

RZ SERIES

Zero Governor Design

The RZ series are adaptable for air-gas mixing applications. Because of the balanced valve construction, Z models offer superior performance at an economical price compared with other types of atmospheric regulators.

Maxitrol's RZ zero governor model regulators are used for flow control of burners, nozzle mixers, mixing tees and proportional premixers.

Specifications



R700Z

Pipe Sizes	RZ Models: 3/8" to 1 1/4" threaded connections with NPT or ISO 7-1 threads.
Housing Material	R400Z, R500Z, R600Z, R700Z: aluminum.
Mounting	R400Z, R700Z, mount in an upright position only. R500Z, R600Z, suitable for multi-positional mounting. If a vLimiter® or vProtector® is installed, mount in an upright horizontal 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	R400Z, R500Z, R600Z, R700Z : 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: R400Z, R500Z, R600Z: 1/2 psi (3.4 kPa); R700Z: 5 psi (34.5 kPa)
Maxitrol Tested	R400Z, R500Z, R600Z: 1 psi (6.9 kPa)
Emergency Exposure Limits	R400Z, R500Z, R600Z, R700Z: 12.5 psi (86 kPa)
Ambient Temperature Ranges	R400Z, R600Z, R700Z: -40 to 205°F (-40 to 96°C) R500Z: 32 to 205°F (0 to 96°C)
Sensing Taps	R700Z has convenient tap locations available for downstream sensing, cross connections, and differential control. Four locations can be tapped and plugged for measuring pressure.
Remote Sensing	R700Z may be ordered with remote sensing. The internal sensing tube is omitted and external sensing taps are provided. Add suffix letter "R" to model number when ordering.
Minimum Regulation	R400Z: Suitable for pilot flow applications. (P) (Circle P) (0.15 CFH NG), R500Z, R600Z, R700Z: 10 CFH.
Low-Fire By-Pass	With the main valve closed, an adjustable by-pass provides a minimum firing rate. Add suffix "L" (left side) , "R" (right side), or "B" (both sides) when ordering.
Model Designations	(F) Factory-set; fixed non-adjustable regulator. Welch plug replaces seal cap. (M) B.S.P. - PL parallel thread - conforms to ISO 7-1, where pressure tight joints are made on the threads.

Capacities and Pressure Drop



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

Model	Pipe Size	Pressure Drop - inches w.c. (kPa)											By-Pass (L & R Suffix Only)
		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)	
R400Z	3/8" x 3/8"	77 (2.16)	110 (3.08)	134 (3.75)	155 (4.34)	174 (4.87)	212 (5.94)	245 (6.86)	274 (7.67)	--	--	--	5-90 (0.14-2.5)
	1/2" x 1/2"	86 (2.41)	121 (3.39)	148 (4.14)	172 (4.82)	192 (5.38)	235 (6.58)	271 (7.59)	303 (8.48)	--	--	--	
R500Z	1/2" x 1/2"	163 (4.56)	231 (6.47)	283 (7.92)	327 (9.16)	366 (10.3)	447 (12.5)	516 (14.6)	577 (16.2)	635 (17.8)	685 (19.2)	730 (20.4)	10-125 (0.28-3.5)
	3/4" x 3/4"	196 (5.49)	277 (7.76)	340 (9.52)	392 (11.0)	438 (12.3)	537 (15.0)	620 (17.4)	693 (19.4)	760 (21.3)	820 (22.7)	876 (24.5)	
R600Z	3/4" x 3/4"	298 (8.34)	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 (34.9)	1335 (37.4)	10-330 (0.28-9.3)
	1" x 1"	330 (9.24)	468 (13.1)	572 (16.0)	661 (18.2)	739 (20.7)	906 (25.4)	1046 (29.3)	1169 (32.7)	1280 (35.8)	1380 (38.6)	1480 (41.4)	
R700Z	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)	10-330 (0.28-9.3)
	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.

NOTE: Consult Maxitrol for UL certifications.

Model	Pressure Drop - inches w.c. (kPa) unless noted
	By-Pass (L & R Suffix Only)
R400Z	5 - 90 (0.14 - 2.5)
R500Z	10 - 125 (0.28 - 3.5)
R600Z	10 - 330 (0.28 - 9.3)
R700Z	10-330 (0.28-9.3)

By-pass flow maximum calculated at a pressure drop. (Delta P) = 3.5" w.c. (single by-pass)

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Spring Selection: inches w.c (kPa)

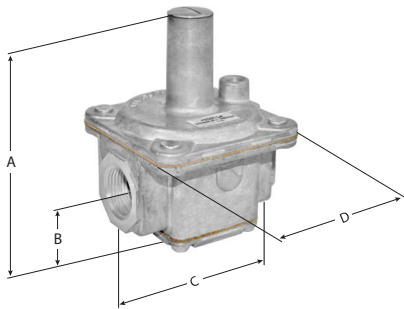
Model	Outlet Pressure Range
R400Z	-1.5 to 1.0 (-0.37 to 0.25)
R500Z	-1.0 to 2.5 (-0.25 to 0.62)
R600Z	-1.0 to 1.5 (-0.25 to 0.37)
R700Z	-1.0 to 1.5 (-0.25 to 0.37)

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

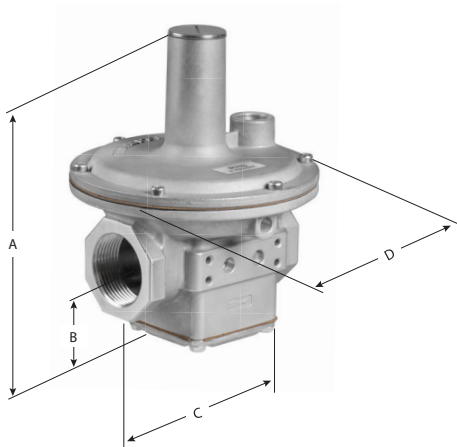
Dimensions

Model	Pipe Size	Vent Connection	Swing Radius	Dimensions			
				A	B	C	D
R400Z	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)
R500Z	1/2", 3/4"	1/8" NPT	3.6" (90 mm)	4.7" (119 mm)	1.2" (30 mm)	3" (79 mm)	3.1" (79 mm)
R600Z	3/4", 1"	1/8" NPT	4.3" (109 mm)	5.7" (144 mm)	1.5" (37 mm)	4" (102 mm)	3.9" (98 mm)
R700Z	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.



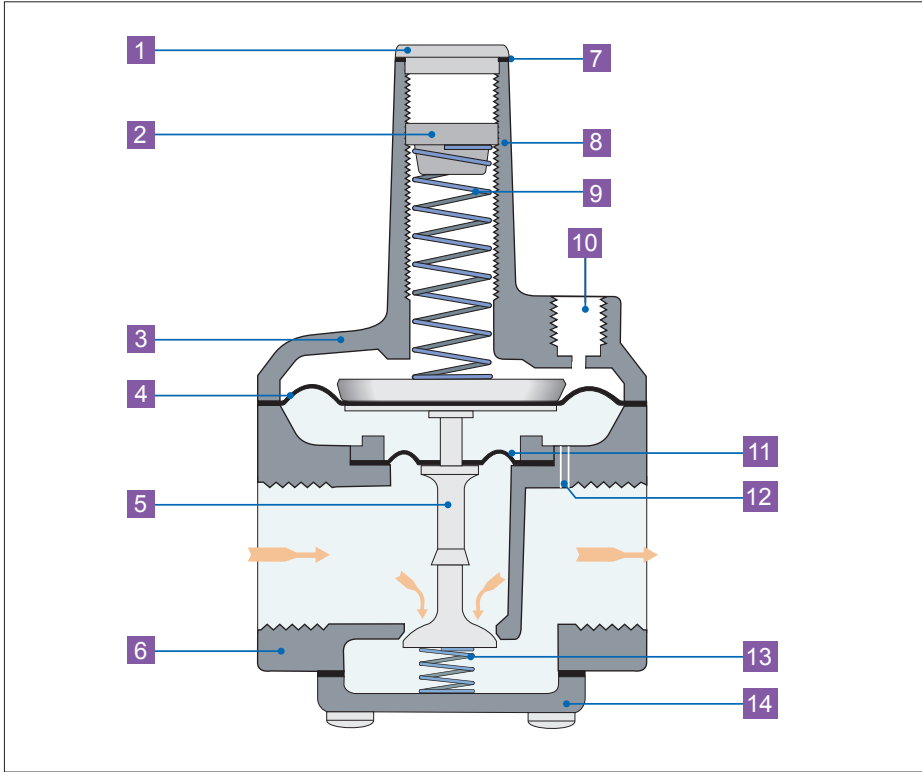
R400Z, R500Z, R600Z



R700Z

Zero Governor Design

R400Z, R500Z, R600Z, R700Z



- 1 Welch Plug or 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 Balancing Diaphragm
- 12 Sensing Hole
- 13 Counter Spring
- 14 Bottom Plate