

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
- Two auxiliary limit switches included with on-off units
- 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 on-off 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

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. 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
Auxiliary Limit Switches	2 x SPDT 3A@125/250VAC, 30VDC resistive load (on-off only)



Description

Electric actuated 3-piece 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, 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

Construction Features

Auxiliary Limit Switches(2) for confirming valve position,

Heavy duty integral motor design significantly reduces physical size of actuator

Rugged polyester powder coated aluminum corrosion 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)

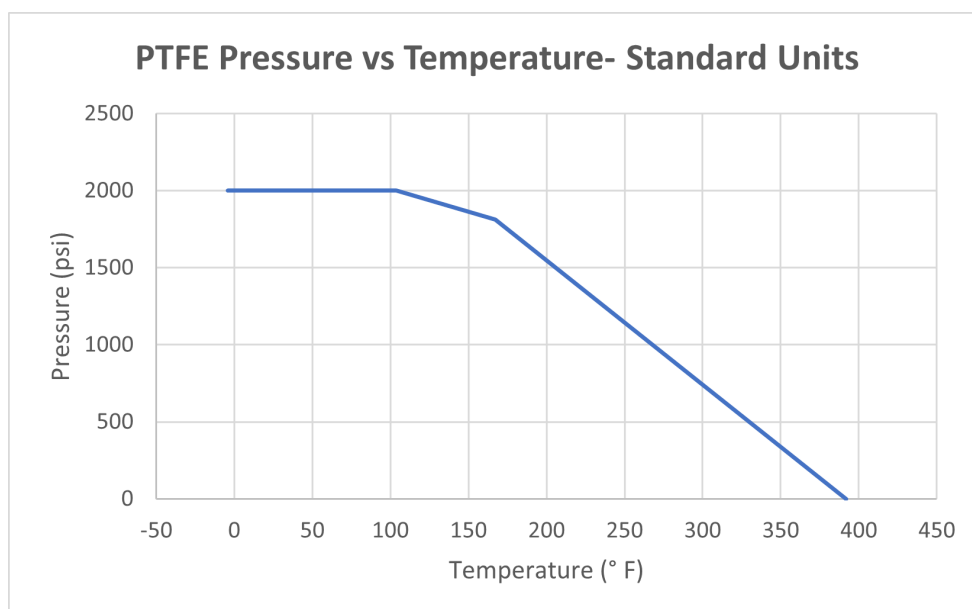
Specifications: (English units)

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 VALVES, ON-OFF version									
542102	1/4	0.45	14.2	2000	20	110 VAC,50/60Hz	0.27	70%	B
542103	3/8	0.49	16.7	2000	20	110 VAC,50/60Hz	0.27	70%	B
542104	1/2	0.59	24.1	2000	20	110 VAC,50/60Hz	0.27	70%	B
542106	3/4	0.79	44.6	2000	20	110 VAC,50/60Hz	0.27	70%	B
542108	1	1.00	72.7	2000	25	110 VAC,50/60Hz	0.64	70%	B
542110	1-1/4	1.25	122.0	2000	25	110 VAC,50/60Hz	0.64	70%	B
542112	1-1/2	1.50	176.3	2000	25	110 VAC,50/60Hz	0.64	70%	B
542116	2	2.00	313.1	2000	30	110 VAC,50/60Hz	0.73	70%	B
24 VDC ELECTRIC ACTUATED HIGH PRESURE STAINLESS BALL VALVES, ON-OFF version									
542144	1/4	0.45	14.2	2000	20	DC24	1.28	70%	G
542145	3/8	0.49	16.7	2000	20	DC24	1.28	70%	G
542146	1/2	0.59	24.1	2000	20	DC24	1.28	70%	G
542147	3/4	0.79	44.6	2000	20	DC24	1.28	70%	G
542149	1	1.00	72.7	2000	30	DC24	2.03	70%	G
542150	1-1/4	1.25	122.0	2000	30	DC24	2.03	70%	G
542151	1-1/2	1.50	176.3	2000	30	DC24	2.03	70%	G
542152	2	2.00	313.1	2000	30	DC24	3.57	70%	G

* 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



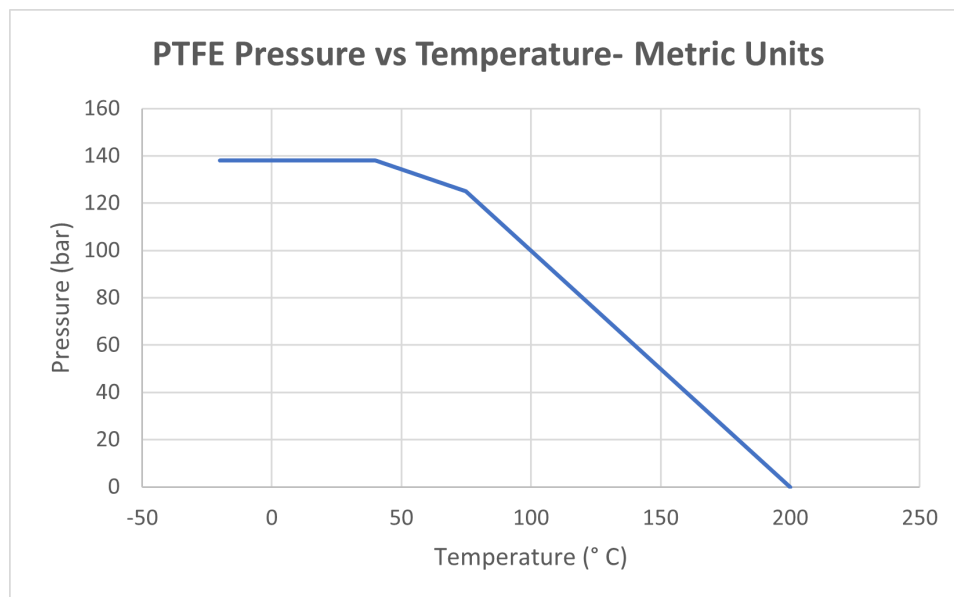
Specifications: (Metric units)

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, ON-OFF version									
542102	1/4	11.5	12.3	138	21	110 VAC,50/60Hz	0.27	70%	B
542103	3/8	12.5	14.4	138	21	110 VAC,50/60Hz	0.27	70%	B
542104	1/2	15.0	20.8	138	21	110 VAC,50/60Hz	0.27	70%	B
542106	3/4	20.0	38.6	138	21	110 VAC,50/60Hz	0.27	70%	B
542108	1	25.0	62.9	138	30	110 VAC,50/60Hz	0.64	70%	B
542110	1-1/4	32.0	105.5	138	30	110 VAC,50/60Hz	0.64	70%	B
542112	1-1/2	38.0	152.5	138	30	110 VAC,50/60Hz	0.64	70%	B
542116	2	50.0	270.8	138	30	110 VAC,50/60Hz	0.73	70%	B
24 VDC ELECTRIC ACTUATED HIGH PRESSURE STAINLESS BALL VALVE, ON-OFF version									
542144	1/4	11.5	12.3	138	20	DC24	1.28	70%	G
542145	3/8	12.5	14.4	138	20	DC24	1.28	70%	G
542146	1/2	15.0	20.8	138	20	DC24	1.28	70%	G
542147	3/4	20.0	38.6	138	20	DC24	1.28	70%	G
542149	1	25.0	62.9	138	30	DC24	2.03	70%	G
542150	1-1/4	32.0	105.5	138	30	DC24	2.03	70%	G
542151	1-1/2	38.0	152.5	138	30	DC24	2.03	70%	G
542152	2	50.0	270.8	138	30	DC24	3.57	70%	G

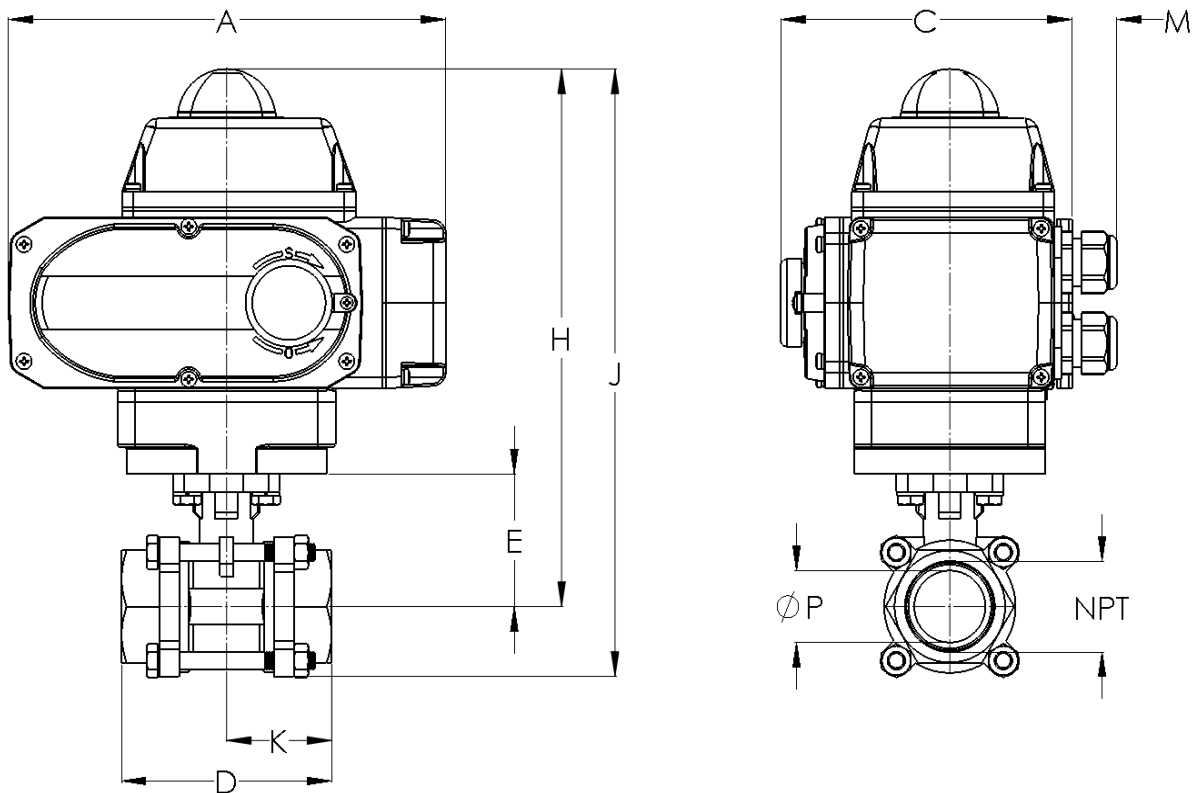
* Pressure @ 70° C (see P/T chart for higher temperatures)

Pressure/Temperature Chart 2000 PSI (138 Bar)

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



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