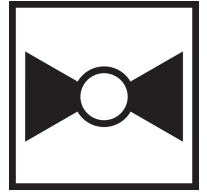




5-year warranty



Type overview

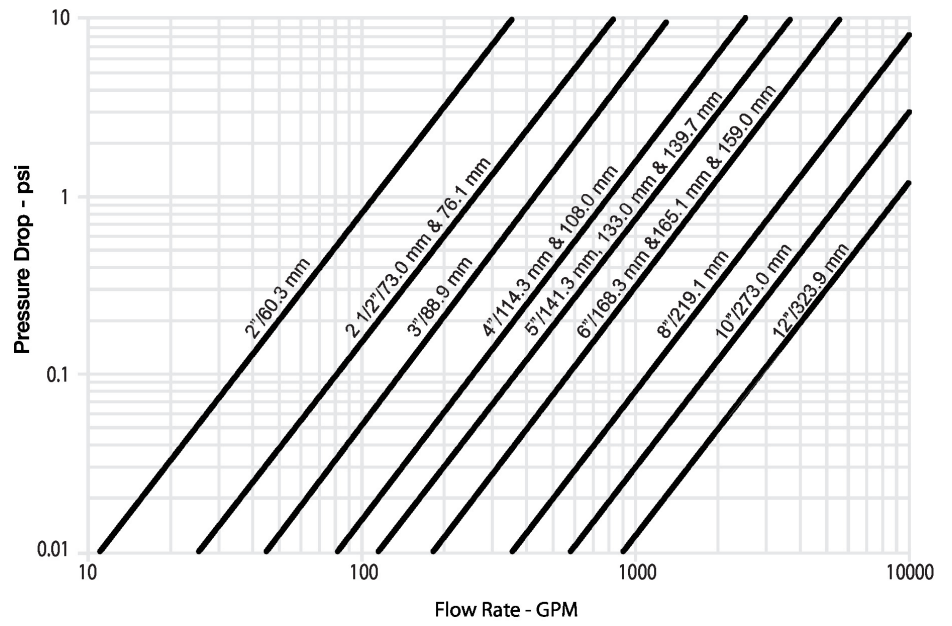
Type	DN
F650VIC	50

Technical data

Functional data	Valve size	2" [50]
	Fluid	chilled or hot water, up to 60% glycol
	Fluid Temp Range (water)	-22...250°F [-30...120°C]
	Body Pressure Rating	ANSI Class Grooved AWWA, 300 psi
	Flow characteristic	modified equal percentage
	Servicing	maintenance-free
	Rangeability Sv	100:1
	Flow Pattern	2-way
	Leakage rate	0%
	Controllable flow range	90° rotation
	Cv	115
Maximum Velocity	20 FPS	
Materials	Valve body	Ductile cast iron ASTM A536
	Body finish	black alkyd enamel
	Stem	416 stainless steel
	Stem seal	fiberglass with TFE lining
	Seat	EPDM
	Pipe connection	grooved ANSI/AWWA (c606)
	Disc	electroless nickel coated ductile iron
Suitable actuators	Non-Spring	AMB(X) GRB(X)
	Spring	AF

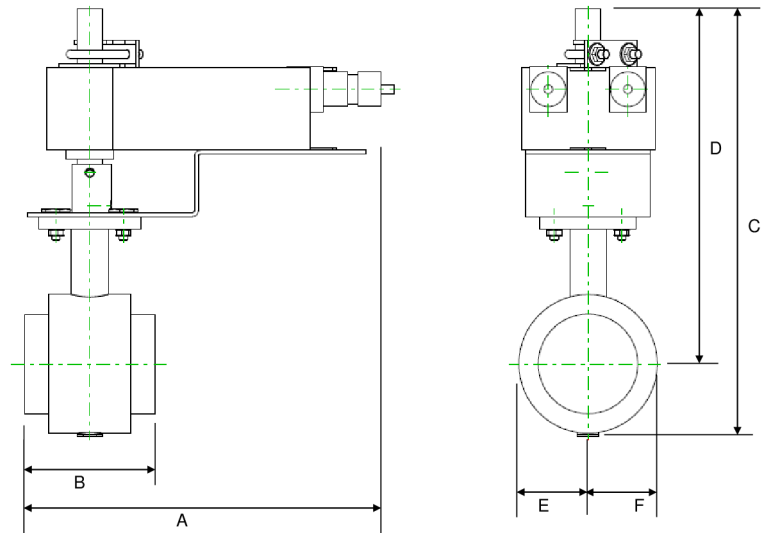
Product features

Flow/Mounting details



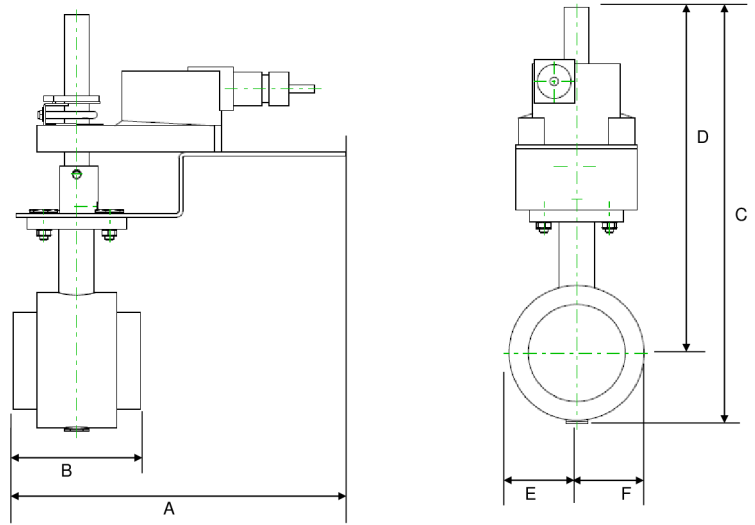
Dimensions

Type	DN
F650VIC	50



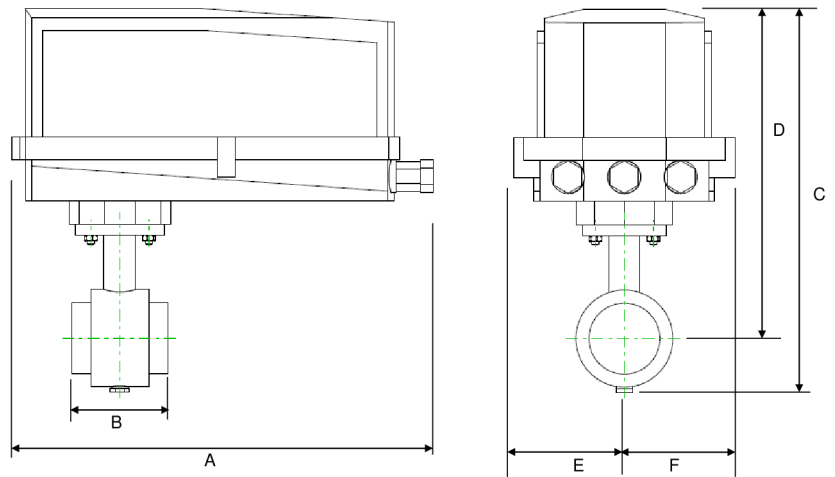
AF

A	B	C	D	E	F
10.7" [273]	3.2" [82]	12.3" [312]	9.8" [248]	1.7" [44]	1.7" [44]



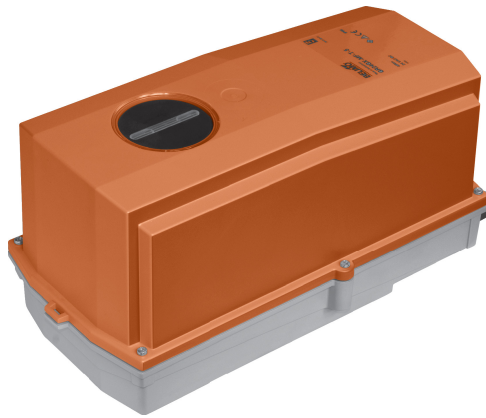
AM

A	B	C	D	E	F
9.8" [249]	3.2" [82]	12.3" [312]	9.8" [248]	1.7" [44]	1.7" [44]



GR N4

A	B	C	D	E	F
14.1" [358]	3.2" [82]	9.5" [241]	11.5" [292]	1.6" [40]	1.6" [40]



5-year warranty



Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Power consumption in operation	8 W
	Power consumption in rest position	2.5 W
	Transformer sizing	11 VA (class 2 power source)
	Electrical Connection	Terminal blocks
	Overload Protection	electronic throughout 0...90° rotation
Functional data	Direction of motion motor	selectable with switch 0/1
	Manual override	under cover
	Angle of rotation	90°
	Angle of rotation note	adjustable with mechanical stop
	Running Time (Motor)	35 s / 90°
	Running time motor note	constant, independent of load
	Noise level, motor	45 dB(A)
	Position indication	Mechanically, 5...20 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
	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

Accessories

Electrical accessories	Description	Type
	Battery backup system, for non-spring return models	NSV24 US
	Battery, 12 V, 1.2 Ah (two required)	NSV-BAT
	Auxiliary switch 1 x SPDT add-on	S1A
	Auxiliary switch 2 x SPDT add-on	S2A
	Feedback potentiometer 140 Ω add-on, grey	P140A GR
	Feedback potentiometer 1 k Ω add-on, grey	P1000A GR
	Feedback potentiometer 10 k Ω add-on, grey	P10000A GR
	Feedback potentiometer 2.8 k Ω add-on, grey	P2800A GR
	Feedback potentiometer 500 Ω add-on, grey	P500A GR
	Feedback potentiometer 5 k Ω add-on, grey	P5000A GR

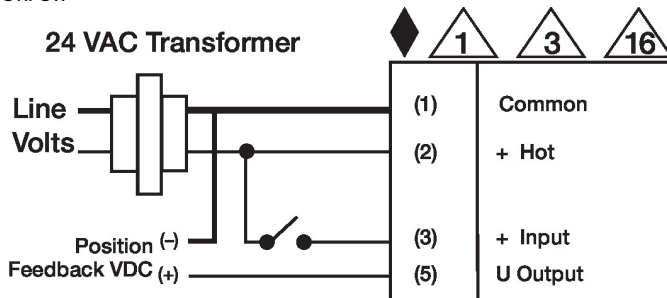
Electrical installation

INSTALLATION NOTES

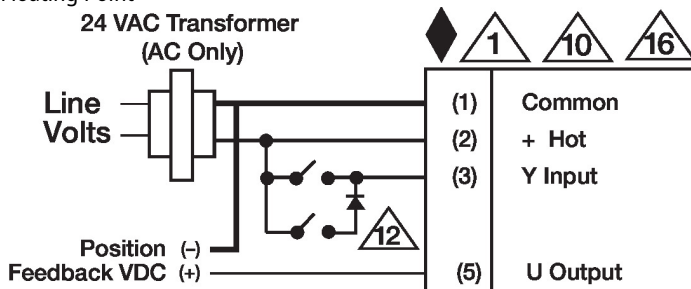
- Provide overload protection and disconnect as required.
- Actuators may also be powered by DC 24 V.
- For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller; the actuator internal common reference is not compatible.
- IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).
- Actuators are provided with a numbered screw terminal strip instead of a cable.
- 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



Dimensions