

### Features

- Functions as a diverter, selector, or mixing valve
- All materials comply with FDA and USDA requirements
- Dyneon® TF-1641 (PTFE) FDA approved ball seats and cavity fillers
- Triple PTFE/Viton® high cycle live loaded stem seal packing
- Highly polished internals and end caps with 8-12 Ra finish
- Tri-Clamp ends for hygienic connections
- Polyamide IP67 weatherproof enclosure with UV protection
- Multi-voltage capable with auto-voltage sensing
- Long life brushless motor
- Electronic over torque protection
- Anti-condensation heater
- Manual override
- DIN plug style electrical connections
- Highly visual dome style valve position indicator
- Auxiliary limit switches to confirm valve position
- BSR Battery Backup/Failsafe option

### Applications

Sanitary 3-way ball valves are typically used for food, beverage, pharmaceutical, personal care, and pet care applications where sanitary construction is required, as well as for utility, process, and corrosive environment applications where quick clamp connections are beneficial. Often used as a diverter, selector or mixing valve with a variety of flow path options through the valve. Actuator designed for 75% duty cycle.

### Operation

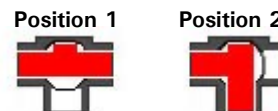
Electric actuated valve uses power-to-open (Pos. 2) and power-to-close (Pos.1), stays in the last known position with power failure. On receipt of a continuous voltage signal, the motor runs and via a flat gear drive system rotates the ball 90°. The motor is automatically stopped by internal cams striking limit switches. On receipt of a reversing continuous signal, the motor turns in the opposite direction reversing the valve position. DIN style plugs are provided for electrical connections. Standard manual override can be used for setup and power failure situations.

### Construction

<b>Valve Body</b>	ASTM 316 stainless steel
<b>Ball/Stem</b>	ASTM 316 stainless steel
<b>Ball Seats/ Cavity Filler</b>	Dyneon® PTFE
<b>Stem Seals</b>	PTFE / Viton®
<b>Actuator Enclosure</b>	Anti-corrosive Polyamide, IP67 weatherproof
<b>Position Indicator/Manual Override</b>	Dome style indicator/manual polyamide knob
<b>Fasteners</b>	ASTM 304 Stainless Steel
<b>Auxiliary Limit Switches</b>	2 x SPST 3A@125/250VAC, 30VDC resistive load



**T-port Diverter Valve  
Flow Pattern**



### Description

Electrically operated sanitary 3-way T-type ball valve has four Dyneon® PTFE ball seats, allowing for full pressure at any port. Adjustable live loaded triple stem seal design helps compensate for wear, pressure or temperature fluctuations. Corrosion resistant actuator includes a manual override, position confirm limit switches, thermostatically controlled anti-condensation heater, and over-torque protection. External LED diagnostic light.

### Approvals- Actuators

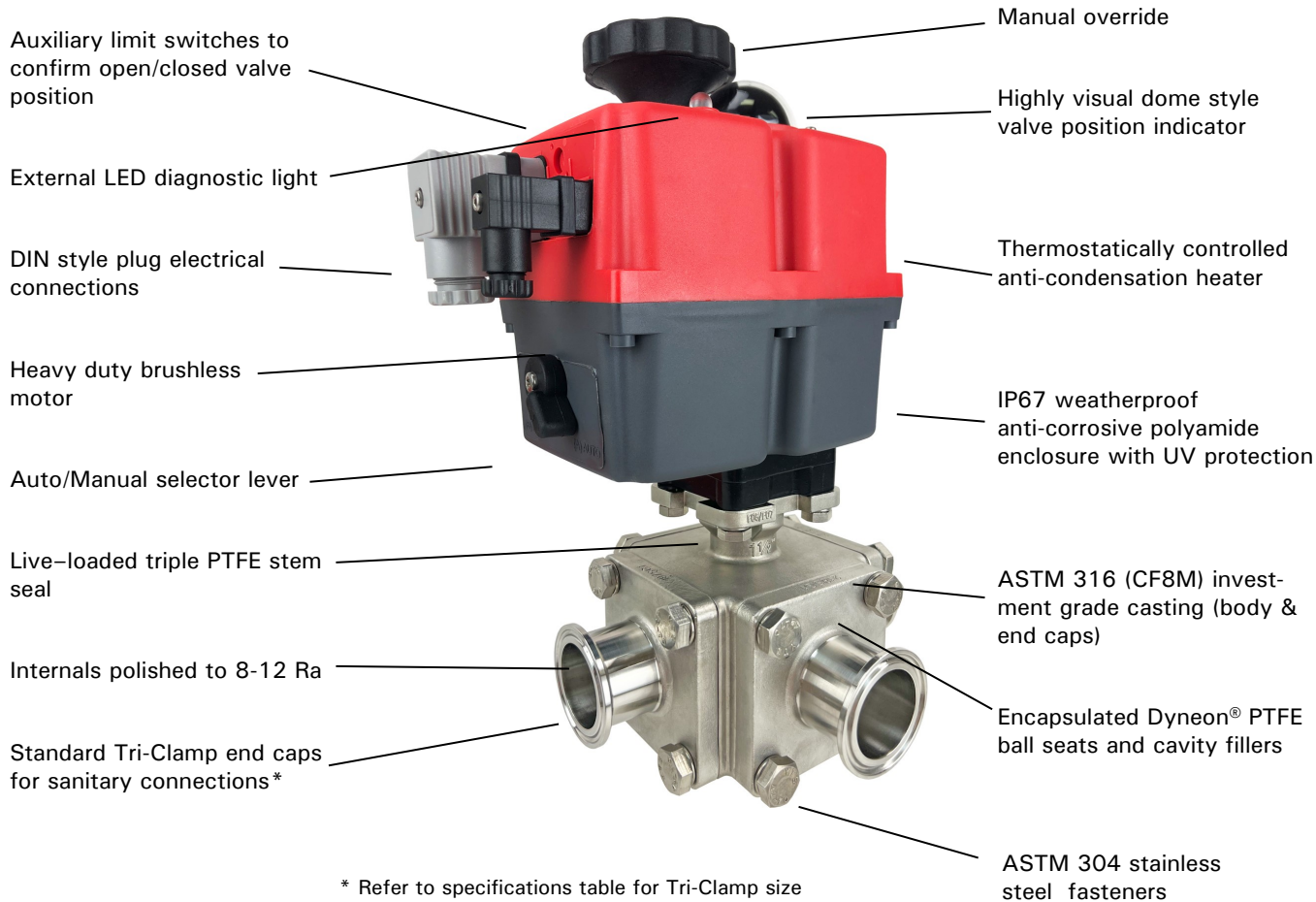
- CE mark conforming to:
  - Machinery directive
  - Low voltage directive
  - EMC Compatibility directive
- ISO5211 valve mounting



### Standards- Valves

- Construction:
  - ANSI B16/B2/B18
  - FDA 21 CFR 177.1550
  - ANSI B16.34
- Pressure Testing:
  - API 598
- Marking
  - MSS-SP-25

### Construction Features



\* Refer to specifications table for Tri-Clamp size

\* Note: Tri-Clamp size is **NOT** determined by the OD of the end cap

### Pressure-Temperature

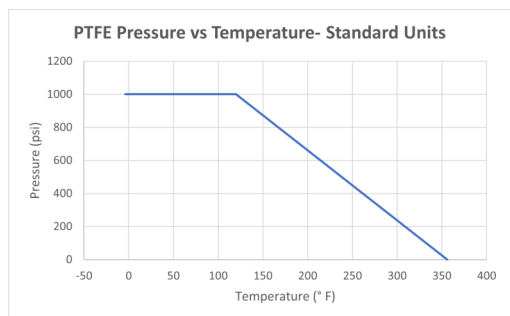
**Shell Pressure Rating (Max)\*:** 1000 PSI @ 120°F (1/2" to 2"),  
600 PSI (2 1/2" to 3")

**Temperature Rating:** -4° to 356° F (-20 to 180°C)

\*See P/T Chart

**Actuator Temperature Rating:** -4 to +158° F (-20 to 70° C)

### Pressure/Temperature Chart (PSI/°F)



#### Standard Units

Temp °F	-4	120	356
Pressure	1000	1000	0

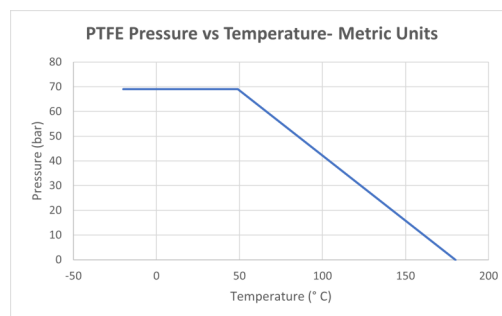
#### Metric Units

Temp °C	-20	49	180
Pressure	69	69	0

### Optional Functions

- **BSR:** Battery Spring Return - actuator fails to a safe position with loss of external power

### Pressure/Temperature Chart (Bar/°C)



## Specifications (English units)

Stock Number	Pipe (inch)	Tri-Clamp Size (inch)	Cv Flow Factor	Shell Pressure Max. (PSI) *	Cycle Time /90° (seconds) + /- 10%	Enclosure Rating	Max. Current Draw (Amps)			
							110VAC	240VAC	24VAC	24VDC
24-240V AC or 24-135V DC ELECTRIC ACTUATED 3-WAY SANITARY STAINLESS BALL VALVE: T-PORT TRI-CLAMP										
572400A	1/2	3/4	4.3	1000	9	IP67	0.3	0.2	1.3	1.0
572401A	3/4	3/4	10.4	1000	9	IP67	0.3	0.2	1.3	1.0
572402A	1	1-1/2	17.3	1000	13	IP67	0.4	0.2	2.0	1.6
572403A	1-1/2	1-1/2	43.3	1000	13	IP67	0.4	0.2	2.0	1.6
572404A	2	2	77.9	1000	13	IP67	0.4	0.2	2.0	1.6
572405A	2-1/2	2-1/2	115.9	600	29	IP67	0.3	0.2	1.5	1.2
572406A	3	3	210.2	600	58	IP67	0.8	0.5	3.3	2.7

Cv= The GPM of water at 60° F that will pass through the valve with 1 PSI pressure drop

\* Pressure @ -4° to 356° F (reduced pressure at higher temperatures—see P/T chart)

• Torque at 1000 PSI and 72°F

## Specifications (Metric units)

Stock Number	Pipe (mm)	Tri-Clamp Size (inch)	Kv Flow Factor	Shell Pressure Max. (Bar) *	Cycle Time /90° (seconds) +/- 10%	Enclosure Rating	Max. Current Draw (Amps)			
							110VAC	240VAC	24VAC	24VDC
24-240V AC or 24-135V DC ELECTRIC ACTUATED 3-WAY SANITARY STAINLESS BALL VALVE: T-PORT TRI-CLAMP										
572400A	12.7	3/4	5.0	69	9	IP67	0.3	0.2	1.3	1.0
572401A	19.1	3/4	12.0	69	9	IP67	0.3	0.2	1.3	1.0
572402A	25.4	1-1/2	20.0	69	13	IP67	0.4	0.2	2.0	1.6
572403A	38.1	1-1/2	50.0	69	13	IP67	0.4	0.2	2.0	1.6
572404A	50.8	2	90.0	69	13	IP67	0.4	0.2	2.0	1.6
572405A	63.5	2-1/2	134.0	41	29	IP67	0.3	0.2	1.5	1.2
572406A	76.2	3	243.0	41	58	IP67	0.8	0.5	3.3	2.7

\* Pressure range @ -20° to 180° C (reduced pressure for higher temperatures—see P/T chart)

## Optional BSR - Battery Spring Return

The BSR– Battery Spring Return kit is available as a factory installed option for Valworx 5724 series electric actuated valves. The BSR kit will work with both on-off models and actuators with DPS positioners. The battery failsafe system provides an alternative source of power to drive the actuator to a preset failsafe position in the event of an external power failure. The industrial quality battery is constantly trickle charged during normal operation to assure maximum charge when required. The battery kit is installed under the actuator cover. No separate modules or boxes are required.

In many applications, the BSR battery spring return function tends to be a very economical option when compared to the alternate true mechanical spring return actuator. Valworx actuators with the BSR option are much smaller, lighter and less expensive.



The installed BSR kit will provide enough power to move the actuator/valve to a failsafe position with loss of external power. The kit can be ordered as fail closed or fail open as required.

The actuator operates in the normal power open and power close mode while external power is available. Internal circuitry monitors the incoming main power and automatically switches within a few seconds to the battery backup with loss of external power. The battery will then provide enough power to move the actuator to a failsafe position. Under normal operation the external control power will trickle charge the battery and maintain a full charge.

In the normal mode of operation, an LED status light located on top of the actuator cover will be continuously lit. With a loss of power, the LED status light will blink slowly. On resumption of external power, conditional that the actuator control signal remained unchanged, the actuator will reset to the position it saw at the time of the main power failure.

### BSR Kit Ordering

Kit Stock	Description
<b>561104E</b>	5610 BSR Battery Spring Return Kit, Fail Closed (pos 1)
<b>561105E</b>	5610 BSR Battery Spring Return Kit, Fail Open (pos 2)

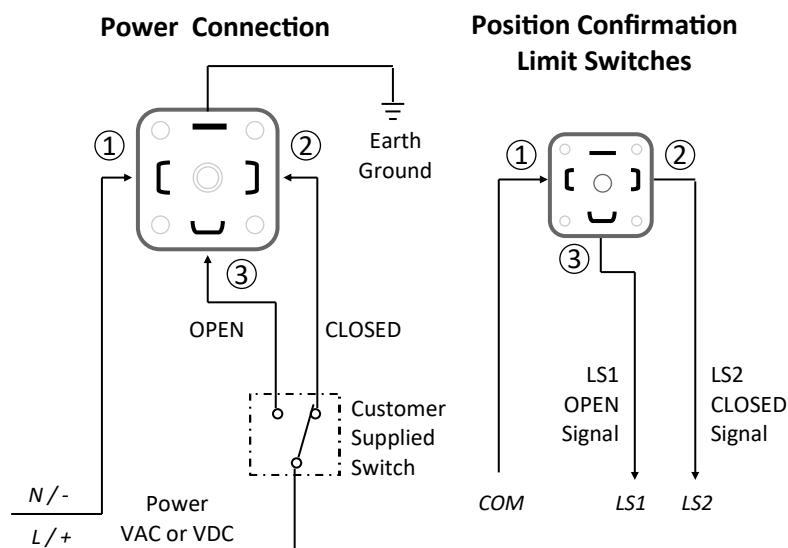
• BSR kits are a factory installed option

Valworx Actuator with BSR Option	1/2 to 3/4" Tri-Clamp	1" Tri-Clamp	1-1/2 to 2" Tri-Clamp	2-1/2 to 3" Tri-Clamp
Working operations without recharge, with 100% initial battery charge	10	10	10	4
Recharge time per working operation	15 min	48 min	58 min	50 min
Full Charge Time 100%	28 h	28 h	28 h	54 h

## Electrical Wiring: On/Off and BSR Battery Spring Return Versions

Voltage: 24-240 Volts AC or 24-135 Volts DC, 1ph, -0/+ 5%

Auto-voltage sensing



### Function: ON-OFF version

#### Power Connections

Power to PIN 1 and 2  
- actuator CLOSED

Power to PIN 1 and 3  
- actuator OPEN

Stays in last known position  
with loss of power.

### Function: ON-OFF version with BSR option

Wiring is the same as standard ON-OFF version.

Power to open, power to close - maintain power to trickle  
charge the battery system in either open or closed position.

Actuator sent by battery power to failsafe position with power  
failure.

Actuator returns to pre-failure position on power resumption.

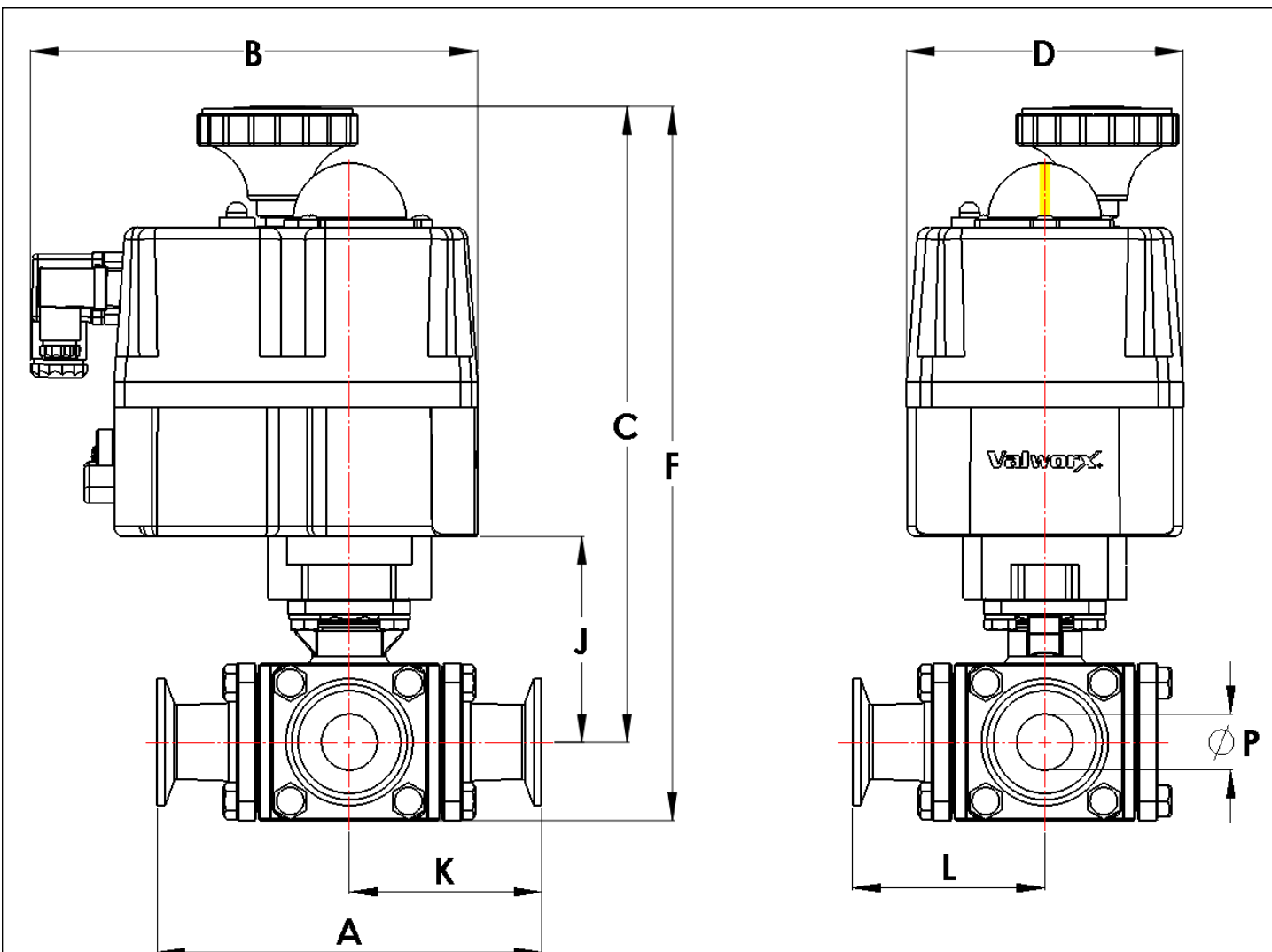
### Function: Position confirmation limit switches

Dry contact 3A @ 125/250  
VAC, 30VDC resistive load

PIN 1 (COM) and 2 to confirm  
actuator is closed

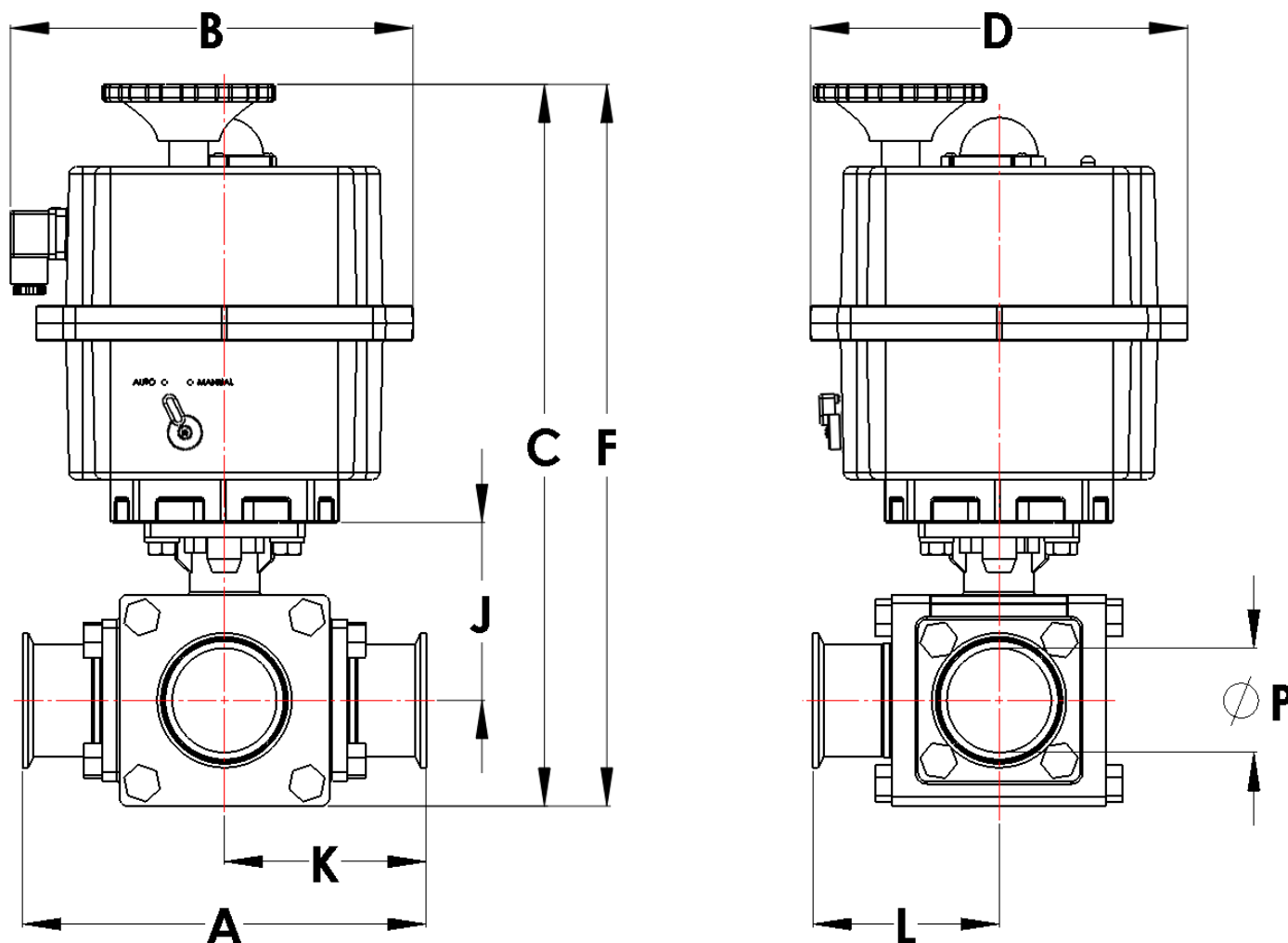
PIN 1 (COM) and 3 to confirm  
actuator is open

## Dimensions:



Stock Number	Pipe Size		A	B	C	D	F	J	K	L	P	Weight
572400A	1/2	inch	4.6	7.1	8.5	4.3	9.5	1.8	2.3	2.3	0.4	7.3 lb
		mm	118.0	179.0	215.9	110.0	241.3	44.5	59.0	59.0	9.4	3.3 kg
572401A	3/4	inch	5.0	7.1	8.6	4.3	9.6	1.9	2.5	2.6	0.6	7.9 lb
		mm	127.0	179.0	218.4	110.0	243.8	48.0	63.5	64.9	15.8	3.6 kg
572402A	1	inch	6.0	7.0	10.0	4.3	11.2	2.3	3.1	3.0	0.9	11.4 lb
		mm	152.4	177.0	254.0	110.0	284.5	59.0	77.5	76.2	22.2	5.2 kg
572403A	1-1/2	inch	6.9	7.0	10.5	4.3	12.1	2.8	3.4	3.5	1.4	17.2 lb
		mm	175.0	177.0	266.7	110.0	307.3	72.0	87.5	88.8	35.0	7.8 kg
572404A	2	inch	7.5	7.0	10.9	4.3	12.9	3.2	3.7	3.8	1.9	24.4 lb
		mm	190.0	177.0	276.9	110.0	327.7	82.0	95.0	96.3	47.6	11.1 kg

## Dimensions:



Stock Number	Pipe Size		A	B	C	D	F	J	K	L	P	Weight
572405A	2-1/2	inch	9.0	9.1	14.0	8.5	16.4	4.0	4.5	4.2	2.4	29.2 lb
		mm	228.0	232.0	355.6	217.0	416.6	102.5	114.0	107.0	60.2	13.2 kg
572406A	3	inch	10.2	9.1	14.9	8.5	17.9	4.9	5.1	4.2	2.9	50.0 lb
		mm	260.0	232.0	378.5	217.0	454.7	125.5	130.0	107.0	72.9	22.7 kg