



## Ball Valves

Pressures to 21,000 psi (1,500 bar)

**MAXIMATOR** ball valves provide superior quality and performance with a variety of valve styles and process connections. All medium and high pressure connections are supplied with glands and collars.

Ball Valves feature:

- ▶ One-piece, trunion mounted style stem design eliminates shear failure found in two-piece stem designs.
- ▶ Choice of 3/16" and 1/4" ball orifices provides minimal pressure drops.
- ▶ Re-torqueable seat glands for longer seat life and dependability.
- ▶ Torlon Ball Seat material offers excellent sealing capabilities.
- ▶ 316 cold worked stainless steel body, and 17-4 PH stem offers excellent corrosion resistance.
- ▶ Ball valves are available in 90° and 180° open to close with a positive stop.
- ▶ Available with Pneumatic or Electric actuators.
- ▶ Available in medium, high and FNPT pressure connections.
- ▶ Full materials traceability.
- ▶ Safety weep holes for all pressure connections and packing area.

**MAXIMATOR** offers a complete line of high pressure components to compliment the 2-way and 3-way Ball Valve line.

Note: When selecting multiple items, the pressure rating would be that of the lowest rated component.

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Factory **MAXIMATOR GmbH**  
Walkenrieder Str. 15  
D-37449 Zorge / Germany  
Internet [www.maximator.de](http://www.maximator.de)

Telephon: ++49 5586 / 80 30  
Facsimile: ++49 5586 / 8 03 30 40  
eMail: [info@maximator.de](mailto:info@maximator.de)

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# MAXIMATOR®

## 2-Way Ball Valves - 1/4" Orifice Pressures to 21,000 psi (1,500 bar)



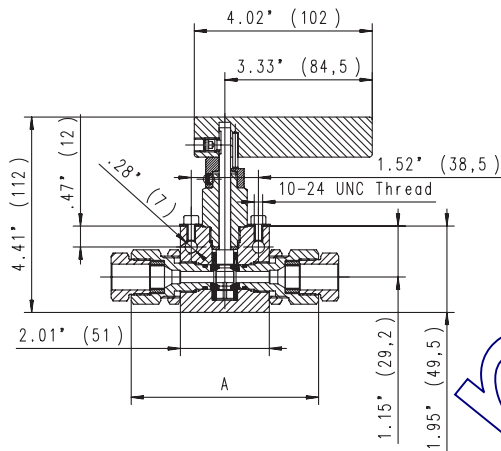
**MAXIMATOR** 2-Way Ball Valves have 1/4" orifices and are capable of safe handling of liquids and gases up to 21,000 psi (1,500 bar) pressure. Their 90° handle rotation allows for full flow capabilities with minimal pressure drop. Robust one-piece trunnion style stem design eliminates shear failure that is found in a two-piece stem design. Ball seats are made of Torlon material providing excellent sealing capabilities with low handle operating torque. Re-torqueable seat glands provide longer valve life and dependability. Standard valves are supplied with Viton O-Rings rated to 300°F (150°C).

### Ordering Information

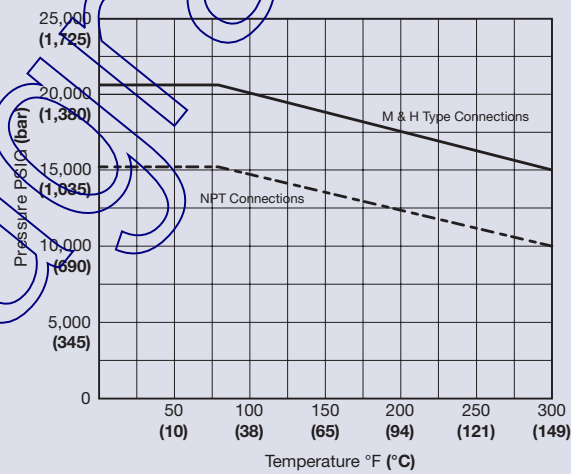
Typical catalog number: **21B244M**

21	B2	4	4M	-
Pressure (x 1000 psi)	Valve Series	Orifice Diameter	Connection Type	Options
15 = 15,200 psi (1,050 bar) 21 = 21,000 psi (1,500 bar)	B2 = Ball Valve 2-way	4 = 1/4"	See chart below	See Ball Valve Actuators (page 4 & 5)

### Manually Operated 2-Way Ball Valve



### Pressure Temperature Ratings



Catalog Number	Pressure Rating @ RT psi. (bar)	O.D Tubing Size in.	Connection Type	Orifice Size in. (mm)	Cv	Dimension A in. (mm)	Valve Panel Hole in. (mm)	Block Thickness in. (mm)
21B244M	21,000 (1,500)	1/4	4MF	0.109 (2.8)	0.31	4.21 (107)	1.03 (26.2)	1.00 (25.4)
21B246M	21,000 (1,500)	3/8	6MF	0.203 (5.2)	1.70	4.21 (107)	1.03 (26.2)	1.00 (25.4)
21B249M	21,000 (1,500)	9/16	9MF	0.250 (6.4)	2.70	4.21 (107)	1.03 (26.2)	1.00 (25.4)
21B244H	21,000 (1,500)	1/4	4HF	0.094 (2.4)	0.20	4.21 (107)	1.03 (26.2)	1.00 (25.4)
21B246H	21,000 (1,500)	3/8	6HF	0.125 (3.2)	0.45	4.21 (107)	1.03 (26.2)	1.00 (25.4)
21B249H	21,000 (1,500)	9/16	9HF	0.188 (4.8)	1.45	4.84 (123)	1.03 (26.2)	1.38 (35.1)
15B242P	15,200 (1,050)	1/8	FNPT	0.250 (6.4)	2.70	4.21 (107)	1.03 (26.2)	1.00 (25.4)
15B244P	15,200 (1,050)	1/4	FNPT	0.250 (6.4)	2.70	4.21 (107)	1.03 (26.2)	1.00 (25.4)
15B246P	15,200 (1,050)	3/8	FNPT	0.250 (6.4)	2.70	4.21 (107)	1.03 (26.2)	1.00 (25.4)
15B248P	15,200 (1,050)	1/2	FNPT	0.250 (6.4)	2.70	4.84 (123)	1.03 (26.2)	1.38 (35.1)

Caution: Ball valves are not recommended for small molecular gases (Hydrogen, Helium).  
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**Adapters and Couplings**  
 Medium Pressure to 21,000 psi (1,500 bar)  
**Accessories**  
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**Tools and Installation**  
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**Valve Actuators**  
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**Ball Valves**  
 to 21,000 psi (1,500 bar)

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## 3-Way Ball Valves - 3/16" Orifice Pressures to 21,000 psi (1,500 bar)



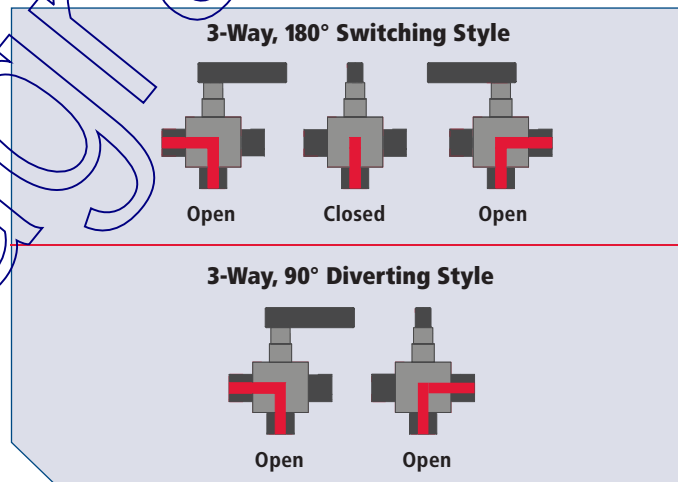
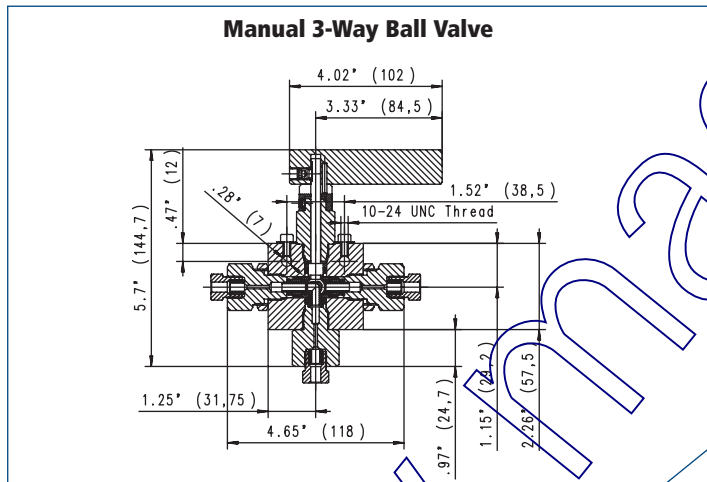
**MAXIMATOR** 3-Way Ball Valves have 3/16" orifices and are capable of safe handling of liquids and gases up to 21,000 psi (1,500 bar) pressure. Robust one-piece trunnion style stem design eliminates shear failure that is found in a two-piece stem design. There are two styles in the 3-way design:

- The 180° rotating Switching Ball Valve is designed to have fluid enter in through the bottom connection and can be switched to either side connection. Also, the valve can be closed in the center "Off" position.
- The 90° rotating Diverting Ball Valve is designed to have fluid enter in through the bottom connection and can be diverted to either side connection. There is no center off position in the diverting design.

### Ordering Information

Typical catalog number: **21B3S34M**

21	B3S	3	4M	-
Pressure (x 1000 psi)	Valve Series	Orifice Diam-	Connec-tion	Options
15 = 15,200 psi (1,050 bar) 21 = 21,000 psi (1,500 bar)	B3S = 180° Switching B3D = 90° Diverting	3 = 3/16	See chart below	See Ball Valve Actuators (page 4 & 5)



Catalog Number		Pressure Rating @ RT psi (bar)	O.D Tubing Size in.	Connection Type	Orifice Size in. (mm)	Cv	Valve Panel Hole in. (mm)	Block Thickness in. (mm)
3-Way 180° Switching	3-Way 90° Diverting							
21B3S34M	21B3D34M	21,000 (1,500)	1/4	4MF	0.109 (2.8)	0.15	1.03 (26.2)	1.00 (25.4)
21B3S36M	21B3D36M	21,000 (1,500)	3/8	6MF	0.188 (4.8)	0.71	1.03 (26.2)	1.00 (25.4)
21B3S39M	21B3D39M	21,000 (1,500)	9/16	9MF	0.188 (4.8)	0.71	1.03 (26.2)	1.00 (25.4)
21B3S34H	21B3D34H	21,000 (1,500)	1/4	4HF	0.094 (2.4)	0.10	1.03 (26.2)	1.00 (25.4)
21B3S36H	21B3D36H	21,000 (1,500)	3/8	6HF	0.125 (3.2)	0.22	1.03 (26.2)	1.00 (25.4)
21B3S39H	21B3D39H	21,000 (1,500)	9/16	9HF	0.188 (4.8)	0.71	1.03 (26.2)	1.00 (25.4)
15B3S32P	15B3D32P	15,200 (1,050)	1/8	FNPT	0.188 (4.8)	0.71	1.03 (26.2)	1.00 (25.4)
15B3S34P	15B3D34P	15,200 (1,050)	1/4	FNPT	0.188 (4.8)	0.71	1.03 (26.2)	1.00 (25.4)
15B3S36P	15B3D36P	15,200 (1,050)	3/8	FNPT	0.188 (4.8)	0.71	1.03 (26.2)	1.00 (25.4)
15B3S38P	15B3D38P	15,200 (1,050)	1/2	FNPT	0.188 (4.8)	0.71	1.03 (26.2)	1.00 (25.4)

\* Maximum side connection inlet pressure is 15,000 psig.

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See page 2 for pressure/temperature rating chart.

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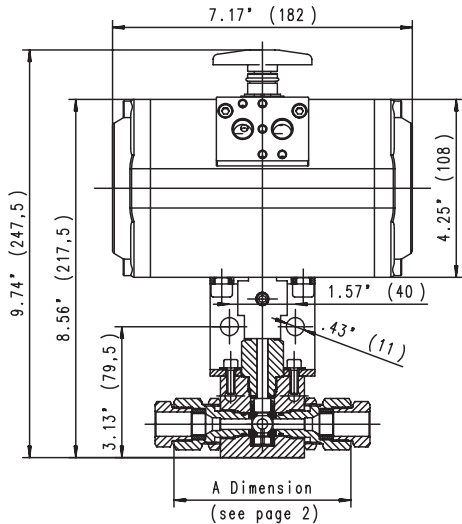
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# MAXIMATOR®

## Ball Valve Actuators Pneumatic Actuators

**Air Operated 2-Way Ball Valve**



### Pneumatic Actuator Features

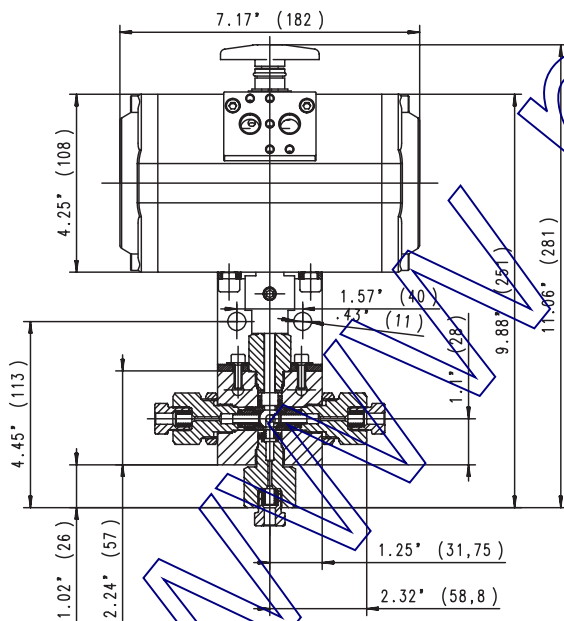
- ▶ Pneumatic actuators are designed to be used with 2-way & 3-way style ball valves for remote operation.
- ▶ Two styles available:
  - Double acting: (air to open / air to close)
  - Single acting: (air to open / spring to close)
- ▶ Optional limit switches with visual indication available.
- ▶ Actuators are anodized aluminum, which provides good corrosion resistance. Stainless steel material is available upon request.
- ▶ Maximum operating air pressure is 145 psi (10 bar).
- ▶ Inlet air supply connection is 1/8" FNPT
- ▶ Actuator operating temperature:
  - 4°F to 203°F (-20°C to 95°C).
- ▶ Minimal required air pressure is 80 psi (5.5 bar).
- ▶ Opening & closing time is less than one second.

### Ordering Information

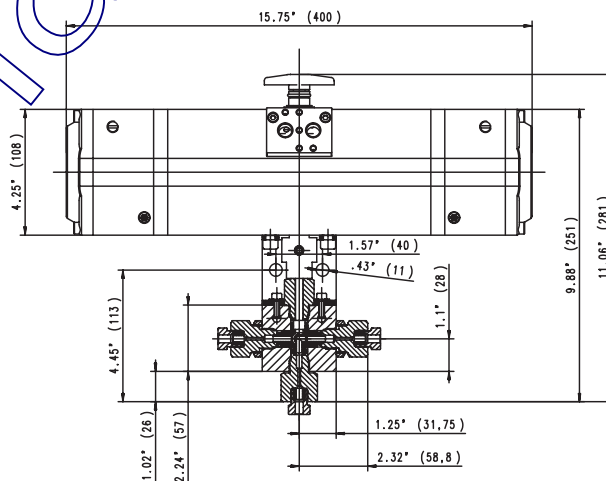
Simply add suffix to the manual ball valve catalog number:

- **DA** (Double Acting Air Actuators)
- **SA** (Single Acting Air Actuators)

**Air Operated 3-Way Ball Valve,  
90° Diverter Style**



**Air Operated 3-Way Ball Valve,  
180° Switching Style**



(Available in double acting only)

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Technical  
Information

Valve Actuators

Ball Valves  
to 21,000 psi (1,500 bar)

# MAXIMATOR®

## Ball Valve Actuators Electric Actuators



### Electric Actuator Features

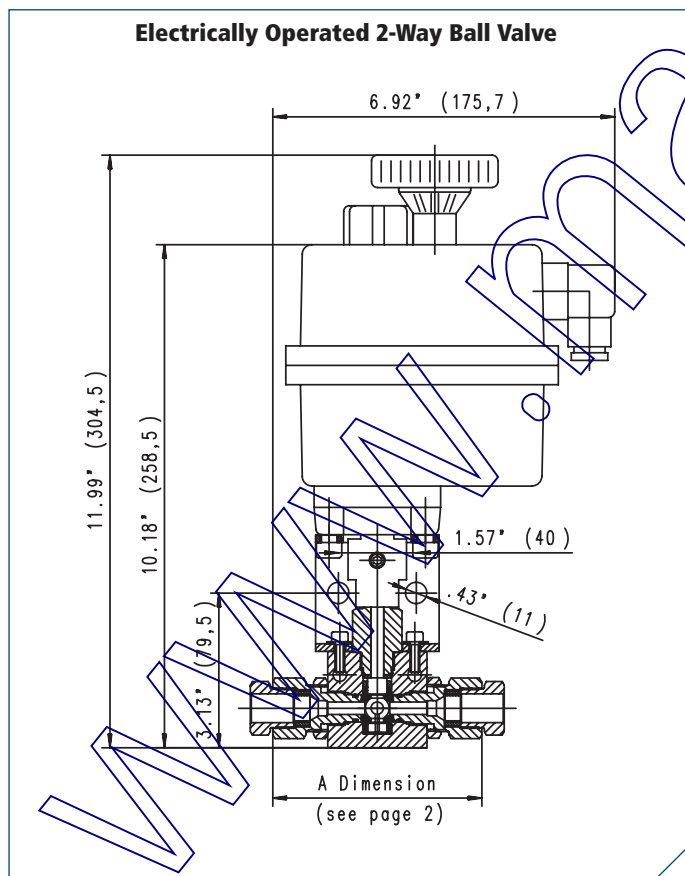
- ▶ Electric actuators are designed to be used with 2-way & 3-way style ball valves for remote operation.
- ▶ Actuators will accept a wide range of single phase input voltages from 12 to 240 volts DC or AC current.
- ▶ Optional limit switches with visual indication available.
- ▶ Manual override option is standard.
- ▶ Actuators are made with polyamide material, which provides good corrosion resistance.
- ▶ Actuator operating temperature:  $-0^{\circ}\text{F}$  to  $160^{\circ}\text{F}$  ( $-18^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ ).
- ▶ Opening & closing time is less than ten seconds with  $90^{\circ}$  actuators.

### Ordering Information

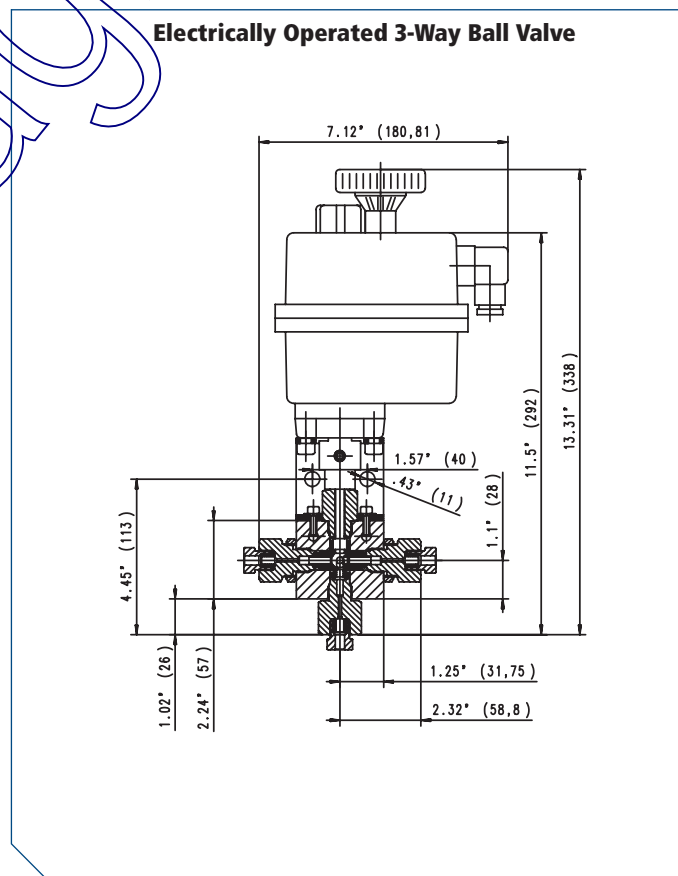
Simply add suffix to the manual ball valve catalog number:

- **EL** = Electric Actuator, lower voltage, (12 - 48 Volts AC or DC)
- **EH** = Electric Actuator, higher voltage, (80 - 240 Volts AC or DC)

Electrically Operated 2-Way Ball Valve



Electrically Operated 3-Way Ball Valve



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