

Features

- Direct mount ISO5211 Full Port stainless steel ball valve
- 2-piece ANSI Class 150 flanged body
- 275 PSI working pressure at 100°F (38°C)
- Highly visual dome style valve position indicator
- Rugged aluminum Type 4X weatherproof enclosure
- Heavy duty motors with overload protection
- Thermostatically controlled anti-condensation heater
- Manual override with end of travel mechanical stops
- Two auxiliary limit switches included with on-off units
- Triple RTFE/Viton live loaded stem seals, adjustable
- Silicone free valve with anti-static device
- EPS - Electronic Positioning System models available
- Actuator CSA Listed per UL429 and CSA C22.2

Applications

On-Off or modulating control (with EPS) of water, air, oil and other media compatible with the materials of construction. Steam service up to 25 PSI with optional high temperature mounting kit. Suitable for vacuum service up to 29inHg. Actuators designed for 70% duty cycle.

Operation

On-Off 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-Electronic Positioning System provide 0-100% control of flow via a 4-20mA input control signal. Power connections via included cable connector or optional 1/2" NPT conduit adapter.

Construction

Valve Body	316 stainless steel ASTM A351 CF8M
Ball/Stem	316 stainless steel
Ball Seats	RTFE (reinforced Teflon)
Stem Seals	RTFE / Viton
Anti-static Device	Ball to Stem - (1/2" - 4") + Stem to Body (3/4" - 4")
Gear Drive	Heavy duty alloy steel /aluminium bronze, self locking
Actuator Enclosure	Aluminum, polyester powder painted, Type 4X, IP67
Visual Valve Position Indicator	Clear polycarbonate cover, red/yellow open-closed
Fasteners	Stainless Steel
Auxiliary Limit Switches	2 x SPDT 3A@125/250VAC, 30VDC resistive load, on-off actuators only



Description

Electric actuated flanged stainless steel full port ball valves are investment cast with unrestricted flow and minimum pressure loss. Adjustable live loaded stem seal packing helps compensate for wear, pressure and/or temperature fluctuations, extending the cycle life of the valve. Rugged corrosion resistant electric actuator includes a manual override, valve position confirmation switches (on-off units), thermostatically controlled anti-condensation heater, and over-torque protection.

Approvals

Actuators

- CSA listed:
 - UL429
 - CSA C22.2 No. 139
 - Type 4X weatherproof enclosure
- CE conformance
 - ISO5211 mounting
 - IP67 weatherproof enclosure



Valves

- Pressure tested to API-598, EN12266
- CE per PED 97/23/EC

Construction Features

Auxiliary Limit Switches(2) for confirming valve position, standard with on-off units

Heavy duty integral motor design significantly reduces physical size of actuator

Rugged polyester powder coated aluminum corrosion resistant Type 4X weather-proof enclosure.

150# Flanged Full Port; 316 stainless steel body, ball and stem



Anti-Condensation Heater

Terminal Box, wire directly to terminal strip via included cable connector or optional 1/2" NPT conduit adapters.

Manual Override with protective cover

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

Direct mount ISO5211 mounting flange

Triple RTFE/Viton live loaded stem seals design, adjustable

Valve Standard Compliance:

End Connection: ANSI Class 150 Flange RF
Face to Face: ANSI B16.10 Class 150
Flange Dimensions: ANSI B16.5 Class 150
Pressure Testing: API 598, EN12266
Direct Mounting Pad: ISO5211, square stem

Pressure-Temperature*

Pressure Rating: 275 PSI* (19 Bar), Vacuum 29in Hg
Ball Valve Temperature Rating: -4 to 356° F (-20 to 180° C)
Actuator Temperature Rating: -8 to +131° F (-25 to 55° C)

*See P/T chart



Visual Valve Position Indicator

Pressure/Temperature Chart (PSI/°F)

P/T Chart						
PSI	275	275	275	260	240	225
°F	0	50	100	150	200	250

Pressure/Temperature Chart (Bar/°C)

P/T Chart						
Bar	19	19	19	18	16.5	15.5
°C	-18	10	38	66	93	121

Specifications: On-Off Versions (English units)

Stock	Pipe Size	Orifice Size	Cv Flow	Pressure	Cycle Time/90°	Voltage	Current	Duty	Electrical
120 VAC ELECTRIC ACTUATED 150# Flanged STAINLESS BALL VALVE, ON-OFF version									
566004C	1/2	0.6	15	275	25/21	110 VAC, 50/60Hz	0.27	70%	B
566006C	3/4	0.8	35	275	25/21	110 VAC, 50/60Hz	0.27	70%	B
566008C	1	1.0	60	275	25/21	110 VAC, 50/60Hz	0.27	70%	B
566012C	1-1/2	1.5	125	275	25/21	110 VAC, 50/60Hz	0.27	70%	B
566016C	2	2.0	240	275	25/21	110 VAC, 50/60Hz	0.27	70%	B
566018A	3	3.2	580	275	30/25	110 VAC, 50/60Hz	0.73	70%	B
566019A	4	4.0	1020	275	30/25	110 VAC, 50/60Hz	0.73	70%	B
24 VDC ELECTRIC ACTUATED 150# Flanged STAINLESS BALL VALVE, ON-OFF version									
566044C	1/2	0.6	15	275	20	DC24	1.28	70%	G
566045C	3/4	0.8	35	275	20	DC24	1.28	70%	G
566046C	1	1.0	60	275	20	DC24	1.28	70%	G
566048C	1-1/2	1.5	125	275	20	DC24	1.28	70%	G
566049C	2	2.0	240	275	20	DC24	1.28	70%	G
566051A	3	3.2	580	275	30	DC24	3.57	70%	G
566052A	4	4.0	1020	275	30	DC24	3.57	70%	G

* Pressure @ 100° F (see P/T chart for higher temperatures)

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 primary gear drive system is made of heat treated alloy steel for high strength, excellent wear resistance and high torque. Final stage aluminium bronze worm gear drive is 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).

The standard 4 watt thermostatically controlled anti-condensation heater will help prevent failures due to condensation buildup inside the actuator.

Robust aluminium alloy housing is corrosion-resistant, polyester powder coated, and weatherproof. The housing is rated Type 4X (IP67) and certified by CSA. Heavy duty motors are integral to the actuator housing. The actuator has the smallest physical size to power ratio of most actuator on the market.

Electrical wiring is directly to a terminal strip via cable connectors (included) or optional 1/2" NPT conduit adapters.

Specifications: Valves with EPS Positioner (English units)

Stock Number	Pipe Size (inch)	Orifice Size (inch)	Cv Flow Factor	Pressure Max.(PSI)*	Cycle Time/90° (seconds)	Voltage	Current (amps)	Duty Cycle	Electrical Dwg.
120 VAC ELECTRIC 150# FLANGED STAINLESS BALL VALVE with EPS POSITIONER 4-20mA input									
566067C	1/2	0.6	15	275	25/21	110 VAC, 50/60Hz	0.27	70%	E
566068C	3/4	0.8	35	275	25/21	110 VAC, 50/60Hz	0.27	70%	E
566060C	1	1.0	60	275	25/21	110 VAC, 50/60Hz	0.27	70%	E
566062C	1-1/2	1.5	125	275	25/21	110 VAC, 50/60Hz	0.27	70%	E
566063C	2	2.0	240	275	25/21	110 VAC, 50/60Hz	0.27	70%	E
566065A	3	3.2	580	275	30/25	110 VAC, 50/60Hz	0.73	70%	E
566066A	4	4.0	1020	275	30/25	110 VAC, 50/60Hz	0.73	70%	E
24 VDC ELECTRIC 150# FLANGED STAINLESS BALL VALVE with EPS POSITIONER 4-20mA input									
566070C	1/2	0.6	15	275	30	DC24	1.0	70%	GEY
566071C	3/4	0.8	35	275	30	DC24	1.0	70%	GEY
566072C	1	1.0	60	275	30	DC24	1.0	70%	GEY
566074C	1-1/2	1.5	125	275	30	DC24	1.0	70%	GEY
566075C	2	2.0	240	275	30	DC24	1.0	70%	GEY
566077A	3	3.2	580	275	30	DC24	1.7	70%	GE
566078A	4	4.0	1020	275	30	DC24	1.7	70%	GE

* Pressure @ 100° F (see P/T chart for higher temperatures)

EPS - Electronic Positioning System

Valve positioning and how it works?

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 input control signal. Any change in the control input signal results in a corresponding and proportional change in the position of the actuator (valve).

This is achieved with a unique built in electronic positioning module. The module is fully potted to help protect the electronics from vibration and moisture resistance.

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 self-calibrating which virtually eliminates "hunting". The following functions are standard:

- Position monitoring output signal in same format as input. Ex: 4-20mA input, 4-20mA output
- Adjustable forward or reversing action.
- Deadband adjustment
- Selectable fail mode: fail closed, fail open or stop in place (for loss of input command signal).
- Electric manual control with onboard switches
- Fault LED lights indicate valve jam or signal loss
- Electronic brake function



Electric Actuated Ball Valves

150# Flanged Stainless Steel, Full Port On-Off and EPS Positioner Models

SERIES
5660

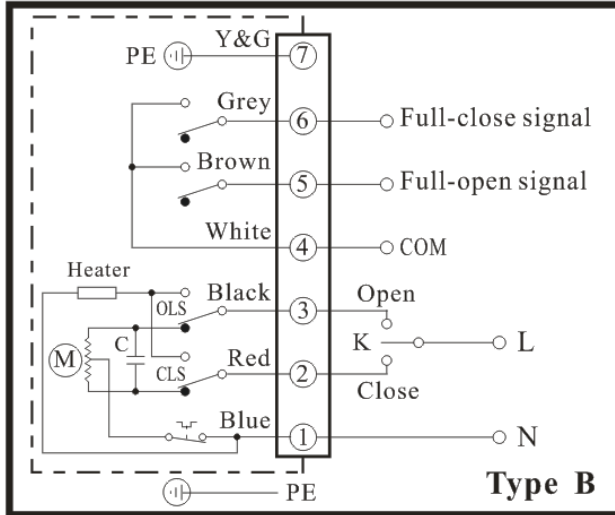
Specifications: On-Off and EPS Positioners (Metric units)

Stock	Pipe Size	Orifice Size	Kv Flow	Pressure	Cycle Time/90°	Voltage	Current	Duty	Electrical
120 VAC ELECTRIC 150# FLANGED STAINLESS BALL VALVE, ON-OFF version									
566004C	1/2	15.0	13	19	25/21	110 VAC, 50/60Hz	0.27	70%	B
566006C	3/4	20.0	30	19	25/21	110 VAC, 50/60Hz	0.27	70%	B
566008C	1	11.5	52	19	25/21	110 VAC, 50/60Hz	0.27	70%	B
566012C	1-1/2	12.5	108	19	25/21	110 VAC, 50/60Hz	0.27	70%	B
566016C	2	15.0	207	19	25/21	110 VAC, 50/60Hz	0.27	70%	B
566018A	3	20.0	501	19	30/25	110 VAC, 50/60Hz	0.73	70%	B
566019A	4	25.0	882	19	30/25	110 VAC, 50/60Hz	0.73	70%	B
24 VDC ELECTRIC 150# FLANGED STAINLESS BALL VALVE, ON-OFF version									
566044C	1/2	15.0	13	19	20	DC24	1.28	70%	G
566045C	3/4	20.0	30	19	20	DC24	1.28	70%	G
566046C	1	11.5	52	19	20	DC24	1.28	70%	G
566048C	1-1/2	12.5	108	19	20	DC24	1.28	70%	G
566049C	2	15.0	207	19	20	DC24	1.28	70%	G
566051A	3	20.0	501	19	30	DC24	3.57	70%	G
566052A	4	25.0	882	19	30	DC24	3.57	70%	G
120 VAC ELECTRIC 150# FLANGED STAINLESS BALL VALVE with EPS POSITIONER 4-20mA input									
566067C	1/2	15.0	13	19	25/21	110 VAC, 50/60Hz	0.27	70%	E
566068C	3/4	20.0	30	19	25/21	110 VAC, 50/60Hz	0.27	70%	E
566060C	1	11.5	52	19	25/21	110 VAC, 50/60Hz	0.27	70%	E
566062C	1-1/2	12.5	108	19	25/21	110 VAC, 50/60Hz	0.27	70%	E
566063C	2	15.0	207	19	25/21	110 VAC, 50/60Hz	0.27	70%	E
566065A	3	20.0	501	19	30/25	110 VAC, 50/60Hz	0.73	70%	E
566066A	4	25.0	882	19	30/25	110 VAC, 50/60Hz	0.73	70%	E
24 VDC ELECTRIC 150# FLANGED STAINLESS BALL VALVE with EPS POSITIONER 4-20mA input									
566070C	1/2	15.0	13	19	30	DC24	1.0	70%	GEY
566071C	3/4	20.0	30	19	30	DC24	1.0	70%	GEY
566072C	1	11.5	52	19	30	DC24	1.0	70%	GEY
566074C	1-1/2	12.5	108	19	30	DC24	1.0	70%	GEY
566075C	2	15.0	207	19	30	DC24	1.0	70%	GEY
566077A	3	20.0	501	19	30	DC24	1.7	70%	GE
566078A	4	25.0	882	19	30	DC24	1.7	70%	GE

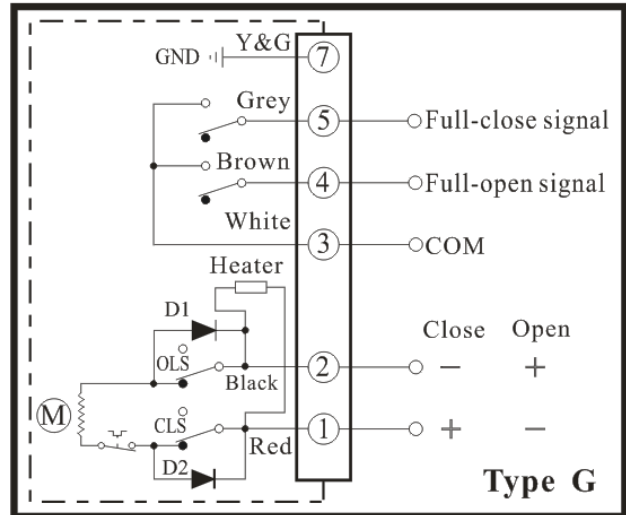
* Pressure @ 70° C (see P/T chart for higher temperatures)

Electrical Wiring

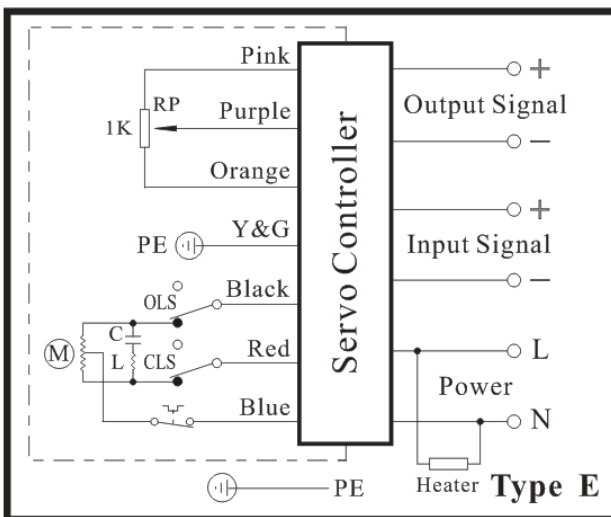
ON-OFF Valves AC Voltages



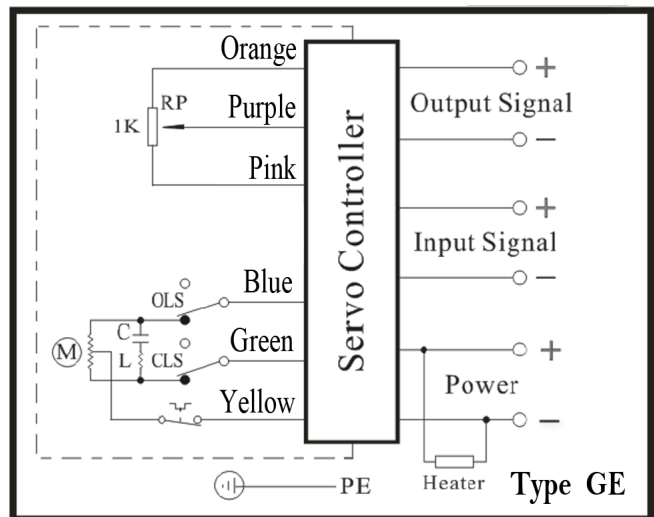
ON-OFF Valves DC Voltages



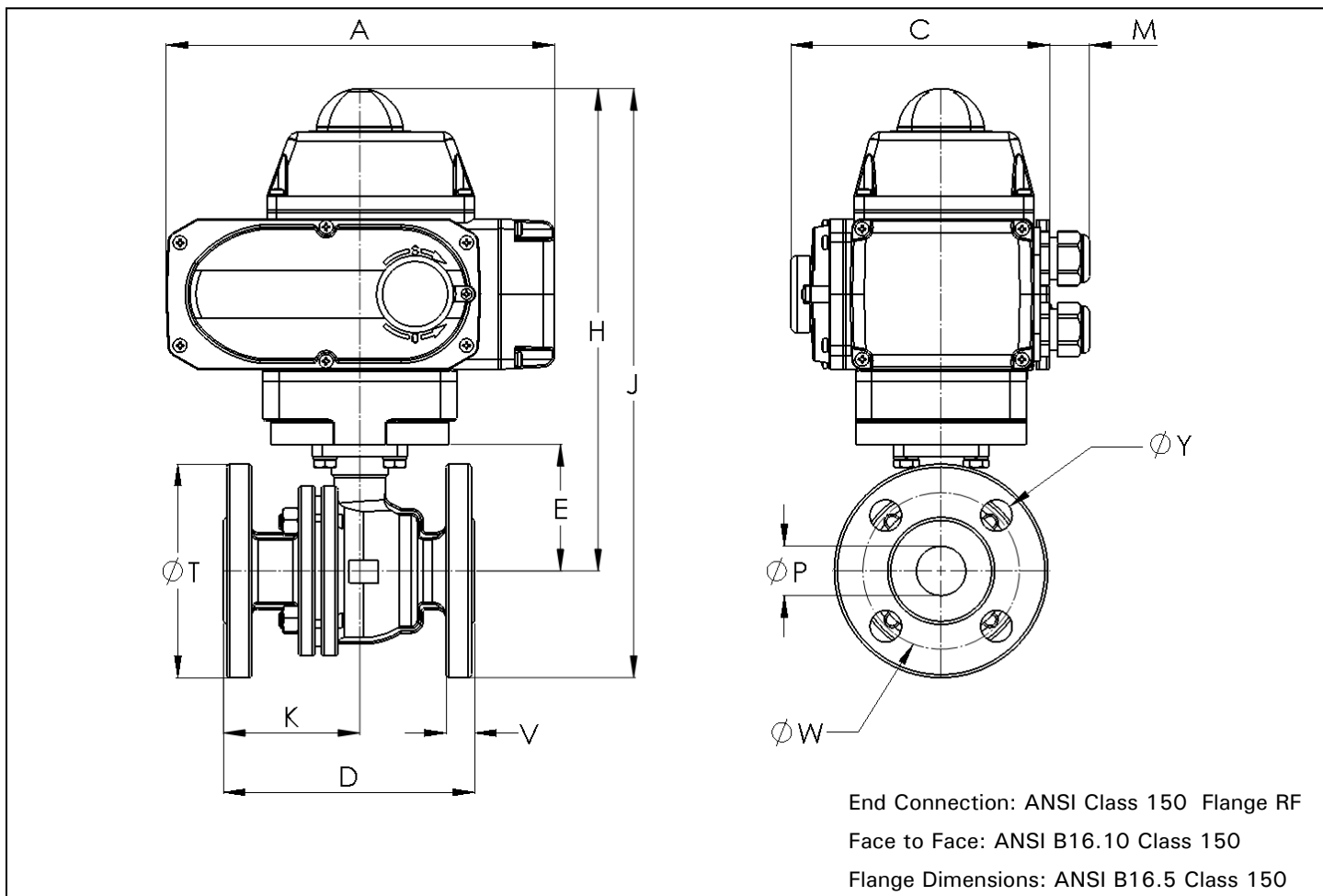
Valves with EPS Positioners AC Voltages



Valves with EPS Positioners DC Voltages



Dimensions:



Pipe Size		A	C	D	E	H	J	K	M	P	T	V	W	Y	Weight (AC/DC)
1/2	inch	6.4	4.7	4.3	1.9	8.3	10.0	2.5	1.0	0.6	3.5	0.4	2.4	4) 0.6	9.7 lb
	mm	162.0	118.5	108.0	48.0	210.0	254.5	62.5	25.0	15.0	89.0	11.2	60.5	4) 16.0	4.0 kg
3/4	inch	6.4	4.7	4.6	2.1	8.5	10.4	2.6	1.0	0.8	3.9	0.5	2.8	4) 0.6	10.7 lb
	mm	162.0	118.5	117.0	53.5	215.5	264.8	66.0	25.0	20.0	98.6	12.7	70.0	4) 16.0	4.9 kg
1	inch	6.4	4.7	5.0	2.5	8.9	11.0	2.9	1.0	1.0	4.3	0.6	3.1	4) 0.6	12.4 lb
	mm	162.0	118.5	127.0	64.0	226.0	280.0	74.1	25.0	25.0	108.0	14.3	79.2	4) 16.0	5.6 kg
1-1/2	inch	6.4	4.7	6.5	3.0	9.4	11.9	3.7	1.0	1.5	5.0	0.7	3.9	4) 0.6	18.2 lb
	mm	162.0	118.5	165.0	76.0	238.0	302.0	93.2	25.0	38.0	127.0	17.5	98.6	4) 16.0	8.3 kg
2	inch	6.4	4.7	7.0	3.3	9.7	12.7	3.9	1.0	2.0	6.0	0.8	4.8	4) 0.7	24.0 lb
	mm	162.0	118.5	178.0	84.5	246.5	323.0	99.6	25.0	50.0	153.0	19.1	120.7	4) 19.0	10.9 kg
3	inch	10.1	6.30	8.0	4.6	14.6	18.4	4.2	1.0	3.0	7.5	0.9	6.0	4) 0.7	56.1 / 57.4 lb
	mm	256.0	160	203.0	116.0	372.0	467.0	107.0	25.0	76.0	191.0	23.9	152.4	4) 19.0	25.4 / 26.0 kg
4	inch	10.1	6.30	9.0	6.1	16.2	20.7	4.4	1.0	3.9	9.0	0.9	7.5	8) 0.7	77.4 / 78.7 lb
	mm	256.0	160	229.0	155.0	411.0	525.0	111.0	25.0	100.0	229.0	23.9	190.5	8) 19.0	35.1 / 35.7 kg