

Features

- Full Port Lead Free Brass Diverter Valve
- Polyamide IP67 weatherproof enclosure with UV protection
- Multi-voltage capable with auto-voltage sensing
- Long life brushless motor with electronic torque limiter
- Anti-condensation heater
- Manual override and highly visual valve position indicator
- DIN plug style electrical connections
- 316 Stainless Steel ball and stem
- Two auxiliary limit switches to confirm valve position
- Energized PTFE ball seats for lower torque and longer life
- Leak free triple PTFE/FKM stem seal packing
- Certified per NSF372 and NSF61 for potable/drinking water

Applications

Electric actuated flow diverter valves are typically used to control the flow of water, air, oil and other media compatible with the materials of construction. Ideal where lead free and NSF approved construction are required for potable drinking water as well as general industrial applications. Suitable for steam service up to 25 PSI with optional high temperature mounting kit and vacuum service to 29" Hg. Actuator is 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 rugged all metal gear drive 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. Electrical wiring is directly to supplied DIN style connectors. Standard manual override can be used for setup and power failure situations.

Construction

Valve Body	Lead free brass C69300
Ball/Stem	316 stainless steel
Ball Seats	(4) PTFE (Teflon) energized with FKM (Viton)
Stem Seals	PTFE (Teflon) with dual FKM (Viton) seals
Actuator Enclosure	Anti-corrosive Polyamide, IP67 weatherproof
Position Indicator/Manual Override	Dome style indicator/manual polyamide knob
Fasteners	Stainless Steel
Auxiliary Limit Switches	2 x SPST 3A@125/250VAC, 30VDC resistive load



Description

Electrically operated Full Port 3-way T-type flow pattern ball valve has four energized PTFE ball seats, allowing for full pressure at any port. Leak free triple PTFE/FKM stem seal design. Corrosion resistant actuator includes a manual override, position confirm limit switches, thermostatically controlled anti-condensation heater, and over-torque protection. LED power on and diagnostic light.

Approvals

Actuators

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



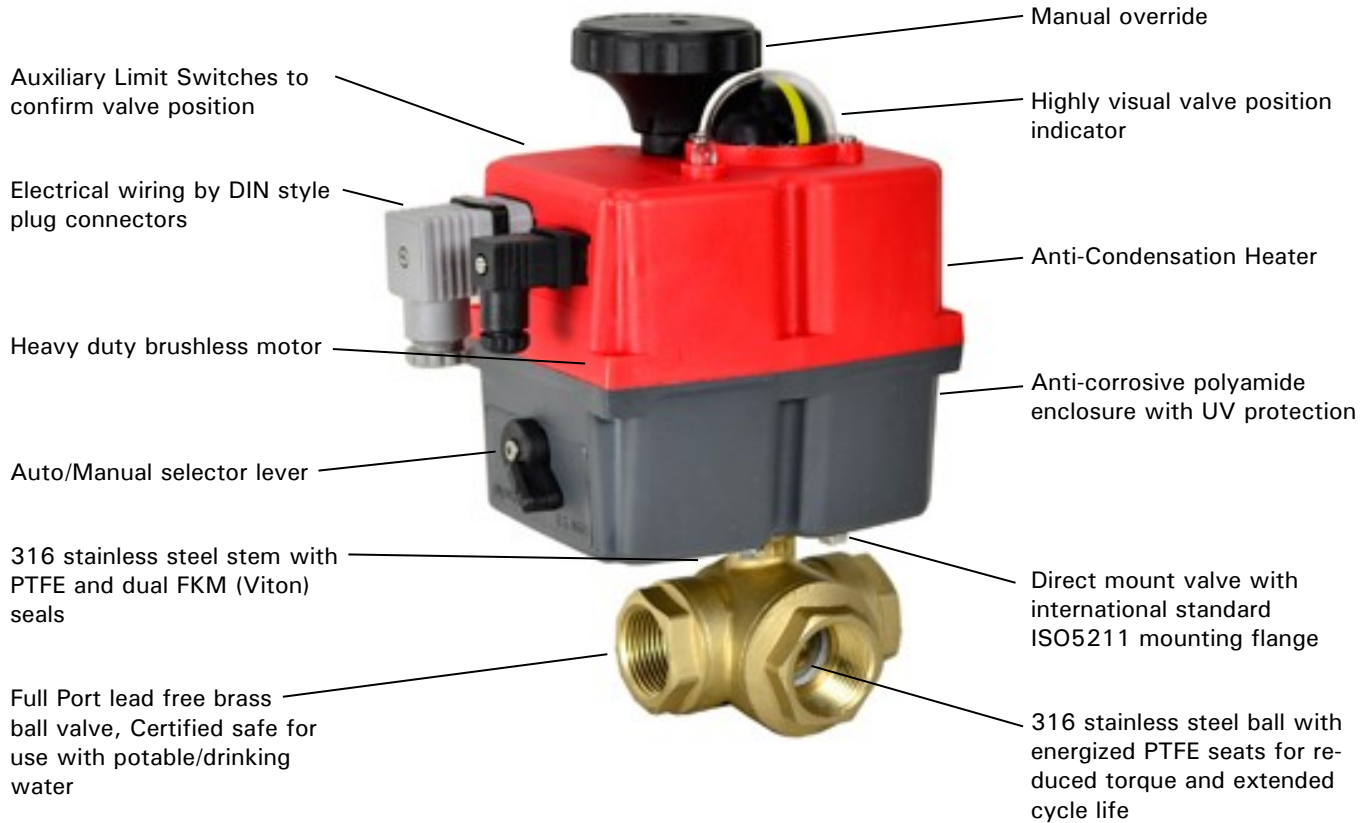
Valves

- IAPMO RT certified to:
 - NSF/ANSI 372 - 2011 Drinking Water
 - NSF/ANSI 61 - 2015
 - Weighted average lead content $\leq 0.25\%$
- Meets design MSS-SP-110

LEAD FREE



Construction Features



Pressure-Temperature

Ball Valve Pressure Rating: 400 PSI (27 Bar)* non-shock

29" Hg vacuum, 25 PSI steam with high temp. kit

Ball Valve Temperature Rating: 0 to 344° F (-18 to 173° C)

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

*See P/T chart

Optional Functions

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

Pressure/Temperature Chart (PSI/°F)

P/T Chart						
PSI	400	400	400	400	375	275
°F	0	50	100	176	200	266

Pressure/Temperature Chart (Bar/°C)

P/T Chart						
Bar	27	27	27	27	26	19
°C	-18	10	38	80	93	130

Specifications (English units)

Stock Number	Pipe Size (NPT)	Orifice Size (inch)	Cv Flow Factor	Pressure (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 LF BRASS BALL VALVE: T-PORT										
568302E	1/4	0.4	3.2	400	9	IP67	0.30	0.16	1.28	0.97
568303E	3/8	0.4	3.5	400	9	IP67	0.30	0.16	1.28	0.97
568304E	1/2	0.6	4.5	400	9	IP67	0.30	0.16	1.28	0.97
568306E	3/4	0.8	10.0	400	9	IP67	0.30	0.16	1.28	0.97
568308E	1	1.0	16.0	400	9	IP67	0.30	0.16	1.28	0.97
568310C	1-1/4	1.2	31.0	400	13	IP67	0.43	0.21	1.98	1.63
568312C	1-1/2	1.5	49.0	400	13	IP67	0.43	0.21	1.98	1.63
568316C	2	2.0	82.0	400	29	IP67	0.33	0.18	1.50	1.22

These unique multi-voltage valves will operate within a voltage range of 24 to 240V AC or 24 to 135V DC, 1ph, -0/+5%

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

* Pressure at 176° F (reduced pressure at higher temperatures-see P/T chart)

Specifications (Metric units)

Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure (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 LF BRASS BALL VALVE: T-PORT										
568302E	1/4	10.0	2.8	27	9	IP67	0.30	0.16	1.28	0.97
568303E	3/8	10.0	3.0	27	9	IP67	0.30	0.16	1.28	0.97
568304E	1/2	15.0	3.9	27	9	IP67	0.30	0.16	1.28	0.97
568306E	3/4	19.0	8.6	27	9	IP67	0.30	0.16	1.28	0.97
568308E	1	25.0	14.0	27	9	IP67	0.30	0.16	1.28	0.97
568310C	1-1/4	31.0	27.0	27	13	IP67	0.43	0.21	1.98	1.63
568312C	1-1/2	38.0	42.0	27	13	IP67	0.43	0.21	1.98	1.63
568316C	2	50.0	70.0	27	29	IP67	0.33	0.18	1.50	1.22

* Pressure at 80° C (reduced pressure at 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 5610 series electric actuators. 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
561104E	5610 BSR Battery Spring Return Kit, Fail Closed (pos 1)
561105E	5610 BSR Battery Spring Return Kit, Fail Open (pos 2)

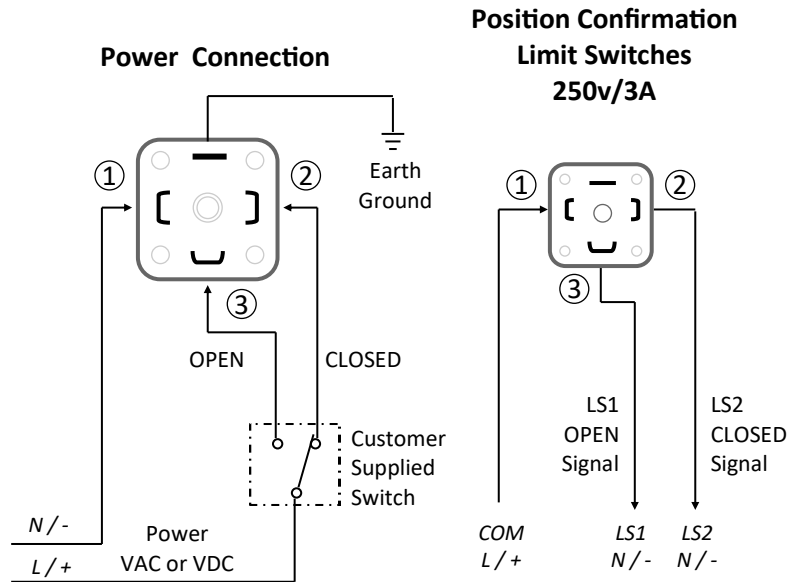
- BSR kits are a factory installed option

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

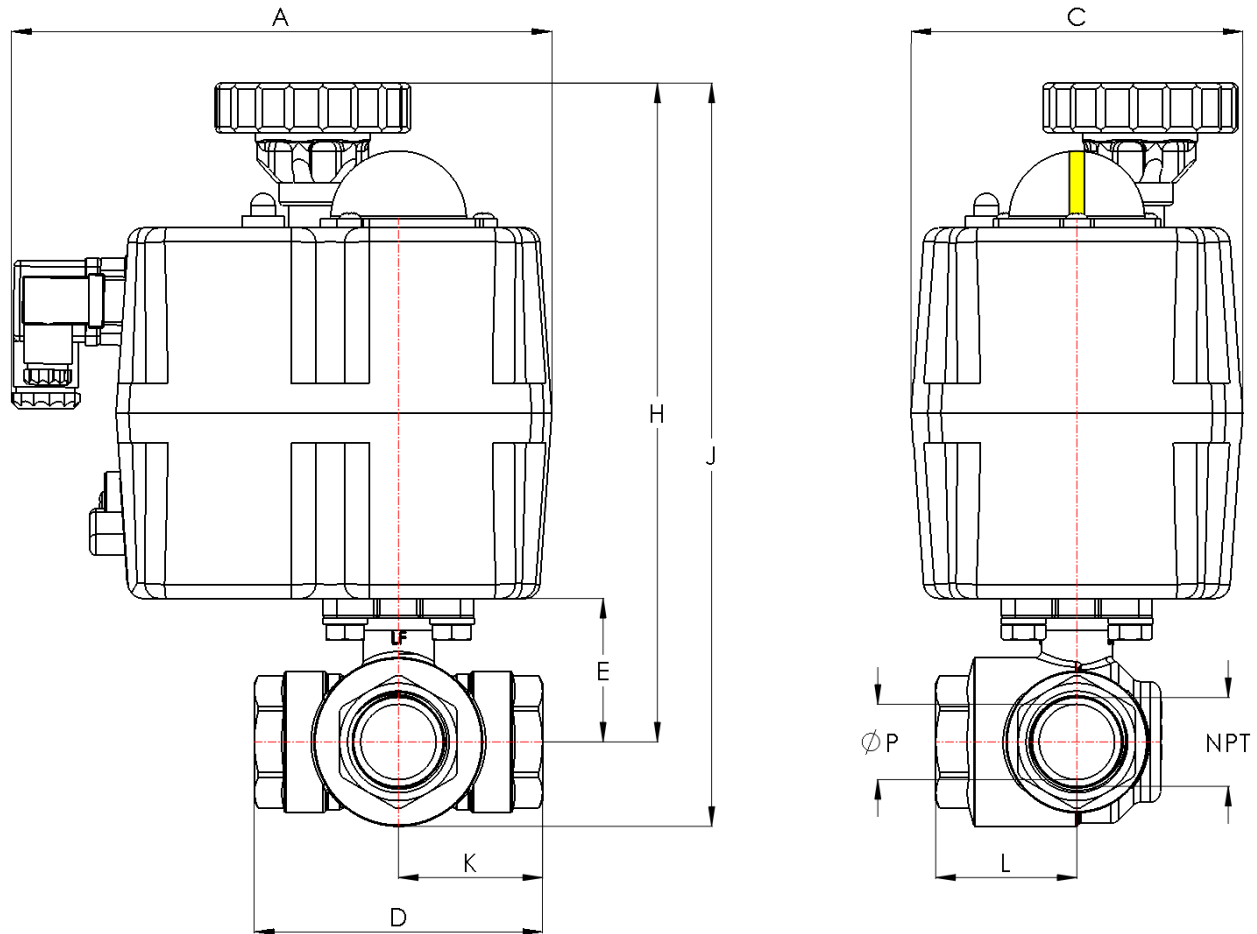
Function: Position confirmation limit switches

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

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

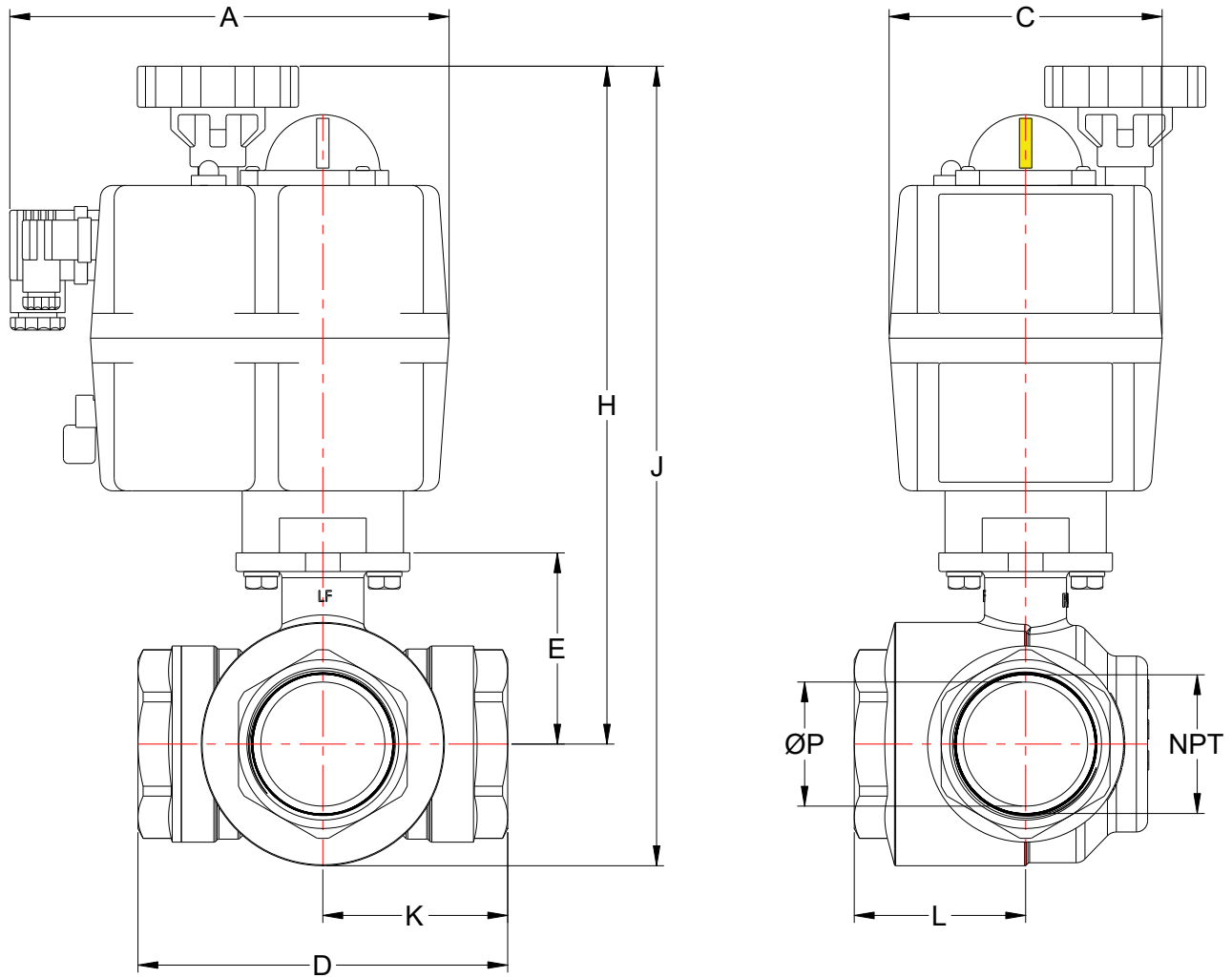
PIN 1 (COM) and 3 to confirm actuator is open

Dimensions: 1/4 to 1 inch Sizes



Pipe Size (NPT)		A	C	D	E	H	J	K	L	P	Weight
1/4	inch	7.0	4.3	2.2	1.0	7.8	8.3	1.1	1.1	0.4	4.8 lb
	mm	177.0	110.0	55.6	26.5	197.5	211.8	27.8	27.5	10.0	2.2 kg
3/8	inch	7.0	4.3	2.2	1.0	7.8	8.3	1.1	1.1	0.4	4.7 lb
	mm	177.0	110.0	55.6	26.5	197.5	211.8	27.8	27.5	10.0	2.1 kg
1/2	inch	7.0	4.3	2.9	1.3	8.1	8.8	1.4	1.4	0.6	5.3 lb
	mm	177.0	110.0	73.0	33.5	204.5	224.3	36.5	36.5	15.0	2.4 kg
3/4	inch	7.0	4.3	3.3	1.7	8.4	9.3	1.6	1.6	0.8	6.1 lb
	mm	177.0	110.0	83.0	43.0	214.0	237.2	41.5	41.5	19.0	2.7 kg
1	inch	7.0	4.3	3.8	1.9	8.6	9.7	1.9	1.8	1.0	6.8 lb
	mm	177.0	110.0	95.6	47.6	218.6	246.6	47.8	46.8	25.0	3.1 kg

Dimensions: 1-1/4 to 2 inch Sizes



Pipe Size (NPT)		A	C	D	E	H	J	K	L	P	Weight
1-1/4	inch	7.0	4.3	4.2	2.2	9.9	11.2	2.1	2.0	1.2	9.1 lb
	mm	177.0	110.0	107.0	55.0	251.0	284.0	53.5	51.0	31.0	4.1 kg
1-1/2	inch	7.0	4.3	5.0	2.6	10.3	11.9	2.5	2.3	1.5	11.7 lb
	mm	177.0	110.0	126.0	65.5	262.0	301.0	63.0	60.0	38.0	5.3 kg
2	inch	7.0	4.3	5.9	3.0	10.8	12.7	2.9	2.7	2.0	16.2 lb
	mm	177.0	110.0	149.0	77.0	273.0	322.0	74.5	69.0	50.0	7.4 kg