# B261 Technical Data Sheet
## Stainless Steel Ball and Stem

5-year warranty

### 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.

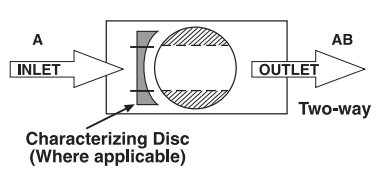
### Suitable Actuators

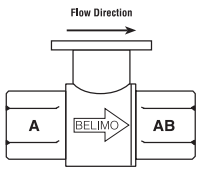
| | Non-Spring | Spring |
|---|---|---|
| B261 | ARB(X) | AFRB(X) |

### Technical Data

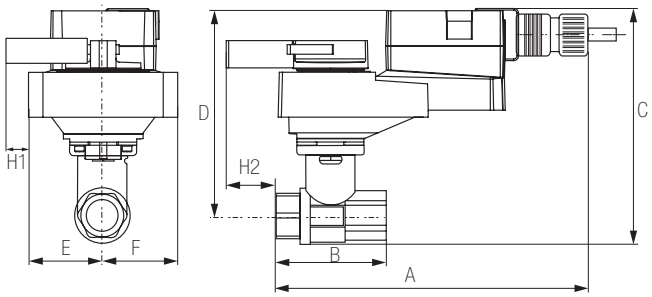
| | |
|---|---|
| Fluid | chilled, hot water, up to 60% glycol |
| Flow characteristic | equal percentage |
| Controllable flow range | 75° |
| Valve Size [mm] | 2.5" [65] |
| Pipe connection | NPT female ends |
| Housing | Nickel-plated brass body |
| Ball | stainless steel |
| Stem | stainless steel |
| Stem seal | EPDM (lubricated) |
| Seat | PTFE |
| O-ring | EPDM (lubricated) |
| Characterized disc | TEFZEL® |
| Body Pressure Rating | 400 psi |
| Close-off pressure Δps | 100 psi |
| Cv | 60 |
| Weight | 8.16 lb [3.7 kg] |
| Fluid Temp Range (water) | 0...212°F [-18...100°C] |
| Leakage rate | 0% for A – AB |
| Servicing | maintenance-free |

### Flow/Mounting Details




### Dimensions (Inches [mm])

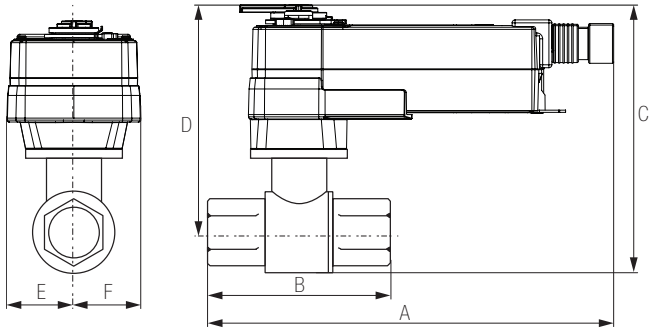



**ARB, ARX**

| A | B | C | D | E | F | H1 |
|---|---|---|---|---|---|---|
| 10.1" [257] | 5.6" [141] | 8.0" [203] | 6.0" [152] | 2.8" [71] | | 1.9" [48] |

### 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

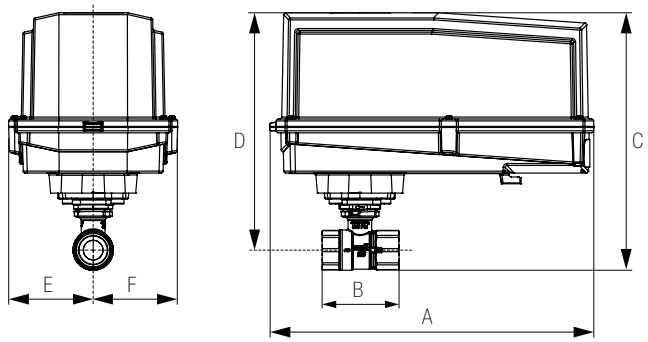
### Dimensions (Inches [mm])




**AFRB, AFRX**

| A | B | C | D | E | F |
|---|---|---|---|---|---|
| 11.5" [293] | 5.6" [141] | 8.6" [219] | 6.6" [168] | 2.0" [51] | |

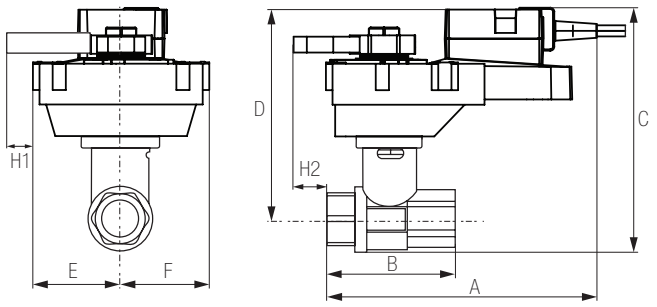
### Dimensions (Inches [mm])




**ARB N4, ARX N4, NRB N4, NRX N4**

| A | B | C | D | E | F |
|---|---|---|---|---|---|
| 11.4" [289] | 5.6" [141] | 7276 | 8.0" [203] | 3.1" [80] | |

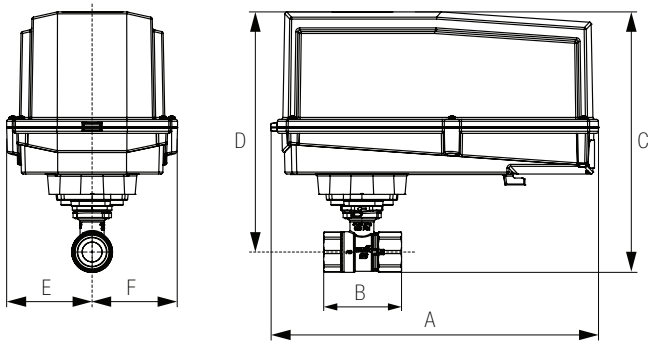
### Dimensions (Inches [mm])




**ARQB, ARQX**

| A | B | C | D | E | F | H1 | H2 |
|---|---|---|---|---|---|---|---|
| 9.9" [251] | 4.2" [107] | 8.1" [206] | 6.1" [155] | 2.3" [58] | | 0.8" [20] | 0.6" [15] |

### Dimensions (Inches [mm])




**AFRB N4, AFRX N4**

| A | B | C | D | E | F |
|---|---|---|---|---|---|
| 11.4" [289] | 5.6" [141] | 7276 | 8.0" [203] | 2.4" [62] | |

# ARX24-MFT-T N4 Technical Data Sheet

## NEMA 4, Modulating Control, Non-Spring Return, Direct Coupled, 24 V, Multi-Function Technology®

5-year warranty

| Technical Data | |
|---|---|
| Power Supply | 24 VAC, ±20%, 50/60 Hz, 24 VDC, ±10% |
| Power consumption in operation | 3.5 W |
| Power consumption in rest position | 1.3 W |
| Transformer sizing | 6 VA (class 2 power source) |
| Electrical Connection | Terminal blocks |
| Overload Protection | electronic thoughout 0...90° rotation |
| Operating Range | 2...10 V (default), 4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor), variable (VDC, on/off, floating point) |
| Operating range Y variable | Start point 0.5...30 V<br>End point 2.5...32 V |
| 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 |
| Position Feedback | 2...10 V, Max. 0.5 mA, VDC variable |
| Angle of rotation | 90° |
| Direction of motion motor | selectable with switch 0/1 |
| Position indication | pointer |
| Manual override | under cover |
| Running Time (Motor) | default 150 s, variable 90...150 s |
| Ambient humidity | max. 95% r.H., non-condensing |
| Ambient temperature | -22...122°F [-30...50°C] |
| Storage temperature | -40...176°F [-40...80°C] |
| Degree of Protection | IP66/67, 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 |
| Noise level, motor | 45 dB(A) |
| Servicing | maintenance-free |
| Quality Standard | ISO 9001 |
| Weight | 3.7 lb [1.6 kg] |

†Rated Impulse Voltage 800V, Type of action 1, Control Pollution Degree 4.

# ARX24-MFT-T N4 Technical Data Sheet

**NEMA 4, Modulating Control, Non-Spring Return, Direct Coupled, 24 V, Multi-Function Technology®**

## Wiring Diagrams

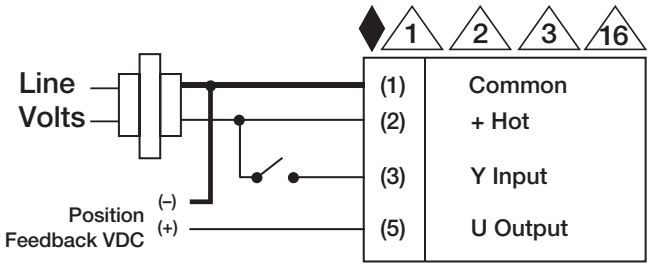
### INSTALLATION NOTES

1. Provide overload protection and disconnect as required.
2. Actuators may be connected in parallel. Power consumption and input impedance must be observed.
3. Actuators may also be powered by 24 VDC.
5. Only connect common to negative (-) leg of control circuits.
7. A 500 Ω resistor (ZG-R01) converts the 4 to 20 mA control signal to 2 to 10 VDC.
10. For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller; the actuator internal common reference is not compatible.
12. IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).
16. Actuators are provided with a numbered screw terminal strip instead of a cable.

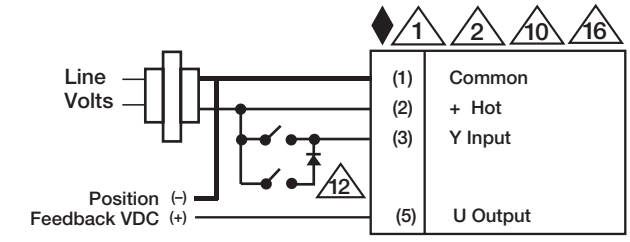
◆ Meets cULus requirements without the need of an electrical ground connection.

### ! WARNING! LIVE ELECTRICAL COMPONENTS!

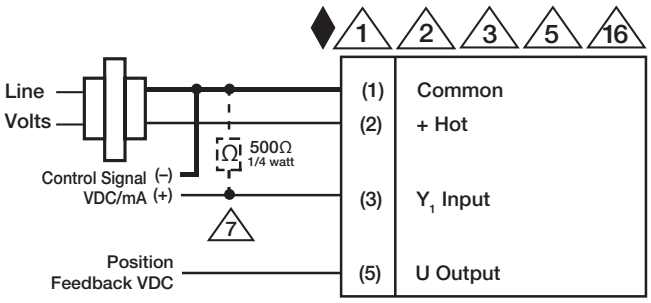
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.



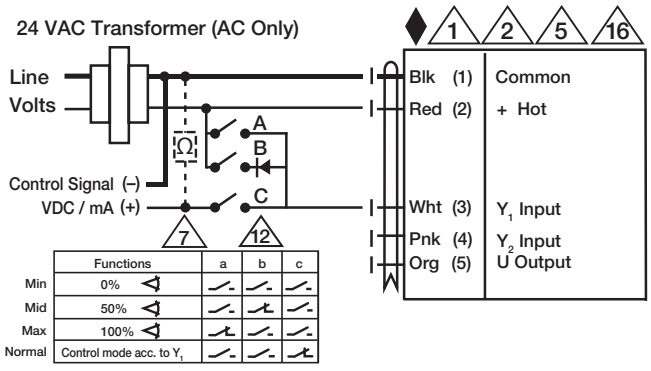

**On/Off 24 VAC Transformer**




**Floating Point 24 VAC Transformer (AC Only)**




**VDC/mA Control 24 VAC Transformer**




**Override Control**