Application

This valve is typically used in Air Handling Units on heating or cooling coils and Fan Coil Unit heating or cooling coils. Some other common applications include Unit Ventilators, VAV Box reheat coils and bypass loops. This valve is suitable for use in a hydronic system with constant or variable flow.

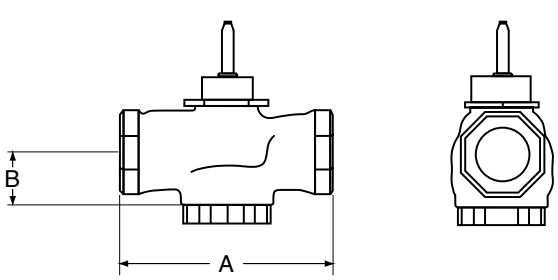
3-way valves are available with mixing or diverting flow patterns.

Technical Data		
	G3	G3...D
Service	chilled or hot water, 60% glycol	
Flow characteristic	linear	
Action	stem up - open B to AB	stem up - open B to AB
Sizes	½" to 2"	
End fitting	NPT female ends	
Materials		
Body	bronze	
Seat	bronze	
Stem	stainless steel	
Plug	brass	
Packing	spring loaded TFE	
Disc	none	
ANSI class	ANSI 250 (up to 400 psi below 150°F)	
Leakage	ANSI III	
Media temperature water	20°F to 250°F (-7°C to 120°C)	
Maximum ΔP* water	35 psi (241 kPa)	
Rangeability	500:1	
Valve weights	G314, G315(D)	2 lbs
	G320	3 lbs
	G320D	2.5 lbs
	G325, G332(D)	2.5 lbs
	G325D	5 lbs
	G340(D), G350(D)	14 lbs

*(50% or more open)

	Valve Nominal Size		Type	Suitable Actuators							
C_v	Inches	DN [mm]	3-way NPT	Non-Spring				Spring			
2.2	½	15	G314	LM Series			NV Series	LF Series			NVF Series
4.4	½	15	G315(D)								
7.5	¾	20	G320(D)								
14	1	25	G325(D)		NM			NF			
20	1¼	32	G332(D)								
28	1½	40	G340(D)			AF(X) Series					
41	2	50	G350		AM Series						
40	2	50	G350(D)								

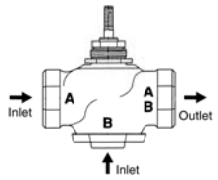
Dimensions



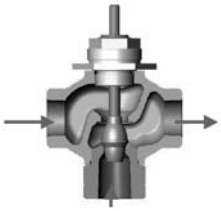
	Valve Nominal Size		Dimensions (Inches [mm])	
Valve Body	Inches	DN [mm]	A	B
G314	½"	15	3.06" [78]	1.37" [35]
G315(D)	½"	15	3.06" [78]	1.37" [35]
G320(D)	¾"	20	3.62" [92]	1.68" [43]
G325(D)	1"	25	4.62" [117]	1.56" [40]
G332(D)	1¼"	32	4.62" [117]	1.62" [41]
G340(D)	1½	40	5.37" [137]	1.62" [41]
G350(D)	2	50	6.12" [156]	1.87" [48]

G3...(D) 3-way Flow Patterns

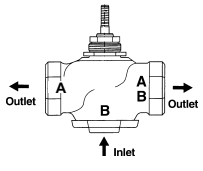
G3 3-way Mixing Valve



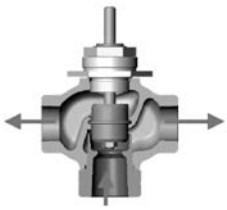
Stem Up- Open B to AB



G3…D 3-way Diverting Valve



Stem Up- Open B to AB

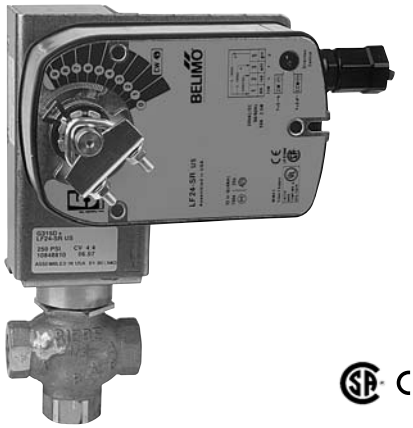


Note: Flow B to A travels through center of plug (as shown).

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. For the NV Series, allow 6" for cover removal and 12" for complete actuator removal. The G2(S) and G3(D) 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 the valve stem vertical or horizontal in relation to the 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.

LF24-SR US Actuators, Proportional



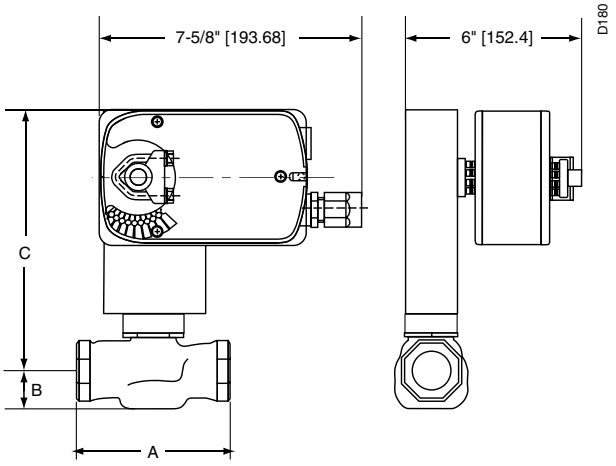
Models

LF24-SR US
LF24-SR-S US w/built-in Aux. Switch

Technical Data		
Control		proportional
Control signal		2 to 10 VDC 4 to 20 mA (with 500 Ω resistor)
Power consumption	running	2.5 W
	holding	1 W
Transformer sizing		5 VA (Class 2 power)
Electrical connection		3 ft, 18 GA appliance cables (-S model has 2 cables) ½" conduit connector
Overload protection		electronic throughout 0° to 95° rotation
Input impedance		100 kΩ
Feedback output		2 to 10 VDC
Angle of rotation		95°
Direction of rotation	spring	reversible with CW/CCW mounting
	motor	reversible with built-in ↷/↶ switch
Position indication		visual indicator
Running time	motor	<40 to 75 sec. (on/off) 150 sec. independent of load (proportional)
	spring	<25 sec. @ -4°F to 122°F [-20°C to 50°C] <60 sec. @ -22°F [-30°C]
Ambient temperature		-22° F to 122° F [-30° C to 50° C]
Housing		NEMA 2
Agency listings		UL 873, CSA C22.2 No. 24 certified, CE
Quality standard		ISO 9001
Noise level		max. 62 dB(A)

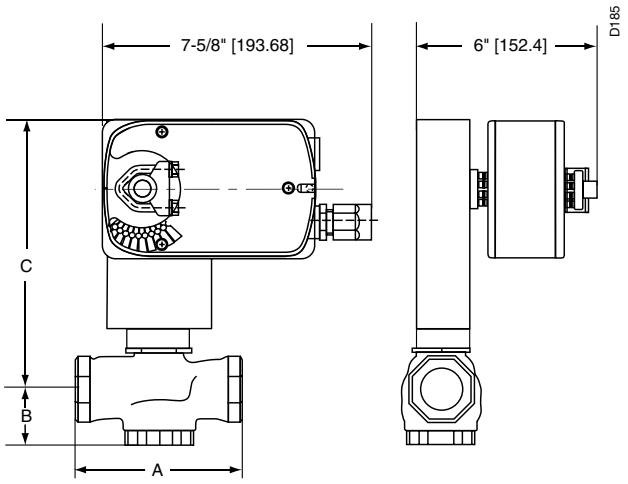
LF24-SR-S US	
Auxiliary switch	1 x SPDT, 6A (1.5A) @ 250 VAC, UL Listed, adjustable 0° to 95° (double insulated)

Dimensions with G2...(S) Series 2-Way Valve



	Valve Nominal Size		Dimensions (Inches [mm])		
Valve Body	Inches	DN [mm]	A	B	C
G2(S)	½"	(15)	3.00" [76]	1.06" [27]	7.56" [192]
G2(S)	¾"	(20)	3.62" [92]	1.06" [27]	7.56" [192]

Dimensions with G3...(D) Series 3-Way Valve



	Valve Nominal Size		Dimensions (Inches [mm])		
Valve Body	Inches	DN [mm]	A	B	C
G3(D)	½"	15	3.00" [76]	1.37" [35]	7.87" [200]
G3(D)	¾"	20	3.62" [92]	1.68" [43]	8.18" [208]

Wiring Diagrams

INSTALLATION NOTES

△2 ***CAUTION** Equipment damage!*
Actuators may be connected in parallel. Up to 4 actuators may be connected in parallel. With 4 actuators wired to one 500 Ω resistor, a +2% shift of control signal may be required. Power consumption must be observed.

△3 Actuators may also be powered by 24 VDC.

△4 Actuators with plenum rated cable do not have numbers on wires; use color codes instead.

△5 Only connect common to neg. (–) leg of control circuits.

△6 For end position indication, interlock control, fan startup, etc., LF24-SR-S US incorporates one built-in auxiliary switch: 1 x SPDT, 6A (1.5A) @ 250 VAC, UL listed, adjustable 0° to 95°.

△7 The LF24-SR-S US wire 5 is white.

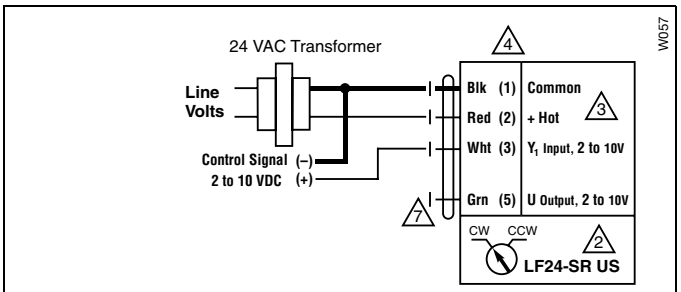
APPLICATION NOTES

♦ The ZG-R01 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC, up to 2 actuators may be connected in parallel.

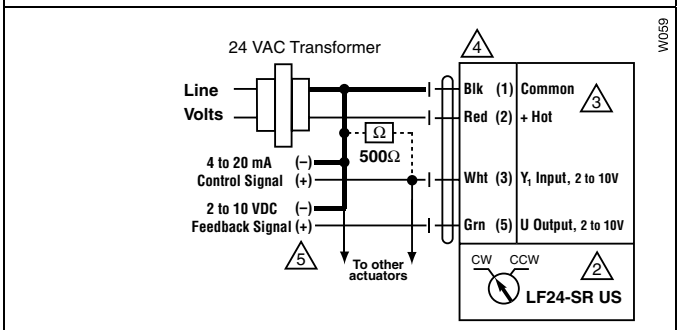
♦ Meets cULus or UL and CSA requirements without the need of an electrical ground connection.

⚠ *WARNING Live Electrical Components!*

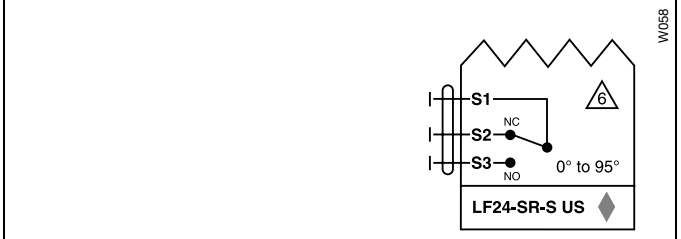
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow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



2 to 10 VDC control



4 to 20 mA control



Auxiliary switch

G2/G3 Spring Return and Non-Spring Return

	Non-Spring Return						Spring Return					
	NVD	**NV**	**NVG**	**LM**	**NM**	**AM**	**NVFD**	**NVF**	**LF**	**NF**	**AF**	**AFX**
2-way												
G212(S)	250			250			250		250			
G213(S)	250			250			250		250			
G214(S)	250			250			250		250			
G215(S)	250			250			250		250			
G219(S)	250			242			250		185			
G220(S)	250			242			250		185			
G224(S)		250			250			207		250		
G225(S)		250			250			207		250		
G232(S)		162			158			130		158		
G240(S)		110	160			230		88			169	230
G250(S)		58	190			127		47			93	127
3-way Mixing												
G314	250			250			250		250			
G315	250			250			250		250			
G320	250			242			250		185			
G325		250			250			207		250		
G332		162			158			130		158		
G340		110				230		88			169	230
G350		58				127		47			93	127
3-way Diverting												
G315D	250			250			250		250			
G320D	250			250			250		250			
G325D	250				250		250			250		
G332D		250			250			250		250		
G340D		250				250		250			250	250
G350D		250				250		250			250	250