Air Actuated Stainless Ball Valves

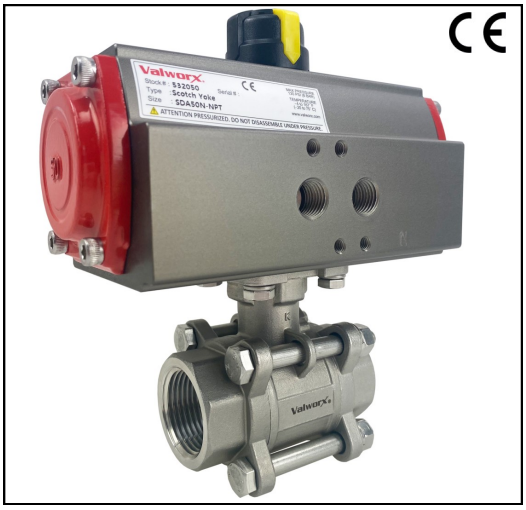
3-Piece Stainless Steel, Full Port

1/4" to 3" NPT

SERIES
5524
5525

Features

- 316 stainless steel body, ball & stem
- Full port design for unrestricted flow
- Swing-out center section
- RTFE (reinforced Teflon) ball seats
- Triple PTFE/Viton live loaded stem seals, adjustable
- Valves tested accordance with API 598/ EN12266-1
- 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



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.

Applications

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 bracket. Cycle times 0.3 to 2.3 seconds per 90° rotation. Suitable for vacuum service to 29"Hg.

Scotch Yoke actuators should not be used for positioning 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.

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

- Design: API 608
- Testing: API 598
- Threaded Connection:

ASME B1.20.1 (NPT)/ ISO 228-1/ BS21

- Pressure/Temperature Rating:

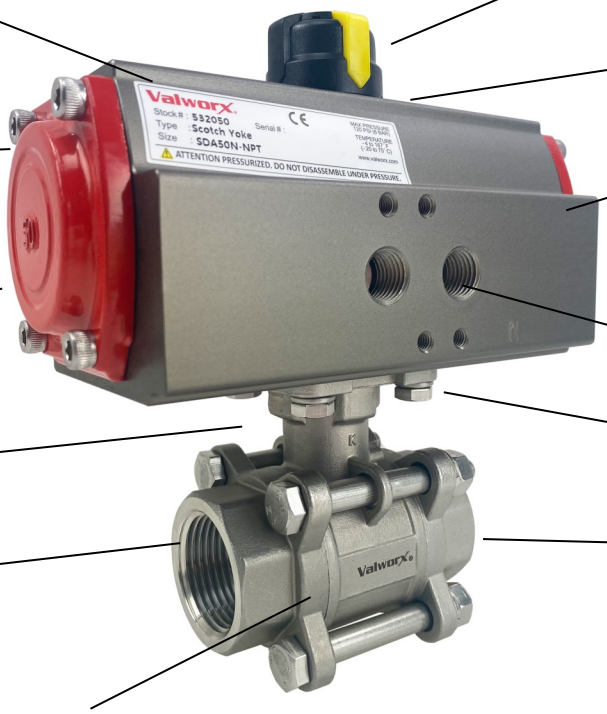
ASME B16.34

- Marking: MSS SP-25
- CE– PED 2014/68/UE

Construction

Valve Body	316 Stainless Steel ASTM A351 CF8M
Ball/Stem	316 Stainless Steel
Ball Seats	RTFE (reinforced Teflon)
Stem Seals	PTFE/ Viton
Anti-Static Device	Ball to Stem (1/4"- 3") + Stem to Body (1-1/2"- 3")
Actuator Seals	NBR
Actuator Body/ End Covers	Hard anodized aluminium/ Polyester coasted aluminium
Position Indicator	Glass filled Polyamide
Fasteners	ASTM 304 Stainless Steel

Features



Pressure-Temperature

Pressure Rating*: 1000 PSI (69 Bar*) CWP non-shock 1/4" to 2" sizes
800 PSI (55 Bar*) CWP non-shock 2-1/2" and 3" sizes
25 PSI saturated steam with high temp kit
Vacuum 29inHg

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

Max Air Pilot Pressure: 120 PSI

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

*See P/T Chart

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

Specifications (English units)

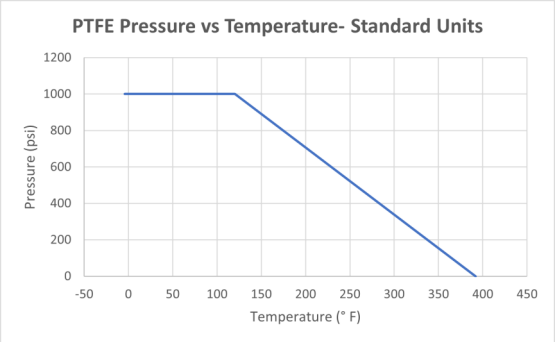
Stock Number	Pipe Size (NPT)	Orifice Size (inch)	Cv Flow Factor	Pressure Max. (PSI)*	Cycle Time /90° (seconds)	Air Volume per Cycle (standard cubic inches)**	Pilot Air Port (NPT)
STAINLESS 3pc VALVE WITH SRING RETURN ACTUATOR							
552502A	1/4	0.5	6.9	1000	0.3-0.5	73.2	1/4
552503A	3/8	0.5	6.9	1000	0.3-0.5	73.2	1/4
552504A	1/2	0.6	9.7	1000	0.3-0.5	73.2	1/4
552506A	3/4	0.8	18.4	1000	0.3-0.5	73.2	1/4
552508A	1	1.0	55.4	1000	0.4-0.6	109.8	1/4
552510A	1-1/4	1.3	89.7	1000	0.4-0.6	109.8	1/4
552512A	1-1/2	1.5	144.2	1000	0.4-0.6	109.8	1/4
552516A	2	2.0	226.0	1000	0.6-0.9	256.3	1/4
552520A	2-1/2	2.6	289.0	800	0.7-1.2	512.6	1/4
552524A	3	3.2	454.0	800	0.7-1.2	512.6	1/4
STAINLESS 3pc VALVE WITH DOUBLE ACTING ACTUATOR							
552402A	1/4	0.5	6.9	1000	0.3	146.5	1/4
552403A	3/8	0.5	6.9	1000	0.3	146.5	1/4
552404A	1/2	0.6	9.7	1000	0.3	146.5	1/4
552406A	3/4	0.8	18.4	1000	0.3	146.5	1/4
552408A	1	1.0	55.4	1000	0.3	146.5	1/4
552410A	1-1/4	1.3	89.7	1000	0.3	146.5	1/4
552412A	1-1/2	1.5	144.2	1000	0.4	219.7	1/4
552416A	2	2.0	226.0	1000	0.4	219.7	1/4
552420A	2-1/2	2.6	289.0	800	0.6	402.8	1/4
552424A	3	3.2	454.0	800	0.6	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)

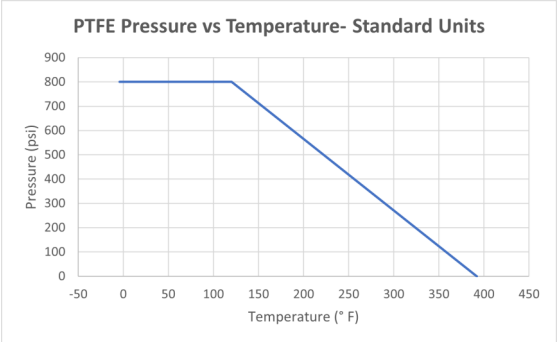
Pressure/Temp. Chart - 1000 PSI (69 Bar)

P/T Chart (PSI/°F)				
PSI	1000	1000	100	0
°F	-4	50	330	392



Pressure/Temp. Chart - 800 PSI (55 Bar)

P/T Chart (PSI/°F)				
PSI	800	800	100	0
°F	-4	50	330	392



Specifications (Metric units)

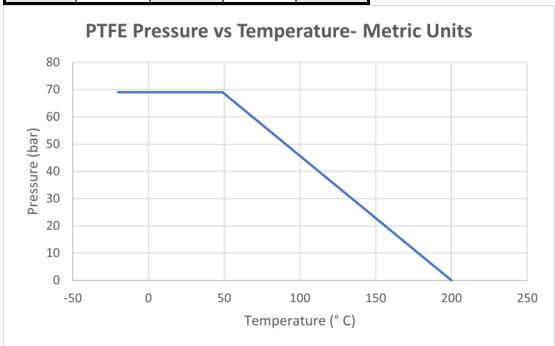
Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure Max.(Bar)*	Cycle Time/90° (seconds)	Air Volume per Cycle (standard cubic liters)**	Pilot Air Port (NPT)
STAINLESS 3pc VALVE WITH SRING RETURN ACTUATOR							
552502A	1/4	11.5	5.9	69	0.3-0.5	1.2	1/4
552503A	3/8	12.5	5.9	69	0.3-0.5	1.2	1/4
552504A	1/2	15.0	8.4	69	0.3-0.5	1.2	1/4
552506A	3/4	20.0	15.9	69	0.3-0.5	1.2	1/4
552508A	1	25.0	47.9	69	0.4-0.6	1.8	1/4
552510A	1-1/4	32.0	77.6	69	0.4-0.6	1.8	1/4
552512A	1-1/2	38.0	124.7	69	0.4-0.6	1.8	1/4
552516A	2	50.0	195.5	69	0.6-0.9	4.2	1/4
552520A	2-1/2	65.0	249.7	55	0.7-1.2	17.5	1/4
552524A	3	80.0	392.3	55	0.7-1.2	17.5	1/4
STAINLESS 3pc VALVE WITH DOUBLE ACTING ACTUATOR							
552402A	1/4	11.5	5.9	69	0.3	2.4	1/4
552403A	3/8	12.5	5.9	69	0.3	2.4	1/4
552404A	1/2	15.0	8.4	69	0.3	2.4	1/4
552406A	3/4	20.0	15.9	69	0.3	2.4	1/4
552408A	1	25.0	47.9	69	0.3	2.4	1/4
552410A	1-1/4	32.0	77.6	69	0.3	2.4	1/4
552412A	1-1/2	38.0	124.7	69	0.4	3.6	1/4
552416A	2	50.0	195.5	69	0.4	3.6	1/4
552420A	2-1/2	65.0	249.7	55	0.6	6.6	1/4
552424A	3	80.0	392.3	55	0.6	6.6	1/4

Doc: 5524.5525.0224
Cornelius, N.C. • USA
www.valworx.com

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

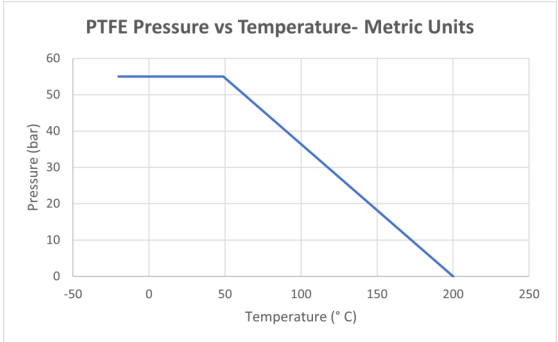
Pressure/Temp. Chart - 1000 PSI (69 Bar)

P/T Chart (BAR/°C)				
Bar	69	69	7	0
°C	-20	10	166	200

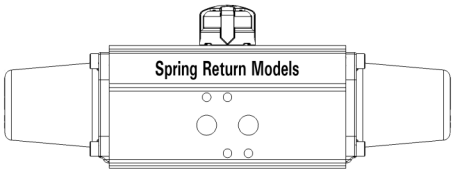


Pressure/Temp. Chart - 800 PSI (55 Bar)

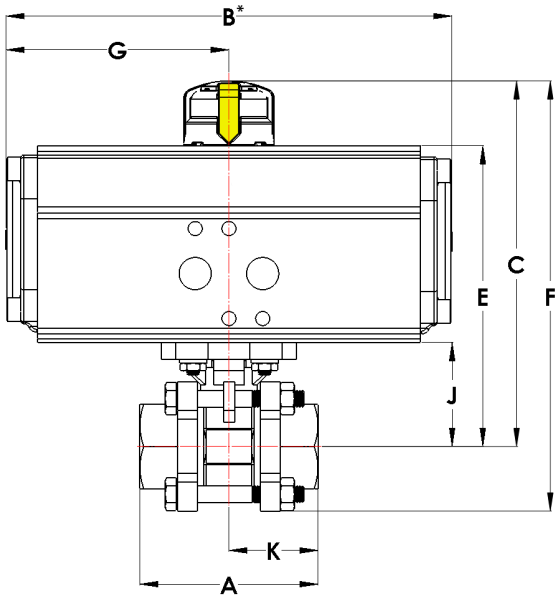
P/T Chart (BAR/°C)				
Bar	55	55	7	0
°C	-20	10	166	200

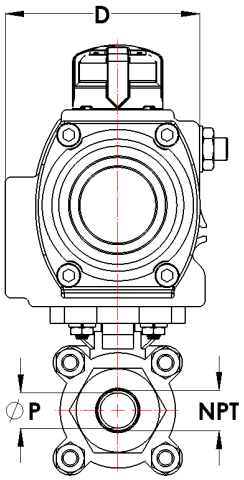


Dimensions: Spring Return



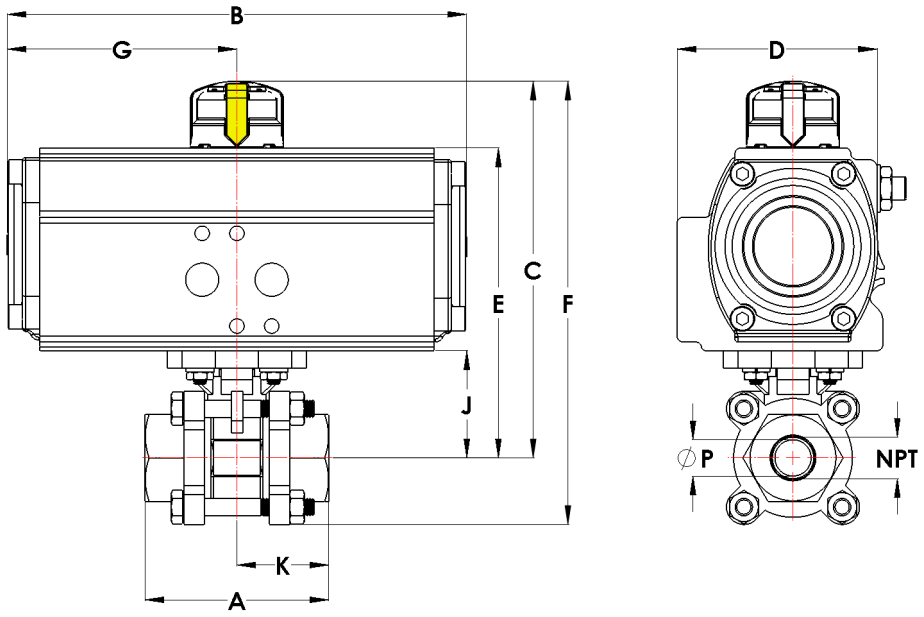
B*- Spring Return Actuator





Pipe Size (NPT)		A	B* (SR)	C	D	E	F	G	J	K	P	A & B Ports (NPT)	Weight
1/4	inch	2.5	10.1	4.9	2.9	4.2	5.8	5.1	1.5	1.4	0.5	1/4	4.7 lb
	mm	63.5	256.5	124.5	73.7	106.7	147.3	129.5	37.0	35.0	11.5	-	2.1 kg
3/8	inch	2.5	10.1	4.9	2.9	4.2	5.8	5.1	1.5	1.3	0.5	1/4	4.9 lb
	mm	63.5	256.5	124.5	73.7	106.7	147.3	129.5	37.0	32.4	12.5	-	2.2 kg
1/2	inch	2.5	10.1	4.9	2.9	4.2	5.8	5.1	1.5	1.3	0.6	1/4	4.7 lb
	mm	63.5	256.5	124.5	73.7	106.7	147.3	129.5	37.0	32.4	15.0	-	2.1 kg
3/4	inch	2.9	10.1	5.2	2.9	4.5	6.0	5.1	1.8	1.4	0.8	1/4	5.1 lb
	mm	72.5	256.5	132.1	73.7	114.3	152.4	129.5	45.0	36.3	20.0	-	2.3 kg
1	inch	3.2	12.3	6.2	3.5	5.5	7.3	6.2	21	1.6	1.0	1/4	8.9 lb
	mm	81.0	314.0	157.5	88.9	139.7	185.4	157.5	53.5	40.5	25.0	-	4.0 kg
1-1/4	inch	3.7	12.3	6.4	3.5	5.7	7.7	6.2	2.3	1.9	1.3	1/4	10.1 lb
	mm	94.5	314.0	162.6	88.9	144.8	195.6	157.5	59.0	47.3	32.0	-	4.6 kg
1-1/2	inch	4.3	12.3	7.0	3.5	6.3	8.5	6.2	2.9	2.1	1.5	1/4	12.0 lb
	mm	108.0	314.0	177.8	88.9	160.0	215.9	157.5	74.8	54.0	38.0	-	5.4 kg
2	inch	4.8	16.5	8.1	3.9	7.4	9.9	8.3	3.3	2.4	2.0	1/4	19.5 lb
	mm	121.5	419.1	205.7	99.1	188.0	251.5	210.8	83.5	60.8	50.0	-	8.8 kg
2-1/2	inch	6.2	19.6	10.0	5.0	9.3	12.2	9.8	4.3	3.1	2.6	1/4	37.6 lb
	mm	157.5	497.8	254.0	127.0	236.2	309.9	248.9	108.8	78.8	66.0	-	17.1 kg
3	inch	7.5	19.6	10.4	5.0	9.7	13.0	9.8	4.7	3.7	3.2	1/4	45.6 lb
	mm	190.0	497.8	264.2	127.0	246.4	330.2	248.9	118.3	95.0	81.3	-	20.7 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	2.5	6.3	4.9	2.9	4.2	5.8	5.1	1.5	1.4	0.5	1/4	4.3 lb
	mm	63.5	160.0	124.5	73.7	106.7	147.3	129.5	37.0	35.0	11.5	-	2.0 kg
3/8	inch	2.5	6.3	4.9	2.9	4.2	5.8	5.1	1.5	1.3	0.5	1/4	4.5 lb
	mm	63.5	160.0	124.5	73.7	106.7	147.3	129.5	37.0	32.4	12.5	-	2.0 kg
1/2	inch	2.5	6.3	4.9	2.9	4.2	5.8	5.1	1.5	1.3	0.6	1/4	4.3 lb
	mm	63.5	160.0	124.5	73.7	106.7	147.3	129.5	37.0	32.4	15.0	-	2.0 kg
3/4	inch	2.9	6.3	5.2	2.9	4.5	6.0	5.1	1.8	1.4	0.8	1/4	4.7 lb
	mm	72.5	160.0	132.1	73.7	114.3	152.4	129.5	45.0	36.3	20.0	-	2.1 kg
1	inch	3.2	6.3	5.5	3.5	4.8	6.6	6.2	21	1.6	1.0	1/4	5.4 lb
	mm	81.0	160.0	139.7	88.9	121.9	167.6	157.5	53.5	40.5	25.0	-	2.4 kg
1-1/4	inch	3.7	6.3	5.7	3.5	5.0	7.0	6.2	2.3	1.9	1.3	1/4	6.6 lb
	mm	94.5	160.0	144.8	88.9	127.0	177.8	157.5	59.0	47.3	32.0	-	3.0 kg
1-1/2	inch	4.3	7.9	7.0	3.5	6.3	8.5	6.2	2.9	2.1	1.5	1/4	10.5 lb
	mm	108.0	200.1	177.8	88.9	160.0	215.9	157.5	74.8	54.0	38.0	-	4.8 kg
2	inch	4.8	7.9	7.4	3.9	6.7	9.2	8.3	3.3	2.4	2.0	1/4	12.9 lb
	mm	121.5	200.1	188.0	99.1	170.2	233.7	210.8	83.5	60.8	50.0	-	5.9 kg
2-1/2	inch	6.2	9.9	9.1	3.9	8.4	11.3	8.3	4.3	3.1	2.6	1/4	25.3 lb
	mm	157.5	251.5	231.1	99.1	213.4	287.0	210.8	108.8	78.8	66.0	-	11.5 kg
3	inch	7.5	9.9	9.5	5.9	8.8	12.1	11.9	4.7	3.7	3.2	1/4	33.3 lb
	mm	190.0	251.5	241.3	149.9	223.5	307.3	302.3	118.3	95.0	81.3	-	15.1 kg