B2...HT... Two-way High Temperature Characterized Control Valve Stainless Steel Ball and Stem









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 flow.

This valve is designed to fit in compact areas where on/off or floating point control is required using 24 VAC.

water/low pressure steam, 60% glycol
A-port equal percentage
1/2", 3/4", 1"
female, NPT
brass (DZR) P-CuZn35Pb2
stainless steel
stainless steel
PTFE Teflon
PTFE Teflon
2 EPDM 0-rings
600 psi
250°F (15 psig)
37°F - 266°F
200 psi
116 psi full open ball
60 psi partially open ball
bubble tight 0%

Dimensions		
	C A A	HTCCV_DimAB

		Valve Nominal Size Din			sions (Inches	[mm])
Valve Body Inches		DN [mm]	Α	В	C	
	B215HT	1/2"	15	3.33" [84.6]	2.09" [53.2]	0.53" [13.5]
	B220HT	3/4"	20	3.96" [100.6]	2.37" [60.1]	0.67" [17.0]
	B225HT	1"	25	5.14" [130.6]	3.14" [79.8]	0.92" [23.25]

Flow Patterns	
A AB OUTLET Two-way Characterizing Disc (where applicable)	Flow direction

	Valve Nor	ninal Size	Type	5	Suitable .	Actuators	S
Cv	Inches	DN [mm]	2-way NPT	Spr	ing	Non-S	pring
0.29	1/2	15	B215HT029				
0.46	1/2	15	B215HT046				
0.73	1/2	15	B215HT073	<u>ies</u>		ies	
1.16	1/2	15	B215HT116	Series		Series	
1.86	1/2	15	B215HT186	₽		Ľ	
2.90	1/2	15	B215HT290				
4.55	1/2	15	B215HT455*				
1.86	3/4	20	B220HT186				
2.90	3/4	20	B220HT290				
4.64	3/4	20	B220HT464				
7.31	3/4	20	B220HT731				
9.28	3/4	20	B220HT928		ies		ies
13.20	3/4	20	B220HT1320		LF Series		LR Series
4.64	1	25	B225HT464		뜨		5
7.31	1	25	B225HT731				
11.6	1	25	B225HT1160				
18.56	1	25	B225HT1856				
28.00	1	25	B225HT2800				

* modified equal percentage

LF Actuators, On/Off





Models

LF24 US LF24-S US LF120 US

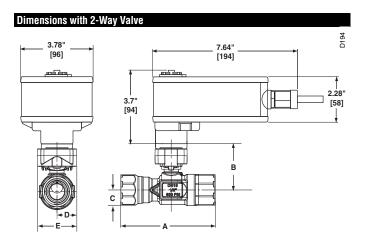
w/built-in Aux. Switch

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

Technical Data Control Power supply LF24(-S) US 24 VAC ± 20% 50/60 Hz 24 VDC ± 10% LF120(-S) US Power consumption LF24(-S) US Inuning holding LF120(-S) US Trunning Holding LF120(-S) US Trunning Former sizing LF24(-S) US IF120(-S) US			
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 Inlining Including LF120(-S) US Inlining Including Includi			
LF24(-S) US	Control		On/Off, Floating
24 VDC ± 10% 120 VAC ± 10% 50/60 Hz Power consumption LF24(-S) US running holding LF120(-S) US running holding 2.5 W 2.5 W	Power supply		
LF120(-S) US	LF24(-S) US		
Power consumption LF24(-S) US running holding LF120(-S) US running transformer sizing LF24(-S) US Transformer sizing LF24(-S) US Transformer sizing LF24(-S) US Transformer sizing LF120(-S) US Transformer sizing LF20(-S) US Transformer sizing Transformer sizing LF20(-S) US Transformer sizing Transformer sizin			24 VDC ± 10%
LF24(-S) US running holding 2.5 W LF120(-S) US running holding 3.5 W Transformer sizing LF24(-S) US 7 VA, class 2 power source 7.5 VA, class 2 power source 7.5 VA, class 2 power source 7.5 VA, class 2 power source 8.7 VA, class 2 power source 9.7			120 VAC ± 10% 50/60 Hz
holding 2.5 W 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 3 ft, 18 GA appliance cable (-S models have 2 cables) ½" conduit connector 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 <40 to 75 sec. (on-off) spring -22° F to 122° F [-30° C to 50° C] Housing NEMA 2			
LF120(-S) US running holding 3.5 W Transformer sizing LF24(-S) US 7 VA, class 2 power source 7.5 VA, class 2 power source 7.5 VA, class 2 power source 7.5 VA, class 2 power source 8.7 VA, class 2 power source 9.7 VA, c	LF24(-S) US	running	5 W
holding Transformer sizing LF24(-S) US LF120(-S) US 7 VA, class 2 power source 7.5 VA, class 2 power source Electrical connection 3 ft, 18 GA appliance cable (-S models have 2 cables) ½" conduit connector Electrical protection 120V actuators double insulated Overload protection Angle of rotation Spring return direction Position indication Running time		holding	2.5 W
Transformer sizing LF24(-S) US LF120(-S) US 7.5 VA, class 2 power source 2.5 VA, class 2 power source 3.5 tt, 18 GA appliance cable (-S models have 2 cables) 2.7 conduit connector Electrical protection 120V actuators double insulated Overload protection 25° Spring return direction Position indication Running time 25° Spring 260 sec. @-4°F to 122°F [-30°C] Ambient temperature 22°F to 122°F [-30°C] NEMA 2	LF120(-S) US	running	5.5 W
LF24(-S) US LF120(-S) US 7.5 VA, class 2 power source 7.5 VA, class 2 power source 3 ft, 18 GA appliance cable (-S models have 2 cables) ½" conduit connector Electrical protection 120V actuators double insulated Overload protection electronic throughout rotation Angle of rotation Spring return direction Position indication Running time 40 to 75 sec. (on-off) spring -25 sec. @-4°F to 122°F [-30°C] Ambient temperature -22°F to 122°F [-30°C] NEMA 2		holding	3.5 W
LF120(-S) US 7.5 VA, class 2 power source Electrical connection 3 ft, 18 GA appliance cable (-S models have 2 cables) ½" conduit connector Electrical protection 120V actuators double insulated Overload protection Angle of rotation Spring return direction Position indication Running time 40 to 75 sec. (on-off) spring -25 sec. @-4°F to 122°F [-30°C] Ambient temperature Housing NEMA 2	Transformer sizing		
Electrical connection 3 ft, 18 GA appliance cable (-S models have 2 cables) ½" conduit connector Electrical protection Overload protection Angle of rotation Spring return direction Position indication Running time Spring 40 to 75 sec. (on-off) spring -25 sec. @-4°F to 122°F [-30°C] Ambient temperature Housing NEMA 2	LF24(-S) US		7 VA, class 2 power source
(-S models have 2 cables) ½" conduit connector 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 <40 to 75 sec. (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	LF120(-S) US		7.5 VA, class 2 power source
½" conduit connector	Electrical connection		3 ft, 18 GA appliance cable
Electrical protection Overload protection Angle of rotation Position indication Running time Ambient temperature 120V actuators double insulated electronic throughout rotation electronic throughout rotation position with CW/CCW mounting reversible with CW/CCW mounting reversible with CW/CCW mounting reversible with CW/CCW mounting reversib			(-S models have 2 cables)
Overload protection Angle of rotation Spring return direction Position indication Running time Ambient temperature Overload protection electronic throughout rotation 95° reversible with CW/CCW mounting visual indicator 0° to 90° <40 to 75 sec. (on-off) <25 sec. @-4°F to 122°F [-20°C to 50°C] <60 sec. @-22°F [-30°C] NEMA 2			½" conduit connector
Angle of rotation 95° Spring return direction reversible with CW/CCW mounting Position indication visual indicator 0° to 90° Running time <40 to 75 sec. (on-off)	Electrical protection		120V actuators double insulated
Spring return direction reversible with CW/CCW mounting	Overload protection		electronic throughout rotation
Position indication visual indicator 0° to 90° Running time <40 to 75 sec. (on-off)	Angle of rotation		95°
Spring time <40 to 75 sec. (on-off)	Spring return direction		reversible with CW/CCW mounting
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	Position indication		visual indicator 0° to 90°
<60 sec. @-22°F [-30°C]	Running time		<40 to 75 sec. (on-off)
Ambient temperature -22° F to 122° F [-30° C to 50° C] Housing NEMA 2		spring	<25 sec. @-4°F to 122°F [-20°C to 50°C]
Housing NEMA 2			<60 sec. @-22°F [-30°C]
	Ambient temperature		-22° F to 122° F [-30° C to 50° C]
Agency listings† III 873 CSA C22 2 No. 24 certified CF	Housing		NEMA 2
rigorios notingo OL 070, OUN 022.2 No. 27 Certified, OL	Agency listings†		UL 873, CSA C22.2 No. 24 certified, CE
Quality standard ISO 9001	Quality standard		ISO 9001
Noise level max. 62 dB(A)	Noise level		max. 62 dB(A)

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			e Nominal Size Dimensions (Inches [mm])		
Valve Body Inches		DN [mm]	Α	В	C		
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Wiring Diagrams



X INSTALLATION NOTES



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.

