

**Butterfly Valve with Grooved types**

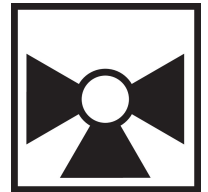
- Disc electroless nickel coated ductile iron
- Bubble tight shut-off
- Resilient seat
- Valve face-to-face dimensions comply with AWWA (c606) & MSS-SP-67
- Completely assembled and tested, ready for installation
- VIC-300 Masterseal is manufactured by the Victaulic Company.



5-year warranty



2-year warranty


**Type overview**

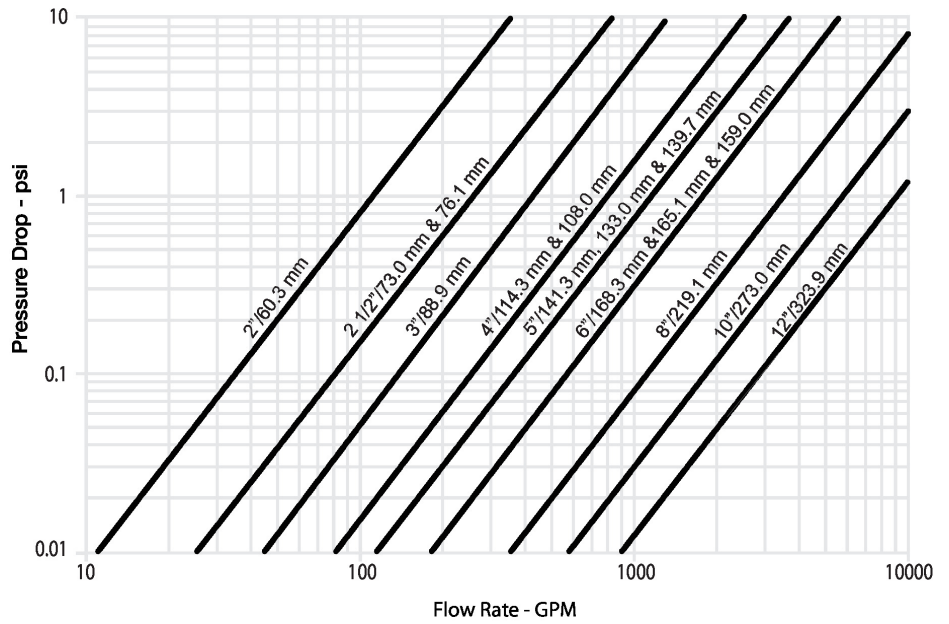
<b>Type</b>	<b>DN</b>
F7150VIC	150

**Technical data**

<b>Functional data</b>	Valve size [mm]	6" [150]	
	Fluid	chilled or hot water, up to 60% glycol	
	Fluid Temp Range (water)	-30...120°C [-22...250°F]	
	Body Pressure Rating	ANSI Class Grooved AWWA, 300 psi	
	Close-off pressure Δps	200 psi	
	Flow characteristic	modified linear	
	Leakage rate	0%	
	Pipe connection	Grooved ANSI/AWWA (c606)	
	Servicing	maintenance-free	
	Flow Pattern	3-way Mixing/Diverting	
	Controllable flow range	90° rotation	
	Cv	1800	
	Maximum Velocity	20 FPS	
	<b>Materials</b>	Valve body	Ductile cast iron ASTM A536
		Body finish	black alkyd enamel
		Stem	416 stainless steel
Stem seal		fiberglass with TFE lining	
Seat		EPDM	
Disc		electroless nickel coated ductile iron	
<b>Suitable actuators</b>	Non Fail-Safe	SY4 PRB(X)	

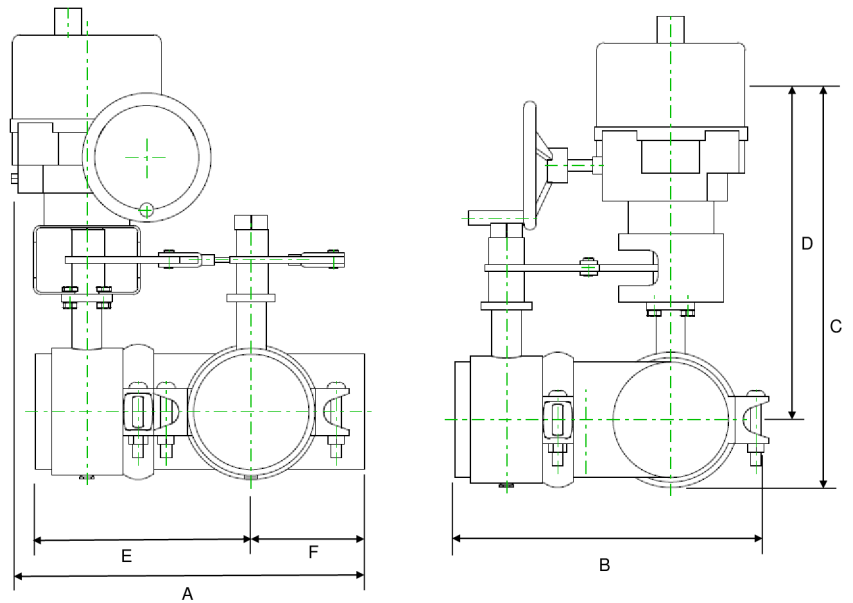
Product features

Flow/Mounting details



Dimensions

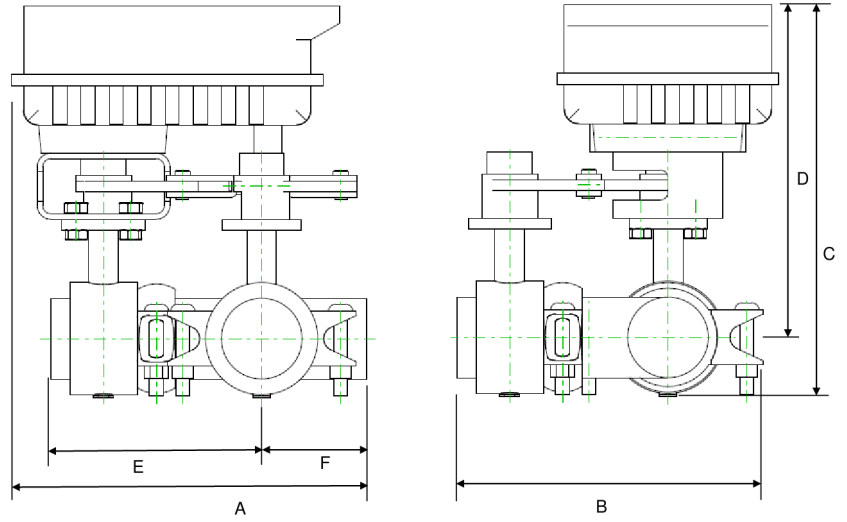
Type	DN	Weight
F7150VIC	150	140 lb [62 kg]



SY4-6

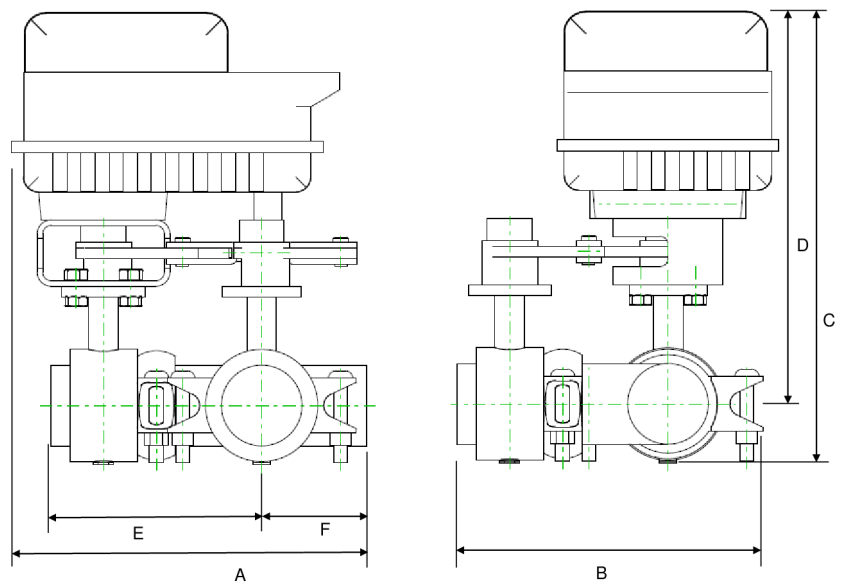
A	B	C	D	E	F
20.3" [515]	20.3" [515]	27.0" [686]	23.2" [590]	14.6" [372]	6.5" [165]

Dimensions



PRB(X)

A	B	C	D	E	F
20.3" [515]	20.3" [515]	27.0" [686]	14.4" [366]	14.6" [372]	6.5" [165]



PK

A	B	C	D	F
20.3" [515]	20.3" [515]	19.8" [502]	16.4" [417]	6.5" [165]

MFT/programmable, Non fail-safe, 120 V



2-year warranty

## Technical data

<b>Electrical data</b>	Nominal voltage	AC 120 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 96...132 V
	Transformer sizing	253 VA
	Current consumption	2.1 A
	Auxiliary switch	2x SPDT, 1 mA...5 A (3 A inductive), DC 5 V...AC 250 V, 1x 3° / 1x 87°
	Switching capacity auxiliary switch	1 mA...5 A (3 A inductive), DC 5 V...AC 250 V
	Electrical Connection	Terminal blocks
	Overload Protection	thermally protected 135°C cut-out
	Internal Humidity Control	resistive heating element
<b>Functional data</b>	Torque motor	400 Nm
	Operating range Y	2...10 V
	Input impedance	100 kΩ
	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	hand wheel
	Angle of rotation	90°
	Running Time (Motor)	24 s
Duty cycle value	75%	
Noise level, motor	45 dB(A)	
Position indication	top mounted domed indicator	
<b>Safety data</b>	Degree of protection IEC/EN	IP66/67
	Degree of protection NEMA/UL	NEMA 4X
	Enclosure	UL Enclosure Type 4X
	Agency Listing	ISO, cCSAus
	Quality Standard	ISO 9001
	Ambient humidity	Max. 100% RH
	Ambient temperature	-22...149°F [-30...65°C]
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
<b>Weight</b>	Weight	44 lb [20 kg]

**Technical data**

<b>Materials</b>	Housing material	die cast aluminium
	Gear train	high alloy steel gear sets, self locking

**Product features**

**Application** SY Series actuators are fractional horsepower devices, and utilize full-wave power supplies. Observe wire sizing and transformer sizing requirements. Proportional models CANNOT be connected to Belimo direct coupled (AF, AM, GM...etc) actuator power supplies or any type of half-wave device. You MUST use a separate, dedicated transformer or power supply to power the SY actuator. Please do not connect other automation equipment to the dedicated SY supply source. You MUST use four wires (plus a ground) to control a proportional control SY actuator (See SY Wiring Section).

**Accessories**

<b>Gateways</b>	<b>Description</b>	<b>Type</b>
	Gateway MP to BACnet MS/TP	UK24BAC
	Gateway MP to Modbus RTU	UK24MOD
	Gateway MP to LonWorks	UK24LON
<b>Electrical accessories</b>	<b>Description</b>	<b>Type</b>
	Local electric disconnect for SY4...12 series actuator, AC 120 V, MFT	HOA-120VMFT
	Service tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US
	Battery backup system for SY4...6 series actuator, AC 120 V, on/off	EXT-NSV-B03-120
	Battery backup system for SY4...6 series actuator, AC 120 V, MFT	EXT-NSV-B04-120
	Battery backup system for SY4...5 series actuator, AC 24 V, on/off	EXT-NSV-B13-24
	Battery backup system for SY4...5 series actuator, AC 24 V, MFT	EXT-NSV-B14-24
<b>Tools</b>	<b>Description</b>	<b>Type</b>
	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**

- Do not change sensitivity or dip switch setting with power applied.
- Power supply Common/Neutral and Control Signal "-" wiring to a common is prohibited. Terminals 4 and 6 need to be wired separately.
- Isolation relays must be used in parallel connection of multiple actuators using a common control signal inputs. The relays should be DPDT.
- Isolation relays are required in parallel applications. The reason parallel applications need isolation relays is that the motor uses two sets of windings, one for each direction. When one is energized to turn the actuator in a specific direction a voltage is generated in the other due to the magnetic field created from the first. It's called back EMF. This is not an issue with one actuator because the voltage generated in the second winding isn't connected to anything so there is no flow. On parallel applications without isolation, this EMF voltage energizes the winding it is connected to on the other actuators in the system, the actuators are trying to turn in both directions at once. The EMF voltage is always less than the supply voltage due to the resistance of the windings, so while the actuator still turns in the commanded direction, the drag from the other reduces the torque output and causes overheating.

**Warning! Live electrical components!**

Electrical installation

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

