



5-year warranty



Type overview

|      |    |
|------|----|
| Type | DN |
| B350 | 50 |

Technical data

|                           |                          |  |
|---------------------------|--------------------------|--|
| <b>Functional data</b>    | Valve size               | 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 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                       | 57   |
|                           | Cv Flow Rating           | A-port: as stated in chart B-port: 70% of A – AB Cv                    |
|                           | <b>Materials</b>         | Valve body   |
| Stem                      |                          | stainless steel  |
| Stem seal                 |                          | EPDM (lubricated)  |
| Seat                      |                          | PTFE   |
| Characterized disc        |                          | TEFZEL®  |
| Pipe connection           |                          | NPT female ends  |
| O-ring                    |                          | EPDM (lubricated)  |
| <b>Suitable actuators</b> | Ball                     | stainless steel  |
|                           | Non-Spring               | ARB(X)   |
|                           | Spring                   | AF   |

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 or constant flow.

**Flow/Mounting details**

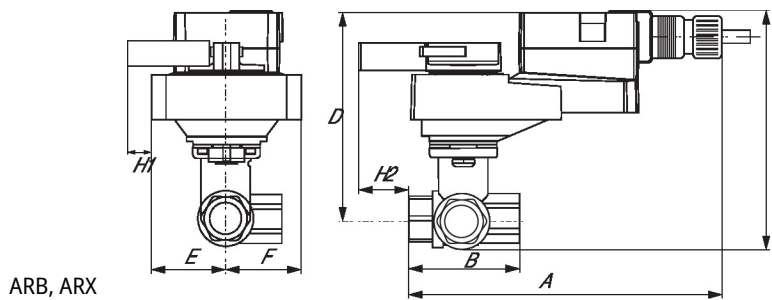


**Product features**

**Mode of operation** Local Control SY2-12, 110vac Mod

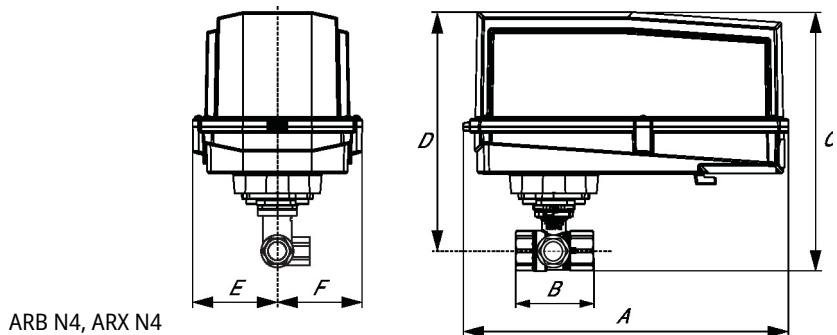
**Dimensions**

|             |           |
|-------------|-----------|
| <b>Type</b> | <b>DN</b> |
| B350        | 50        |



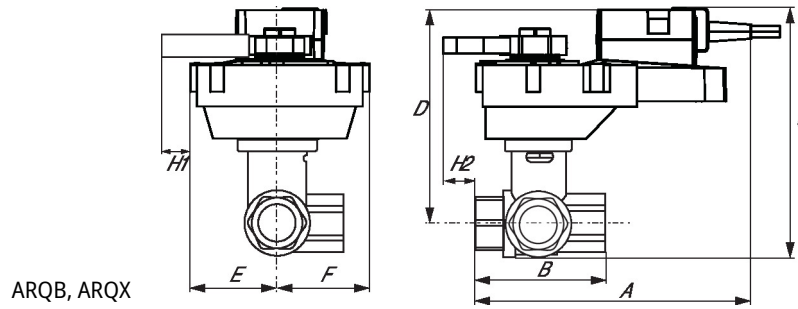
ARB, ARX

| A           | B          | C          | D          | E         | F         | H1        |
|-------------|------------|------------|------------|-----------|-----------|-----------|
| 10.5" [267] | 4.9" [125] | 7.7" [196] | 6.0" [152] | 1.7" [44] | 2.6" [66] | 0.8" [20] |



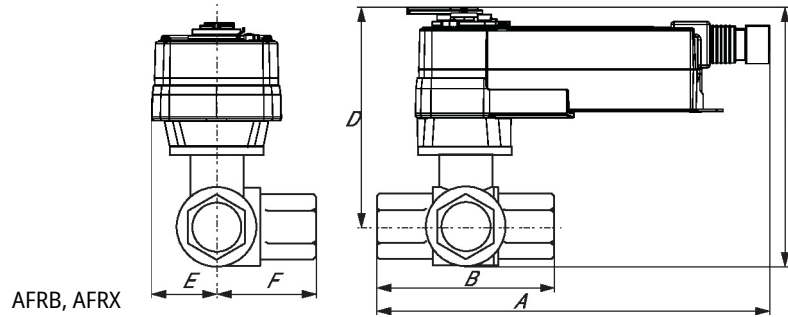
ARB N4, ARX N4

| A           | B          | C          | D          | E         | F         |
|-------------|------------|------------|------------|-----------|-----------|
| 11.4" [289] | 4.9" [125] | 9.8" [249] | 8.0" [203] | 3.1" [80] | 3.1" [80] |



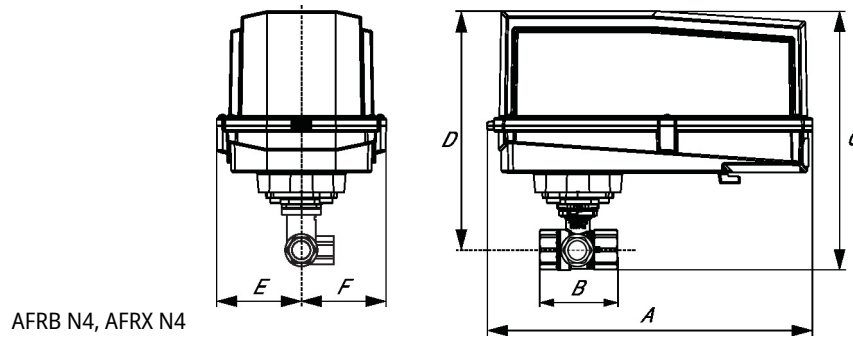
ARQB, ARQX

| A          | B          | C          | 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

| 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] |



5-year warranty



## Technical data

|                        |                                    |   |
|------------------------|------------------------------------|---|
| <b>Electrical data</b> | Nominal voltage                    | AC/DC 24 V  |
|                        | Nominal voltage frequency          | 50/60 Hz  |
|                        | Power consumption in operation     | 2.5 W   |
|                        | Power consumption in rest position | 0.5 W   |
|                        | Transformer sizing                 | 5.5 VA (class 2 power source)   |
|                        | Electrical Connection              | Terminal blocks   |
|                        | Overload Protection                | electronic throughout 0...90° rotation  |
| <b>Functional data</b> | Direction of motion motor          | selectable with switch 0/1  |
|                        | Manual override                    | under cover   |
|                        | Angle of rotation                  | 90°   |
|                        | Angle of rotation note             | adjustable with mechanical stop   |
|                        | Running Time (Motor)               | 90 s / 90°  |
|                        | Running time motor variable        | 90 or 150 s   |
|                        | Noise level, motor                 | 45 dB(A)  |
|                        | Position indication                | pointer   |
| <b>Safety data</b>     | Degree of protection IEC/EN        | IP66/67   |
|                        | Degree of protection NEMA/UL       | NEMA 4X   |
|                        | Enclosure                          | UL Enclosure Type 4X  |
|                        | 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  |
|                        | Ambient temperature                | -22...122°F [-30...50°C]  |
|                        | Ambient temperature note           | -40...50°C for actuator with integrated heating   |
|                        | Storage temperature                | -40...176°F [-40...80°C]  |
|                        | Ambient humidity                   | Max. 100% RH  |
|                        | Servicing                          | maintenance-free  |
| <b>Materials</b>       | Housing material                   | Die cast aluminium and plastic casing   |

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

## Electrical installation

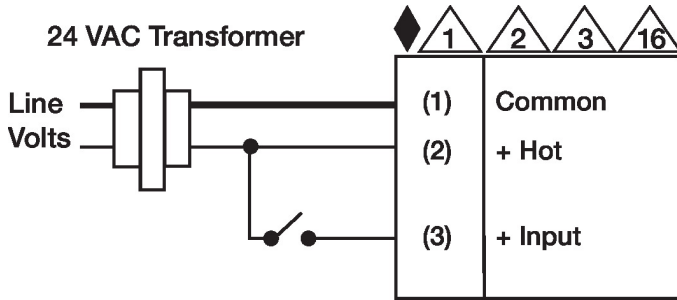
### INSTALLATION NOTES

-  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 DC 24 V.

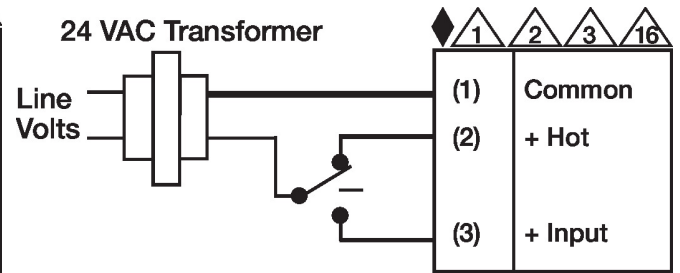
- ⚠️ 6 Actuators Hot wire must be connected to the control board common. Only connect common to neg. (-) leg of control circuits. Terminal models (-T) have no-feedback.
- ⚠️ 16 Actuators are provided with a numbered screw terminal strip instead of a cable.
- ◆ Meets cULus requirements without the need of an electrical ground connection.
- ⚠️ 1 **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**

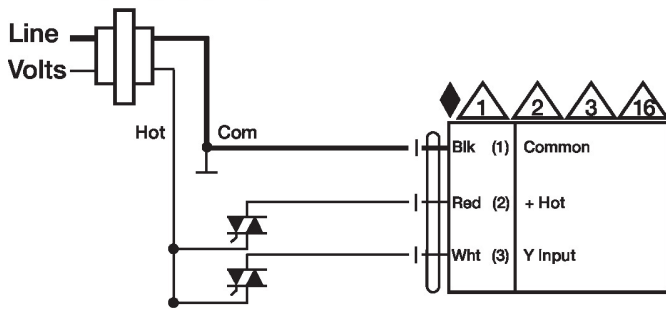
On/Off



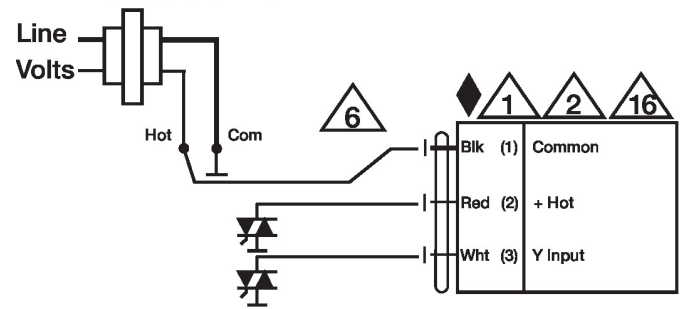
Floating Point



Floating Point - Triac Source  
24 VAC Transformer



Floating Point - Triac Sink  
24 VAC Transformer



**Dimensions**