

Features

- Pneumatic actuator with integral manual override
- Functions as a diverter or selector valve
- Ball and stem 316 stainless steel
- Energized PTFE ball seats for lower torque and longer life
- Triple PTFE/FKM stem seal packing design
- Valve Certified NSF372 & NSF61 for potable/drinking water
- Rack and pinion quarter turn (90°) rotation
- Spring Return or Double Acting Actuators
- Type IP67 weatherproof actuator
- Variable open/close stroke setting
- ATEX approved
- Valve Certified NSF372 & NSF61 for potable/drinking water

Applications

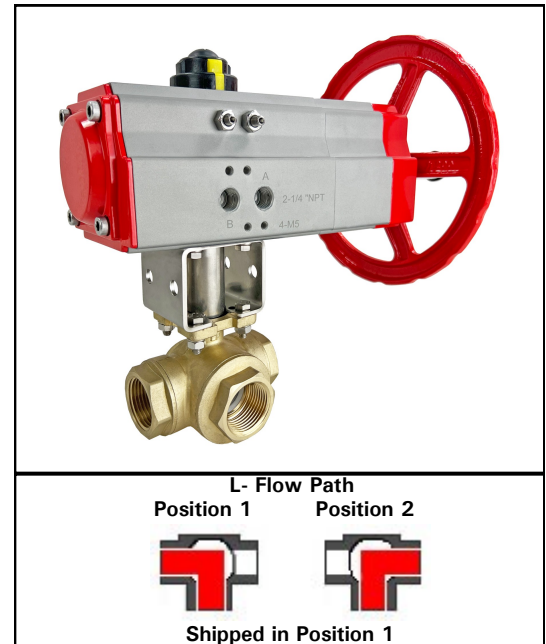
Pneumatic/manual actuated 3-way brass ball valves for control of water, air, oil and other media compatible with the materials of construction. The de-clutch option can be used for manual operation or to set a stop limit for opening or closing. Ideal where lead free and NSF approved construction are required for potable drinking water as well as general industrial applications. Unique four ball seat design allows for full pressure at any port. Cycle times approximately 1 to 3 seconds per 90° rotation. Valve can be mounted in any orientation. Suitable for steam service up to 25 PSI with optional high temperature mounting kit and vacuum service to 29"Hg.

Operation

Double acting actuators require air pressure to open and air pressure to close. Spring return actuators require air pressure to open and utilize springs to close for failsafe operation. Pulling the handwheel détente pin allows manual operation of the valve via the handwheel. Re-engaging the détente pin mid-stroke creates a partial stroke position, ie the automatic stroke begins/ends at the locked handwheel position. Rotating the handwheel counterclockwise rotates the output drive counterclockwise when viewed from the top.

Construction

Valve Body	Lead Free Brass C69300
Ball/Stem	316 stainless steel
Ball Seats	PTFE (Teflon) energized with FKM (Viton)
Stem Seals	PTFE (Teflon) with dual FKM (Viton) seals
Actuator Seals	NBR (Buna-N)
Actuator Body	Extruded aluminium- 35 micron anodizing, 40 micron polyester coated end covers
Position Indicator	Glass filled Polyamide
Fasteners	Stainless Steel



Description

Valworx heavy duty pneumatic/manual combination actuator features hard anodized aluminum enclosure, type IP67 weatherproof. Actuators are available in double acting and spring return models. Full port lead free brass L-port ball valve functions as a diverter or selector valve. Unique 316 stainless steel ball and stem rather than your typical plated brass. Ball seats are energized PTFE for low torque and Standard Namur mounting pads for optional accessory confirmation switches, pilot valves and valve positioners. Rotation adjustment +5° at the 0° and 90° positions. The integral handwheel is used for manual operation and setting a limit stop.

Approvals

Actuators

- CE Declaration of conformity
- EN ISO 12100:2010
- EN ISO 4414:2010
- ISO5211/ DIN3337 valve mounting
- Namur VDI/VDE 3845 accessory mounting
- ATEXATEX- Ex II 2 G Ex h IIC T6 Gb; Ex II 2 D Ex H IIIB T85°C Db
- SIL3 per IEC 61508:2010

Valves

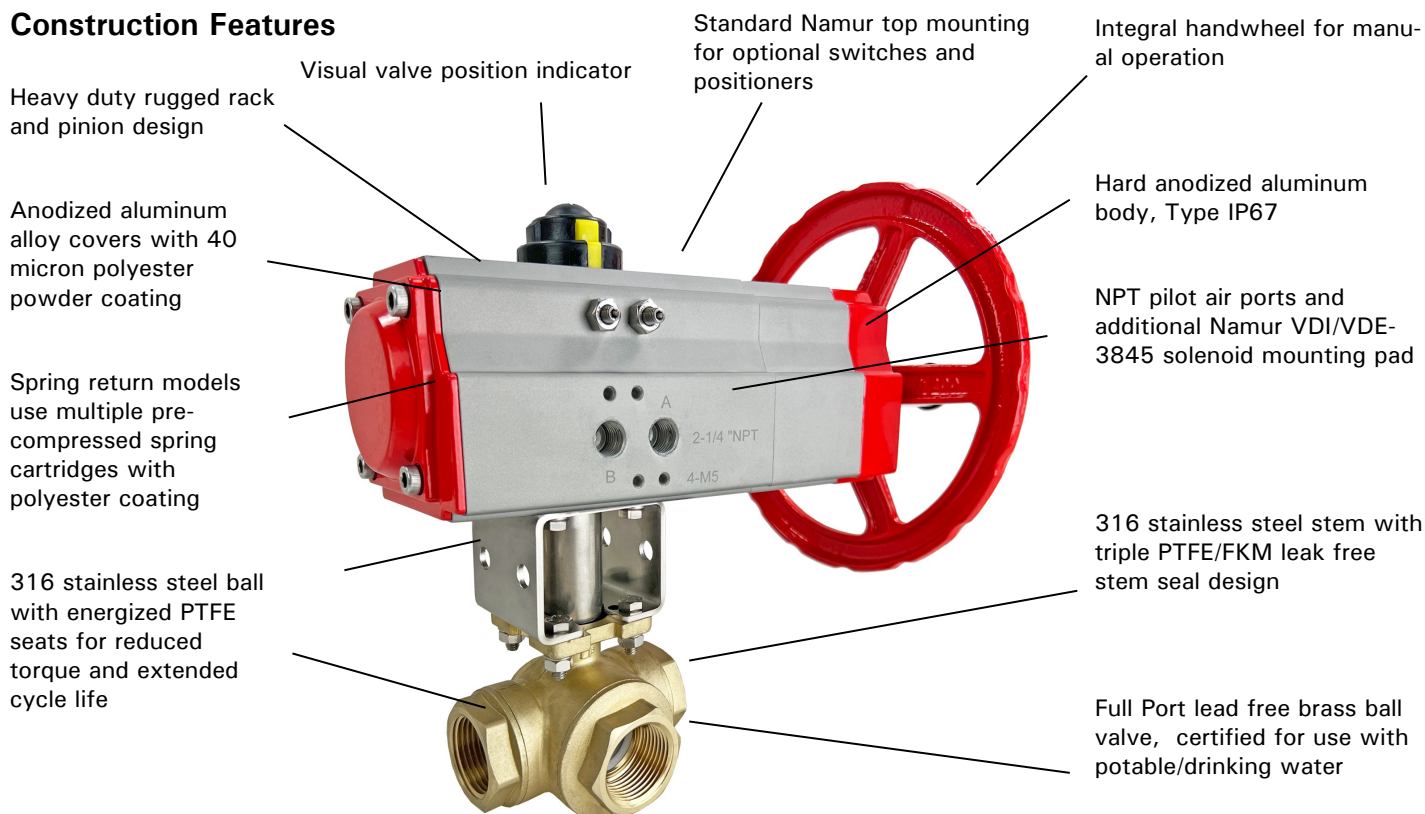
- IAPMO RT certified to:
 - NSF/ANSI 372 -2011 Drinking Water
 - NSF/ANSI 61 - 2015
 - California Health & Safety 116875
 - Section 1417 of Safe Drinking Water Act
 - Weighted average lead content < = 0.25%
- Meets design MSS-SP-110



LEAD FREE



Construction Features



Pressure Rating

Valve Pressure Rating: 400 PSI (27 Bar) * non-shock, 1-4" to 2" NPT sizes
25 PSI saturated steam with high temp kit
29" Hg vacuum

*See P/T chart

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

Pilot Air Pressure– Spring Return: 87-120 PSI (6-8 Bar)

Temperature Rating

Ball Valve Temperature Rating: -4 to 366° F (-20 to 186° C)

Actuator Temperature Rating: -4 to 176° F (-20 to 80° 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
PVP: Pneumatic Valve Positioner
- position the ball with 4-20mA
HTB: High Temperature Bracket
- increases media working temperature
Lock out/Tag out device
Inline mounting

Specifications (English units)

Stock Number	Pipe Size (NPT)	Orifice Size (inch)	Cv Flow Factor	Pressure Max.(PSI) *	Air Volume/90° (cubic inches)	Cycle Time/90° (open-close)	Pilot Air Port (NPT)
3-WAY L-PORT LEAD FREE BRASS BALL VALVE WITH PNEUMATIC/ MANUAL SPRING RETURN ACTUATOR							
545602	1/4	0.39	3.2	400	18.3	1-1	1/4
545603	3/8	0.39	3.5	400	18.3	1-1	1/4
545604	1/2	0.59	4.5	400	18.3	1-1	1/4
545606	3/4	0.75	10	400	24.4	1-1	1/4
545608	1	1.00	16	400	54.9	1-1	1/4
545610	1-1/4	1.22	31	400	91.5	1-1	1/4
545612	1-1/2	1.50	49	400	128.1	2-1	1/4
545616	2	2.00	82	400	201.4	3-1	1/4
3-WAY L-PORT LEAD FREE BRASS BALL VALVE WITH PNEUMATIC/ MANUAL DOUBLE ACTING ACTUATOR							
545502	1/4	0.39	3.2	400	18.3	1-1	1/4
545503	3/8	0.39	3.5	400	18.3	1-1	1/4
545504	1/2	0.59	4.5	400	18.3	1-1	1/4
545506	3/4	0.75	10	400	18.3	1-1	1/4
545508	1	1.00	16	400	24.4	1-1	1/4
545510	1-1/4	1.22	31	400	24.4	1-1	1/4
545512	1-1/2	1.50	49	400	42.7	1-1	1/4
545516	2	2.00	82	400	91.5	2-1	1/4

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

* Pressure at 176° F (reduced pressure for higher temperatures—see P/T chart)

Pressure/Temperature Chart (PSI/°F)

P/T Chart						
PSI	400	400	400	400	375	275
°F	0	50	100	176	200	266

Specifications (Metric units)

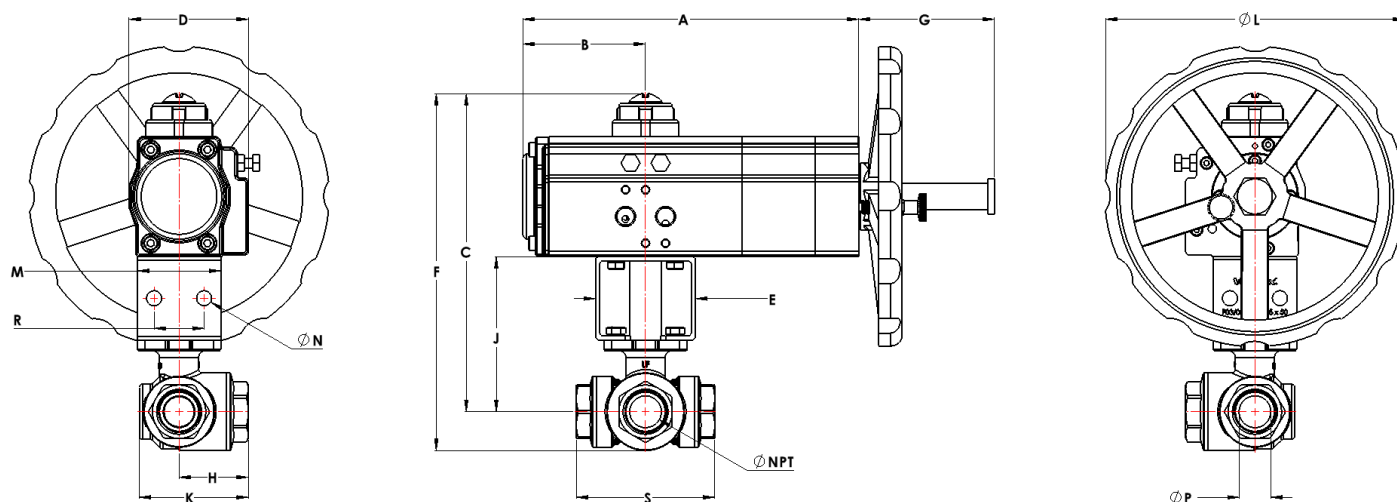
Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure Max.(Bar)*	Air Volume/90° (cubic liters)	Cycle Time/90° (open-close)	Pilot Air Port (NPT)
3-WAY L-PORT LEAD FREE BRASS BALL VALVE WITH PNEUMATIC/ MANUAL SPRING RETURN ACTUATOR							
545602	1/4	10	2.8	27	0.3	1-1	1/4
545603	3/8	10	3.0	27	0.3	1-1	1/4
545604	1/2	15	3.9	27	0.3	1-1	1/4
545606	3/4	19	8.6	27	0.4	1-1	1/4
545608	1	25	14	27	0.9	1-1	1/4
545610	1-1/4	31	27	27	1.5	1-1	1/4
545612	1-1/2	38	42	27	2.1	2-1	1/4
545616	2	50	70	27	3.3	3-1	1/4
3-WAY L-PORT LEAD FREE BRASS BALL VALVE WITH PNEUMATIC/ MANUAL DOUBLE ACTING ACTUATOR							
545502	1/4	10	2.8	27	0.3	1-1	1/4
545503	3/8	10	3.0	27	0.3	1-1	1/4
545504	1/2	15	3.9	27	0.3	1-1	1/4
545506	3/4	19	8.6	27	0.3	1-1	1/4
545508	1	25	14	27	0.4	1-1	1/4
545510	1-1/4	31	27	27	0.4	1-1	1/4
545512	1-1/2	38	42	27	0.7	1-1	1/4
545516	2	50	70	27	1.5	2-1	1/4

* Pressure at 80° C (reduced pressure for higher temperatures—see P/T chart)

Pressure/Temperature Chart (Bar/°C)

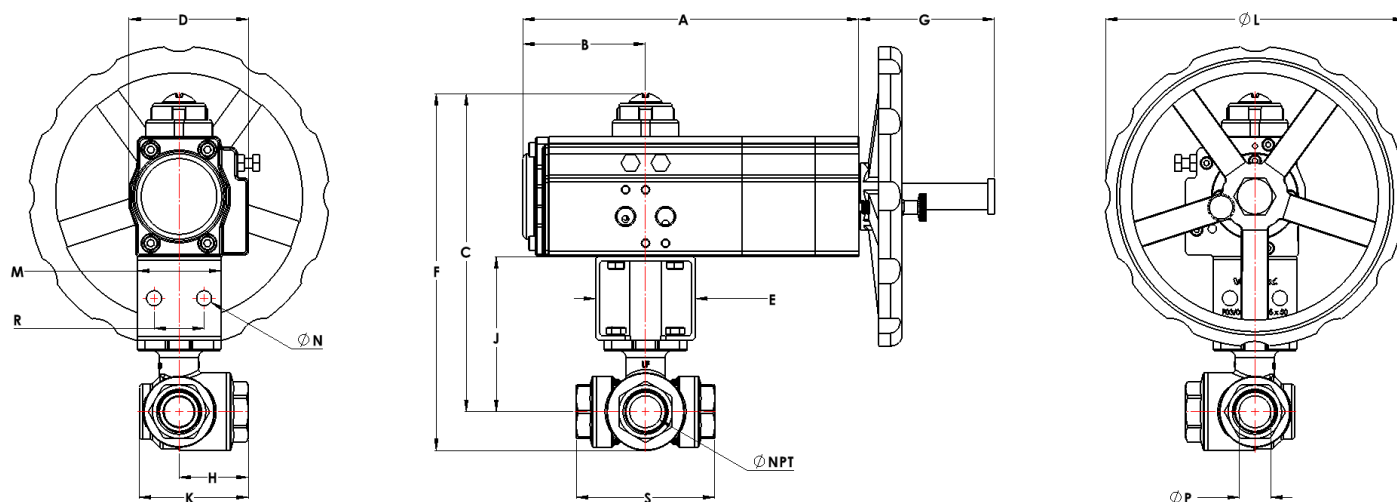
P/T Chart						
Bar	27	27	27	27	26	19
°C	-18	10	38	80	93	130

Dimensions: Spring Return



Pipe Size (NPT)		A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	Weight
1/4	inch	8.3	3.1	7.0	2.6	2.4	7.6	2.9	1.1	3.4	1.7	7.1	2.0	0.3	0.4	1.2	2.2	7.7 lb
	mm	210.8	78.7	177.8	66.0	60.0	193.0	73.7	27.5	86.4	43.1	180.0	50.0	9.0	10.0	30.0	55.6	3.5 kg
3/8	inch	8.3	3.1	7.0	2.6	2.4	7.6	2.9	1.1	3.4	1.7	7.1	2.0	0.3	0.4	1.2	2.2	7.6 lb
	mm	21.0	78.7	177.8	66.0	60.0	193.0	73.7	27.5	86.4	43.1	180.0	50.0	9.0	10.0	30.0	55.6	3.4 kg
1/2	inch	8.3	3.1	7.3	2.6	2.4	8.1	2.9	1.4	3.7	2.3	7.1	2.0	0.3	0.6	1.2	2.9	8.2 lb
	mm	210.0	78.7	185.4	66.0	60.0	205.7	73.7	36.5	94.0	57.7	180.0	50.0	9.0	15.0	30.0	73.0	3.7 kg
3/4	inch	9.2	3.3	8.4	2.8	2.4	9.3	3.3	1.6	4.1	2.6	7.7	2.0	0.3	0.8	1.2	3.3	13.0 lb
	mm	233.7	83.8	213.4	71.1	60.0	236.2	83.8	41.5	104.1	65.4	195.0	50.0	9.0	19.0	30.0	83.0	5.9 kg
1	inch	10.7	4.2	9.4	3.6	2.4	10.4	4.0	1.8	4.3	2.9	7.7	2.0	0.3	1.0	1.2	3.8	17.7 lb
	mm	271.8	106.7	238.8	91.4	60.0	264.2	101.6	46.8	109.2	74.5	195.0	50.0	9.0	25.0	30.0	95.6	8.0 kg
1-1/4	inch	13.4	5.2	10.0	3.9	2.4	11.3	4.3	2.0	4.6	3.3	9.8	2.0	0.3	1.2	1.2	4.2	27.1 lb
	mm	340.4	132.1	254.0	99.1	60.0	287.0	109.2	51.0	116.8	83.6	250.0	50.0	9.0	31.0	30.0	107.0	12.3 kg
1-1/2	inch	13.6	5.3	11.7	4.3	3.1	13.3	4.9	2.3	5.7	3.9	9.8	2.8	0.3	1.5	1.4	4.9	33.6 lb
	mm	345.4	134.6	297.2	109.2	80.0	337.8	124.5	60.0	144.8	99.1	250.0	70.0	9.0	38.0	35.0	126.0	15.3 kg
2	inch	15.8	5.9	13.0	5.0	3.1	14.9	5.2	2.7	6.1	4.7	15.7	2.8	0.3	2.0	1.4	5.9	55.2 lb
	mm	401.3	149.9	330.2	127.0	80.0	378.5	132.1	69.0	154.9	118.2	400.0	70.0	9.0	50.0	35.0	149.0	25.1 kg

Dimensions: Double Acting



Pipe Size (NPT)		A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	Weight
1/4	inch	8.3	3.1	7.0	2.6	2.4	7.6	2.9	1.1	3.4	1.7	7.1	2.0	0.3	0.4	1.2	2.2	7.7 lb
	mm	210.8	78.7	177.8	66.0	60.0	193.0	73.7	27.5	86.4	43.1	180.0	50.0	9.0	10.0	30.0	55.6	3.5 kg
3/8	inch	8.3	3.1	7.0	2.6	2.4	7.6	2.9	1.1	3.4	1.7	7.1	2.0	0.3	0.4	1.2	2.2	7.6 lb
	mm	210.8	78.7	177.8	66.0	60.0	193.0	73.7	27.5	86.4	43.1	180.0	50.0	9.0	10.0	30.0	55.6	3.4 kg
1/2	inch	8.3	3.1	7.3	2.6	2.4	8.1	2.9	1.4	3.7	2.3	7.1	2.0	0.3	0.6	1.2	2.9	8.2 lb
	mm	210.8	78.7	185.4	66.0	60.0	205.7	73.7	36.5	94.0	57.7	180.0	50.0	9.0	15.0	30.0	73.0	3.7 kg
3/4	inch	8.3	3.1	7.7	2.6	2.4	8.6	2.9	1.6	4.1	2.6	7.1	2.0	0.3	0.8	1.2	3.3	8.8 lb
	mm	210.8	78.7	195.6	66.0	60.0	218.4	73.7	41.5	104.1	65.4	180.0	50.0	9.0	19.0	30.0	83.0	4.0 kg
1	inch	9.2	3.3	8.6	2.8	2.4	9.6	3.3	1.8	4.3	2.9	7.7	2.0	0.3	1.0	1.2	3.8	13.2 lb
	mm	233.7	83.8	218.4	71.1	60.0	243.8	83.8	46.8	109.2	74.5	195.0	50.0	9.0	25.0	30.0	95.6	6.0 kg
1-1/4	inch	9.2	3.3	8.9	2.8	2.4	10.2	3.3	2.0	4.6	3.3	7.7	2.0	0.3	1.2	1.2	4.2	14.2 lb
	mm	233.7	83.8	226.1	71.1	60.0	259.1	83.8	51.0	116.8	83.6	195.0	50.0	9.0	31.0	30.0	107.0	6.5 kg
1-1/2	inch	9.6	3.6	10.4	3.1	3.1	12.0	3.5	2.3	5.7	3.9	7.1	2.8	0.3	1.5	1.4	4.9	18.3 lb
	mm	243.8	91.4	264.2	78.7	80.0	304.8	88.9	60.0	144.8	99.1	180.0	70.0	9.0	38.0	35.0	126.0	8.3 kg
2	inch	13.4	5.2	11.5	3.9	3.1	13.4	4.3	2.7	6.1	4.7	9.8	2.8	0.3	2.0	1.4	5.9	31.4 lb
	mm	340.4	132.1	292.1	99.1	80.0	340.4	109.2	69.0	154.9	118.2	250.0	70.0	9.0	50.0	35.0	149.0	14.3 kg