BELIMO

Stainless Steel Ball and Stem

Technical data sheet B6600S-400

5-year warranty

Type overview

Type	DN
B6600S-400	150

Technical data

Functional data	Valve size	6" [150]
	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	400
	Cv Flow Rating	A-port: as stated in chart B-port: 70% of A – AB Cv
Materials	Valve body	Cast iron - GG 25
	Stem	stainless steel
	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)
	Electrical fail-safe	GKRB(X)

Safety notes

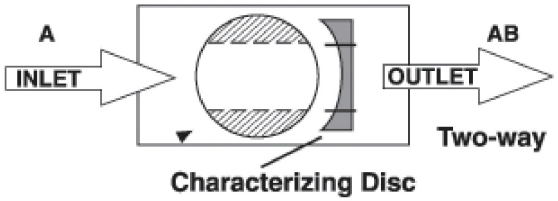
- WARNING: This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to www.p65warnings.ca.gov

Product features

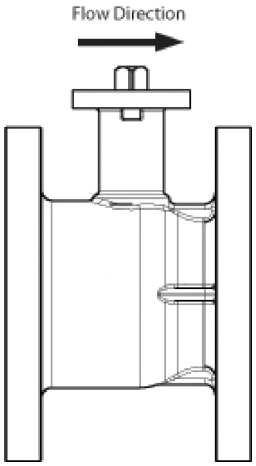
Application

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



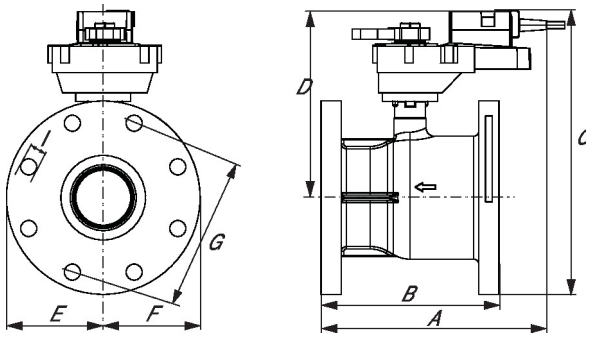
Upstream A
Downstream AB



Dimensions

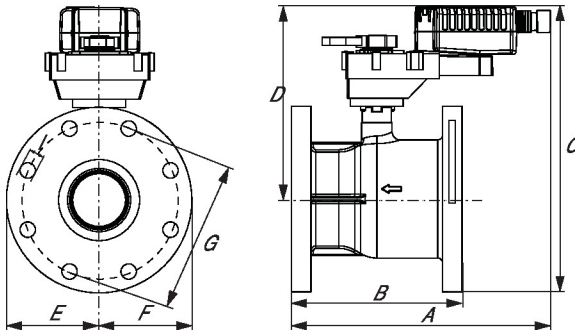
Type	DN
B6600S-400	150

GRB, GRX



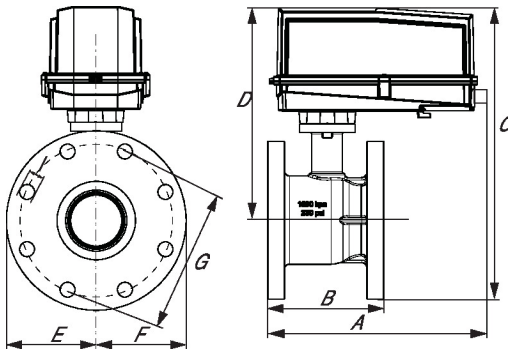
A	B	C	D	E	F	G	I	Number of Bolt Holes
15.3" [388]	12.4" [315]	15.4" [391]	9.5" [241]	5.5" [140]	5.5" [140]	9.5" [241]	0.9" [22]	8

GKRB, GKRX



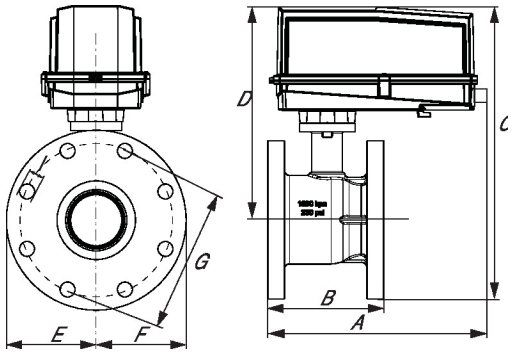
A	B	C	D	E	F	G	I	Number of Bolt Holes
15.3" [388]	12.4" [315]	15.8" [401]	9.8" [248]	5.5" [140]	5.5" [140]	9.5" [241]	0.9" [22]	8

GRX, GKRX



A	B	C	D	E	F	G	I	Number of Bolt Holes
19.0" [483]	12.4" [315]	18.5" [470]	9.5" [241]	5.5" [140]	5.5" [140]	9.5" [241]	0.9" [22]	8

GRX, GKRX

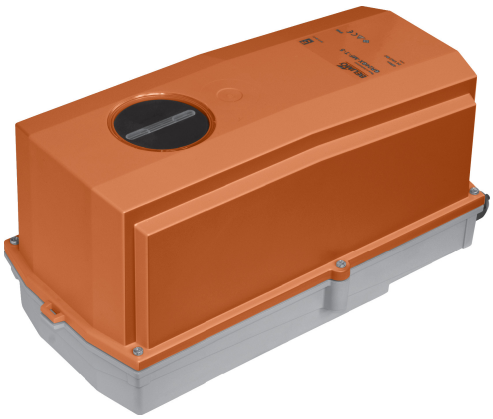


A	B	C	D	E	F	G	I	Number of Bolt Holes
19.0" [483]	12.4" [315]	18.5" [470]	9.5" [241]	5.5" [140]	5.5" [140]	9.5" [241]	0.9" [22]	8

BELIMO

Modulating, Electrical Fail-Safe, 24 V, for DC 2...10 V or 4...20 mA Control Signal

Technical data sheet GKRX24-MFT N4



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) / heater 21 VA
	Electrical Connection	18 GA plenum cable, 3 ft [1 m], with 1/2" conduit connector
	Overload Protection	electronic thoughout 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 (PF)	2 s
	Bridging time (PF) variable	0...10 s
	Pre-charging time	5...20 s
	Direction of motion motor	selectable with switch 0/1
	Direction of motion fail-safe	reversible with switch
	Manual override	under cover
	Angle of rotation	Max. 95°
	Angle of rotation note	adjustable with mechanical stop
	Running Time (Motor)	150 s / 90°
	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	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

Safety data	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
Materials	Housing material	Die cast aluminium and plastic casing

Footnotes †Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3

Product features

Bridging time

Electrical interruptions can be bridged up to a maximum of 10 s.

In the event of a power failure, the actuator will remain stationary in accordance with the set bridging time. If the power failure is greater than the set bridging time, then the actuator will move into the selected fail-safe position.

The bridging time set ex-works is 2 s. This can be modified on site in operation with the use of the Belimo service tool MFT-P.

Settings: The rotary knob must not be set to the "PROG FAIL-SAFE" position!

For retroactive adjustments of the bridging time with the Belimo service tool MFT-P or with the ZTH EU adjustment and diagnostic device only the values need to be entered.

Accessories

Gateways

Description	Type
Gateway MP to BACnet MS/TP	UK24BAC
Gateway MP to Modbus RTU	UK24MOD
Gateway MP to LonWorks	UK24LON

Electrical accessories

Description	Type
Feedback potentiometer 140 Ω add-on, grey	P140A GR
Feedback potentiometer 500 Ω add-on, grey	P500A GR
Feedback potentiometer 1 kΩ add-on, grey	P1000A GR
Feedback potentiometer 2.8 kΩ add-on, grey	P2800A GR
Feedback potentiometer 5 kΩ add-on, grey	P5000A GR
Feedback potentiometer 10 kΩ add-on, grey	P10000A GR
Auxiliary switch 1 x SPDT add-on	S1A
Auxiliary switch 2 x SPDT add-on	S2A
Service Tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US

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 programmable 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 DC 24 V.

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).

16 Actuators are provided with a numbered screw terminal strip instead of a cable.

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

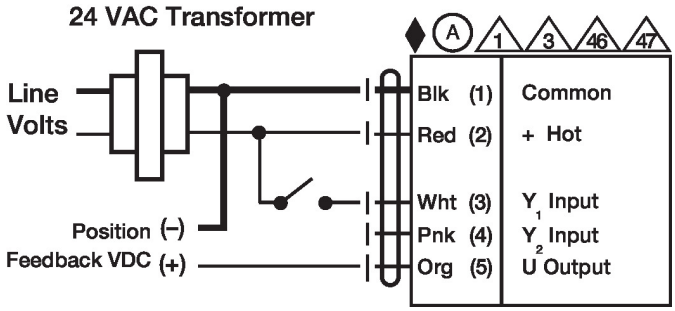
47 Master-Slave wiring required for piggy-back applications. Feedback from Master to control input(s) of Slave(s).

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

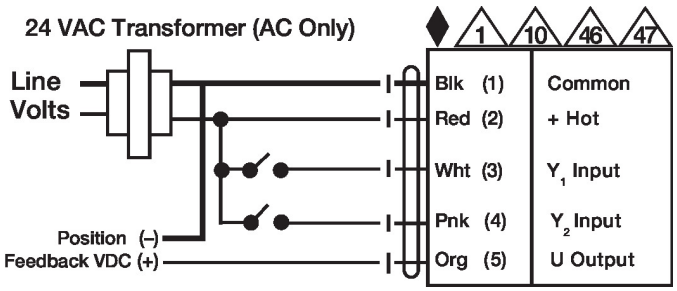
Warning! Live electrical components!
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components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

Wiring diagrams

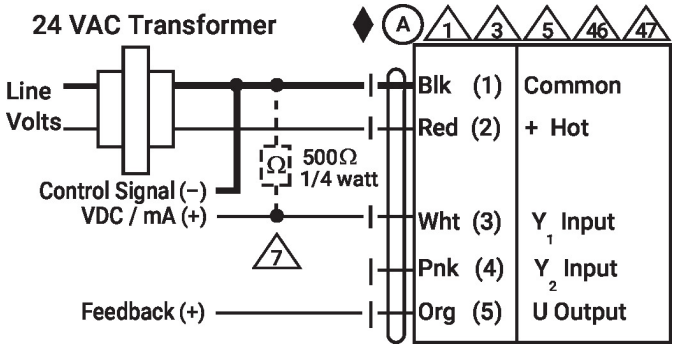
On/Off



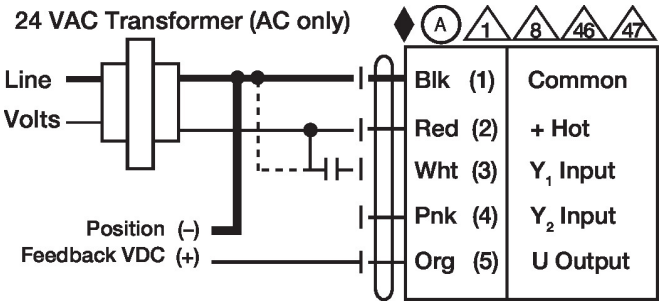
Floating Point



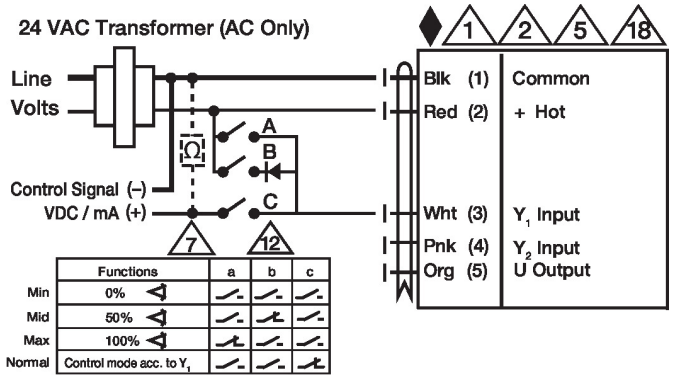
VDC/mA Control



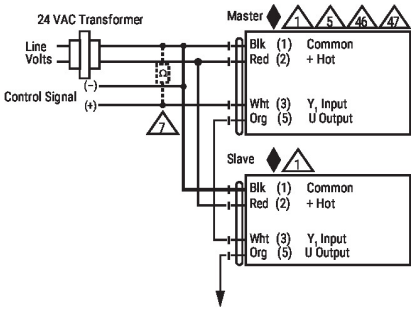
PWM Control



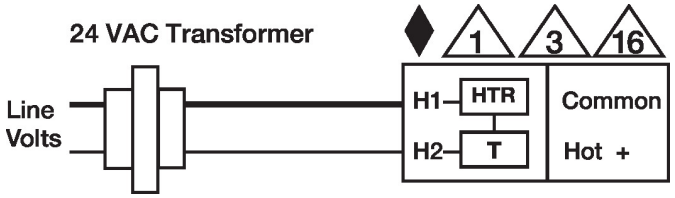
Override Control



Master - Slave



NEMA 4 Heater



Dimensions