

### Features

- Industrial quality miniature actuator
- Industrial grade True Union ball valve
- 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)
- Union nut locking device prevents back-off
- Energized PTFE ball seats and dual leak free stem seal design
- EPS - Electronic Positioner System models available
- Actuator approvals by CSA and CE
- Valve certified per NSF61/ NSF372 for potable/drinking water

### Applications

Electric actuated full port PVC ball valves are typically used to control water and other media compatible with the materials of construction (not suitable for compressed air or gas). Ideal for applications where NSF approved construction is required for potable drinking water. 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>	PVC cell class 12454 per ASTM D1784 (dark gray)
<b>Ball/Stem</b>	PVC cell class 12454 per ASTM D1784
<b>Ball Seats</b>	PTFE (Teflon) energized with EPDM
<b>Stem Seals</b>	Dual EPDM seals
<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

These electric operated PVC ball valves offer a very small and compact design. Energized PTFE ball seats are provide low torque and extended cycle life. Dual stem seals and adjustable ball seat carrier contribute to a leak free design. Unique union nut locking device prevents back off due to vibration or thermal cycling. Rugged Type 4X/IP67 corrosion resistant actuator includes a manual override, valve position confirmation switches (on-off models) and motor overload protection. 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 models include ISO5211 mounting and IP67 enclosure

#### Valves

NSF International certified to:

- NSF/ANSI 61 G
- NSF/ANSI 372 Drinking Water
- ANSI B1.20.1
- ASTM D1784, cell class 12454



Certified to  
NSF/ANSI CAN 61  
& NSF/ANSI 372

### 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)

Union nut locking device prevents back-off from vibration or thermal cycling

Certified per NSF61 and NSF372 for potable/drinking water



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

Leak free dual stem seals

Energized PTFE ball seats for reduced torque and extended cycle life



Visual Valve Position Indicator

### Pressure-Temperature\*

**Pressure Rating:** 232 PSI (16 Bar) at 73°F (23°C)

Vacuum 29 inch Hg

**Ball Valve Temperature Rating:** 32 to 140° F (0 to 60° C)

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

\*See P/T chart

### Pressure/Temperature Chart

P/T Chart (PSI/°F)							
PSI	232	232	232	180	150	100	35
°F	32	50	70	90	110	120	140

P/T Chart (BAR/°C)							
Bar	16	16	16	12	10	7	2.4
°C	0	10	21	32	43	49	60

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

Stock Number	Pipe Size	Pipe O.D.	Cv Flow	Pressure	Cycle Time /90°	Voltage	Current	Agency	Electrical
<b>110 VAC ELECTRIC ACTUATED PVC BALL VALVES: ON-OFF version</b>									
<b>566204</b>	1/2	0.84	14	232	12	AC110 50/60Hz	0.3	CSA, CE	B
<b>566206</b>	3/4	1.05	27	232	12	AC110 50/60Hz	0.3	CSA, CE	B
<b>566208</b>	1	1.32	54	232	12	AC110 50/60Hz	0.3	CSA, CE	B
<b>24 VDC ELECTRIC ACTUATED PVC BALL VALVES: ON-OFF version</b>									
<b>566246</b>	1/2	0.84	14	232	11	DC24	0.7	CSA, CE	G
<b>566247</b>	3/4	1.05	27	232	11	DC24	0.7	CSA, CE	G
<b>566249</b>	1	1.32	54	232	11	DC24	0.7	CSA, CE	G

\* Maximum pressure at 73° F, pressure decreases as temperature increases (see P/T chart)

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

PVC valves include both IPS glue sockets and NPT end connectors

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 weatherproof. 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)	Pipe O.D. (inch)	Cv Flow Factor	Pressure Max. (PSI)*	Cycle Time /90° (seconds)	Voltage	Current (amps)	Agency Approvals	Electrical Drawing
<b>110 VAC ELECTRIC ACTUATED PVC BALL VALVES: EPS POSITIONER 4-20mA</b>									
<b>566257</b>	1/2	0.84	14	232	12	AC110 50/60Hz	0.30	CSA, CE	E
<b>566258</b>	3/4	1.05	27	232	12	AC110 50/60Hz	0.30	CSA, CE	E
<b>566259</b>	1	1.32	54	232	12	AC110 50/60Hz	0.30	CSA, CE	E
<b>24 VDC ELECTRIC ACTUATED PVC BALL VALVES: EPS POSITIONER 4-20mA</b>									
<b>566267</b>	1/2	0.84	14	232	15	DC24	0.7	CSA, CE	GEY
<b>566268</b>	3/4	1.05	27	232	15	DC24	0.7	CSA, CE	GEY
<b>566269</b>	1	1.32	54	232	15	DC24	0.7	CSA, CE	GEY

\* Maximum pressure at 73° F, pressure decreases as temperature increases (see P/T chart)

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

PVC valves include both IPS glue sockets and NPT end connectors

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)	Pipe O.D. (mm)	Kv Flow Factor	Pressure Max. (Bar) *	Cycle Time /90° (seconds)	Voltage	Current (amps)	Agency Approvals	Electrical Drawing
<b>110 VAC ELECTRIC ACTUATED PVC BALL VALVES: ON-OFF version</b>									
<b>566204</b>	1/2	21.34	12	16	12	AC110 50/60Hz	0.3	CSA, CE	B
<b>566206</b>	3/4	26.67	23	16	12	AC110 50/60Hz	0.3	CSA, CE	B
<b>566208</b>	1	33.53	46	16	12	AC110 50/60Hz	0.3	CSA, CE	B
<b>24 VDC ELECTRIC ACTUATED PVC BALL VALVES: ON-OFF version</b>									
<b>566246</b>	1/2	21.34	12	16	11	DC24	0.7	CSA, CE	G
<b>566247</b>	3/4	26.67	23	16	11	DC24	0.7	CSA, CE	G
<b>566249</b>	1	33.53	46	16	11	DC24	0.7	CSA, CE	G

\* Pressure at 23° 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)

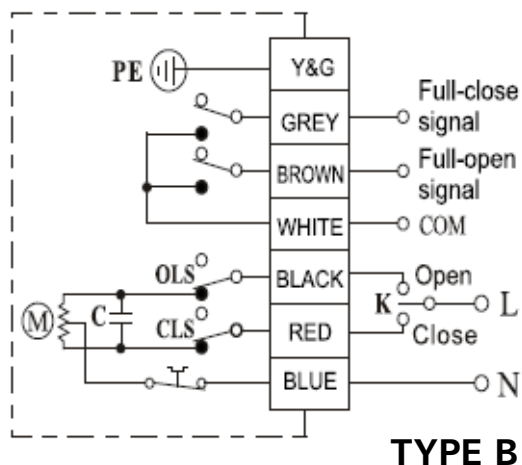
Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure Max. (Bar) *	Cycle Time /90° (seconds)	Voltage	Current (amps)	Agency Approvals	Electrical Drawing
<b>110 VAC ELECTRIC ACTUATED PVC BALL VALVES: EPS POSITIONER 4-20mA</b>									
<b>566257</b>	1/2	21.34	12	16	12	AC110 50/60Hz	0.30	CSA, CE	E
<b>566258</b>	3/4	26.67	23	16	12	AC110 50/60Hz	0.30	CSA, CE	E
<b>566259</b>	1	33.53	46	16	12	AC110 50/60Hz	0.30	CSA, CE	E
<b>24 VDC ELECTRIC ACTUATED PVC BALL VALVES: EPS POSITIONER 4-20mA</b>									
<b>566267</b>	1/2	21.34	12	16	15	DC24	0.7	CSA, CE	GEY
<b>566268</b>	3/4	26.67	23	16	15	DC24	0.7	CSA, CE	GEY
<b>566269</b>	1	33.53	46	16	15	DC24	0.7	CSA, CE	GEY

\* Pressure at 23° C (see P/T chart for maximum pressure at higher temperatures)

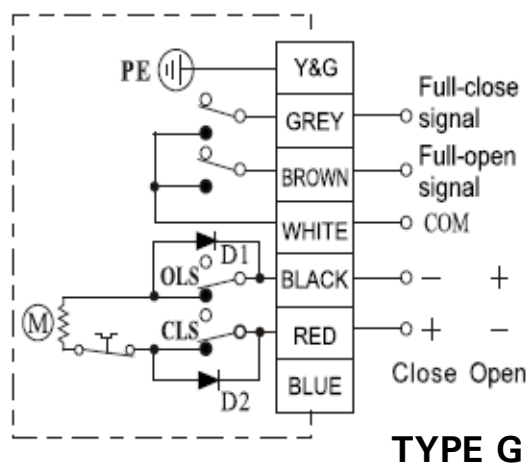
Voltage Tolerance: AC +/- 10%, Duty Cycle: 60%

## Electrical Wiring Diagrams

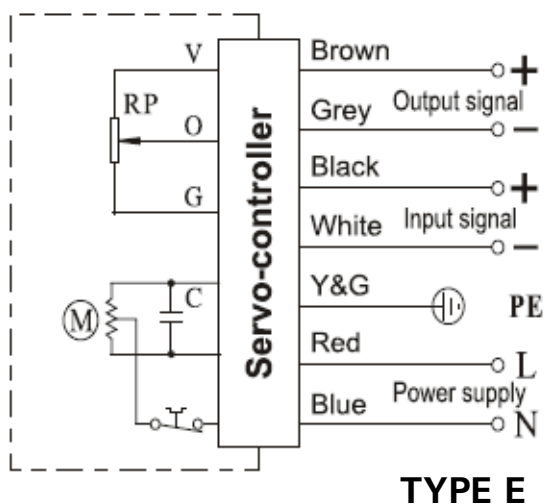
ON-OFF Valves  
AC Voltages



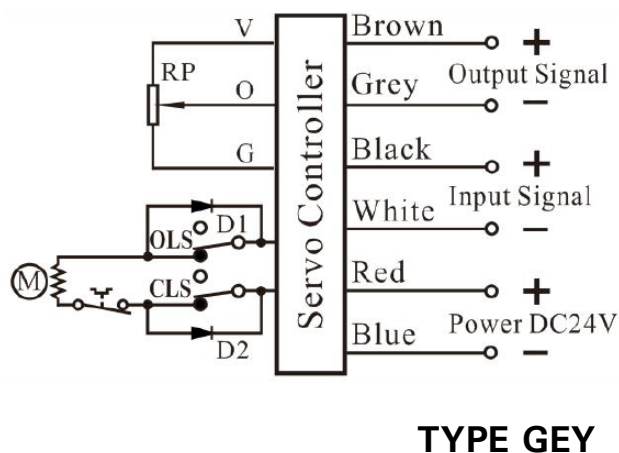
ON-OFF Valves  
DC Voltages



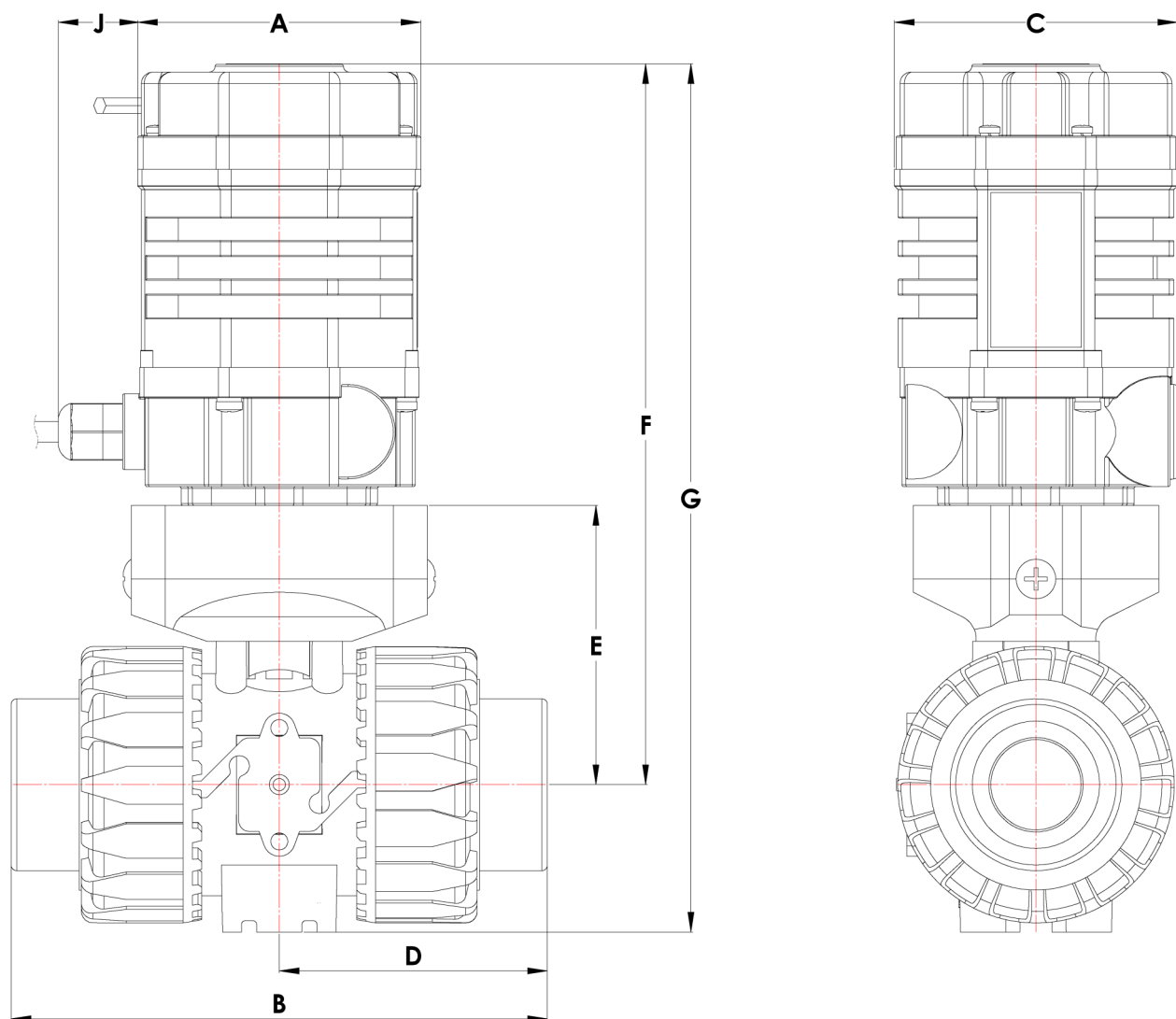
Actuated Valves with EPS Positioner  
AC Voltages



Actuated Valves with EPS Positioner  
DC Voltages



## Dimensions



Pipe Size (inch)		A	B	C	D	E	F	G	J	Weight
1/2	inch	2.95	4.62	2.95	2.31	2.28	6.89	8.03	0.85	3.4 lb
	mm	75	117.4	75	58.8	57.9	174.9	203.9	21.5	1.54 kg
3/4	inch	2.95	5.11	2.95	2.57	2.74	7.34	8.69	0.85	3.75 lb
	mm	75	129.9	75	65.2	69.5	186.5	220.8	21.5	1.70 kg
1	inch	2.95	5.59	2.95	2.81	2.91	7.52	9.06	0.85	4 lb
	mm	75	142	75	71	74	191	230	21.5	1.81 kg