

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

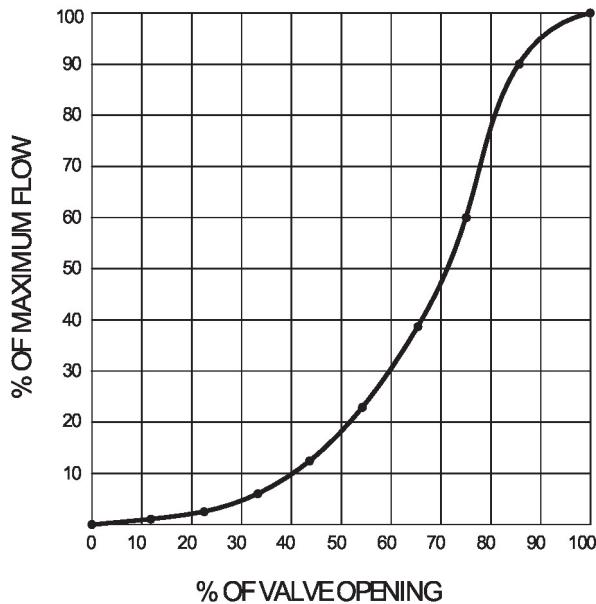
Type	DN
F680HD	80

Technical data

Functional data	
Valve size [mm]	3" [80]
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 Δ ps	200 psi
Flow characteristic	modified equal percentage
Leakage rate	0% leakage, leakage rate A
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
Pipe connection	for use with ANSI class 125/150 flanges
Bearing	RPTFE
Disc	304 stainless steel
Gear operator materials	Gears - hardened steel
Suitable actuators	
Non-Spring	GRB(X)
Spring	(2*AFB(X))
Electrical fail-safe	GKRB(X)

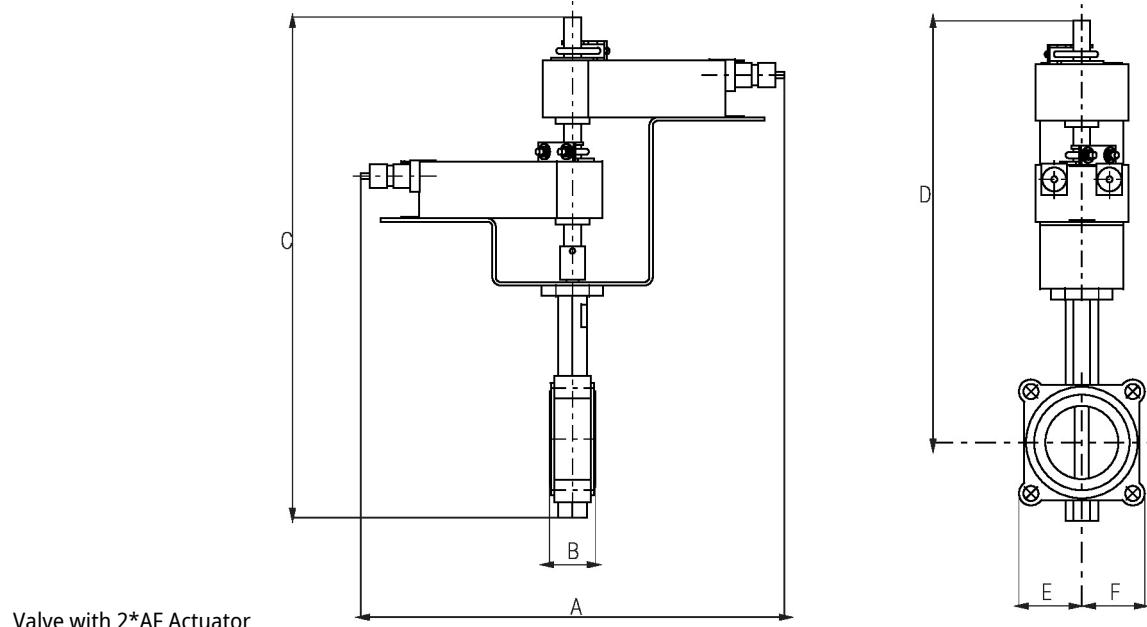
Product features

Flow/Mounting details

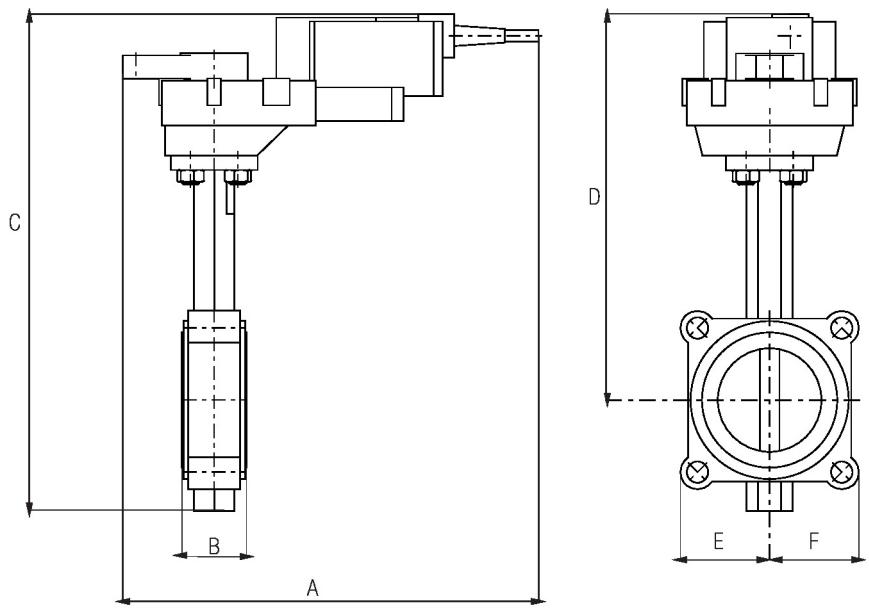


Dimensions

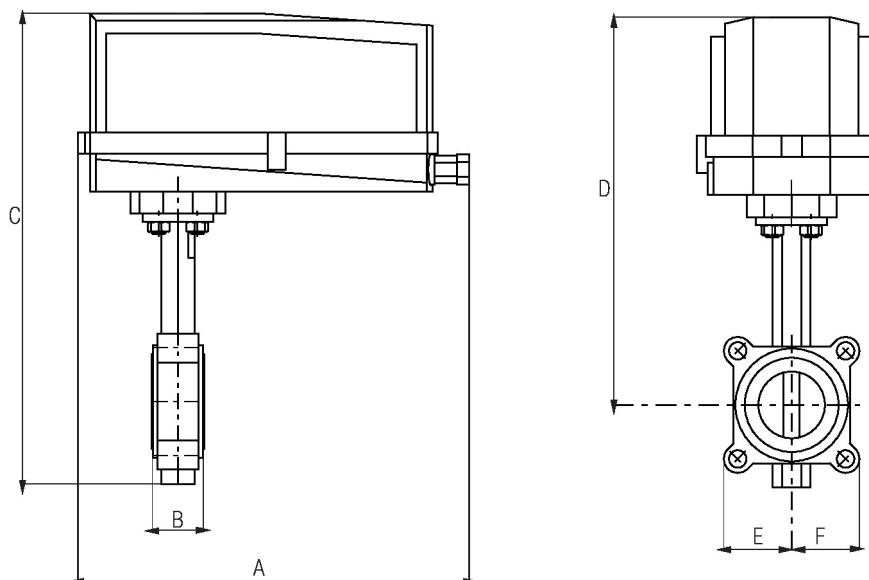
Type	DN	Weight
F680HD	80	6.9 lb [3.1 kg]



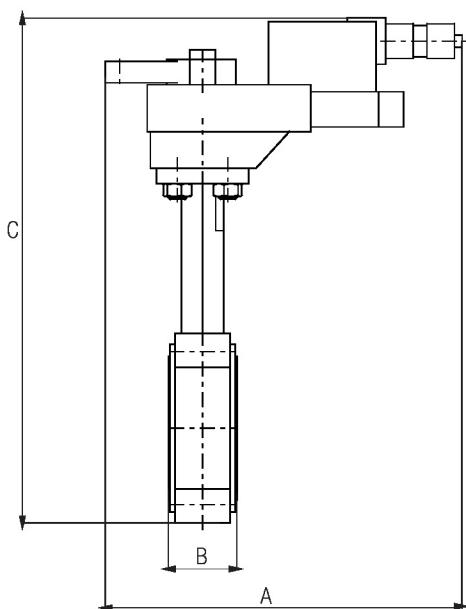
A	B	C	D	E	F	Number of Bolt Holes
17.6" [448]	1.9" [49]	21.4" [544]	18.0" [457]	3.5" [89]	3.5" [89]	4



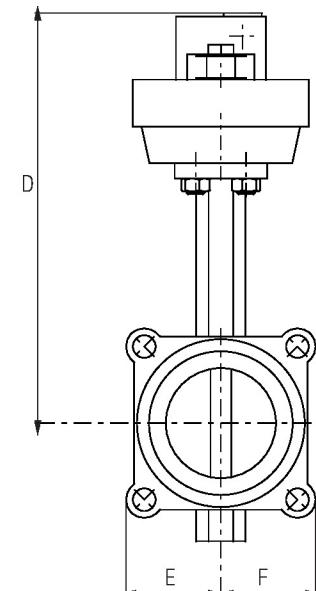
A	B	C	D	E	F	Number of Bolt Holes
10.9" [277]	1.9" [49]	16.5" [419]	13.1" [334]	3.5" [89]	3.5" [89]	4



A	B	C	D	E	F	Number of Bolt Holes
14.1" [358]	1.9" [49]	17.8" [451]	14.3" [363]	3.7" [95]	3.7" [95]	4

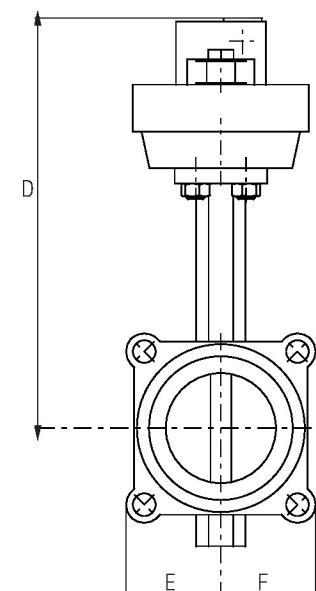
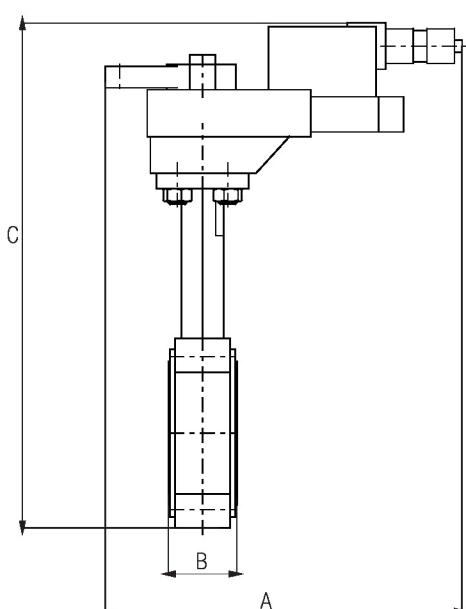


Valve with GR Actuator

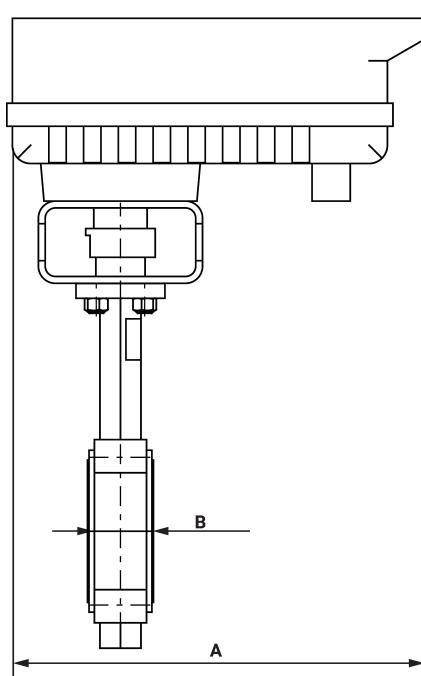


Valve with GM Actuator

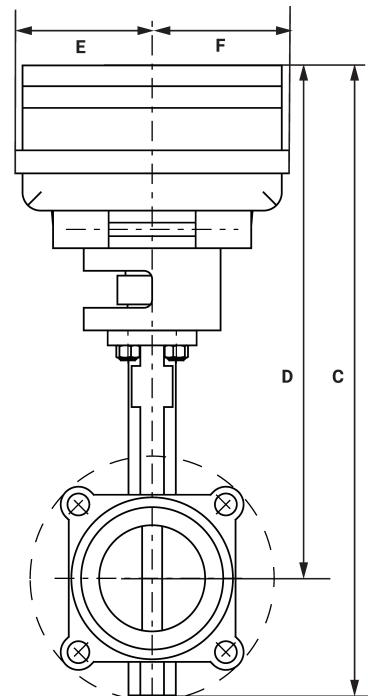
A	B	C	D	E	F	Number of Bolt Holes
10.8" [275]	1.9" [49]	14.3" [362]	11.0" [279]	3.5" [89]	3.5" [89]	4



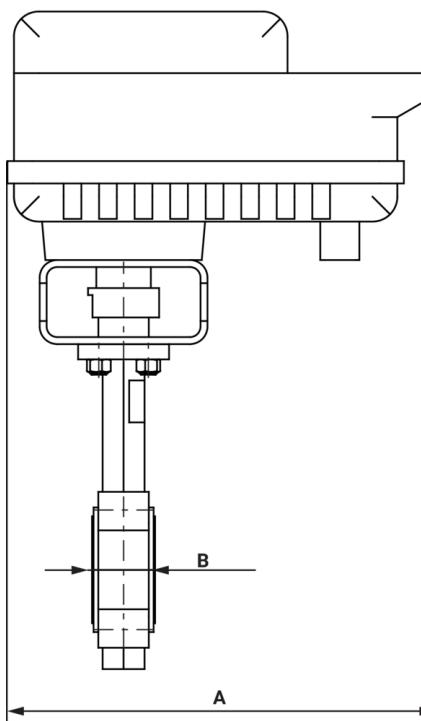
A	B	C	D	E	F	Number of Bolt Holes
9.1" [231]	1.9" [49]	16.5" [419]	13.1" [334]	3.5" [89]	3.5" [89]	4



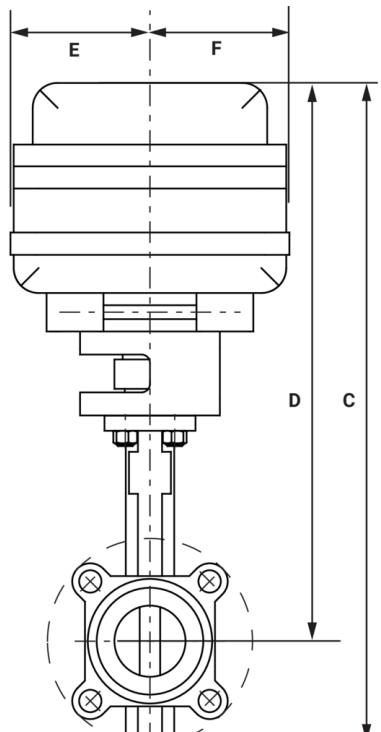
Valve with PR Actuator



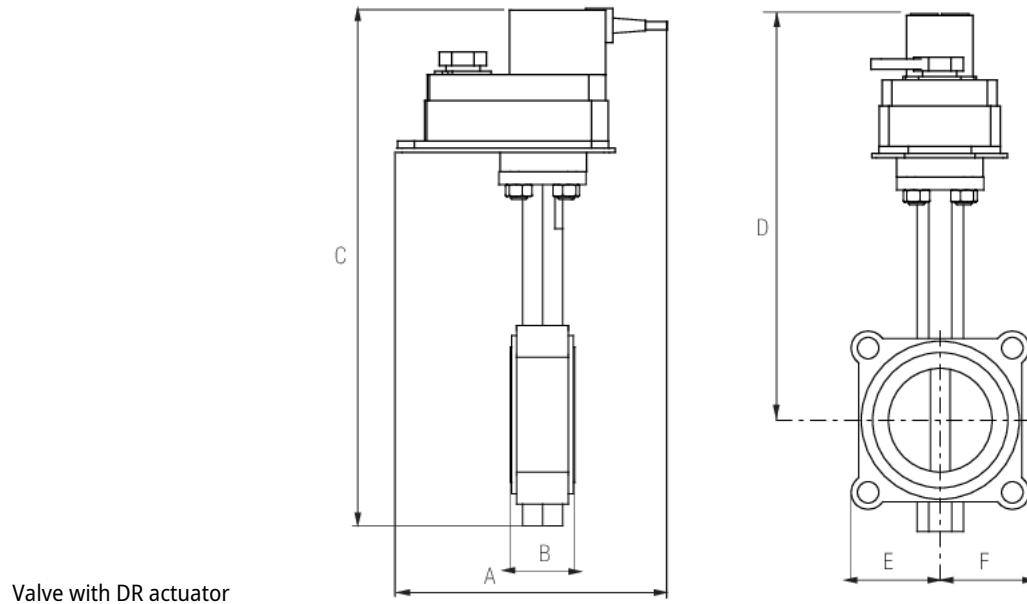
A	B	C	D	E	F	Number of Bolt Holes
12.0" [304]	1.9" [49]	18.2" [463]	14.7" [374]	3.9" [100]	3.9" [100]	4



Valve with PK actuator



A	B	C	D	E	F	Number of Bolt Holes
12.0" [304]	1.9" [49]	19.8" [502]	16.5" [419]	3.9" [100]	3.9" [100]	4



A	B	C	D	E	F	Number of Bolt Holes
11.3" [286]	1.9" [49]	15.6" [397]	12.4" [315]	3.5" [89]	3.5" [89]	4



CE LISTED
94/DS
TEMP. IND. & C
REG. EQUIP. UL us

Technical data

Electrical data	Nominal voltage	AC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V
	Power consumption in operation	12 W
	Power consumption in rest position	3 W
	Transformer sizing	21 VA
	Electrical Connection	Terminal blocks
	Overload Protection	electronic throughout 0...90° rotation
Functional data	Torque motor	90 Nm
	Direction of motion motor	selectable with switch 0/1
	Direction of motion fail-safe	reversible with switch
	Manual override	external push button
	Running Time (Motor)	150 s / 90°
	Running time motor variable	90 or 150 s
	Running time fail-safe	<35 s
	Noise level, motor	45 dB(A)
	Noise level, fail-safe	50 dB(A)
	Position indication	Mechanical, integrated, two-section
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
	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	8.3 lb [3.8 kg]
Materials	Housing material	Die cast aluminium and plastic casing

Accessories

Mechanical accessories	Description	Type
	Terminal-strip cover for NEMA 2 rating (-T models).	ZS-T

☒ INSTALLATION NOTES

- ☒ **1** Provide overload protection and disconnect as required.
- ☒ **10** 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.
- ☒ **11** Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.
- ☒ **12** IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).
- ☒ **16** Actuators are provided with a numbered screw terminal strip instead of a cable.
- ☒ **46** Meets cULus requirements without the need of an electrical ground connection.
- ☒ **47** **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

