



5-year warranty



Technical data

<b>Functional data</b>	Valve Size	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 $\Delta$ ps	100 psi
	Flow characteristic	equal percentage
	Servicing	maintenance-free
	Flow Pattern	2-way
	Leakage rate	0% for A – AB
	Controllable flow range	75°
	Cv	130
	Body pressure rating note	400 psi
	Cv Flow Rating	A-port: as stated in chart B-port: 70% of A – AB Cv
<b>Materials</b>	Valve body	Nickel-plated brass body
	Stem seal	EPDM (lubricated)
	Seat	PTFE
	Pipe connection	NPT female ends
	O-ring	EPDM (lubricated)
	Ball	stainless steel
<b>Suitable actuators</b>	Non-Spring	ARB(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](http://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



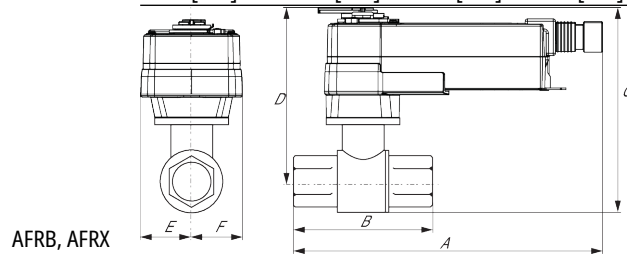
Dimensions

Dimensional drawings



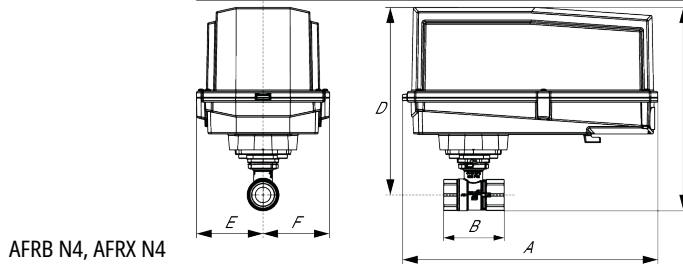
ARB, ARX

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]



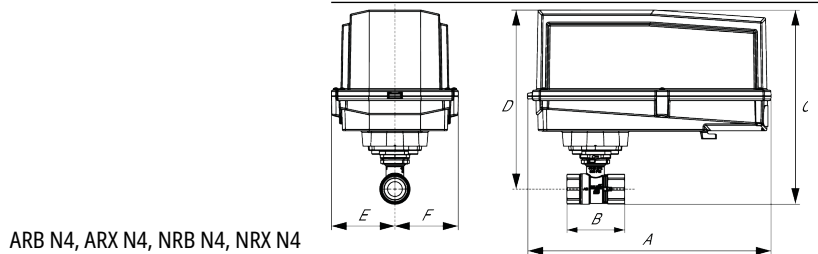
AFRB, AFRX

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



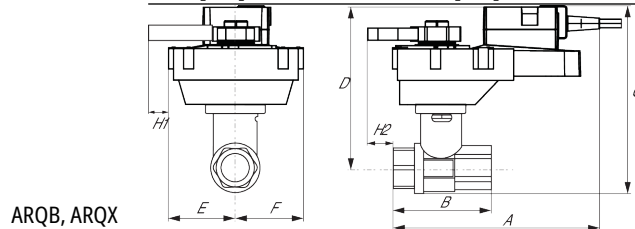
AFRB N4, AFRX N4

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]



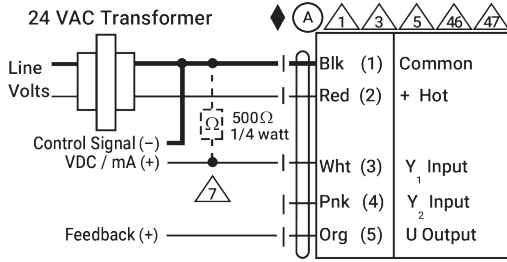
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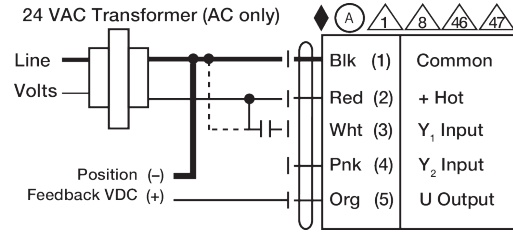
Technical data

<b>Electrical data</b>	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Power consumption in operation	7.5 W
	Power consumption in rest position	3 W
	Transformer sizing	10 VA (class 2 power source)
	Auxiliary switch	2 x SPDT, 3 A resistive (0.5 A inductive) @ AC 250 V, one set at 10°, one adjustable 10...90°
	Switching capacity auxiliary switch	3 A resistive (0.5 A inductive) @ AC 250 V
	Electrical Connection	(2) 18 GA appliance cables with 1/2" conduit connectors, 3 ft [1 m],
	Overload Protection	electronic throughout 0...95° rotation
<b>Functional data</b>	Operating range Y	2...10 V
	Operating range Y note	4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)
	Input Impedance	100 kΩ for 2...10 V (0.1 mA), 500 Ω for 4...20 mA, 1500 Ω for PWM, On/Off and Floating point
	Operating range Y variable	Start point 0.5...30 V End point 2.5...32 V
	Options positioning signal	variable (VDC, PWM, on/off, floating point)
	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
	Direction of motion fail-safe	reversible with cw/ccw mounting
	Manual override	5 mm hex crank (3/16" Allen), supplied
	Angle of rotation	90°
	Running Time (Motor)	default 150 s, variable 70...220 s
	Running time motor variable	70...220 s
	Running time fail-safe	<20 s $t_{amb} = 68^{\circ}\text{F} [20^{\circ}\text{C}]$
	Angle of rotation adaptation	off (default)
	Override control	MIN (minimum position) = 0% MID (intermediate position) = 50% MAX (maximum position) = 100%
	Noise level, motor	45 dB(A)
	Noise level, fail-safe	62 dB(A)
	Position indication	Mechanical
<b>Safety data</b>	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2 UL Enclosure Type 2

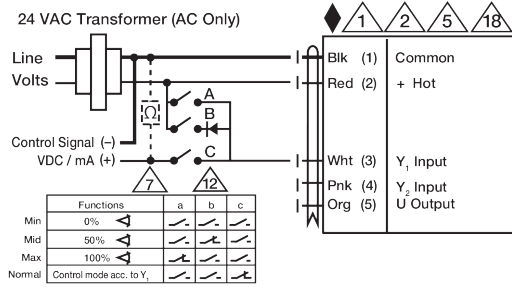




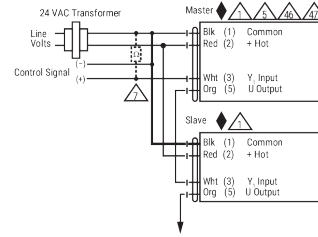
VDC/mA Control



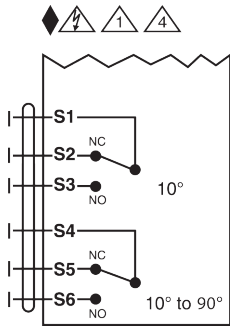
PWM Control



Override Control



Master - Slave



Auxiliary Switches