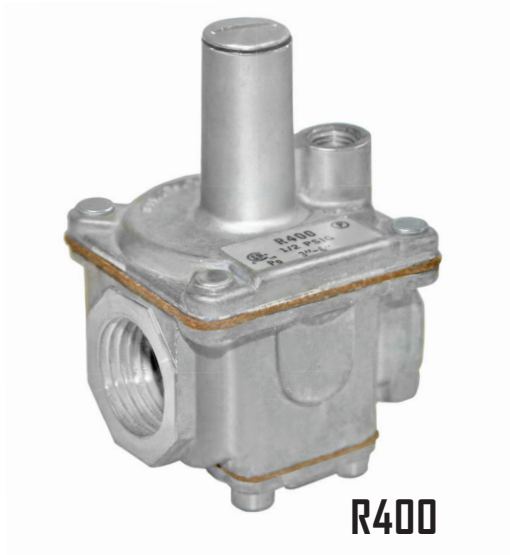


R SERIES

Balanced Valve Design

The R 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 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.



Specifications

Pipe Sizes	3/8" to 1 1/4" threaded connections with NPT or ISO 7-1 threads.
Housing Material	R400(S), R500(S), R600(S), R700: aluminum.
Mounting	Suitable for multi-positional mounting. If a √ Limiter® or √ Protector® is installed, mount in an upright horizontal position only. The √ Limiter® 12A06 is multi-positional. 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), R700: ANSI Z21.18/CSA 6.3 Gas Appliance Pressure Regulators.
Fuel Gases	Suitable for natural, manufactured, mixed gases, liquefied petroleum gases, and LP gas-air mixtures.
Rated Inlet Pressure	CSA Certified: R400(S), R500(S), R600(S): 1/2 psi (3.4 kPa), R700: 5 psi (34.5 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, R700: 12.5 psi (86.2 kPa)
Ambient Temperature Ranges	R400(S), R500(S), R600(S), R700: -40 to 205°F (-40 to 96°C)
Zero Governor Models	Please refer to pages 22-25 for RZ model information.
Minimum Regulation	R400(S), R500(S), R600(S): Suitable for pilot flow applications. Ⓟ (Circle P) (0.15 CFH NG), None (1.5 CFH NG). R700: 10 CFH
Model Designations	(F) Factory-set; fixed non-adjustable regulator. (M) B.S.P. - PL parallel thread - conforms to ISO 7-1, where pressure tight joints are made on the threads. (S) S denotes models with a nitrile rubber bonded to aluminum valve.

NOTE: The R regulators are not suitable for dead-end lockup service. They are capable of controlling pressure at very low flows such as standing pilots, but should not be used as a line pressure regulator for appliances equipped with electronic ignition unless the automatic control valve can open against line pressure.



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)
R700	1" x 1"	360 (10.2)	510 (14.4)	620 (17.6)	720 (20.4)	800 (22.7)	980 (27.8)	1130 (32.0)	1270 (36.0)	1390 (39.4)	1500 (42.5)	1600 (45.3)
	1 1/4" x 1 1/4"	670 (19.0)	800 (22.7)	880 (24.9)	950 (26.9)	1000 (28.3)	1230 (34.8)	1410 (39.9)	1580 (44.7)	1730 (49.0)	1870 (53.0)	2000 (56.6)

NOTE: CSA maximum capacities vary with spring range and pipe size. Please contact Maxitrol directly for CSA maximums. See pages 72-73 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
R700	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	---

NOTE: See pages 70-71 for complete Spring Selection Chart.

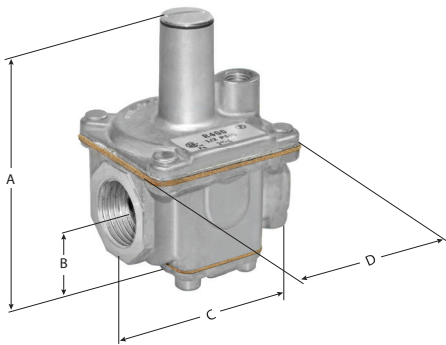
R SERIES

Balanced Valve Design

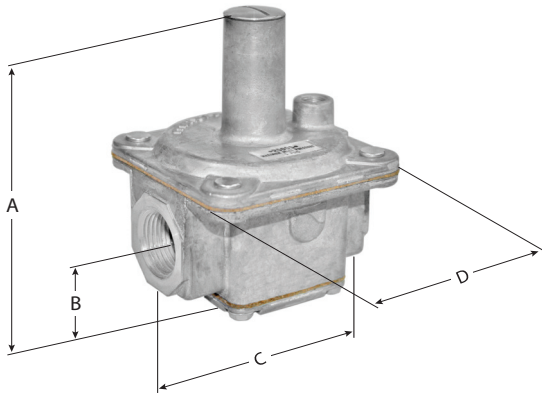
Dimensions

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)	0.9" (24 mm)	2" (51 mm)	2" (51 mm)
R500(S)	1/2", 3/4"	1/8" NPT	3.6" (90 mm)	4.7" (119 mm)	1.2" (30 mm)	3" (76 mm)	3.1" (79 mm)
R600(S)	3/4", 1"	1/8" NPT	4.3" (110 mm)	5.7" (145 mm)	1.5" (38 mm)	4" (103 mm)	3.9" (99 mm)
R700	1", 1 1/4"	3/8" NPT	5.0" (128 mm)	6.9" (176 mm)	1.9" (48 mm)	4.4" (113 mm)	5.4" (139 mm)

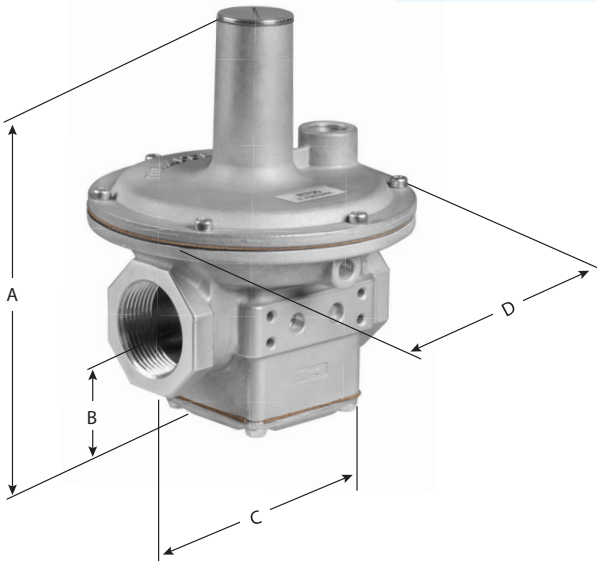
NOTE: Dimensions are maximums and to be used only as an aid in designing clearance for the valve.
Actual production dimensions may vary somewhat from those shown.



R400(S)

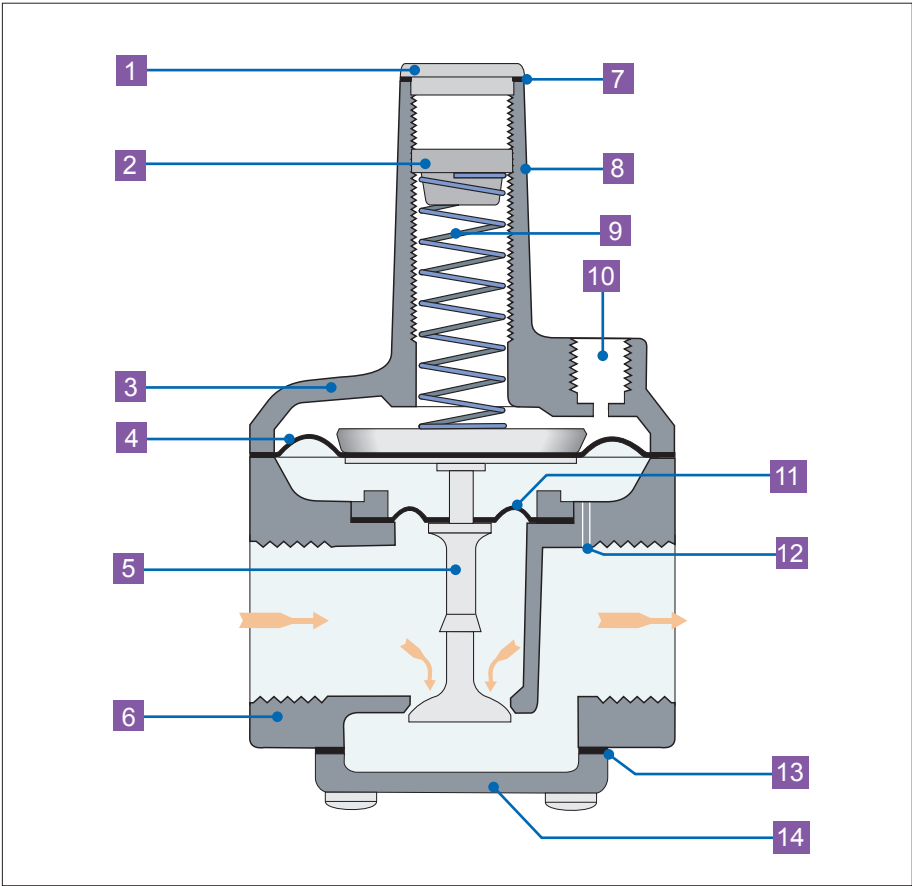


R500(S), R600(S)



R700

R Balanced Valve Design



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

- 1 Welch Plug or 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 Sensing Hole
- 13 Bottom Plate Gasket
- 14 Bottom Plate