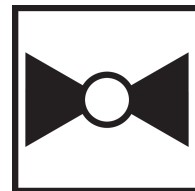




5-year warranty



Technical data

| | | |
|---------------------------|---------------------------|---|
| Functional data | Valve Size | 4" [100] |
| | Fluid | chilled or hot water, up to 60% glycol |
| | Fluid Temp Range (water) | 0...250°F [-18...120°C] |
| | Body Pressure Rating | ANSI Class 125, standard class B |
| | Close-off pressure Δps | 175 psi |
| | Flow characteristic | equal percentage |
| | Servicing | maintenance-free |
| | Flow Pattern | 2-way |
| | Leakage rate | 0% for A – AB |
| | Controllable flow range | 75° |
| | Cv | 186 |
| | ANSI Class | 125 |
| | Body pressure rating note | standard class B |
| | Cv Flow Rating | A-port: as stated in chart B-port: 70% of A – AB Cv |
| Materials | Valve body | Cast iron - GG 25 |
| | Stem seal | EPDM (lubricated) |
| | Seat | PTFE |
| | Pipe connection | pattern to mate with ANSI 125 flange |
| | O-ring | EPDM (lubricated) |
| | Ball | stainless steel |
| Suitable actuators | Non-Spring | GRB(X) |
| | Electronic fail-safe | GKRB(X) |

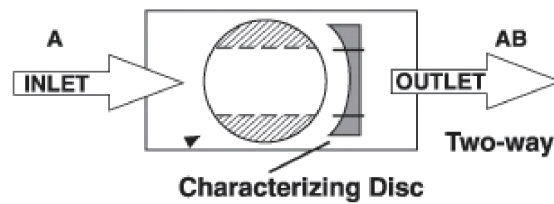
Safety notes



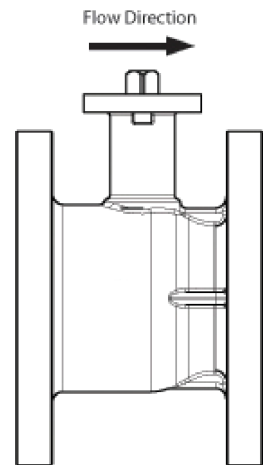
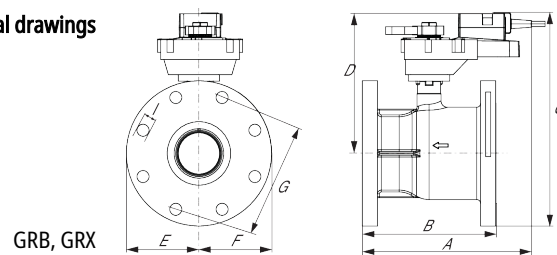
- **WARNING:** This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to www.p65warnings.ca.gov

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 flow.

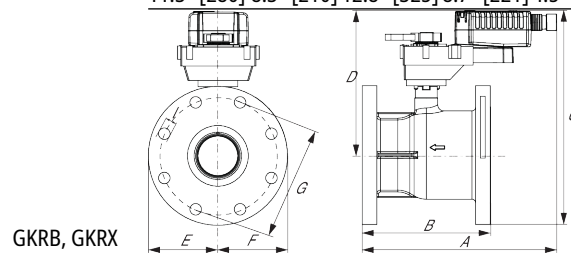
Flow/Mounting details


Upstream A
Downstream AB


Dimensions
Dimensional drawings


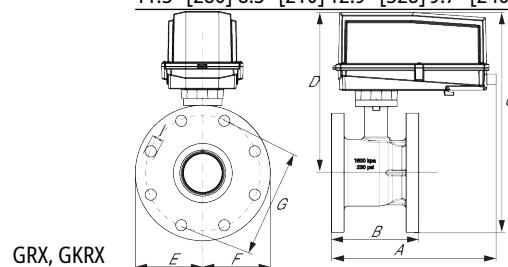
GRB, GRX

| A | B | C | D | E | F | G | I | Number of Bolt Holes |
|-------------|------------|-------------|------------|------------|------------|------------|-----------|----------------------|
| 11.3" [286] | 8.3" [210] | 12.8" [325] | 8.7" [221] | 4.5" [114] | 4.5" [114] | 7.5" [191] | 0.7" [19] | 8 |



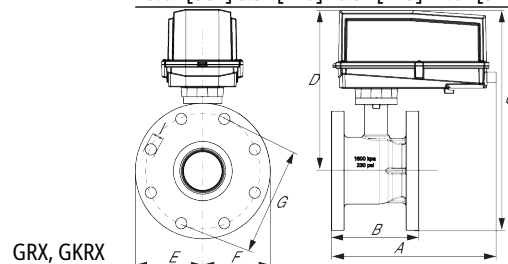
GKRb, GKRX

| A | B | C | D | E | F | G | I | Number of Bolt Holes |
|-------------|------------|-------------|------------|------------|------------|------------|-----------|----------------------|
| 11.3" [286] | 8.3" [210] | 12.9" [328] | 9.7" [246] | 4.5" [114] | 4.5" [114] | 7.5" [191] | 0.7" [19] | 8 |



GRX, GKRX

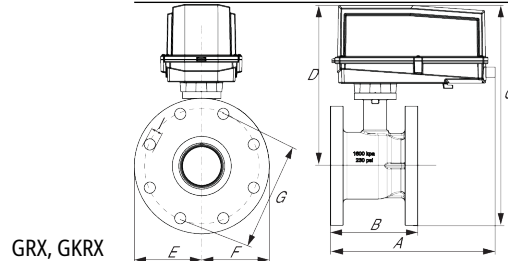
| A | B | C | D | E | F | G | I | Number of Bolt Holes |
|-------------|------------|-------------|-------------|------------|------------|------------|-----------|----------------------|
| 15.0" [381] | 8.3" [210] | 16.3" [415] | 12.6" [321] | 4.5" [114] | 4.5" [114] | 7.5" [191] | 0.7" [19] | 8 |



GRX, GKRX

| A | B | C | D | E | F | G | I | Number of Bolt Holes |
|-------------|------------|-------------|-------------|------------|------------|------------|-----------|----------------------|
| 15.0" [381] | 8.3" [210] | 16.3" [415] | 12.6" [321] | 4.5" [114] | 4.5" [114] | 7.5" [191] | 0.7" [19] | 8 |

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5-year warranty



Technical data

| | | |
|------------------------|------------------------------------|--|
| Electrical data | Nominal voltage | AC/DC 24 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Power consumption in operation | 12 W |
| | Power consumption in rest position | 3 W |
| | Transformer sizing | 21 VA (class 2 power source) |
| | Electrical Connection | 18 GA plenum cable, 3 ft [1 m], with 1/2" conduit connector (10 ft [3 m] and 15 ft [5 m] available) |
| | Overload Protection | electronic throughout 0...90° rotation |
| Functional data | Operating range Y | 2...10 V |
| | Operating range Y note | 4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor) |
| | 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 |
| | Operating range Y variable | Start point 0.5...30 V End point 2.5...32 V |
| | Options positioning signal | variable (VDC, on/off, floating point) |
| | Position feedback U | 2...10 V |
| | Position feedback U note | Max. 0.5 mA |
| | Position feedback U variable | VDC variable |
| | Bridging time | programmable 0...10 s (2 s default) delay before fail-safe activates |
| | Pre-charging time | 5...26 s |
| | Direction of motion motor | selectable with switch 0/1 |
| | Direction of motion fail-safe | reversible with switch |
| | Manual override | external push button |
| | Angle of rotation | Max. 90°, adjustable with mechanical stop |
| | Angle of rotation note | adjustable with mechanical stop |
| | Running Time (Motor) | default 150 s, variable 90...150 s |
| | Running time motor variable | 90...150 s |
| | Running time fail-safe | <35 s |
| | Noise level, motor | 52 dB(A) |
| | Noise level, fail-safe | 61 dB(A) |
| | Position indication | Mechanically, 30...65 mm stroke |
| Safety data | Degree of protection IEC/EN | IP54 |
| | Degree of protection NEMA/UL | NEMA 2 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; Listed to UL 2043 - suitable for use in air plenums per Section 300.22(c) of the NEC and Section 602.2 of the IMC |
| | Quality Standard | ISO 9001 |

| | |
|---------------------|-------------------------------|
| Ambient temperature | -22...122°F [-30...50°C] |
| Storage temperature | -40...176°F [-40...80°C] |
| Ambient humidity | max. 95% r.H., non-condensing |
| Servicing | maintenance-free |
| Weight | Weight 3.8 lb [1.8 kg] |

Safety notes



- PVC W/Shld for GV w/UGLK (AM)
- Classic GM to GMB(X) retrofit bracket.
- Battery Back Up System for SY(7-10)-110
- 120 to 24 VAC, 40 VA transformer.
- PC Tool computer programming interface, serial port.

Accessories

| Gateways | Description | Type |
|---------------|---|---------|
| | Gateway MP to BACnet MS/TP | UK24BAC |
| | Gateway MP to LonWorks | UK24LON |
| | Gateway MP to Modbus RTU | UK24MOD |
| Service tools | Description | Type |
| | Connection cable 10 ft [3 m], A: RJ11 6/4 ZTH EU, B: 3-pin Weidmüller and supply connection | ZK4-GEN |
| | Service Tool, with ZIP-USB function, for parametrisable and communicative Belimo actuators, VAV controller and HVAC performance devices | ZTH US |

Electrical installation



INSTALLATION NOTES



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 Ω resistor (ZG-R01) converts the 4...20 mA control signal to 2...10 V.



Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 V line.



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.



IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).



Actuators may be controlled in parallel. Current draw and input impedance must be observed.



Master-Slave wiring required for piggy-back applications. Feedback from Master to control input(s) of Slave(s).

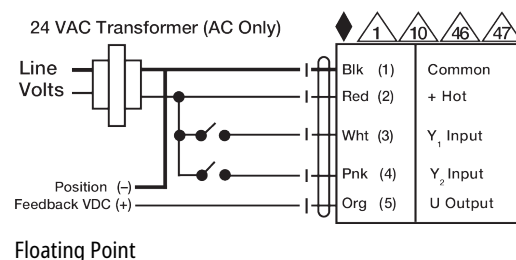
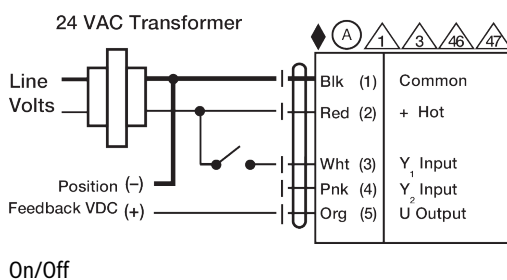


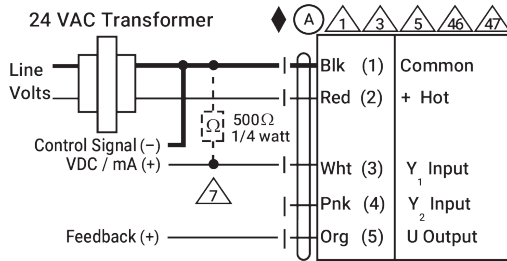
Meets cULus requirements without the need of an electrical ground connection.



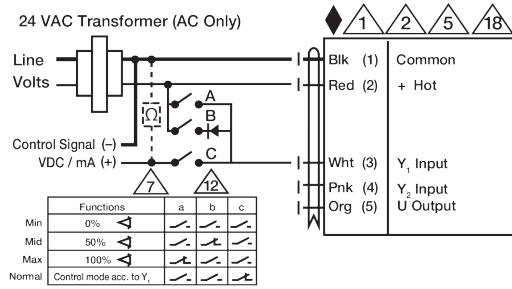
Warning! Live Electrical Components!

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.

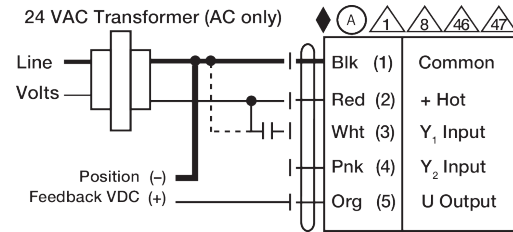




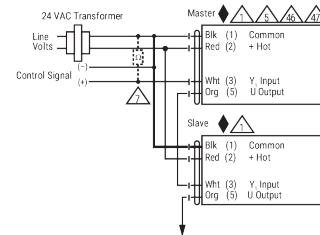
VDC/mA Control



Override Control



PWM Control



Master - Slave