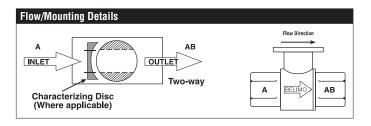
# **B252 Technical Data Sheet**







Technical Data	
Fluid	chilled, hot water, up to 60% glycol
Flow characteristic	equal percentage
Controllable flow range	75°
Valve Size [mm]	2" [50]
Pipe connection	NPT female ends
Housing	Nickel-plated brass body
Ball	stainless steel
Stem	stainless steel
Stem seal	EPDM (lubricated)
Seat	PTFE
0-ring	EPDM (lubricated)
Characterised disc	stainless steel
Body Pressure Rating	400 psi
Close-off pressure ∆ps	200 psi
Cv	85
Weight	5.29 lb [2.4 kg]
Fluid Temp Range (water)	0250°F [-18120°C]
Leakage rate	0% for A – AB
Maintenance	maintenance-free

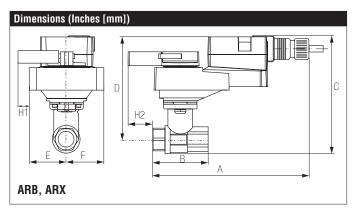


#### **Application**

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.

**Suitable Actuators** 

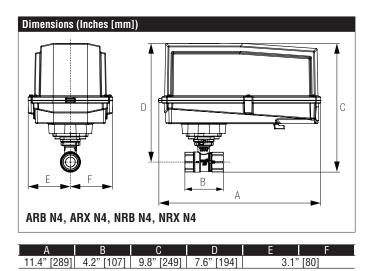
	Non-Spring	Spring
B252	ARB(X)	AFRB(X)

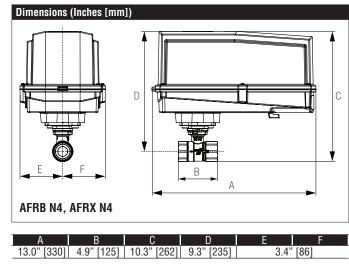


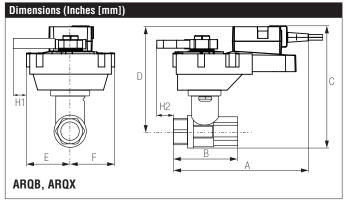
А	В	C	D	Е	F	H1
10.2"	4.9" [125]	7.7" [196]	6.0" [152]	1.7"	[44]	1.2" [30]
[260]						

### **Safety Notes**

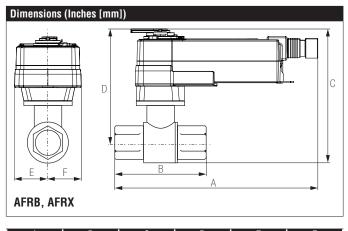
WARNING: For Belimo products sold in California: these products do or may contain chemicals which are known to the State of California to cause cancer and or birth defects or other reproductive harms. For more information see www.p65warnings.ca.gov.







Α	В	С	D	E	F	H1	H2
9.9"	4.2"	7.5"	6.1"	2.3"	[58]	0.8"	0.6" [15]
[251]	[107]	[191]	[155]			[20]	



11.3" [286] 4.9" [12	5]   10.6" [268]	8.9" [225]	2.0"	[51]

## **AFRX24 N4 Technical Data Sheet**

NEMA 4, On/Off, Spring Return, 24 V





Power Supply 24 VAC, ±20%, 50/60 Hz, 24 VDC, ±10%  Power consumption in operation 5 W  Power consumption in rest position  Transformer sizing 7.5 VA (class 2 power source)  Electrical Connection 18 GA appliance cable, 3 ft [1 m], with 1/2" conduit connector  Overload Protection electronic throughout 095° rotation  Angle of rotation 90°  Torque motor 180 in-lb [20 Nm]  Direction of rotation motor reversible with CW/CCW mounting  Direction of motion fail-safe reversible with cw/ccw mounting  Position indication Mechanical  Manual override 5 mm hex crank (3/16" Allen), supplied  Running Time (Motor) <75 s  Running time fail-safe <20 s  Ambient humidity max. 95% r.H., non-condensing  Ambient temperature -22122°F [-3050°C]  Storage temperature -40176°F [-4080°C]  Degree of Protection IP66, NEMA 4X, UL Enclosure Type 4X  E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC	Taskaisel Data	
Power consumption in operation  Power consumption in rest position  Transformer sizing  Transformer sizing  Tourned Protection  Angle of rotation  Direction of rotation motor  Direction of motion fail-safe Position indication  Manual override Running Time (Motor)  Running time fail-safe  Ambient humidity  Ambient temperature  Degree of Protection  Power consumption in rest 2.5 W  2.6 Aappliance cable, 3 ft [1 m], with 1/2" conduit connector electronic throughout 095° rotation  Bloop of rotation  Power consumption of the sample of the surface of the surfac		24 VAC + 200/ F0/60 Hz 24 VDC +100/
Power consumption in rest position  Transformer sizing Transformer sizing Toverload Protection Angle of rotation Direction of rotation motor Direction of motion fail-safe Position indication Manual override Running Time (Motor) Running time fail-safe Ambient humidity Ambient temperature Degree of Protection Position Position indication Pogree of Protection Pogree of Protection Pogree of Protection Position Position indication Position indicat		
position Transformer sizing Tran		* **
Transformer sizing  Transformer sizing  Transformer sizing  Toverload Protection  Angle of rotation  Direction of rotation motor  Direction of motion fail-safe  Position indication  Manual override  Running Time (Motor)  Running time fail-safe  Ambient humidity  Ambient temperature  Degree of Protection  Torque motor  Torque motor  180 in-lb [20 Nm]  Teversible with CW/CCW mounting  Powersible with cw/ccw mounting  Powersible with cw/ccw mounting  Powersible with cw/ccw mounting  Powersible with cw/ccw mounting  Running Time (Motor)  Town hex crank (3/16" Allen), supplied  Town hex crank (3/16" Alle	•	2.5 W
Electrical Connection  18 GA appliance cable, 3 ft [1 m], with 1/2" conduit connector  Overload Protection  Angle of rotation  90°  Torque motor  Direction of rotation motor  Direction of motion fail-safe  Position indication  Manual override  Running Time (Motor)  Running time fail-safe  Ambient humidity  Ambient temperature  Degree of Protection  18 GA appliance cable, 3 ft [1 m], with 1/2" conduit co		7.5 VA (alace 2 power course)
conduit connector  Overload Protection electronic throughout 095° rotation  Angle of rotation 90°  Torque motor 180 in-lb [20 Nm]  Direction of rotation motor reversible with CW/CCW mounting  Direction of motion fail-safe reversible with cw/ccw mounting  Position indication Mechanical  Manual override 5 mm hex crank (3/16" Allen), supplied  Running Time (Motor) <75 s  Running time fail-safe <20 s  Ambient humidity max. 95% r.H., non-condensing  Ambient temperature -22122°F [-3050°C]  Storage temperature -40176°F [-4080°C]  Degree of Protection IP66, NEMA 4X, UL Enclosure Type 4X  Agency Listing cultur acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC		
Overload Protection  Angle of rotation  Angle of rotation  Forque motor  Direction of rotation motor  Direction of motion fail-safe  Position indication  Manual override  Running Time (Motor)  Running time fail-safe  Ambient humidity  Ambient temperature  Degree of Protection  Agency Listing  Position indication  Mechanical  Mechanical  5 mm hex crank (3/16" Allen), supplied  275 s  220 s  Ambient humidity  Max. 95% r.H., non-condensing  -40176°F [-4080°C]  Degree of Protection  Agency Listing  CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC	Electrical Connection	1 1 2
Angle of rotation 90° Torque motor 180 in-lb [20 Nm] Direction of rotation motor reversible with CW/CCW mounting Direction of motion fail-safe reversible with cw/ccw mounting Position indication Mechanical Manual override 5 mm hex crank (3/16" Allen), supplied Running Time (Motor) <75 s Running time fail-safe <20 s Ambient humidity max. 95% r.H., non-condensing Ambient temperature -22122°F [-3050°C] Storage temperature -40176°F [-4080°C] Degree of Protection IP66, NEMA 4X, UL Enclosure Type 4X Agency Listing cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC	Overload Protection	
Torque motor  Direction of rotation motor  Direction of motion fail-safe  Position indication  Manual override  Running Time (Motor)  Running time fail-safe  Ambient humidity  Ambient temperature  Degree of Protection  Agency Listing  Tiorque motor  180 in-lb [20 Nm]  275 s  181 surel safe  275 s  275 s  280 s  290 s  200 s  200 s  212°F [-3050°C]  200 s		
Direction of rotation motor  Direction of motion fail-safe Position indication  Manual override Running Time (Motor) Running time fail-safe Ambient humidity Ambient temperature  Degree of Protection  Agency Listing  Direction of rotation motor  reversible with CW/CCW mounting  Feversible with CW/CCW mounting  Reversible with CW/CCW mounting  Reversible with CW/CCW mounting  Feversible with CW/CCW mounting  Reversible with CW/CCW mounting  Feversible with CW/Complete  Feversible with CW/CCW mounting  Feversible with CW/CCW		
Direction of motion fail-safe reversible with cw/ccw mounting  Position indication Mechanical  Manual override 5 mm hex crank (3/16" Allen), supplied  Running Time (Motor) <75 s  Running time fail-safe <20 s  Ambient humidity max. 95% r.H., non-condensing  Ambient temperature -22122°F [-3050°C]  Storage temperature -40176°F [-4080°C]  Degree of Protection IP66, NEMA 4X, UL Enclosure Type 4X  Agency Listing cULus acc. to UL60730-1A/-2-14, CAN/CSA  E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC		
Position indication  Manual override  Running Time (Motor)  Running time fail-safe  Ambient humidity  Ambient temperature  Degree of Protection  Agency Listing  Mechanical  5 mm hex crank (3/16" Allen), supplied  475 s  420 s		•
Manual override 5 mm hex crank (3/16" Allen), supplied Running Time (Motor) <75 s Running time fail-safe <20 s Ambient humidity max. 95% r.H., non-condensing Ambient temperature -22122°F [-3050°C] Storage temperature -40176°F [-4080°C] Degree of Protection IP66, NEMA 4X, UL Enclosure Type 4X Agency Listing cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC		
Running Time (Motor)  Running time fail-safe  Ambient humidity  Ambient temperature  Storage temperature  Degree of Protection  Agency Listing  CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC		
Running time fail-safe  Ambient humidity  Ambient temperature  -22122°F [-3050°C]  Storage temperature  -40176°F [-4080°C]  Degree of Protection  IP66, NEMA 4X, UL Enclosure Type 4X  Agency Listing  cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC		5 mm hex crank (3/16" Allen), supplied
Ambient humidity max. 95% r.H., non-condensing  Ambient temperature -22122°F [-3050°C]  Storage temperature -40176°F [-4080°C]  Degree of Protection IP66, NEMA 4X, UL Enclosure Type 4X  Agency Listing cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC		<75 s
Ambient temperature -22122°F [-3050°C]  Storage temperature -40176°F [-4080°C]  Degree of Protection IP66, NEMA 4X, UL Enclosure Type 4X  Agency Listing cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC	Running time fail-safe	<20 s
Storage temperature -40176°F [-4080°C]  Degree of Protection IP66, NEMA 4X, UL Enclosure Type 4X  Agency Listing cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC	Ambient humidity	max. 95% r.H., non-condensing
Degree of Protection IP66, NEMA 4X, UL Enclosure Type 4X Agency Listing cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC	Ambient temperature	-22122°F [-3050°C]
Agency Listing CULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC	Storage temperature	-40176°F [-4080°C]
E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC	Degree of Protection	IP66, NEMA 4X, UL Enclosure Type 4X
2006/95/EC	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA
		E60730-1:02, CE acc. to 2004/108/EC and
Netherland AF (D/A)		2006/95/EC
Noise level, motor 45 dB(A)	Noise level, motor	45 dB(A)
Noise level, fail-safe 62 dB(A)	Noise level, fail-safe	62 dB(A)
Maintenance maintenance-free	Maintenance	maintenance-free
Quality Standard ISO 9001	Quality Standard	ISO 9001
Weight 9.7 lb [4.4 kg]	Weight	9.7 lb [4.4 kg]

 $\dagger$ Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3

### Safety Notes

WARNING: For Belimo products sold in California: these products do or may contain chemicals which are known to the State of California to cause cancer and or birth defects or other reproductive harms. For more information see www.p65warnings.ca.gov.



## **AFRX24 N4 Technical Data Sheet**

NEMA 4, On/Off, Spring Return, 24 V

#### Wiring Diagrams



### X INSTALLATION NOTES



Actuators with appliance cables are numbered.



Provide overload protection and disconnect as required.



Actuators may also be powered by 24 VDC.



Actuators may be powered in parallel. Power consumption must be



Parallel wiring required for piggy-back applications.



Meets cULus requirements without the need of an electrical ground



#### 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.

