ELIMO

B3 Series, 3-Way, Characterized Control Valve Chrome Plated Brass Ball and Brass Stem







Service chilled or hot water, 60% glycol Flow characteristic A-port equal percentage B-port modified for constant common port flow Controllable Flow Range 75° Sizes ½", ¾" Type of end fitting NPT female ends Materials: Body Body forged brass, nickel plated Ball chrome plated brass Stem nickel plated brass Seats PTFE Characterizing disc Tefzel® Packing 2 EPDM 0-rings, lubricated Body pressure rating 600 psi Media temp. range 0°F to 250°F [-18°C to 120°C] Close off pressure 200 psi Maximum differential pressure (ΔP) 50 psi for typical applications Leakage 0% for A to AB <2.0% for B to AB External leakage according to EN 12266-1:2003 C _V rating A-port: see product chart for values		
Flow characteristic A-port equal percentage B-port modified for constant common port flow Controllable Flow Range 75° Sizes ½", ¾" Type of end fitting NPT female ends Materials: Body Ball chrome plated brass Stem nickel plated brass Stem Seats PTFE Characterizing disc Packing Packing Body pressure rating 600 psi Media temp. range O°F to 250°F [-18°C to 120°C] Close off pressure Maximum differential pressure (ΔP) Leakage 0% for A to AB <2.0% for B to AB External leakage according to EN 12266-1:2003 A-port: see product chart for values	Technical Data	
B-port modified for constant common port flow Controllable Flow Range 75° Sizes ½", ¾" Type of end fitting NPT female ends Materials: Body Ball Chrome plated brass Stem Inckel plated brass Seats PTFE Characterizing disc Packing Packing Foresure rating Foresure	Service	chilled or hot water, 60% glycol
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Sizes ½", ¾" Type of end fitting NPT female ends Materials: Body Ball chrome plated brass Stem nickel plated brass Seats PTFE Characterizing disc Tefzel® Packing 2 EPDM 0-rings, lubricated Body pressure rating 600 psi Media temp. range 0°F to 250°F [-18°C to 120°C] Close off pressure 200 psi Maximum differential pressure (ΔP) 50 psi for typical applications Leakage 0% for A to AB <2.0% for B to AB		flow
Type of end fitting Materials: Body Ball Chrome plated brass Stem Seats PTFE Characterizing disc Packing Body pressure rating Media temp. range Close off pressure Maximum differential pressure (ΔP) Leakage Cy rating NPT female ends forged brass, nickel plated brass PTFE Tefzel® 2 EPDM 0-rings, lubricated 800 psi Mo-rings, lubricated Sop psi F-18°C to 120°C] Close off pressure 200 psi Maximum differential pressure (ΔP) Leakage O% for A to AB <2.0% for B to AB External leakage according to EN 12266-1:2003 A-port: see product chart for values	Controllable Flow Range	75°
Materials: Body forged brass, nickel plated Ball chrome plated brass Stem nickel plated brass Seats PTFE Characterizing disc Tefzel® Packing 2 EPDM 0-rings, lubricated Body pressure rating 600 psi Media temp. range 0°F to 250°F [-18°C to 120°C] Close off pressure 200 psi Maximum differential pressure (ΔP) 50 psi for typical applications Leakage 0% for A to AB <2.0% for B to AB	Sizes	1/2", 3/4"
Body Ball chrome plated brass Stem nickel plated brass Seats PTFE Characterizing disc Packing 2 EPDM 0-rings, lubricated Body pressure rating 600 psi Media temp. range 0°F to 250°F [-18°C to 120°C] Close off pressure 200 psi Maximum differential pressure (ΔP) Leakage 0% for A to AB <2.0% for B to AB External leakage according to EN 12266-1:2003 C _V rating A-port: see product chart for values	Type of end fitting	NPT female ends
Ball chrome plated brass Stem nickel plated brass PTFE Characterizing disc Packing 2 EPDM 0-rings, lubricated Body pressure rating 600 psi Media temp. range 0°F to 250°F [-18°C to 120°C] Close off pressure 200 psi Maximum differential pressure (ΔP) Leakage 0% for A to AB <2.0% for B to AB External leakage according to EN 12266-1:2003 C _V rating A-port: see product chart for values	Materials:	
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Characterizing disc Packing	Stem	nickel plated brass
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Close off pressure 200 psi Maximum differential pressure (ΔP) 50 psi for typical applications Leakage 0% for A to AB <2.0% for B to AB	Body pressure rating	600 psi
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<2.0% for B to AB External leakage according to EN 12266-1:2003 C _V rating A-port: see product chart for values	pressure (∆P)	
External leakage according to EN 12266-1:2003 C _V rating A-port: see product chart for values	Leakage	0% for A to AB
C _v rating A-port: see product chart for values		<2.0% for B to AB
	External leakage	according to EN 12266-1:2003
I= 1	C _v rating	A-port: see product chart for values
B-port: 70% of A to AB C _v		B-port: 70% of A to AB C _v

Tefzel® is a registered trademark of DuPont

Dimensions OCEST-LOSSI-ANIENTEN A A

	Valve Nominal Size		Dimensions (Inches [mm])			
Valve Body	Inches	DN [mm]	Α	В	С	
B307B-B311B	1/2"	15	2.41" [61.1]	1.39" [35.2]	1.20" [30.6]	
B312B-B316B	1/2"	15	2.38" [60.4]	1.78" [45.2]	1.29" [32.8]	
B317B-B321B	3/4"	20	2.73" [69.3]	1.87" [47.4]	1.47" [37.3]	

Flow Patter	'no				
FIUW Faller	119				
A	Three-way Mixing	"B" Por be piped bypass	to the	Three-way Divert	AB
Characterizi Disc (where applica	ible)	Port Disc All 3-way models)	Characterizi Disc (where applic	<u> </u>	B Port Disc (All 3-way models)

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 re-heat coils and bypass loops. This valve is suitable for use in a hydronic system with variable or constant flow.

* (Not for use in change over applications)

	Valve Nominal Size		Type	Suitable Actuators			S	
Cv	Inches DN [mm]		3-way NPT	Non-S	Non-Spring		Spring	
0.3	1/2	15	B307B					
0.46	1/2	15	B308B					
8.0	1/2	15	B309B					
1.2	1/2	15	B310B					
1.9	1/2	15	B311B					
3	1/2	15	B312B			Series	ies	
4.7	1/2	15	B313B			Ser	LF Series	
10	1/2	15	B315B		4	E	造	
16	1/2	15	B316B					
4.7	3/4	20	B317B					
7.4	3/4	20	B318B					
14	3/4	20	B320B					
24	3/4	20	B321B					

^{*}Models without characterizing disc

LF Actuators, On/Off





Dimensions with 2-Way Valve 7.64" [92] 7.64" [194] 2.28" [58]

Valve Nominal Size Dimensions (Inches [mm]) Valve Body Inches DN [mm] B207(B)-B211(B) 1/2" 15 2.41" [61.1] 1.39" [35.2] B212(B)-B215(B) 1/2" 15 2.38" [60.4] 1.78" [45.2] B217(B)-B220(B) 3/4" 20 2.73" [69.3] 1.87" [47.4] B222-B225 1" 25 3.09" [78.4] 1.87" [47.4] B229-B230 11/4" 32 3.72" [94.6] 1.87" [47.4]

Models

LF24 US LF24-S US LF120 US

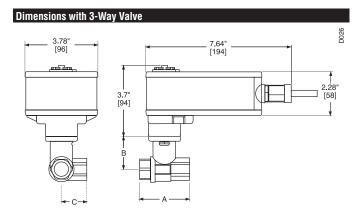
w/built-in Aux. Switch

LF120-S US w/built-in Aux. Switch

Technical Data		
Control		on/off
Power supply		
LF24(-S) US		24 VAC ± 20% 50/60 Hz
, ,		24 VDC ± 10%
LF120(-S) US		120 VAC ± 10% 50/60 Hz
Power consumption		
LF24(-S) US	running	5 W
	holding	2.5 W
LF120(-S) US	running	5.5 W
	holding	3.5 W
Transformer sizing		
LF24(-S) US		7 VA, class 2 power source
LF120(-S) US		7.5 VA, class 2 power source
Electrical connection		½" conduit connector
(-S models have 2 cabl	es)	3 ft [1m], 18 GA appliance cable
Electrical protection		120V actuators double insulated
Overload protection		electronic throughout rotation
Angle of rotation		95°
Spring return direction		reversible with CW/CCW mounting
Position indication		visual indicator 0° to 90°
Running time	motor	<40 to 75 seconds (on/off)
	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†		cULus according to UL 873 and CAN/CSA
		C22.2 No. 24-93
Noise level (max)	running	<30 db(A)
sprir	g return	62 dB(A)
Quality standard		ISO 9001

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

† Rated impulse voltage 800V (4kV for 120V model), Control pollution degree 3, Type of action 1.AA (1.AA.B for -S models)



	Valve Nominal Size		Dimen	[mm])	
Valve Body	Inches DN [mm]		Inches DN [mm] A		C
B307(B)-B311(B)	1/2"	15	2.41" [61.1]	1.39" [35.2]	1.20" [30.6]
B312(B)-B315(B)	1/2"	15	2.38" [60.4]	1.78" [45.2]	1.29" [32.8]
B317(B)-B320(B)	3/4"	20	2.73" [69.3]	1.87" [47.4]	1.47" [37.3]
B322-B325	1"	25	3.09" [78.4]	1.87" [47.4]	1.59" [40.3]



Wiring Diagrams



C INSTALLATION NOTES



Provide overload protection and disconnect as required.



CAUTION Equipment damage!

Actuators may be connected in parallel. Power consumption must be observed.



Actuator may also be powered by 24 VDC.



For end position indication, interlock control, fan startup, etc., LF24-S US and LF120-S US incorporates a built-in auxiliary switch: 1 x SPDT, 6A (1.5A) @ 250 VAC, UL listed, adjustable 0° to 95°.



APPLICATION NOTES



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.

