

Features

- Functions as a diverter, selector, or mixing valve
- All materials comply with FDA and USDA requirements
- Dyneon® TF-1641 (PTFE) FDA approved ball seats and cavity fillers
- Triple PTFE/Viton® high cycle live loaded stem seal packing
- Highly polished internals and end caps with 8-12 Ra finish
- Tri-Clamp ends for hygienic connections
- 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

Sanitary 3-way ball valves are typically used for food, beverage, pharmaceutical, personal care, and pet care applications where sanitary construction is required, as well as for utility and process applications where quick clamp connections are beneficial. Often used as a diverter, selector, or mixing valve. Suitable for vacuum service to 29"Hg.

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	ASTM 316 Stainless Steel
Ball/Stem	ASTM 316 stainless steel
Ball Seats/ Cavity Filler	Dyneon® PTFE
Stem Seals	PTFE/ Viton®
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. Sanitary 3-way T-port flow pattern ball valve has four Dyneon® PTFE ball seats, allowing for full pressure at any port. Adjustable live loaded stem seal packing helps compensate for wear, pressure and temperature fluctuations, extending the cycle life of the valve. Blow-out proof stem. Cavity fillers avoid media entrapment and quick clamp end connections allow for easy cleaning. Standard Namur mounting pads for optional accessory confirmation switches and pilot valves.

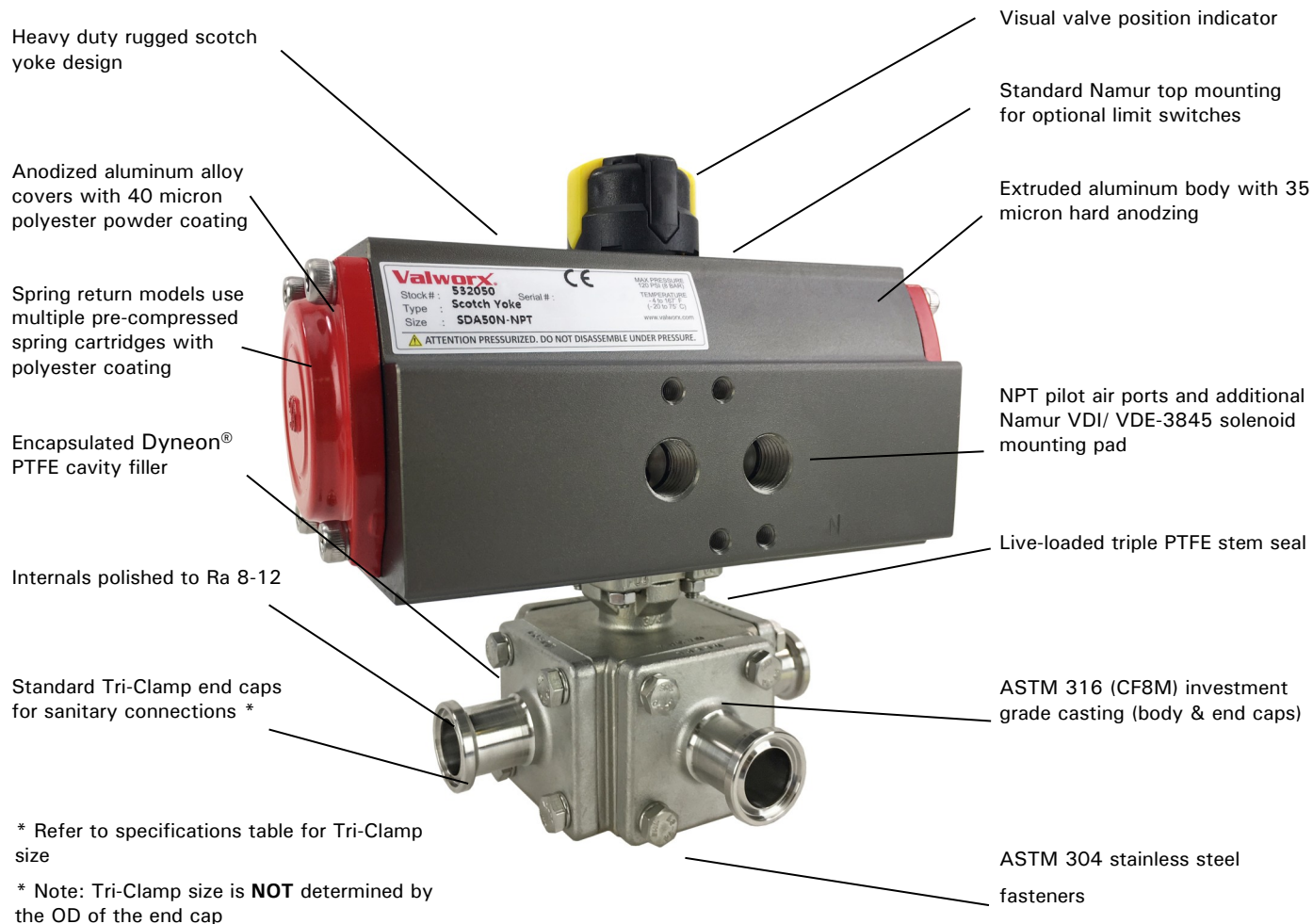
Approvals– Actuators

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

Standards– Valves

- Construction:
 - ANSI B16/B2/B18
 - FDA 21 CFR 177.1550
 - ANSI B16.34
- Pressure Testing:
 - API 598
- Marking
 - MSS-SP-25
- CE conformity– PED 2014/68/UE

Features



Pressure-Temperature

Shell Pressure Rating (Max)*: 1000 PSI @ 120°F (1/2" to 2"),
600 PSI (2 1/2" to 3") Suitable for vacuum service to 29"Hg.

*See P/T Chart

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

Max Air Pilot Pressure: 120 PSI

Temperature Rating: -4° to 356° F (-20 to 180°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 (inch)	Tri-Clamp Size (inch)	Cv Flow Factor	Shell Pressure Max.(PSI)*	Cycle Time /90° (seconds)	Pilot Air Port (NPT)	Air Volume (cubic inches)
VALVE WITH SPRING RETURN ACTUATOR							
577300A	1/2	3/4	4.3	1000	0.3-0.5	1/4	73.2
577301A	3/4	3/4	10.4	1000	0.3-0.5	1/4	73.2
577302A	1	1-1/2	17.3	1000	0.3-0.5	1/4	73.2
577303A	1-1/2	1-1/2	43.3	1000	0.4-0.6	1/4	109.8
577304A	2	2	77.9	1000	0.6-0.9	1/4	256.3
577305A	2-1/2	2-1/2	115.9	600	0.7-1.2	1/4	512.6
577306A	3	3	210.2	600	1.0-2.3	1/4	1067.9
VALVE WITH DOUBLE ACTING ACTUATOR							
577200A	1/2	3/4	4.3	1000	0.3	1/4	146.5
577201A	3/4	3/4	10.4	1000	0.3	1/4	146.5
577202A	1	1-1/2	17.3	1000	0.3	1/4	146.5
577203A	1-1/2	1-1/2	43.3	1000	0.4	1/4	219.7
577204A	2	2	77.9	1000	0.4	1/4	219.7
577205A	2-1/2	2-1/2	115.9	600	0.6	1/4	402.8
577206A	3	3	210.2	600	0.8	1/4	842.1

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

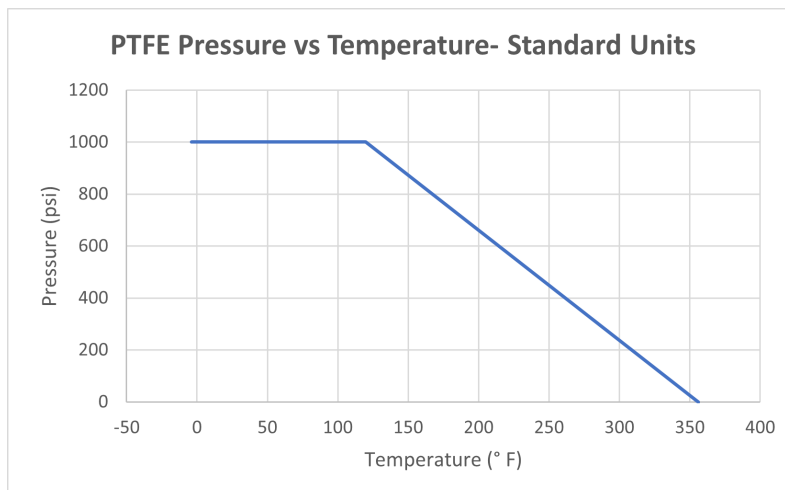
* Pressure @ -4° to 356° F (reduced pressure at higher temperatures—see P/T chart)

• Torque at 1000 PSI and 72°F

Pressure/Temperature Chart (PSI/°F)

Standard Units

Temp °F	-4	120	356
Pressure	1000	1000	0



Specifications (Metric units)

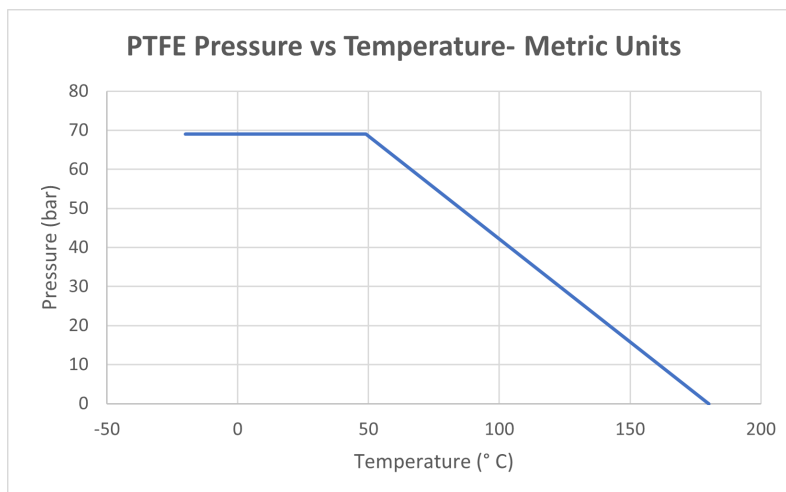
Stock Number	Pipe Size (mm)	Tri-Clamp Size (inch)	Kv Flow Factor	Shell Pressure Max.(Bar)*	Cycle Time/90° (seconds)	Pilot Air Port (NPT)	Air Volume (standard liters)
VALVE WITH SPRING RETURN ACTUATOR							
577300A	12.7	3/4	5.0	69	0.3-0.5	1/4	73.2
577301A	19.1	3/4	12.0	69	0.3-0.5	1/4	73.2
577302A	25.4	1-1/2	20.0	69	0.3-0.5	1/4	73.2
577303A	38.1	1-1/2	50.0	69	0.4-0.6	1/4	109.8
577304A	50.8	2	90.0	69	0.6-0.9	1/4	256.3
577305A	63.5	2-1/2	134.0	41	0.7-1.2	1/4	512.6
577306A	76.2	3	243.0	41	1.0-2.3	1/4	1067.9
VALVE WITH DOUBLE ACTING ACTUATOR							
577200A	12.7	3/4	5.0	69	0.3	1/4	146.5
577201A	19.1	3/4	12.0	69	0.3	1/4	146.5
577202A	25.4	1-1/2	20.0	69	0.3	1/4	146.5
577203A	38.1	1-1/2	50.0	69	0.4	1/4	219.7
577204A	50.8	2	90.0	69	0.4	1/4	219.7
577205A	63.5	2-1/2	134.0	41	0.6	1/4	402.8
577206A	76.2	3	243.0	41	0.8	1/4	842.1

* Pressure range @ -20° to 180° C (reduced pressure for higher temperatures—see P/T chart)

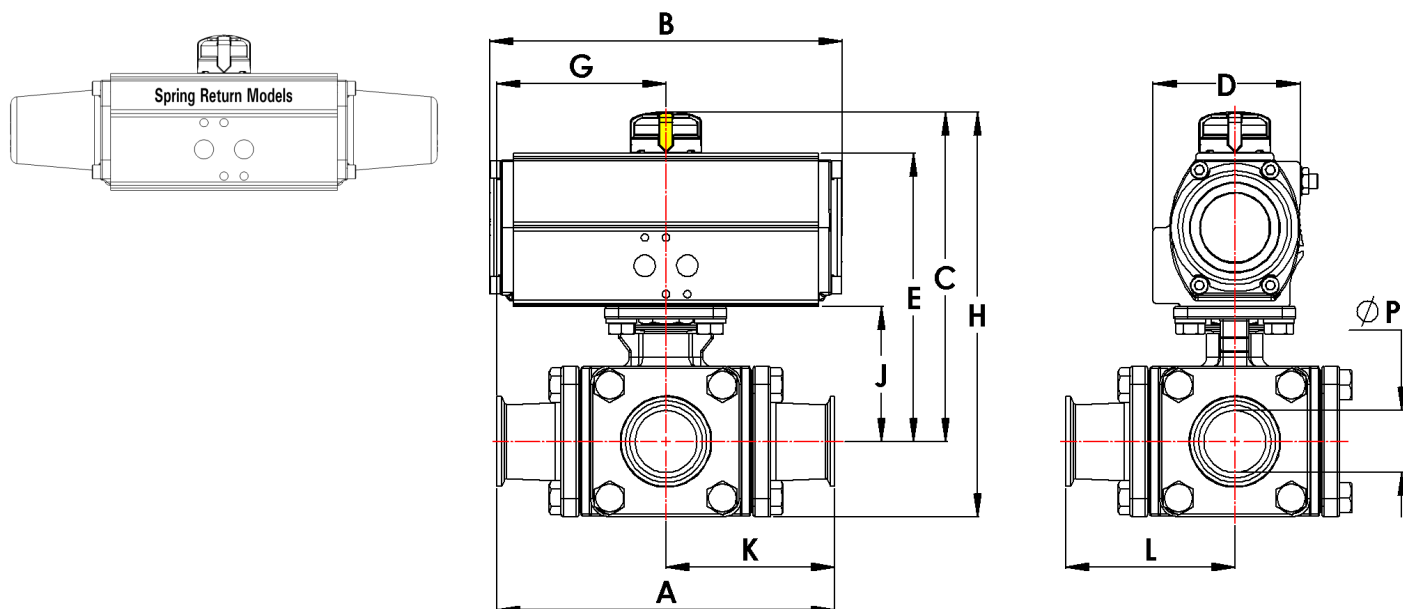
Pressure/Temperature Chart (Bar/°C)

Metric Units

Temp °C	-20	49	180
Pressure	69	69	0

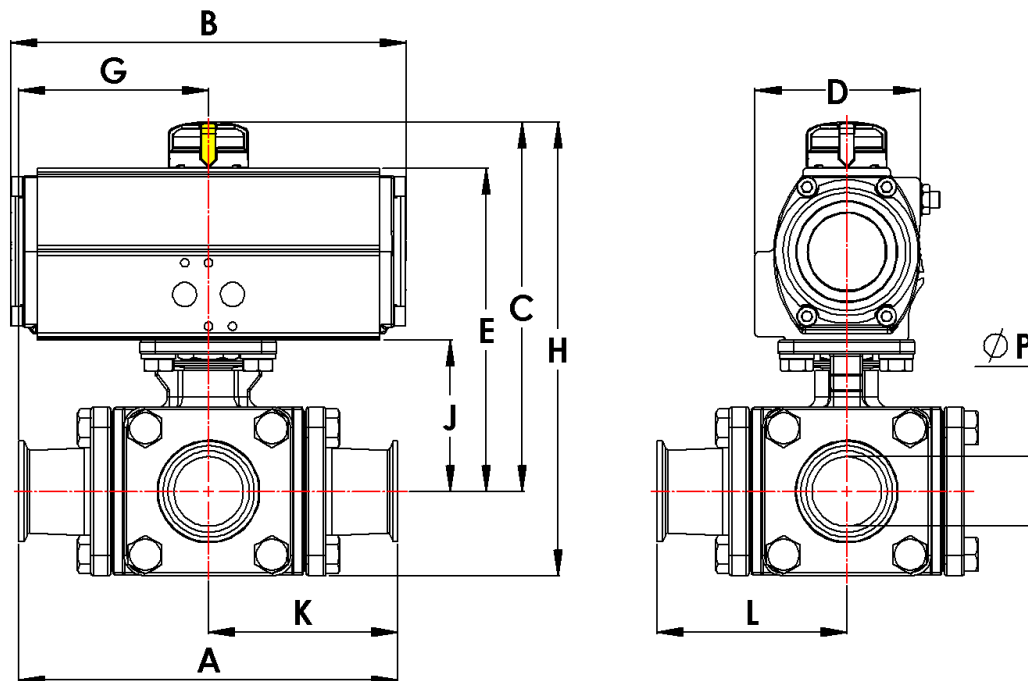


Dimensions: Spring Return



Pipe Size		A	B	C	D	E	G	H	J	K	L	P	A & B Ports (NPT)	Weight
1/2	inch	4.6	10.1	4.9	2.9	4.2	5.1	5.8	1.8	2.3	2.3	0.4	1/4	7.0 lb
	mm	118.0	256.5	124.5	73.7	106.7	129.5	147.3	44.5	59.0	59.0	9.4	-	3.2 kg
3/4	inch	5.0	10.1	5.2	2.9	4.5	5.1	6.2	1.9	2.5	2.6	0.6	1/4	7.6 lb
	mm	127.0	256.5	132.1	73.7	114.3	129.5	157.5	48.0	63.5	64.9	15.8	-	3.4 kg
1	inch	6.0	10.1	5.5	2.9	4.8	5.1	6.6	2.3	3.1	3.0	0.9	1/4	9.8 lb
	mm	152.4	256.5	139.7	73.7	121.9	129.5	167.6	59.0	77.5	76.2	22.2	-	4.4 kg
1-1/2	inch	6.9	12.3	7.0	3.5	6.3	6.2	8.5	2.8	3.4	3.5	1.4	1/4	18.4 lb
	mm	175.0	312.4	177.8	88.9	160.0	157.5	215.9	72.0	87.5	88.8	35.0	-	8.3 kg
2	inch	7.5	16.5	8.1	3.9	7.4	8.3	9.9	3.2	3.7	3.8	1.9	1/4	30.3 lb
	mm	190.0	419.1	205.7	99.1	188.0	210.8	251.5	82.0	95.0	96.3	47.6	-	13.7 kg
2-1/2	inch	9.0	19.6	10.0	5.0	9.3	9.8	12.2	4.0	4.5	4.2	2.4	1/4	43.0 lb
	mm	228.0	497.8	254.0	127.0	236.2	248.9	309.9	102.5	114.0	107.0	60.2	-	19.5 kg
3	inch	10.2	23.8	11.4	5.9	10.7	11.9	14.0	4.9	5.1	4.2	2.9	1/4	76.8 lb
	mm	260.0	604.5	289.6	149.9	271.8	302.3	355.6	125.5	130.0	107.0	72.9	-	34.8 kg

Dimensions: Double Acting



Pipe Size		A	B	C	D	E	G	H	J	K	L	P	A & B Ports (NPT)	Weight
1/2	inch	4.6	6.3	4.9	2.9	4.2	3.2	5.8	1.8	2.3	2.3	0.4	1/4	6.3 lb
	mm	118.0	160.0	124.5	73.7	106.7	81.3	147.3	44.5	59.0	59.0	9.4	-	2.9 kg
3/4	inch	5.0	6.3	5.2	2.9	4.5	3.2	6.2	1.9	2.5	2.6	0.6	1/4	6.9 lb
	mm	127.0	160.0	132.1	73.7	114.3	81.3	157.5	48.0	63.5	64.9	15.8	-	3.1 kg
1	inch	6.0	6.3	5.5	2.9	4.8	3.2	6.6	2.3	3.1	3.0	0.9	1/4	9.1 lb
	mm	152.4	160.0	139.7	73.7	121.9	81.3	167.6	59.0	77.5	76.2	22.2	-	4.1 kg
1-1/2	inch	6.9	7.9	7.0	3.5	6.3	4.0	8.5	2.8	3.4	3.5	1.4	1/4	17.0 lb
	mm	175.0	200.1	177.8	88.9	160.0	101.6	215.9	72.0	87.5	88.8	35.0	-	7.7 kg
2	inch	7.5	7.9	7.4	3.5	6.7	4.0	9.2	3.2	3.7	3.8	1.9	1/4	24.1 lb
	mm	190.0	200.1	188.0	88.9	170.2	101.6	233.7	82.0	95.0	96.3	47.6	-	10.9 kg
2-1/2	inch	9.0	9.9	9.1	3.9	8.4	5.0	11.3	4.0	4.5	4.2	2.4	1/4	31.3 lb
	mm	228.0	251.5	231.1	99.1	213.4	127.0	287.0	102.5	114.0	107.0	60.2	-	14.2 kg
3	inch	10.2	12.2	10.4	5.0	9.7	6.1	13.0	4.9	5.1	4.2	2.9	1/4	53.9 lb
	mm	260.0	309.9	264.2	127.0	246.4	154.9	330.2	125.5	130.0	107.0	72.9	-	24.4 kg