

Butterfly Valve with Lug types

- Disc 304 stainless steel
- Bubble tight shut-off
- Resilient seat
- Valve face-to-face dimensions comply with API 609 & MSS-SP-67
- Completely assembled and tested, ready for installation



5-year warranty

Type overview

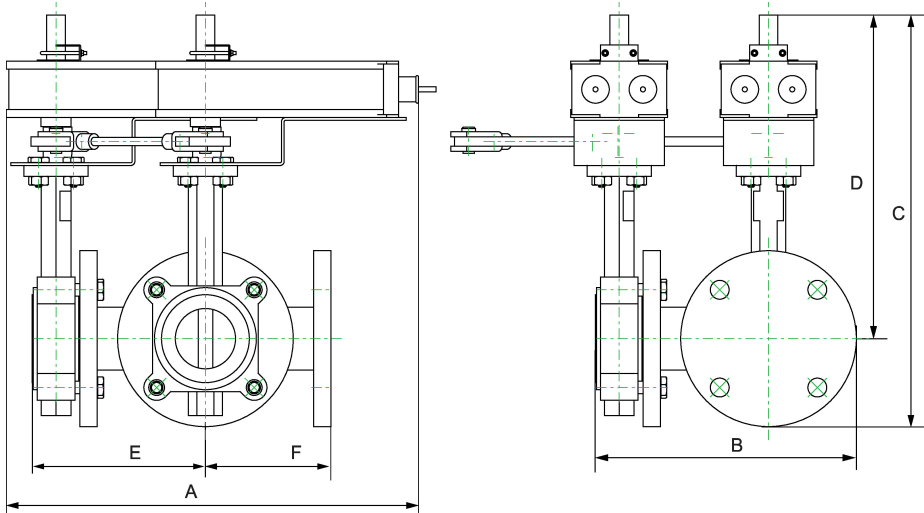
Type	DN
F765HD	65

Technical data

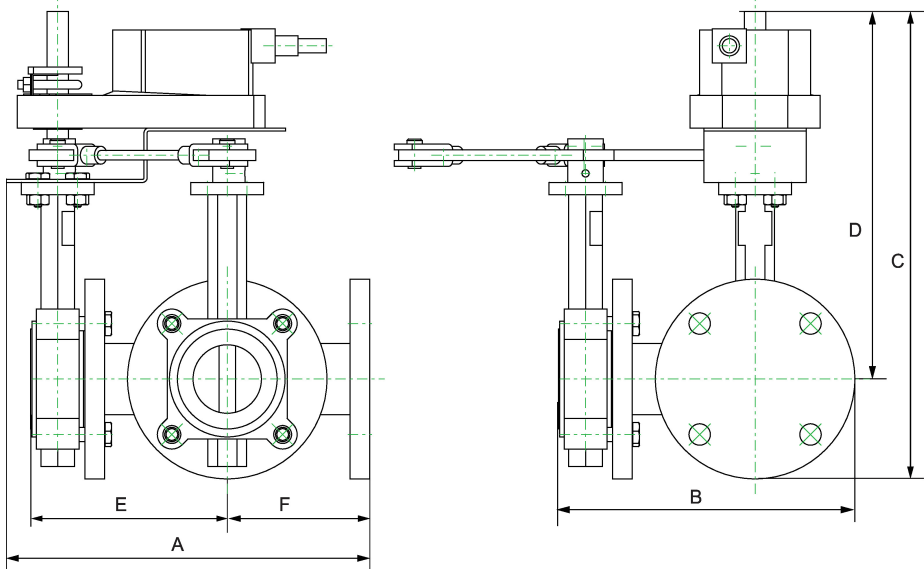
Functional data	Valve size [mm]	2.5" [65]
	Fluid	chilled or hot water, up to 60% glycol
	Fluid Temp Range (water)	-22...250°F [-30...120°C]
	Body Pressure Rating	ANSI Class Consistent with 125, 232 psi CWP
	Close-off pressure Δps	200 psi
	Flow characteristic	modified linear
	Leakage rate	0%
	Pipe connection	Flange for use with ASME/ANSI class 125/150
	Servicing	maintenance-free
	Flow Pattern	3-way Mixing/Diverting
	Controllable flow range	90° rotation
	Cv	196
	Maximum Velocity	12 FPS
	Lug threads	5/8-11 UNC
Materials	Valve body	Ductile cast iron ASTM A536
	Body finish	epoxy powder coating (blue RAL 5002)
	Stem	416 stainless steel
	Seat	EPDM
	Bearing	RPTFE
	Disc	304 stainless steel
Suitable actuators	Non Fail-Safe	GMB(X)
	Spring	2*AFB(X)

Dimensions

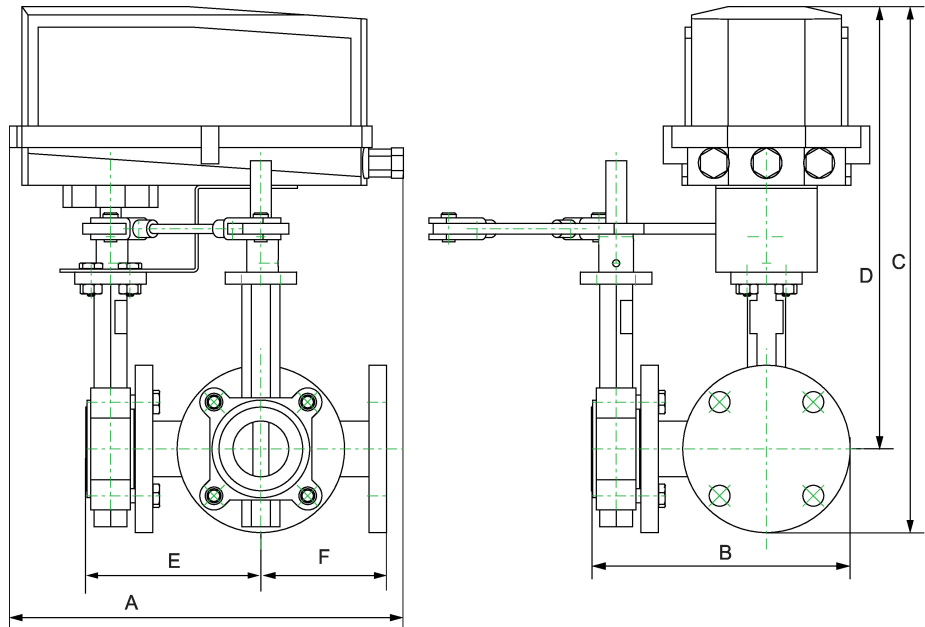
Type	DN	Weight
F765HD	65	77 lb [35 kg]



A	B	C	D	E	F	Number of Bolt Holes
16.0" [406]	10.4" [264]	16.4" [416]	12.9" [328]	6.8" [172]	5.0" [127]	4

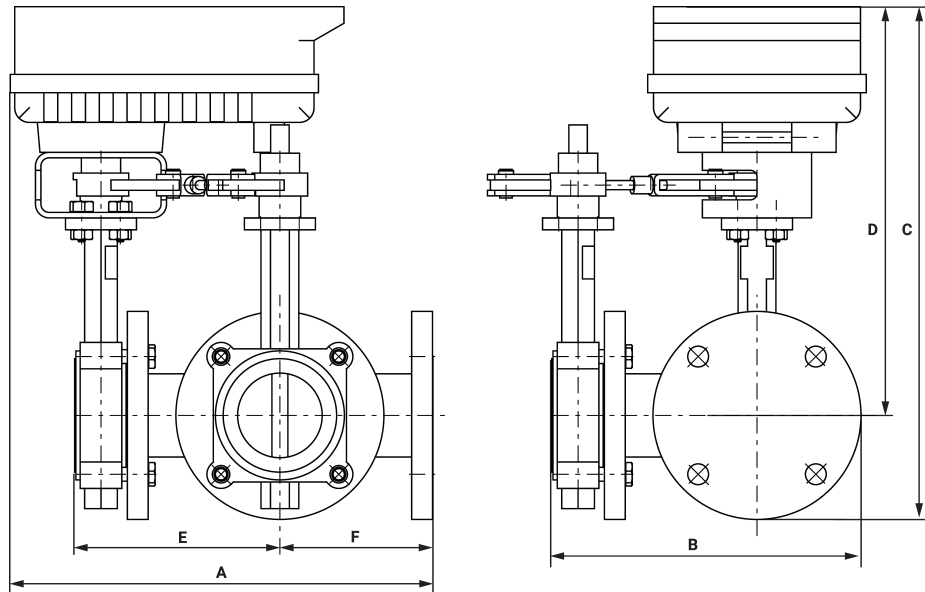


A	B	C	D	E	F	Number of Bolt Holes
12.4" [316]	10.4" [264]	16.4" [416]	12.9" [328]	6.8" [172]	5.0" [127]	4



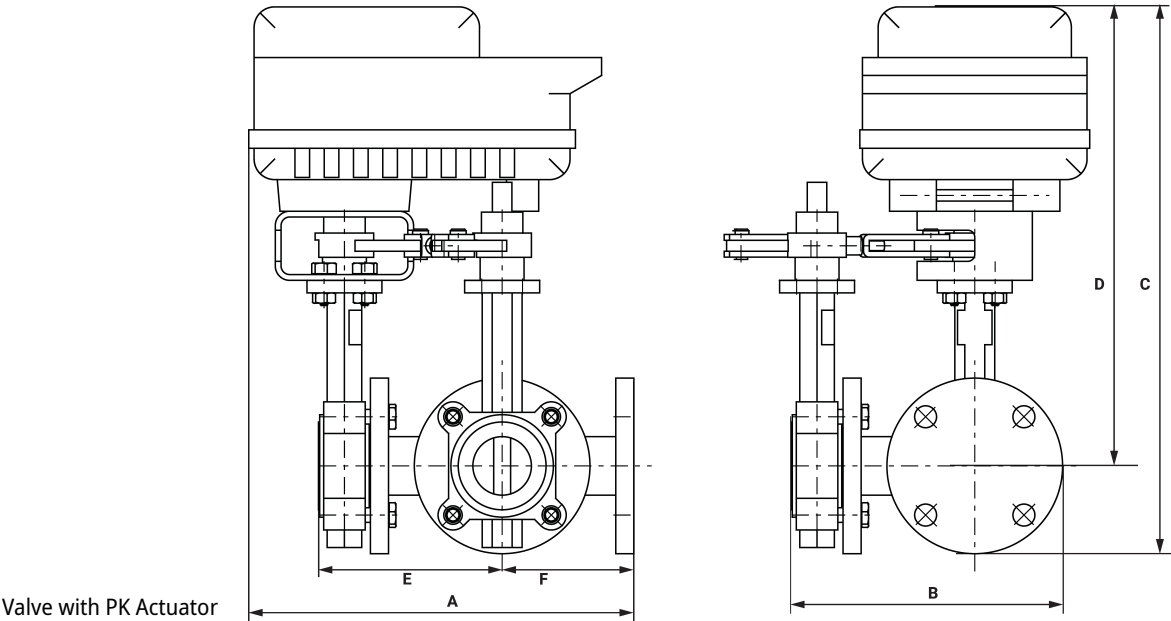
A	B	C	D	E	F	Number of Bolt Holes
14.6" [370]	10.7" [273]	19.9" [506]	16.4" [417]	6.8" [172]	5.0" [127]	4

Valve with PR Actuator



A	B	C	D	E	F	Number of Bolt Holes
14.3" [364]	10.8" [274]	18.0" [458]	14.5" [368]	6.8" [172]	5.0" [127]	4

Dimensions

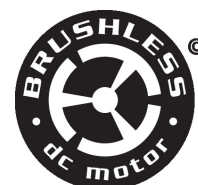


A	B	C	D	E	F	Number of Bolt Holes
14.3" [364]	10.8" [274]	19.7" [501]	16.2" [411]	6.8" [172]	5.0" [127]	4

MFT/programmable, Non fail-safe, 24 V



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	8 W
	Power consumption in rest position	2.5 W
	Transformer sizing	11 VA
	Electrical Connection	Terminal blocks
	Overload Protection	electronic throughout 0...95° 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
	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 0/1
	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
	Noise level, motor	45 dB(A)
	Position indication	Mechanical, 5...20 mm stroke
Safety data	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP66/67
	Degree of protection NEMA/UL	NEMA 4X
	Housing	UL Enclosure Type 4X

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
	Ambient humidity	Max. 100% RH
	Ambient temperature	-22...122°F [-30...50°C]
	Ambient temperature note	-40...50°C [104...122°F] for actuator with integrated heating
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
Weight	Weight	7.5 lb [3.4 kg]
Materials	Housing material	Die cast aluminium and plastic casing

Footnotes †Rated Impulse Voltage 800V, Type action 1, 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
	Service tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US
	Terminal-strip cover for NEMA 2 rating (-T models).	ZS-T
Factory add-on option only	Description	Type
	Heater, with adjustable thermostat	ACT_PACK_H

Electrical installation

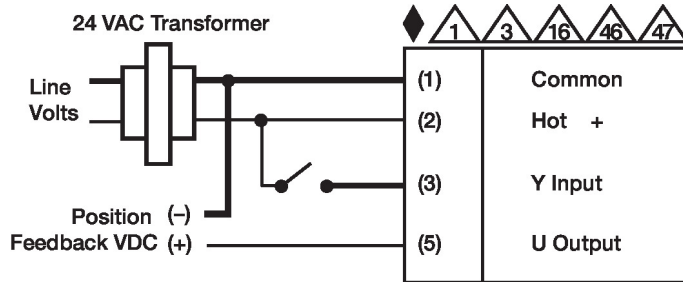
 INSTALLATION NOTES

-  Actuators with appliance cables are numbered.
-  Provide overload protection and disconnect as required.
-  Actuators may also be powered by DC 24 V.
-  Only connect common to negative (-) leg of control circuits.
-  A 500 Ω resistor (ZG-R01) converts the 4...20 mA control signal to 2...10 V.
-  Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 V line.
-  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.
-  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).
-  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.

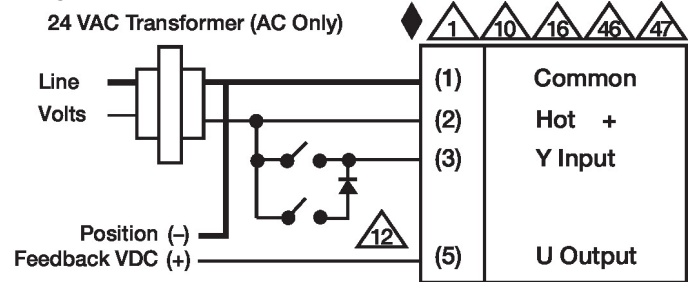
Electrical installation

Wiring diagrams

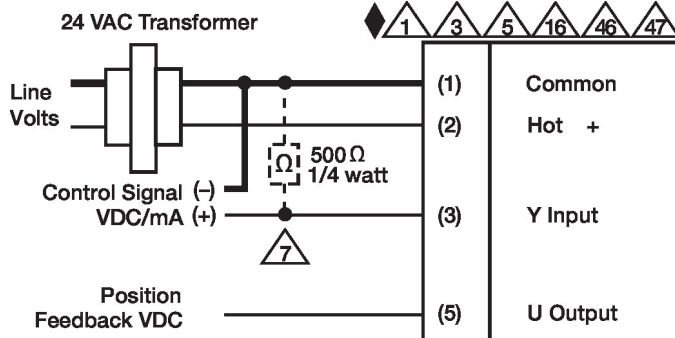
On/Off



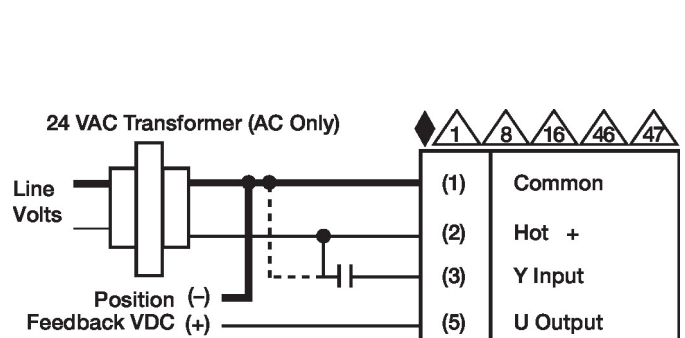
Floating Point



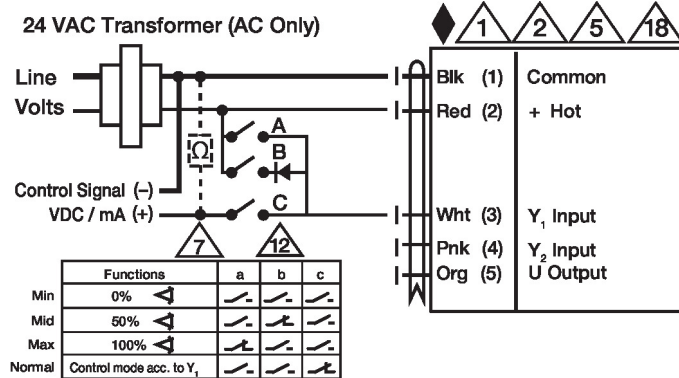
VDC/mA Control



PWM Control



Override Control



Primary - Secondary

