

ANSI-Flanged Globe Valves

- chilled or hot water, up to 60% glycol
- ANSI Class 250, up to 280 psi below 350°F
- 250
- Cast iron - ASTM A126 Class B



Picture may differ from product



5-year warranty

Type overview

Type	DN	Cv	Body Pressure Rating
G7100S-250	4" [100]	190	ANSI Class 250, up to 280 psi below 350°F

Technical data

Functional data	Valve size [mm]	4" [100]
	Fluid	chilled or hot water, up to 60% glycol
	Fluid Temp Range (water)	32...350°F [0...176°C]
	Flow characteristic	linear
	Leakage rate	ANSI Class III
	Pipe connection	Flange for use with ASME/ANSI class 250
	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	Stainless steel
	Stem	316 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



- **WARNING:** 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, Stainless steel trim

ZG-GV04

Dimensions

Type

G7100S-250

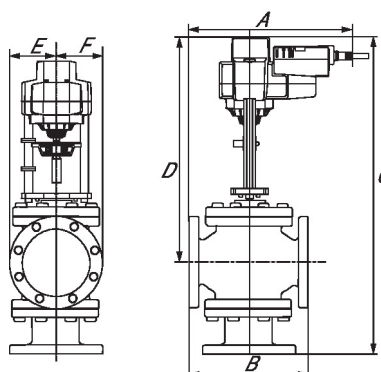
DN

4" [100]

Weight

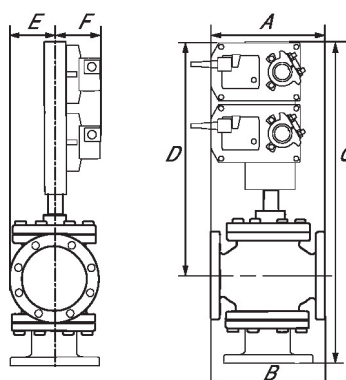
154.67 lb [70.30 kg]

EVB, EVX, RVB, RVX



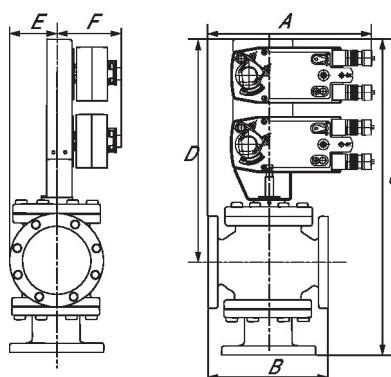
A	B	C	D	E	F	Number of Bolt Holes
14.0" [356]	13.6" [346]	29.3" [743]	19.0" [483]	5.0" [127]	5.0" [127]	8

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



A	B	C	D	E	F	Number of Bolt Holes
14.0" [356]	13.6" [346]	33.2" [844]	23.4" [594]	5.0" [127]	5.0" [127]	8

2*AFB, 2*AFX



A	B	C	D	E	F	Number of Bolt Holes
14.0" [356]	13.6" [346]	33.7" [857]	23.4" [594]	5.0" [127]	5.3" [135]	8

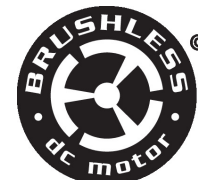
MFT/programmable, Non fail-safe, 24 V



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	5 W
	Power consumption in rest position	1.5 W
	Transformer sizing	7.5 VA
	Electrical Connection	18 AWG plenum cable, 1 m, with 1/2" NPT conduit connector, degree of protection NEMA 2 / IP54
	Overload Protection	electronic throughout full stroke
	Electrical Protection	actuators are double insulated
Functional data	Actuating force motor	2500 N [560 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 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
	Manual override	5 mm hex crank (3/16" Allen), supplied
	Stroke	2" [50 mm]
	Running Time (Motor)	90 s /
	Running time motor variable	90...150 s
	Sound power level, motor	60 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

Technical data

Safety data	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
	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
Weight	Weight	□
Materials	Housing material	Die cast aluminium and plastic casing

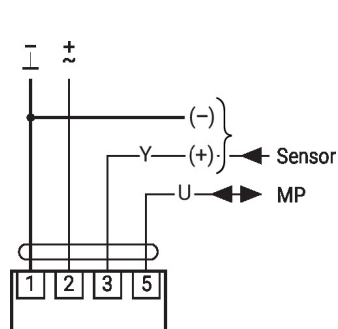
Footnotes † Use flexible metal conduit. Push the listed conduit fitting device over the actuator's cable to butt against the enclosure. Screw in conduit connector. Jacket the actuators input wiring with listed flexible conduit. Properly terminate the conduit in a suitable junction box. Rated impulse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

Accessories

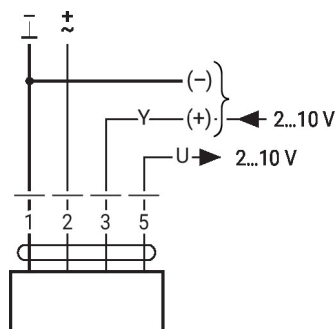
	Tools	Description	Type
		Connecting cable 10 ft [3 m], A: RJ11 6/4 LINK.10, B: 3-pin Weidmüller and supply connection	ZK4-GEN
		Service tool, with ZIP-USB function, for configurable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US
Electrical accessories	Description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

MP-Bus



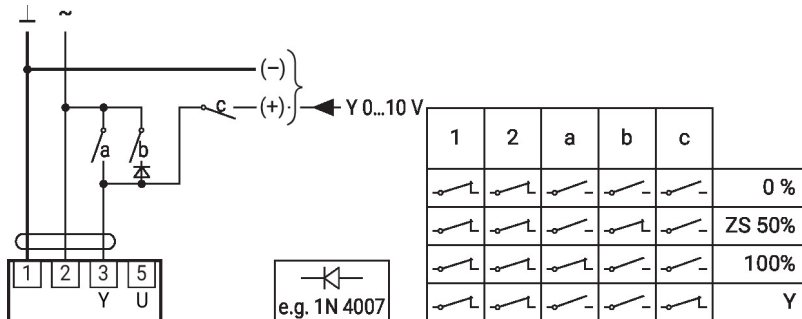
AC/DC 24 V, modulating



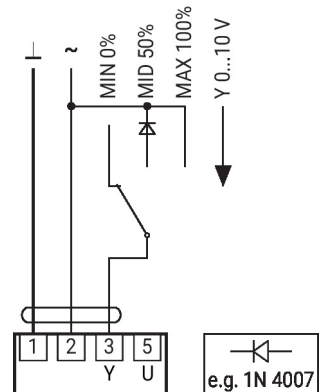
Further electrical installations

Functions with basic values (conventional mode)

Override control with AC 24 V with relay contacts

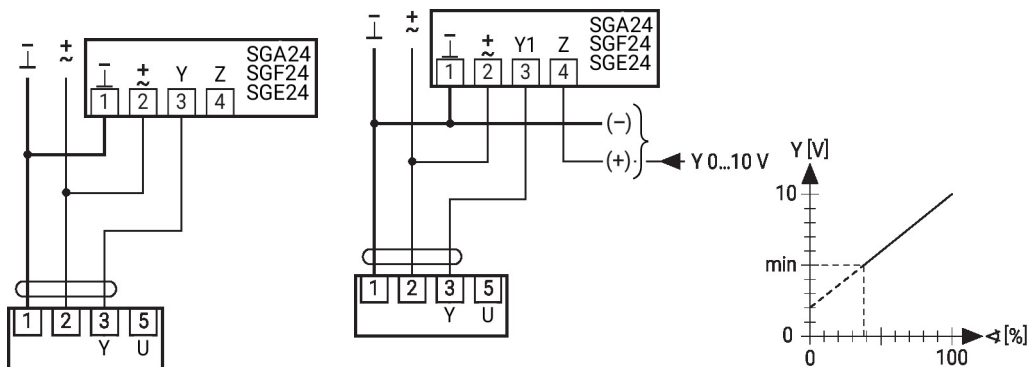


Override control with AC 24 V with rotary switch

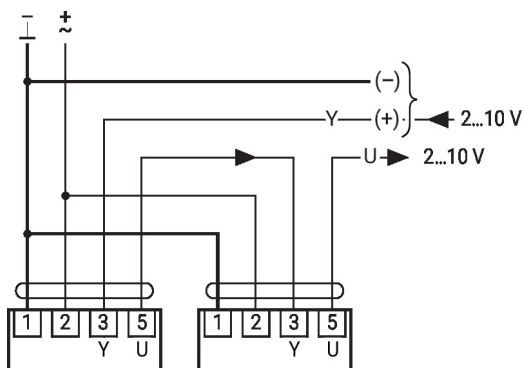


Control remotely 0...100% with positioner SG..

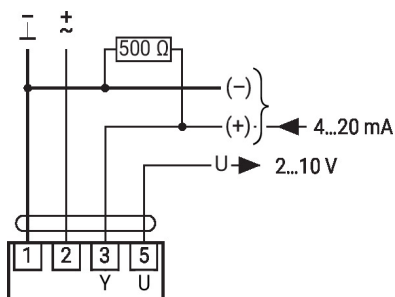
Minimum limit with positioner SG..



Primary/secondary operation (position-dependent)



Control with 4...20 mA via external resistor



Caution:

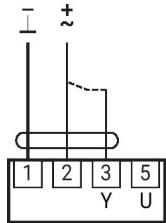
The operating range must be set to DC 2...10 V.

The 500 Ohm resistor converts the 4...20 mA current signal to a voltage signal DC 2...10 V.

Further electrical installations

Functions with basic values (conventional mode)

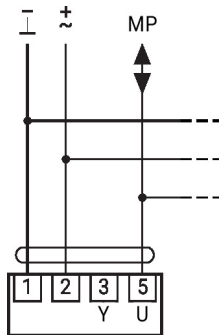
Functional check



Procedure

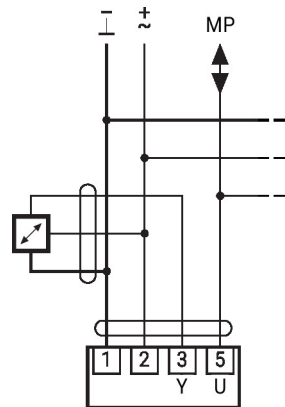
1. Connect 24 V to connections 1 and 2
2. Disconnect connection 3:
 - with direction of rotation L: Actuator rotates to the left
 - with direction of rotation R: Actuator rotates to the right
3. Short-circuit connections 2 and 3:
 - Actuator runs in opposite direction

Functions with basic values (conventional mode)



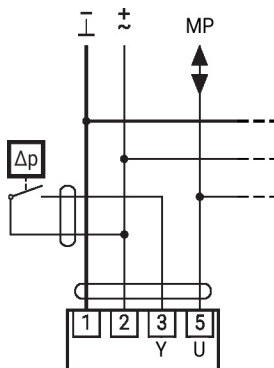
Max. 8 additional MP-Bus nodes

Connection of active sensors



Max. 8 additional MP-Bus nodes
 Supply AC/DC 24 V
 Output signal 0...10 V (max. 0...32 V)
 Resolution 30 mV

Connection of external switching contact



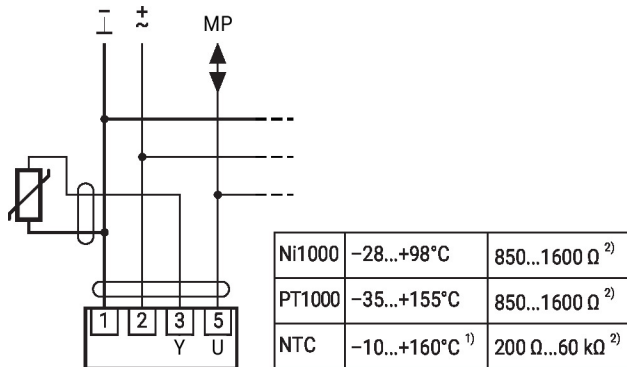
Max. 8 additional MP-Bus nodes

- Switching current 16 mA @ 24 V
- Start point of the operating range must be configured on the MP actuator as ≥ 0.5 V

Further electrical installations

Functions with basic values (conventional mode)

Connection of passive sensors

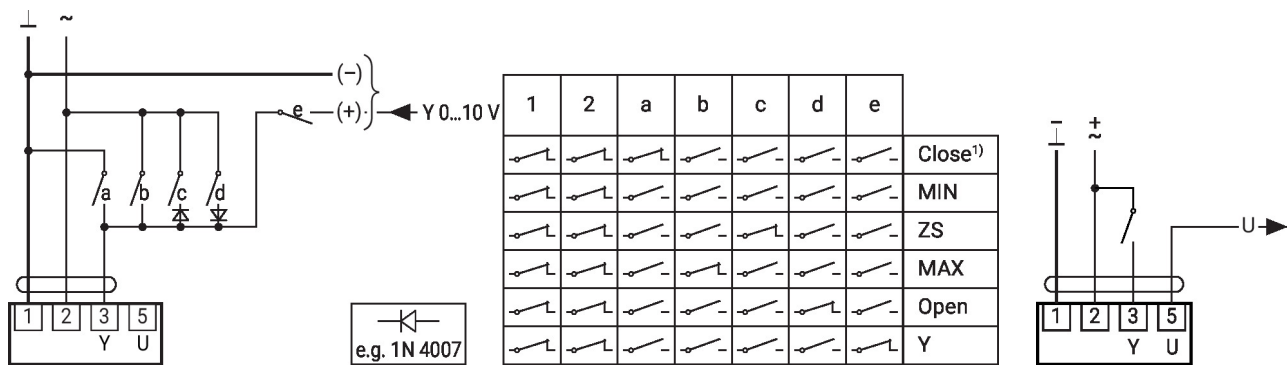


1) Depending on the type
2) Resolution 1 Ohm
Compensation of the measured value is recommended

Functions with specific parameters (configuration necessary)

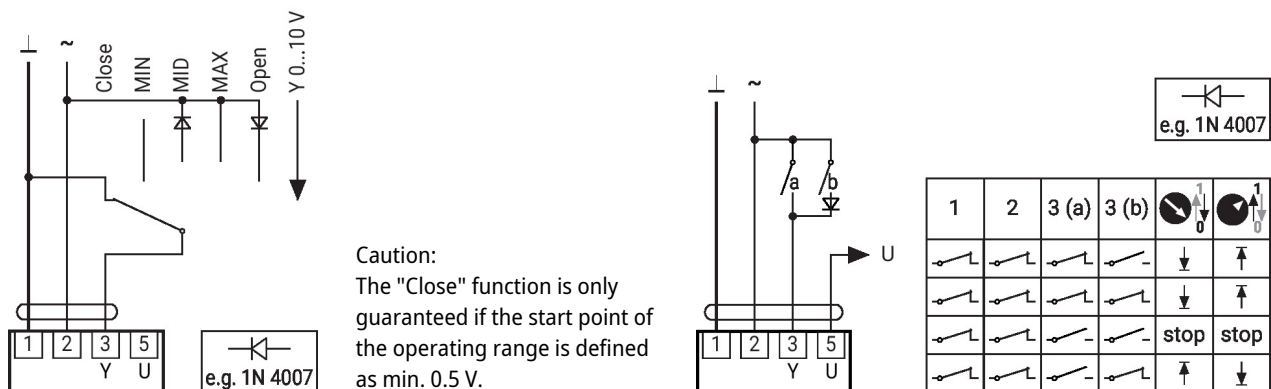
Override control and limiting with AC 24 V with relay contacts

Control on/off



Override control and limiting with AC 24 V with rotary switch

Control 3-point with AC 24 V



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