









Type overview	
Туре	DN
B213	15

# **Technical data**

Functiona	l data	Valve	cizo	Γm
Functiona	ı nata	valve	SIZE	ıт

Valve size [mm]	0.5" [15]
Fluid	chilled or hot water, up to 60% glycol
Fluid Temp Range (water)	0250°F [-18120°C]
Body Pressure Rating	600 psi
Close-off pressure ∆ps	200 psi
Flow characteristic	equal percentage
Servicing	maintenance-free
Flow Pattern	2-way
Leakage rate	0% for A – AB
Controllable flow range	75°
Cv	4.7

## Materials

Valve body	Nickel-plated brass body	
Stem	stainless steel	
Stem seal	EPDM (lubricated)	
Seat	PTFE	
Characterized disc	TEFZEL®	
Pipe connection	NPT	
O-ring	EPDM (lubricated)	
Ball	stainless steel	
Non-Spring	TR	
. 3	LRB(X)	

## Suitable actuators

, in S	LRB(X) NR
Spring	TFRB(X)
	LF

# Safety notes



 WARNING: This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to www.p65warnings.ca.gov

# **Product features**

## 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 variable flow.



# Flow/Mounting details

A AR 100%

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

	disc upstream.	$A \rightarrow AB 100\%$	A → AB 100%	
Dimensions				
<b>Type</b> B213	<b>DN</b> 15		<b>Weight</b> 0.66 lb [0.30 kg]	
	LRB, LRX	HI HE F		c
		<b>A B</b> 9.4" [239] 2.4" [60] 5.6"	C         D         E           '[141]         5.0" [127]         1.3" [33]	F         H1         H2           1.3" [33]         1.2" [30]         1.1" [28]
	TR			
		<b>A B</b> 3.7" [95] 2.4" [60]	C D 5.2" [132] 4.6" [117]	E F 1.3" [33] 1.3" [33]
	TFRB, TFRX			

В

2.4" [60]

7.9" [200]

С

6.1" [154]

D

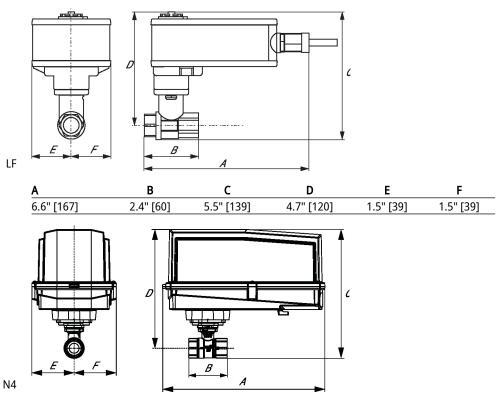
5.5" [140]

E

1.8" [46]

1.8" [46]





ARB N4, ARX N4, NRB N4, NRX N4

Α	В	С	D	E	F
11.4" [289]	2.4" [60]	7.7" [196]	7.0" [179]	3.1" [80]	3.1" [80]



Technical data sheet LF24-S US



Electrical data	Nominal voltage	AC/DC 24 V
Electrical data	Nominal voltage frequency	50/60 Hz
		AC 19.228.8 V / DC 21.628.8 V
	Nominal voltage range Power consumption in operation	5 W
	Power consumption in rest position	2.5 W
	Transformer sizing	7 VA
	Auxiliary switch	1 x SPDT, 3 A resistive (0.5 A inductive) @ AC 250 V, adjustable 095°
	Switching capacity auxiliary switch	3 A resistive (0.5 A inductive) @ AC 250 V
	Electrical Connection	(2) 18 GA appliance cables, 1 m, with 1/2" conduit connectors
	Overload Protection	electronic throughout 095° rotation
Functional data	Direction of motion motor	selectable with switch 0/1
	Direction of motion fail-safe	reversible with cw/ccw mounting
	Angle of rotation	90°
	Running Time (Motor)	75 s / 90°
	Running time fail-safe	<25 s @ -4122°F [-2050°C], <60 s @ -22°F [-30°C]
	Noise level, motor	50 dB(A)
	Noise level, fail-safe	62 dB(A)
	Position indication	Mechanical
Safety data	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2
	Enclosure	UL Enclosure Type 2
	Agency Listing	cULus acc. To UL 873 and CAN/CSA C22.2 No 24-93
	Quality Standard	ISO 9001
	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-22122°F [-3050°C]
	Storage temperature	-40176°F [-4080°C]
	Servicing	maintenance-free
Weight	Weight	3.4 lb [1.6 kg]

Footnotes †Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3



#### **Electrical installation**

# **X** INSTALLATION NOTES

A Actuators with appliance cables are numbered.

 $\sum$  Provide overload protection and disconnect as required.

Actuators may also be powered by DC 24 V.

Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.

One built-in auxiliary switch (1x SPDT), for end position indication, interlock control, fan startup, etc.

Apply only AC line voltage or only UL-Class 2 voltage to the terminals of auxiliary switches. Mixed or combined operation of line voltage/safety extra low voltage is not allowed.

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

**Auxiliary Switches** 

## 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.

## Wiring diagrams On/Off

