

325 Series Line Pressure Regulators with Over-Pressure Protection Devices

For Piping Systems up to 5 PSI

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DESCRIPTION

325 Series pounds to inches regulators are for use on residential, commercial, and industrial applications.

The 325 Series with OPDs features a high leverage valve linkage assembly to deliver positive dead-end lock-up. The regulators are capable of precise regulating control from full flow down to pilot flow.

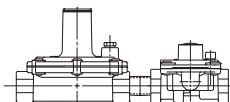
B Models: Imblue Technology™ increases corrosion resistance and provides extra protection against the elements for regulators used in outdoor applications.

NOTE: (B) in model number designates Imblue Technology™.

NOTICE

To comply with the ANSI standard Z21.80/CSA 6.22 for Line Pressure Regulators, installations exceeding 2 psi nominal require a tested and approved overpressure protection device (OPD) for use with the regulator.

Line pressure regulators with separate overpressure protection devices shall be factory preassembled and supplied to the field as a unit.



⚠ WARNING

Immediately after installation and prior to operating any appliance it is important to check the preassembled pipe connection between the regulator and the OPD for leakage. Even though the Maxitrol 5 psi line regulator w/OPD is shipped as an assembly, installation of the assembly can result in turning (tightening or loosening) of the preassembled connection. If gas leakage is detected, follow the same procedures to stop the leak as you would use with any field pipe connection, and repeat step 3 according to Maxitrol Safety Warning Instructions, LPROPD_MI_EN.FR.

SPECIFICATIONS

Gases

Suitable for natural, manufactured, mixed gases, liquefied petroleum gases, and LP gas-air mixtures.

Approvals

CSA: ANSI Z21.80/CAN 6.22

Minimum Inlet Pressure

CSA Certified.....1 psi (7 kPa)

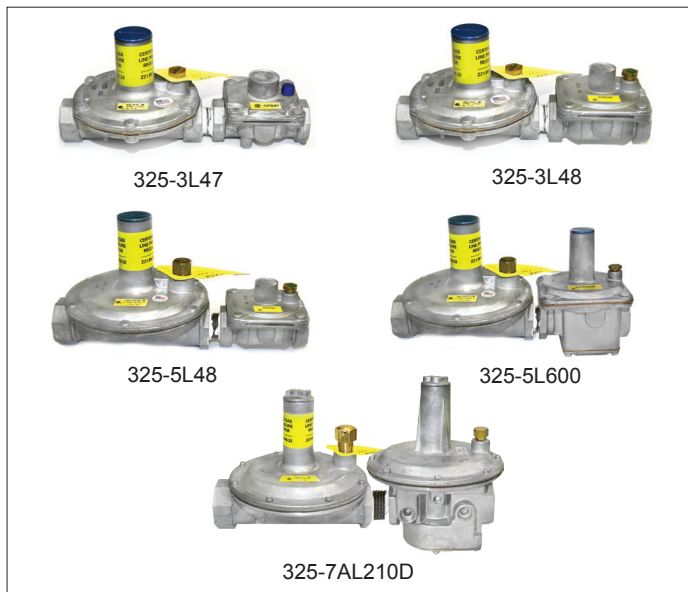


Figure 1: 325 Series Line Pressure Regulators with OPDs

Maximum Inlet Pressure

Model	CSA Certified
325-3(B)L47	Natural/LP 5 psi (34.5 kPa)
325-3(B)L48	
325-5(B)L48	
325-5(B)L600	
325-7A(B)L210D	
With 12A09, 12A39, and 12A49 Installed	
Model	CSA Certified
325-3(B)L47	NAT: 5 psi (34.5 kPa) LP: 2 psi (13.8 kPa)
325-3(B)L48	
325-5(B)L48	
325-5(B)L600	
325-7A(B)L210D	

Outlet Pressure Range

Certified Spring 7 - 11" w.c.

Emergency Exposure Limits

All Models (Inlet Side Only) 65 psi (450 kPa)

Maximum Individual Load/Capacity

325-3(B)L47 (3/8", 1/2") (w/OPD 47 attached).....	125,000 Btu/hr
325-3(B)L48 (1/2") (w/OPD 48 attached).....	200,000 Btu/hr
325-5(B)L48 (1/2") (w/OPD 48 attached).....	235,000 Btu/hr
325-5(B)L48 (3/4") (w/OPD 48 attached).....	320,000 Btu/hr
325-5(B)L600 (3/4") (w/OPD 600 attached).....	425,000 Btu/hr
325-5(B)L600 (1") (w/OPD 600 attached).....	465,000 Btu/hr
325-7A(B)L210D (1 1/4", 1 1/2") (w/OPD 210D attached)	1,250,000 Btu/hr

Ambient Temperature Limits

All Models -40°F to 205°F (-40°C to 96°C)

325 Series Line Pressure Regulators with OPDs

Mounting Position

The 325 Series is suitable for multi-poise mounting, but when used with a vent limiting device, the regulator must be mounted in a horizontal upright position (see Figure 2). Install the regulator properly with gas flowing as indicated by the arrow on the casting. (See Maxitrol Safety Warning Instructions, LPROPD_MI_EN.FR.)

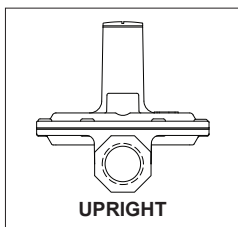


Figure 2: 325 Regulator in Upright Position

vLimiter® Vent Limiting Devices for Indoor Applications:

325-3(B)L.....	12A09
325-5(B)L.....	12A39
325-7A(B)L.....	12A49
OPD 48.....	12A09
OPD 600.....	12A09
OPD 210D.....	12A39

NOTICE

Maxitrol vent limiting devices eliminate the need to run vent piping to the outside. Vent limiting devices are designed for use indoors and in spaces where limiting the amount of gas escapement due to diaphragm failure is critical. **Vent limiting devices should not be used outdoors if they are exposed to the environment.** Vent protectors are available for all outdoor applications to ensure proper vent protection.

vLimiter® Vent Limiting Devices



12A09 (1/8" NPT)

12A39 (3/8" NPT)

12A49 (1/2" NPT)

vProtector® Vent Protectors



13A15 (1/8" NPT)

13A15-5 (3/8" NPT)

13A25 (1/2" NPT)

vProtector® Vent Protectors for Outdoor Applications:

325-3(B)L.....	13A15
325-5(B)L.....	13A15-5
325-7A(B)L.....	13A25
OPD 48.....	13A15
OPD 600.....	13A15
OPD 210D.....	13A15-5

Figure 3: Vent Accessories

CAPACITIES - 0.64 sp gr gas expressed in CFH (m³/h)

Model Number (pipe size)	Pipe Size	Outlet Pressure Set Point	Operating Inlet Pressure			
			1/2 psi (3.4 kPa)	3/4 psi (5.2 kPa)	1 psi (6.9 kPa)	5 psi (34.5 kPa)
325-3(B)L47 (3/8")	3/8" x 3/8"	7" w.c.	125 (3.5)	125 (3.5)	125 (3.5)	125 (3.5)
		10" w.c.	100 (2.8)	125 (3.5)	125 (3.5)	125 (3.5)
325-3(B)L47 (1/2")	1/2" x 1/2"	7" w.c.	125 (3.5)	125 (3.5)	125 (3.5)	125 (3.5)
		10" w.c.	105 (2.9)	125 (3.5)	125 (3.5)	125 (3.5)
325-3(B)L48 (1/2")	1/2" x 1/2"	7" w.c.	160 (4.5)	200 (5.6)	200 (5.6)	200 (5.6)
		10" w.c.	120 (3.4)	200 (5.6)	200 (5.6)	200 (5.6)
325-5(B)L48 (1/2")	1/2" x 1/2"	7" w.c.	235 (6.6)	235 (6.6)	235 (6.6)	235 (6.6)
		10" w.c.	235 (6.6)	235 (6.6)	235 (6.6)	235 (6.6)
325-5(B)L48 (3/4")	3/4" x 3/4"	7" w.c.	320 (9.0)	320 (9.0)	320 (9.0)	320 (9.0)
		10" w.c.	245 (6.9)	320 (9.0)	320 (9.0)	320 (9.0)
325-5(B)L600 (3/4")	3/4" x 3/4"	7" w.c.	345 (9.6)	425 (11.9)	425 (11.9)	425 (11.9)
		10" w.c.	260 (7.3)	425 (11.9)	425 (11.9)	425 (11.9)
325-5(B)L600 (1")	1" x 1"	7" w.c.	375 (10.5)	465 (13.0)	465 (13.0)	465 (13.0)
		10" w.c.	285 (8.0)	465 (13.0)	465 (13.0)	465 (13.0)
325-7A(B)L210D (1 1/4", 1 1/2")	1 1/4" x 1 1/4" 1 1/2" x 1 1/2"	7" w.c.	960 (27.2)	1110 (31.4)	1185 (33.6)	1250 (35.4)
		10" w.c.	895 (25.3)	1075 (30.4)	1150 (32.6)	1250 (35.4)

325 Series Line Pressure Regulators with OPDs

PRESSURE DROP - 0.64 sp gr gas expressed in CFH (m³/h) (for system pressure drop calculations)

Model Number	Pipe Size	Pressure Drop		
		7.0" w.c. (1.7 kPa)	1/2 psi (3.4 kPa)	3/4 psi (5.2 kPa)
325-3(B)L47	3/8" x 3/8"	130 (3.6)	185 (5.2)	225 (6.3)
325-3(B)L47	1/2" x 1/2"	135 (3.8)	195 (5.4)	235 (6.6)
325-3(B)L48	1/2" x 1/2"	160 (4.5)	225 (6.3)	275 (7.7)
325-5(B)L48	1/2" x 1/2"	315 (8.8)	450 (12.6)	545 (15.4)
325-5(B)L48	3/4" x 3/4"	325 (9.1)	465 (13.0)	565 (16.0)
325-5(B)L600	3/4" x 3/4"	345 (9.6)	490 (13.7)	595 (16.8)
325-5(B)L600	1" x 1"	375 (10.5)	535 (15.0)	650 (18.4)
325-7A(B)L210D	1 1/4" x 1 1/4" 1 1/2" x 1 1/2"	800 (22.7)	1095 (31.0)	1385 (39.3)

NOTE: All Maxitrol line pressure regulators with OPDs must be installed and operated in accordance with Maxitrol's Safety Warning Instructions.

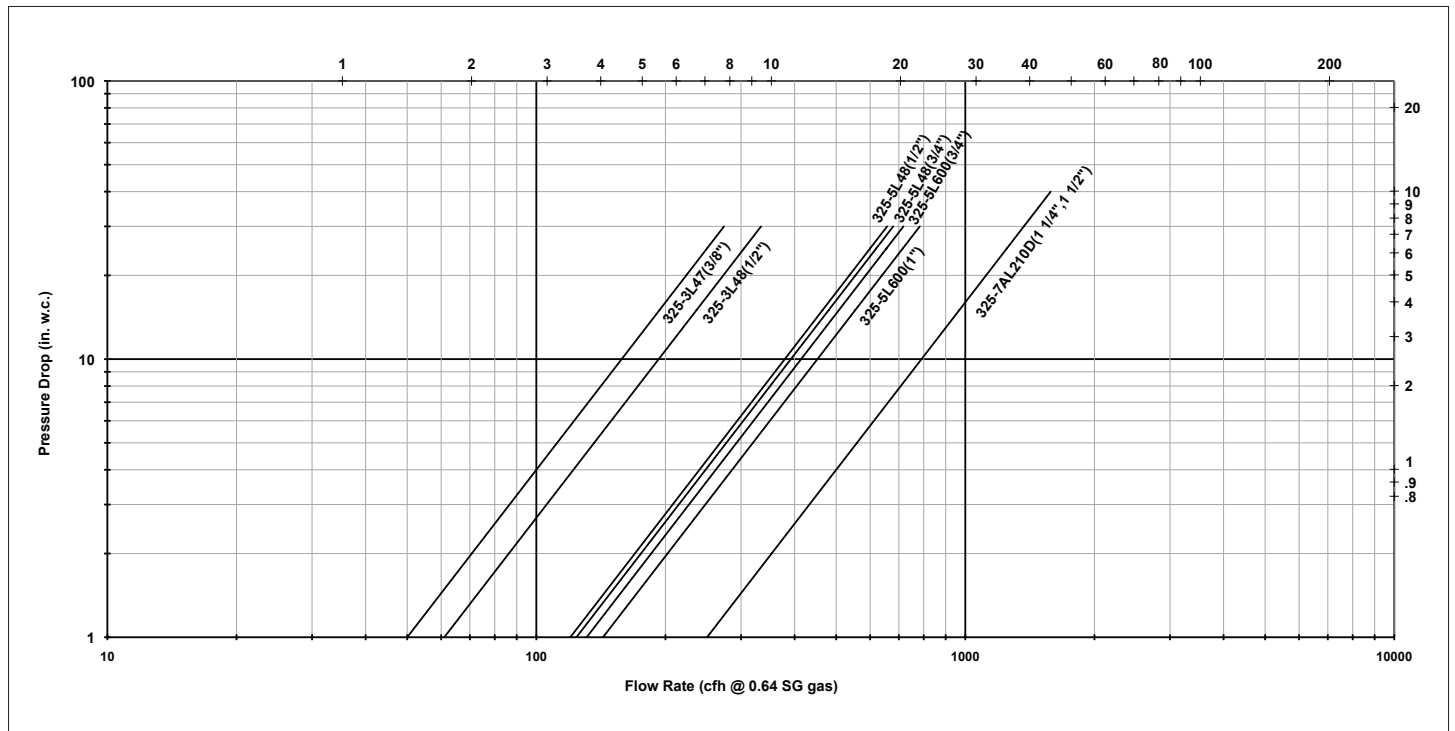


Figure 4: Pressure Drop Chart

SPRING RANGE SELECTION

Outlet Pressure Range (all models):

Certified Spring 7 - 11" w.c.

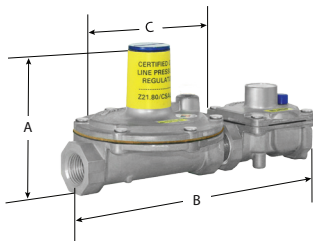
325 Series Line Pressure Regulators with OPDs

DIMENSIONS

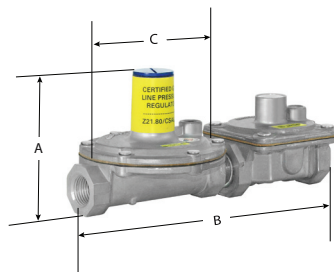
Model Number	Pipe Size*	Vent Connection	Swing Radius	Dimensions		
				A	B	C
325-3(B)L47	3/8", 1/2"	325-3 (B)L: 1/8" OPD47: Integral	3" (76 mm)	3.5" (89 mm)	8" (203 mm)	4" (99 mm)
325-3(B)L48	1/2"	325-3: 1/8" OPD48: 1/8"	3" (76 mm)	3.5" (89 mm)	8.5" (216 mm)	4" (99 mm)
325-5(B)L48	1/2", 3/4"	325-5(B)L: 3/8" OPD48: 1/8"	4.4" (112 mm)	5.3" (135 mm)	10" (254 mm)	5.5" (137 mm)
325-5(B)L600	3/4", 1"	325-5(B)L: 3/8" OPD600: 1/8"	4.4" (112 mm)	5.5" (140 mm)	11" (279 mm)	5.5" (137 mm)
325-7A(B)L210D	1 1/4", 1 1/2"	325-7A(B)L: 1/2" OPD210D: 3/8"	6.75" (171 mm)	7" (178 mm)	15.4" (391 mm)	9" (229 mm)

* Standard models NPT threads

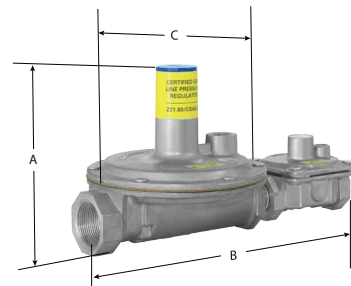
NOTE: Dimensions are to be used only as an aid in designing clearance for the regulator. Actual production dimensions may vary somewhat from those shown.



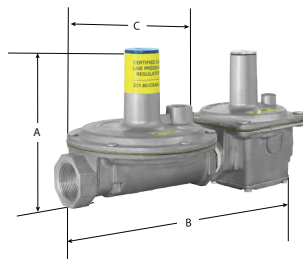
325-3(B)L47



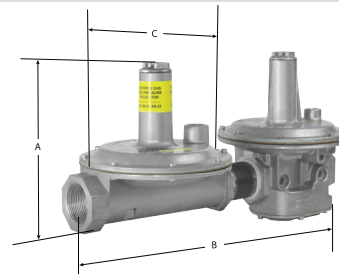
325-3(B)L48



325-5(B)L47



325-5(B)L600



325-7A(B)L210D

SIZING INSTRUCTIONS

TO SELECT A REGULATOR WITH OPD OF SUFFICIENT FLOW - ONE MUST KNOW:

1. Available inlet pressure (maximum static/minimum operating).
2. Desired outlet pressure.
3. Required maximum capacity (total load, all appliances combined) and maximum individual load.
4. Pipe size.

Example: To select a 325 series line regulator with OPD of sufficient capacity to handle flow...

KNOWN:

- A. Required: 1/2" NPT line regulator with OPD, outlet pressure of 7" w.c., with static pressure of 5 psi, and a minimum operating inlet pressure of 1 psi, Natural Gas.

- B. Combined BTU rating of all appliances to be served by the regulator: 145,000 Btu/hr.

- C. Largest single appliance's BTU rating: 90,000 Btu/hr

SOLUTION:

- A. In the Capacities Table (page 2), locate 325-3L47 (1/2") = 125 CFH, 325-3L48 (1/2") = 200 CFH, 325-5AL48 (1/2") = 235 CFH.
- B. The total BTU load requirement cannot exceed the equivalent CFH result from step A. The combined 145,000 Btu/hr requirement exceeds the 325-3L47 (1/2") capacity, but is less than that of the 325-3L48 (1/2"), and 325-5AL48 (1/2").
- C. The 90,000 Btu/hr single largest appliance rating is below the 325-3L48 maximum individual load capacity of 200,000 Btu/hr.
- D. The 325-3L48 is the correct (1/2") line regulator with OPD for this application.

MAXITROL