MAXITROL

Gas Appliance Pressure Regulators

Rubber Seat Poppet Models



RV/CV Series— RV12, RV20, RV47, RV48, and CV47

These rubber seat poppet type regulators are designed primarily for main burner and pilot load applications where precise control of tiny flows is an essential operating requirement. (® certified (.15 CFH).

Housings are of high strength aluminum die castings. All models, with the exception of "D" suffix models, have been tested for multi-poise mounting and may be installed in any plane or angle without restriction. "D" suffix models are to be mounted horizontally. Other than normal upright position will result in slight difference of outlet pressure. They may be used with natural, manufactured, mixed, LP, or LP gas-air mixture.

Models having the letters A, C, D, E, F, L, M, MK, N, R, SR, S, T, or a combination of any of these suffix letters, indicates the design modifications described below:

- A short stack limited spring adjustment (RV47 & CV47).
- C convertible regulators preset to deliver outlet pressures for either NAT or LP gases (RV20, RV47, RV48, and CV47)
- **D** integral ball check limiting device that permits normal opening and restricts closing cycle (RV47 and CV47)
- E excessive pressure rated
- **F** factory-set, fixed/non-adujustable regulator
- F6— 3/8" tube inverted flare
- I left side integral manual valve outlet faces main inlet (CV47)
- L an integral vent limiting orifice as the breather hole

MAXIMUM INLET PRESSURE:

RV12, RV20, RV47, RV48 & CV47 1/2 psi (34 mbar)

EMERGENCY EXPOSURE LIMITS:

RV12, RV20, RV47, RV48 & CV47 2.5 psi (172 mbar)

AMBIENT TEMPERATURE LIMITS:

RV20, RV47, CV47, RV48	32° to 225°F (0° to 107°C)
RV12	40° to 225°F (-40° to 107°C)
RV12T	-40° to 275°F (-40° to 135°C)
RV20T	-40° to 300°F (-40° to 148°C)
RV48T	32° to 275°F (0° to 135°C)

GASES (RV Models): Suitable for application in natural, manufactured, mixed gases, liquified petroleumgases and LP gas-air mixture piping systems.

GASES (CV47 Model): Natural or Liquified Petroleum

MOUNTING: Other than normal upright position will result in slight difference of outlet pressure — mount with flow direction as marked on bottom casting.

NOTE: All Maxitrol gas appliances pressure regulators should be installed and operated in accordance with Maxitrol's "Safety Warning" Bulletin. Different models have CSA, German D.V.G.W., European EN-88, and Australian Gas Association certifications.

- M B.S.P. PL parallel thread conforms to ISO 7-1, where pressure tight joints are made on the threads.
- MK— B.S.P. TR taper thread conforms to ISO 7-1, where pressure tight joints are made on the threads.
- M main burner only includes internal by-pass orifice to prevent lockup (RV20, RV47, RV48 & CV47).
- R right side integral manual valve outlet faces main outlet (CV47).
- **SR** side tap right side 1/8" N.P.T. (RV20 & RV47).
- **S** side tap left side 1/8" N.P.T. (RV20, RV47 & CV47).
- T model variation for operating at higher ambient temperatures.

The CV47 can best be described as an RV47 with an extra regulated outlet. This outlet contains an integral manual valve, and is located on the valve body's side.

The short stack models have an adjustment range of less than 2" w.c. (5 mbar). These models are advantageous where installation must be made in limited space.

Convertible regulators are designed to deliver either of two fixed outlet pressures, for natural or LP gases. RV20C 4" to 10" w.c. RV47C & CV47C 4", 5" or 6" to 10" or 11" w.c. RV48C 5" to 10" w.c.

The RV48 model may be used with either a 12A04 ball check device, or a 12A06 fixed orifice vent limiting device.

NOTE: Vent limiters are designed for use indoors and in spaces where limiting the amount of gas escapement due to diaphragm failure is critical. **Vent limiters are not to be used outdoors if they are exposed to the environment.** 13A15 vent protector is available for outdoor use when vent protection is required.

Maxitrol rubber seat poppet models offer the ultimate in design features and performance capabilities to meet specific appliance or utility requirements.

Capacities and Pressure Drop

		Pressure Drop	Range of	Regulations	Individual Load		
Model	Pipe Size	@ 0.3" w.c. or (.7mb)	Main Burner	M.B. and Pilot	Fixed Orifice	Ball Check Devices	
RV12	1/8" x 1/8"* 3/16"Lox x 3/16"Lox	14,800 (.42) 8,800 (.25)	30,000 (.85)	25,000 (.71) 15,000 (.43)	20,000 (.56) 20,000 (.56)	_	
RV20	1/4" x 1/4" 3/8" x 3/8"*	30,000 (.85)	65,000 (1.84)	50,000 (1.4)	30,000 (.85)	_	
RV20C	1/4" x 1/4" 3/8" x 3/8"	30,000 (.85)	75,000 (2.11)	50,000 (1.4)	15,000 (.42)	_	
CV47 RV47	3/8" x 3/8" 1/2 x 1/2"*	55,000 (1.5) 60,000 (1.7)	125,000 (3.5)	90,000 (2.5)	40,000 (1.1)	125,000 (3.5)	
CV47A & C RV47A & C	3/8" x 3/8" 1/2" x 1/2"	55,000 (1.5) 60,000 (1.7)	125,000 (3.5)	125,000 (3.5)	40,000 (1.1)	125,000 (3.5)	
RV48	1/2" x 1/2" 3/4" x 3/4"	130,000 (3.7) 150,000 (4.2)	230,000 (6.5) 250,000 (7.1)	230,000 (6.5) 250,000 (7.1)	40,000 (1.1)	160,000 (4.5)	
RV48C	1/2" x 1/2" 3/4" x 3/4"	130,000 (3.7) 150,000 (4.2)	400,000 (11.3)	275,000 Nat (7.8) 275,000 LP (3.1)	40,000 (1.1)	160,000 (4.5)	

CAPACITIES — expressed in BTU/h (m³/h) — 0.64 sp gr gas

NOTE: Minimum main burner regulation capacity for all models (except "N") is 150 btu/h (.0042 m³/h). * Available as loxit connection.



Dimensions and Spring Ranges





RV47, 47A

CV47, 47A



DIMENSIONS:** inches (millimeters)

Model	Vent Tap	Swing Radius	Call-Outs					
			Α	В	с	D		
RV12	None	1.4	1.7	0.4	1.7	1.4		
	(Integral)	(35)	(43)	(10)	(43)	(35)		
RV20	5/16-24 *	1.6	2.1	0.5	2.4	1.75		
	(Integral)	(41)	(54)	(13)	(61)	(45)		
RV47	None +	1.9	2.5	0.6	2.9	2.25		
CV47	(Integral)	(48)	(64)	(16)	(75)	(57)		
RV47A	None +	1.6	2.25	0.6	2.9	2.25		
CV47A	(Integral)	(41)	(57)	(16)	(75)	(57)		
RV48	1/8" NPT ^	2 (51)	2.75 (70)	0.75 (19)	3.4 (86)	3 (76)		

* For 1/8" tube connector

+ Order with "D" or "L" suffix

Can be supplied with 12A04 or 12A06 vent limiting device

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

Spring Selection Chart — inches w.c. (mbar)

Model	Standard Spring	Other Springs Available									
RV12	2.8" to 5.2" (6.9 to 13)	1.0-3.5 [*] (2.5-8.8)	_	4.0-8.0 (10-20)		_	_	_	6.0-10 (15-25)	8.0-12 (20-30)	_
RV20	2.8" to 5.2" (6.9 to 13)	1.0-3.5 [*] (2.5-8.8)	_	4.0-8.0 (10-20)		_	_	_	6.0-10 (15-25)	8.0-12 (20-30)	9-12 [*] (22.5-30)
CV47 RV47	2.8" to 5.2" (6.9 to 13)	1.0-3.5 [*] (2.5-8.8)	3.8-4.3 (9.5-10.8)	4.0-8.0 (10-20)	4-12 (10-30)	4.7-5.3 (11.8-13.3)	_	5.6-6.4 (14-16)	6.0-10 (15-25)	8.0-12 (20-30)	9.7-11.3 (24.2-28.3)
RV48	3.0" to 6.0" (7.5 to 15)	1.0-3.5 [*] (2.5-8.8)	_	4.0-8.0 (10-20)		_	5.0-12 (12.5-30)	_	6.0-10 (15-25)	8.0-12* (20-30)	_

* Uncertified Spring

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