

G7...D(S) 3-way Diverting Flanged Globe Valve, Bronze or Stainless Steel Trim

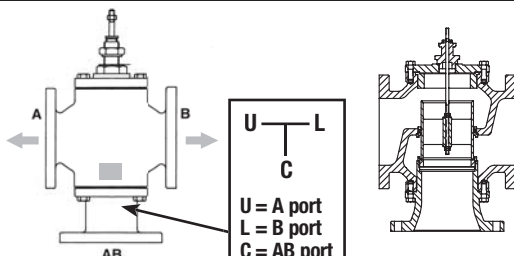


Technical Data

	G7...D	G7...DS
Service	chilled or hot water, 60% glycol	chilled or hot water, 60% glycol
Flow characteristic	linear	
Action	stem up - open AB to B	
Sizes	2½" to 6"	
End fitting	125 lb. flanged	
Materials		
Body	iron	iron
Seat	bronze	stainless steel
Stem	stainless steel	stainless steel
Plug	bronze	stainless steel
Packing	NLP (no lip packing)	NLP (no lip packing)
ANSI class	ANSI 125	
Leakage	ANSI Class III	
Max inlet		
Water	150 psi (1034kPa) @ 250°F	
Media temperature		
Water (2½"-5")	32°F to 300°F (0°C to 149°C)	
Water (6")	32°F to 150°F (0°C to 65°C)	
Maximum ΔP*		
Water	25 psi (172kPa)	50 psi (340kPa)
Rangeability	50:1	
Valve weights		
G765D(S)	59 lbs	
G780D(S)	78 lbs	
G7100D(S)	140 lbs	
G7125D(S)	154 lbs	
G7150D(S)	203 lbs	

*(50% or more open)

G7...D(S) 3-way Flow Patterns



Flow Pattern is marked on valve.

Stem Up = Open AB to B
Open C to L

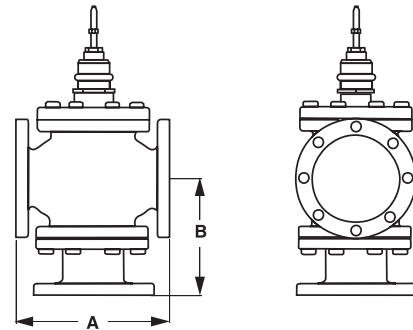
Application

This valve is typically used in Large Air Handling Units on heating or cooling coils. This valve is suitable for use in a hydronic system with variable flow.

These valves are to be used in Diverting applications only.

Valve Nominal Size		Type	Suitable Actuators		
C _v	Inches	3-way Flanged	Non- Spring Return	Spring Return	Electronic Fail-Safe
68	2½	G765D(S)	EV Series	AF Series	AVK Series
85	3	G780D(S)			
154	4	G7100D(S)			
195	5	G7125D(S)		2*AF	
248	6	G7150D(S)			

Dimensions



D169-G73W

Valve Nominal Size			Dimensions (Inches [mm])	
Valve Body	Inches	DN [mm]	A	B
G765D(S)	2½"	[65]	9.00" [229]	7.12" [181]
G780D(S)	3"	[80]	10.00" [254]	8.00" [203]
G7100D(S)	4"	[100]	13.00" [330]	9.87" [251]
G7125D(S)	5"	[125]	12.00" [305]	10.50" [267]
G7150D(S)	6"	[150]	14.13" [359]	11.13" [283]

Piping

The valves should be mounted in a weather-protected area in a location that is within the ambient limits of the actuator. Allow sufficient room for valve with actuator and for service. Please allow 12" for complete actuator/linkage removal. The G6/G7 preferred mounting position of the valve is with the valve stem vertical above the valve body, for maximum life. However, the assemblies can be mounted with valve stem vertical above the valve or up to 45 degrees in relation to the horizontal pipe. The actuators should never be mounted underneath the valve, as condensation can build up and result in a failure of the actuators. Do not reverse flow direction.

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AFB24-X1

On/Off, Spring Return, 24 V



Technical Data		AFB24, AFB24-S, AFX24, AFX24-S
Power supply		24 VAC ± 20% 50/60 Hz 24 VDC +20% / -10%
Power consumption	running	5 W
	holding	2.5 W
Transformer sizing		7.5 VA (class 2 power source)
Electrical connection		3 ft, 18 GA appliance cable, 1/2" conduit connector -S models: two 3 ft, 18 gauge appliance cables with 1/2" conduit connectors
Overload protection		electronic throughout 0 to 95° rotation
Control		on/off
Torque		180 in-lb [20 Nm] minimum
Direction of rotation	spring	reversible with CW/CCW mounting
Mechanical angle of rotation		95° (adjustable with mechanical end stop, 35° to 95°)
Running time	motor	< 75 seconds
	spring	20 seconds @ -4°F to 122°F [-20°C to 50°C]; < 60 seconds @ -22°F [-30°C]
Position indication		visual indicator, 0° to 95° (0° is full spring return position)
Manual override		5 mm hex crank (3/16" Allen), supplied
Humidity		max. 95% RH non-condensing
Ambient temperature		-22°F to 122°F [-30°C to 50°C]
Storage temperature		-40°F to 176°F [-40°C to 80°C]
Housing		Nema 2, IP54, Enclosure Type2
Housing material		zinc coated metal and plastic casing
Agency listings †		cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC & 2006/95/EC
Noise level		<50dB(A) motor @ 75 seconds ≤62dB(A) spring return
Servicing		maintenance free
Quality standard		ISO 9001
Weight		4.6 lbs (2.1 kg); 4.9 lbs (2.25 kg) with switches

† Rated Impulse Voltage 800V, Type of action 1.AA (1.AA.B for -S version), Control Pollution Degree 3.

Torque min. 180 in-lb, for control of air dampers

Application

For On/Off, fail-safe control of dampers in HVAC systems. Actuator sizing should be done in accordance with the damper manufacturer's specifications. Control is On/Off from an auxiliary contact, or a manual switch.

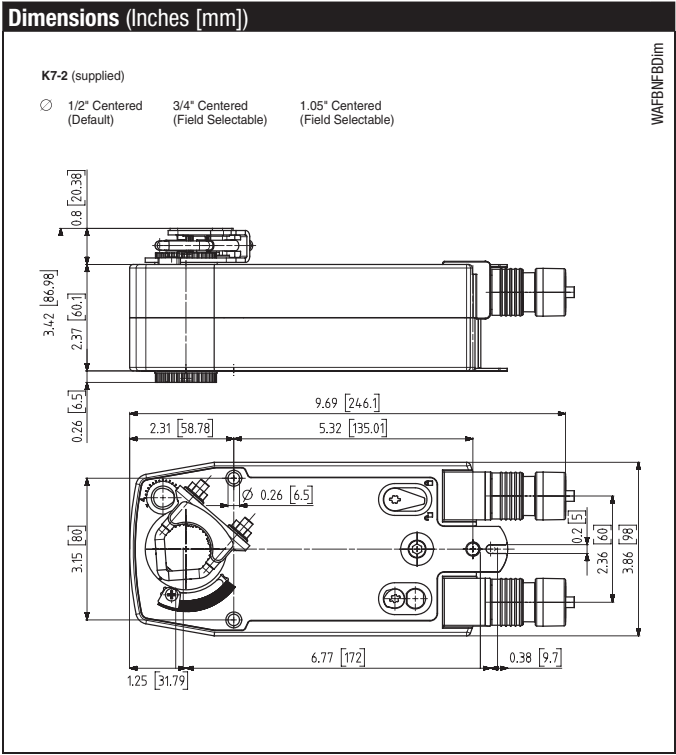
The actuator is mounted directly to a damper shaft up to 1.05" in diameter by means of its universal clamp. A crank arm and several mounting brackets are available for applications where the actuator cannot be direct coupled to the damper shaft.

Operation

The AFB and AFX series actuators provide true spring return operation for reliable fail-safe application and positive close off on air tight dampers. The spring return system provides constant torque to the damper with, and without, power applied to the actuator.

The AFB and AFX series provides 95° of rotation and is provided with a graduated position indicator showing 0° to 95°.

The actuator may be stalled anywhere in its normal rotation without the need of mechanical end switches.



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Accessories

ZS-SPBV-10	Weather Shield
K7-2	Universal clamp for up to 1.05" dia jackshafts
Tool-06	8mm and 10 mm wrench

Note: When using AFB24-X1 actuators, only use accessories listed on this page.
For actuator wiring information and diagrams, refer to Belimo Wiring Guide.

Typical Specification

On/Off spring return damper actuators shall be direct coupled type which require no crank arm and linkage and be capable of direct mounting to a jackshaft up to a 1.05" diameter. The actuators must be designed so that they may be used for either clockwise or counterclockwise fail-safe operation. Actuators shall be protected from overload at all angles of rotation. If required, two SPDT auxiliary switch shall be provided having the capability of one being adjustable. Actuators with auxiliary switches must be constructed to meet the requirements for Double Insulation so an electrical ground is not required to meet agency listings. Actuators shall be cULus Approved and have a 5 year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall be as manufactured by Belimo.

Wiring Diagrams

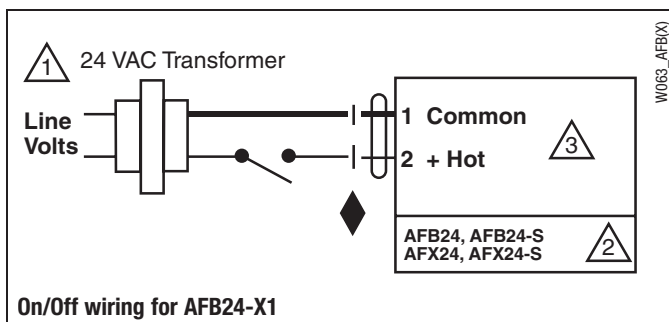
✂️ INSTALLATION NOTES

- 1 Provide overload protection and disconnect as required.
- 2 **CAUTION Equipment Damage!**
Actuators may be connected in parallel.
Power consumption and input impedance must be observed.
- 3 Actuators may also be powered by 24 VDC.

📄 APPLICATION NOTES

- ◆ Meets cULus requirements without the need of an electrical ground connection.

⚠️ WARNING Live Electrical Components!
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.



Close-Off Pressures (psi)

G2/G3 Non-Spring Return, Spring Return, and Electronic Fail-Safe



	Non-Spring Return		Spring Return			Electronic Fail-Safe	
	LV	SV	LF	NF	AFB	LVK	SVK
2-way							
G212(S)	250		250			250	
G213(S)	250		250			250	
G214(S)	250		250			250	
G215(S)	250		250			250	
G219(S)	211		140			211	
G220(S)	211		140			211	
G224(S)		250		220			207
G225(S)		250		220			207
G232(S)		236		140			236
G240(S)		159			210		159
G250(S)		85			120		85
3-way Mixing							
G314	250		210			250	
G315	250		210			250	
G320	211		140			250	
G325		250		220			250
G332		236		140			236
G340		159			210		159
G350		85			120		85
3-way Diverting							
G315D	250		250			250	
G320D	250		250			250	
G325D		250		250			250
G332D		250		250			250
G340D		250			250		250
G350D		250			250		250

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G6/G7 Non-Spring Return, Spring Return, and Electronic Fail-Safe

	Non-Spring Return		Spring Return		Electronic Fail-Safe	
	EV	RV	AF	2*AF	AVK	2*GK
2-way Pressure Comp ANSI 125						
G665C	140		140		140	
G680C	140		140		140	
G6100C	140			140	140	
G6125C	140			140	140	
G6150C	140			110	140	
2-way Pressure Comp ANSI 125						
G665CS, G665LCS	125		125		125	
G680CS, G680LCS	125		125	125	125	
G6100CS, G6100LCS	125			125	125	
G6125CS, G6125LCS	125			125	125	
G6150C, G6150LCS	125			110	125	
2-way Pressure Comp ANSI 250						
G665C-250	310		310		310	
G680C-250	310		280		310	
G6100C-250	310			280	310	
G6125C-250	310			185	232	
G6150C-250	244			110	150	
2-way Pressure Comp ANSI 250						
G665CS-250, G665LCS-250	250		250		250	
G680CS-250, G680LCS-250	250		250		250	
G6100CS-250, G6100LCS-250	250			250	250	
G6125CS-250, G6125LCS-250	250			185	232	
G6150CS-250, G6150LCS-250	244			110	150	250
3-way ANSI 125 Mixing						
G765, G765S	94	125	40	100	71	125
G780, G780S	63	125	26	68	47	125
G7100, G7100S	33	68		12		37
G7125, G7125S		42				
G7150, G7150S		28				
3-way ANSI 250 Mixing						
G765-250, G765S-250	94	185	40	100	71	222
G780-250, G780S-250	63	125	26	68	47	152
G7100-250, G7100S-250	33	68		12		37
G7125-250, G7125S-250		42				22
G7150-250, G7150S-250		28				14
3-way ANSI 125/250 Diverting						
G765D, G765DS, G765DS-250	140		140		140	
G780D, G780DS, G780DS-250	140		140		140	
G7100D, G7100DS, G100DS-250	140		140		140	
G7125D, G7125DS, G7125DS-250	140			140		
G7150D, G7150DS, G7150DS-250	175			175		