BELIMO

Technical data sheet B278

2-way, Characterized Control Valve, Stainless Steel Ball and Stem



5-year warranty

Type overview

Type	DN
B278	80

Technical data

Functional data	Valve size [mm]	3" [80]
	Fluid	chilled or hot water, up to 60% glycol
	Fluid Temp Range (water)	0...212°F [-18...100°C]
	Body Pressure Rating	400 psi
	Close-off pressure Δps	100 psi
	Flow characteristic	equal percentage
	Pipe connection type	Internal thread NPT (female)
	Servicing	maintenance-free
	Flow Pattern	2-way
	Leakage rate	0% for A – AB
	Controllable flow range	75°
	Cv	130
Materials	Valve body	Nickel-plated brass body
	Stem	stainless steel
	Stem seal	EPDM (lubricated)
	Seat	PTFE
	Characterized disc	TEFZEL®
	O-ring	EPDM (lubricated)
	Ball	stainless steel
Suitable actuators	Non-Spring	ARB(X)
	Spring	AFRB(X)

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

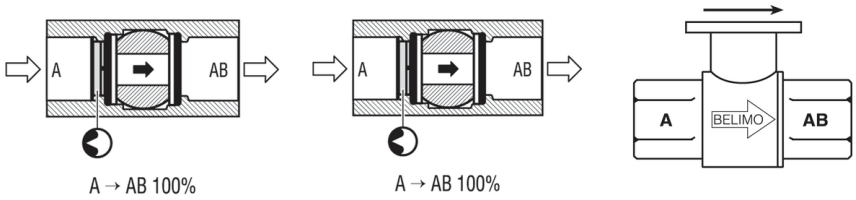
Product features

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

Flow/Mounting details

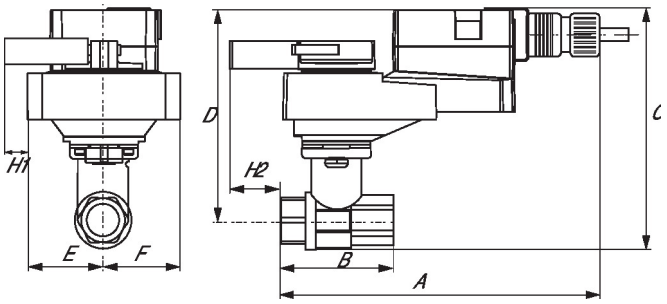
Two-way valves should be installed with the disc upstream.



Dimensions

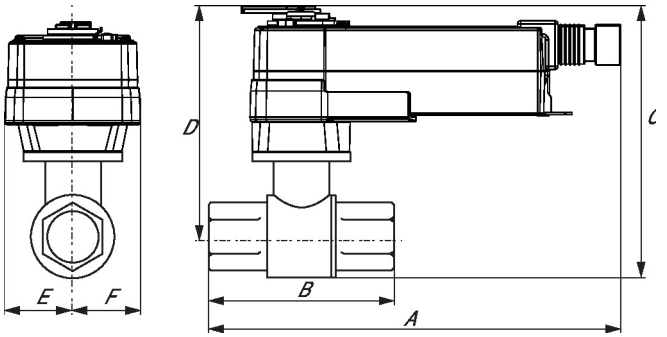
Type	DN	Weight
B278	80	9.0 lb [4.1 kg]

ARB, ARX



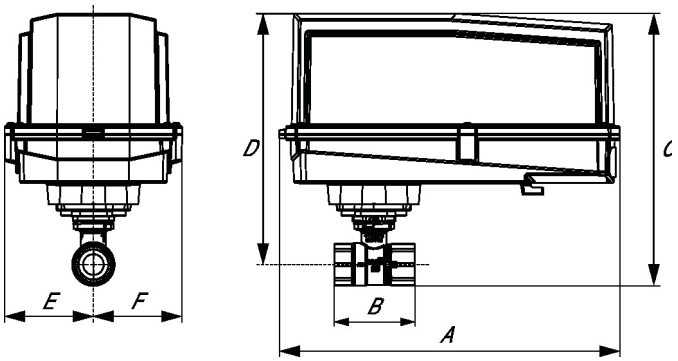
A	B	C	D	E	F	H1	H2
11.0" [280]	5.8" [148]	8.5" [217]	6.0" [152]	2.8" [71]	2.8" [71]	2.1" [53]	0.8" [20]

AFRB, AFRX



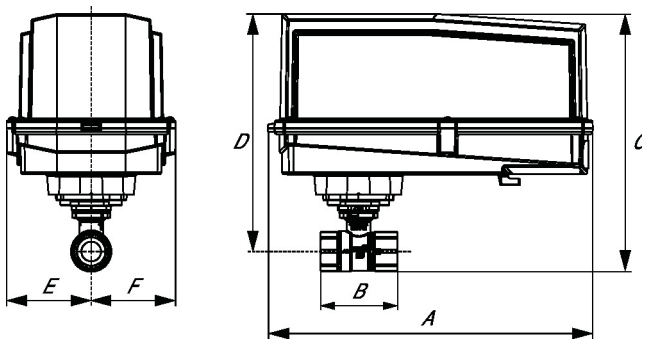
A	B	C	D	E	F
11.8" [299]	5.8" [148]	9.1" [231]	6.6" [168]	2.0" [51]	2.0" [51]

AFRB N4, AFRX N4



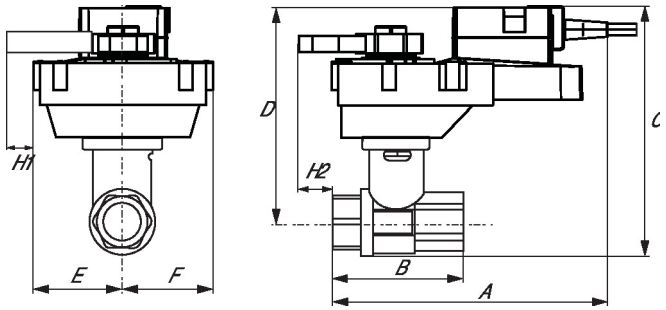
A	B	C	D	E	F
13.0" [330]	5.8" [148]	10.3" [262]	9.3" [235]	3.4" [86]	3.4" [86]

ARB N4, ARX N4, NRB N4, NRX N4



A	B	D	E	F
11.4" [289]	5.8" [148]	8.0" [203]	3.1" [80]	3.1" [80]

ARQB, ARQX



A	B	C	D	E	F	H1	H2
9.9" [251]	4.2" [107]	8.6" [219]	6.1" [155]	2.3" [58]	2.3" [58]	0.8" [20]	0.6" [15]

On/Off, Floating point, Non fail-safe, 24 V



5-year warranty

Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V
	Power consumption in operation	2.5 W
	Power consumption in rest position	0.5 W
	Transformer sizing	5.5 VA
	Electrical Connection	Terminal blocks
	Overload Protection	electronic thoughout 0...90° rotation
Functional data	Direction of motion motor	selectable with switch 0/1
	Manual override	under cover
	Angle of rotation	90°
	Angle of rotation note	adjustable with mechanical stop
	Running Time (Motor)	90 s / 90°
	Running time motor variable	90 or 150 s
	Noise level, motor	45 dB(A)
	Position indication	pointer
Safety data	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP66/67
	Degree of protection NEMA/UL	NEMA 4X
	Housing	UL Enclosure Type 4X
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU and 2014/35/EU
	Quality Standard	ISO 9001
	Ambient humidity	Max. 100% RH
	Ambient temperature	-22...122°F [-30...50°C]
	Ambient temperature note	-40...50°C [104...122°F] for actuator with integrated heating
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
Weight	Weight	2.0 lb [0.91 kg]

Technical data

Materials	Housing material	Die cast aluminium and plastic casing

Footnotes †Rated Impulse Voltage 800V, Type of action 1, Control Pollution Degree 4.

Accessories

Factory add-on option only	Description	Type
	Heater, with adjustable thermostat	ACT_PACK_H

Electrical installation

INSTALLATION NOTES

1 Provide overload protection and disconnect as required.

2 Actuators may be connected in parallel. Power consumption and input impedance must be observed.

3 Actuators may also be powered by DC 24 V.

6 Actuators Hot wire must be connected to the control board common. Only connect common to neg. (-) leg of control circuits. Terminal models (-T) have no-feedback.

16 Actuators are provided with a numbered screw terminal strip instead of a cable.

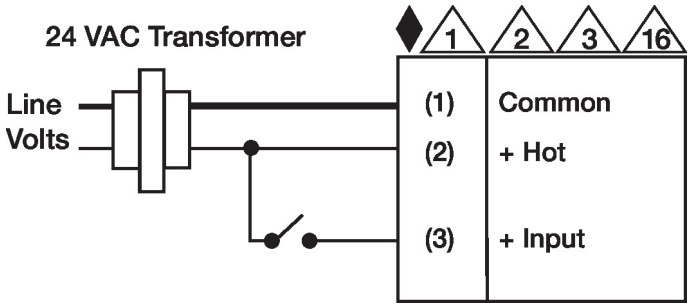
Meets cULus requirements without the need of an electrical ground connection.

Warning! Live electrical components!

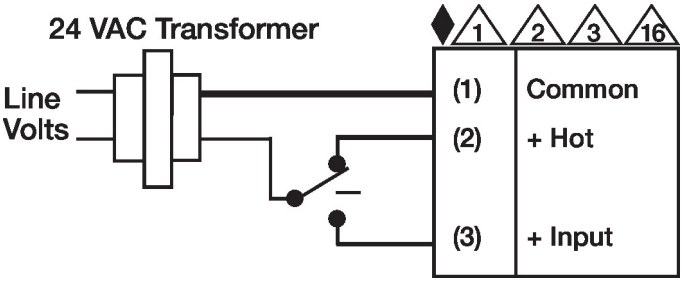
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

Wiring diagrams

On/Off



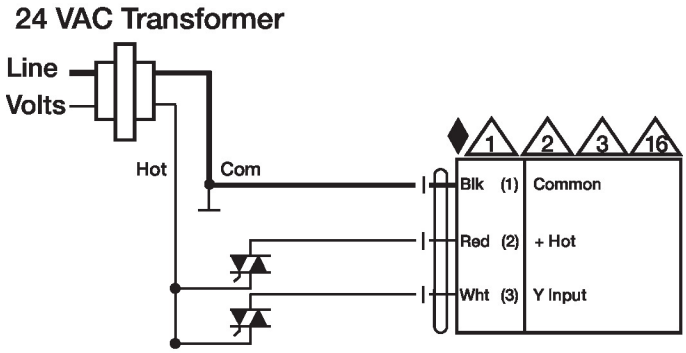
Floating Point



Electrical installation

Wiring diagrams

Floating Point - Triac Source



Floating Point - Triac Sink

