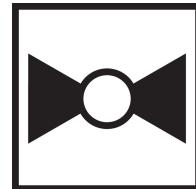




5-year warranty



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 Δ ps	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



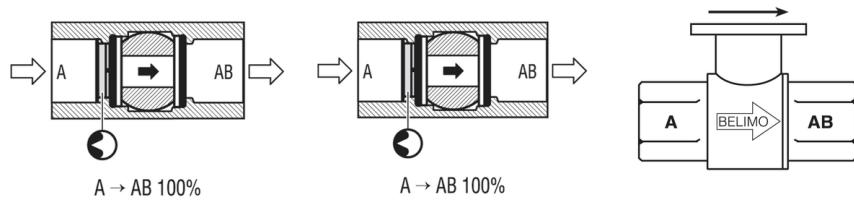
- WARNING: This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to www.p65warnings.ca.gov

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

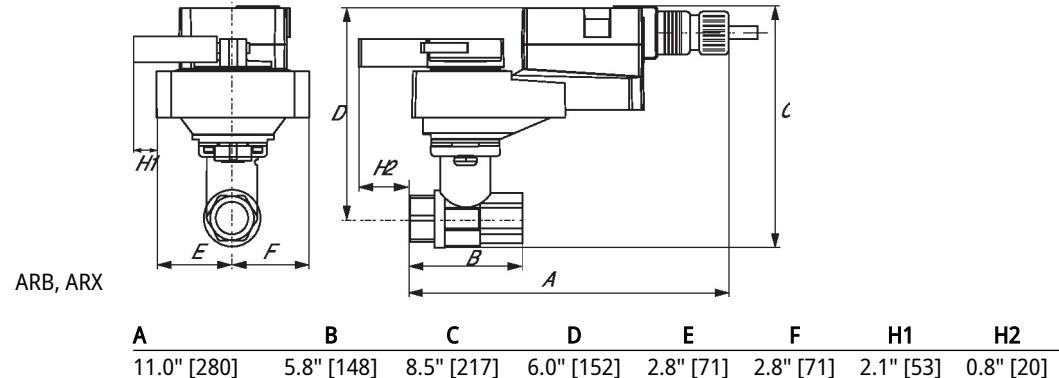
Flow/Mounting details

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

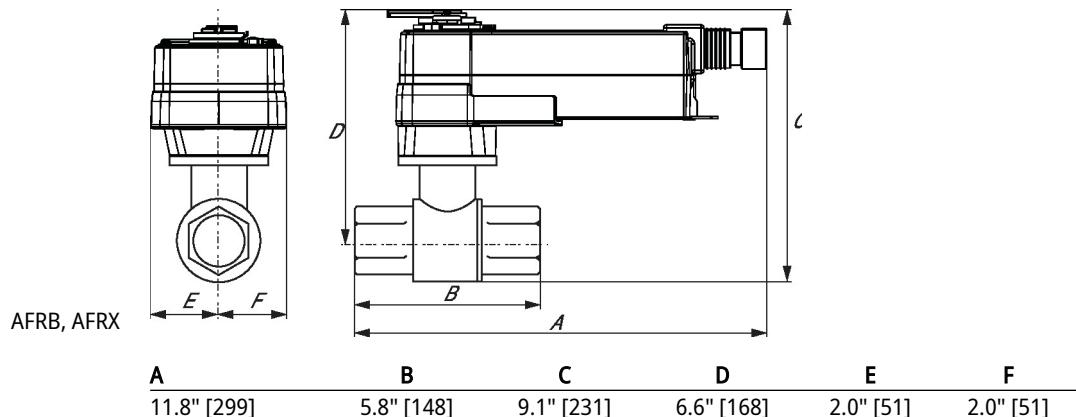


Dimensions

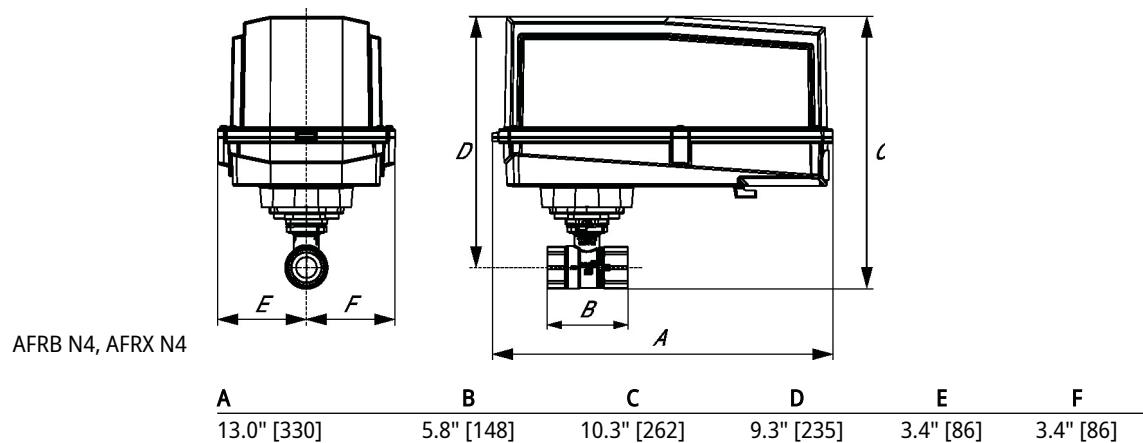
Type	DN	Weight
B278	80	9.0 lb [4.1 kg]



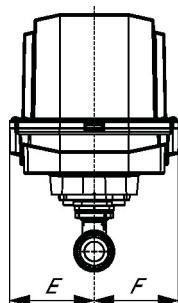
A	B	C	D	E	F	H1	H2
11.0" [280]	5.8" [148]	8.5" [217]	6.0" [152]	2.8" [71]	2.8" [71]	2.1" [53]	0.8" [20]



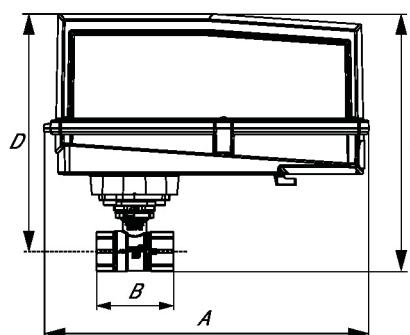
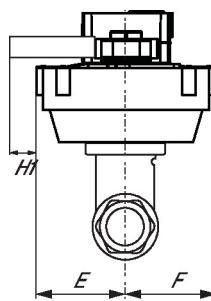
A	B	C	D	E	F
11.8" [299]	5.8" [148]	9.1" [231]	6.6" [168]	2.0" [51]	2.0" [51]



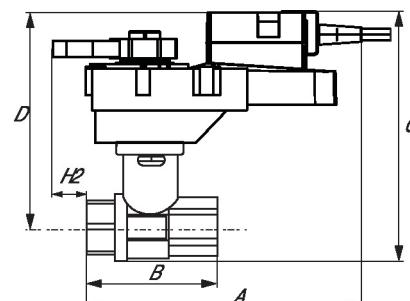
A	B	C	D	E	F
13.0" [330]	5.8" [148]	10.3" [262]	9.3" [235]	3.4" [86]	3.4" [86]



ARB N4, ARX N4, NRB N4, NRX N4

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

ARQB, ARQX

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



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	3.5 W
	Power consumption in rest position	1.3 W
	Transformer sizing	6 VA
	Electrical Connection	18 GA plenum cable with 1/2" NPT conduit connector, degree of protection NEMA 2 / IP54, 1 m 3 m and 5 m
	Overload Protection	electronic throughout 0...90° rotation
Functional data	Operating range Y	0...135 Ω
	Operating range Y note	Honeywell Electronic Series 90, input 0...135 Ω
	Input impedance	100 kΩ
	Position feedback U	2...10 V
	Position feedback U note	Max. 0.5 mA
	Position feedback U variable	VDC variable
	Direction of motion motor	selectable with switch 0/1
	Manual override	external push button
	Angle of rotation	90°
	Angle of rotation note	adjustable with mechanical stop
	Running Time (Motor)	150 s / 90°
	Running time motor variable	90...150 s
	Noise level, motor	45 dB(A)
	Position indication	Mechanical, pluggable
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 UL60730-1A-2-14, CAN/CSA E60730-1:02 CE acc. to 2014/30/EU and 2014/35/EU
	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	-22...122°F [-30...50°C]
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free

Weight	Weight	2.1 lb [0.97 kg]
Materials	Housing material	Galvanized steel and plastic housing

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

Accessories

	Description	Type
Gateways	Gateway MP to BACnet MS/TP Gateway MP to Modbus RTU Gateway MP to LonWorks	UK24BAC UK24MOD UK24LON
Electrical accessories	Description	Type
	Battery backup system, for non-spring return models Battery, 12 V, 1.2 Ah (two required) Service tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices	NSV24 US NSV-BAT ZTH US
Tools	Description	Type
	Connecting cable 10 ft [3 m], A: RJ11 6/4 ZTH EU, B: 3-pin Weidmüller and supply connection Service tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZK4-GEN ZTH US

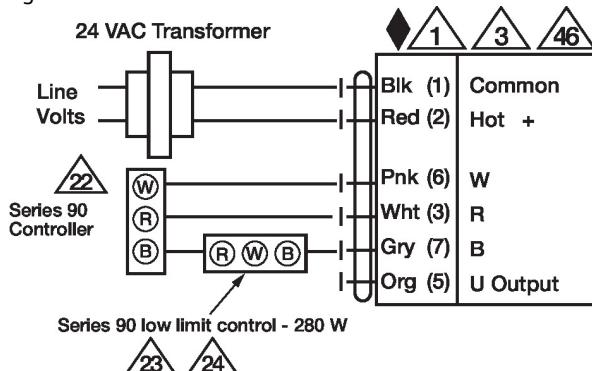
Electrical installation

⚠ INSTALLATION NOTES

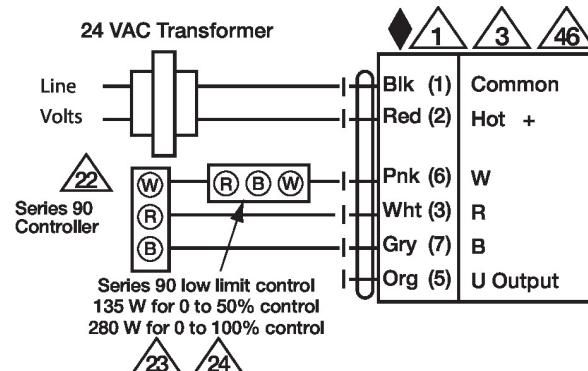
- ⚠ Provide overload protection and disconnect as required.
- ⚠ Actuators may also be powered by DC 24 V.
- ⚠ Actuators with plenum cable do not have numbers; use color codes instead.
- ⚠ Actuators and controller must have separate transformers.
- ⚠ Consult controller instruction data for more detailed information.
- ⚠ Resistor value depends on the type of controller and the number of actuators. No resistor is used for one actuator. Honeywell® resistor kits may also be used.
- ⚠ To reverse control rotation, use the reversing switch.
- ⚠ Actuators may be controlled in parallel. Current draw 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.

Wiring diagrams

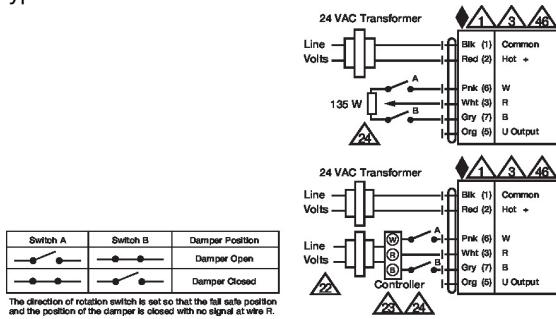
High Limit Control



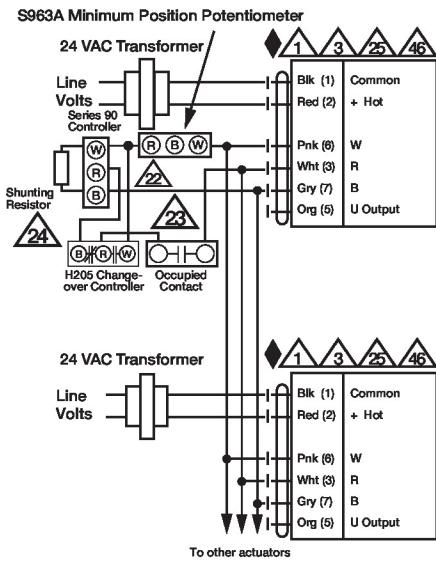
Low Limit Control



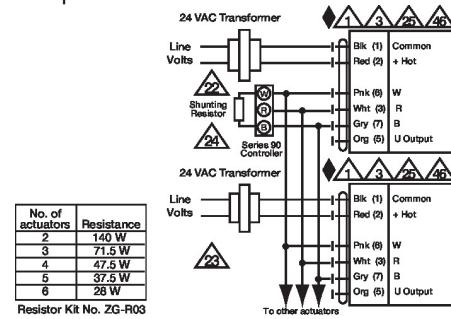
Typical and Override Control



Multiple Actuators with Minimum Position Potentiometer



Multiple Actuators



Multiple Actuators Used with W973, W7100 and T775

