## 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.

Suitable Actuators

|  | Non-Spring | Spring |
| :---: | :---: | :---: |
| B332L | $\operatorname{NRB}(X)$ | AFRB $(X)$ |

## Dimensions (Inches [mm])



## Flow Pattern




| A | B | C | D | E | F |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $10.57 "$ | $3.96 "[101]$ | $6.9 "[175]$ | $5.65 "[144]$ | $2.14^{\prime \prime}[54]$ | $1.26^{\prime \prime}[32]$ |
| $[269]$ |  |  |  |  |  |



| Technical Data |  |
| :---: | :---: |
| Power Supply | $24 \mathrm{VAC} \pm 20 \%, 50 / 60 \mathrm{~Hz}, 24 \mathrm{VDC} \pm 10 \%$ |
| Power Consumption Running | 3.5 W |
| Power Consumption Holding | 1.3 W |
| Transformer Sizing | 6 VA (class 2 power source) |
| Electrical Connection | $3 \mathrm{ft}, 18 \mathrm{GA}$ applicance rated cable with $1 / 2^{\prime \prime}$ conduit connector ( $10 \mathrm{ft}[3 \mathrm{~m}]$ and $15 \mathrm{ft}[5 \mathrm{~m}$ ] avail.) |
| Overload Protection | electronic throughout $0^{\circ}$ to $95^{\circ}$ rotation |
| Operating Range Y | 2 to 10 VDC, 4 to 20 mA w/ ZG-R01 ( $500 \Omega$, $1 / 4 \mathrm{~W}$ resistor), variable (VDC, floating point, on/off) |
| Input Impedance | $100 \mathrm{k} \Omega$ for 2 to 10 VDC ( 0.1 mA ), $500 \Omega$ for 4 to $20 \mathrm{~mA}, 1500 \Omega$ for PWM and on/off |
| Feedback Output U | 2 to 10 VDC, 0.5 mA max, VDC variable |
| Angle of Rotation | max. $90^{\circ}$, adjustable with mechanical stop |
| Direction of Rotation (Motor) | reversible with built-in switch |
| Position Indication | handle |
| Manual Override | external push button |
| Running Time (Motor) | 90 sec (default), variable (90 to 150 sec ) |
| Humidity | 5 to 95\% RH non-condensing |
| Ambient Temperature Range | $-40^{\circ} \mathrm{F}$ to $+176^{\circ} \mathrm{F}\left[-40^{\circ} \mathrm{C}\right.$ to $\left.+80^{\circ} \mathrm{C}\right]$ |
| Storage Temperature Range | $-22^{\circ} \mathrm{F}$ to $+122^{\circ} \mathrm{F}\left[-30^{\circ} \mathrm{C}\right.$ to $\left.+50^{\circ} \mathrm{C}\right]$ |
| Housing | NEMA 2, IP54, UL enclosure type 2 |
| Housing Material | UL94-5VA |
| Agency Listings $\dagger$ | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC |
| Noise Level (Motor) | max. $45 \mathrm{~dB}(\mathrm{~A})$ |
| Servicing | maintenance free |
| Quality Standard | ISO 9001 |

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

## Wiring Diagrams <br> 3 <br> INSTALLATION NOTES

(A)

Actuators with appliance cables are numbered.


Provide overload protection and disconnect as required.


Actuators may also be powered by 24 VDC.
Only connect common to negative ( - ) leg of control circuits.
A $500 \Omega$ resistor (ZG-R01) converts the 4 to 20 mA control signal to 2 to 10 VDC.
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.
Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.
IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).

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.


Floating Point 24 VAC Transformer (AC Only)


## VDC/mA Control 24 VAC Transformer



