

## Features

- Direct mount Full Port 316 stainless steel ball valve
- RTFE (reinforced Teflon) ball seats
- Triple PTFE/Viton live loaded stem seals, adjustable
- Industrial quality miniature actuator
- Visual valve position indicator
- Rugged aluminum Type 4X and IP67 weatherproof enclosure
- Heavy duty motor with overload protection
- Manual override
- Two auxiliary limit switches included (on-off models)
- EPS - Electronic Positioner System model available
- Actuator approvals by CSA and CE

## Applications

On-off control of water, air, oil and other media compatible with the materials of construction. Working pressure 1000 PSI at 100°F (38°C). Suitable for steam up to 25 PSI with optional high temperature kit. Vacuum service up to 29"Hg. EPS positioner is available for controlling flow using an analog input control signal. Actuator designed for 60% duty cycle.

## Operation

Electric actuated valve uses power-to-open and power-to-close, stays in the last known position with loss of power. On receipt of a continuous voltage signal, the motor runs and via a rugged all metal gear 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. Valves with EPS positioner use an analog input signal to control the position of the ball (flow). Electrical connection by prewired cable with flying leads (3 meter/9.8 feet)

## Construction

<b>Valve Body</b>	316 stainless steel ASTM A351 CF8M
<b>Ball/Stem</b>	316 stainless steel
<b>Ball Seats</b>	RTFE (reinforced Teflon)
<b>Stem Seals</b>	PTFE / Viton
<b>Gear Drive</b>	Rugged all metal flat and worm gears, self locking
<b>Actuator Enclosure</b>	Anti-corrosive aluminum alloy, Rated Type 4X/ IP67
<b>Visual Valve Position Indicator</b>	Yellow indicator with transparent clear cover
<b>Fasteners</b>	Stainless Steel
<b>Auxiliary Limit Switches</b>	2 x SPST (3A@125VAC,30VDC resistive), on-off models



## Description

Electric actuated full port 316 Stainless Steel ball valves provide corrosion resistance and unrestricted flow. Adjustable live loaded stem seal packing helps compensate for wear, pressure and/or temperature fluctuations, extending the cycle life of the valve. Features include compact size, rugged motor integral to actuator housing, all metal gears, manual override for emergency hand operation, visual valve position indicator and Type 4X/IP67 weatherproof enclosure. Actuators with EPS positioner utilize a 4-20mA analog input signal to position the output drive anywhere between 0-90° and flow 0-100%

## Approvals Actuators

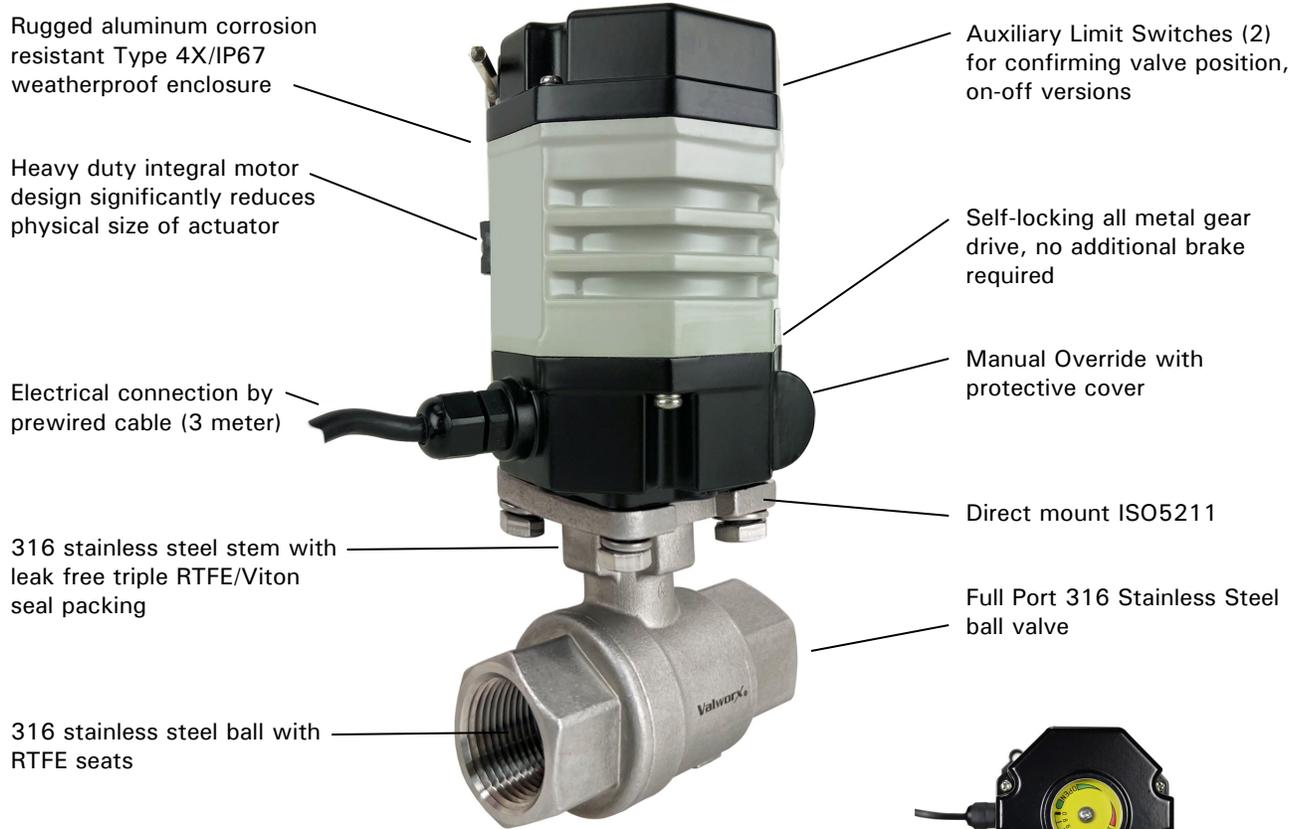


- Actuators certified by CSA and CE
  - CSA models certified to UL429, CSA C22.2 and UL50E Type 4X enclosure
  - CE conformance- EN 60204-1:2006

## Valves

- Design: API 608
- Testing: API 598
- Threaded Connection: ASME B1.20.1 (NPT)/ ISO 228-1/ BS21
- Pressure/Temperature Rating: ASME B16.34
- Marking: MSS SP-25
- CE conformance- PED 2014/68/UE

**Construction Features**



Rugged aluminum corrosion resistant Type 4X/IP67 weatherproof enclosure

Heavy duty integral motor design significantly reduces physical size of actuator

Electrical connection by prewired cable (3 meter)

316 stainless steel stem with leak free triple RTFE/Viton seal packing

316 stainless steel ball with RTFE seats

Auxiliary Limit Switches (2) for confirming valve position, on-off versions

Self-locking all metal gear drive, no additional brake required

Manual Override with protective cover

Direct mount ISO5211

Full Port 316 Stainless Steel ball valve



Visual Valve Position Indicator

**Pressure-Temperature\***

**Pressure Rating:** 1000 PSI (69 Bar) non-shock,  
 25 PSI saturated steam with high temp. kit,  
 29" Hg vacuum

**Ball Valve Temperature Rating:** -4 to 392° F (-20 to 200° C)

**Actuator Temperature Rating:** -13 to +131 °F (-25 to +55 °C)

\*See P/T chart

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

P/T Chart					
<b>PSI</b>	1000	1000	900	700	0
<b>°F</b>	-4	104	167	212	392

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

P/T Chart					
<b>Bar</b>	69	69	62	48	0
<b>°C</b>	-20	40	75	100	200

**Specifications: On-Off Valves (English units)**

Stock Number	Pipe Size (NPT)	Orifice Size (inch)	Cv Flow Factor	Pressure Max.(PSI)*	Cycle Time /90° (seconds)	Voltage	Current (amps)	Agency Approvals	Electrical Drawing
<b>110 VAC ELECTRIC ACTUATED STAINLESS STEEL BALL VALVES: ON-OFF version</b>									
566502A	1/4	0.45	6.9	1000	12	AC110 50/60Hz	0.3	CSA, CE	B
566503A	3/8	0.49	6.9	1000	12	AC110 50/60Hz	0.3	CSA, CE	B
566504A	1/2	0.59	9.7	1000	12	AC110 50/60Hz	0.3	CSA, CE	B
566506A	3/4	0.79	18.4	1000	12	AC110 50/60Hz	0.3	CSA, CE	B
566508A	1	1.00	55.4	1000	12	AC110 50/60Hz	0.3	CSA, CE	B
<b>24 VDC ELECTRIC ACTUATED STAINLESS STEEL VALVES: ON-OFF version</b>									
566544A	1/4	0.45	6.9	1000	11	DC24	0.7	CSA, CE	G
566545A	3/8	0.49	6.9	1000	11	DC24	0.7	CSA, CE	G
566546A	1/2	0.59	9.7	1000	11	DC24	0.7	CSA, CE	G
566547A	3/4	0.79	18.4	1000	11	DC24	0.7	CSA, CE	G
566549A	1	1.00	55.4	1000	11	DC24	0.7	CSA, CE	G

\* Pressure at 100° F (see P/T chart for maximum pressure at higher temperatures)

Voltage Tolerance: AC +/- 10%, DC +/- 5%, Duty Cycle: 60%

**On-Off Electric Actuated Valves**

Valworx electric actuated valves use power-to-open and power-to-close, stays in the last known position with loss of power. The actuator will rotate the output drive 90° to open or close the ball valve. Limit switches automatically stop the motor drive in either the open or closed position as required. Two auxiliary limit switches are provided as standard with on-off actuators to confirm valve open or closed position.

Rugged gear drive system is made of all metal, self-locking, no motor brake required. A manual override is provided for use in setup or power failure situations.

The override is operated with a standard hex wrench (included).

Robust aluminium alloy housing is corrosion-resistant and weatherproof. The enclosure is rated Type 4X and IP67. Heavy duty motor is integral to the actuator housing providing a small physical size to power ratio.

Electrical wiring is by prewired cable with flying leads (3 meters/ 9.8 feet).

**Specifications: Valves with EPS Positioners (English units)**

Stock Number	Pipe Size (NPT)	Orifice Size (inch)	Cv Flow Factor	Pressure Max. (PSI)*	Cycle Time /90° (seconds)	Voltage	Current (amps)	Agency Approvals	Electrical Drawing
<b>110 VAC ELECTRIC ACTUATED STAINLESS STEEL BALL VALVES: EPS POSITIONER 4-20mA</b>									
566555A	1/4	0.45	6.9	1000	12	AC110 50/60Hz	0.3	CSA, CE	E
566556A	3/8	0.49	6.9	1000	12	AC110 50/60Hz	0.3	CSA, CE	E
566557A	1/2	0.59	9.7	1000	12	AC110 50/60Hz	0.3	CSA, CE	E
566558A	3/4	0.79	18.4	1000	12	AC110 50/60Hz	0.3	CSA, CE	E
566559A	1	1.00	55.4	1000	12	AC110 50/60Hz	0.3	CSA, CE	E
<b>24 VDC VAC ELECTRIC ACTUATED STAINLESS STEEL BALL VALVES: EPS POSITIONER 4-20mA</b>									
566565A	1/4	0.45	6.9	1000	15	DC24	0.7	CSA, CE	GEY
566566A	3/8	0.49	6.9	1000	15	DC24	0.7	CSA, CE	GEY
566567A	1/2	0.59	9.7	1000	15	DC24	0.7	CSA, CE	GEY
566568A	3/4	0.79	18.4	1000	15	DC24	0.7	CSA, CE	GEY
566569A	1	1.00	55.4	1000	15	DC24	0.7	CSA, CE	GEY

\* Pressure at 100° F (see P/T chart for maximum pressure at higher temperatures)

Voltage Tolerance: AC +/- 10%, Duty Cycle: 60%

**EPS - Electronic Positioning System**

Valworx electric actuators with EPS- Electronic Positioning System provide an accurate valve positioning function whereby the movement of the actuator is controlled by a 4-20mA analog input control signal. Any change in the control input signal results in a corresponding and proportional change in the position of the actuator output drive.

An internal microprocessor on the EPS circuit board continuously monitors the analog input and output signals and compares them to the physical position via a precision potentiometer feedback system, moving the actuator as required to balance the signals.

The EPS system is calibrated for 0-90° rotation at the factory. A 4-20mA output monitoring signal is provided as standard. The following functions are standard on the EPS module:

- Factory Calibration
- 4-20mA position output monitoring signal
- Selectable fail mode: Actuator will fail closed, fail open or stop in place (default setup) with loss of input command signal, provided main power is maintained. Actuator will stop in last known position with loss of main power.
- Local electrical manual operation using onboard switches (located under the top cover).

**Specifications: On-Off Valves (Metric units)**

Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure Max. (Bar)*	Cycle Time /90° (seconds)	Voltage	Current (amps)	Agency Approvals	Electrical Drawing
<b>110 VAC ELECTRIC ACTUATED LF BRASS BALL VALVES: ON-OFF version</b>									
566502A	1/4	11.5	5.9	69	12	AC110 50/60Hz	0.3	CSA, CE	B
566503A	3/8	12.5	5.9	69	12	AC110 50/60Hz	0.3	CSA, CE	B
566504A	1/2	15	8.4	69	12	AC110 50/60Hz	0.3	CSA, CE	B
566506A	3/4	20	15.9	69	12	AC110 50/60Hz	0.3	CSA, CE	B
566508A	1	25	47.9	69	12	AC110 50/60Hz	0.3	CSA, CE	B
<b>24 VDC ELECTRIC ACTUATED LF BRASS BALL VALVES: ON-OFF version</b>									
566544A	1/4	11.5	5.9	69	11	DC24	0.7	CSA, CE	G
566545A	3/8	12.5	5.9	69	11	DC24	0.7	CSA, CE	G
566546A	1/2	15	8.4	69	11	DC24	0.7	CSA, CE	G
566547A	3/4	20	15.9	69	11	DC24	0.7	CSA, CE	G
566549A	1	25	47.9	69	11	DC24	0.7	CSA, CE	G

\* Pressure at 38° C (see P/T chart for maximum pressure at higher temperatures),

Voltage Tolerance: AC +/- 10%, DC +/- 5%, Duty Cycle: 60%

**Specifications: Valves with EPS Positioners (Metric units)**

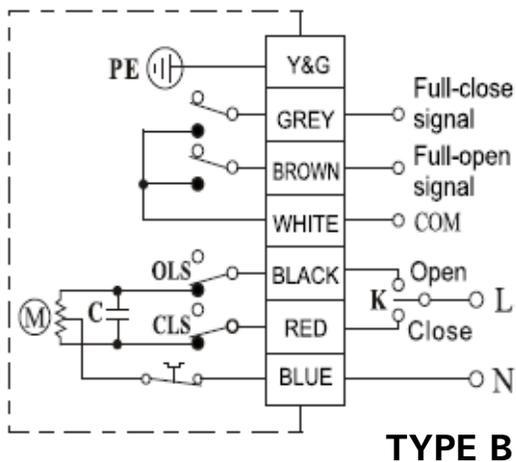
Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure Max. (Bar)*	Cycle Time /90° (seconds)	Voltage	Current (amps)	Agency Approvals	Electrical Drawing
<b>110 VAC ELECTRIC ACTUATED LF BRASS BALL VALVES: EPS POSITIONER 4-20mA</b>									
566555A	1/4	11.5	5.9	69	12	AC110 50/60Hz	0.3	CSA, CE	E
566556A	3/8	12.5	5.9	69	12	AC110 50/60Hz	0.3	CSA, CE	E
566557A	1/2	15	8.4	69	12	AC110 50/60Hz	0.3	CSA, CE	E
566558A	3/4	20	15.9	69	12	AC110 50/60Hz	0.3	CSA, CE	E
566559A	1	25	47.9	69	12	AC110 50/60Hz	0.3	CSA, CE	E
<b>24 VDC VAC ELECTRIC ACTUATED STAINLESS STEEL BALL VALVES: EPS POSITIONER 4-20mA</b>									
566565A	1/4	11.5	5.9	69	15	DC24	0.7	CSA, CE	GEY
566566A	3/8	12.5	5.9	69	15	DC24	0.7	CSA, CE	GEY
566567A	1/2	15	8.4	69	15	DC24	0.7	CSA, CE	GEY
566568A	3/4	20	15.9	69	15	DC24	0.7	CSA, CE	GEY
566569A	1	25	47.9	69	15	DC24	0.7	CSA, CE	GEY

\* Pressure at 38° C (see P/T chart for maximum pressure at higher temperatures)

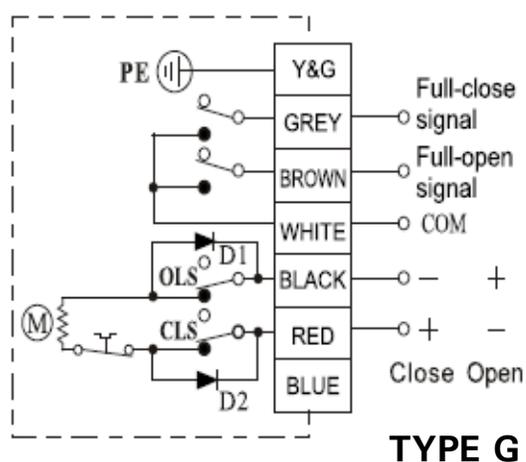
Voltage Tolerance: AC +/- 10%, Duty Cycle: 60%

## Electrical Wiring Diagrams

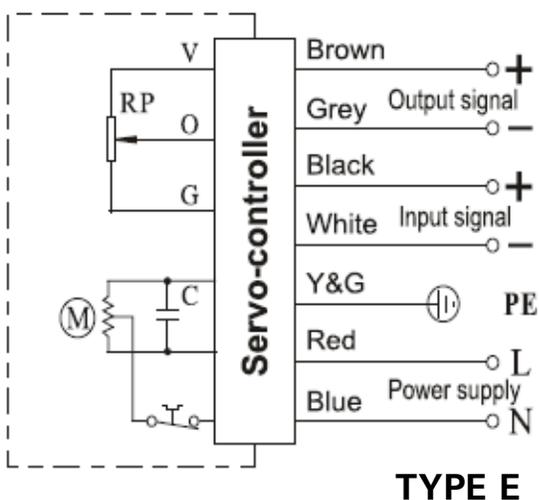
### ON-OFF Valves AC Voltages



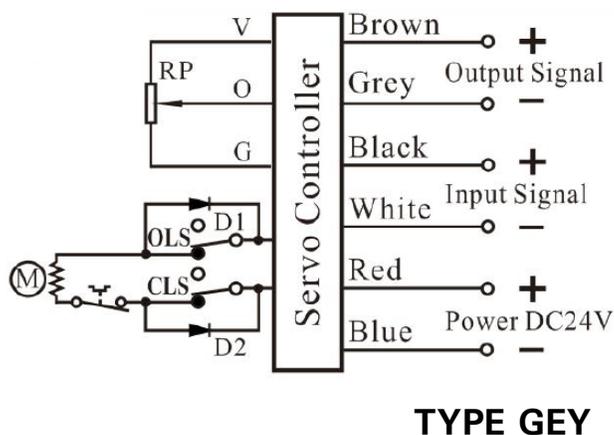
### ON-OFF Valves DC Voltages



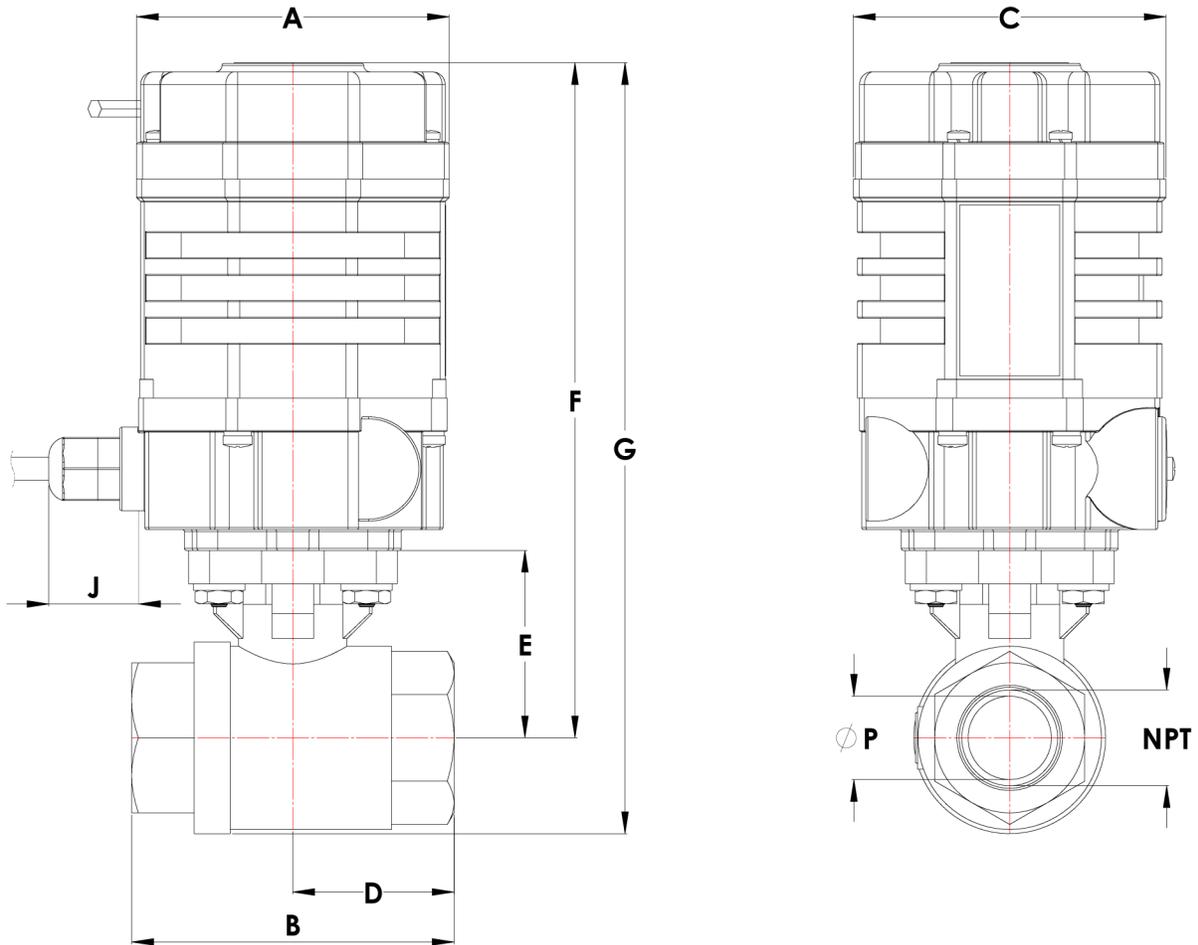
### Actuated Valves with EPS Positioner AC Voltages



### Actuated Valves with EPS Positioner DC Voltages



## Dimensions



Pipe Size (NPT)		A	B	C	D	E	F	G	J	P	Weight
1/4	inch	2.8	2.6	2.9	1.2	1.5	6.1	6.7	0.9	0.5	3.7 lb
	mm	73.0	65.3	75.0	31.0	37.0	154.9	170.2	23.0	11.5	1.7 kg
3/8	inch	2.8	2.6	2.9	1.2	1.5	6.1	6.7	0.9	0.5	3.6 lb
	mm	73.0	65.3	75.0	31.0	37.0	154.9	170.2	23.0	12.5	1.6 kg
1/2	inch	2.8	2.6	2.9	1.2	1.5	6.1	6.7	0.9	0.6	3.6 lb
	mm	73.0	65.3	75.0	31.0	37.0	154.9	170.2	23.0	15.0	1.6 kg
3/4	inch	2.8	3.0	2.9	1.5	1.8	6.4	7.2	0.9	0.8	4.0 lb
	mm	73.0	77.3	75.0	38.9	45.0	162.6	182.9	23.0	20.0	1.8 kg
1	inch	2.8	3.5	2.9	1.7	2.1	6.7	7.7	0.9	1.0	4.6 lb
	mm	73.0	88.7	75.0	44.3	53.5	170.2	195.6	23.0	25.0	2.1 kg