

### **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
F680HDU		80
Technical data		
Functional data	Valve size [mm]	3" [80]
	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	50 psi
	Flow characteristic	modified equal percentage
	Leakage rate	0%
	Pipe connection	Flange
		for use with ASME/ANSI class 125/150
	Servicing	maintenance-free
	Flow Pattern	2-way
	Controllable flow range	90° rotation
	Cv	302
	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

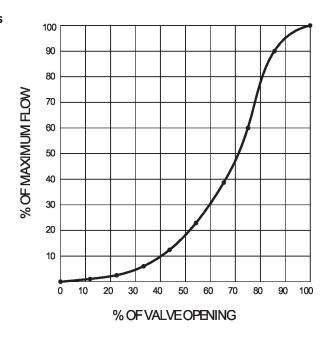
Non Fail-Safe

ARB(X)



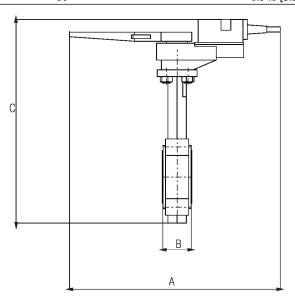
## **Product features**

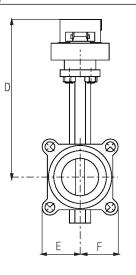
## Flow/Mounting details



## **Dimensions**





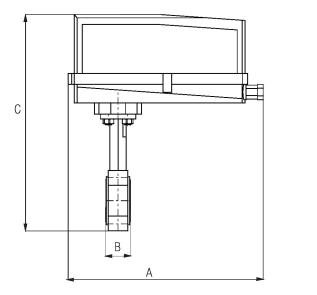


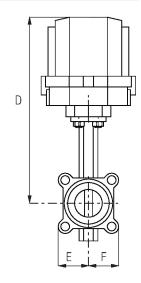
Valve with ARB/ARX Actuator

Α	В	C	D	E	F	<b>Number of Bolt Holes</b>
14.5" [368]	1.9" [49]	13.9" [354]	10.4" [264]	3.5" [89]	3.5" [89]	4



# **Dimensions**





Valve with GR N4 Actuator

Α	В	С	D	E	F	Number of Bolt Holes
14.5" [368]	1.9" [49]	17.5" [445]	14.2" [361]	3.5" [89]	3.5" [89]	4



## MFT/programmable, Non fail-safe, 24 V







echnical data		
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, 1 m, 3 m, or 5 m with 1/2" NPT conduit connector, degree of protection NEMA 2 / IP54
	Overload Protection	electronic thoughout 090° 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 $\Omega$ for 210 V (0.1 mA), 500 $\Omega$ for 420 mA, 1500 $\Omega$ 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, 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	90°
	Angle of rotation note	adjustable with mechanical stop
	Running Time (Motor)	150 s / 90°
	Running time motor variable	90150 s
	Noise level, motor	45 dB(A)
	Position indication	Mechanical, pluggable
Safety data	Power source UL	Class 2 Supply
	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
	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 -22...122°F [-30...50°C] Storage temperature -40...176°F [-40...80°C] Servicing maintenance-free Weight Weight 2.0 lb [0.92 kg] Materials Housing material Galvanized steel and plastic housing

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

#### **Accessories**

Gateways	Description	Туре
	Gateway MP to BACnet MS/TP	UK24BAC
	Gateway MP to Modbus RTU	UK24MOD
	Gateway MP to LonWorks	UK24LON
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	
Tools	Description	Туре
	Connecting cable 10 ft [3 m], A: RJ11 6/4 ZTH EU, B: 3-pin Weidmüller and supply connection	ZK4-GEN
	Service tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US

### **Electrical installation**



### **INSTALLATION NOTES**

Provide overload protection and disconnect as required.

🛕 Actuators may be connected in parallel. Power consumption and input impedance must be observed.

Actuators may also be powered by DC 24 V.

6 Only connect common to negative (-) leg of control circuits.

 $\bigwedge$  A 500  $\Omega$  resistor (ZG-R01) converts the 4...20 mA control signal to 2...10 V.

(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 with plenum cable do not have numbers; use color codes instead.

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**

