

3-way Mixing/Diverting, Characterized Control Valve, Stainless Steel Ball and Stem



Picture may differ from product



5-year warranty



Type overview

Type	DN
B351	2" [50]

Technical data

Functional data	Valve size [mm]	2" [50]
Fluid	chilled or hot water, up to 60% glycol	
Fluid Temp Range (water)	0...250°F [-18...120°C]	
Body Pressure Rating	400 psi	
Close-off pressure Δ ps	200 psi	
Flow	A-port: as stated in chart B-port: 70% of A - AB Cv	
Flow characteristic	A-port equal percentage, B-port modified for constant common port flow	
Leakage rate	0% for A - AB, <2.0% for B - AB	
Pipe connection	Internal thread NPT (female)	
Servicing	maintenance-free	
Flow Pattern	3-way Mixing/Diverting	
Controllable flow range	75°	
Cv	68	
Materials	Valve body	Nickel-plated brass body
	Stem	stainless steel
	Stem seal	EPDM (lubricated)
	Seat	PTFE
	Characterized disc	Stainless steel
	O-ring	EPDM (lubricated)
	Ball	stainless steel
Suitable actuators	Non Fail-Safe	ARB(X) ARQB(X) ARB(X) N4
	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

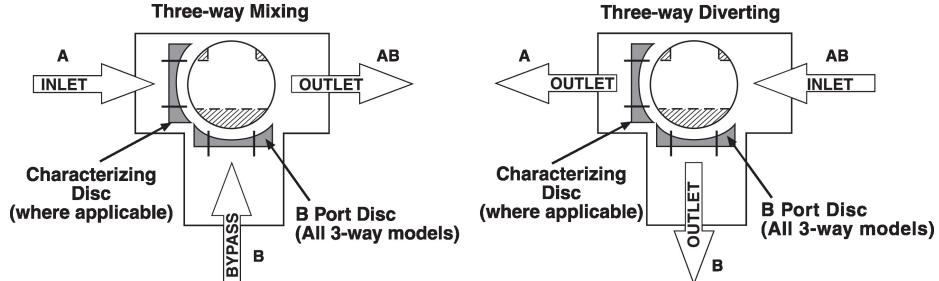
Product features

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 or constant flow.

Flow/Mounting details

This valve is not suitable for use as a change over valve.



Dimensions

Type

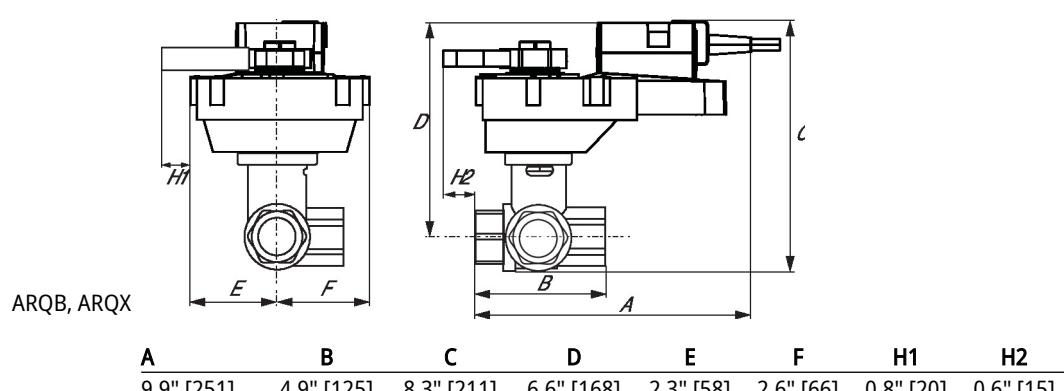
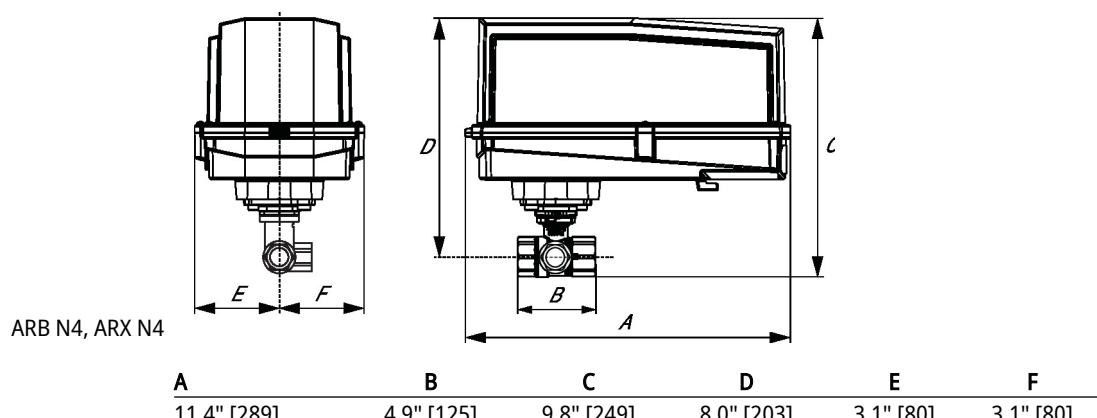
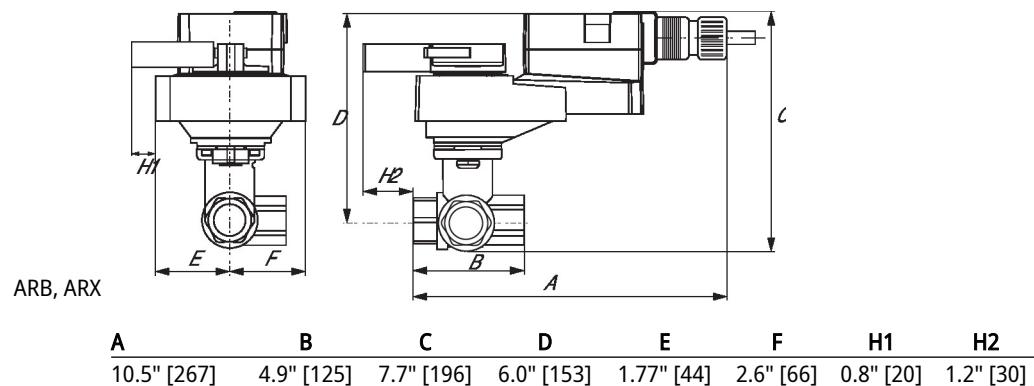
B351

DN

2" [50]

Weight

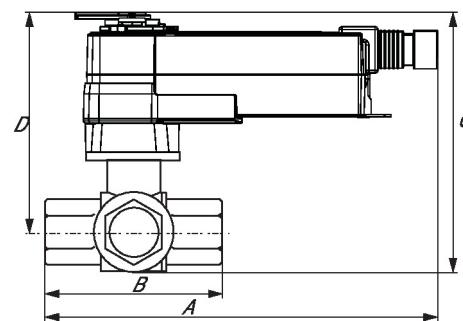
5.5 lb [2.5 kg]



Dimensions

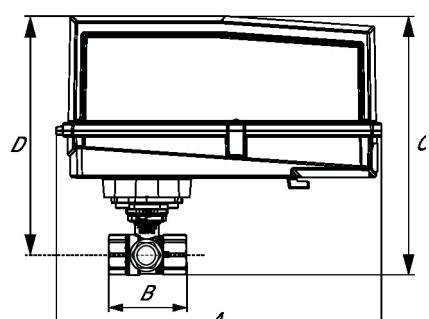
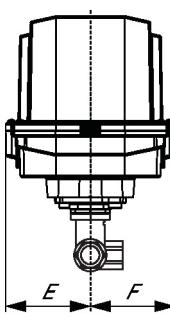


AFRB, AFRX



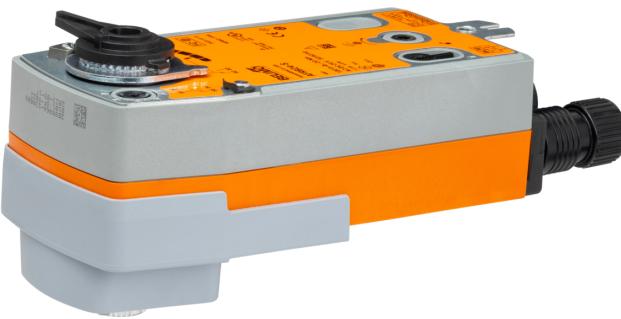
A	B	C	D	E	F
11.3" [286]	4.9" [125]	8.3" [211]	6.6" [168]	2.6" [66]	2.6" [66]

AFRB N4, AFRX N4



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

On/Off, Spring return, 24...240 V



5-year warranty



Technical data

Electrical data		
Nominal voltage	AC 24...240 V / DC 24...125 V	
Nominal voltage frequency	50/60 Hz	
Nominal voltage range	AC 19.2...264 V / DC 21.6...137.5 V	
Power consumption in operation	7 W	
Power consumption in rest position	3.5 W	
Transformer sizing	18 VA	
Auxiliary switch	2x SPDT, 1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V, 1x 10% / 1x 11...90%	
Switching capacity auxiliary switch	1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V	
Electrical Connection	(2) 18 GA appliance cables, 3 ft [1 m], with 1/2" NPT conduit connectors	
Overload Protection	electronic throughout 0...95° rotation	
Functional data		
Direction of motion motor	selectable by ccw/cw mounting	
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)	75 s / 90°	
Running time fail-safe	<20 s	
Noise level, motor	45 dB(A)	
Noise level, fail-safe	62 dB(A)	
Position indication	Mechanical	
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	5.7 lb [2.6 kg]	

Technical data

Materials	Housing material	Galvanized steel and plastic housing
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Footnotes [†]Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3

Electrical installation

 **INSTALLATION NOTES**

-  Actuators with appliance cables are numbered.
-  Universal Power Supply (UP) models can be supplied with AC 24...240 V, or DC 24...125 V.
-  Provide overload protection and disconnect as required.
-  Two built-in auxiliary switches (2x SPDT), for end position indication, interlock control, fan startup, etc.
-  Actuators may be powered in parallel. Power consumption must be observed.
-  Parallel wiring required for piggy-back applications.
-  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.
-  Apply only AC line voltage or only UL-Class 2 voltage to the terminals of auxiliary switches. Mixed or combined operation of line voltage/safety extra low voltage is not allowed.

Wiring diagrams

On/Off

