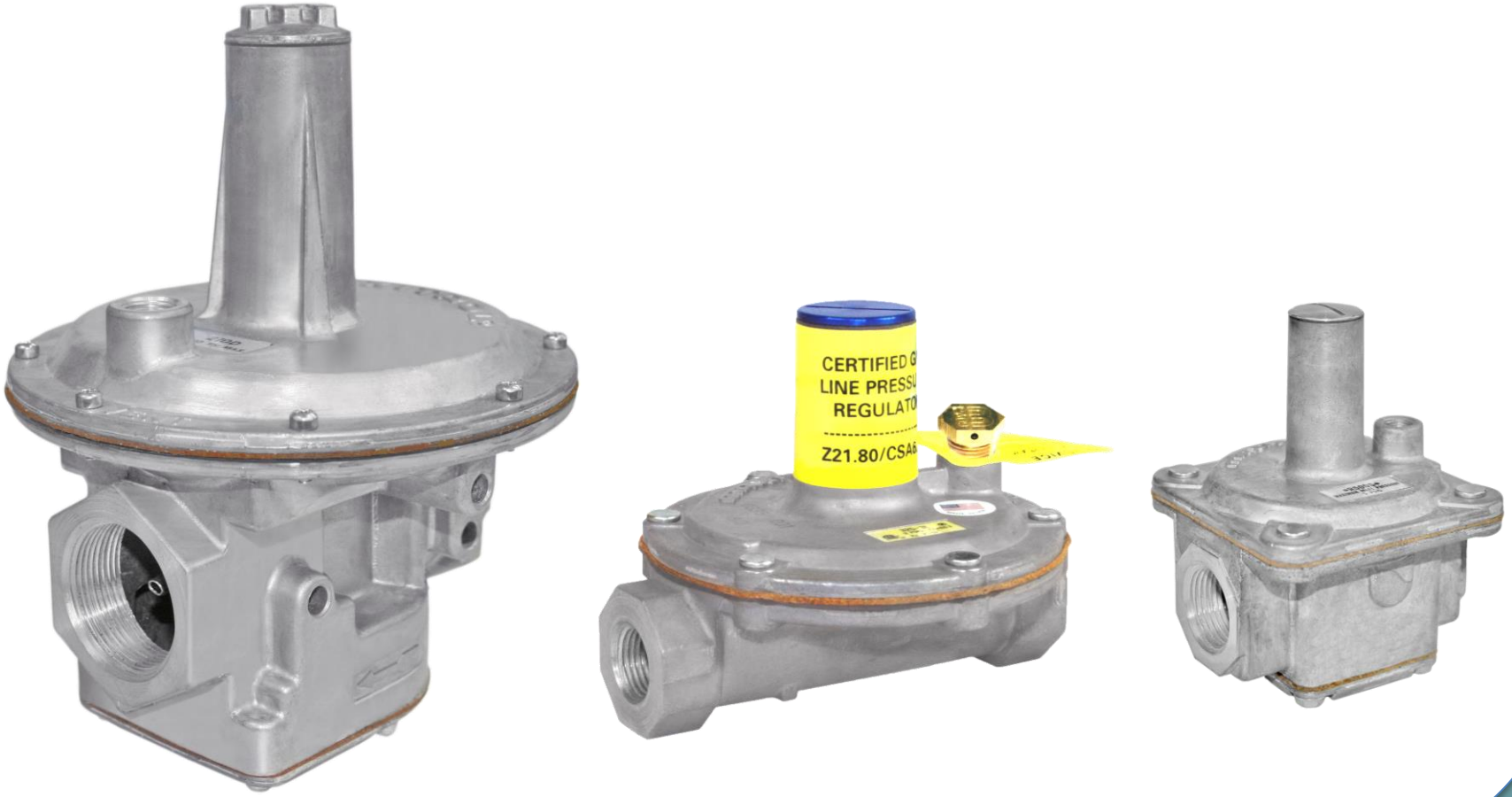
Gas Pressure Regulators



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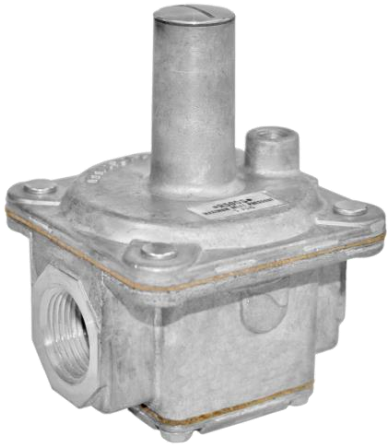
Maxitrol Gas Pressure Regulators

- Gas Appliance Regulators
- Line Pressure Regulators
- Zero Governors, Pilot Loaded, 2-Stage



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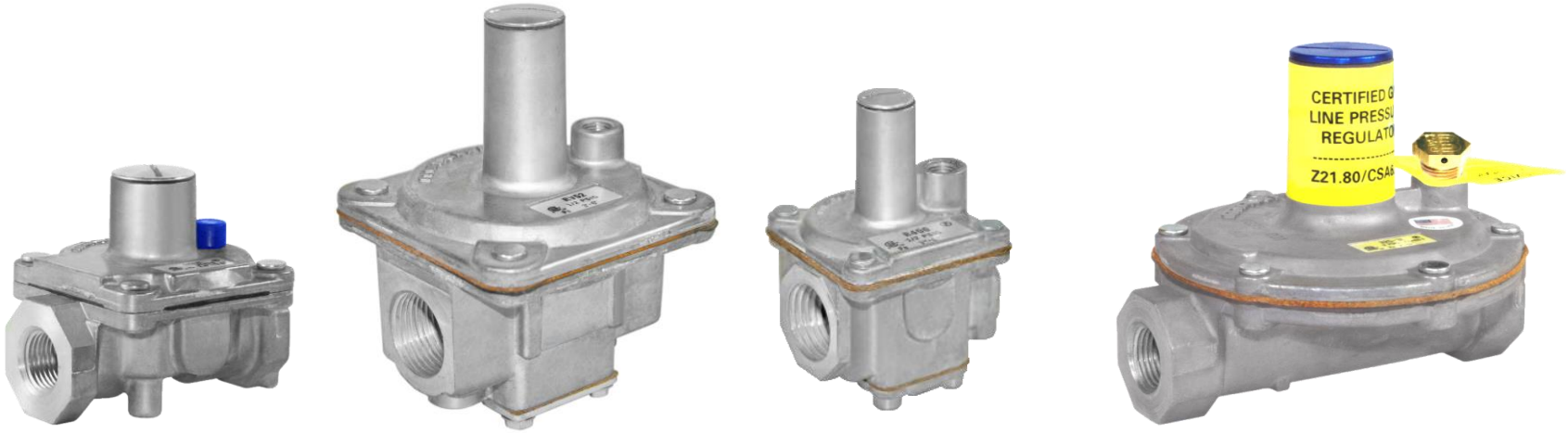
Maxitrol Gas Pressure Regulators

Gas Appliance Regulators

- **RV and CV Series** – poppet design
- **RV Series** – straight-thru-flow
- **R, RS and 210 Series** – balanced valve design
- **325 Series** – lever acting design



- Domestic, commercial and industrial applications
- Low and intermediate pressure applications

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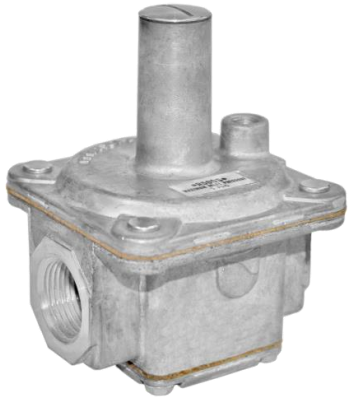
Maxitrol Gas Pressure Regulators

- **2 – Stage Regulator Valves**
  - SR400, SR500, SR600 – gas pressure regulating and flame staging in one unit.
- **Pilot Loaded**
  - 220 Series – servo-operated design delivers higher outlet pressure for industrial applications.
- **Zero Governors**
  - R and 210 Series – adaptable for air-gas mixing devices.



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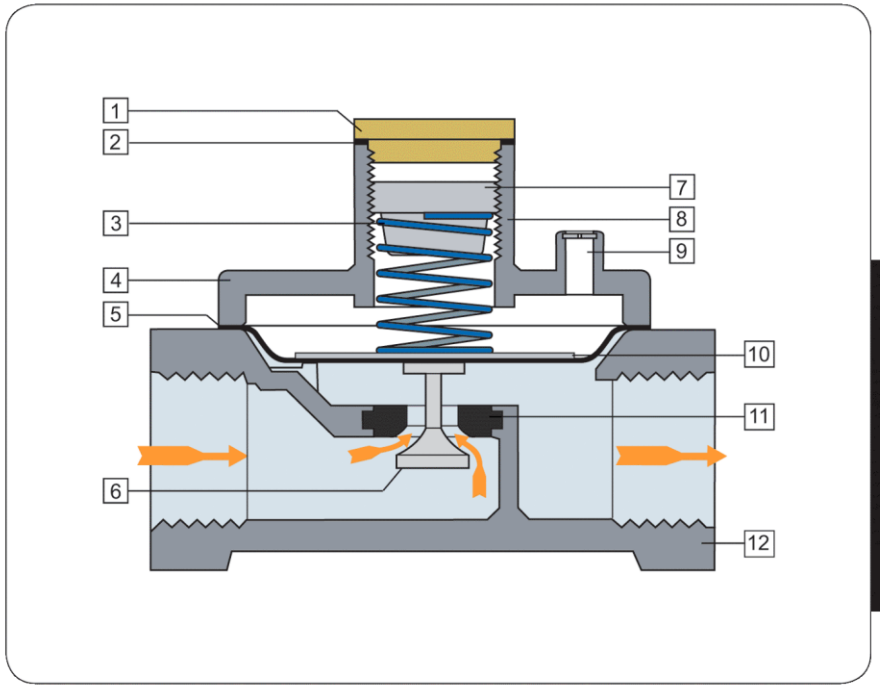
Maxitrol Gas Appliance Regulators

RV and CV Series – rubber seat poppet design

- Main burner and pilot load applications
- Where precise control of flows is essential



1	Seal Cap	7	Adjusting Screw
2	Seal Cap Gasket	8	Stack
3	Spring	9	Vent
4	Top Housing	10	Diaphragm Plates
5	Diaphragm	11	Rubber Seat
6	Stem & Valve	12	Bottom Housing

CE Australian Gas C SA US DVGW Certification

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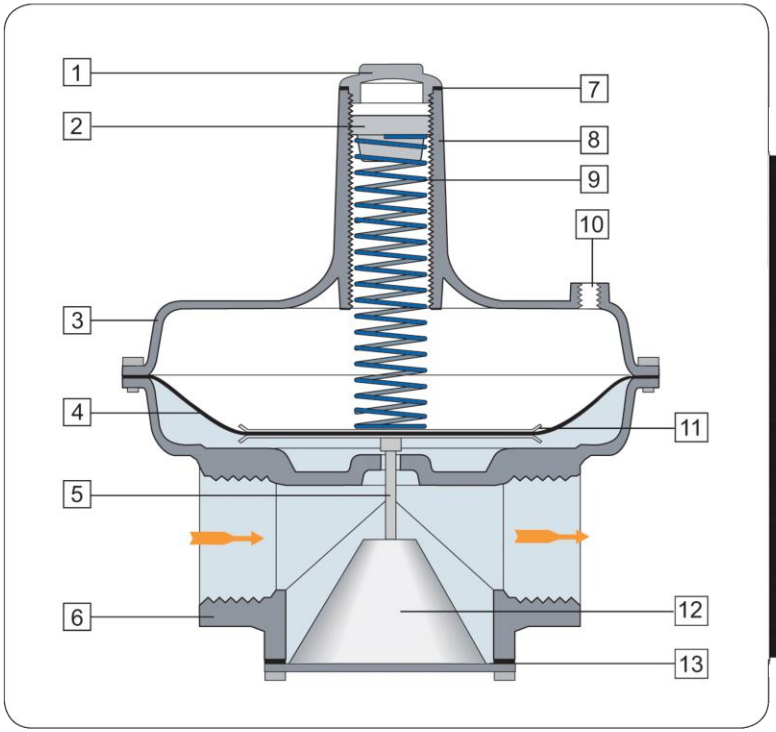
Maxitrol Gas Appliance Regulators

RV Series – straight-thru-flow design

- Regulates largest volume with minimal pressure drops
- Ideal for low pressure applications



1	Seal Cap	8	Stack
2	Adjusting Screw	9	Spring
3	Top Housing	10	Vent Connection
4	Diaphragm	11	Diaphragm Plates
5	Stem	12	Valve
6	Bottom Housing	13	Bottom Plate
7	Seal Cap Casket		

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Maxitrol Gas Appliance Regulators

R, RS, & 210 Series – balanced valve design

- Lockup type regulator – complies with codes using this specification
- Double diaphragm balanced valve design
  - Regulator is small in size.
  - Good capacity characteristics
  - Maintains steady outlet pressure control with varying inlet pressures

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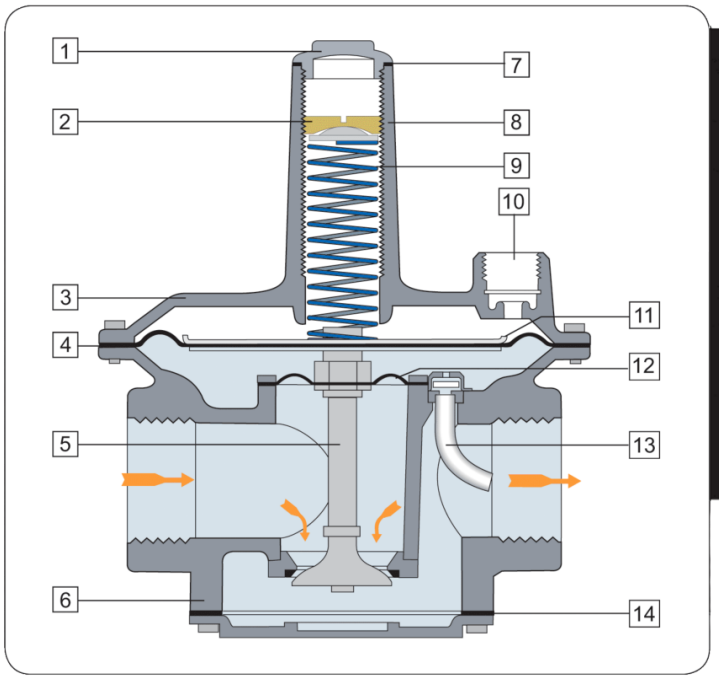
Maxitrol Gas Appliance Regulators

R, RS, & 210, 220 Series – balanced valve design

- Designed for intermediate pressure
- Balancing diaphragm virtually eliminates inlet pressure effect
- Ideal where supply pressure fluctuates
- Main Burner and pilot load applications



1	Seal Cap
2	Adjusting Screw
3	Top Housing
4	Regulating Diaphragm
5	Stem & Valve
6	Bottom Housing
7	Seal Cap Gasket
8	Stack
9	Spring
10	Vent Connection
11	Diaphragm Plates
12	Balancing Diaphragm
13	Sensing Tube
14	Bottom Plate

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MAXITROL®

Regulator Venting

TUBING vLimiter®

INDOORS

vProtector®

OUTDOORS

- Venting **must** be controlled in accordance with government and plumbing codes and regulations to avoid the danger of escaping gas should there be an internal leakage. Vent pipes **must** be open and the open end protected against entry of foreign matter, including water.
- (See National Fuel Gas Code Pt. 9.1.19, International Fuel Gas Code 2012 Section 410.3, Uniform Plumbing Code/IAPMO/ANSI UPC 1-2012 section 1208.7.5)

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Regulator Venting

Regulators must be properly vented in order to operate as designed.

Indoor Installation

Venting to the Outdoors:

- The diaphragm must be allowed to breathe to atmosphere for unrestricted movement. The effective regulator vent opening should never be restricted.
- Vent piping should be installed directly into the vent port.
- Vents that run longer than 10 feet in length may require an increase to the next larger pipe size to allow for free movement of air.
- Each regulator should have a separate vent line unless approved by code.
- Vent pipes **must** be open and the open end protected against entry of foreign matter, including water.

Venting Indoors:

- vLimiter® **vent limiters** are designed for use indoors where limiting the amount of gas escapement due to diaphragm failure is critical.
- A vLimiter® **vent limiter** may only be used on a regulator that is approved for such usage. Always follow manufacturers installation instructions for proper orientation of the pressure regulator using a vent limiting device.

Outdoor Installation

- vProtector® **vent protectors** are available for all outdoor applications to ensure proper vent protection
- Vent ports **must** be open and the open end protected against entry of foreign matter, including water.
- vLimiter® **vent limiters** should NOT be used outdoors, even as a protective device.

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Vent Limiters & Vent Protectors

vLimiter® Vent Limiting Devices

- Maxitrol vent limiting devices eliminate the need to run vent piping to the outside. Vent limiting devices are designed for use indoors and in spaces where limiting the amount of gas escapement due to diaphragm failure is critical. **Vent limiting devices should not be used outdoors if they are exposed to the environment.**

12A09 (1/8" NPT)

12A39 (3/8" NPT)

12A49 (1/2" NPT)

NOTE: Maxitrol Vent Limiters meet ANSI Z21.18 & 80. The requirement states "Vent limiters shall be of materials having melting points of not less than 800°F (427°C)."

vProtector® Vent Protectors

- Vent protectors are available for all outdoor applications to ensure proper vent protection.

13A15 (1/8" NPT)

13A15-5 (3/8" NPT)

13A25 (1/2" NPT)

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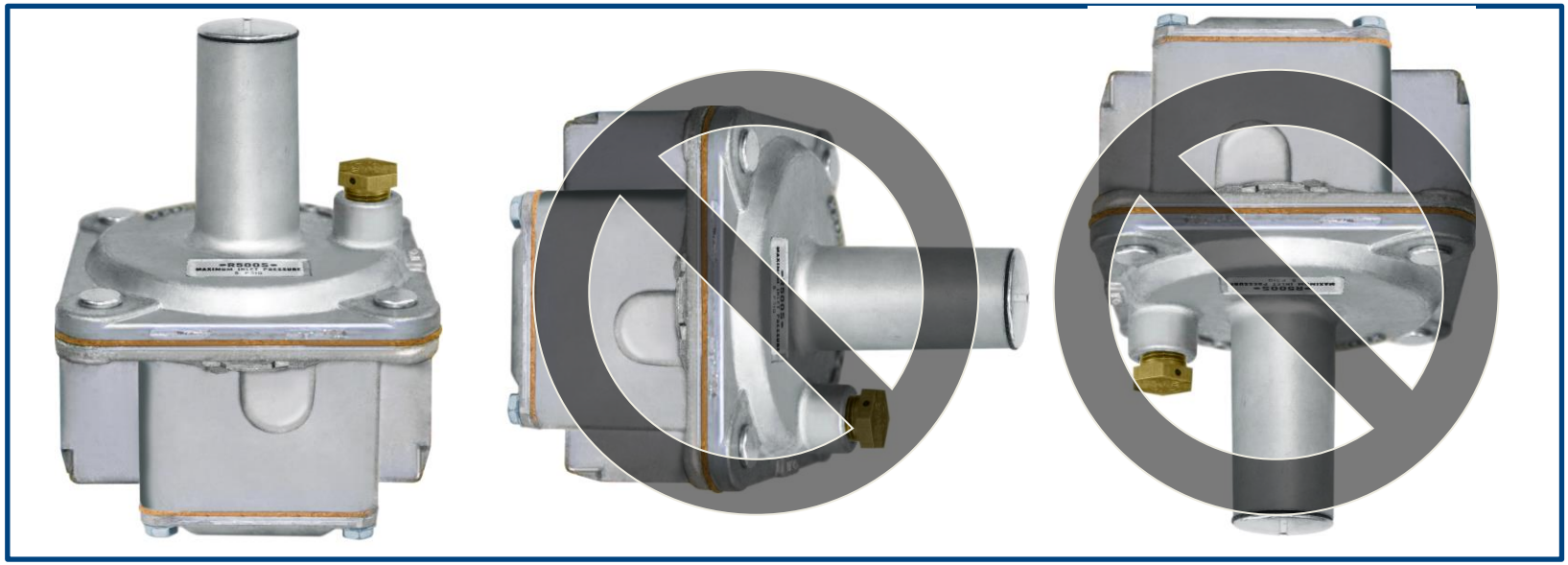
Regulator Installation/Orientation



NOTE: When a vent limiter is installed the valve must be mounted in a horizontal upright position.

⚠ WARNING

Service and installation my be performed by a trained/experienced service technician.

All products, including gas pressure regulators, used with combustible gas **must** be installed and used strictly in accordance with instructions of the manufacturer, with government codes and regulations, and plumbing codes and practices. Maxitrol line pressure regulators should be installed and operated in accordance with our “Safety Warning Instructions”.

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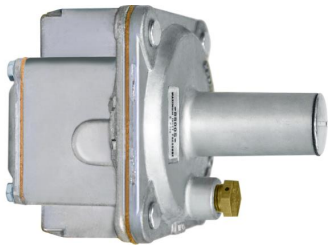
Regulator Installation/Orientation

WHY CAN'T I INSTALL THE REGULATOR SIDEWAYS OR UPSIDE DOWN?

If a regulator with a vLimiter® vent limiting device is installed in any orientation other than the horizontal upright position, the ball check in the vent limiter will roll into the *Limiting Position*. When the ball check is in the *Limiting Position* the regulator will experience high lock-up and will not operate properly.

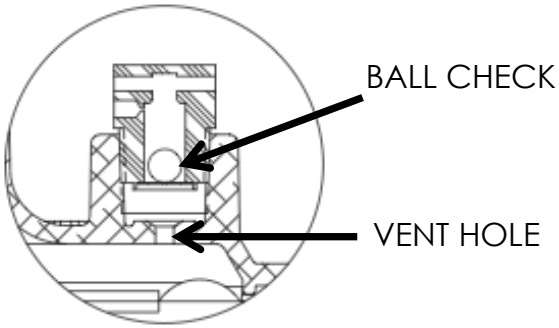
NOTE: Maxitrol Vent Limiters meet ANSI Z21.18 & 80. The requirement states "Vent limiters shall be of materials having melting points of not less than 800°F (427°C)."

CORRECT

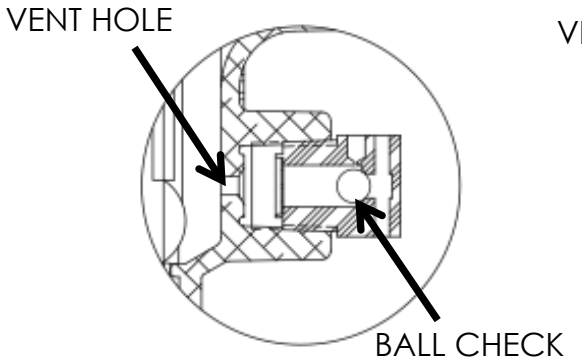


INCORRECT

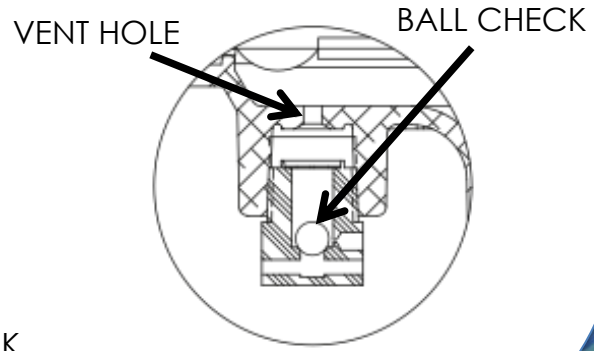
INCORRECT



OPEN/NORMAL POSITION



CLOSED/LIMITING POSITION



CLOSED/LIMITING POSITION

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Questions & Answers

Thank you!

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