



5-year warranty

## Type overview

Type	DN
G6150LCS	150

## Technical data

Functional data	
Valve size [mm]	6" [150]
Fluid	chilled or hot water, up to 60% glycol, steam
Fluid Temp Range (water)	32...350°F [0...176°C]
Body Pressure Rating	ANSI Class 125, up to 175 psi below 150°F
Flow characteristic	linear
Servicing	repack/rebuild kits available
Rangeability Sv	98:1
Max Differential Pressure (Steam)	50 psi [345 kPa]
Flow Pattern	2-way
Leakage rate	ANSI Class III
Controllable flow range	stem up - open A - AB
Cv	344
Maximum Inlet Pressure (Steam)	100 psi [690 kPa]
Materials	
Valve body	Cast iron - ASTM A126 Class B
Valve plug	Stainless steel
Stem	316 stainless steel
Stem seal	NLP EPDM (no lip packing)
Seat	Stainless steel AISI 316
Pipe connection	125 lb flanged
Suitable actuators	
Non-Spring	EVB(X)
Spring	(2*AFB(X))
Electrical fail-safe	AVKB(X)

## Safety notes

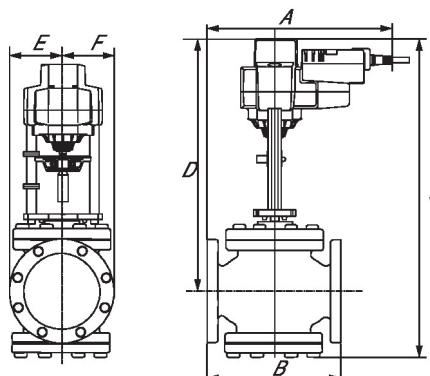


- **WARNING:** This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)
- The valve has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- Only authorized specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- The valve does not contain any parts that can be replaced or repaired by the user.
- When determining the flow rate characteristic of controlled devices, the recognised directives must be observed.

## Dimensions

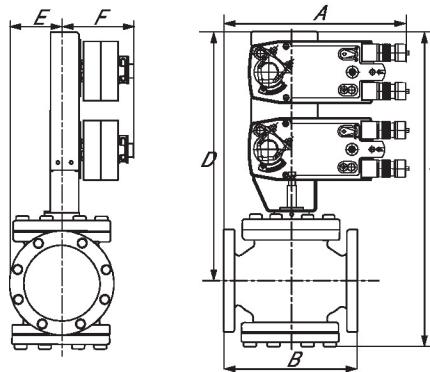
Type	DN	Weight
G6150LCS	150	196.25 lb [89 kg]

EVB, EVX, RVB, RVX



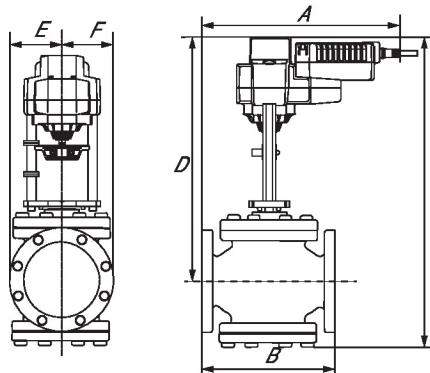
A	B	C	D	E	F	Number of Bolt Holes
17.8" [451]	16.1" [410]	27.9" [708]	19.4" [492]	5.6" [142]	5.6" [142]	8

2\*AFB, 2\*AFX



A	B	C	D	E	F	Number of Bolt Holes
16.1" [410]	17.8" [451]	31.4" [797]	22.8" [578]	5.6" [142]	5.5" [140]	8

AVKB, AVKX



A	B	C	D	E	F	Number of Bolt Holes
16.1" [410]	17.8" [451]	27.9" [708]	19.4" [492]	5.6" [142]	5.6" [142]	8



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**Technical data**

<b>Electrical data</b>	
Nominal voltage	AC/DC 24 V
Nominal voltage frequency	50/60 Hz
Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V
Power consumption in operation	7.5 W
Power consumption in rest position	3 W
Transformer sizing	20 VA
Auxiliary switch	2 x SPDT, 1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V, one set at 10°, one adjustable 10...90°
Switching capacity auxiliary switch	1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V
Electrical Connection	(2) 18 GA appliance cables, 1 m, 3 m or 5 m, with or without 1/2" conduit connectors
Overload Protection	electronic throughout 0...95° rotation
<b>Functional data</b>	
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
Operating modes optional	variable (VDC, PWM, on/off, floating point)
Position feedback U	2...10 V
Position feedback U note	Max. 0.5 mA
Position feedback U variable	VDC variable
Direction of motion motor	selectable with switch 0/1
Direction of motion fail-safe	reversible with cw/ccw mounting
Manual override	5 mm hex crank (3/16" Allen), supplied
Angle of rotation	95°
Angle of rotation note	adjustable with mechanical end stop, 35...95°
Running Time (Motor)	150 s / 90°
Running time motor variable	70...220 s
Running time fail-safe	<20 s
Override control	MIN (minimum position) = 0% MID (intermediate position) = 50% MAX (maximum position) = 100%
Noise level, motor	40 dB(A)
Noise level, fail-safe	62 dB(A)
Position indication	Mechanical
<b>Safety data</b>	
Power source UL	Class 2 Supply
Degree of protection IEC/EN	IP54
Degree of protection NEMA/UL	NEMA 2

<b>Safety data</b>	Enclosure	UL Enclosure Type 2
	Agency Listing	cULus acc. to UL60730-1A-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU
	Quality Standard	ISO 9001
	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-22...122°F [-30...50°C]
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
<b>Weight</b>	Weight	9.26 lb [4.2 kg]
<b>Materials</b>	Housing material	Galvanized steel and plastic housing

**Footnotes** \*Variable when configured with MFT options.

## Accessories

	<b>Gateways</b>	<b>Description</b>	<b>Type</b>
	Gateway MP to BACnet MS/TP		UK24BAC
	Gateway MP to Modbus RTU		UK24MOD
	Gateway MP to LonWorks		UK24LON
	<b>Electrical accessories</b>	<b>Description</b>	<b>Type</b>
	Service Tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices		ZTH US
	<b>Tools</b>	<b>Description</b>	<b>Type</b>
	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



### 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.



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



**A** Actuators with appliance cables are numbered.



Apply only AC line voltage or only UL-Class 2 voltage to the terminals of auxiliary switches. Mixed or combined operation of line voltage/safety extra low voltage is not allowed.



**1** Provide overload protection and disconnect as required.



**3** Actuators may also be powered by DC 24 V.



**4** Two built-in auxiliary switches (2x SPDT), for end position indication, interlock control, fan startup, etc.



**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).



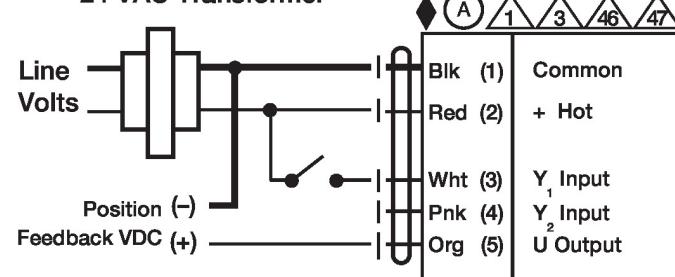
**46** Actuators may be controlled in parallel. Current draw and input impedance must be observed.

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

### Wiring diagrams

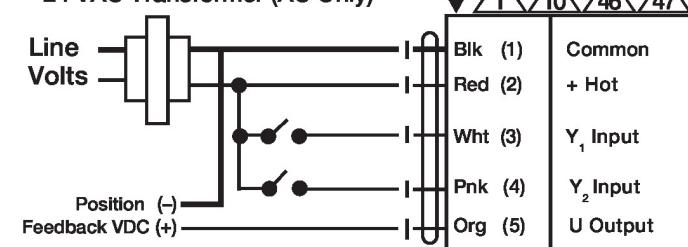
On/Off

#### 24 VAC Transformer

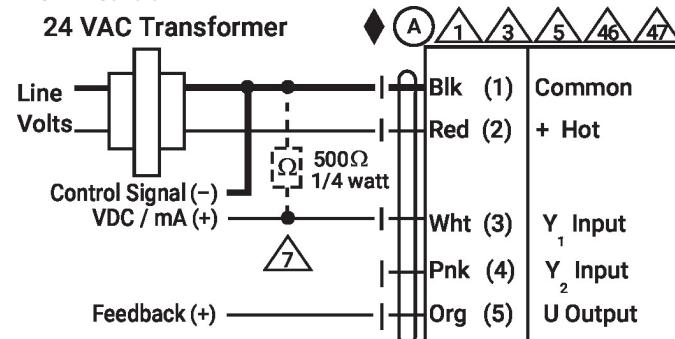


Floating Point

#### 24 VAC Transformer (AC Only)

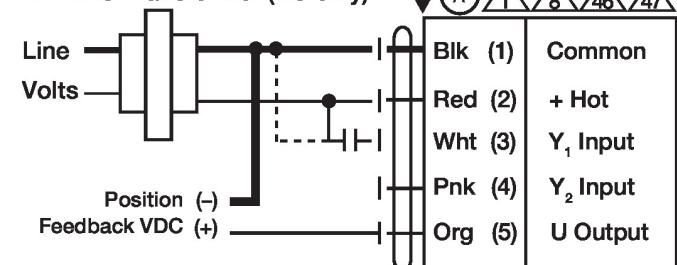


VDC/mA Control

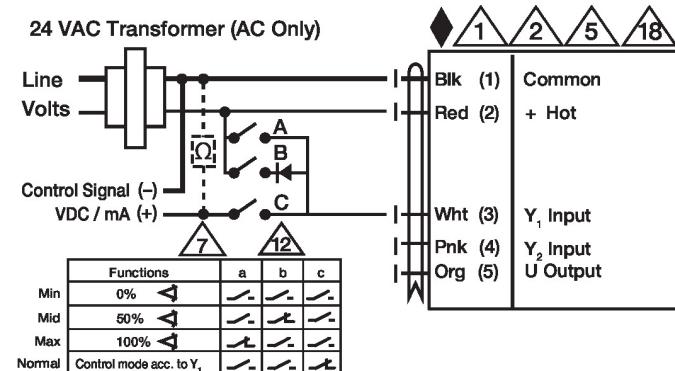


PWM Control

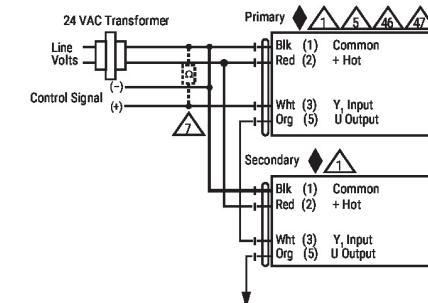
#### 24 VAC Transformer (AC only)



Override Control



Primary - Secondary



Auxiliary Switches

