

GAS PRESSURE REGULATORS CATALOG

2nd EDITION



⚠ WARNING

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

All products used with combustible gas **must** be installed and used **strictly** in accordance with the instructions of the Original Equipment Manufacturer (OEM) and with all applicable government codes and regulations, e.g. plumbing, mechanical, and electrical codes and practices. Maxitrol products should be installed and operated in accordance with Maxitrol Safety Warning Instructions.

Maxitrol Company is NOT responsible for any errors or omissions in reliance by anyone of any information set forth in this catalog without additional reference to local requirements and applicable ordinances or codes.

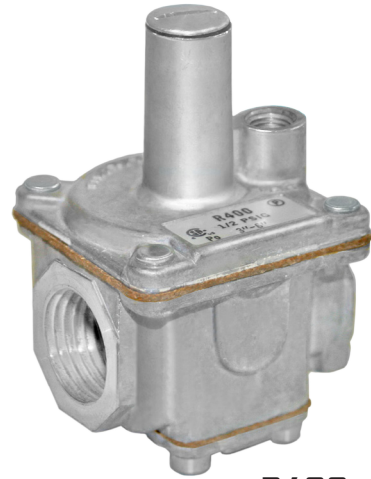
Other worldwide approvals and certifications available upon inquiry.



R/RS SERIES

Balanced Valve Design

The R & RS series' double diaphragm balanced valve design makes it possible to maintain steady outlet pressure control with widely varying inlet pressures. The regulator is physically small yet has exceptional capacity characteristics. R & RS series regulators are intended for use with both main burner and pilot load applications. They are ideally suited for use with infrared heaters and pilot lines on large industrial heaters and boilers.



R400

Specifications

- Pipe Sizes** 3/8" to 1" threaded connections with NPT or ISO7-1 threads.
- Housing Material** R400(S), R500(S), R600(S): aluminum.
- Mounting** Suitable for multi-positional mounting. If ball check vent limiting device is installed, mount in an upright position only.
NOTE: All Maxitrol gas pressure regulators should be installed and operated in accordance with Maxitrol Safety Warning Instructions (see GPR_MI_EN.ES or GPR_CSA_MI_EN.FR).
- Certifications** R400(S), R500(S), R600(S): ANSI Z21.18/CSA 6.3 Gas Appliance Pressure Regulators.
- Gas Types** Suitable for natural, manufactured, mixed gases, liquefied petroleum gases, and LP gas-air mixtures.
- Maximum Inlet Pressure** CSA Certified: R400(S), R500(S), R600(S): 1/2 psi (3.4 kPa)
Maxitrol Tested: R400, R500, R600: 1 psi (6.9 kPa);
R400S, R500S, R600S: 5 psi (34.5 kPa)
- Emergency Exposure Limits** R400, R500, R600: 2 psi (13.8 kPa)
R400S, R500S, R600S: 12.5 psi (86.2)
- Ambient Temperature Ranges** R400(S), R500(S), R600(S): -40° to 205°F (-40° to 96°C)
- Zero Governor Models** Please refer to pages 32-37 for RZ model information.
- Minimum Regulation** Suitable for pilot flow applications. (P) (Circle P) (0.15 CFH NG), None (1.5 CFH NG).



Capacities and Pressure Drop

Capacities expressed in CFH (m³/h) @ 0.64 sp gr gas

Model	Pipe Size	Pressure Drop - inches w.c. (kPa)										
		0.2 (0.05)	0.4 (0.10)	0.6 (0.15)	0.8 (0.20)	1.0 (0.25)	1.5 (0.37)	2.0 (0.50)	2.5 (0.62)	3.0 (0.75)	3.5 (0.87)	4.0 (1.0)
R400(S)	3/8" x 3/8"	77 (2.3)	110 (3.1)	134 (3.8)	155 (4.3)	174 (4.9)	212 (5.9)	245 (6.9)	274 (7.7)	---	---	---
	1/2" x 1/2"	86 (2.4)	121 (3.4)	148 (4.1)	172 (4.82)	192 (5.4)	235 (6.6)	271 (7.6)	303 (8.5)	---	---	---
R500(S)	1/2" x 1/2"	163 (4.6)	231 (6.5)	283 (7.9)	327 (9.2)	366 (10.3)	447 (12.5)	516 (14.6)	577 (16.2)	635 (17.9)	685 (19.2)	730 (20.44)
	3/4" x 3/4"	196 (5.5)	277 (7.8)	340 (9.5)	392 (11.0)	438 (12.3)	537 (15.0)	620 (17.4)	693 (19.4)	760 (21.3)	820 (23.0)	876 (24.53)
R600(S)	3/4" x 3/4"	298 (8.3)	421 (11.8)	516 (14.5)	595 (16.7)	666 (18.7)	816 (22.9)	942 (26.4)	1054 (29.5)	1150 (32.2)	1245 (34.86)	1335 (37.38)
	1" x 1"	330 (9.2)	468 (13.1)	572 (16.2)	661 (18.2)	739 (20.7)	906 (25.4)	1046 (29.3)	1169 (32.7)	1280 (35.8)	1380 (38.64)	1480 (41.44)

NOTE: CSA maximum capacities vary with spring range and pipe size. Please contact Maxitrol directly for CSA maximums. See pages 58-59 for Regulator Sizing Requirements and Examples.

Spring Selection Chart: inches w.c. (kPa)

Model	CSA Certified Springs			Other Springs Available					
R400(S)	3 to 6 (0.75 to 1.5) Plated	---	5 to 12 (1.25 to 3) Blue	1 to 3.5 (0.25 to 0.9) Brown	2 to 5 (0.5 to 1.25) Plated	3 to 8 (0.75 to 2) Pink	4 to 12 (1 to 3) Violet	10 to 22 (2.5 to 5.5) Red	---
R500(S)	3 to 6 (0.75 to 1.5) Plated	4 to 8 (1 to 2) Orange	5 to 12 (1.25 to 3) Blue	1 to 3.5 (0.25 to 0.9) Brown	2 to 5 (0.5 to 1.25) Plated	3 to 8 (0.75 to 2) Pink	4 to 12 (1 to 3) Violet	10 to 22 (2.5 to 5.5) Red	---
R600(S)	3 to 6 (0.75 to 1.5) Plated	4 to 8 (1 to 2) Orange	5 to 12 (1.25 to 3) Blue	1 to 3.5 (0.25 to 0.9) Brown	2 to 5 (0.5 to 1.25) Plated	3 to 8 (0.75 to 2) Pink	4 to 12 (1 to 3) Violet	10 to 22 (2.5 to 5.5) Red	15 to 30 (3.7 to 7.5) Yellow

NOTE: See pages 56-57 for complete Spring Selection Chart.

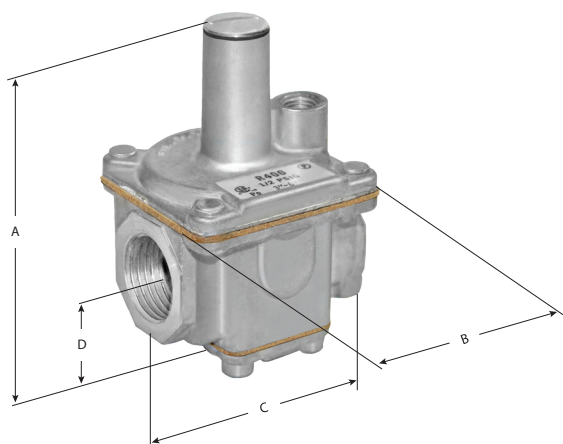
R/RS SERIES

Balanced Valve Design

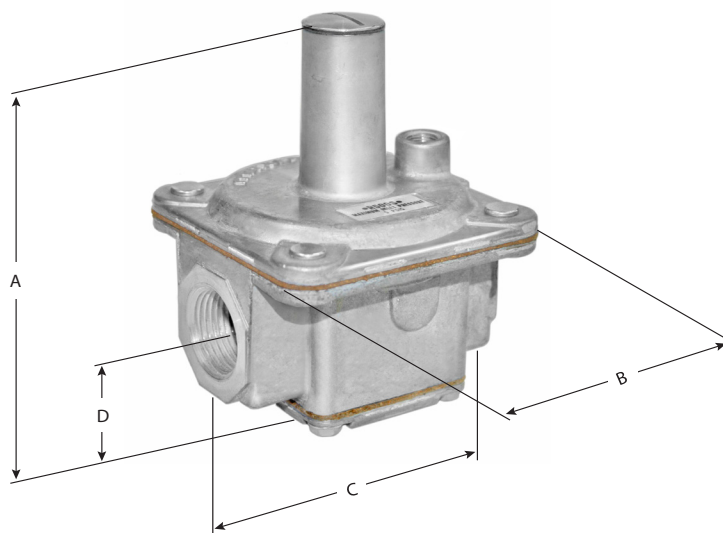
Dimensions

Model	Pipe Size	Vent Connection	Swing Radius	Dimensions			
				A	B	C	D
R400(S)	3/8", 1/2"	1/8" NPT	2.4" (60 mm)	3.3" (83 mm)	2" (51 mm)	2" (51 mm)	0.9" (24 mm)
R500(S)	1/2", 3/4"	1/8" NPT	3.6" (90 mm)	4.7" (119 mm)	3.1" (79 mm)	3" (76 mm)	1.2" (30 mm)
R600(S)	3/4", 1"	1/8" NPT	4.3" (110 mm)	5.7" (145 mm)	3.9" (99 mm)	4" (103 mm)	1.5" (38 mm)

NOTE: Dimensions are maximums and to be used only as an aid in designing clearance for the valve. Actual production dimensions may vary somewhat from those shown.

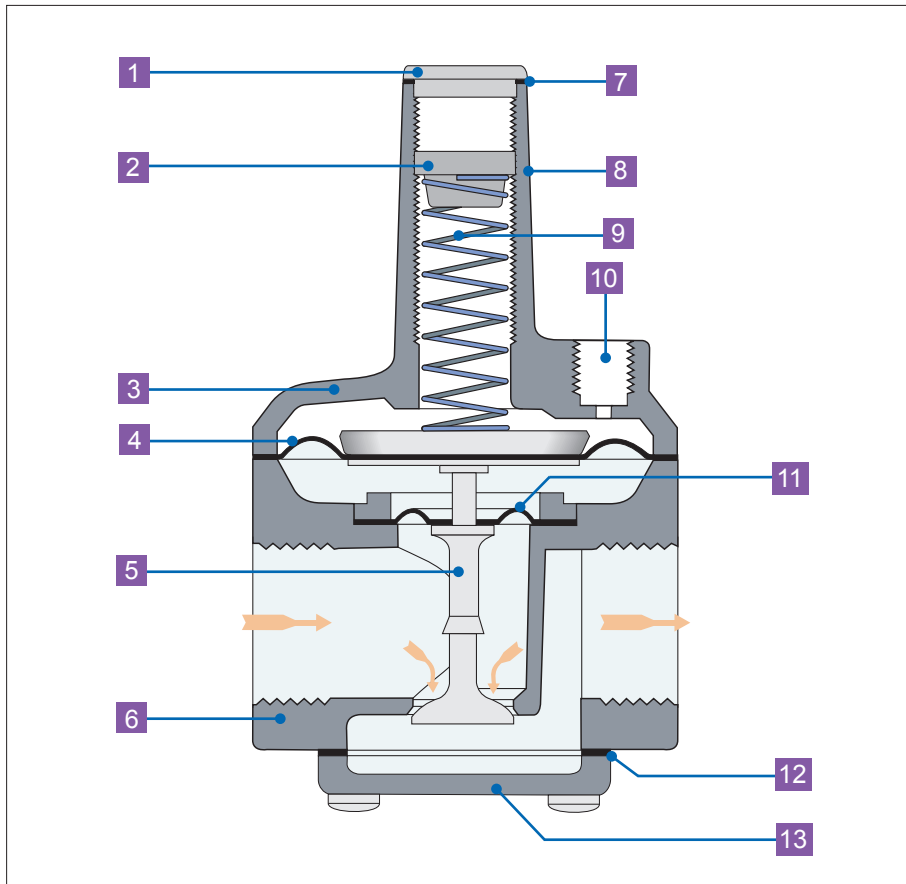


R400(S)



R500(S), R600(S)

R/RS Balanced Valve Design



- 1** Welch Plug/Seal Cap
- 2** Vibration Resistant 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** Balancing Diaphragm
- 12** Bottom Plate Gasket
- 13** Bottom Plate

NOTE: Diagrams are graphical representations only and may differ from actual product.

