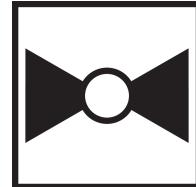




5-year warranty



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 Δ ps	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

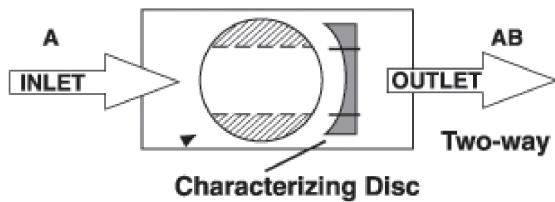
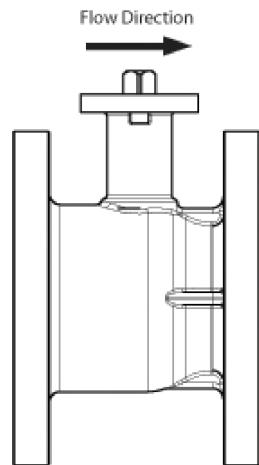


- **WARNING:** This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to www.p65warnings.ca.gov

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.
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Flow/Mounting details

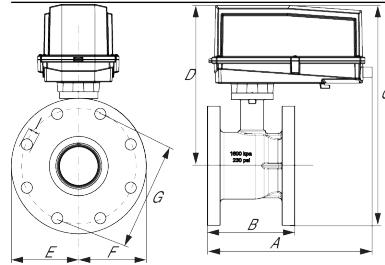

 Upstream A
 Downstream AB


Dimensions

Dimensional drawings

	A	B	C	D	E	F	G	I	Number of Bolt Holes
GRB, GRX	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	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	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	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 parametrizable and communicative Belimo actuators, VAV controller and HVAC performance devices		ZTH US

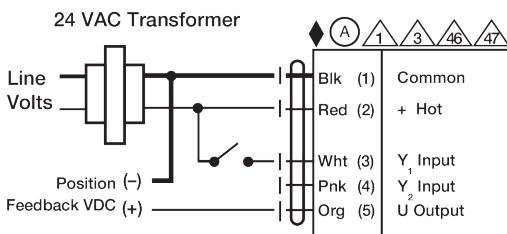
Electrical installation

INSTALLATION NOTES

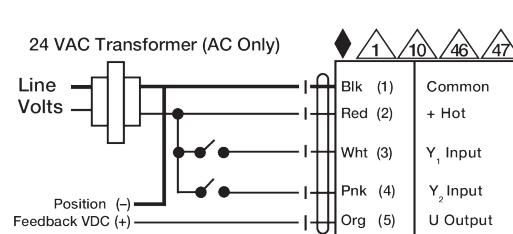
- (A) Actuators with appliance cables are numbered.
- 1 Provide overload protection and disconnect as required.
- 3 Actuators may also be powered by 24 VDC.
- 5 Only connect common to negative (-) leg of control circuits.
- 7 A 500 Ω resistor (ZG-R01) converts the 4...20 mA control signal to 2...10 V.
- 8 Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 V line.
- 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).
- 46 Actuators may be controlled in parallel. Current draw and input impedance must be observed.
- 47 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!

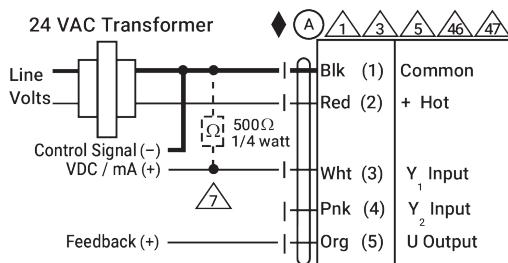
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow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



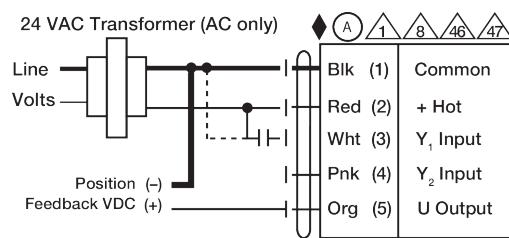
On/Off



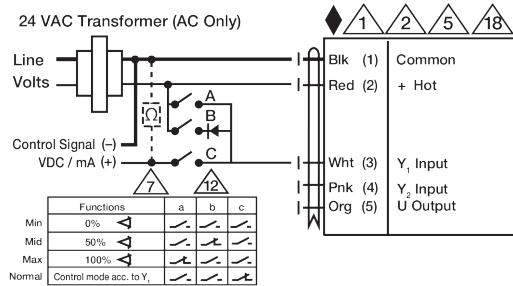
Floating Point



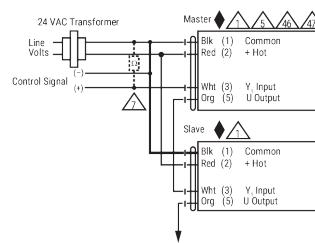
VDC/mA Control



PWM Control



Override Control



Master - Slave