

RV SERIES

Straight-Thru-Flow Design

Maxitrol's original straight-thru-flow (STF) design regulators are non-lockup type regulators for high capacities at low inlet pressures. The difference between STF design and other type regulators is the conical valve. The cone principal permits gas to flow straight through the regulator without changing direction. Frictional flow resistance is reduced, resulting in greater capacity. An improved flow pattern provides accurate, sensitive regulation at extremely low pressure differentials. Typical applications include residential, commercial, and industrial gas-fired appliances and equipment used on low or medium pressure gas supplies.



Specifications

Pipe Sizes	1/2" to 3" threaded connections with NPT or ISO 7-1 threads. 4" 150lb.
Housing Material	RV52, RV53, RV61, RV81, RV91, RV111: aluminum
Mounting	RV52, RV53, RV61 are suitable for multi-positional mounting. RV81, RV91, RV111, mount in an upright position only. If a vLimiter® or vProtector® is installed, mount in an upright horizontal position only. The vLimiter® 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	RV52, RV53, RV61, RV81, RV91, RV111: ANSI Z21.18/CSA6.3 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: RV52, RV53, RV61, RV81, RV91, RV111: 1/2 psi (3.4 kPa)
Maxitrol Tested*	RV52, RV53: 1/2 psi (3.4 kPa) RV61, RV81, RV91, RV111: 1 psi (6.9 kPa) *Do not use if inlet pressure is more than 10 times desired outlet pressure.
Emergency Exposure Limits	RV52, RV53: 3 psi (21 kPa) RV61, RV81, RV91, RV111: 5 psi (34 kPa)
Gas Containment Limits	RV52, RV53: 15 psi (103 kPa) RV61, RV81, RV91, RV111: 25 psi (172 kPa) NOTE: Internal damage may occur when exposed to these pressures.
Ambient Temperature Ranges	RV52, RV53, RV61, RV81, RV91, RV111: -40 to 205°F (-40 to 96°C) RV131: -40 to 125°F (-40 to 52°C)
Minimum Regulation	RV52, RV53: 20 CFH; RV61: 25 CFH; RV81, RV91: 50 CFH; RV111: 250 CFH. Expressed in CFH @ 0.64 sp gr gas.
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.



Capacities and Pressure Drop

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

Model	Pipe Size	CSA MAX	Pressure Drop - inches w.c. (kPa)												
			0.1 (0.02)	0.2 (0.04)	0.3 (0.07)	0.4 (0.10)	0.5 (0.12)	0.6 (0.15)	0.7 (0.17)	0.8 (0.20)	0.9 (0.22)	1.0 (0.25)	2.0 (0.5)	3.0 (0.75)	4.0 (1.0)
RV52	1/2" x 1/2" 3/4" x 3/4"	450 (12.7)	151 (4.2)	214 (6.1)	262 (7.4)	302 (8.5)	338 (9.5)	370 (10.5)	400 (11.3)	427 (12.1)	453 (12.8)	478 (13.5)	676 (19.1)	828 (23.4)	956 (27.1)
RV53	3/4" x 3/4" 1" x 1"	690 (19.5)	217 (6.1)	306 (8.6)	375 (10.6)	433 (12.2)	484 (13.7)	530 (15)	573 (16.2)	612 (17.3)	650 (18.4)	684 (19.3)	968 (27.4)	1185 (33.5)	1369 (38.7)
RV61	1" x 1" 1 1/4" x 1 1/4"	900 (24.5)	379 (10.7)	536 (15.1)	675 (19.1)	759 (21.5)	848 (24.0)	929 (26.3)	1004 (28.4)	1073 (30.4)	1138 (32.2)	1200 (34.0)	1742 (49.3)	2134 (60.4)	2464 (69.8)
RV81	1 1/4" x 1 1/4" 1 1/2" x 1 1/2"	2500 (70.8)	780 (22.1)	1102 (31.2)	1350 (38.2)	1559 (44.1)	1743 (49.5)	1909 (54.0)	2062 (58.4)	2204 (62.4)	2339 (66.2)	2465 (69.8)	3485 (98.7)	4269 (120)	4929 (139)
RV91	2" x 2" 2 1/2" x 2 1/2"	3275 (92.7)	1212 (34.3)	1714 (48.5)	2100 (59.4)	2424 (68.6)	2711 (76.7)	2969 (84.1)	3208 (90.8)	3429 (97.1)	3637 (103)	3834 (108)	5422 (153)	6640 (188)	7668 (217)
RV111	2 1/2" x 2 1/2" 3" x 3"	7500 (212)	2742 (78.0)	3878 (110)	4750 (134)	5485 (155)	6132 (175)	6718 (190)	7256 (205)	7757 (219)	8227 (233)	8572 (243)	12134 (343)	14862 (420)	17161 (486)

NOTE: See pages 72-73 for Regulator Sizing Requirements and Examples.

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

Model	CSA Certified Springs			Other Springs Available							
RV52	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	---	---	---	---
RV53	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	---	---	---	---
RV61	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	---	---	10 to 22 (2.5 to 5.5) Red	---	---
RV81	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	5 to 15 (1.25 to 3.7) Green	10 to 22 (2.5 to 5.5) Red	---	---
RV91	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	5 to 15 (1.25 to 3.7) Green	10 to 22 (2.5 to 5.5) Red	---	---
RV111	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	5 to 15 (1.25 to 3.7) Green	10 to 22 (2.5 to 5.5) Red	---	---

NOTE: The area within the heavy line indicates CSA certified springs. See pages 70-71 for complete Spring Selection Chart.

* The 2 to 5 inches w.c. (0.5 to 1.25 kPa) spring is also CSA certified for the RV61

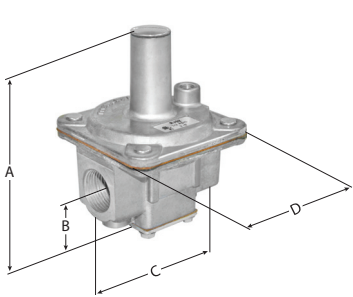
RV SERIES

Straight-Thru-Flow Design

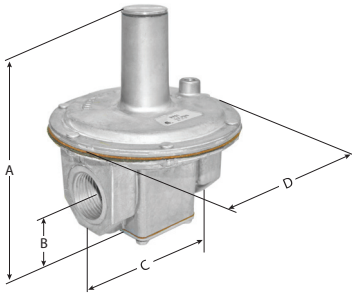
Dimensions

Model	Pipe Size	Vent Connection	Swing Radius	Dimensions			
				A	B	C	D
RV52	1/2", 3/4"	1/8" NPT	3.6" (91 mm)	4.9" (124 mm)	1.3" (33 mm)	3.2" (81 mm)	3.3" (83 mm)
RV53	3/4", 1"	1/8" NPT	3.9" (99 mm)	5.2" (132 mm)	1.3" (33 mm)	3.8" (95 mm)	3.9" (99 mm)
RV61	1", 1 1/4"	1/8" NPT	4.8" (122 mm)	6.4" (164 mm)	1.6" (41 mm)	4.4" (111 mm)	5.4" (138 mm)
RV81	1 1/4", 1 1/2"	3/8" NPT	6.4" (162 mm)	8.4" (213 mm)	2" (51 mm)	6" (153 mm)	7" (178 mm)
RV91	2"	1/2" NPT	8.5" (216 mm)	10.8" (275 mm)	2.3" (60 mm)	6.5" (165 mm)	9.1" (232 mm)
	2 1/2"	1/4" NPT	8.3" (212 mm)	10.5" (267 mm)	2.4" (62 mm)	7.1" (181 mm)	9.1" (232 mm)
RV111	2 1/2", 3"	3/4" NPT	11.5" (284 mm)	15.1" (373 mm)	3.5" (89 mm)	9" (229 mm)	13.4" (324 mm)

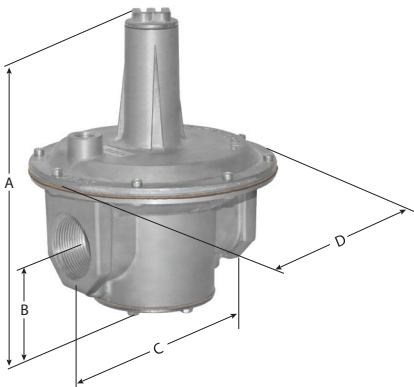
NOTE: Dimensions are maximums and to be used only as an aid in designing clearance for the valve.
Actual production dimensions may vary somewhat from those shown.



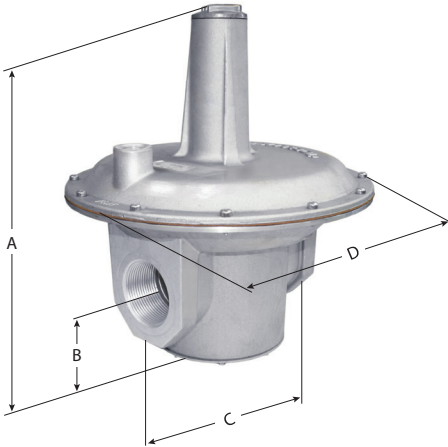
RV52, RV53



RV61

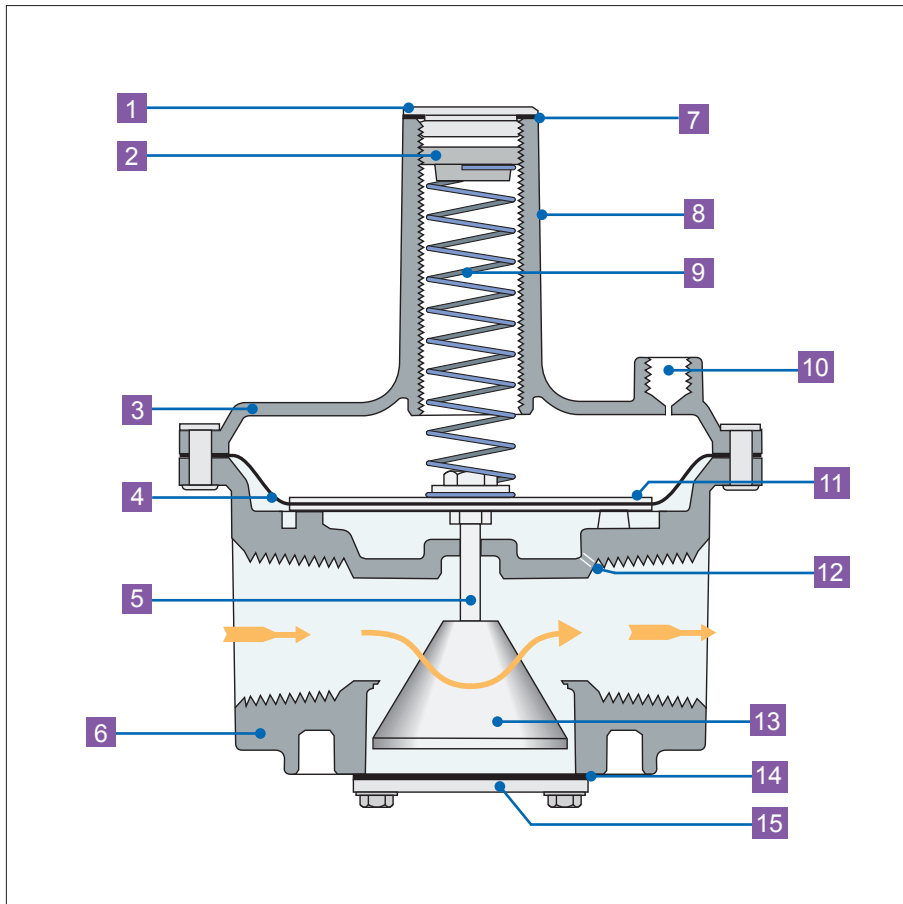


RV81, RV91



RV111

Straight-Thru-Flow 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 Diaphragm
- 5 Stem
- 6 Bottom Housing
- 7 Seal Cap Gasket
- 8 Stack
- 9 Spring
- 10 Vent Connection
- 11 Diaphragm Plates
- 12 Sensing Hole
- 13 Valve
- 14 Bottom Plate Gasket
- 15 Bottom Plate