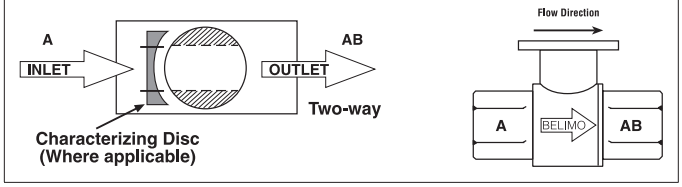
B240 Technical Data Sheet
Stainless Steel Ball and Stem

5-year warranty

Technical Data

Fluid	chilled or hot water, up to 60% glycol
Flow characteristic	equal percentage
Controllable flow range	75°
Valve Size [mm]	1.5" [40]
Pipe connection	NPT female ends
Housing	Nickel-plated brass body
Ball	stainless steel
Stem	stainless steel
Stem seal	EPDM (lubricated)
Seat	PTFE
O-ring	EPDM (lubricated)
Characterized disc	No Disc (full flow)
Body Pressure Rating	400 psi
Close-off pressure Δps	200 psi
Cv	37
Weight	1.98 lb [0.90 kg]
Fluid Temp Range (water)	0...250°F [-18...120°C]
Leakage rate	0% for A – AB
Servicing	maintenance-free

Flow/Mounting Details



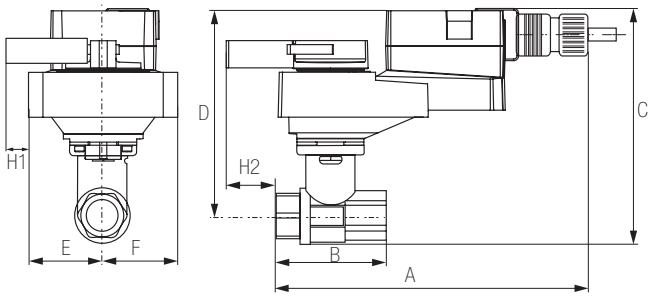
Application

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.

Suitable Actuators

	Non-Spring	Spring
B240	ARB(X), NRQB(X)	AFRB(X)

Dimensions (Inches [mm])



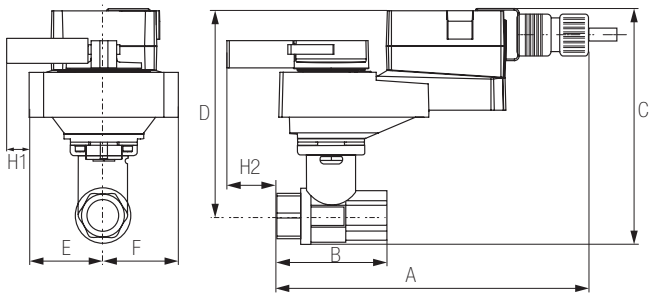
ARB, ARX

A	B	C	D	E	F	H1	H2
11.0" [280]	3.9" [100]	6.4" [163]	5.3" [134]	1.7" [44]		1.2" [30]	0.6" [15]

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

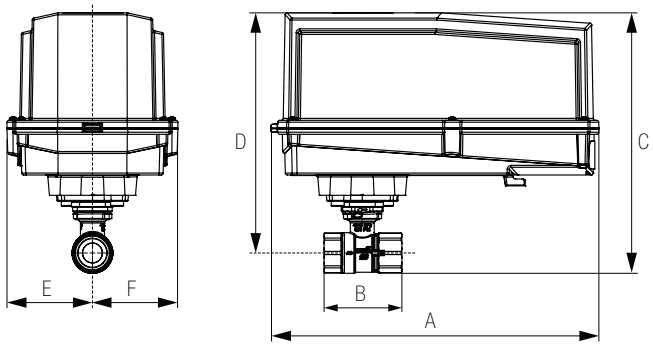
Dimensions (Inches [mm])



ARB, ARX 120-3, 120-SR, MFT

A	B	C	D	E	F	H1	H2
11.0" [280]	3.9" [100]	6.4" [163]	5.3" [134]	1.7" [44]		1.2" [30]	0.6" [15]

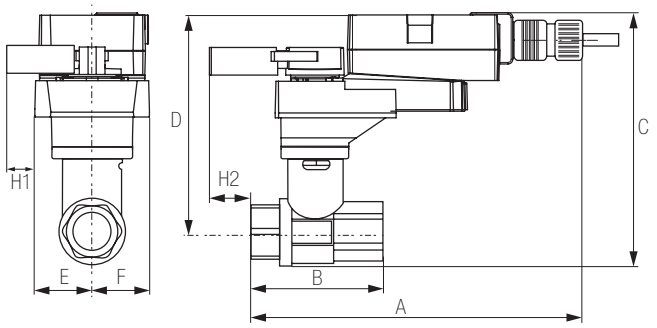
Dimensions (Inches [mm])



AFRB N4, AFRX N4

A	B	C	D	E	F
13.0" [330]	3.9" [100]	10.3" [262]	8.5" [216]	3.4" [86]	

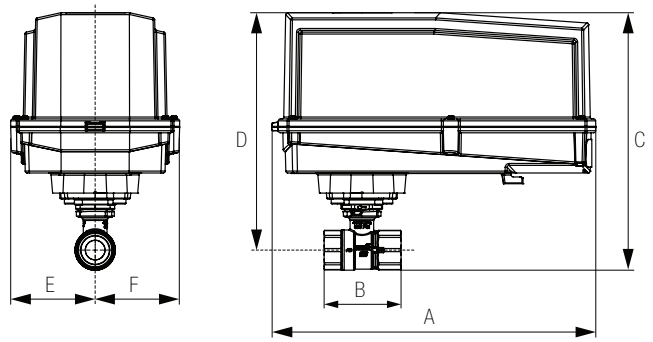
Dimensions (Inches [mm])



NRQB, NRQX

A	B	C	D	E	F	H1	H2
11.0" [280]	3.9" [100]	7.1" [181]	6.0" [152]	1.7" [44]		1.4" [34]	0.6" [15]

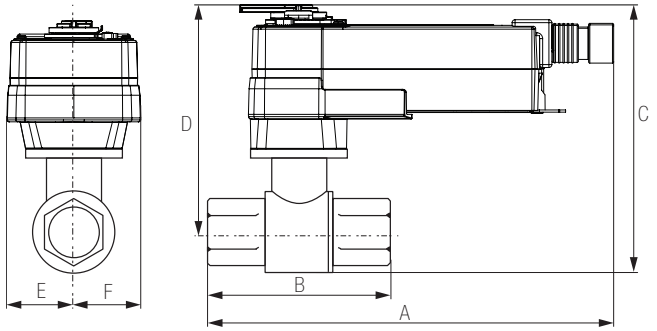
Dimensions (Inches [mm])



ARB N4, ARX N4, NRB N4, NRX N4

A	B	C	D	E	F
11.4" [289]	3.9" [100]	8.5" [217]	7.3" [185]	3.1" [80]	

Dimensions (Inches [mm])



AFRB, AFRX

A	B	C	D	E	F
10.8" [275]	3.9" [100]	9.0" [229]	7.8" [198]	2.0" [51]	

AFRXUP N4 Technical Data Sheet

NEMA 4, On/Off, Spring Return, AC 24…240 V

5-year warranty

Technical Data	
Power Supply	24...240 VAC, -20% / +10%, 50/60 Hz, 24...125 VDC, ±10%
Power consumption in operation	7 W
Power consumption in rest position	3.5 W
Transformer sizing	7 VA @ AC 24 V (class 2 power source), 8.5 VA @ AC 120 V, 18 VA @ AC 240 V / heater 25 VA @ AC 120 V
Electrical Connection	18 GA appliance cable, 3 ft [1 m], with 1/2" conduit connector
Overload Protection	electronic throughout 0...95° rotation
Angle of rotation	90°
Torque motor	180 in-lb [20 N]
Direction of motion motor	selectable by ccw/cw mounting
Direction of motion fail-safe	reversible with cw/ccw mounting
Position indication	Mechanical
Manual override	5 mm hex crank (3/16" Allen), supplied
Running Time (Motor)	75 s
Running time fail-safe	<20 s
Ambient humidity	max. 95% r.H., non-condensing
Ambient temperature	-22...122°F [-30...50°C]
Storage temperature	-40...176°F [-40...80°C]
Degree of Protection	IP66, NEMA 4X, UL Enclosure Type 4X
Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC
Noise level, motor	45 dB(A)
Noise level, fail-safe	62 dB(A)
Servicing	maintenance-free
Quality Standard	ISO 9001
Weight	9.7 lb [4.4 kg]

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

Wiring Diagrams

INSTALLATION NOTES

(A) Actuators with appliance cables are numbered.

(UP) Universal Power Supply (UP) models can be supplied with 24 VAC up to 240 VAC, or 24 VDC up to 125 VDC.

1 Provide overload protection and disconnect as required.

45 Actuators may be powered in parallel. Power consumption must be observed.

48 Parallel wiring required for piggy-back applications.

◆ 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.