Dormont®

Gas Appliance & Line Pressure Regulators

Dormont Manufacturing, the inventor and world's largest manufacturer of stainless steel gas connectors, introduces an expanded line of 2 psig regulators for Natural and Liquified Propane Gases. Our CSA design certified R325 and R625 Series pressure regulators are manufactured as gas appliance regulators, and as line pressure regulators. Both series supply precise regulating control from full-flow, down to tiny pilot flows. In the absence of flow, these regulators guarantee excellent control of the outlet pressure. The R325 and R625 Series regulators meet standard requirements for use on residential, commercial, and industrial applications.

Features & Benefits

- ***Precise regulating control*** - Provides efficient, cost-saving gas usage.
- ***Brass vent limiting device standard with every regulator*** - Increases safety in case of a diaphragm malfunction.
- ***Nitrile rubber diaphragm*** - Insures resistance to combustible gas and temperature extremes from -40° to 205° F (-40° to 96° C). Reacts to pressure changes and quickly stabilizes internal pressure.
- ***Durable corrosion-resistant aluminum die cast housing*** - Lengthens regulator life and reduces maintenance.
- ***ISO 9002 registered manufacturer*** - Independent verification of the high procedures and quality standards that Dormont adheres to.
- ***Single, complete unit*** - Provides for easy installation.

Notes

- Regulators must be horizontally installed with the vent limiter upwards to ensure correct operation of the vent limiter.
- Outdoor installations are acceptable where the operating temperatures are within -40°F to 205°F.
- Care should be taken to protect the regulators from damage due to such factors as ice, salt, hail, sharp impacts, vandalism, etc.
- Gas flow must be in the direction as indicated on the bottom of the regulator.

Certifications

C US

- ANSI Z21.80, CGA 6.22 Line Pressure Regulators
- ANSI Z21.18, CGA 6.3 Gas Appliance Pressure Regulator

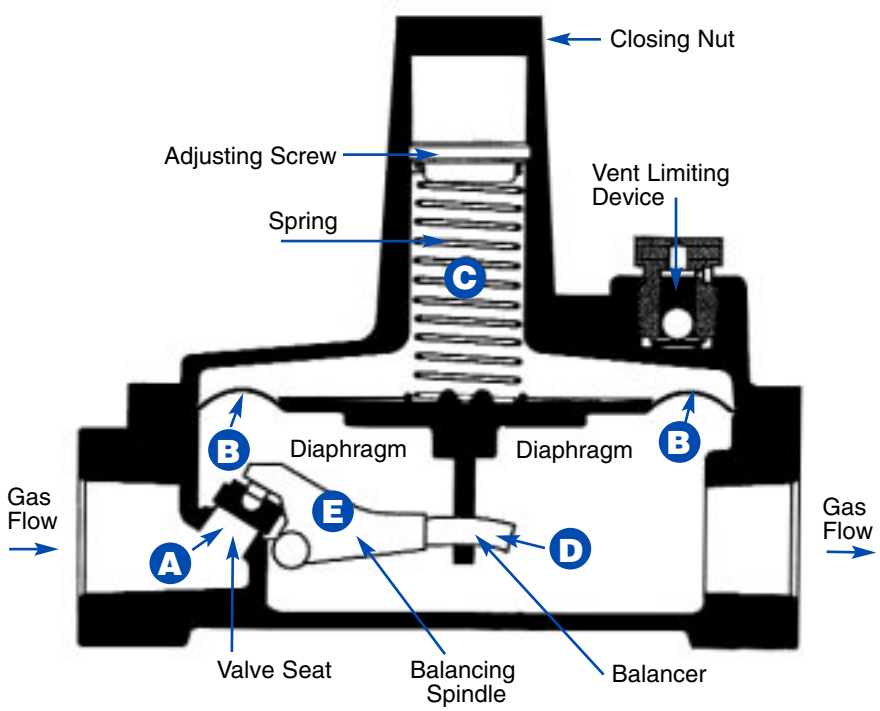
Regulator Operation

1. No Flow Condition

When the gas supply is turned on, gas enters the regulator through the **A** inlet. With the gas supply at the appliance in the closed position, there is no flow, and gas pressure builds up beneath the **B** diaphragm of the regulator. This creates an upward thrust on the diaphragm which overcomes the force of the **C** spring. As the diaphragm rises, the lever action of the **D** balancer forces the valve seat closed against the inlet opening, stopping the inward flow of gas.

2. Flow Condition

When the appliance burner is turned on, the gas in the regulator flows toward the appliance burner which lowers the gas pressure in the regulator below the diaphragm **B**. When the gas pressure lowers, it allows the spring to push down the diaphragm **B** due to the unbalanced forces which allow the valve seat **E** to open, thus allowing more gas to enter the regulator.



Note

In the event of a diaphragm rupture, the vent limiting device limits the escapement of gas within the ANSI standards level, thus eliminating the need to run vent piping to an outside area. If a vent pipe to the outside is desired, the vent limiter may be removed and a vent pipe with proper pipe threads can be substituted. **Warning: Do not operate the regulator without either a vent limiter or a vent pipe to the outside. A vent limiting device is standard with all Dormont R325 and R625 Series regulators.**

Frequently Asked Questions

1. ***How does a regulator work?*** Regulators reduce the pressure from a supply pressure to some other desired operating pressure. They do this independent of supply pressure and flow. So, whether a gas range is on low or on high, the pressure on the outlet side of the regulator will be the same.
2. ***Why do I use a regulator?*** To reduce elevated gas supply pressures to safe operating pressures as required by appliances.
3. ***When do I use an R325 or R625 regulator?*** When interior gas is supplied at elevated pressures (2 psig), an R325 Series or R625 Series regulator is required. These regulators can be installed at individual appliances, or used as line pressure regulators. A line pressure regulator refers to regulating the gas pressure from pounds to inches of water column at a manifold or central location. This type of installation eliminates the need for regulators at individual appliances.
4. ***How can you tell if the regulator is for natural or propane gas? What are the differences?*** Dormont's E-Z-Select™ part numbering system easily identifies natural gas and propane regulators. The difference in the regulators is the factory pre-set outlet pressures. Normally, natural gas has a lower pre-set outlet pressure than propane.
5. ***What is a spring adjustment?*** The spring adjustment is how the outlet pressure of adjustable regulators is changed. Regulators are factory pre-set at 8" n.c. for natural gas and 11" w.c. for propane.
6. ***How can outlet pressures of adjustable regulators be changed?*** The outlet pressures of the adjustable regulators can be changed by removing the stem cap and adjusting the screw found inside. Turning the screw counter clockwise reduces the outlet pressure, and turning it clockwise increases the outlet pressure. ***Warning:*** Adjusting the outlet pressure should only be done while monitoring the pressure with a manometer or other type of pressure gauge. ***Warning:*** Replace the stem cap when the adjustment is complete.

Supr-Simple Sizing Instructions

1. **Verify the gas supply pressure.** The R325 and R625 Series regulators are recommended for supply pressures up to 2 psig.
2. **Determine the outlet pressure of the regulator.** This is the appliance operating pressure plus any major line pressure losses.
3. **Determine the required BTU capacity for the regulator.** This is the BTU's per hour required by the appliance(s). If the regulator will supply multiple appliances, add all of the requirements. Typical gas consumptions for common appliances are shown in the table below.
4. **Choose the correct regulator.** The Flow Capacity Table below lists the maximum flow capacities of each regulator model for both natural gas and propane. Using the supply pressure and required outlet pressure determined above, locate the regulator that is closest to (but always greater than) the BTU capacity determined in step 3 above.

Example:

1. Assume a gas supply pressure of 1/2 psig.
2. For natural gas, a common appliance operating pressure is 7 inches of water. Assuming the line losses are low, this is also the regulator outlet pressure. If long runs of pipe are used, the pipe losses should be added to the appliance operating pressure.
3. If a range and a clothes dryer are to be supplied, the gas capacity requirement is 100,000 BTU's (from the table below).
4. The Flow Capacity table indicates, at 7 inches of water outlet pressure and psi inlet pressure, a R325 regulator has a capacity of 267,000 BTU's/Hour and R625 has a capacity of 517,000 BTU's/Hour. The R325 should be chosen since it meets the requirements for flow capacity and is also the smaller of the two sizes.

* Reference Flow Capacities Table.

Approximate Gas Input for Typical Appliances

Appliance	Input BTU Per Hr. (Approx.)
Range, Free Standing, Domestic	65,000
Built-In Oven or Broiler Unit, Domestic	25,000
Built-In Top Unit, Domestic	40,000
Water Heater, Automatic Storage, 30 to 40 Gal. Tank	45,000
Water Heater, Automatic Storage, 50 Gal. Tank	55,000
Water Heater, Automatic Instantaneous	
Capacity { 2 gal. per minute	142,800
Capacity { 4 gal. per minute	285,000
Capacity { 6 gal. per minute	428,400
Water Heater, Domestic, Circulating or Side-Arm	35,000
Clothes Dryer, Type 1 (Domestic)	35,000

For S1 units: 1 BTU per hour = 0.293 watts.
For specific appliances or appliances not shown above, the input should be determined from the manufacturer's rating.

Table from NFPA 54 - 1996 edition, Appendix C.

Product Specifications

Models #R325/R625

Gases . . . . . Natural or Liquified Propane
Diaphragm . . . . . Nitrile Rubber
Allowable Temperature Range . . . . . -40° to 205° F (-40° to 96° C)
Housing . . . . . Aluminum Die Castings
Vent Limiter . . . . . Brass
Maximum Inlet Pressure . . . . . 2 psig
Outlet Pressure Adjustment . . . . . 7" to 11" W.C.
Connection Size NPT (F)
- R325 . . . . . 1/2" x 1/2"
- R625 . . . . . 3/4" x 3/4"

Venting
- R325 . . . . . 1/8" NPT
- R625 . . . . . 3/8" NPT

Emergency Exposure Limits . . . . . 65 psig Inlet Side Only

Flow Capacities Table

Outlet Pressure	Gas	Operating Inlet Pressure									
		R325 Model					R625 Model				
		1/2 psi	3/4 psi	1 psi	2 psi	1/2psi	1/2 psi	3/4 psi	1 psi	2 psi	1/2psi
7" w.c.	Air - CFH	162	188	217	267	315	364	403	447	517	645
	Nat. Gas - BTU's/Hour	162000	188000	217000	267000	315000	364000	403000	447000	517000	645000
	Propane - BTU's/Hour	169000	196000	227000	279000	329000	380000	421000	467000	540000	674000
8" w.c.	Air - CFH	158	184	210	258	311	359	394	447	509	636
	Nat. Gas - BTU's/Hour	158000	184000	210000	258000	311000	359000	394000	447000	509000	636000
	Propane - BTU's/Hour	165000	192000	219000	269000	325000	375000	411000	467000	532000	664000
9" w.c.	Air - CFH	151	180	206	254	305	342	381	430	500	636
	Nat. Gas - BTU's/Hour	151000	180000	206000	254000	305000	342000	381000	430000	500000	636000
	Propane - BTU's/Hour	158000	188000	215000	265000	318000	357000	398000	449000	522000	664000
10" w.c.	Air - CFH	149	171	199	250	302	329	377	403	496	627
	Nat. Gas - BTU's/Hour	149000	171000	199000	250000	302000	329000	377000	403000	496000	627000
	Propane - BTU's/Hour	156000	179000	208000	261000	315000	344000	394000	421000	518000	655000
11" w.c.	Air - CFH	144	165	190	245	298	302	360	372	473	614
	Nat. Gas - BTU's/Hour	144000	165000	190000	245000	298000	302000	360000	372000	473000	614000
	Propane - BTU's/Hour	150000	172000	198000	256000	311000	315000	376000	388000	494000	641000
12" w.c.	Air - CFH	137	165	190	230	295	293	352	362	469	610
	Nat. Gas - BTU's/Hour	137000	165000	190000	230000	295000	293000	352100	361600	468700	610300
	Propane - BTU's/Hour	143000	172000	198000	240000	308000	306000	368000	378000	489000	637000

Dormont® MANUFACTURING COMPANY®

E-Z Select™ Part Numbering System

Example: **R325N32-0711-08**

R = Regulator

3 = 300 Series (1/2″), **6**=600 Series (3/4″)

25 = Approved for 2 psig

N = Natural Gas, **P**=Propane

32 = Female NPT Size (1/2″), **42**=Female NPT Size (3/4")

0711 = Spring Range (7″-11″ W.C.)

08 = Spring Pre-set Point (8″), **11**=Spring Pre-set Point (11″)

Regulator Part #	Gas	Pipe Size	Spring Range	Spring Pre-Set Point	Master Ctn. Qty.
R325N32-0711-08	Natural	1/2" NPT	7" to 11"	8	25
R325P32-0711-11	Propane	1/2" NPT	7" to 11"	11	25
R625N42-0711-08	Natural	3/4" NPT	7" to 11"	8	18
R625P42-0711-11	Propane	3/4" NPT	7" to 11"	11	18

- In most instances, Dormont regulators are available for same day shipping.
- Regulators are packaged in individual cartons. However, master carton quantities are available. (see Part List above)

Dormont Manufacturing is committed to providing expert technical and engineering assistance to identify customer needs and solve customer problems. If you have questions regarding Dormont R325 and R625 Series regulators, please call our Supr-Customer Service Staff at 1-800-DORMONT.

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