





5-year warranty



## **Technical data**

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Valve Size	2" [50]
Fluid	chilled or hot water, up to 60% glycol
Fluid Temp Range (water)	0250°F [-18120°C]
Body Pressure Rating	400 psi
Body pressure rating note	400 psi
Close-off pressure Δps	200 psi
Flow characteristic	A-port equal percentage, B-port modified for constant common port flow
Servicing	maintenance-free
Flow Pattern	3-way Mixing/Diverting
Leakage rate	0% for A – AB, <2.0% for B – AB
Controllable flow range	75°
Cv	83
Cv Flow Rating	A-port: as stated in chart B-port: 70% of A – AB Cv
Valve body	Nickel-plated brass body
Stem	stainless steel
Stem seal	EPDM (lubricated)
Seat	PTFE
Characterizing disk	TEFZEL®
Pipe connection	NPT female ends
O-ring	EPDM (lubricated)
Ball	stainless steel

# Safety notes



Non-Spring

Spring

Suitable actuators

Materials

 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

ARB(X)

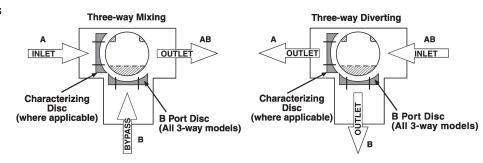
## **Product features**

# **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 or constant flow.



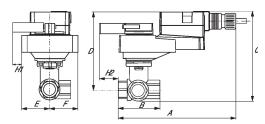
## Flow/Mounting details



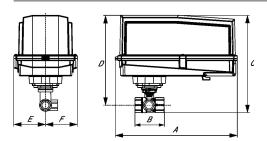
## **Dimensions**



ARB, ARX

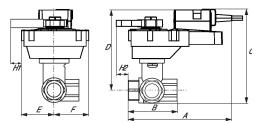


Weight [kg] Type DN [kg] B352 50 2.5 В C D Ε F H1 10.5" [267] 4.9" [125] 7.7" [196] 6.0" [152] 1.7" [44] 2.6" [66] 0.8" [20]



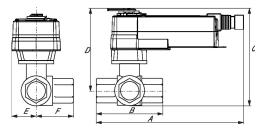
ARB N4, ARX N4

Α	В	С	D	E	F
11.4" [289]	4.9" [125]	9.8" [249]	8.0" [203]	3.1" [80]	3.1" [80]



ARQB, ARQX

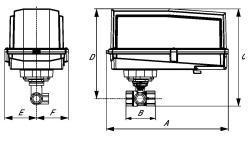
Α	В	С	D	E	F	H1	H2
9.9" [251]	4.9" [125]	8.3" [211]	6.6" [168]	2.3" [58]	2.6" [66]	0.8" [20]	0.6" [15]



AFRB, AFRX

Α	В	С	D	E	F
11.3" [286]	4.9" [125]	8.3" [211]	6.6" [168]	2.6" [66]	2.6" [66]





AFRB N4, AFRX N4

Α	В	C	D	E	F
13.0" [330]	4.9" [125]	11.8" [300]	9.9" [251]	3.7" [95]	3.7" [95]

Modulating, Non-Spring Return, AC 100...240 V, for DC 2...10 V or 4...20 mA







Technical data		
Electrical data	Nominal voltage	AC 100240 V
	Nominal voltage frequency	50/60 Hz
	Power consumption in operation	4 W
	Power consumption in rest position	1 W
	Transformer sizing	7.5 VA (class 2 power source)
	Electrical Connection	18 GA appliance cable, 3ft [1m] 10ft [3m] and 16ft [5m], with 1/2" conduit connector, degree of protection NEMA 2 / IP54
	Overload Protection	electronic thoughout 090° rotation
Functional data	Operating range Y	210 V
	Operating range Y note	420 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)
	Input Impedance	100 k $\Omega$ for 210 V (0.1 mA), 500 $\Omega$ for 420 mA
	Position feedback U	210 V
	Position feedback U note	Max. 1 mA
	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)	default 90 s, variable 90 or 150 s
	Running time motor variable	90 or 150 s
	Noise level, motor	45 dB(A)
	Position indication	Mechanically, pluggable
Safety data	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; Listed to UL 2043 - suitable for use in air plenums per Section 300.22(c) of the NEC and Section 602.2 of the IMC
	Quality Standard	ISO 9001
	Ambient temperature	-22122°F [-3050°C]
	Storage temperature	-40176°F [-4080°C]
	Ambient humidity	Max. 95% RH, non-condensing
	Servicing	maintenance-free

2.2 lb [1.0 kg]

Weight Weight



#### **Electrical installation**

# X Installation notes

(A) Actuators with appliance cables are numbered.

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

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

 $\Lambda$  A 500  $\Omega$  resistor (ZG-R01) converts the 4...20 mA control signal to 2...10 V.

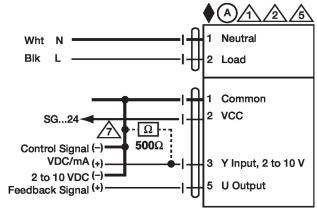
Meets cULus requirements without the need of an electrical ground connection.

#### 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

2...10 V / 4...20 mA Control AC 100...240 V



# Dimensions