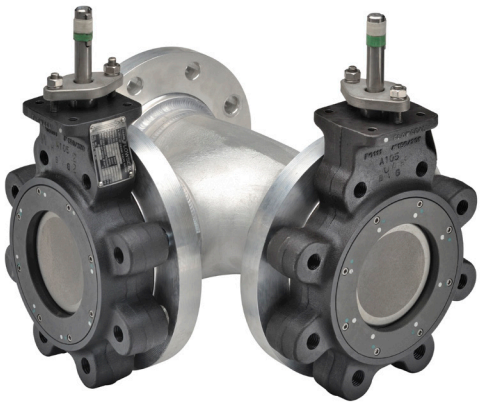
F7300-150SHP Technical Data Sheet
Reinforced Teflon Seat, 316 Stainless Steel



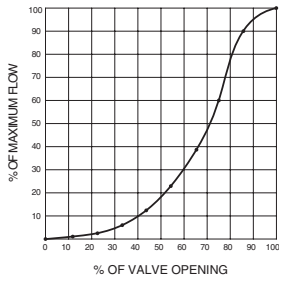
2-year warranty

Technical Data

Fluid	chilled or hot water, up to 60% glycol
Flow characteristic	modified linear, unidirectional
Controllable flow range	quarter turn, mechanically limited
Valve Size [mm]	12" [300]
Pipe connection	ASME/ANSI class 150 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 150
ANSI Class	150
Number of Bolt Holes	12
Lug threads	7/8-9 UNC
Maximum Velocity	32 FPS
Cv	4837
Weight	661.4 lb [300 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



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.

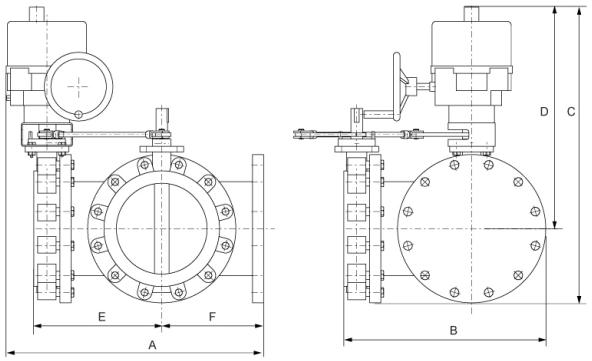
Flow/Cv

Cv 10°	Cv 20°	Cv 30°	Cv 40°	Cv 50°	Cv 60°	Cv 70°	Cv 80°	Cv 90°
73	290	677	1219	1838	2660	3628	4692	4837

Suitable Actuators

	Non-Spring
F7300-150SHP	SY5, SY7

Dimensions (Inches [mm])



SY4..7

A	B	C	D	E	F
31.5" [800]	24.7" [627]	35.2" [893]	25.6" [651]	15.2" [387]	12.0" [305]

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

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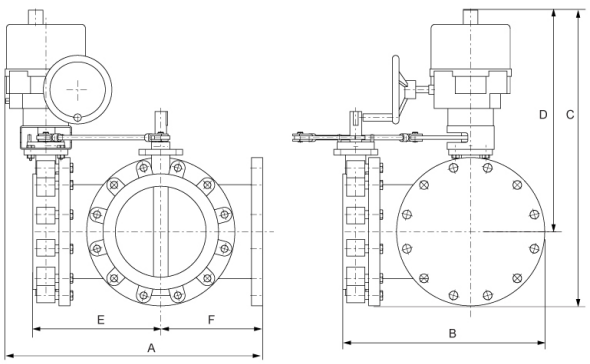

SY4..7

A	B	C	D	E	F
31.5” [800]	24.7” [627]	38.7” [983]	29.2” [742]	15.2” [387]	12.0” [305]

SY7-120MFT Technical Data Sheet

Modulating, Non-Spring Return, 120 V, for DC 2…10 V or 4…20 mA

2-year warranty

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).

Technical Data	
Power Supply	120 VAC, ±10%, 50/60 Hz
Transformer sizing	240 VA
Current consumption	2 A
Electrical Connection	Terminal blocks
Overload Protection	thermally protected 135°C cut-out
Operating Range	2...10 V (default), ,
Input Impedance	100 kΩ
Position Feedback	2...10 V
Angle of rotation	90°
Direction of motion motor	selectable with switch 0/1
Torque motor	8900 in-lb [1000 Nm]
Duty cycle	75%
Position indication	top mounted domed indicator
Manual override	hand wheel
Running Time (Motor)	59 s
Internal Humidty Control	resistive heating element
Ambient humidity	max. 95% r.H., non-condensing
Ambient temperature	-22...150°F [-30...65°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
Gear train	high alloy steel gear sets, self locking
Agency Listing	ISO, CE, cCSAus
Noise level, motor	45 dB(A)
Servicing	maintenance-free
Quality Standard	ISO 9001
Weight	79 lb [36 kg]
Auxiliary switch	2 x SPDT, 3 A resistive (0.5 A inductive) @ AC 250 V, one set at 10°, one set at 85°

SY7-120MFT Technical Data Sheet

Modulating, Non-Spring Return, 120 V, for DC 2...10 V or 4...20 mA

Wiring Diagrams

INSTALLATION NOTES

60 Do not change sensitivity or dip switch setting with power applied.

61 Power supply Common/Neutral and Control Signal "-"wiring to a common is prohibited. Terminals 4 and 6 need to be wired separately.

62 Isolation relays must be used in parallel connection of multiple actuators using a common control signal inputs. The relays should be DPDT.

63 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 tying 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!

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.