BELIMO

Technical data sheet G7100

ANSI-Flanged Globe Valves

- chilled or hot water, up to 60% glycol
- ANSI Class 125, up to 175 psi below 150°F
- 125
- Cast iron - ASTM A126 Class B



Picture may differ from product

5-year warranty

Type overview

Type	DN	Cv	Body Pressure Rating
G7100	4" [100]	160	ANSI Class 125, up to 175 psi below 150°F

Technical data

Functional data	Valve size [mm]	4" [100]
	Fluid	chilled or hot water, up to 60% glycol
	Fluid Temp Range (water)	32...300°F [0...149°C]
	Flow characteristic	linear
	Leakage rate	ANSI Class III
	Pipe connection	Flange for use with ASME/ANSI class 125
	Servicing	repack/rebuild kits available
	Rangeability Sv	50:1
	Flow Pattern	3-way Mixing
	Controllable flow range	stem up - open B – AB
Materials	Valve body	Cast iron - ASTM A126 Class B
	Closing element	bronze
	Stem	stainless steel
	Stem seal	NLP EPDM (no lip packing)
	Seat	Stainless steel AISI 316
Suitable actuators	Non Fail-Safe	EVB(X) RVB(X)
	Spring	2*AFB(X)
	Electronic fail-safe	2*GKB(X)

Safety notes

- This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and reproductive harm. For more information go to 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 with 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.

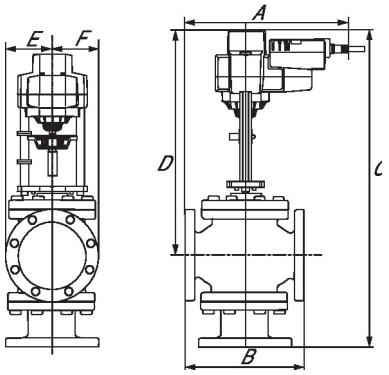
Accessories

Mechanical accessories	Description	Type
	Repack Kit for Belimo G6, G7 series globe valves, Bronze trim	ZG-GV15

Dimensions

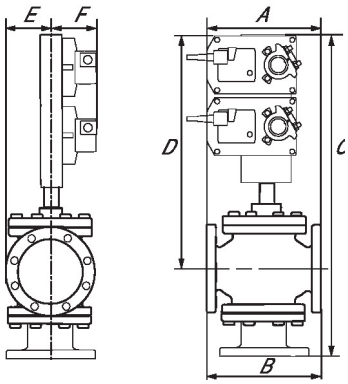
Type	DN	Weight
G7100	4" [100]	136.71 lb [62.14 kg]

EVB, EVX, RVB, RVX



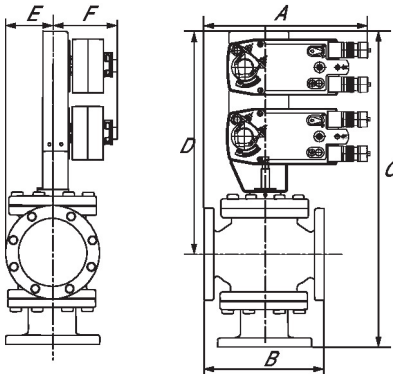
A	B	C	D	E	F	Number of Bolt Holes
13.7" [349]	13.0" [330]	29.7" [754]	19.8" [502]	4.5" [114]	4.5" [114]	8

2*GMB, 2*GMX, 2*GKB, 2*GKX



A	B	C	D	E	F	Number of Bolt Holes
13.7" [349]	13.0" [330]	33.2" [844]	23.4" [594]	4.5" [114]	5.3" [135]	8

2*AFB, 2*AFX



A	B	C	D	E	F	Number of Bolt Holes
13.7" [349]	13.0" [330]	33.2" [844]	23.4" [594]	4.5" [114]	5.3" [135]	8

MFT/programmable, Non fail-safe, 24 V



Picture may differ from product

5-year warranty

Technical data

Electrical data	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	6 W
	Power consumption in rest position	1.5 W
	Transformer sizing	11 VA
	Overload Protection	electronic throughout full stroke
	Electrical Protection	actuators are double insulated
Functional data	Actuating force motor	4500 N [1010 lbf]
	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 On/Off
	Operating range Y variable	Start point 0.5...30 V End point 2.5...32 V
	Operating modes optional	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
	Direction of motion motor	selectable with switch
	Manual override	5 mm hex crank (3/16" Allen), supplied
	Stroke	2" [50 mm]
	Running Time (Motor)	90 s /
	Running time motor note	constant, independent of load
	Sound power level motor	65 dB(A)
	Position indication	Mechanical, with pointer
Safety data	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2
	Housing	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
	Quality Standard	ISO 9001
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-22...122°F [-30...50°C]

Technical data

Safety data	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
Weight	Weight	[]
Materials	Housing material	Die cast aluminium and plastic casing

Footnotes † Use flexible metal conduit. Push the listed conduit fitting device over the actuator's cable to butt against the enclosure. Screw in conduit connector. Jacket the actuators input wiring with listed flexible conduit. Properly terminate the conduit in a suitable junction box. Rated impulse Voltage 800V. Type of action 1. Control pollution degree 3.

Accessories

Tools

Description	Type
Connecting cable 10 ft [3 m], A: RJ11 6/4 LINK.10, B: 3-pin Weidmüller and supply connection	ZK4-GEN
Service tool, with ZIP-USB function, for configurable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US

Electrical accessories

Description	Type
Belimo PC-Tool, Software for adjustments and diagnostics	MFT-P
Auxiliary switch 2x SPDT for NG GV Actuators	S2A-GV
Service tool, with ZIP-USB function, for configurable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US

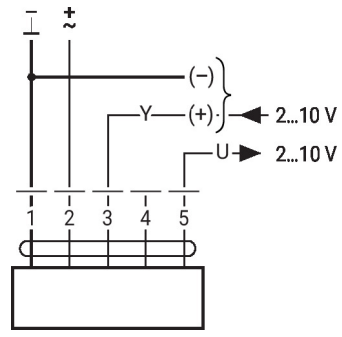
Gateways

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

Electrical installation

Wire colors:
1 = black
2 = red
3 = white
4 = pink
5 = orange

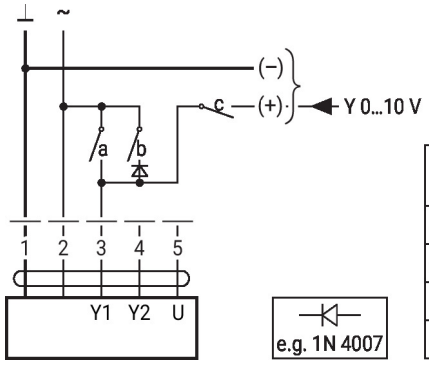
AC/DC 24 V, modulating



Further electrical installations

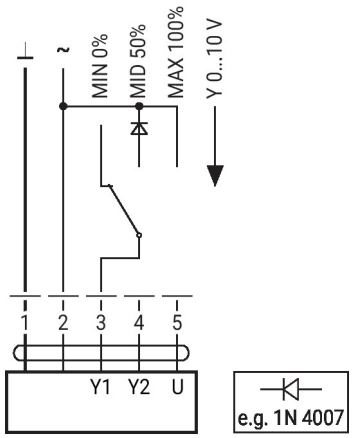
Functions with basic values (conventional mode)

Override control with AC 24 V with relay contacts

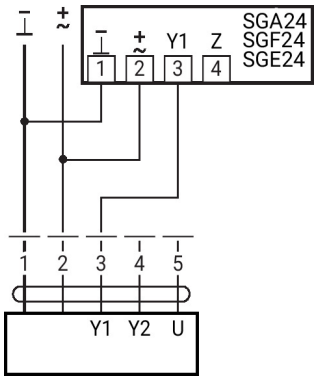


1	2	a	b	c	
					0 %
					ZS 50%
					100%
					Y

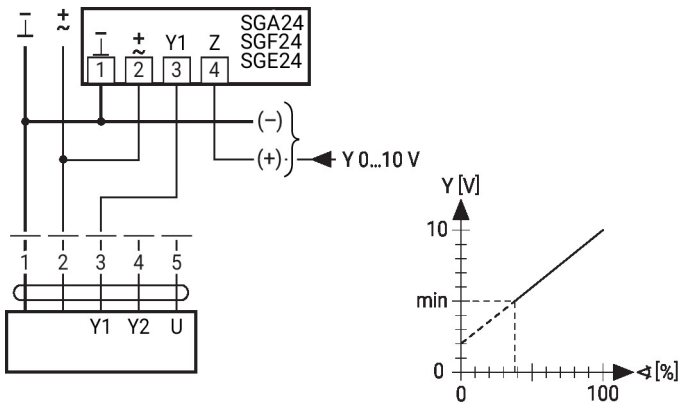
Override control with AC 24 V with rotary switch



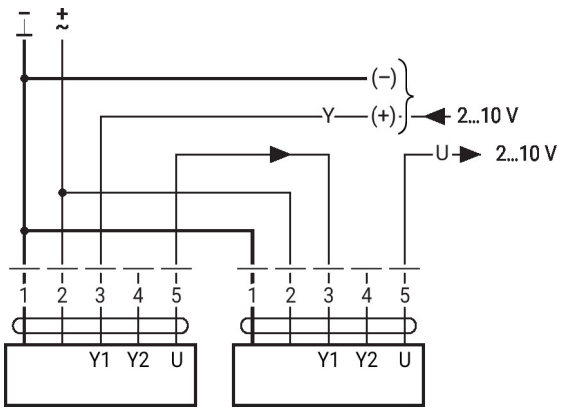
Control remotely 0...100% with positioner SG..



Minimum limit with positioner SG..



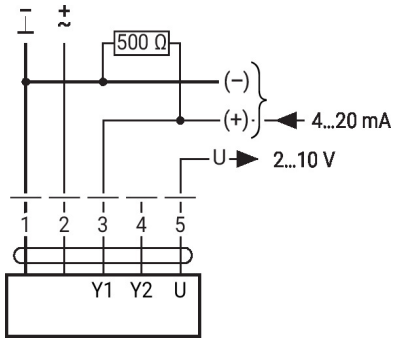
Primary/secondary operation (position-dependent)



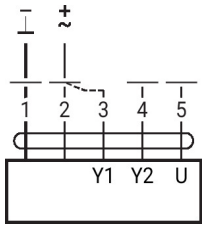
Further electrical installations

Functions with basic values (conventional mode)

Control with 4...20 mA via external resistor



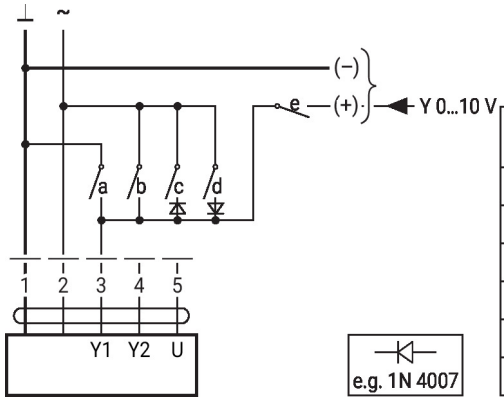
Functional check



Procedure
1. Apply 24 V to connection 1 and 2
2. Disconnect connection 3:
- with upwards direction of motion: closing point at top
- with downwards direction of motion: closing point at bottom
3. Short circuit connections 2 and 3:
- Actuator runs in the opposite direction

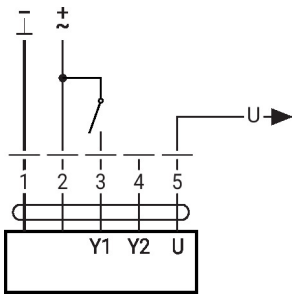
Functions with specific parameters (configuration necessary)

Override control and limiting with AC 24 V with relay contacts

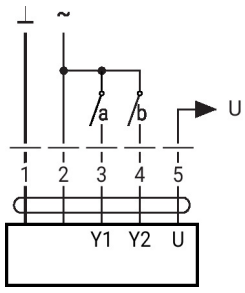


1	2	a	b	c	d	e	
⊥	~	⊥	⊥	⊥	⊥	⊥	Close[1)]
⊥	~	⊥	⊥	⊥	⊥	⊥	MIN
⊥	~	⊥	⊥	⊥	⊥	⊥	ZS
⊥	~	⊥	⊥	⊥	⊥	⊥	MAX
⊥	~	⊥	⊥	⊥	⊥	⊥	Open
⊥	~	⊥	⊥	⊥	⊥	⊥	Y

Control on/off



Control 3-point

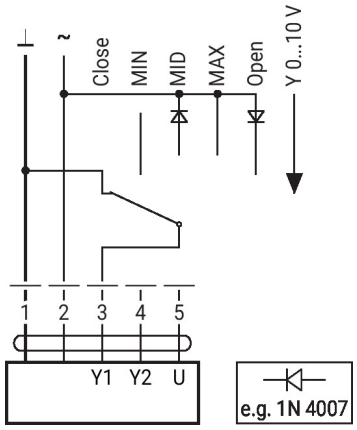


1	2	3	4		
⊥	~	⊥	⊥	↓	↑
⊥	~	⊥	⊥	↓	↑
⊥	~	⊥	⊥	stop	stop
⊥	~	⊥	⊥	↑	↓

Further electrical installations

Functions with specific parameters (configuration necessary)

Override control and limiting with AC 24 V with rotary switch



Caution:
The "Close" function is only guaranteed if the start point of the operating range is defined as min. 0.5 V.