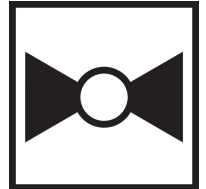


**Butterfly Valve with Grooved types**

- 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


**Type overview**

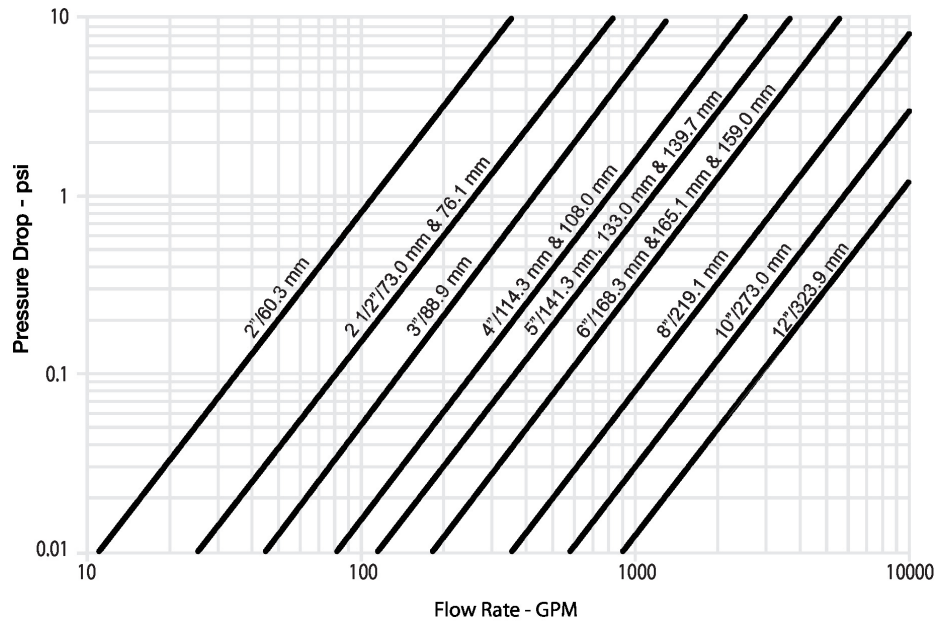
<b>Type</b>	<b>DN</b>
F6100VIC	100

**Technical data**

<b>Functional data</b>	Valve size [mm]	4" [100]
	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 equal percentage
	Leakage rate	0%
	Pipe connection	Grooved ANSI/AWWA (c606)
	Servicing	maintenance-free
	Flow Pattern	2-way
	Controllable flow range	90° rotation
	Cv	820
	Maximum Velocity	20 FPS
	<b>Materials</b>	Valve body
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	DRB(X) PRB(X)
	Electrical fail-safe	2*GKB(X) PKRB(X)

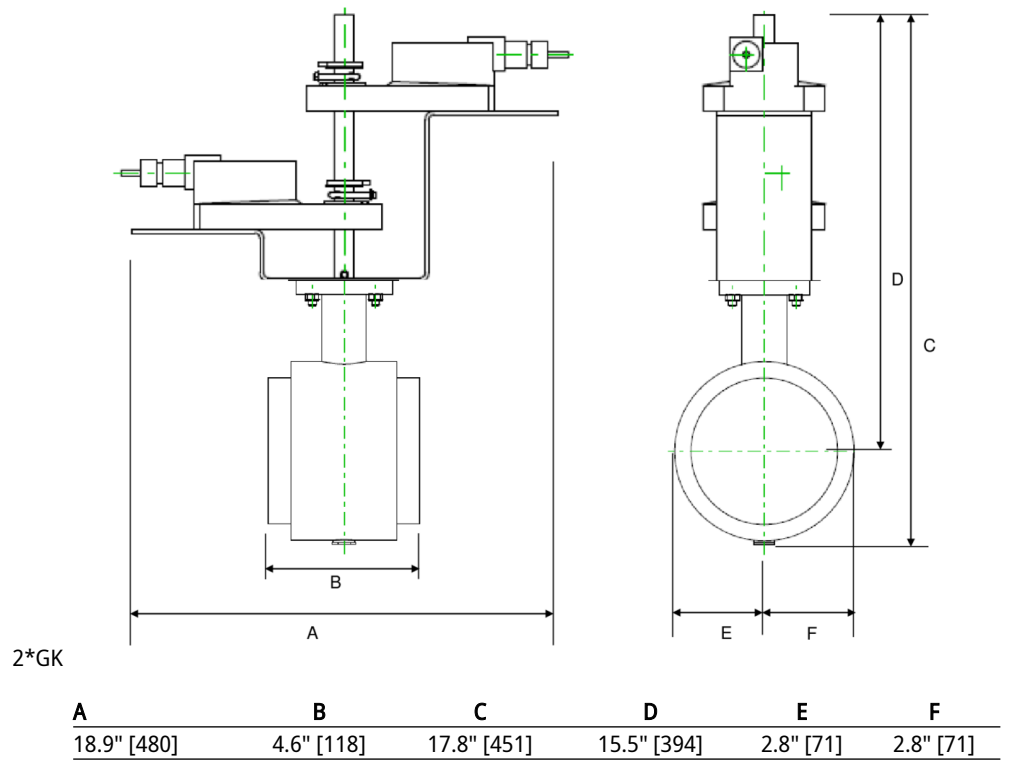
Product features

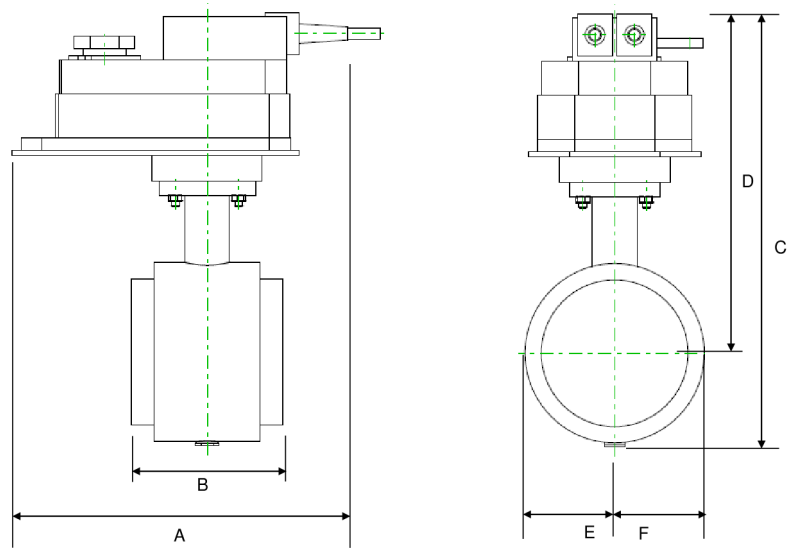
Flow/Mounting details



Dimensions

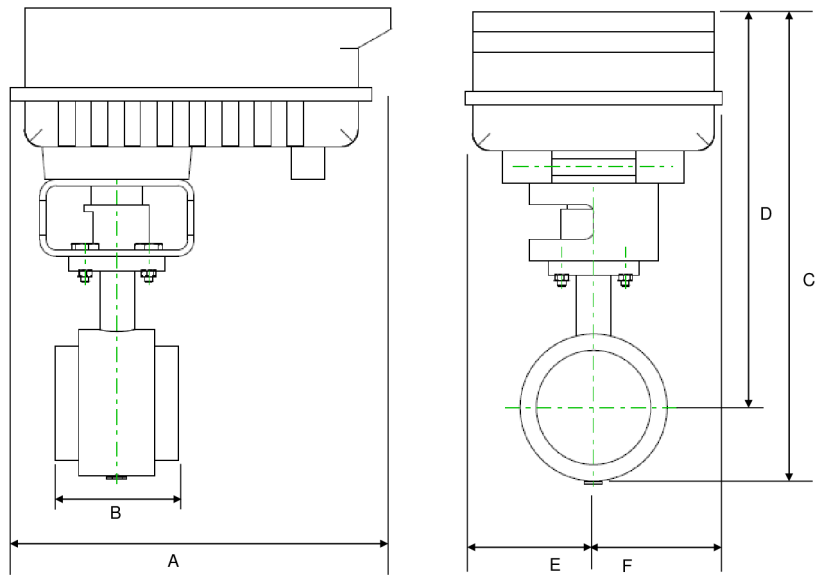
Type	DN	Weight
F6100VIC	100	13 lb [5.9 kg]





DR

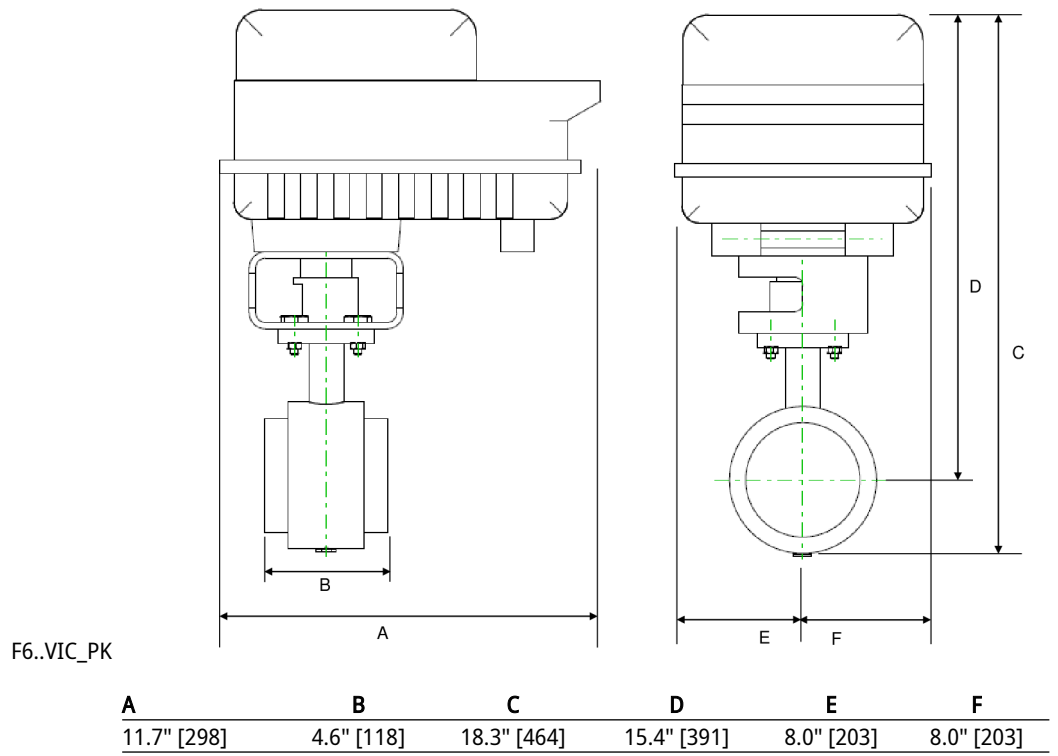
A	B	C	D	E	F
11.3" [286]	4.6" [118]	13.3" [337]	10.4" [264]	2.8" [71]	2.8" [71]



F6..VIC\_PR

A	B	C	D	E	F
11.7" [298]	4.6" [118]	18.3" [464]	12.9" [328]	8.0" [203]	8.0" [203]

Dimensions



MFT/programmable, Electrical fail-safe,  
24...240 V



5-year warranty



## Technical data

<b>Electrical data</b>	Nominal voltage	AC 24...240 V / DC 24...125 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...264 V / DC 19.2...137.5 V
	Power consumption in operation	52 W
	Power consumption in rest position	9 W
	Transformer sizing	with 24 V 54 VA / with 240 V 68 VA
	Auxiliary switch	2x SPDT, 1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V (II, reinforced insulation), 1x 10° / 1x 0...90° (default setting 85°)
	Switching capacity auxiliary switch	1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V (II, reinforced insulation)
	Electrical Connection	Terminal blocks, (PE) Ground-Screw
	Overload Protection	electronic throughout 0...90° rotation
<b>Data bus communication</b>	Communicative control	BACnet MS/TP Modbus RTU MP-Bus
<b>Functional data</b>	Operating range Y	2...10 V
	Operating range Y note	4...20 mA
	Input impedance	100 kΩ for 2...10 V (0.1 mA), 500 Ω for 4...20 mA, 1500 Ω for On/Off
	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
	Setting Fail-Safe Position	0...100%, adjustable with Belimo Assistant App (default setting 0%)
	Bridging time (PF)	2 s
	Bridging time (PF) variable	0...10 s
	Pre-charging time	5...20 s
	Direction of motion motor	reversible with app
	Direction of motion fail-safe	reversible with app
	Manual override	7 mm hex crank, supplied
	Angle of rotation	90°
	Running Time (Motor)	35 s / 90°
Running time motor variable	30...120 s	

**Technical data**

<b>Functional data</b>	Running time fail-safe	<30 s
	Noise level, motor	68 dB(A)
	Noise level, fail-safe	62 dB(A)
	Position indication	top mounted domed indicator
<b>Safety data</b>	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP66/67
	Degree of protection NEMA/UL	NEMA 4X
	Enclosure	UL Enclosure Type 4X
	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]
	Servicing	maintenance-free
	<b>Weight</b>	Weight
<b>Materials</b>		Housing material

**Product features**

<b>Default/Configuration</b>	Default parameters for DC 2...10 V applications of the PKR..-MFT actuator are assigned during manufacturing. If required, different parameters of the actuator can be ordered. These parameters are variable and can be modified by factory pre-set, the handheld ZTH US or using the Belimo App on a smart phone with Near Field Communications (NFC) programming.
<b>Application</b>	PR Series valve actuators are designed with an integrated linkage and visual position indicators. For outdoor applications, the installed valve must be mounted with the actuator at or above horizontal. For indoor applications the actuator can be in any location including directly under the valve.
<b>Operation</b>	<p>The PR series actuator provides 90° of rotation and a visual indicator shows the position of the valve. The PR Series actuator uses a low power consumption brushless DC motor and is electronically protected against overload. A universal power supply is furnished to connect supply voltage in the range of AC 24...240 V and DC 24...125 V. Included is a smart heater with thermostat to eliminate condensation. Two auxiliary switches are provided; one set at 10° open and the other is field adjustable. Running time is field adjustable from 30...120 seconds by using the Near Field Communication (NFC) app and a smart phone.</p> <p>†Use 60°C/75°C copper wire size range 12...28 AWG, stranded or solid. Use flexible metal conduit. Push the listed conduit fitting device over the actuator's cable to butt against the enclosure. Screw in conduit connector. Jacket the actuators input wiring with listed flexible conduit. Properly terminate the conduit in a suitable junction box. Rated impulse Voltage 4000 V. Type of action 1. Control pollution degree 3.</p>
<b>Bridging time</b>	<p>Power failures can be bridged up to a maximum of 10 s.</p> <p>In the event of a power failure, the actuator will remain stationary in accordance with the set bridging time. If the power failure is greater than the set bridging time, the actuator will move into the selected fail-safe position.</p> <p>The bridging time set at the factory is 2 s. It can be modified on site in operation by means of the Belimo service tool MFT-P.</p> <p>Settings: The rotary knob must not be set to the "PROG FAIL-SAFE" position!</p> <p>For retroactive adjustments of the bridging time with the Belimo service tool MFT-P or with the ZTH EU adjustment and diagnostic device only the values need to be entered.</p>

Product features

**Factory settings** Default parameters for DC 2...10 V applications of the PKR..MFT actuator are assigned during manufacturing. If required, different parameters of the actuator can be ordered. These parameters are variable and can be modified by factory pre-set, the handheld ZTH US or using the Belimo App on a smart phone with Near Field Communications (NFC) programming.

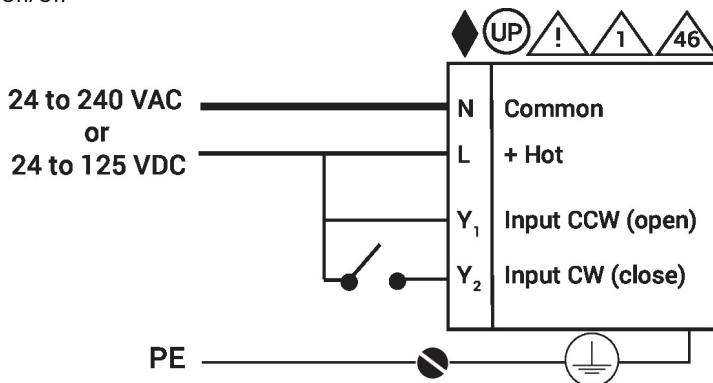
Accessories

Gateways	Description	Type
	Gateway MP to BACnet MS/TP	UK24BAC
	Gateway MP to Modbus RTU	UK24MOD
	Gateway MP to LonWorks	UK24LON
Electrical accessories	Description	Type
	Service tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US
Mechanical accessories	Description	Type
	Hand crank for PR, PKR, PM	ZG-HND PR
Tools	Description	Type
	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

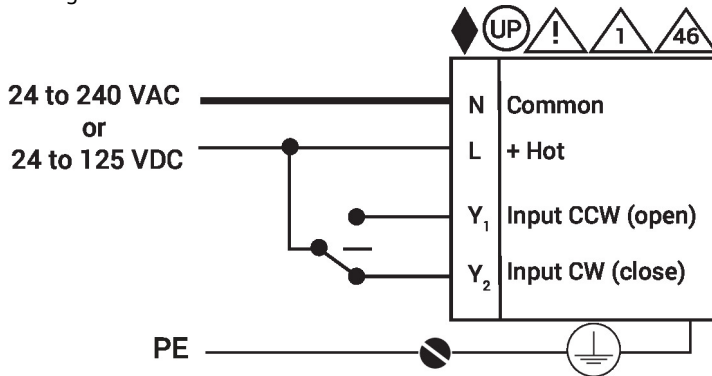
- ◆ Meets cULus requirements without the need of an electrical ground connection.
- Ⓢ UP Universal Power Supply (UP) models can be supplied with 24...240 V.
- ⚠ Disconnect power.
- ⚠ 1 Provide overload protection and disconnect as required.
- ⚠ 4 Two built-in auxiliary switches (2x SPDT), for end position indication, interlock control, fan startup, etc.
- ⚠ 5 Only connect common to negative (-) leg of control circuits.
- ⚠ 46 Actuators may be controlled in parallel. Current draw and input impedance must be observed.
- ⚠ **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

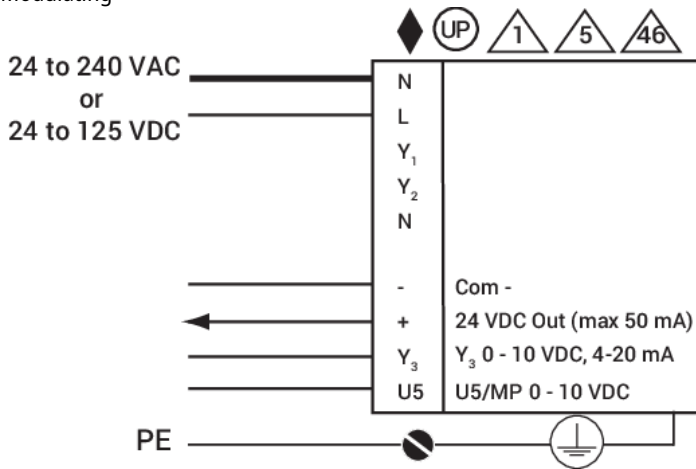


**Wiring diagrams**

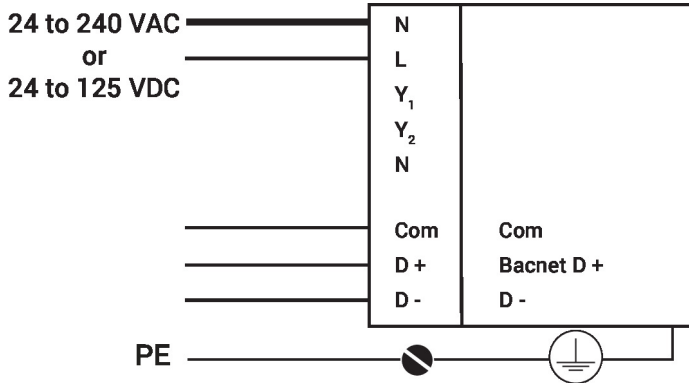
Floating Point



Modulating



BACnet

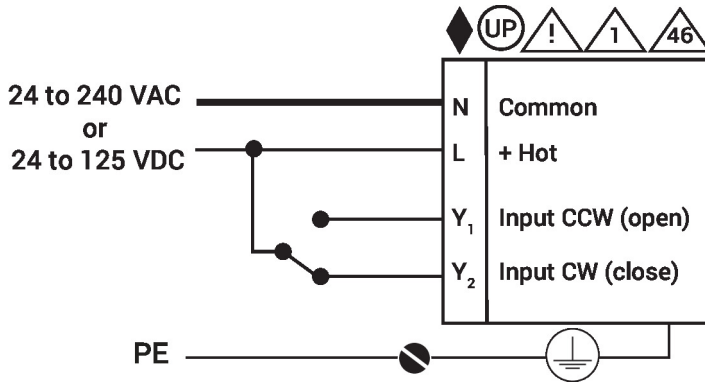




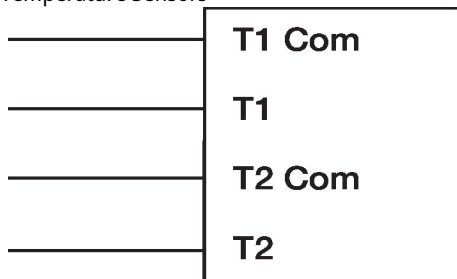
Electrical installation

Wiring diagrams

On/Off



Temperature Sensors



Auxiliary Switches

