GAS PRESSURE REGULATORS AND FILTERS

MERTIK MAXITROL®

www.mertikmaxitrol.com

⚠ WARNING

Service and installation must be performed by a trained/experienced service technician.
All products used with combustible gas **must** be installed and used **strictly** in accordance with the instructions of the Original Equipment Manufacturer (OEM) and with all applicable government codes and regulations, e.g. plumbing, mechanical, and electrical codes and practices. Maxitrol products should be installed and operated in accordance with Maxitrol Safety Warning Instructions.

Maxitrol is NOT responsible for any errors or omissions in reliance by anyone of any information set forth in this catalog without additional reference to local requirements and applicable ordinances or codes.

The products in this catalogue comply with EU legislation. The technical specifications refer to the CE certification. Additional international approvals and certifications are available upon request.

CE

325 SERIES

LEVER ACTING DESIGN

Maxitrol's 325 Series regulators are for use on residential, commercial, and industrial applications. The 325 Series features a high leverage valve linkage assembly to deliver a lockup characteristic. The regulators are capable of precise control from full flow down to pilot flow.

Specifications

- **Pipe Sizes:** Rp ⅜ to Rp 2 threaded connections according to ISO 7-1/EN10226-1
- **Housing Material:** Aluminum
- **Internal Components Material:** Steel, aluminum, brass, elastomer
- **Mounting:** Suitable for multi-positional mounting. Other than upright position will result in a slight difference in outlet pressure. If ball check vent limiting device is installed, mount in an upright position only. Install with gas flowing as indicated by the arrow on bottom casting.
- **Construction and Design/Certifications:** According to the Gas Appliances Regulation 2016/426/EU and EN 88-1
- **Gas Types:** Suitable for gases of EN 437 gas family 1, 2, and 3
- **Maximum Inlet Pressure:** 100 kPa
- **Ambient Temperature Range:** -15 °C to 80 °C
- **Capacities:** See flow chart, page 20

NOTE: *Certifications for 325-9... and 325-11... models pending.*

Dimensions

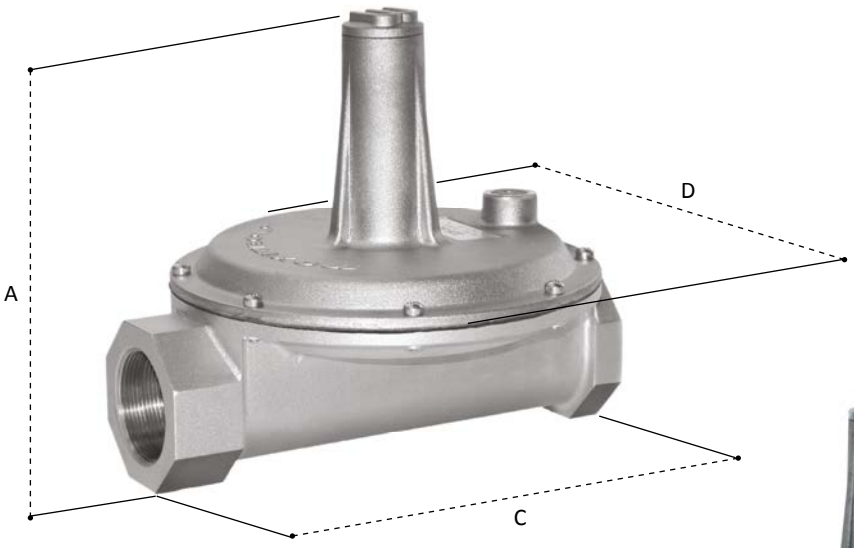
Model	Pipe Size	Swing Radius	Dimensions		
			A	C	D
325-3...	Rp ⅜, Rp ½	76 mm	89 mm	108 mm	98 mm
325-5...	Rp ½, Rp ¾, Rp 1	124 mm	133 mm	149 mm	138 mm
325-7...	Rp 1 ¼, Rp 1 ½	156 mm	184 mm	203 mm	178 mm
325-9...	Rp 1 ½, Rp 2	198 mm	239 mm	274 mm	231 mm
325-11...	Rp 2, Rp 2 ½	297 mm	333 mm	409 mm	343 mm

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

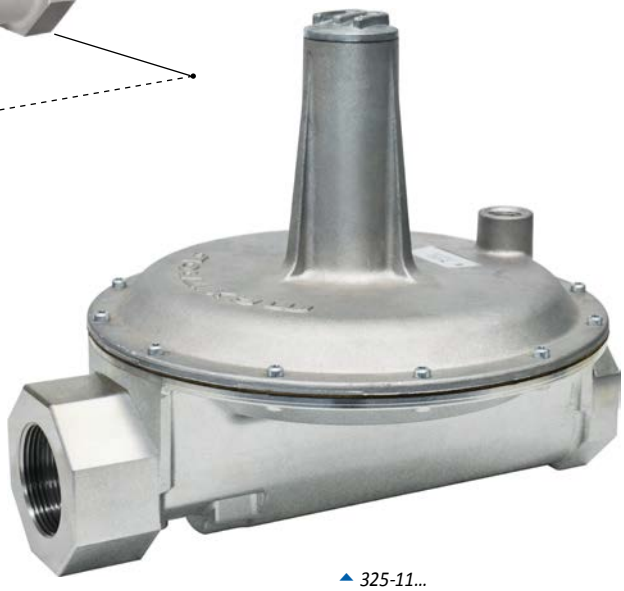
▲ *325-3...*

▲ *325-5...*

▲ *325-7...*

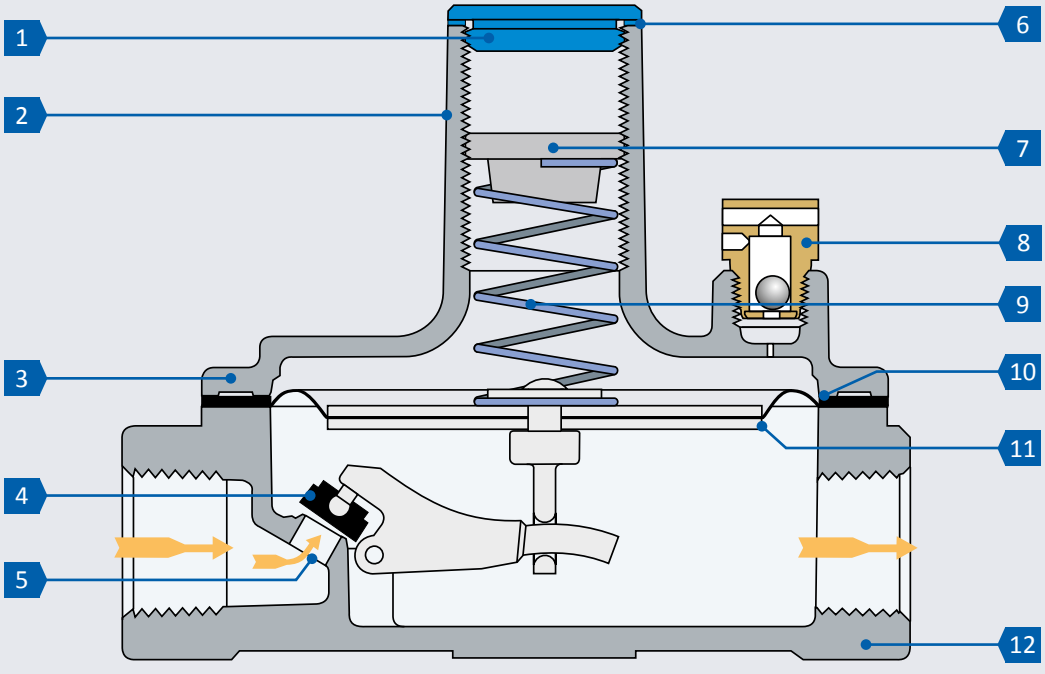


▲ *325-9...*



▲ *325-11...*

Components



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

1. Seal Cap
2. Stack
3. Top Housing
4. Rubber Valve
5. Valve Seat
6. Seal Cap Gasket
7. Adjusting Screw
8. Vent Limiting Device
9. Spring
10. Diaphragm
11. Diaphragm Plates
12. Bottom Housing

SPRING SELECTION

Model	Spring Replacement Number	Spring Code											
		A	B	C	D	E	F	G	H	K	L	M	N
		Outlet Pressure Range (kPa*)											
		0.25 – 0.90	0.50 – 1.30	0.50 – 1.50	0.70 – 1.30	0.75 – 2.00	1.00 – 2.00	1.00 – 3.00	1.25 – 3.00	2.50 – 5.50	3.75 – 7.50	5.00 – 10.50	7.00 – 14.00
		Color											
		brown	(plated)	green	(plated)	pink	orange	violet	blue	red	yellow	black	label
RV12...	KIT ...-R1210	X			X		X	X					
RV20...	KIT ...-R2010	X			X		X	X					
RV47...	KIT ...-R4710	X			X		X	X					
RV48...	KIT ...-R4810	X			X		X		X				
RV52...	KIT ...-R5210	X	X			X		X		X			
RV53...	KIT ...-R5310	X	X			X		X		X	X		
RV61...	KIT ...-R6110	X	X			X		X		X	X		
RV81...	KIT ...-R8110	X	X			X		X		X	X	X	
RV91...	KIT ...-R9110	X	X			X		X		X	X	X	
RV111...	KIT ...-R11110	X	X			X		X		X	X	X	
RV131...	KIT ...-R13110		X			X		X		X	X	X	
325-3...	KIT ...-R325C10			X				X		X	X		X
325-5...	KIT ...-R325E10			X				X		X	X		X
325-7...	KIT ...-R8110	X	X			X		X		X	X	X	
325-9...	KIT ...-R9110	X	X			X		X		X	X	X	
325-11...	KIT ...-R11110	X	X			X		X		X	X	X	
R400S...	KIT ...-R400B10	X	X			X		X		X			
R500S...	KIT ...-R5210	X	X			X		X		X			
R600S...	KIT ...-R5310	X	X			X		X		X	X		
210D...	KIT ...-R8110	X	X			X		X		X	X	X	
210E...	KIT ...-R9110	X	X			X		X		X	X	X	
210G...	KIT ...-R11110	X	X			X		X		X	X	X	
210J...	KIT ...-R13110		X			X		X		X	X	X	

NOTE: *No spring replacement required for zero pressure regulator models.*

** 1 kPa = 10 mbar*

SIZING A REGULATOR

System Requirements

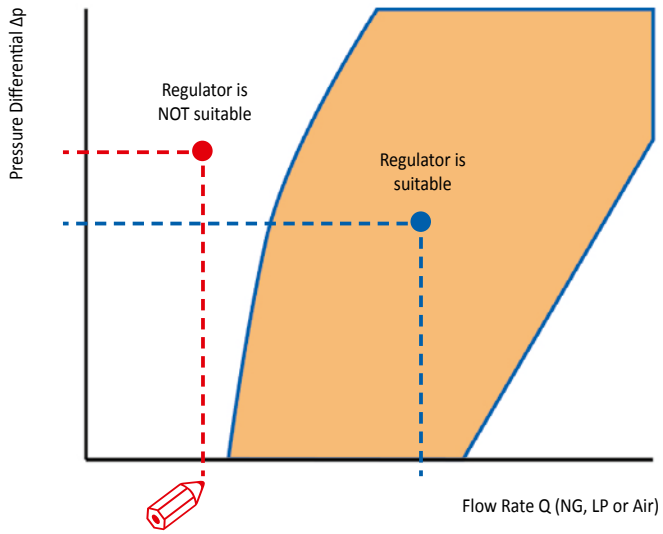
When sizing a regulator the following must be known:

- Gas Type
- Available Inlet Pressure
- Desired Outlet Pressure
- Zero Pressure Regulator Application (indicated by model number ending in “Z”)
- Will the regulator control main burner and pilot load OR main burner only?
- Required minimum and maximum flow rate in m^3/h or kW
- Pipe Size

In most cases, the manifold pipe size has already been selected on the basis of good engineering practice, and the regulator pipe size should conform to this size.
The capacity of any regulator is not an absolute value but will vary with the application depending on the prevailing differential pressure.

HOW TO DETERMINE THE SUITABLE REGULATOR FROM THE FLOW CHART

Draw a horizontal line with the known differential pressure (inlet pressure minus outlet pressure). Next draw a vertical line with the required flow rate (take care to use the axis with the correct gas type). The regulator where both lines cross each other within the range of regulation is the suitable regulator.



NOTE: *Please contact Maxitrol directly for more information on sizing a regulator.*

NOTE: *Service and installation must be performed by a trained/ experienced service technician.*

LEGEND FOR FLOW CHARTS

Δp = Pressure Differential in kPa
Q = Flow Rate in m^3/h
dv = Volumetric Rate of Flow
f = Friction Factor
ρ = Density

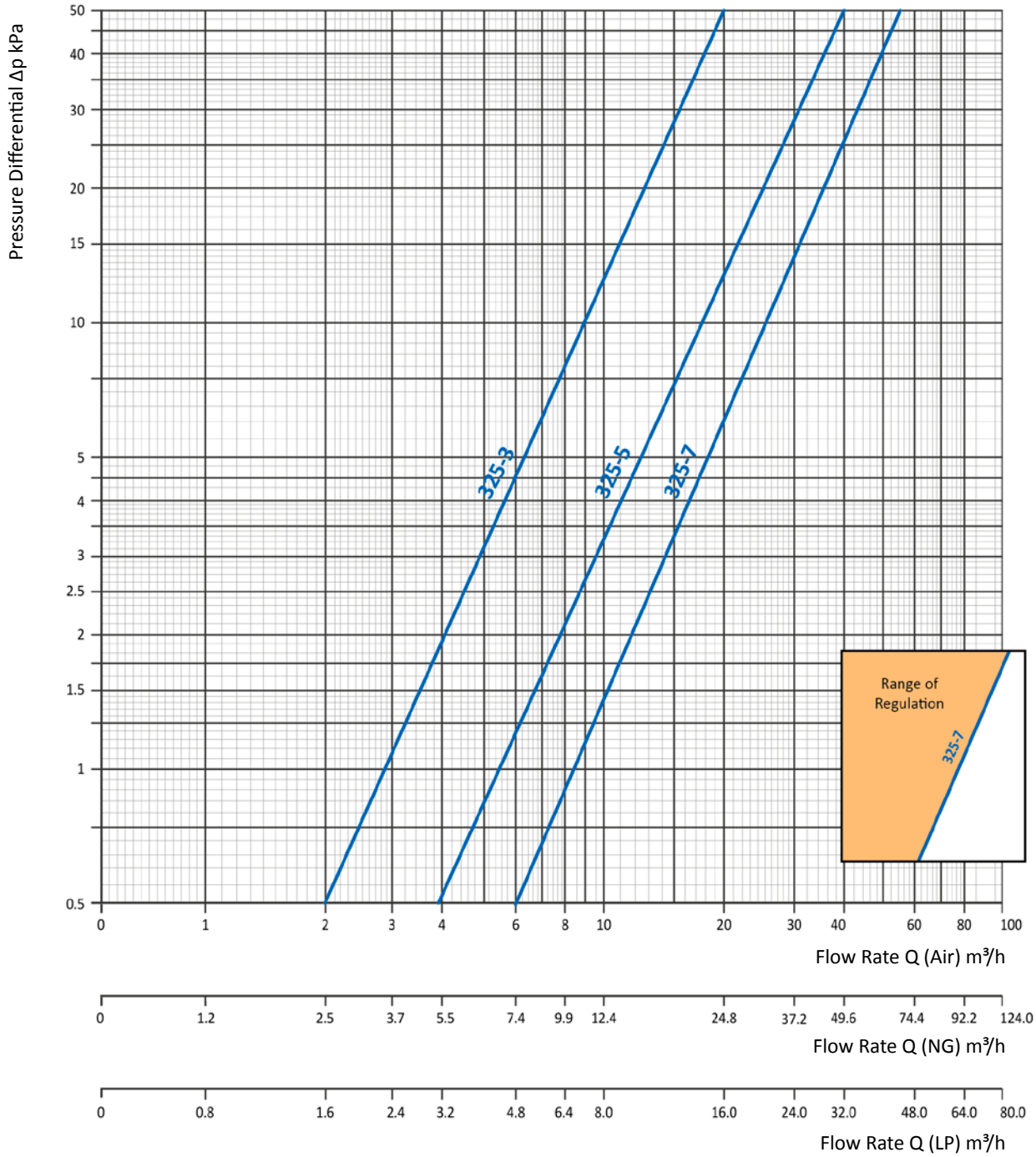
Pressure Units:	1 kPa = 10 mbar = 10 hPa
Air:	dv = 1.00 f = 1.00
Natural Gas (NG):	dv = 0.64 f = 1.24
Liquid petroleum gas (LPG):	dv = 1.56 f = 0.80

$$dv = \frac{\rho_{gas}}{\rho_{air}}$$

$$f = \sqrt{\frac{\rho_{air}}{\rho_{gas}}}$$

$$\dot{V}_{gas} = f \cdot \dot{V}_{air}$$

325 Series Appliance Regulators – Lever Acting Design



NOTE: *The given flow rates are approximate values. Actual flow rates may vary somewhat from those shown.*

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