

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
- Spring Return or Double Acting Actuators
- Type IP66 & IP68 weatherproof actuator
- Rugged scotch yoke construction tested for 1 million+ cycles
- Anodized aluminum body with epoxy-polyester end covers
- Namur and ISO mounting standards
- Highly visible valve position indicator
- Actuator factory lubricated for normal lifetime

Applications

Air 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. Cycle times 1 to 5 seconds per 90° rotation. Steam service up to 25 PSI with optional high temperature mounting bracket.

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

Operation

Double acting scotch yoke actuators use air pressure to open and air pressure to close the ball valve (4-way pilot). Spring return scotch yoke actuators use air pressure to open and springs to close the ball valve (3-way pilot). Actuator will work with filtered dry or lubricated compressed air. Recommended air supply pilot pressure should be between 58 and 87 PSI. Easy to read visual valve position indicator located on top of actuator.

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" - 2")
Actuator Seals	NBR
Actuator Body/ End Covers	Hard anodized aluminium/ Polyester coated aluminium
Position Indicator	Glass filled Polyamide
Fasteners	ASTM 304 Stainless Steel



Description

Heavy duty quarter turn scotch yoke actuators designed for long life and tested for a minimum 1 million+ operations. Unique 3-piece investment cast bolted body design offers the advantage of a swing-out body for easy inline maintenance. Adjustable live loaded stem seal packing helps compensate for wear, pressure or temperature fluctuations, extending the cycle life of the valve. Blow-out proof stem. Standard Namur mounting pads for optional accessory confirmation switches and pilot valves.

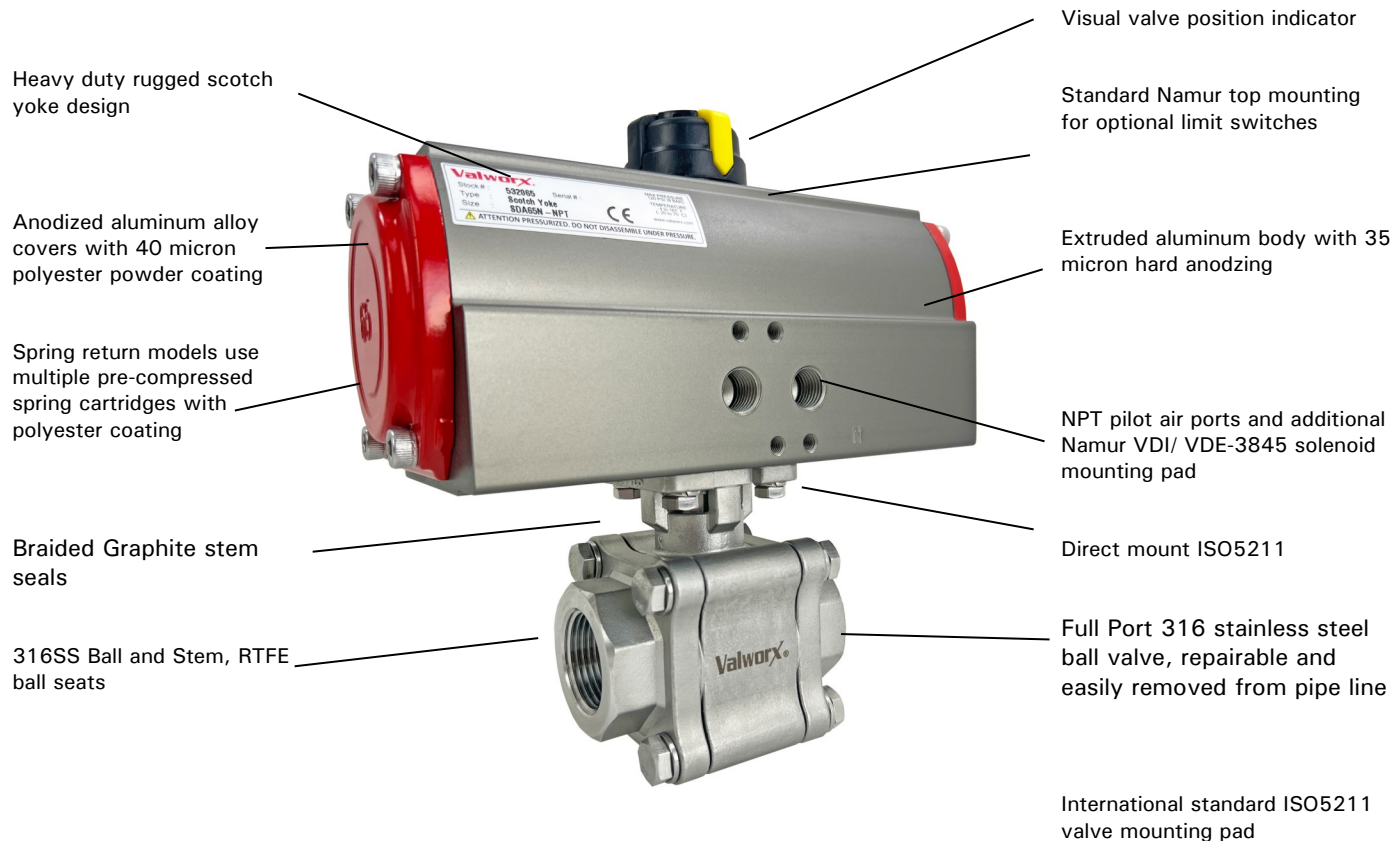
Approvals– Actuators

- CE– MD 2006/42/CE
- EN ISO 12100:2010
- EN ISO 4414:2010
- ISO5211/ DIN3337 valve mounting
- Namur VDI/VDE 3845 accessory mounting

Standards– 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

Features



Pressure Rating

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

* See P/T Chart

Pilot Air Pressure: 43-120 PSI (3-8 Bar)

Pilot Air Pressure-Recommended: 58-87 PSI (4-6 Bar)

Pilot Air Pressure- Maximum: 120 PSI (8 Bar)

Temperature Rating

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

Actuator Temperature Rating: -4 to 167° F (-20 to 75° C)

* See P/T chart

Optional Accessories

- DMS: Direct Mount Solenoid
- pilot to electrically operate the ball valve
- VPS: Valve Position Switches
- limit switches to confirm valve position
- HTB: High Temperature Bracket
- increases media working temperature
- DSP: Digital Smart Positioner
- simplify throttling applications

Specifications (English units)

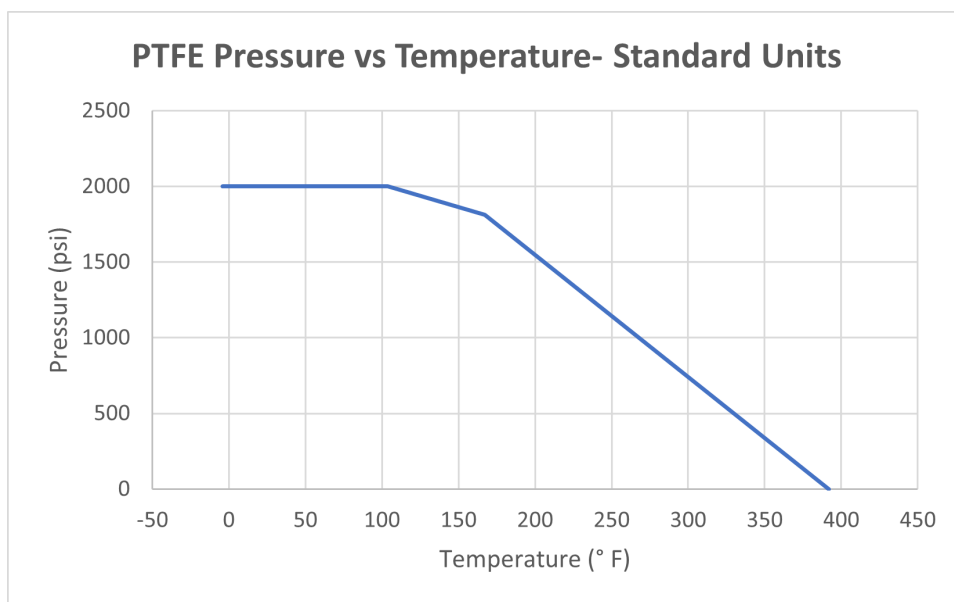
Stock Number	Pipe Size (NPT)	Orifice Size (inch)	Cv Flow Factor	Pressure Max. (PSI)*	Cycle Time /90° (seconds)	Air Volume per Cycle (standard cubic inches)**	Pilot Air Port (NPT)
HIGH PRESSURE STAINLESS BALL VALVE WITH SPRING RETURN ACTUATOR							
542802	1/4	0.45	14.2	2000	1-1	73.2	1/4
542803	3/8	0.49	16.7	2000	1-1	73.2	1/4
542804	1/2	0.59	24.1	2000	1-1	109.8	1/4
542806	3/4	0.79	44.6	2000	1-1	109.8	1/4
542808	1	1.00	72.7	2000	1-1	109.8	1/4
542810	1-1/4	1.25	122.0	2000	1-1	256.3	1/4
542812	1-1/2	1.50	176.3	2000	3-1	512.6	1/4
542816	2	2.00	313.1	2000	5-2	1067.9	1/4
HIGH PRESSURE STAINLESS BALL VALVE WITH DOUBLE ACTING ACTUATOR							
542902	1/4	0.45	14.2	2000	1-1	146.5	1/4
542903	3/8	0.49	16.7	2000	1-1	146.5	1/4
542904	1/2	0.59	24.1	2000	1-1	146.5	1/4
542906	3/4	0.79	44.6	2000	1-1	146.5	1/4
542908	1	1.00	72.7	2000	1-1	219.7	1/4
542910	1-1/4	1.25	122.0	2000	1-1	219.7	1/4
542912	1-1/2	1.50	176.3	2000	1-1	402.8	1/4
542916	2	2.00	313.1	2000	1-1	402.8	1/4

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

* Pressure @ 0°F to 100° F (reduced pressure at higher temperatures—see P/T chart)

Pressure/Temperature Chart 2000 PSI (138 Bar)

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



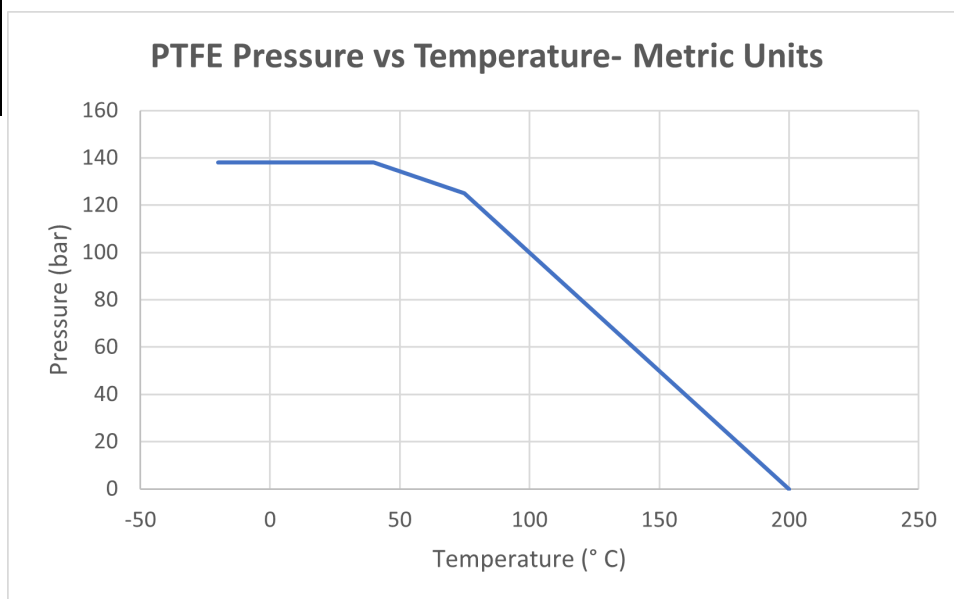
Specifications (Metric units)

Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure Max.(Bar)*	Cycle Time/90° (seconds)	Air Volume per Cycle (standard cubic liters)**	Pilot Air Port (NPT)
HIGH PRESSURE STAINLESS BALL VALVE WITH SPRING RETURN ACTUATOR							
542802	1/4	11.5	12.3	138	1-1	1.2	1/4
542803	3/8	12.5	14.4	138	1-1	1.2	1/4
542804	1/2	15.0	20.8	138	1-1	1.8	1/4
542806	3/4	20.0	38.6	138	1-1	1.8	1/4
542808	1	25.0	62.9	138	1-1	1.8	1/4
542810	1-1/4	32.0	105.5	138	1-1	4.2	1/4
542812	1-1/2	38.0	152.5	138	3-1	8.4	1/4
542816	2	50.0	270.8	138	5-2	17.5	1/4
HIGH PRESSURE STAINLESS BALL VALVE WITH DOUBLE ACTING ACTUATOR							
542902	1/4	11.5	12.3	138	1-1	2.4	1/4
542903	3/8	12.5	14.4	138	1-1	2.4	1/4
542904	1/2	15.0	20.8	138	1-1	2.4	1/4
542906	3/4	20.0	38.6	138	1-1	2.4	1/4
542908	1	25.0	62.9	138	1-1	3.6	1/4
542910	1-1/4	32.0	105.5	138	1-1	3.6	1/4
542912	1-1/2	38.0	152.5	138	1-1	6.6	1/4
542916	2	50.0	270.8	138	1-1	6.6	1/4

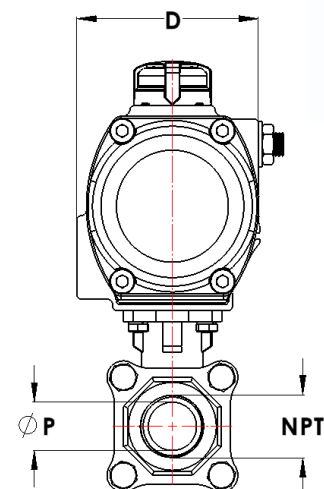
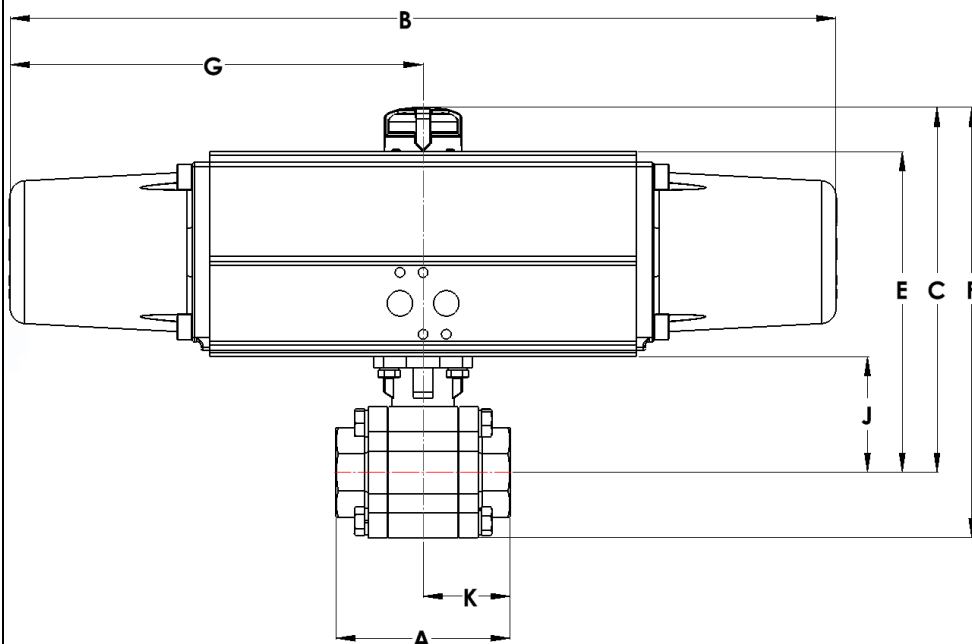
* Pressure range @ -18 to 38°C (reduced pressure for higher temperatures—see P/T chart)

Pressure/Temperature Chart 2000 PSI (138 Bar)

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

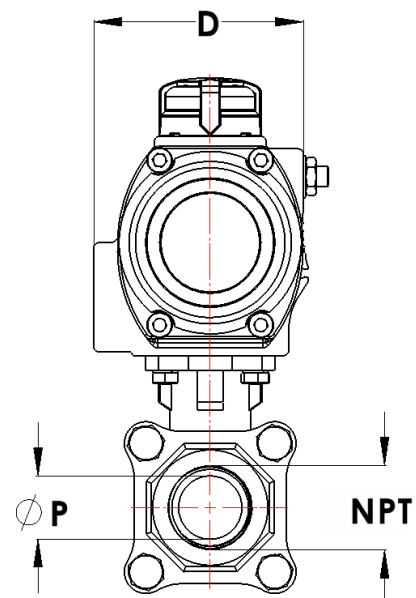
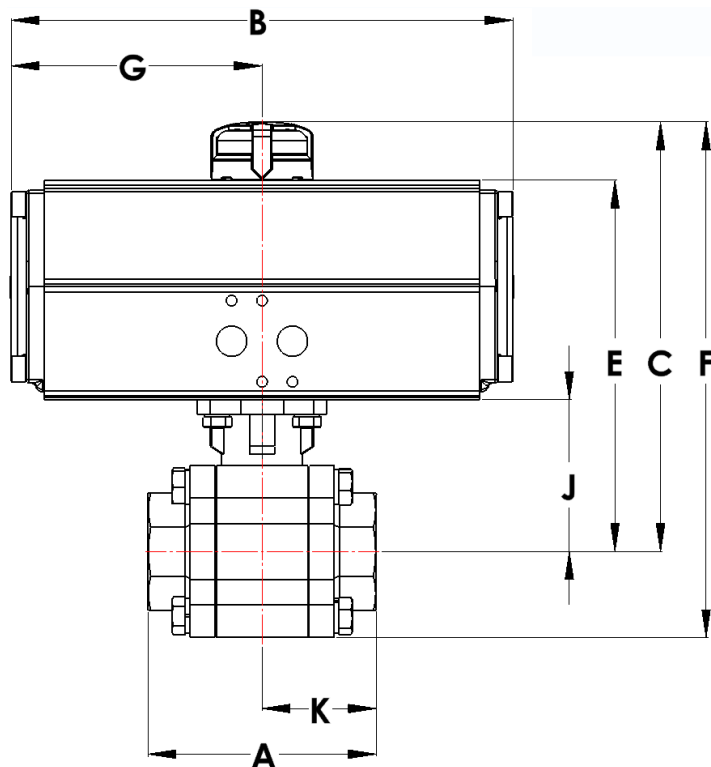


Dimensions: Spring Return



Pipe Size (NPT)		A	B	C	D	E	F	G	J	K	P	A & B Ports (NPT)	Weight
1/4	inch	2.6	10.1	5.1	2.9	4.2	6.4	5.1	1.5	1.3	0.5	1/4	5.7 lb
	mm	65.0	256.5	129.5	73.7	106.7	162.6	129.5	37.5	32.5	11.5	-	2.6 kg
3/8	inch	2.6	10.1	5.1	2.9	4.2	6.4	5.1	1.5	1.3	0.5	1/4	5.7 lb
	mm	65.0	256.5	129.5	73.7	106.7	162.6	129.5	37.5	32.5	12.5	-	2.6 kg
1/2	inch	3.0	12.3	5.8	3.5	4.9	7.1	6.2	1.5	1.5	0.6	1/4	8.5 lb
	mm	75.0	314.0	147.3	88.9	124.5	180.3	156.2	37.5	37.5	15.0	-	3.9 kg
3/4	inch	3.1	12.3	6.3	3.5	5.4	8.3	6.2	2.0	1.6	0.8	1/4	9.4 lb
	mm	80.0	314.0	160.0	88.9	137.2	210.8	156.2	50.0	40.0	20.0	-	4.3 kg
1	inch	3.5	12.3	6.7	3.5	5.8	8.0	6.2	2.4	1.8	1.0	1/4	10.6 lb
	mm	90.0	314.0	170.2	88.9	147.3	203.2	156.2	60.0	45.0	25.0	-	4.8 kg
1-1/4	inch	4.3	16.5	8.0	3.9	7.1	9.5	7.5	3.0	2.2	1.3	1/4	17.8 lb
	mm	110.0	421.0	203.2	99.1	180.3	241.3	190.5	75.3	55.0	32.0	-	8.1 kg
1-1/2	inch	4.7	19.6	9.0	5.0	8.1	10.9	9.8	3.1	2.4	1.5	1/4	29.7 lb
	mm	120.0	497.8	228.6	127.0	205.7	276.9	248.9	79.3	60.0	38.0	-	13.5 kg
2	inch	5.5	23.8	10.7	6.0	9.8	13.0	11.9	3.8	2.8	2.0	1/4	50.7 lb
	mm	140.0	604.5	271.8	152.4	248.9	330.2	302.3	96.0	70.0	50.0	-	23.0 kg

Dimensions: Double Acting



Pipe Size (NPT)		A	B	C	D	E	F	G	J	K	P	A & B Ports (NPT)	Weight
1/4	inch	2.6	6.3	5.1	2.9	4.2	6.4	3.2	1.5	1.3	0.5	1/4	4.8 lb
	mm	65.0	162.0	129.5	73.7	106.7	162.6	80.0	37.5	32.5	11.5	-	2.2 kg
3/8	inch	2.6	6.3	5.1	2.9	4.2	6.4	3.2	1.5	1.3	0.5	1/4	4.5 lb
	mm	65.0	162.0	129.5	73.7	106.7	162.6	80.0	37.5	32.5	12.5	-	2.0 kg
1/2	inch	3.0	6.3	5.1	2.9	4.2	6.4	3.2	1.5	1.5	0.6	1/4	4.8 lb
	mm	75.0	162.0	129.5	73.7	106.7	162.6	80.0	37.5	37.5	15.0	-	2.2 kg
3/4	inch	3.1	6.3	5.6	2.9	4.7	7.6	3.2	2.0	1.6	0.8	1/4	5.7 lb
	mm	80.0	162.0	142.2	73.7	119.4	193.0	80.0	50.0	40.0	20.0	-	2.6 kg
1	inch	3.5	7.9	6.7	3.5	5.8	8.0	3.9	2.4	1.8	1.0	1/4	8.9 lb
	mm	90.0	202.0	170.2	88.9	147.3	203.2	101.0	60.0	45.0	25.0	-	4.0 kg
1-1/4	inch	4.3	7.9	7.3	3.5	6.4	8.8	3.9	3.0	2.2	1.3	1/4	11.0 lb
	mm	110.0	202.0	185.4	88.9	162.6	223.5	101.0	75.3	55.0	32.0	-	5.0 kg
1-1/2	inch	4.7	9.9	8.1	3.9	7.2	10.0	4.9	3.1	2.4	1.5	1/4	17.5 lb
	mm	120.0	253.0	205.7	99.1	182.9	254.0	126.5	79.3	60.0	38.0	-	7.9 kg
2	inch	5.5	9.9	8.8	3.9	7.9	11.1	4.9	3.8	2.8	2.0	1/4	22.9 lb
	mm	140.0	253.0	223.5	99.1	200.7	281.9	126.5	96.0	70.0	50.0	-	10.4 kg