F6100-300SHP Technical Data Sheet
Reinforced Teflon Seat, 316 Stainless Steel

5-year warranty

Application
These valves are designed to meet the needs of HVAC and commercial applications requiring bubble tight shut-off for liquids. Typical applications include chiller isolation, cooling tower isolation, change-over systems, large air handler coil control, bypass and process control applications. The large Cv values provide for an economical control valve solution for larger flow applications.

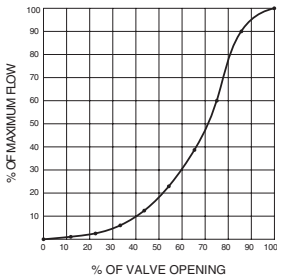
Product Features
Double Dead End Service: Utilises larger retainer-ring setscrews to allow the valve to be placed at the end of the line without a down-stream flange in either flow direction at full pressure. The High Performance Butterfly Valve features a double offset (or, double eccentric) shaft design to minimize seat abrasion and lower torque. This double offset design allows the disc to lift off and come away from the seat as it rotates open. The face-to-face dimensions are API 609 & MSS-SP-68 compliant and are designed to be installed between ASME/ANSI B16.5 flanges. Every valve has a metal identification tag attached to the valve body. Information includes the figure number, the size and pressure class, the materials of construction, and the operating pressures and temperatures.

Jobsite Note
Valve assembly should be stored in a weather protected area prior to installation. Reference the butterfly valve installation instruction for additional information.

Technical Data	
Fluid	chilled or hot water, up to 60% glycol, steam
Flow characteristic	modified equal percentage, unidirectional
Controllable flow range	quarter turn, mechanically limited
Valve Size [mm]	4" [100]
Pipe connection	ASME/ANSI class 300 flange
Housing	Carbon steel full lug (ASME B16.34)
Stem	17-4 PH stainless steel
Seat	RPTFE
Bearing	glass backed PTFE
Disc	316 stainless steel
Body Pressure Rating	ANSI Class 300
ANSI Class	300
Number of Bolt Holes	8
Lug threads	3/4-10 UNC
Maximum Inlet Pressure (Steam)	50 psi
Close-off pressure Δps	285 psi
Maximum Velocity	32 FPS
Cv	451
Weight	29 lb [13 kg]
Fluid Temp Range (water)	-22...400°F [-30...204°C]
Leakage rate	0%
Servicing	maintenance-free

Close-off pressures are variable and actuator dependent, consult Select Pro and/or Price Guide for specifics.

Flow/Mounting Details



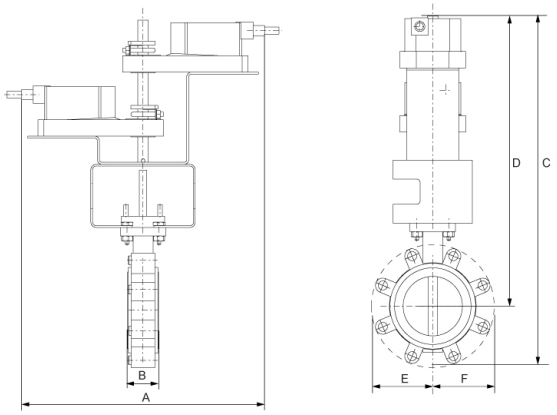
Flow/Cv

Cv 10°	Cv 20°	Cv 30°	Cv 40°	Cv 50°	Cv 60°	Cv 70°	Cv 80°	Cv 90°
6.8	27	63	114	171	248	338	437	451

Suitable Actuators

	Non-Spring	Electronic fail-safe
F6100-300SHP	GMB(X), (2*GMB(X)), PRB(X)	(2*GKB(X)), PKRB(X)

Dimensions (Inches [mm])



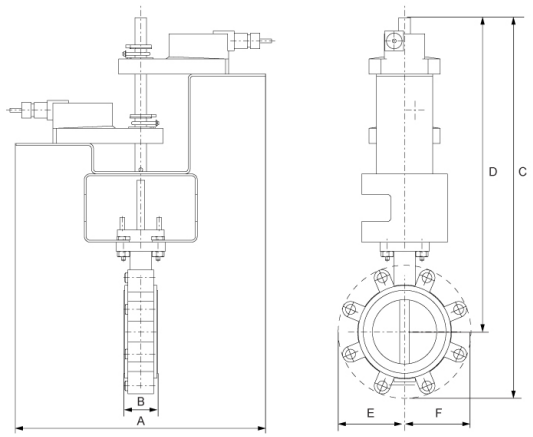
2*GKB(X)

A	B	C	D	E	F
18.9" [480]	2.2" [56]	18.7" [476]	14.0" [355]	4.9" [124]	4.9" [125]

Safety Notes
WARNING: This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to www.p65warnings.ca.gov

F6100-300SHP Technical Data Sheet
Reinforced Teflon Seat, 316 Stainless Steel

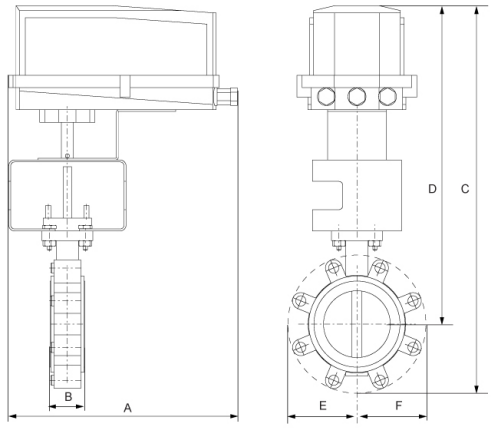
Dimensions (Inches [mm])



2*GMB(X)

A	B	C	D	E	F
15.3” [388]	2.2” [56]	16.8” [426]	13.0” [331]	3.9” [100]	

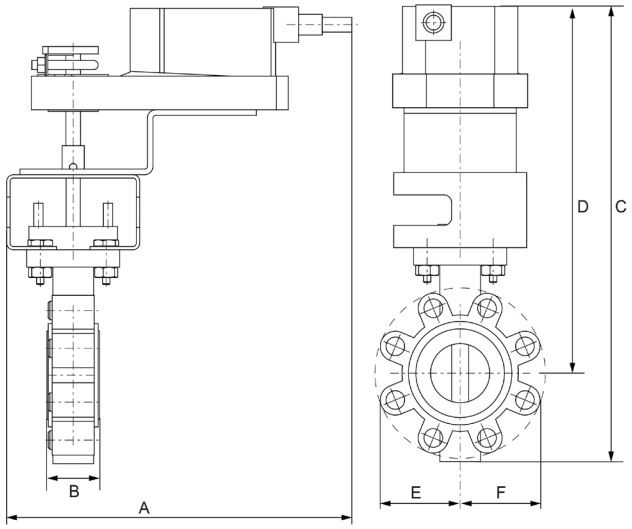
Dimensions (Inches [mm])



GMB(X) N4

A	B	C	D	E	F
14.1” [358]	2.2” [56]	20.6” [523]	15.3” [388]	5.4” [137]	

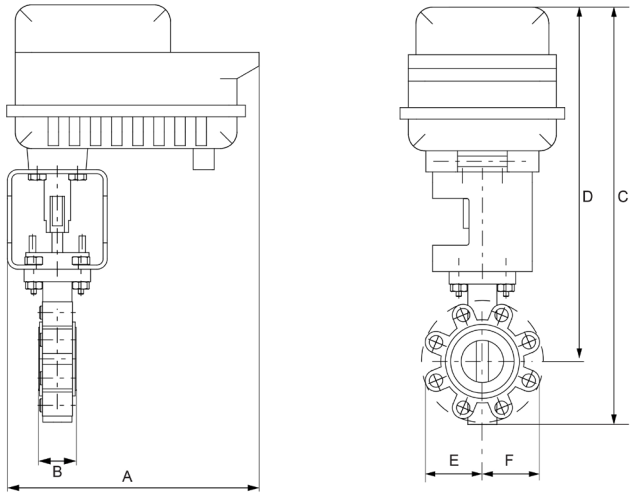
Dimensions (Inches [mm])



GKB(X)

A	B	C	D	E	F
10.9” [277]	2.2” [56]	18.7” [476]	14.0” [355]	4.9” [124]	4.9” [125]

Dimensions (Inches [mm])

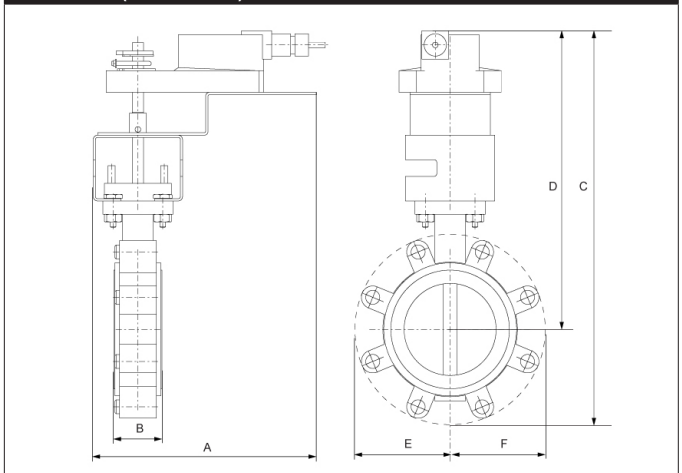


PKRB(X)

A	B	C	D	E	F
12.0” [304]	2.2” [56]	23.0” [584]	18.3” [464]	4.9” [124]	4.9” [125]

F6100-300SHP Technical Data Sheet
Reinforced Teflon Seat, 316 Stainless Steel

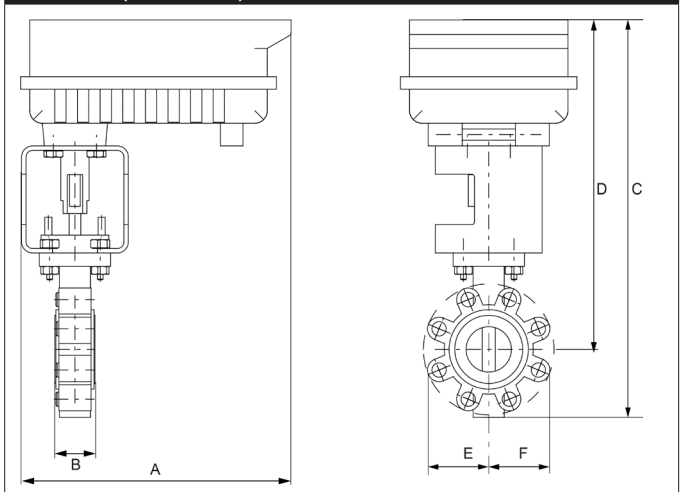
Dimensions (Inches [mm])



GMB(X)

A	B	C	D	E	F
9.1” [231]	2.2” [56]	17.2” [438]	13.5” [342]	3.9” [100]	

Dimensions (Inches [mm])



PRB(X)

A	B	C	D	E	F
12.0” [304]	2.2” [56]	20.5” [521]	16.0” [406]	4.4” [113]	

PRBUP-MFT-T Technical Data Sheet

Modulating, Non Fail-Safe, 24…240 V, NEMA 4X with BACnet

5-year warranty

Technical Data	
Power Supply	24...240 VAC, -20% / +10%, 50/60 Hz, 24...125 VDC, -20% / +10%
Power consumption in operation	20 W
Power consumption in rest position	6 W
Transformer sizing	20 VA @ AC/DC 24 V (class 2 power source), 23 VA @ AC/DC 120 V, 52 VA @ AC 230 V
Electrical Connection	Terminal blocks, (PE) Ground-Screw
Overload Protection	electronic thoughout 0...90° rotation
Operating Range	2...10 V (default), 4...20 mA, variable (VDC, on/off, floating point)
Operating range Y variable	Start point 0.5...30 V End point 2.5...32 V
Input Impedance	100 kΩ for 2...10 V (0.1 mA), 500 Ω for 4...20 mA, 1500 Ω for On/Off
Position Feedback	2...10 V, Max. 0.5 mA, VDC variable
Angle of rotation	90°
Torque motor	1400 in-lb [160 Nm]
Direction of motion motor	reversible with app
Position indication	top mounted domed indicator
Manual override	7 mm hex crank, supplied
Running Time (Motor)	default 35 s, variable 30...120 s
Ambient humidity	max. 95% r.H., non-condensing
Ambient temperature	-22...122°F [-30...50°C]
Storage temperature	-40...176°F [-40...80°C]
Degree of Protection	IP66/67, NEMA 4X, UL Enclosure Type 4X
Housing material	Die cast aluminium and plastic casing
Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU and 2014/35/EU
Noise level, motor	68 dB(A)
Servicing	maintenance-free
Quality Standard	ISO 9001
Weight	13 lb [5.8 kg]
Auxiliary switch	2 x SPDT, 3 A resistive (0.5 A inductive) @ AC 250 V, one set at 10°, one adjustable 0...90°
Communication	BACnet MS/TP
Passive Sensor Inputs	2x (Pt1000, Ni1000, NTC10k2)

Application

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.

Operation

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.

†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.

PRBUP-MFT-T Technical Data Sheet

Modulating, Non Fail-Safe, 24…240 V, NEMA 4X with BACnet

Wiring Diagrams

Meets cULus requirements without the need of an electrical ground connection.

UP Universal Power Supply (UP) models can be supplied with 24 VAC up to 240 VAC, or 24 VDC up to 240 VDC.

Disconnect power.

1 Provide overload protection and disconnect as required.

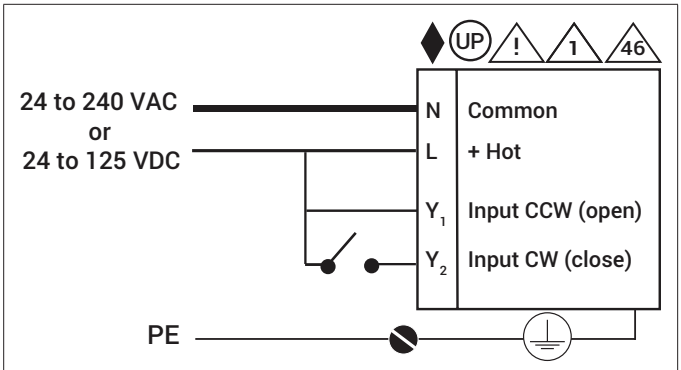
4 Two built-in auxiliary switches (2x SPDT), for end position indication, interlock control, fan startup, etc.

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

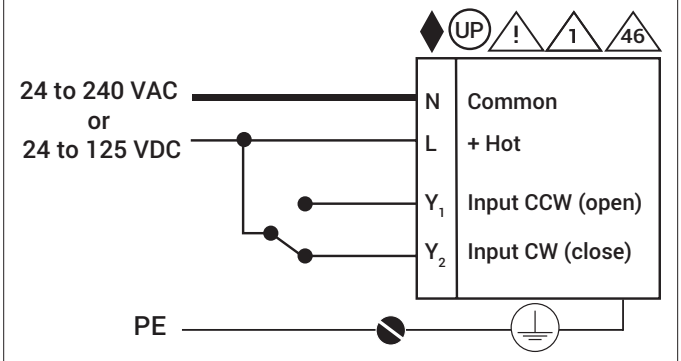
46 Actuators may be controlled in parallel. Current draw and input impedance must be observed.

! ***WARNING! LIVE ELECTRICAL COMPONENTS!***

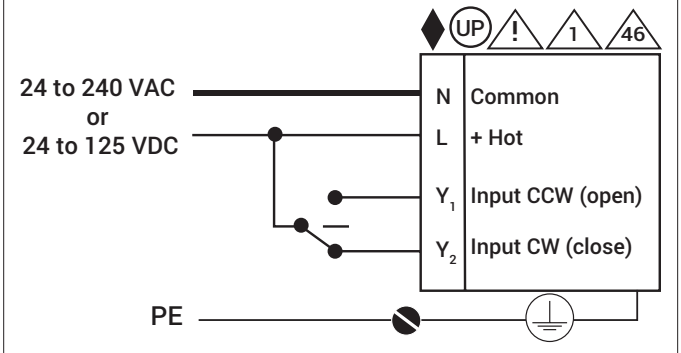
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.



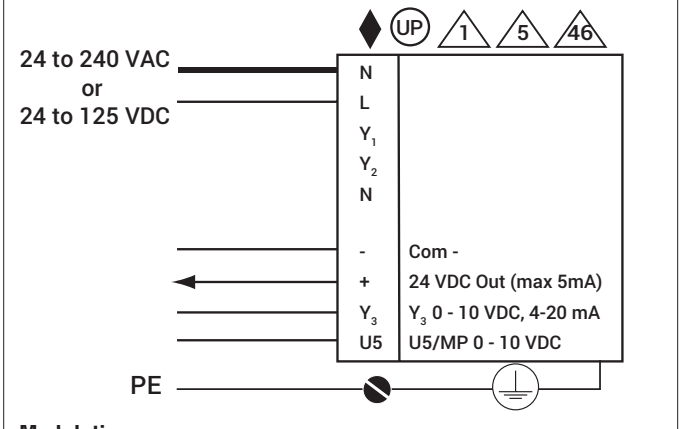
On/Off



On/Off



Floating Point



Modulating

PRBUP-MFT-T Technical Data Sheet

Modulating, Non Fail-Safe, 24…240 V, NEMA 4X with BACnet