

Features

- High pressure (2000 CWP)
- Fire Safe approved (API 607 6th Edition)
- 316 Stainless Steel 3-piece investment cast body
- Swing-out center section
- RTFE (reinforced Teflon) ball seats
- Braided graphite/Viton live loaded and adjustment stem seals
- Valves tested accordance with API 598
- Highly visual dome style valve position indicator
- Rugged aluminum IP67 weatherproof enclosure
- Heavy duty motors with overload protection
- Thermostatically controlled anti-condensation heater
- Manual override with end of travel mechanical stops
- Actuators CSA listed per UL429 and CSA C22.2

Applications

Electric actuated stainless steel high pressure ball valves with braided graphite/ viton seals are typically used for throttling control 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 29inchHg. Actuator designed for 70% duty cycle.

Not suitable for potable water, oxygen or high purity fluid applications.

Operation

Electric actuated valves with EPS- Electronic Positioning System provide an accurate valve positioning function whereby the movement of the actuator is controlled by 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 ball). Flow is adjustable anywhere between 0-100%. Unique electronic positioning module is fully potted to help protect the electronics from vibration/moisture resistance. 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	Braided Graphite
Anti-static Device	Ball to Stem (1/4" - 3") + Stem to Body (1-1/2" - 3")
Gear Drive	Heavy duty alloy steel and aluminium bronze
Actuator Enclosure	Aluminum, polyester powder painted, Type 4X, IP67
Visual Valve Position Indicator	Clear polycarbonate cover, red/yellow open-closed
Fasteners	Stainless Steel
Position Feedback	4-20mA analog output signal



Description

Electric actuated EPS 3-piece stainless steel full port ball valves are investment cast with unrestricted flow and minimum pressure loss. Electronic Positioning System utilize a servo-controlled positioner for valve positioning and modulation. 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, 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- EN 602041:2006



Valves

- Fire Safe: API 607 6th Edition
- 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-PED 2014/68/UE

Construction Features

Positioner Feedback—
4-20mA

Heavy duty integral motor
design significantly reduc-
es physical size of actua-
tor

EPS Servo-Controlled
Positioner

Rugged polyester powder
coated aluminum corro-
sion resistant Type 4X
weatherproof enclosure

Braided Graphite stem
seals

316SS Ball and Stem,
RTFE ball seats

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, no
brackets required

Full Port 316 stainless steel
ball valve, repairable and
easily removed from pipe line



Visual Valve
Position Indicator

Pressure Rating

Pressure Rating: 2000 PSI (138 Bar) CWP non-shock

Temperature Range

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 (pg 3 & 4)

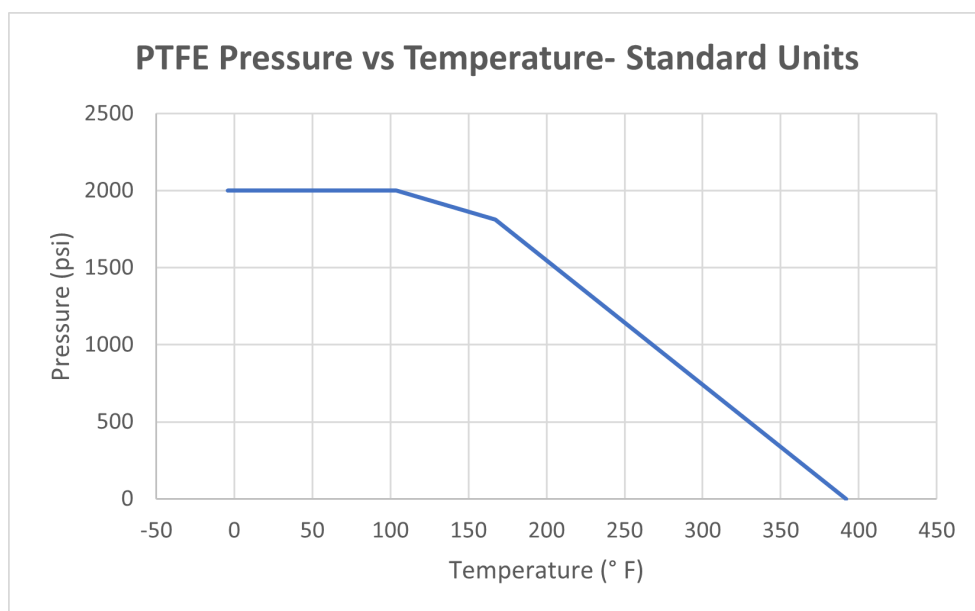
Specifications: (English units)

Stock Number	Pipe Size (NPT)	Orifice Size (inch)	Cv Flow Factor	Pressure Max.(PSI)*	Cycle Time/90° (seconds)	Voltage	Current (amps)	Duty Cycle	Electrical Dwg.
120 VAC ELECTRIC ACTUATED HIGH PRESSURE STAINLESS BALL VALVE with EPS POSITIONER 4-20mA input									
542202	1/4	0.45	14.2	2000	20	110 VAC,50/60Hz	0.27	70%	E
542203	3/8	0.49	16.7	2000	20	110 VAC,50/60Hz	0.27	70%	E
542204	1/2	0.59	24.1	2000	20	110 VAC,50/60Hz	0.27	70%	E
542206	3/4	0.79	44.6	2000	20	110 VAC,50/60Hz	0.27	70%	E
542208	1	1.00	72.7	2000	25	110 VAC,50/60Hz	0.64	70%	E
542210	1-1/4	1.25	122.0	2000	25	110 VAC,50/60Hz	0.64	70%	E
542212	1-1/2	1.50	176.3	2000	25	110 VAC,50/60Hz	0.64	70%	E
542216	2	2.00	313.1	2000	30	110 VAC,50/60Hz	0.73	70%	E
24 VDC ELECTRIC ACTUATED HIGH PRESURE STAINLESS BALL VALVE with EPS POSITIONER 4-20mA input									
542244	1/4	0.45	14.2	2000	20	DC24	1.28	70%	GEY
542245	3/8	0.49	16.7	2000	20	DC24	1.28	70%	GEY
542246	1/2	0.59	24.1	2000	20	DC24	1.28	70%	GEY
542247	3/4	0.79	44.6	2000	20	DC24	1.28	70%	GEY
542249	1	1.00	72.7	2000	30	DC24	2.03	70%	GEY
542250	1-1/4	1.25	122.0	2000	30	DC24	2.03	70%	GEY
542251	1-1/2	1.50	176.3	2000	30	DC24	2.03	70%	GEY
542252	2	2.00	313.1	2000	30	DC24	3.57	70%	GEY

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

Pressure/Temperature Chart 2000 PSI (138 Bar)

P/T Chart (PSI/°F)				
°F	-4	104	167	392
PSI	2000	2000	1812	0



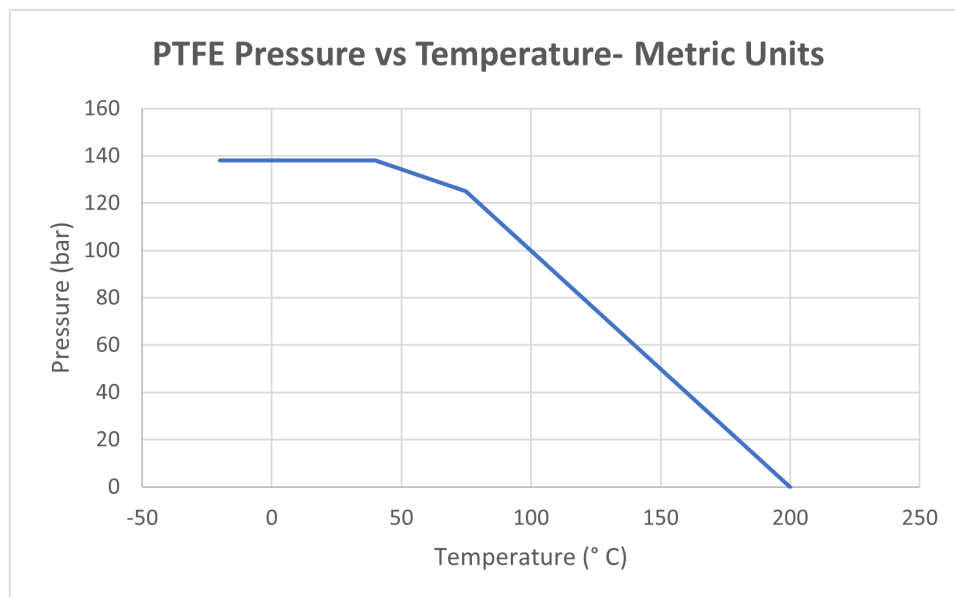
Specifications: (Metric units)

Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure Max.(Bar)*	Cycle Time/90° (seconds)	Voltage	Current (amps)	Duty Cycle	Electrical Dwg.
120 VAC ELECTRIC ACTUATED HIGH PRESSURE STAINLESS BALL VALVE with EPS POSITIONER 4-20mA input									
542202	1/4	11.5	12.3	138	20	110 VAC,50/60Hz	0.27	70%	E
542203	3/8	12.5	14.4	138	20	110 VAC,50/60Hz	0.27	70%	E
542204	1/2	15.0	20.8	138	20	110 VAC,50/60Hz	0.27	70%	E
542206	3/4	20.0	38.6	138	20	110 VAC,50/60Hz	0.27	70%	E
542208	1	25.0	62.9	138	25	110 VAC,50/60Hz	0.64	70%	E
542210	1-1/4	32.0	105.5	138	25	110 VAC,50/60Hz	0.64	70%	E
542212	1-1/2	38.0	152.5	138	25	110 VAC,50/60Hz	0.64	70%	E
542216	2	50.0	270.8	138	30	110 VAC,50/60Hz	0.73	70%	E
24 VDC ELECTRIC ACTUATED HIGH PRESSURE STAINLESS BALL VALVE with EPS POSITIONER 4-20mA input									
542244	1/4	11.5	12.3	138	20	DC24	1.28	70%	GEY
542245	3/8	12.5	14.4	138	20	DC24	1.28	70%	GEY
542246	1/2	15.0	20.8	138	20	DC24	1.28	70%	GEY
542247	3/4	20.0	38.6	138	20	DC24	1.28	70%	GEY
542249	1	25.0	62.9	138	30	DC24	2.03	70%	GEY
542250	1-1/4	32.0	105.5	138	30	DC24	2.03	70%	GEY
542251	1-1/2	38.0	152.5	138	30	DC24	2.03	70%	GEY
542252	2	50.0	270.8	138	30	DC24	3.57	70%	GEY

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

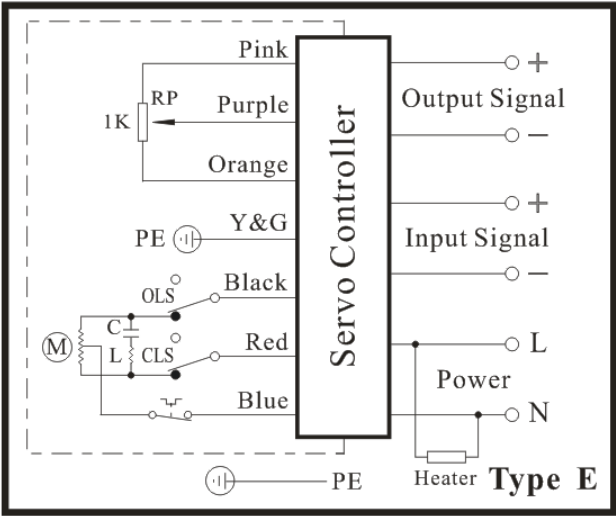
Pressure/Temperature Chart 2000 PSI (138 Bar)

P/T Chart (BAR/°C)				
°C	-20	40	75	200
Bar	138	138	125	0

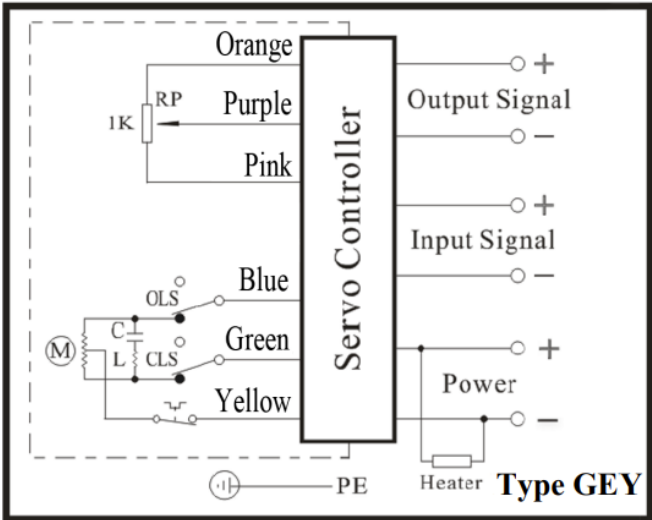


Electrical Wiring

Valves with EPS Positioners AC Voltages



Valves with EPS Positioners DC Voltages



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).

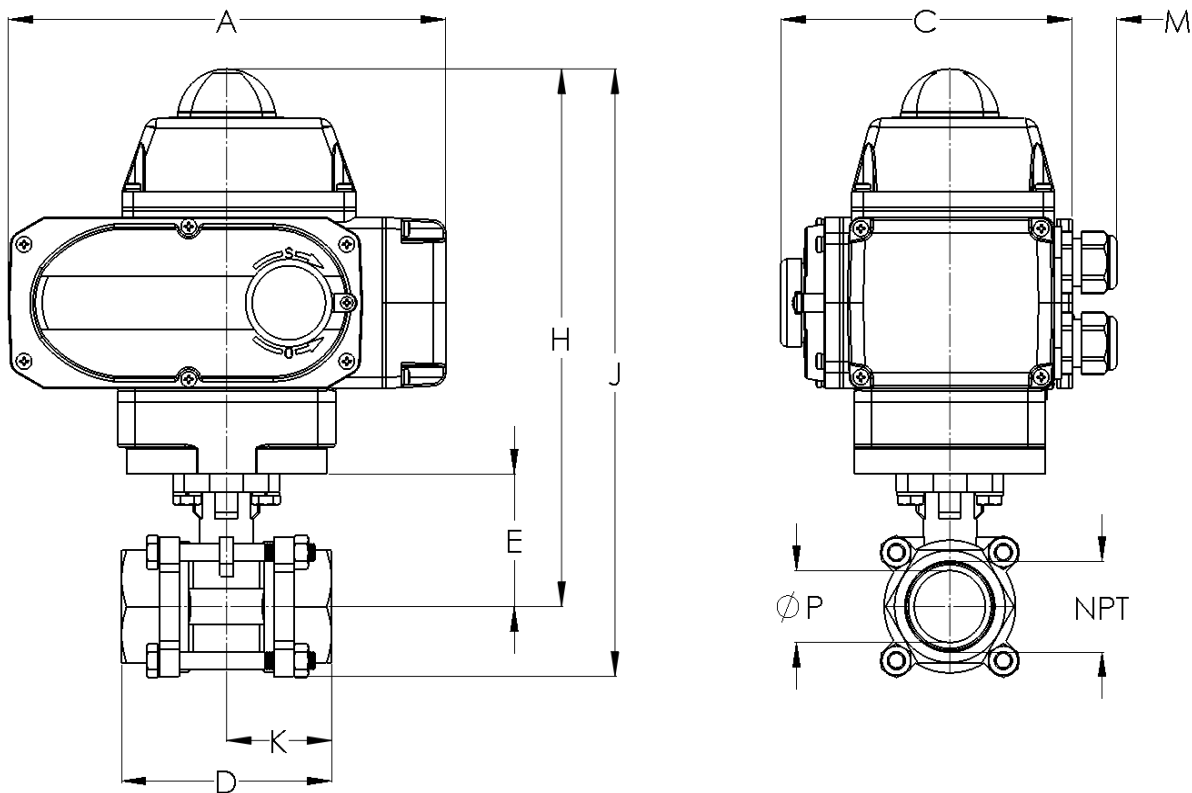
Unique electronic positioning module is fully potted to help protect the electronics from vibration/moisture resistance.

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.
- Sensitivity, Zero and Span adjustments
- Selectable fail mode: fail closed, fail open or stop in place (for loss of input command signal).
- Electric manual control with onboard selector switches
- Fault LED lights indicate valve jam or signal loss
- Electronic brake function

Dimensions:



Pipe Size (NPT)		A	C	D	E	H	J	K	M	P	Weight (AC/DC)
1/4	inch	6.4	4.7	2.6	1.5	7.7	9.0	1.3	1.0	0.5	8.2 lb
	mm	162.0	118.5	65.0	37.5	195.6	228.6	32.5	25.0	11.5	3.7 kg
3/8	inch	6.4	4.7	2.6	1.5	7.7	9.0	1.3	1.0	0.5	8.1 lb
	mm	162.0	118.5	65.0	37.5	195.6	228.6	32.5	25.0	12.5	3.7 kg
1/2	inch	6.4	4.7	3.0	1.5	7.7	9.0	1.5	1.0	0.6	8.2 lb
	mm	162.0	118.5	75.0	37.5	195.6	228.6	37.5	25.0	15.0	3.7 kg
3/4	inch	6.4	4.7	3.1	2.0	8.2	9.4	1.6	1.0	0.8	9.0 lb
	mm	162.0	118.5	80.0	50.0	208.3	238.8	40.0	25.0	20.0	4.1 kg
1	inch	7.7	5.0	3.5	2.4	9.5	10.8	1.8	1.0	1.0	13.3 lb
	mm	196.5	126.0	90.0	60.0	241.3	274.3	45.0	25.0	25.0	6.0 kg
1-1/4	inch	7.7	5.0	4.3	3.0	10.1	11.6	2.2	1.0	1.3	15.7 lb
	mm	196.5	126.0	110.0	75.3	256.5	294.6	55.0	25.0	32.0	7.1 kg
1-1/2	inch	7.7	5.0	4.7	3.1	10.2	12.1	2.4	1.0	1.5	18.5 lb
	mm	196.5	126.0	120.0	79.3	259.1	307.3	60.0	25.0	38.0	8.4 kg
2	inch	10.1	6.4	5.5	3.8	12.3	14.6	2.8	1.0	2.0	35.1 lb
	mm	255.5	161.5	140.0	96.0	312.4	370.8	70.0	25.0	50.0	16.0 kg