

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





Type overview		
Туре		DN
F665HD		65
Technical data		
Functional data	Valve size [mm]	2.5" [65]
	Fluid	chilled or hot water, up to 60% glycol
	Fluid Temp Range (water)	-22250°F [-30120°C]
	Body Pressure Rating	ANSI Class Consistent with 125, 232 psi CWP
	Close-off pressure ∆ps	200 psi
	Flow characteristic	modified equal percentage
	Leakage rate	0% leakage, leakage rateA
	Pipe connection	Flange for use with ASME/ANSI class 125/150
	Servicing	maintenance-free
	Flow Pattern	2-way
	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
	Stem seal	EPDM (lubricated)
	Seat	EPDM
	Bearing	RPTFE
	Disc	304 stainless steel
Suitable actuators	Non Fail-Safe	ARB(X) GRB(X)

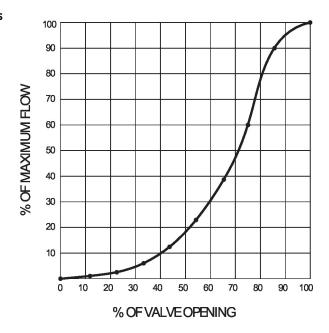
AFRB(X)

Spring



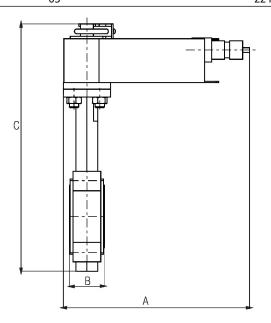
Product features

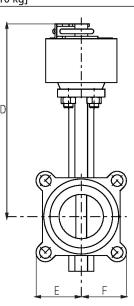
Flow/Mounting details



Dimensions

Туре	DN	Weight	
E665HD	65	22 lh [10 kg]	

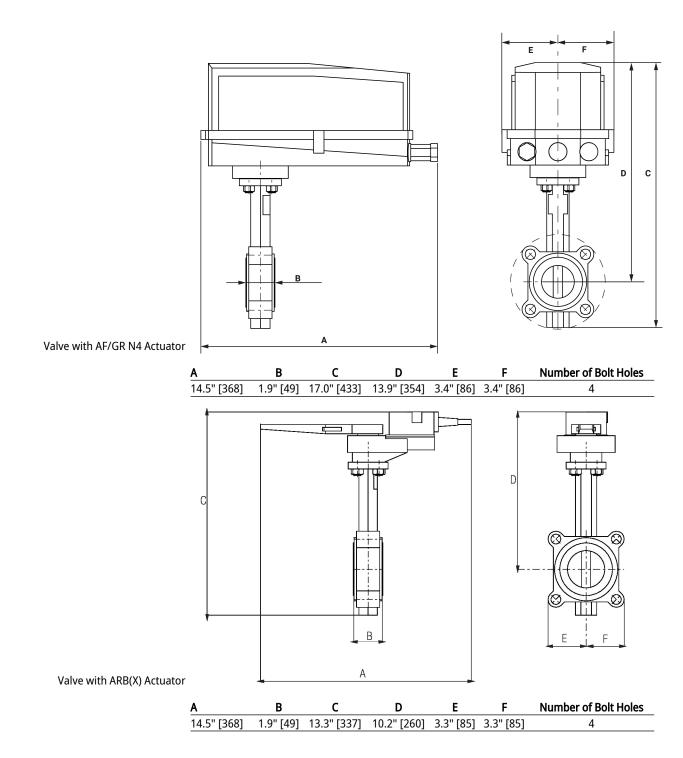




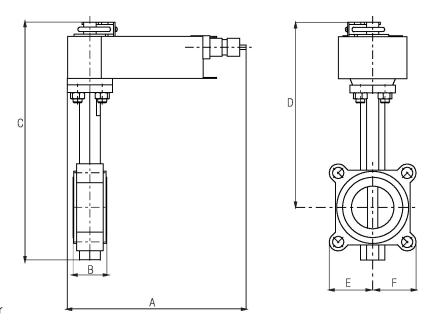
Valve with AFR Actuator

Α	В	C	D	E	F	Number of Bolt Holes
10.1" [257]	1.9" [49]	13.1" [333]	10.1" [256]	3.3" [85]	3.3" [85]	4

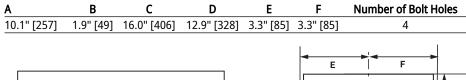


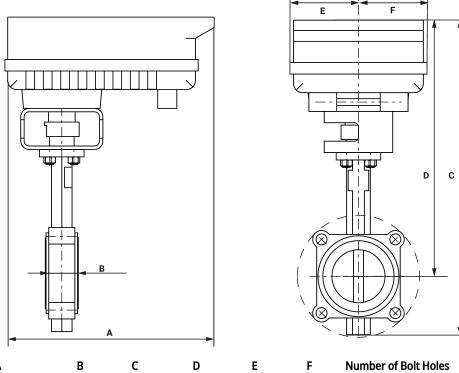






Valve with AFX24-MFT(-S) Actuator



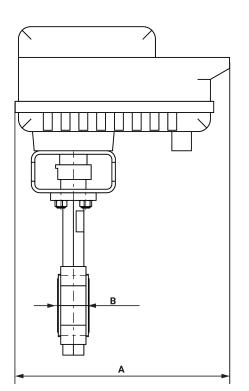


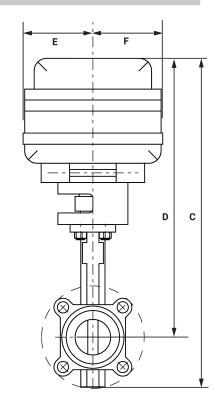
Valve with PR Actuator

Α	В	С	D	E	F	Number of Bolt Holes
12.0" [304]	1.9" [49]	17.6" [448]	14.5" [368]	3.9" [100]	3.9" [100]	4



Dimensions





Valve with PK Actuator

Α	В	С	D	E	F	Number of Bolt Holes
12.0" [304]	1.9" [49]	19.3" [490]	16.2" [411]	3.9" [100]	3.9" [100]	4
A	В	С	D	E	F	Number of Bolt Holes
8.4" [213]	1.9" [49]	16.0" [406]	12.9" [328]	3.3" [85]	3.3" [85]	4
A	В	С	D	E	F	Number of Bolt Holes
10.8" [275]	1.9" [49]	13.9" [354]	10.8" [274]	3.3" [85]	3.3" [85]	4



MFT/programmable, Non fail-safe, 24 V









Fechnical data		
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Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.228.8 V / DC 21.628.8 V
	Power consumption in operation	3.5 W
	Power consumption in rest position	1.3 W
	Transformer sizing 6 VA	
	Electrical Connection	18 GA plenum cable, 3 ft [1 m], with 1/2" NPT conduit connector (10 ft [3 m] and 16 ft [5 m] available)
	Overload Protection	electronic throughout 095° rotation
Functional data	Operating range Y	210 V
	Operating range Y note	420 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)
	Input impedance	100 k Ω for 210 V (0.1 mA), 500 Ω for 420 mA, 1500 Ω for PWM, On/Off and Floating point
	Operating range Y variable	Start point 0.530 V End point 2.532 V
	Operating modes optional	variable (VDC, PWM, on/off, floating point)
	Position feedback U	210 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	external push button
	Angle of rotation	Max. 95°
	Angle of rotation note	adjustable with mechanical stop
	Running Time (Motor)	150 s / 90°
	Running time motor variable	90350 s
	Noise level, motor	45 dB(A)
	Position indication	Mechanical, integrated, two-section
Safety data	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2
	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 and 2014/35/EU
	Quality Standard	ISO 9001



Technical data		
Safety data	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	-22149°F [-3065°C]
	Storage temperature	-40176°F [-4080°C]
	Servicing	maintenance-free
Weight	Weight	1.8 lb [0.83 kg]
Materials	Housing material	Galvanized steel and plastic housing

Footnotes †Rated Impulse Voltage 800V, Type action 1, Control Pollution Degree 3.

Accessories

Electrical accessories	Description	Туре
	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	ZTH US
	communicative Belimo actuators, VAV controller and HVAC performance	
	devices	

Electrical installation



Actuators with appliance cables are numbered.

\Lambda 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.

 Λ 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.

Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.

1N4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).

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

