

Features

- Spring Return or Double Acting
- True union full port 3-way L-flow pattern
- Union nut locking devices prevent back-off
- Actuator designed for 1 million cycles
- Quarter turn rack and pinion design
- Highly visible valve position indicator
- Energized ball seats for lower torque and extended cycle life
- Dual leak free stem seals
- Actuator tested to ASTM B117-73, 500 hrs. salt spray
- Valve NSF certified for use with potable/drinking water

Applications

PVC 3-way ball valves are typically used to control the flow of water and liquid media compatible with the materials of construction (not suitable for compressed air or gas). Ideal for industrial applications and where NSF approved construction is required for potable drinking water. Typically used as a diverter or selector valve. Unique four ball seat design allows for full pressure at any port. Cycle times approximately 1 second per 90° rotation. Valve can be mounted in any orientation. Typical applications include industrial/process piping systems, pulp and paper, food processing, water/sewage treatment and irrigation.

Operation

Double acting actuators use air pressure to open (position 2) and air pressure to close (position 1). Spring return actuators use air pressure to open (position 2) and springs to close (position 1) the valve (failsafe). Actuator will work with filtered dry or lubricated compressed air. Air supply pilot pressure should be between 80 and 120 PSI. Easy to read visual valve position indicator located on top of actuator.

Construction

Valve Body	PVC (Grey)
Ball/Stem	PVC
Ball Seats	PTFE (Teflon) energized with EPDM
Stem Seals	Dual EPDM seals
Actuator Seals	NBR (Buna-N)
Actuator Body	Anodized aluminium with polyester coated end covers
Position Indicator	Glass filled polyamide
Fasteners	Stainless Steel



Description

Heavy duty quarter turn air actuators designed for long life and tested for a minimum 1 million operations. Industrial quality PVC ball valve with a unique nut locking device to prevent back-off due to vibration or thermal cycling. Energized Teflon ball seats for low torque and extended life. Leak free dual stem seal design. NSF certified for use with potable drinking water.

Approvals

Valves

- Certified NSF/ANSI 61 G for Potable/Drinking Water
- NSF/ANSI 372

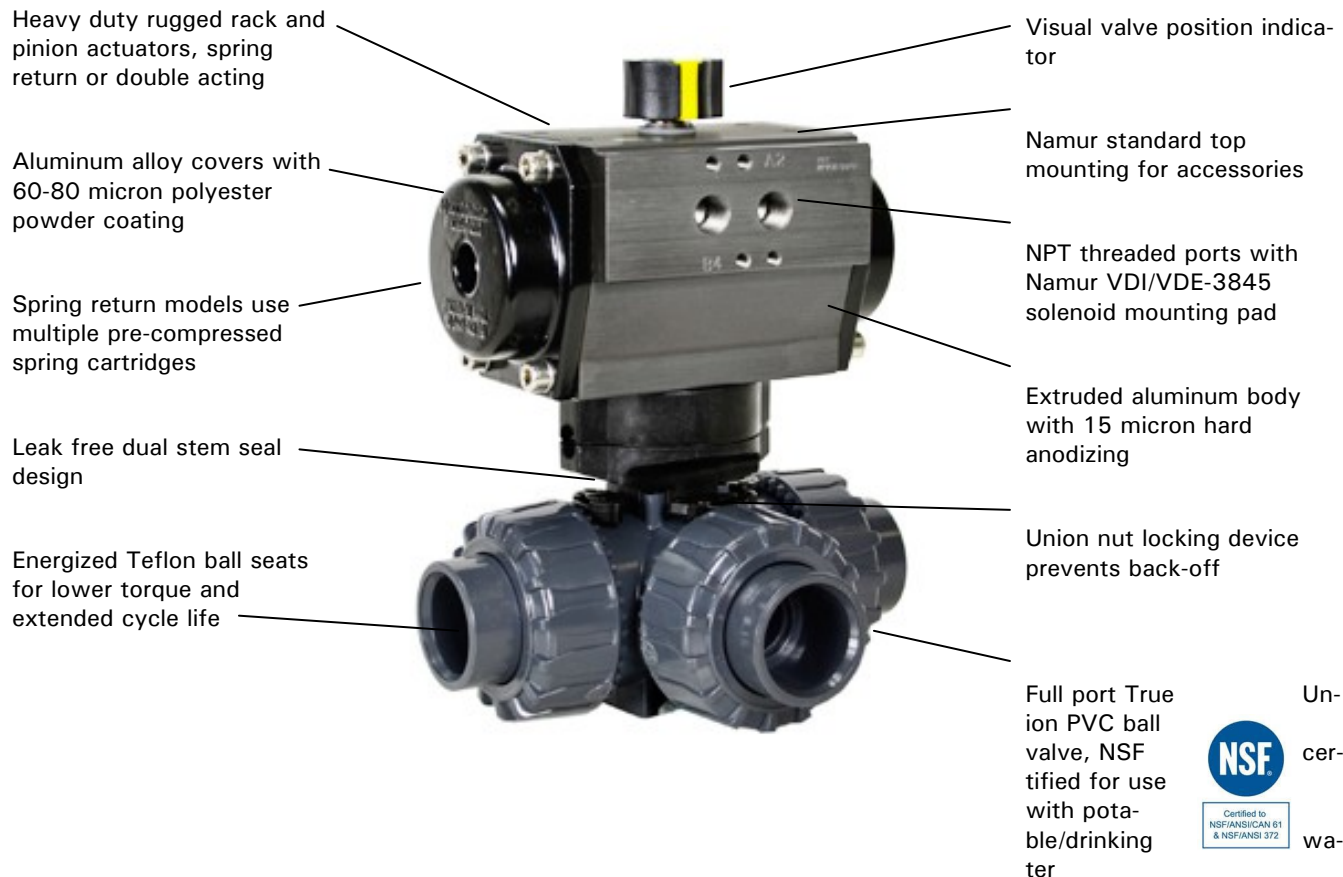


Actuators

- CE mark
- Accessory mounting Namur VDI/VDE 3845
- Valve mounting per ISO5211



Construction Features



Pressure-Temperature

Valve Pressure Rating*: 232 PSI at 73° F (16 Bar at 23° C)
Vacuum to 29inHg at 73° F (23° C)

Air Pilot Pressure Required: 80-120 PSI (5.5-8.3 Bar)

Working Temperature of Assembly*: 32 to 140° F (0 to 60° C)

Ball Valve Temperature Rating*: 32 to 140° F (0 to 60° C)

Actuator Temperature Rating: 0 to 180° F (-18 to 82° C)

*See P/T chart

Optional Accessories

- Direct Mount Solenoid Valves for electrically operating the actuator/ball valve
- Valve Monitor/Limit Switches - limit switches used to confirm valve position

Pressure/Temperature Chart (PSI/°F)

P/T Chart					
PSI	232	232	180	90	40
°F	32	73	92	122	140

Pressure/Temperature Chart (Bar/°C)

P/T Chart					
Bar	16	16	13	6.2	2.8
°C	0	23	33	50	60

Specifications (English units)

Stock Number	Pipe Size (inch)	End Connectors	Cv Flow Factor	Pressure Max.(PSI)*	Valve Seals	Cycle Time /90° (seconds)	Pilot Air Port (NPT)
3-WAY PVC BALL VALVE L-FLOW PATTERN: SPRING RETURN ACTUATOR							
524404	1/2	Socket, NPT	4.6	232	PTFE, EPDM	1	1/4
524406	3/4	Socket, NPT	10	232	PTFE, EPDM	1	1/4
524408	1	Socket, NPT	17	232	PTFE, EPDM	1	1/4
524410	1-1/4	Socket, NPT	32	232	PTFE, EPDM	1	1/4
524412	1-1/2	Socket, NPT	42	232	PTFE, EPDM	1	1/4
524416	2	Socket, NPT	84	232	PTFE, EPDM	1	1/4
3-WAY PVC BALL VALVE L-FLOW PATTERN: DOUBLE ACTING ACTUATOR							
524304	1/2	Socket, NPT	4.6	232	PTFE, EPDM	1	1/4
524306	3/4	Socket, NPT	10	232	PTFE, EPDM	1	1/4
524308	1	Socket, NPT	17	232	PTFE, EPDM	1	1/4
524310	1-1/4	Socket, NPT	32	232	PTFE, EPDM	1	1/4
524312	1-1/2	Socket, NPT	42	232	PTFE, EPDM	1	1/4
524316	2	Socket, NPT	84	232	PTFE, EPDM	1	1/4

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

Both Socket and NPT end connectors included with each valve.

* Pressure at 73° F (reduced pressure at higher temperatures—see P/T chart)

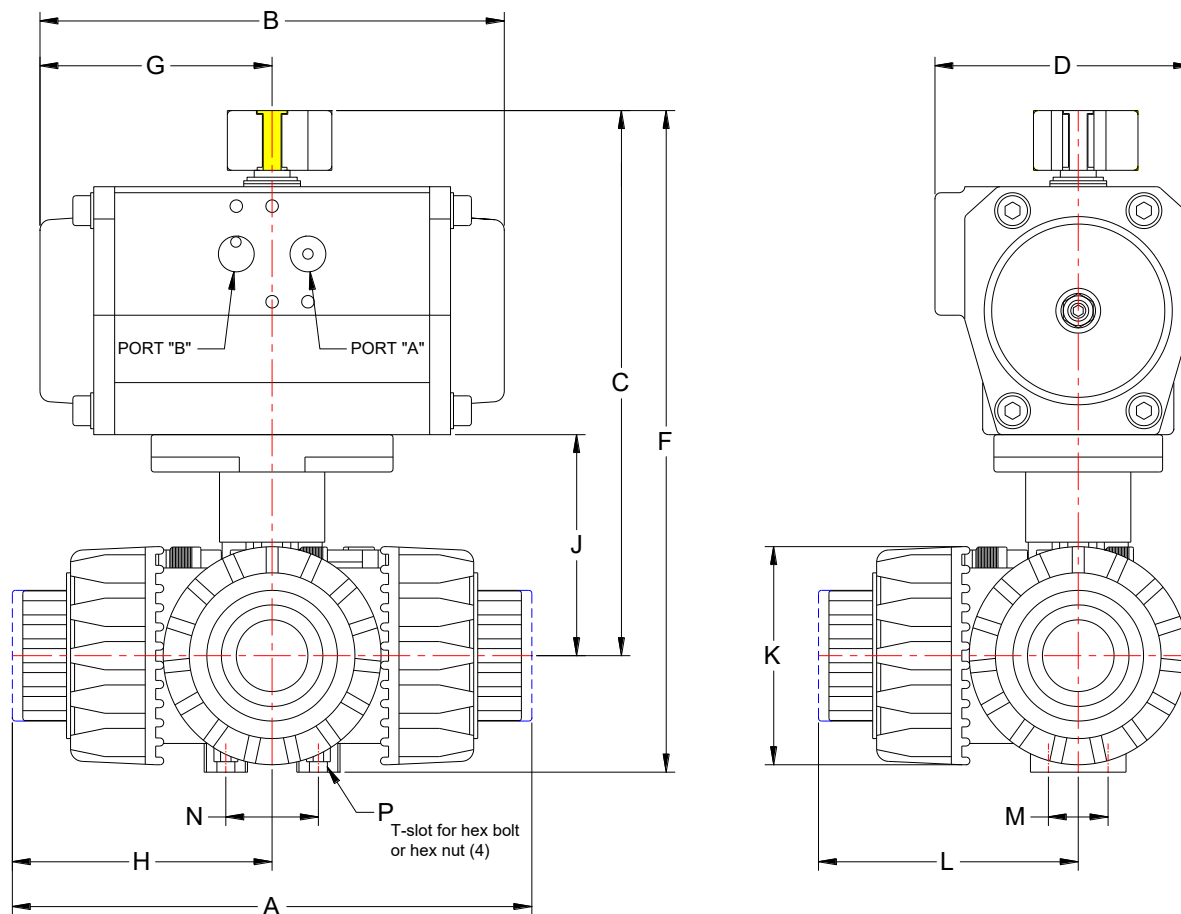
Specifications (Metric units)

Stock Number	Pipe Size (inch)	End Connectors	Kv Flow Factor	Pressure Max.(Bar)*	Valve Seals	Cycle Time /90° (seconds)	Pilot Air Port (NPT)
3-WAY PVC BALL VALVE L-FLOW PATTERN: SPRING RETURN ACTUATOR							
524404	1/2	Socket, NPT	4	16	PTFE, EPDM	1	1/4
524406	3/4	Socket, NPT	8.6	16	PTFE, EPDM	1	1/4
524408	1	Socket, NPT	15	16	PTFE, EPDM	1	1/4
524410	1-1/4	Socket, NPT	27.5	16	PTFE, EPDM	1	1/4
524412	1-1/2	Socket, NPT	36	16	PTFE, EPDM	1	1/4
524416	2	Socket, NPT	72	16	PTFE, EPDM	1	1/4
3-WAY PVC BALL VALVE L-FLOW PATTERN: DOUBLE ACTING ACTUATOR							
524304	1/2	Socket, NPT	4	16	PTFE, EPDM	1	1/4
524306	3/4	Socket, NPT	8.6	16	PTFE, EPDM	1	1/4
524308	1	Socket, NPT	15	16	PTFE, EPDM	1	1/4
524310	1-1/4	Socket, NPT	27.5	16	PTFE, EPDM	1	1/4
524312	1-1/2	Socket, NPT	36	16	PTFE, EPDM	1	1/4
524316	2	Socket, NPT	72	16	PTFE, EPDM	1	1/4

Both Socket and NPT end connectors included with each valve.

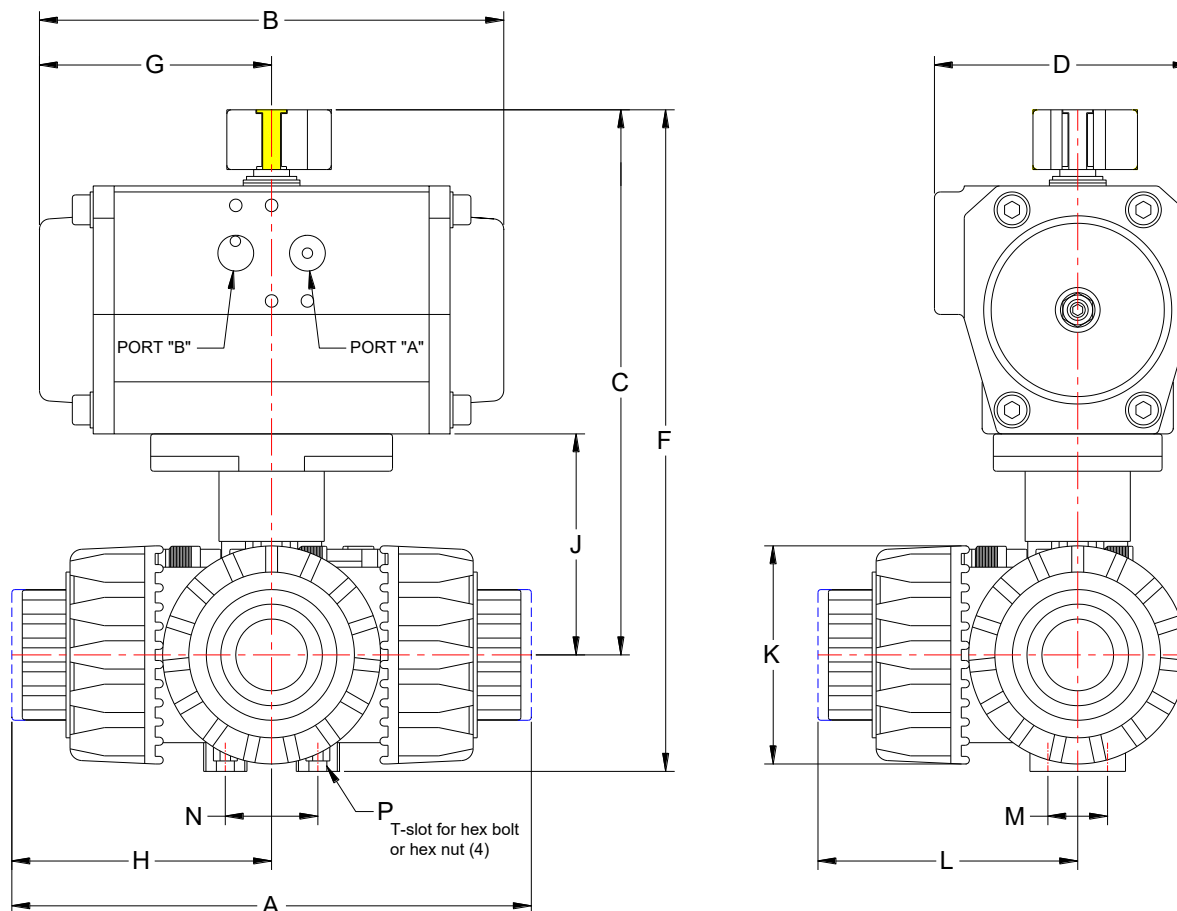
* Pressure at 23° C (reduced pressure at higher temperatures—see P/T chart)

Dimensions: Spring Return



Pipe Size		A	B	C	D	F	G	H	J	K	L	M	N	P	A/B Ports (NPT)	Weight
1/2	inch	5.20	6.12	6.57	3.39	7.72	3.06	2.60	2.52	2.13	2.60	0.79	1.22	-	1/4	5.3 lbs
	mm	132	156	167	86	196	78	66	64	54	66	20	31	M5	-	2.4 kg
3/4	inch	6.26	6.12	6.81	3.39	8.17	3.06	3.13	2.76	2.56	3.13	0.79	1.22	-	1/4	5.8 lbs
	mm	159	156	173	86	208	78	79.5	70	65	79.5	20	31	M5	-	2.6 kg
1	inch	6.85	6.12	6.97	3.39	8.50	3.06	3.43	2.91	2.87	3.43	0.79	1.22	-	1/4	6.3 lbs
	mm	174	156	177	86	216	78	87	74	73	87	20	31	M5	-	2.9 kg
1-1/4	inch	8.07	6.12	8.50	3.39	10.3	3.06	1.03	3.58	3.39	4.03	1.18	1.97	-	1/4	10.1 lbs
	mm	205	156	216	86	262	78	102.5	91	86	102.5	30	50	M6	-	4.6 kg
1-1/2	inch	8.98	8.27	8.54	3.70	10.59	4.13	4.49	3.82	3.86	4.49	1.18	1.97	-	1/4	11.4 lbs
	mm	228	210	217	94	269	105	114	97	98	114	30	50	M6	-	5.2 kg
2	inch	10.51	8.27	9.13	3.70	11.57	4.13	5.26	4.41	4.80	5.26	1.18	1.97	-	1/4	13.9 lbs
	mm	267	210	232	94	294	105	133.5	112	122	133.5	30	50	M6	-	6.3 kg

Dimensions: Double Acting



Pipe Size		A	B	C	D	F	G	H	J	K	L	M	N	P	A/B Ports (NPT)	Weight
1/2	inch	5.20	6.12	6.57	3.39	7.72	3.06	2.60	2.52	2.13	2.60	0.79	1.22	-	1/4	4.7 lbs
	mm	132	156	167	86	196	78	66	64	54	66	20	31	M5	-	2.1 kg
3/4	inch	6.26	6.12	6.81	3.39	8.17	3.06	3.13	2.76	2.56	3.13	0.79	1.22	-	1/4	5.2 lbs
	mm	159	156	173	86	208	78	79.5	70	65	79.5	20	31	M5	-	2.4 kg
1	inch	6.85	6.12	6.97	3.39	8.50	3.06	3.43	2.91	2.87	3.43	0.79	1.22	-	1/4	5.7 lbs
	mm	174	156	177	86	216	78	87	74	73	87	20	31	M5	-	2.6 kg
1-1/4	inch	8.07	6.12	7.83	3.39	9.65	3.06	1.03	3.58	3.39	4.03	1.18	1.97	-	1/4	10.1 lbs
	mm	205	156	199	86	245	78	102.5	91	86	102.5	30	50	M6	-	4.6 kg
1-1/2	inch	8.98	6.12	7.87	3.39	9.92	3.06	4.49	3.82	3.86	4.49	1.18	1.97	-	1/4	7.7 lbs
	mm	228	156	200	86	252	78	114	97	98	114	30	50	M6	-	3.5 kg
2	inch	10.51	6.12	8.46	3.39	10.91	3.06	5.26	4.41	4.80	5.26	1.18	1.97	-	1/4	10.2 lbs
	mm	267	156	215	86	277	78	133.5	112	122	133.5	30	50	M6	-	4.6 kg