed around careful measurements using proper equipment. Our designs are typically +.005" tolerance.

DISCLAIMER

We will do our best to provide a linkage system designed around your specifications and measurements. However, we cannot be held responsible for linkages which do not fit as a result of incorrect data given to Belimo. We will re-work components which do not fit properly for a nominal fee.

To reduce the possibility of incorrect linkage solutions, we respectfully request that you fill out the retrofit form completely and forward that information with your order. This will serve as a double check between your valve and the actuator/linkage package designed for your application.

Actuation, weather shields and linkages cannot be pre-assembled at the Belimo factory prior to your receipt. The linkages are designed to be attached onto the valve body first, then optional weather shields, and finally actuation products.

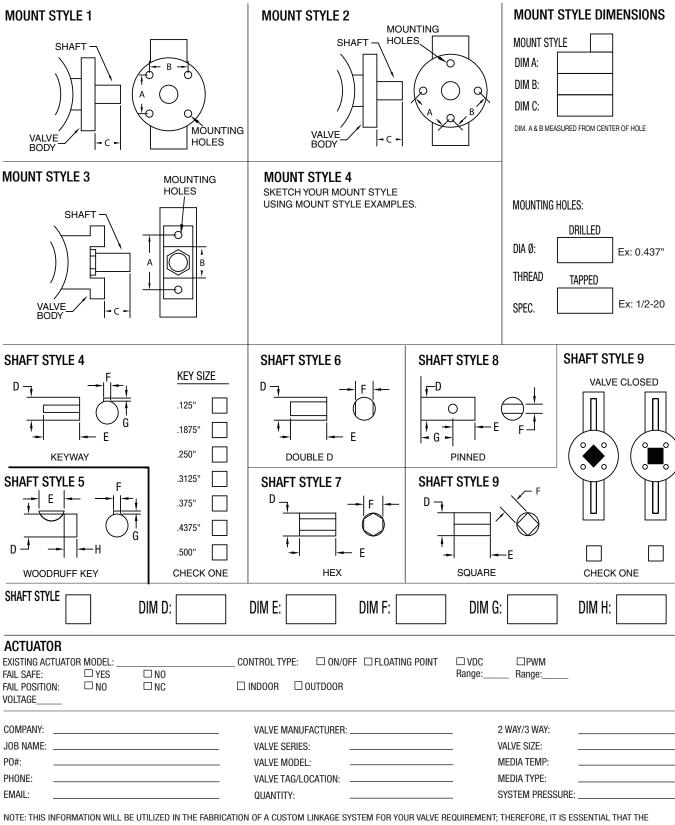
Close-off pressures are calculated using actuator torque, valve stroke, and valve area. Other factors may affect the rated close-off pressures, including flow rates, system maintenance schedules, chemicals used in the shot feeder process, vicinity to pumps, condition of valve stem seals, and assembly of linkage material in the field.

Valves that are being considered for retrofit of actuation should be analyzed for their life expectancy before the retrofit has taken place. Valves that leak through stem seals or casings will continue to leak with the new linkage system in place, maybe even more so. Rebuilding the packing on these valves may be more costly than replacing the valves themselves. In some instances, older valve stem heights will require field modifications to the valve in order to utilize the retrofit kit. Belimo takes no responsibility for the operation of these valves after they have been modified.

Custom Butterfly Valve Retrofit Solution Form

UFSP Series



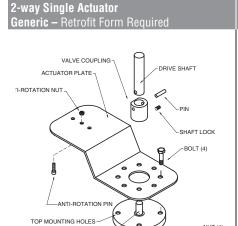


ABOVE DIMENSIONS BE FURNISHED WITH READINGS TAKEN TO THE NEAREST .001". ANY ERRONEOUS DIMENSIONS FURNISHED WHICH RESULT IN IMPROPER FIT OF THIS LINKAGE SYSTEM ARE NOT THE RESPONSIBILITY OF BELIMO AIRCONTROLS. ANY REWORK REQUIRED WILL RESULT IN AN EXTRA CHARGE

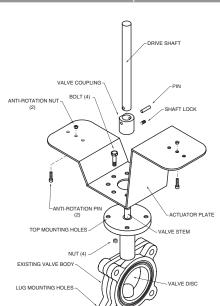
CUSTOM KITS ARE DESIGNED TO YOUR UNIQUE SPECIFICATIONS AND ARE NOT RETURNABLE.

COMPANY CONTACT/DIMENSIONS PROVIDED BY: DATE: _

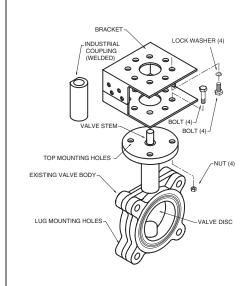




2-way Dual Actuator Generic - Retrofit Form Required



2-way SY / PR / PKR Actuator Generic - Retrofit Form Required



UFSP0000 \$792

T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

LUG MOUNTING HOLES

EXISTING VALVE BODY

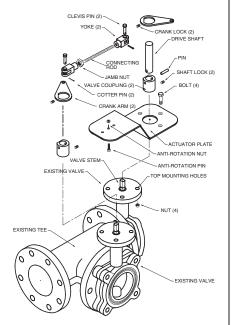
UFSP0008 \$1,045

NUT (4)

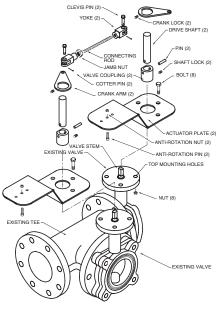
UFSP0020* PR, PKR, SY4 - SY8 \$941 UFSP0022* SY9-SY12 \$1,594

3-way Single Actuator Generic - Retrofit Form Required

VALVE STEM



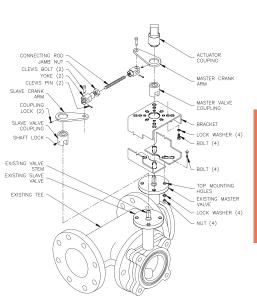
3-way Dual Actuator Generic - Retrofit Form Required



3-way SY / PR / PKR Actuator Generic – Retrofit Form Required

UFSP0024*

UFSP0026* SY9 - SY12 \$2,367



NOTE: 3-way bracket configuration shown is only one of many possible arrangements. Custom kits are

UFSP0010 \$1,138

*Reference page 22-52 Keystone AR1/AR2 for approximate actuator sizing.



800-543-9038 USA

designed to your unique specification and are not returnable.

UFSP0002 \$1,045

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN

PR, PKR, SY4 - SY8 \$1,660





Instructions for Completing this Form

Required tools needed a caliper, thread gauge, retrofit form, flashlight, and ladder (if applicable).

Ball valves without a mounting flange are typically not designed for installing actuation; therefore the valve design may not support modulation outside of manual usage. Belimo does not recommend retrofitting these types of ball valves.

All dimensions should be taken with ALL original actuation and hardware components removed from the valve body.

An example using **Mounting Style 3**: Dimensions A & B (**Dim A and Dim B**) relate to the TOP mounting holes on the ball valve body. These holes are usually arranged on the body in a "X" pattern (**MOUNT STYLE 3**). This information is entered on the UBSP Series Ball Valve Retrofit Form in the **MOUNT STYLE** section. The length of the valve stem sticking out of the top of the valve body is recorded under **Dim D and E**. The TOP mounting holes are usually drilled through the top flange, but sometimes are threaded. Enter this information on the form next to the mount style information previously recorded.

MOUNT STYLE 3: Dimensions A & B (**Dim A and Dim B**) relate to the TOP mounting holes on the ball valve body. These holes are usually arranged on the body in a "X" pattern (**MOUNT STYLE 3**). This information is entered on the UBSP Series Ball Valve Retrofit Form in the **MOUNT STYLE** section. The length of the valve stem sticking out of the top of the valve body is recorded under **Dim D and E**. The TOP mounting holes are usually drilled through the top flange, but sometimes are threaded. Enter this information on the form next to the mount style information previously recorded.

STEM STYLE: Examine the valve being retrofitted to establish which stem style matches the diagrams. Use caution when recording these dimensions. **Dim H** refers to the valve stem diameter and should be measured at several points up and down as well as around the stem itself. **Dim E** refers to the length of the drive surface available, whether it is a key or flatted surface. **Dim F** refers to the width of the drive surface or the distance across the flats. This is the most critical dimension for correct linkage operation. Please measure accordingly. Lastly please specify the desired actuator orientation in reference to the valve body using the ports as reference, i.e. over the "A" port etc. We have also includes an ISO-5211 standard dimension chart for reference. If the valve is labeled please specify its "F" number so that we may confirm the dimensions per the ISO spec.

In addition, we require information about the environment and process in which this linkage system will be utilized, as well as the frequency of use the current actuator runs. This will help to ensure the longevity of the new linkage and actuator. Having the prior actuator spec and model will help.

The form must be completed in its entirety to guarantee the complete, perfect fit of your retrofit system. Keep in mind that retrofit kits are designed with close-tolerance components which afford the most efficient linkage systems. Measurements rounded to the nearest 1/8 or 1/16 inch will not perform as well (sometimes not at all) as a kit designed around careful measurements using proper equipment. Our designs are typically +.005" tolerance.

DISCLAIMER

We will do our best to provide a linkage system designed around your specifications and measurements. However, we cannot be held responsible for linkages which do not fit as a result of incorrect data given to Belimo. We will re-work components which do not fit properly for a nominal fee.

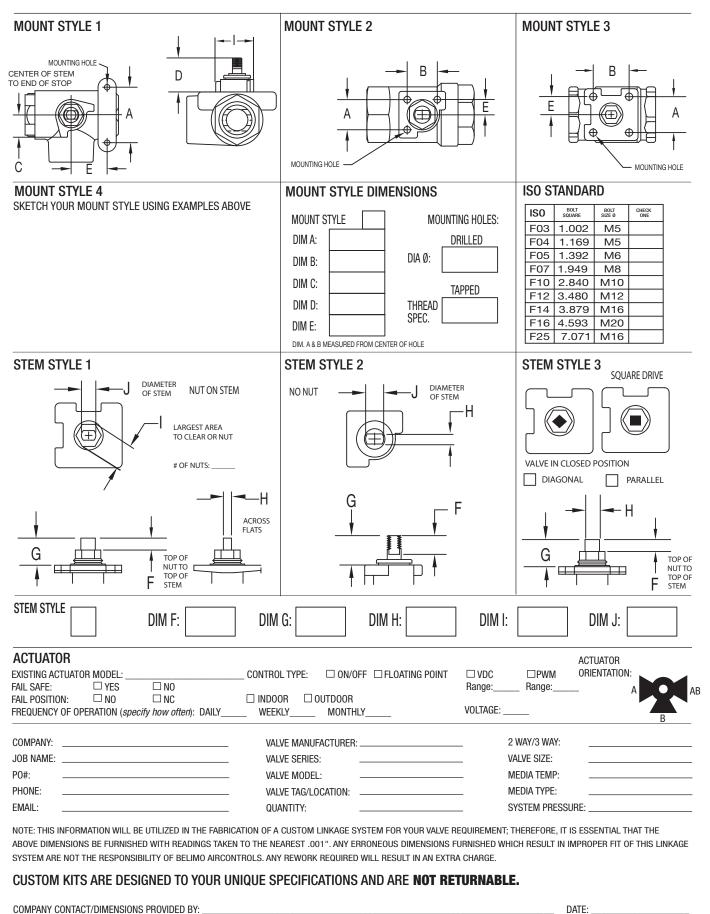
To reduce the possibility of incorrect linkage solutions, we respectfully request that you fill out the retrofit form completely and forward that information with your order. This will serve as a double check between your valve and the actuator/linkage package designed for your application.

Actuation, weather shields and linkages cannot be pre-assembled at the Belimo factory prior to your receipt. The linkages are designed to be attached onto the valve body first, then optional weather shields, and finally actuation products.

Close-off pressures are calculated using actuator torque, valve stroke, and valve area. Other factors may affect the rated close-off pressures, including flow rates, system maintenance schedules, chemicals used in the shot feeder process, vicinity to pumps, condition of valve stem seals, and assembly of linkage material in the field.

Valves that are being considered for retrofit of actuation should be analyzed for their life expectancy before the retrofit has taken place. Valves that leak through stem seals or casings will continue to leak with the new linkage system in place, maybe even more so. Rebuilding the packing on these valves may be more costly than replacing the valves themselves. In some instances, older valve stem heights will require field modifications to the valve in order to utilize the retrofit kit. Belimo takes no responsibility for the operation of these valves after they have been modified.

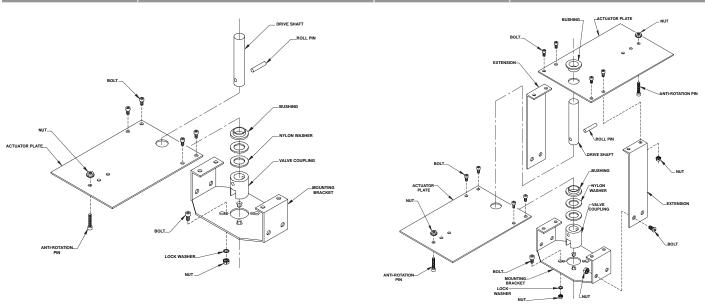




T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)



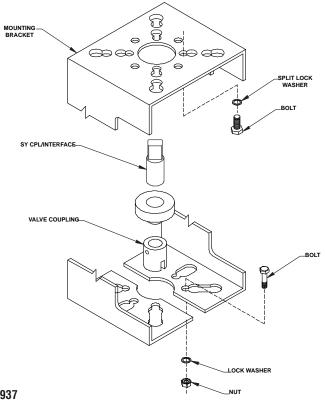
2-way/3-way Single Actuator Generic – Retrofit Form Required 2-way/3-way Dual Actuator Generic – Retrofit Form Required



UBSP0004 \$755

UBSP0006 \$1,024

Industrial Electronic 2-way/3-way Generic – Retrofit Form Required



UBSP0008 PR, PKR, SY4 - SY6 \$937

UBSP0012 SY7-SY9 \$1,572

Custom kits are designed to your unique specification and are not returnable.

WARRANTY

800-543-9038 USA





The "10 questions" method for sizing and selection shown below is recommended as the best method for your actuation requirements. Use the "Application Data" column in this chart as a worksheet to help in the selection process.

AP	PLICATION INFO		APPLICATION DATA
1	What is the total area of the damper?	Combine the artess	sq.ft.
2	Opposed blade or Parallel blade construction?	L" x W" = Total sq. inches/144 = total sq. feet Opposed Blade w/o seals 3 in-lbs/sq. feet* Opposed Blade w/ seals 5 in-lbs/sq. feet	□ Opposed Blade
		Parallel Blade w/o seals 4 in-lbs/sq. feet Parallel Blade w/ seals 7 in-lbs/sq. feet *Less than 1,000 feet per minute	□ Parallel Blade
3	Are there blade and edge seals on the damper?	This will impact the proper selection as the seals add resistance requiring more torque. If unknown, use a worst case scenario, parallel blade with seals.	□ Yes
4	For the damper in question, what does the manufacturer specify as the torque rating?	If this information is not available refer to the "typical damper requirements and sizing" chart below.	in-lbs/sq.ft.
5	What is the air velocity, static pressure, or design CFM?	Systems above 1,000 FPM require additional actuator torque	W.G. CFM FPM

AC	TUATOR REQUIREN	IENTS	APPLICATION DATA
6	Is fail-safe actuation required?	Consider the application. Is the actuator and/or damper exposed to outside air? If yes, use spring return.	□ Yes □ No
7	What is the supply voltage to the actuator? • 24 VAC/DC • 120 VAC • 230 VAC single phase	Do you need a step down transformer? If replacing an oil immersed gear train actuator, is the transformer in the defective actuator? You may need to purchase one.	□ 24 VAC □ 120 VAC □ 230 VAC
8	What is the control signal to the actuator?	Position Floating point Modulating Sequencing "Non-standard" voltage signals This will be a critical component to the selection of an actuator. Consider theMFT actuator product range and the flexibility of its application.	□ On/Off □ Floating Point □ 2-10 VDC □ 0.5-10 VDC □ 4-20 mA □ PWM range □ Other (MFT)
9	Can you direct couple to a damper shaft?	Direct- coupling has become the industry standard. Some retrofit applications do not allow direct coupling. Refer to the Belimo "Mounting & Methods Guide" for application details.	☐ Yes☐ No, see☐ accessories☐ page
10	Are there additional accessories required?	For example, some applications require the addition of an auxiliary switch for proof of position; a retrofit application may require an additional mounting bracket and linkage kit. We advise that you identify these needs prior to leaving the job site or ordering products.	□ No □ Yes, see accessories section or actuator series for details

TYPICAL DAMPER REQUIREMENTS AND SIZING

Square Damper (with square shape): ft2 = h x w /144; (h= height, w= width, in inches)

EXAMPLE: Damper Area (8 ft²) x Rated Torque Loading of Damper (4 in-lbs/ft²) = Total in-lbs Required (32 in-lbs) Belimo LF 35 in-lbs/LM 45 in-lbs actuators

		Torque Loading in-lbs/tt²										
	Damper Blade Type	< 1000 FPM	1000-2500 FPM	2500-3500 FPM								
	Parallel blade/edge seals	7 (Typical)	10.5	14								
뿙	Opposed blade/edge seals	5 (Typical)	7.5	10								
I ≸ I	Parallel blade/no edge seals	4	6	8								
SO	Opposed blade/no edge seals	3	4.5	6								
	Round	10	14	20								



TYPICAL DAMPER REQUIREMENTS AND SIZING EXAMPLE:

APPLICATION REQUIREMENTS	SQUARE DAMPER	ROUND DAMPER
Damper Length	24"	
Damper Width	12"	
Damper (Round)		12"
Blade Type	Opposed	Round
Edge Seals	Edge Seals	
Design CFM	1800 CFM	700 CFM
Fail-Safe	Yes	Yes
Supply Voltage	24 Volt	24 Volt
Control Signal	2-10 VDC	2-10 VDC
CALCULATIONS		
Damper Area (sq. inches)	24" x 12" = 288 in ²	$\pi r^2 = 113.04 \text{ in}^2$
Damper Area (sq. feet)*	288 in ² x 1ft/12 in x 1ft/12 in = 2 ft ²	113.04 in ² / 1ft/12in x 1ft/12in= 0.785 ft ²
Velocity	1800 ft³/min / 2 ft² = 900 ft/min	700 ft ³ /min / .785 ft ² = 892 ft/min
	See chart under <1000 FPM (ft/min)	See chart under <1000 FPM (ft/min)
Rated Torque Loading (in-lbs/ft²)**	Select 5 in-lbs/ft ² for Opposed Blade/Edge Seals	Select 10 in-lbs/ft² for Round Damper

EXAMPLE EQUATION

*Damper Area (sq. ft) x **Rated Torque Loading of Damper (in-lbs/ft 2) = Total in-lbs Required

2 ft ² x 5 in-lbs/ft ² = 10 in-lbs	$0.785 \text{ ft}^2 \times 10 \text{ in-lbs/ft}^2 = 7.85 \text{ in-lbs}$
Belimo LF24-SR US @ 35 in-lbs	Belimo LF24-SR US @ 35 in-lbs

CONTROL SIGNAL OVERVIEW

Belimo actuators are compatible with many control inputs and all direct digital control (DDC) systems. There are many signals to select from with today's controllers.

On/Off or Open-Close: The actuator is able to drive either to its full clockwise (CW) position, or to its full counter-clockwise (CCW) position.

3-point, Tri-State, Floating Point: The actuator has both clockwise (CW) and counter-clockwise (CCW) control inputs. One drives the actuator to its CW, the other to its CCW position. If there is no signal (Null point) on either input the actuator simply stays in its last position.

Modulating (Proportional) Control: The actuator drives to its control signal input throughout its angle of rotation. This control type is usually a variation of VDC with typical ranges of 0.5-10 VDC and 2-10 VDC.

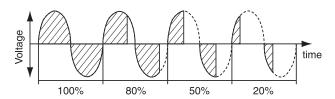
It is common to also have a 4-20 mA output from a controller. This can be very easily converted to 2-10 VDC with a 500 Ω resistor.

Pulse Width Modulation (PWM): The actuator drives to a specified position according to a pulse duration, the "length" of signal. The pulse can originate from a dry contact closure or a triac sink or source controller. An example of PWM control:

Time base: 0 to 10 seconds Output pulse: 5 seconds Actuator position: 50%

See -MFT model actuators.

Phasecut: An actuator drives depending on the power result of a remaining wave. This signal type cuts a portion of an AC sine wave and the actuator recognizes this signal as a modulating movement. See actuator model AFB24-PC.



Multi-Functional Technology (MFT): This technology was developed by Belimo for incorporation into our damper and valve actuators. MFT provides the ability to program certain characteristics of the actuators. Some of the key characteristics to change are:

CONTROL INPUT

Selectable on/off, VDC, PWM or floating point

MOTION VALUES

Selectable running time adjustment

FEEDBACK

Selectable feedback values

0-135 Ω : The actuator drives to a modulating position proportional to the ohm signal of the controller. See actuator model AFB24-MFT95.

PRESSURE DEPENDENT, ON/OFF APPLICATION

APPLICABLE PRODUCTS

CCV, HTCCV, ZONE, GLOBE, BALL, QCV

REQUIRED INFORMATION

FOR SIZING:

flow in GPM

 ΔP (if none given, utilize 1 psi)

FOR SELECTION:

2-way or 3-way valve

pipe size

media temperature

spring return or non fail-safe

required close-off pressure (COP)

voltage requirement

ambient temperature

required accessories

EQUATIONS USED

$$C_V = \frac{Q^* \sqrt{G}}{\sqrt{1 + C}}$$

$$\Delta P = \left| \frac{Q * \sqrt{G}}{C_V} \right|$$

 C_v = required C_v

Q = flow in Gallons per Minute

G = Specific gravity of fluid (estimated as 1 for water systems)

 ΔP = differential pressure over valve (deltaP) – stated in psi

PROCEDURE

- 1) Calculate Cv
- 2) Choose valve type (CCV, Zone, etc)
- Choose valve model number that has closest C_V rating (normally round down unless maximum ΔP for project is exceeded)
 - a. Refer to section 9 for QCV
 - b. Refer to section 12 for CCV (Fp correction required)
 - c. Refer to section 13 for HTCCV
 - d. Refer to section 11 for Zone valves
 - e. Refer to section 16 for Globe valves
 - f. Refer to section 14 and 15 for Ball valves (Fp correction required)

NOTE: If valve selection requires piping correction factor (F_p) , calculate C_v based on chart provided in section that shows appropriate C_v for pipe size selected.

- In general, do not select a valve less than ½ of the line size
- 4) Calculate actual ΔP based upon C_{ν} of valve selected
- 5) If calculated ΔP is within project specified limits, proceed with actuator selection
- 6) If #5 is no, need to select a valve with a higher/lower C_v
- 7) Select actuator based upon selection parameters above
- 8) Based upon actuator/valve selection, verify close-off pressure (COP) meets project requirements

EXAMPLE OF CV CALCULATION

i.e. GPM is 50

i.e. $\Delta P = 1$ psi

Cv = 50 GPM/sqrt of 1 psi Cv = 50 GPM/1 = 50

$$C_v = \frac{50}{\sqrt{1}} = 50$$

PRESSURE DEPENDENT, MODULATING APPLICATION

APPLICABLE PRODUCTS

CCV, HTCCV, ZONE, GLOBE, BALL, QCV

REQUIRED INFORMATION

FOR SIZING:

flow in GPM

 ΔP (if none given, utilize 3-5 psi)

FOR SELECTION:

2-way or 3-way valve

pipe size

media temperature

spring return or non fail-safe

required close-off pressure (COP)

voltage requirement

ambient temperature

required accessories

EQUATIONS USED

$$Cv = \frac{Q^* \sqrt{Q}}{\sqrt{\Delta F}}$$

$$\Delta P = \left[\frac{Q * \sqrt{G}}{C_V} \right]$$

 C_V = required C_V

Q = flow in Gallons per Minute

G = Specific gravity of fluid (estimated as 1 for water systems)

 ΔP = differential pressure over valve (deltaP) – stated in psi

PROCEDURE

- 1) Calculate C_v
- 2) Choose valve type (CCV, Zone, etc)
- 3) Choose valve model number that has closest C_V rating (normally round down unless maximum ΔP for project is exceeded)
 - a. Refer to section 9 for QCV
 - b. Refer to section 12 for CCV (Fp correction required)
 - c. Refer to section 13 for HTCCV
 - d. Refer to section 11 for Zone valves
 - e. Refer to section 16 for Globe valves
 - f. Refer to section 14 and 15 for Ball valves (Fp correction required)

NOTE: If valve selection requires piping correction factor (F_p) , calculate C_v based on chart provided in section that shows appropriate C_v for pipe size selected.

- In general, do not select a valve less than ½ of the line size
- 4) Calculate actual ΔP based upon C_v of valve selected
- 5) If calculated ΔP is within project specified limits, proceed with actuator selection
- 6) If #5 is no, need to select a valve with a higher/lower C_{ν}
- 7) Select actuator based upon selection parameters above
- 8) Based upon actuator/valve selection, verify close-off pressure (COP) meets project requirements

EXAMPLE OF CV CALCULATION

i.e. Pressure drop through the coil is 3 psi, then the pressure drop across the valve should be approximately 3 psi. Let us use 4 psi for example.

i.e. GPM is 50

i.e. $\Delta P = 4$ psi

Cv = 50 GPM/sqrt of 4 psi Cv = 50 GPM/2 = 25

$$C_{v} = \frac{50}{\sqrt{4}} = 25$$



PRESSURE INDEPENDENT, ON/OFF, FLOATING APPLICATION

APPLICABLE PRODUCTS

ePIV, ENERGY VALVE, PIQCV

REQUIRED INFORMATION

FOR SIZING:

flow in GPM

line size

FOR SELECTION:

2-way valves only pipe size

media temperature spring return or non fail-safe

required close-off pressure (COP)

voltage requirement

ambient temperature

required accessories

EQUATIONS USED

No equations are required. Choose the valve that has the closest GPM to the requirement and round up to next available flow.

PROCEDURE

- 1) Obtain required GPM
- 2) Choose valve model number that has closest GPM rating (round up)
 - · Refer to section 7 for ePIV
 - Refer to section 6 for Energy Valve
 - · Refer to section 8 for PIQCV
- 3) Verify that valve size is not larger than pipe size and in general, do not select a valve less than ½ of the line size
- 4) Select actuator based upon selection parameters above
- 5) Based upon actuator/valve selection, verify close-off pressure (COP) meets project requirements

EXAMPLE OF CV CALCULATION

87 GPM is needed - choose 90 GPM valve PICCV-50-090

PRESSURE INDEPENDENT, MODULATING APPLICATION

APPLICABLE PRODUCTS

ePIV, ENERGY VALVE, PIQCV

REQUIRED INFORMATION

FOR SIZING:

flow in GPM

line size

FOR SELECTION:

2-way valves only

pipe size

media temperature

spring return or non fail-safe

required close-off pressure (COP)

voltage requirement

ambient temperature

required accessories

EQUATIONS USED

No equations are required. Choose the valve that has the closest GPM to the requirement and round up to next available flow.

PROCEDURE

- 1) Obtain required GPM
- 2) Choose valve model number that has closest GPM rating (round up)
 - · Refer to section 7 for ePIV
 - Refer to section 6 for Energy Valve
 - · Refer to section 8 for PIQCV
- 3) Verify that valve size is not larger than pipe size and in general, do not select a valve less than 1/2 of the line size
- 4) Select actuator based upon selection parameters above
- 5) Based upon actuator/valve selection, verify close-off pressure (COP) meets project requirements

EXAMPLE OF CV CALCULATION

87 GPM is needed - choose 90 GPM valve PICCV-50-090



LOW PRESSURE STEAM (15 PSI AND UNDER), ON/OFF APPLICATION

APPLICABLE PRODUCTS

HTCCV, GLOBE, VS/VSS/V BALL, SHP BUTTERFLY

REQUIRED INFORMATION

FOR SIZING:

flow in lb/hr

 ΔP (if none given, 10% psi or line size valve)

Is it a 1/3 - 2/3 application?

FOR SELECTION:

2-way valve only

pipe size

media temperature

spring return or non fail-safe actuation

required close-off pressure (COP)

voltage requirement

ambient temperature

required accessories

EQUATIONS USED

$$C_V = \frac{Q}{3 * \sqrt{h * Po}}$$

C_v = Valve coefficient of flow

= #/hr steam

h = Pressure drop across open valve

use 10% inlet pressure for on/off applications

Po = Outlet pressure in psia = P1-h

P1 = Absolute inlet pressure = gauge pressure (psig) + 14.7

PROCEDURE

- 1) Calculate C_V using 10% inlet gauge pressure as h (differential pressure)
- 2) If this is a 1/3 2/3 application, you will select 2 valves. The first valve will be rated for 1/3 of the total flow (1/3 of required C_V rating) and the second valve will be rated for 2/3 of the total flow (2/3 of required C_V rating).
- 3) Choose valve type (Ball, Globe, HTCCV, etc)
- 4) Choose valve model number that has closest C_V rating (normally round down unless maximum ΔP for project is exceeded)
 - a. Refer to section 13 for HTCCV
 - b. Refer to section 16 for Globe valves
 - c. Refer to section 14 and 15 for Ball valves (Fp correction required)
 - d. Refer to section 17 for Butterfly valves
- NOTE: If valve selection requires piping correction factor (Fp), calculate C_{ν} based on chart provided in section that shows appropriate C_{ν} for pipe size selected.
 - In general, do not select a valve less than ½ of the line size
- 5) Calculate actual ΔP based upon C_V of valve selected
- 6) If calculated ΔP is within project specified limits, proceed with actuator selection
- 7) If #6 is no, need to select a valve with a higher/lower C_V
- 8) Select actuator based upon selection parameters above
- Based upon actuator/valve selection, verify close-off pressure (COP) meets project requirements

EXAMPLE OF C_v CALCULATION

Q = FLOW RATE Q = 1000 #/hr

Inlet psi = 15 psi

h = 10% (inlet psi) h = 0.10 (15) = 1.5

Po = (inlet psi + 14.7) – h Po = (15 + 14.7) - 1.5 = 28.2

Cv = 1000/(3*sqrt[1.5*28.2])

Cv = 1000/(3*6.50)Cv = 1000/19.51 $C_V = \frac{Q}{3 * \sqrt{h * Po}} = 51.25$

Required Cv = 51.25

LOW PRESSURE STEAM, (15 PSI AND UNDER) MODULATING APPLICATION

APPLICABLE PRODUCTS

HTCCV, GLOBE, VS/VSS/V BALL, SHP BUTTERFLY

REQUIRED INFORMATION

FOR SIZING:

flow in lb/hr

 ΔP (if none given, 80% psi of inlet pressure)

Is it a 1/3 - 2/3 application?

FOR SELECTION:

2-way valve only

pipe size

media temperature

spring return or non fail-safe actuation

required close-off pressure (COP)

voltage requirement

ambient temperature

required accessories

EQUATIONS USED

$$C_{v} = \frac{Q}{3 * \sqrt{h * Po}}$$

C_v = Valve coefficient of flow

Q = #/hr steam

h = Pressure drop across open valve – use 80% of inlet pressure for modulating applications if inlet is under 15 psi

Po = Outlet pressure in psia = P1-h

P1 = Absolute inlet pressure = gauge pressure (psig) + 14.7

PROCEDURE

- 1) Calculate C_v using 80% inlet gauge pressure as h (differential pressure)
- 2) If this is a 1/3 2/3 application, you will select 2 valves. The first valve will be rated for 1/3 of the total flow (1/3 of required C_v rating) and the second valve will be rated for 2/3 of the total flow (2/3 of required C_V rating).
- 3) Choose valve type (Ball, Globe, HTCCV, SHP Butterfly, etc)
- 4) Choose valve model number that has closest C_V rating (normally round down unless maximum ΔP for project is exceeded)
 - a. Refer to section 13 for HTCCV
 - b. Refer to section 16 for Globe valves
 - c. Refer to section 14 and 15 for Ball valves
 - d. Refer to section 17 for Butterfly valves

NOTE: If valve selection requires piping correction factor (Fp), calculate C_v based on chart provided in section that shows appropriate C_v for pipe size

- In general, do not select a valve less than ½ of the line size
- 5) Calculate actual ΔP based upon C_V of valve selected
- 6) If calculated ΔP is within project specified limits, proceed with actuator selection
- 7) If #6 is no, need to select a valve with a higher/lower C_V
- 8) Select actuator based upon selection parameters above
- 9) Based upon actuator/valve selection, verify close-off pressure (COP) meets project requirements

EXAMPLE OF C_V CALCULATION

Q = FLOW RATE Q = 1000 #/hr

Inlet psi = 15 psi

h = 80% (inlet psi) h = 0.80 (15) = 12

Po = (inlet psi + 14.7) - hPo = (15 + 14.7) - 12 = 17.7

 $C_V = 1000/(3*sqrt[12*17.7])$

 $C_V = 1000/(3*14.6)$ $C_V = 1000/43.7$

Required $C_v = 22.9$



MEDIUM/HIGH PRESSURE STEAM, (ABOVE 15 PSI), ON/OFF APPLICATION

APPLICABLE PRODUCTS

GLOBE, VS/VSS/V BALL, SHP BUTTERFLY

REQUIRED INFORMATION

FOR SIZING:

flow in lb/hr

 ΔP (if none given, 10% psi or line size valve)

Is it a 1/3 - 2/3 application?

FOR SELECTION:

2-way valve only

pipe size

media temperature

spring return or non fail-safe actuation

required close-off pressure (COP)

voltage requirement

ambient temperature

required accessories

EQUATIONS USED

$$C_{v} = \frac{Q}{3 * \sqrt{h * Po}}$$

 C_v = Valve coefficient of flow

Q = #/hr steam

h = Pressure drop across open valve

- use 10% inlet pressure for on/off applications

Po = Outlet pressure in psia = P1-h

P1 = Absolute inlet pressure = gauge pressure (psig) + 14.7

PROCEDURE

- 1) Calculate C_V using 10% inlet pressure as h (differential pressure)
- 2) If this is a 1/3 2/3 application, you will select 2 valves. The first valve will be rated for 1/3 of the total flow (1/3 of required C_V rating) and the second valve will be rated for 2/3 of the total flow (2/3 of required C_V rating).
- 3) Choose valve type (Ball, Globe, etc)
- 4) Choose valve model number that has closest C_V rating (normally round down unless maximum ΔP for project is exceeded)
 - a. Refer to section 16 for Globe valves
 - b. Refer to section 14 and 15 for Ball valves
 - b. Refer to section 17 for Butterfly valves
- NOTE: If valve selection requires piping correction factor (Fp), calculate C_V based on chart provided in section that shows appropriate C_V for pipe size selected.
 - In general, do not select a valve less than ½ of the line size
- 5) Calculate actual ΔP based upon C_V of valve selected
- If calculated ΔP is within project specified limits, proceed with actuator selection
- 7) If #6 is no, need to select a valve with a higher/lower C_{ν}
- 8) Select actuator based upon selection parameters above
- Based upon actuator/valve selection, verify close-off pressure (COP) meets project requirements

EXAMPLE OF C_v CALCULATION

Q = FLOW RATE

Q = 1000 #/hr

Inlet psi = 40 psi

h = 10% (inlet psi)

h = 0.10(40) = 4

Po = (40 + 14.7) - 4 = 50.7

Po = (inlet psi + 14.7) - h

 $C_V = 1000/(3*sqrt[4*50.7])$

 $C_V = 1000/(3*14.3)$ $C_V = 1000/42.7$ $C_V = \frac{Q}{3 * \sqrt{h * Po}} = 23.41$

Required $C_v = 23.42$

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

APPENDIX

MEDIUM/HIGH PRESSURE STEAM, (ABOVE 15 PSI), MODULATING APPLICATION

APPLICABLE PRODUCTS

GLOBE, VS/VSS/V BALL, SHP BUTTERFLY

REQUIRED INFORMATION

FOR SIZING:

flow in lb/hr

 ΔP (if none given, 42% psi of absolute inlet pressure)

Is it a 1/3 - 2/3 application?

FOR SELECTION:

2-way valve only

pipe size

media temperature

spring return or non fail-safe actuation

required close-off pressure (COP)

voltage requirement

ambient temperature

required accessories

EQUATIONS USED

$$C_v = \frac{Q}{3 * \sqrt{h * Po}}$$

 C_V = Valve coefficient of flow

Q = #/hr steam

h = Pressure drop across open valve – use 42% of absolute inlet pressure for modulating applications

h= 0.42(Pi+14.7)

Po = Outlet pressure in psia = P1-h

P1 = Absolute inlet pressure = gauge pressure (psig) + 14.7

PROCEDURE

- 1) Calculate C_v using 42% absolute inlet pressure as h (differential pressure)
- 2) If this is a 1/3 2/3 application, you will select 2 valves. The first valve will be rated for 1/3 of the total flow (1/3 of required C_V rating) and the second valve will be rated for 2/3 of the total flow (2/3 of required C_V rating).
- 3) Choose valve type (Ball, Globe, etc)
- 4) Choose valve model number that has closest C_V rating (normally round down unless maximum ΔP for project is exceeded)
 - a. Refer to section 16 for Globe valves
 - b. Refer to section 14 and 15 for Ball valves
 - c. Refer to section 17 for Butterfly valves

NOTE: If valve selection requires piping correction factor (Fp), calculate C_V based on chart provided in section that shows appropriate C_V for pipe size selected.

- In general, do not select a valve less than ½ of the line size
- 5) Calculate actual ΔP based upon C_V of valve selected
- If calculated ΔP is within project specified limits, proceed with actuator selection
- 7) If #6 is no, need to select a valve with a higher/lower C_v
- 8) Select actuator based upon selection parameters above
- Based upon actuator/valve selection, verify close-off pressure (COP) meets project requirements

EXAMPLE OF C_v CALCULATION

Q = FLOW RATE

Q = 1000 #/hr

Pi = inlet psi

Pi = 40 psi

h = pressure drop across open valve – use 42% of absolute inlet pressure for modulating applications

h = 0.42 (40 + 14.7) = 22.97

Po = (inlet pressure in psia + 14.7) – h

Po = (40 + 14.7) - 22.97 = 31.73

 $C_V = 1000/(3*sqrt[22.97*31.73])$

 $C_V = 1000/(3*26.99)$

 $C_V = 1000/80.97$

 $C_v = \frac{Q}{3 * \sqrt{h * Po}} = 12.35$

Required $C_V = 12.35$



PRESSURE DEPENDENT, ON/OFF APPLICATION

APPLICABLE PRODUCTS

Butterfly Valve - HD/L Series Butterfly Valve Grooved - VIC Series Butterfly Valve High Performance - SHP Series

REQUIRED INFORMATION

FOR SIZING:

flow in GPM pipe size

velocity
FOR SELECTION:

2-way or 3-way valve pipe size media temperature spring return or non fail-safe required close-off pressure (COP) voltage requirement ambient temperature required accessories

EQUATIONS USED

No equations are used. Use Velocity Chart on page 17-6 of the Butterfly Valve section.

PROCEDURE

- To select the proper valve, find required GPM on the velocity chart on page 17-6. (Verify pipe velocity. HVAC design is typically from 4 ft/sec to 10 ft/sec.)
- Choose valve that does not exceed 12 ft/sec for the HD/L series, 20 ft/sec for the VIC series or 32 ft/sec for the SHP series.
- 3) Verify valve selection is not too large or small for the pipe size.
- 4) Verify Close-off Pressure (COP) is sufficient for the application.

NOTES

- Most butterfly valves are line size and piping geometry is not considered. If valve size must be reduced, a recommendation is to select a valve only one size less than the pipe. Do not exceed valve type fluid velocity limits.
- 2) For a two-position Butterfly valve, the maximum opening for flow should be at 90° open.
- 3) Determine the close-off rating. Full rated valves have a close-off rating equivalent to the valve body rating (most are 200 psi), with the exception of 150 psi close-off for the 14" Butterfly valves and above. See Butterfly selection models for the ratings.
- 4) Determine the type of actuation for your application involved.
- 5) Consult Belimo Customer Service for Butterfly applications involving steam, high velocity requirements, etc.

EXAMPLE

Application requires a 2-way, 400 GPM Butterfly valve, a valve of 4" minimum would be selected. The 4" valve at 12 ft/second would be able to withstand a capacity of 470 GPM, without damage to the liner.





PRESSURE DEPENDENT, MODULATING APPLICATION

APPLICABLE PRODUCTS

Butterfly Valve - HD/L Series Butterfly Valve Grooved - VIC Series Butterfly Valve High Performance - SHP Series

REQUIRED INFORMATION

FOR SIZING: flow in GPM pipe size velocity

FOR SELECTION: 2-way or 3-way valve pipe size media temperature spring return or non fail-safe required close-off pressure (COP) voltage requirement ambient temperature required accessories

EQUATIONS USED

No equations are used. Use Velocity Chart on page 17-6 of the Butterfly Valve section.

PROCEDURE

- 1) To select the proper valve, find required GPM on the velocity chart on page 17-6. (Verify pipe velocity. HVAC design is typically from 4 ft/sec to 10 ft/sec.)
- 2) Choose valve that does not exceed 12 ft/sec for the HD/L series, 20 ft/sec for the VIC series or 32 ft/sec for the SHP series.
- 3) Verify valve selection is not too large or small for the pipe size.
- 4) Verify Close-off Pressure (COP) is sufficient for the application.

NOTES

- 1) Most butterfly valves are line size and piping geometry is not considered. If valve size must be reduced, a recommendation is to select a valve only two sizes less than the pipe. Do not exceed valve type fluid velocity limits.
- 2) For a modulating 2-way Butterfly valve, the maximum opening for flow should be at 60° open.
- 3) Determine the close-off rating. Full rated valves have a close-off rating equivalent to the valve body rating (most are 200 psi), with the exception of 150 psi close-off for the 14" Butterfly valves and above. Refer to Butterfly models for ratings.
- 4) Determine the type of actuation for your application involved.
- 5) Consult Belimo Customer Service for Butterfly applications involving steam, high velocity requirements, etc.

EXAMPLE

Application requires a 2-way, 400 GPM Butterfly valve, a valve of 4" minimum would be selected. The 4" valve at 12 ft/second would be able to withstand a capacity of 470 GPM, without damage to the liner.



MODELS OF VALVES/APPLICATIONS

FLOW MEDIUM	ENERGY VALVE	EPIV	QCV	PIQCV	CCV	HTCCV	BALL	GLOBE	BUTTERFLY	ZONE Valves
Chilled / Hot Water / Glycol	EV	P2, P6	Z2Q	Z2QP	B2(B), B3(B), B6	B2HT	B2VS, B2VSS B3L	G2, G3(D), G7(D), G6C Series	F6, F7 HD, L, VIC, SHP	Z2
3-Way Mixing					B3(B)			G3, G7	F7, HD/L, VIC, SHP	
3-Way Diverting			Z3Q		B3(B)		B3L	G3D, G7D	F7, HD/L, VIC, SHP	Z3
Low Pressure Steam (up to 15 inlet psi)						B2HT	B2VS	G2, G6C	F6SHP	
Medium Pressure Steam (15–50 inlet psi)							B2VS (up to 35 psi only) B2VSS, B2VB, B6VB	G2 up to (35 inlet psi only) G2S, G6C (35 psi only), G6CS	F6SHP	
High Pressure Steam (50-100 inlet psi)							B2VB, B6VB	G2S, G6CS		

WATER QUALITY R	ECOMM	ENDED PARAM	ETERS			
Chilled Water, Clo	sed Loc	ps, and Hot W	ater Syste	ms up to 212°F (100°C)		
	8.0		<	< pH		10.3
				Conductivity	<	3000 MMHS
				Iron	<	0.5 ppm
				Copper	<	0.5 ppm
Chilled Systems	→	100 ppm	<	Molybdenum (Mild Steel Corrosion Inhibitor)	<	150 ppm
Hot Systems	-	200 ppm	<	Molybdenum (Mild Steel Corrosion Inhibitor)	<	250 ppm
		400 ppm	<	Nitrite (Mild Steel Corrosion Inhibitor)	<	1000 ppm
				Azole (Yellow Metal Inhibitor)	>	5 ppm free and available
				Total Aerobic Bacteria	<	1000 cells/ml
				Anaerobic Bacteria	<	50 cells/ml
				Ammonia	<	2 ppm
				Turbidity (in systems not containing a dye)	<	20 FTU's
				Particles (0.5 micron particles/ml with no particles above 20 microns)	<	200,000
				Polymer	<	10 ppm

Use water with low levels of chloride and sulfate, less than 25 ppm. Water hardness should be less than 50 ppm of hard water ions (Ca, Mg). When water hardness is at unacceptable levels, a water softener expert should be consulted.



T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD) CONTROL VALVE SEAT LEAKAGE CLASSIFICATIONS (IN ACCORDANCE WITH ANSI/FCI 70-2)

Leakage Class Designation	Maximum Leakage Allowable	Test Medium	Test Pressure	Testing Procedures Required for Establishing Rating			
I	-	-	-	No test required provided user and supplier so agree			
II	0.5% of rated capacity	Air or water at 50°F to 125°F (10°C to 52°C)	45-60 psig or max. operating differential whichever is lower.	Pressure applied to valve inlet with outlet open to atmosphere or connected to a low head loss measuring device full normal closing thrust provided by actuator			
III	0.1% of rated capacity	As above	As above	As above			
IV	0.01% of rated capacity	As above	As above	As above			
V	0.0005 ml per minute of water per inch of seat diameter per psi differential.	Water at 50°F to 125°F (10°C to 52°C)	Max service pressure drop across valve plug, not to exceed ANSI body rating (100 psi pressure drop minimum).	Pressure applied to valve inlet after filling entire body cavity and connected piping with water and stroking valve plug closed. Use net specified max actuator thrust, but no more, even if available during test. Allow time for leakage flow to stabilize.			
VI	Not to exceed in following table based on seat diameter.	Air or nitrogen at 50°F to 125°F (10°C to 52°C)	50 psig or max rated amounts across valve plug shown whichever is lower.	Actuator should be adjusted to operating differential pressure conditions specified with full normal closing thrust applied to valve plug seat. Allow time for leakage flow to stabilize and use suitable measuring device.			

CONTROL VALVE SEAT LEAKAGE CLASSIFICATIONS (FOR CLASS VI ONLY) (IN ACCORDANCE WITH ANSI/FCI 70-2-2006)

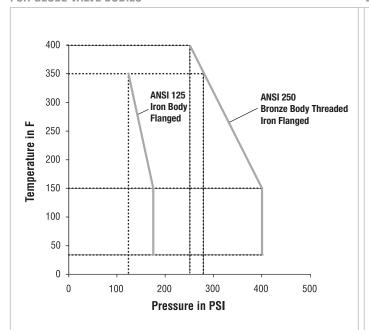
NOMINAL SI	EAT DIAMETER	LEAK RATE							
Inches	DN/Millimeters	mL per minute	Bubbles per minute						
1	25	0.15	1						
1½	40	0.3	2						
2	50	0.45	3						
2½	65	0.6	4						
3	80	0.9	6						
4	100	1.7	11						
6	150	4	27						
8	200	6.75	45						

Water Guidelines

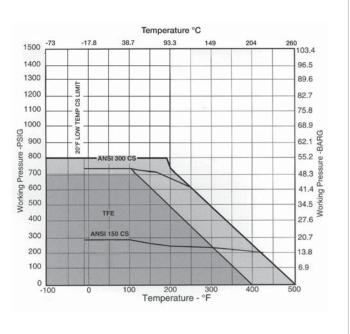
Pressure/Temperature Charts



MAXIMUM TEMPERATURE AND PRESSURE RATINGS FOR GLOBE VALVE BODIES



PRESSURE/TEMPERATURE CHART FOR ANSI CLASS 150/300 BUTTERFLY VALVES



SATURATED STEAM TEMPERATURE

Pressure (PSIG)	Temp (°F)	Pressure (PSIG)	Temp (°F)
0	212	55	302.6
2	218.5	60	307.3
4	224.4	65	311.8
6	229.8	70	316.0
8	234.6	75	320.0
10	239.0	80	323.9
15	249.7	85	327.6
20	258.8	90	331.1
25	266.8	95	334.6
30	274.0	100	337.9
35	280.6	105	341.1
40	286.7	110	344.1
45	292.4	115	347.1
50	297.7	120	350.0

Table provided complements of Warren Controls.

BODY PRESSURE-TEMPERATURE RATINGS (PSIG)

		(/				
Temp (°F)	Bronze Body Thread	Iron Body 125 Flange	Iron Body Thread/250 Flange			
+20 to 100°F	400	175	400			
150°F	400	175	400			
175°F	392	170	385			
200°F	385	165	370			
225°F	375	155	355			
250°F	365	150	340			
275°F	350	145	325			
300°F	335	140	310			
350°F	300	125	280			

Table provided complements of Warren Controls.



	00p 3	157-4243 157-4255	87-9042	(800) 987-8875												
, Inc.	1049 Fortunato Loop Sparks, NV 89436	Phone (775) 857-4243 Fax (775) 857-4255	TOLL FREE Phone (800) 9	(008)		NOTES										
Belimo Aircontrols (USA), Inc.																
ontrol	d 5810	Phone (203) 791-9915 Fax (203) 791-9919	43-9038	Fax (800) 228-8283 (800) ACTUATE			Switches									
no Airc	33 Turner Road Danbury, CT 06810	(203) 7 (203) 7	FREE (800) 5	(800) 2 (800) 4			Spring Return									
Belii	33 Tu Danbu	Phone Fax	TOLL Phone	Fax		ications	Modulating									
ı	1			ı	1	Actuator Specifications	Tri-State Floating Pt.									
						Actuato	On-Off									
							120 VAC									
							24 VAC									
							Zone									
							Butterfly Globe									
						ations	CCV									
						Valve Specifications	Ball									
						Valve	Energy Valve									
							ePIV QCV									
							PIQCV									
							Three-way									
							Two-way									
							System Close-Off Pressure (psi)									
						ions	Pipe Size (in.)									
						pecificat	Desired C _V									
						Project Specifications	Desired Pressure Drop (psi)									
ш	> "		Ш	×	ш		Flow (GPM)									
NAM	COMPANY		PHONE	FAX	NAM		System									
CONTACT NAME	00 PD	!			PROJECT NAME		Quantity									

T15000 - 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Terms and Conditions of Sale and Warranty

BELIMO

I General

1.1. The following Terms and Conditions of Sale ("Terms") apply to the sale of products described in this Product Guide ("Products"). As used herein, "Seller" or "Belimo" refers to Belimo Aircontrols (USA) Inc., or Belimo Aircontrols (CAN) Inc., Belimo Aircontrols (LA) Inc., or Belimo Automation AG as applicable, and "Client" refers to the individual or business entity that purchases the Products from Seller. These Terms shall apply unless the parties mutually agree to different terms and memorialize such agreement in writing signed by both Client and Seller. In case Seller's delivery includes Software and accompanying documentation, the terms of the license agreement are applicable in addition to these Terms. However, in case of disputes arising out of the Software, the license agreement shall prevail.

II. Price

- 2.1. The Seller's price for Products (the "Price") is net, F.O.B. Point of Origin, and is calculated in US currency for sales made by Belimo Aircontrols (USA), Inc. and calculated in Canadian currency for sales made by Belimo Aircontrols (CAN) Inc., and Brazilian currency for sales made by Belimo Automation AG to Clients in Brazil.
- 2.2. The Price, unless otherwise agreed upon, does not include freight and packaging (wooden crates, pallets, etc), the costs of which will be charged to Client at cost for each shipment and shall be payable with payment of the Price.
- 2.3. Orders for Products with a net value of less than US \$300 (CAN \$300) will be subject to a US \$20 (CAN \$20) handling fee (the "Handling Fee"). The Handling Fee will not be charged for orders of Products with a net value equal to or greater than US \$300 (CAN \$300) or for Products ordered through Seller's eCommerce ordering system at: www.belimo.com.
- 2.4. Seller reserves the right to make partial deliveries of orders of Products, each of which deliveries may be invoiced separately by Seller.
- 2.5. The Price does not include charges for wiring diagrams, installation, and commissioning, which will be charged to Client separately and will be payable on demand.

III. Payment

- 3.1. Invoices are payable in US currency for sales made by Belimo Aircontrols (USA), Inc., in Canadian currency for sales made by Belimo Aircontrols (CAN) Inc. and in Brazilian currency for sales made by Belimo Automation AG on behalf of Brazil. Invoices are due no later than 30 days from the date of invoice, without any deductions.
- 3.2. If Client maintains an outstanding balance for 45 days or more after the date of invoice, Client may be subject to restricted shipments of Products. A Client may also be required to pay for all future deliveries of Products on a cash-on-delivery or approved credit card only basis.

IV. Title and Risk

4.1. Title to all Products shall remain with Seller and shall not pass to Client until Seller has received full payment for the Products.

V. Damage or Loss in Transit

5.1. Seller assumes no liability for damage or loss of shipment of Products, which risk shall at all times remain with the carrier. All shipments must be unpacked and examined by Client immediately upon receipt. Any external evidence of loss or damage must be noted on the freight bill accompanying the shipment of Products or carrier's receipt and signed by the carrier's agent at the time of delivery. Failure to do so will result in the carrier's refusal to honor any claim relating to damage of Products. Client must also notify Seller within 5 days of such damage by providing Seller with a copy of the freight bill or damage report so that Seller can file a claim for loss or damage in transit with the carrier. If the damage does not become apparent until the shipment is unpacked, Client must make a request for inspection by the carrier's agent and file with the carrier within 15 days after receipt of product and notify Seller of the same.

VI. Delivery

6.1. Seller undertakes to make every attempt to adhere to its stated delivery parameters and to make a timely delivery of the Products but does not guarantee any delivery specifications. Each contract entered into for the purchase of Products is not cancelable nor is Seller liable for any direct or indirect losses that may arise, for any reason whatsoever, due to Seller's failure to meet any stated or assumed delivery schedules.

VII. Inventory Overstock

- 7.1. If Client has an overstock of Product inventory, such Products received by Client cannot be returned unless and until: (i) Client alerts Seller that it intends to return some overstock of Products, (ii) Seller agrees to accept such return, (iii) Client obtains a Return Material Authorization ("RMA") number from Seller for such return of such Products, and (iv) Client follows all return instructions provided by the Seller. The RMA number must be clearly written on the outside of all packaging for any returned overstock of Products.
- 7.2. Only such Products returned in original packaging and shipped to Seller at Client's cost may be accepted for return under this Section. Client is also responsible for payment of a restocking charge for all returned overstocked Products in an amount no less than 20% of the invoice value of the Products ("Restocking Charges"). Returns that result from Seller errors and not overstocking will be credited in full and will not be subject to Restocking Charges.
- 7.3 Any Product received damaged or showing evidence of having been installed will be refused or assessed a higher restocking charge. Custom kits designed to a Client's unique specifications are not returnable.
- 7.4 If Client requests product to be returned to them, the Client will be responsible for return shipping charges. See specific product literature for exclusions or exceptions.

VIII. Limited Warranty

VIII.A 5-year Limited Warranty

8.1. Products that are listed in this Product Guide as carrying a 5-year warranty to a location in the United States, Canada, or Latin America shall carry a 5-year warranty. The 5-year warranty is unconditional for the first two years from the date of sale of the Products to Client. After the first two years from the date of Sale, the warranty coverage shall not apply to damage to Products not resulting from normal wear and tear (e.g. negligence, misuse, or failure to maintain). Product specific terms of warranty with regard to warranty period or conditions of warranty may apply to certain specified Products as stated in the documentation for those Products.

VIII.B 2-year Conditional Warranty

8.2. Products that are listed in this Product Guide as carrying a 2-year warranty to a location in the United States, Canada, or Latin America shall carry a 2-year warranty. The 2-year warranty is conditional from the date of sale of the Products to Client, and the warranty coverage shall not apply to damage to Products not resulting from normal wear and tear (e.g. negligence, misuse, or failure to maintain). Product specific terms of warranty with regard to warranty period or conditions of warranty may apply to certain specified Products as stated in the documentation for those Products.

VIII.C Limitations

8.3. Seller's warranties hereunder shall be null and void in the event of any:
(a) modification or unauthorized repairs of Products by Client; (b) unauthorized incorporation or integration of Products into or with Client's equipment; (c) use of Products in an unauthorized manner; or (d) damage to Products not caused by Seller.

VIII. D. Remedies

8.4 If a defect arises and a Return Material Authorization ("RMA") is issued as provided in Section 8.5, Seller will, at its option and to the extent permitted by law, either (1) repair the Product at no charge, using new or refurbished replacement parts or (2) replace the Product with a new Product. In the event of such a defect, to the extent permitted by law, these are Client's sole and exclusive remedies.

8.5 Products received by Client cannot be returned unless: (i) Client alerts Seller that it intends to return such Products, (ii) Seller agrees to accept the return of such Products, (iii) Client obtains a RMA number from Seller for the return of such Products, and (iv) Client follows all return instructions provided by the Seller. Client shall promptly notify Seller of Products' alleged defect and provide Seller with other evidence and documentation reasonably requested by Seller. The RMA number must be clearly written on the outside of all packaging for any returned Products. Only Products returned to the proper location as instructed by Seller and identified with an RMA number will be considered for credit.

800-543-9038 USA



8.6. In addition, Seller will only accept for return Products returned in original packaging. All returned Products must be shipped to Seller at Client's cost. Such returned Products must be received within one year from original sale date to Client, in as-new condition, adequate for resale as new Products to qualify for credit. Client will be responsible for payment of a restocking charge for all returned Products in an amount no less than 20% of the invoice value of the Products ("Restocking Charges"). Product received damaged or showing evidence of having been installed will be refused or assessed a higher restocking charge. Custom kits designed to a Client's unique specifications are not returnable. If Client requests repaired

ping charges. See specific product literature for exclusions or exceptions. 8.7. Returns that result from Seller's breach of these Terms will be credited in full and will not be subject to Restocking Charges.

product to be returned to them, Client will be responsible for return ship-

- 8.8. Seller-authorized support technicians are available for troubleshooting before any shipments to Seller. The contact information for Belimo customer service is listed on the back page of Belimo's Product Guide and Price List (PGPL) or may be found at www.belimo.com.
- 8.9. If a problem cannot be resolved over the phone, an RMA number will be issued by Seller for return of the Products. Prior to returning any Products under a warranty, Client must obtain an RMA number from Seller, along with shipping instructions for the return. The RMA number must be clearly written on the outside of the box containing the returned Products. Only Products returned to the proper location and identified with an RMA number will be accepted by the Seller.
- 8.10. All returned Products should be packaged appropriately to prevent further damage. Seller reserves the right to refuse any returned material if improperly packaged or labeled (e.g. without an RMA number). Products returned without proper RMA documentation will void Seller's warranty. Seller is not responsible for charges that Client may incur as a result of the removal or replacement of Products.
- 8.11. Repaired or replacement Products are shipped from Seller via ground shipment. Other shipping methods are available at the sole expense of the Client
- 8.12. Repaired, replaced or exchanged Products will carry a warranty for a period of time equal to the greater of: (i) the remainder of the original 5-year warranty or 2-year warranty that was applicable to the repaired, replaced or exchanged Products, or (ii) six months, effective from the date the repaired, exchanged or replaced Products are shipped by Seller (the "Replacement Warranty Period").
- 8.13. If Seller determines that Product under warranty is to be replaced, Seller may elect to send a replacement in advance of receiving the returned item. For industrial-type products, such as butterfly valves or flanged energy valves a purchase order is required. The purchase order will be credited upon the receipt and verification by Seller of the returned defective Products. For industrial-type products, an invoice will be issued and shall be due and payable if the returned Products are not received by Seller within 60 days from the date that the replacement Products are shipped. Additional charges may apply if the nature of the problem has been misrepresented by Client.
- 8.14. New Products ordered in an attempt to circumvent the warranty process may NOT be reimbursed if, upon receipt of returned Products, it is determined that the defect in the returned Products is actually field related, or the Products have been returned for cosmetic reasons only.
- IX. No Warranty for Non-HVAC Application; Services
 - 9.1. All Seller warranties shall extend only to HVAC use of the Products. If Products are used in non-HVAC applications (e.g., aircraft, industrial processes, etc.), Seller's warranties shall not cover such Products. Client will be solely responsible for any damage to or malfunction of Products or for any damage resulting from such use of Products.
 - 9.2 Both the conditional and unconditional warranties hereunder cover the Products only, and do NOT cover labor associated with the troubleshooting, removal or replacement of such Products.

Terms and Conditions of Sale and Warranty

X. Liability Disclaimer

10.1. These Terms constitute the entire understanding and agreement between Seller and Client regarding the warranties that cover Products and supersedes all previous understandings, agreements, communications and representations. Seller shall not be responsible for and Client does not have any right to make any claim for damage that occurs to any property other than Products. Seller shall in no way be responsible for any costs incurred by Client in the determination of the causes of damage to any of Client's property, for expert opinions, or for any punitive or special, incidental or consequential damages of any kind whatsoever. Seller's warranty is extended to the Client only and is non-transferrable.

- 10.2. Seller shall not be liable for any damage resulting from or contributed by Client or third parties acting within the scope of responsibility of Client or such third party when:
- 1. Products are used for non-HVAC applications, such as in aircrafts, industrial processes, etc.:
- 2. Client uses the Products without complying with applicable law or institutional regulations or Belimo data and installation sheets or Client uses the Products without following good industry practice;
- 3. Products are used by personnel who have not received suitable instruction;
- 4. Products are modified or repaired without the written approval of Seller; or
- 5. Client's design and/or system integration is insufficient.

When requested to do so, Client shall immediately release Seller in full from any possible third party claims resulting in connection with the circumstances listed above. This also applies to claims in connection with product liability

10.3. If Client becomes aware that any third party has made or appears likely to make any claim regarding Products (including, without limitation, regarding Product defects or rights infringed by Products), then Client shall immediately inform Seller and afford to Seller all assistance that Seller may require to enforce its rights and defend such claim.

XI. Proper Law and Jurisdiction

11.1. All sales of Products under these Terms and the warranties described herein shall be governed by the laws of the State of Connecticut, and the parties agree to submit to the exclusive jurisdiction of the Federal and state courts located in the State of Connecticut with respect to any dispute arising from the subject matter hereof. The parties hereby waive all rights to a jury trial in connection with any claims relating to the subject matter hereof. All causes of action arising out of or connected the sales of Products under these Terms shall be resolved individually, with no right by a party to participate in a representative capacity, or as a member of any class action.

XII. Privacy and Data

12.1 Seller places great value on the implementation of lawful data processing to protect your personal data. Seller is obliged to process your personal data in accordance with applicable law. We are dependent on the services of a third party for the provision of our services. Seller has obligated the third party to process your data only in connection with the services agreed with Seller, to ensure the same level of data protection as Seller, and to not pass on your data to other third parties without your consent. When processing your data and transferring your data to third parties, Seller will use reasonable commercial efforts to provide an appropriate level of data protection and that appropriate organizational and technical measures are implemented to protect your personal data. More detailed information on our data protection guidelines is available from the following Internet address: www.belimo.com/privacy.

T15000 - 04/18 - Subject to change. ⊚ Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

BELIMO

Section 230900 – INSTRUMENTATION AND CONTROL FOR HVAC

PART 1 - GENERAL

The following addition should be made to 1.2.B.

1.2 SUMMARY

- B. Related Sections include the following:
 - 3. Division 23 Section "Hydronic Piping" for requirements for piping packages for control valves.

2.16 CONTROL VALVES

- A. Manufacturer:
- 1. Manufactured, brand labeled or distributed by BELIMO.
- B. Control Valve Actuators:
 - Size for valve close off at 100 percent of total system (head) pressure for two-way valves and three-way diverting valves; and 100 percent of total system (pump) head differential pressure for three-way mixing valves. [Combination of actuator and trim shall provide minimum close-off pressure rating of [100 psid] [200 psid] <Insert Close-Off Rating>.]

Choose optional close-off pressure rating statement for higher (greater

Consultants and Specifiers

Get the Latest Actuator and Valve Specifications

Visit www.Belimo.us or Call Your Local Representative

(apove).

- 8. Modulating Actuators shall be fully programmable through an EEPROM without the use of actuator mounted switches
- Temperature Rating: -22 to +122°F -30 to +50°C [-58 to +122°F -50 to +50°C]
- Housing: Minimum requirement NEMA type 2 (4/4X) / IP54 (IP67) mounted in any orientation.
- 11. Agency Listings: ISO 9001, cULus, CE or CSA
- The manufacturer shall warrant all components for a period of 5 years from the date of production, with the first two years unconditional.
- B. Industrial Actuators (ONLY TO BE USED WITH 2.16.I Butterfly Valves Resilient Seat and 2.16.J Butterfly Valves High Performance.)
 - 1. Manufactured, brand labeled or distributed by BELIMO.
 - 2. The combination of valve and actuator shall meet the close-off requirements as specified in Section 2.16.H Butterfly Valves.
 - 3. Coupling: ISO 5211 mounting standards.
 - 4. Overload Protection: A self resetting thermal switch embedded in the motor.
 - Manual Override: Actuator shall be equipped with a hand wheel or shaft for manual override to permit operation of the actuator in the event of an electrical power failure
 - 6. Power Requirements: 24VAC [120VAC] [230VAC] 1 pH.
 - 7. Auxiliary Switches: 2 SPDT rated 3A at 250 VAC.
 - 8. Temperature Rating: -22 to +150°F. -30 to +65°C
 - Housing: Minimum requirement NEMA type 4X/ IP67 with an industrial quality coating. Actuator shall have an internal heater to prevent condensation within the housing. A visual indication beacon shall indicate position status of the device.
 - 10. Agency Listing: ISO, CE, CSA
 - The manufacturer shall warrant for 2 years from the date of production.

b. Wodulating: 15 PSIG or less inlet steam pressure, the pressure drop shall be 80% of inlet gauge pressure. Higher than 15 PSIG inlet steam pressure the pressure drop shall be 42% of the inlet absolute pressure.]

Choose this option when specifying steam valves.

- The control valve assembly shall be provided and delivered from a single manufacturer as a complete assembly.
- D. The manufacturer shall warrant all components for a period of 5 years from the date of production, with the first two years unconditional (except as noted).
- E. Pressure Independent Control Valves
- NPS 2 and Smaller: Forged brass body rated at no less than 400 PSI, chrome plated brass ball and stem, female NPT union ends, dual EPDM lubricated O-rings and a brass or TEFZEL characterizing disc.
- NPS 2-1/2 through 6: GG25 cast iron body according to ANSI Class 125, standard class B, stainless steel ball and blowout proof stem, flange to match ANSI 125 with a dual EPDM O-ring packing design, PTFE seats, and a stainless steel flow characterizing disc.
- 3. Accuracy: The control valves shall accurately control the flow from 0 to 100% full rated flow with an operating pressure differential range of 5 to 50 PSI differential across the valve with a valve body accuracy of +/- 5% variance due to differential pressure fluctuation or +/- 10% total assembly error incorporating differential pressure fluctuation, .manufacturing tolerances and valve hysteresis
- 4. Flow Characteristics: Equal percentage characteristics.
- Remember to modify 2.15.A.6 to incorporate electronic fail-safe option for 2-1/2" through 6" Pressure Independent Valves, where fail safe applications are required.

800-543-9038 USA

Belimo Americas Platinum Distributors

ACR Supply Company Inc. 4040 S. Alston Avenue Durham, NC 27713 Phone: 919-765-8081 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 branches in Houston,TX and Mandeville, LA

Relevant Solutions (formally Applied Automation) 3186 South Washington Street, #230 Salt Lake City, UT 84115 Phone: 801-486-6454 With branches in CA, CO, TX

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

Cochrane Supply and Engineering, Inc. 30303 Stephenson Highway Madison Heights, MI 48071-1633 Phone: 800-482-4894 With branches in MI, OH and KY

Columbus Temperature Control

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

Controlco 985 3rd Street Oakland, CA 94607 Phone: 510-636-7900 With branches in CA, NV, TN

Control Products 9101 Jameel, Suite 130 Houston, TX 77447 Phone: 713-849-7200 With a branch in San Antonio, TX

Control Stop 1000 N Pine Street, Suite 6 Spartanburg, SC 29303 Phone: (864) 586-3818 With a branch in NC Engineered Control Systems 5627 NW 74th Avenue Miami, FL 33166 Phone: 305-885-8804 With branches in FL

G & O Thermal Supply 5435 N. Northwest Highway Chicago, IL 60630 Phone: 773-763-1300 With branches in IL. IN and WI

Industrial Controls Distributors, LLC (formally Climatic Control) 5061 W. State Street Milwaukee, WI 53208 Phone: 800-242-1656 With branches in WI

Industrial Controls Distributors, LLC 17 Christopher Way Eatontown, NJ 07724 Phone: 800-543-8200 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 branches in 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

Relevant Solutions 12610 West Airport Blvd, Suite 100 Sugarland, TX 77478 Phone: 281-295-8850 RSD / Refrigeration Supplies Distributor 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

T.F. Campbell Company 1203 Edgebrook Avenue Pittsburgh, PA 15226 Phone: 412-881-8006

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

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

For a complete list of distributors in Brazil, please visit our website: www.belimo.com.br or call: 55 11 3643-5656

THE CARIBBEAN

For a complete list of distributors in Latin America and the Caribbean, please visit our website: www.belimo.us or call: 203-791-8396



T15000- 04/18 - Subject to change. © Belimo Aircontrols (USA), Inc. All prices are in US Dollars (USD)

Belimo's Technology Innovations Improving Building Performance Worldwide



Fire and Smoke Damper Actuators, Belimo Danbury Corporate Facility



Energy Valve, Stanford Children's Hospital, California



Sensors, University of Missouri



PRK Butterfly Retrofit, Alois Müller, Germany



EF Spring Return Damper Actuators, University of Montreal Hospital Research Centre

Belimo worldwide: www.belimo.com

BELIMO Americas

USA Locations

33 Turner Road, Danbury, CT 06810 1049 Fortunato Loop, Sparks, NV 89436

Tel. 800-543-9038, Fax 800-228-8283, customerservice@us.belimo.com

Canada Location

5845 Kennedy Road, Mississauga, Ontario L4Z 2G3 Tel. 866-805-7089, Fax 905-712-3124, orders.ca@ca.belimo.com

BELIMO Brasil Comércio de Automação Ltda.

Rua Barbalha, 251, São Paulo/SP, Brazil

Tel: 55 11 3643-5656, Fax: 55 11 3643 5657, atendimentoaocliente@br.belimo.com

BELIMO Mexico

Av. Insurgentes Sur 1602, Col. Credito Constructor, Del. Benito Juarez, Mexico City 03940 Tel: 55 4125 7890, servicioalcliente@mx.belimo.com

Latin America and the Caribbean Customer Service

Tel. 203-791-8396, Fax 203-791-9139, servicioalcliente@us.belimo.com

