B251 Technical Data Sheet
Stainless Steel Ball and Stem

5-year warranty

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.

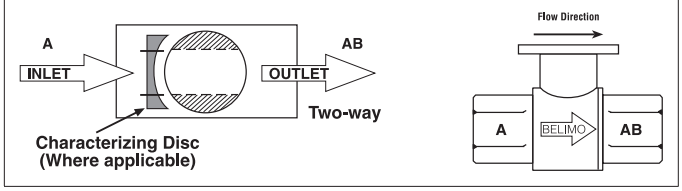
Suitable Actuators

	Non-Spring	Spring
B251	ARB(X)	AFRB(X)

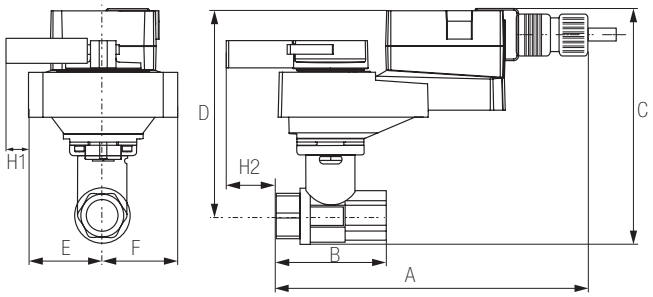
Technical Data

Fluid	chilled, hot water, up to 60% glycol
Flow characteristic	equal percentage
Controllable flow range	75°
Valve Size [mm]	2" [50]
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)
Characterised disc	stainless steel
Body Pressure Rating	400 psi
Close-off pressure Δps	200 psi
Cv	65
Weight	5.29 lb [2.4 kg]
Fluid Temp Range (water)	0...250°F [-18...120°C]
Leakage rate	0% for A – AB
Maintenance	maintenance-free

Flow/Mounting Details



Dimensions (Inches [mm])

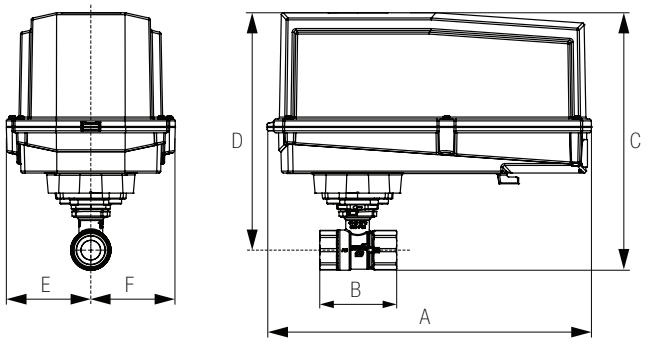


ARB, ARX

A	B	C	D	E	F	H1
10.2" [260]	4.9" [125]	7.7" [196]	6.0" [152]	1.7" [44]		1.2" [30]

Safety Notes
WARNING: For Belimo products sold in California: these products do or may contain chemicals which are known to the State of California to cause cancer and or birth defects or other reproductive harms. For more information see www.p65warnings.ca.gov.

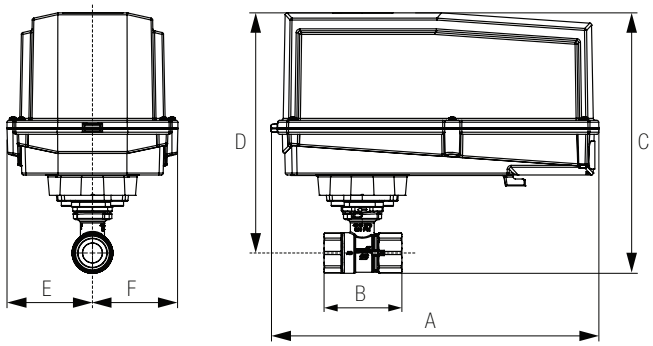
Dimensions (Inches [mm])



ARB N4, ARX N4, NRB N4, NRX N4

A	B	C	D	E	F
11.4” [289]	4.2” [107]	9.8” [249]	7.6” [194]	3.1” [80]	

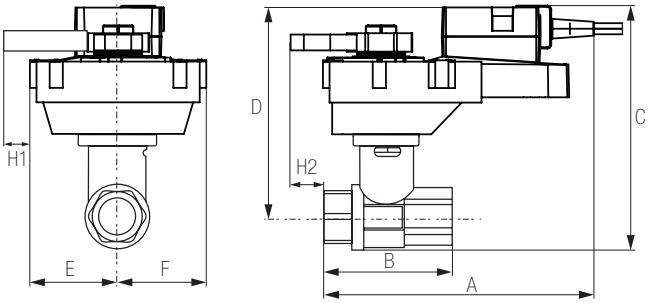
Dimensions (Inches [mm])



AFRB N4, AFRX N4

A	B	C	D	E	F
13.0” [330]	4.9” [125]	10.3” [262]	9.3” [235]	3.4” [86]	

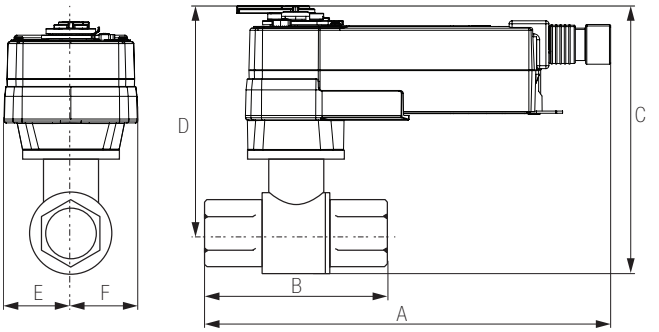
Dimensions (Inches [mm])



ARQB, ARQX

A	B	C	D	E	F	H1	H2
9.9” [251]	4.2” [107]	7.5” [191]	6.1” [155]	2.3” [58]		0.8” [20]	0.6” [15]

Dimensions (Inches [mm])



AFRB, AFRX

A	B	C	D	E	F
11.3” [286]	4.9” [125]	10.6” [268]	8.9” [225]	2.0” [51]	

ARX24-PC Technical Data Sheet

Modulating, Non-Spring Return, 24 V, 0 to 20 V Phasecut

5-year warranty

Technical Data	
Power Supply	24 VAC, ±20%, 50/60 Hz, 24 VDC, ±10%
Power consumption in operation	3.5 W
Power consumption in rest position	1.3 W
Transformer sizing	5.5 VA (class 2 power source)
Electrical Connection	Cable with conduit connector
Overload Protection	electronic thoughout 0...90° rotation
Operating Range	DC 0...20 V PhC, Phasecut control (PhC) is only for the positive part of the sine wave (max. of 10 volts)
Input Impedance	8000 Ω (50mW)
Position Feedback	DC 2...10 V
Angle of rotation	90°
Direction of rotation motor	reversible with built-in switch
Position indication	Mechanically, pluggable
Manual override	external push button
Running Time (Motor)	default 90 s, variable 90 or 150 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	IP54, NEMA 2
Housing material	UL94-5VA
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)
Maintenance	maintenance-free
Quality Standard	ISO 9001
Weight	2.2 lb [1.0 kg]

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

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Wiring Diagrams

INSTALLATION NOTES

1 Provide overload protection and disconnect as required.

3 Actuators may also be powered by 24 VDC.

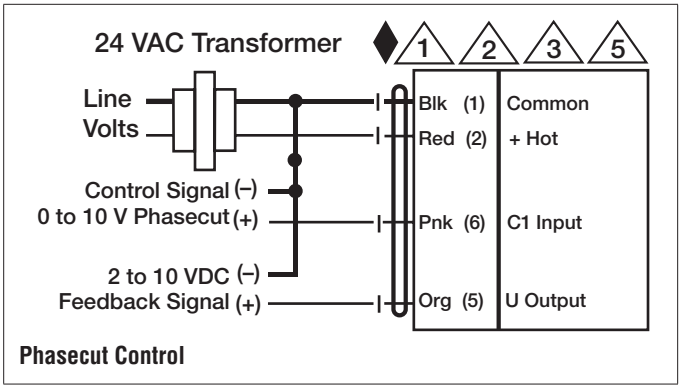
5 Only connect common to negative (-) leg of control circuits.

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

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.



Phasecut Control