

**GAS DELIVERY REGULATOR**  
**1/4" - 1" NPT, BSPT**  
**Spring Reference & Pilot Operated**  
**Inlet 550 Psig (38 Bar)**

**GDR**



**STANDARD CONFIGURATION**



**PILOT OPERATED (DOME LOADED)**



**PIPE-A-WAY CHAMBER**



**PANEL MOUNTED**

**SERIES**

**Description**

The GDR Series Regulator provides reliable, precise pressure control in the most demanding applications. Optimized Venturi and spring design assures high flow with extremely low droop characteristics. Solid non-tied diaphragm and all brass construction guarantees leak free long lasting performance. Fully balanced design virtually eliminates outlet pressure fluctuations due to inlet pressure variations. All GDR Series regulators are 100% factory tested, cleaned and packaged for oxygen service.

**Features**

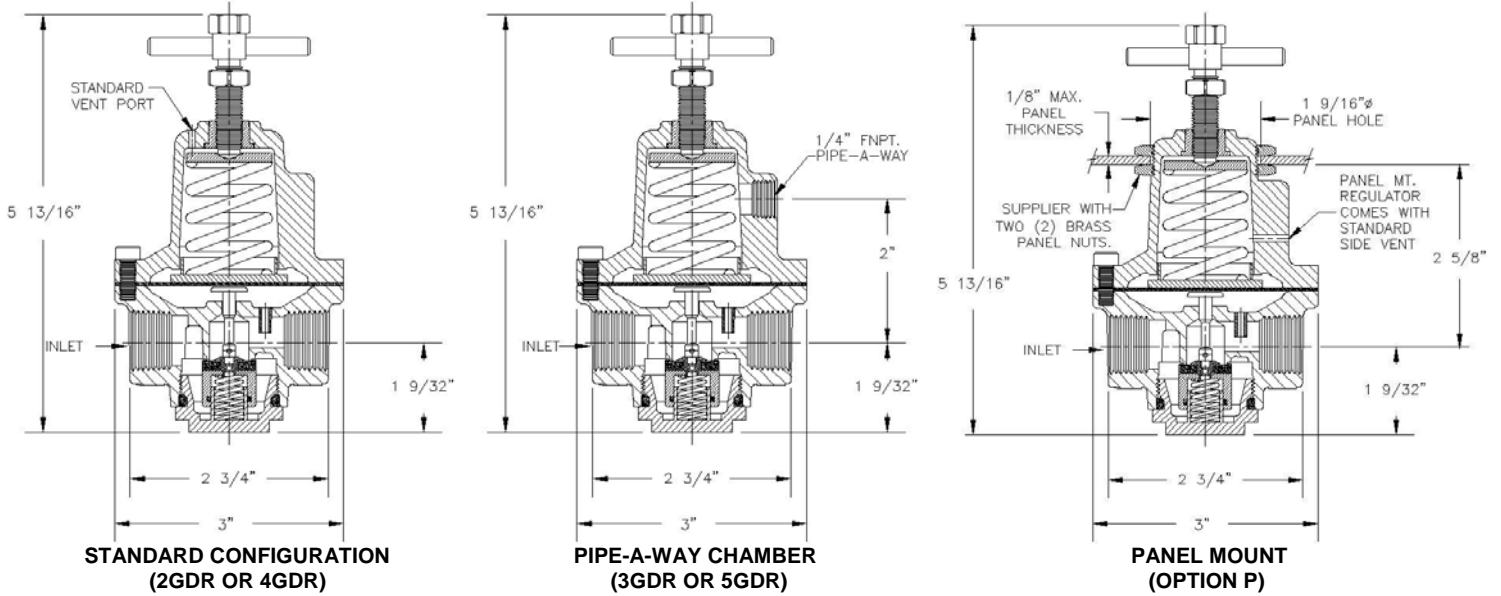
- Fully Balanced Design maintains a constant delivery pressure regardless of inlet pressure fluctuations
- Fully Supported, Solid Non-Tied Diaphragm for long leak free service life
- Flow Rates to 20,000 SCFH
- Optimized Spring Design and Unique Venturi Tube allows for high flow rates with minimal pressure droop effect
- Pilot Operated (dome loaded) Configuration maintains virtually constant outlet pressures
- Vent Chamber to Stack with Pipe-a-Way Option
- Side Venting Chamber option prevents moisture accumulation when mounted horizontally
- Cleaned and Packaged for Oxygen Service

**Materials of Construction**

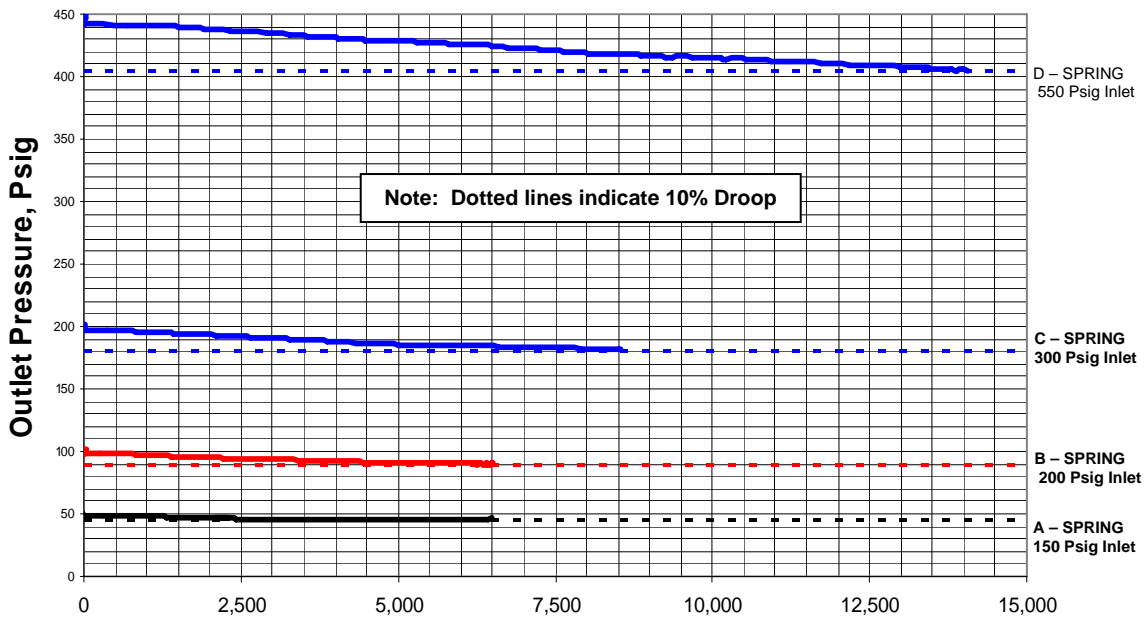
- Forged Brass Body and Spring Chamber ASTM 377
- Brass Adjustment Screw, Valve, Valve Stem, Spring Button, Spring Retainer and Venturi Tube ASTM B16
- 303 Stainless Steel Chamber Insert ASTM A276
- Color Coded, Chrome Vanadium Adjustment Springs ASTM A-231
- 302 Stainless Steel Valve Spring ASTM A-313
- GLT Viton or EPDM on Nylon Diaphragm
- GLT Viton or EPDM Seats and Seals
- Stainless Steel Trim (Flange Screws and Lock Nut)

Note: EPDM seals recommended for CO<sub>2</sub> service

# GAS DELIVERY REGULATOR



**GDR-500 Flow Curve**



## Technical Data (GDR-500)

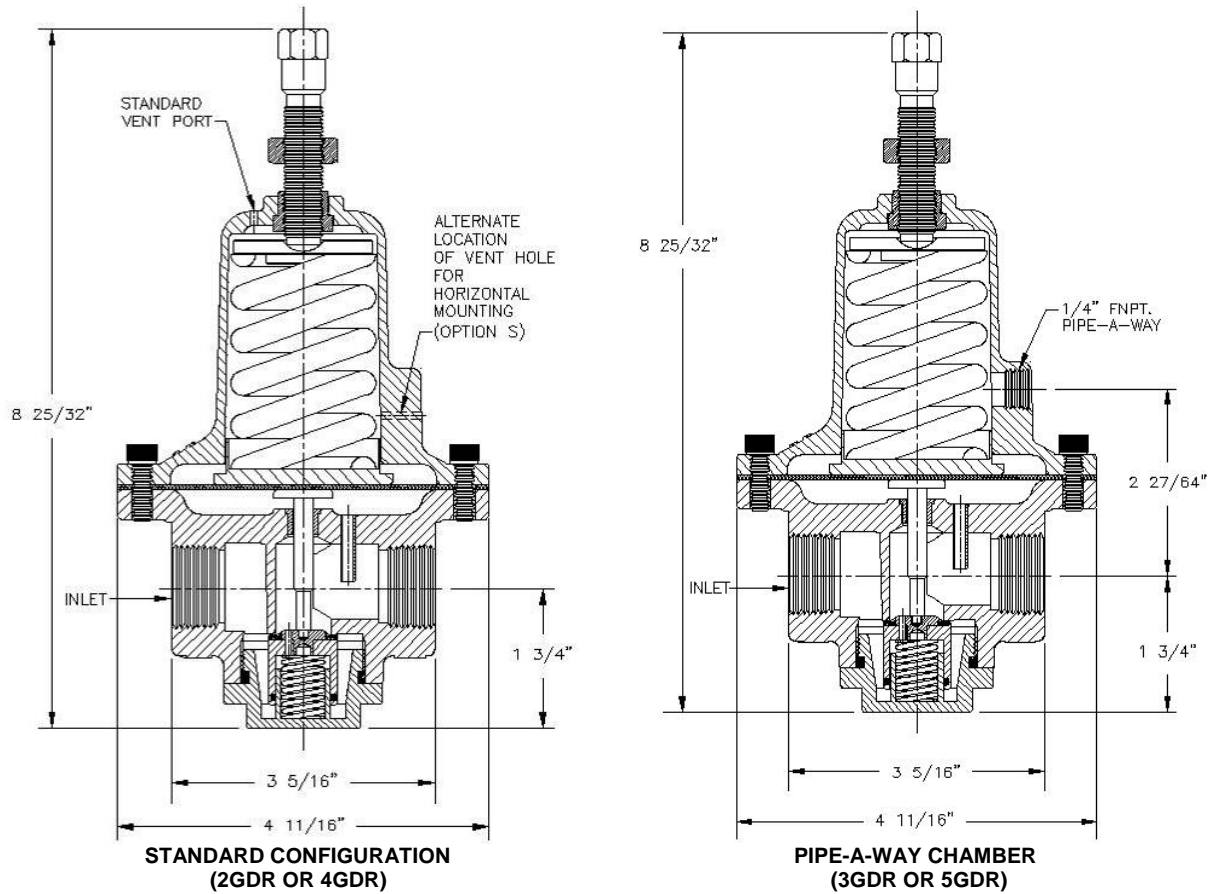
Maximum Inlet Pressure: 550 Psig (37.9 Bar)  
 Effect of Inlet Pressure Variation: < 0.25 Psig/100 Psig

Fail Open Flow Coefficient	Cv
1/4" NPT and BSPT	1.6
3/8" NPT	2.4
1/2" NPT and BSPT	2.9

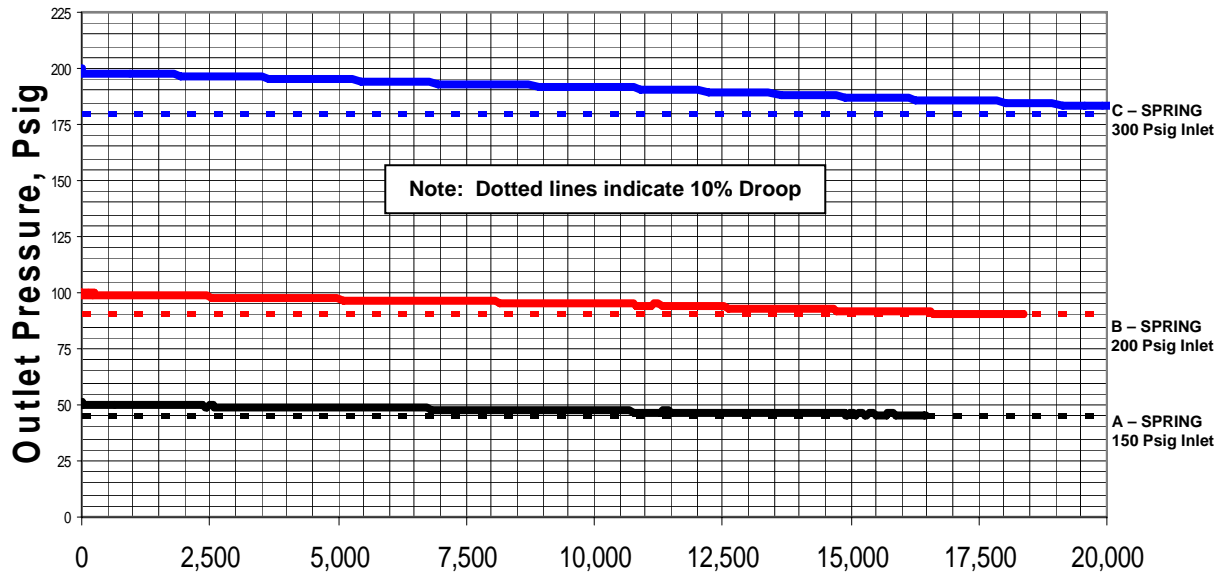
Pressure Ranges	
Spring Model Code	Outlet Pressure Range
A (Black)	0 - 55 Psig (0 - 3.8 Bar)
B (Red)	50 - 135 Psig (3.5 - 9.3 Bar)
C (Blue)	125 - 225 Psig (8.6 - 15.5 Bar)
D (Blue)	225 - 450 Psig (15.5 - 31.0 Bar)

Notes:  
 A, B and C Range Springs are interchangeable  
 D Range spring utilizes dedicated Chamber, Chamber Ring and Spring Retainer

# GAS DELIVERY REGULATOR



**GDR-1000 Flow Curve**



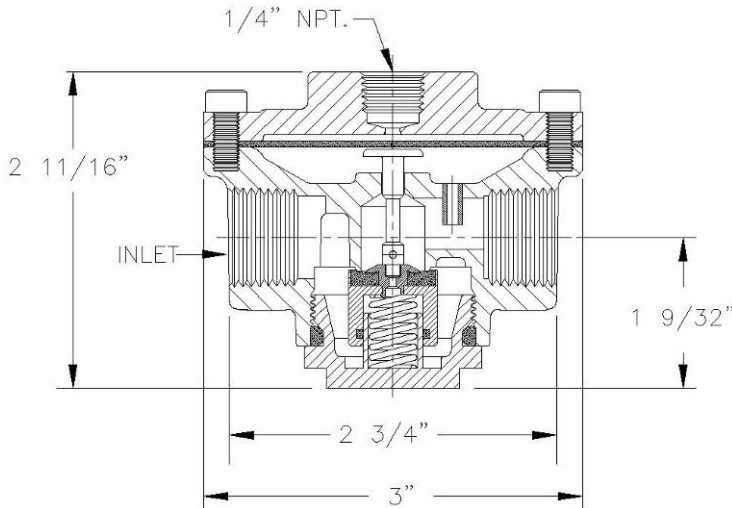
**Technical Data (GDR-1000)**

Maximum Inlet Pressure: 400 Psig (27.6 Bar)  
 Effect of Inlet Pressure Variation: < 0.25 Psig/100 Psig  
 Fail Open Flow Coefficient (3/4 and 1"): 5.8 Cv

Pressure Ranges	
Spring Model Code	Outlet Pressure Range
A (Black)	0 - 55 Psig (0 - 3.8 Bar)
B (Red)	50 - 135 Psig (3.5 - 9.3 Bar)
C (Blue)	125 - 225 Psig (8.6 - 15.5 Bar)

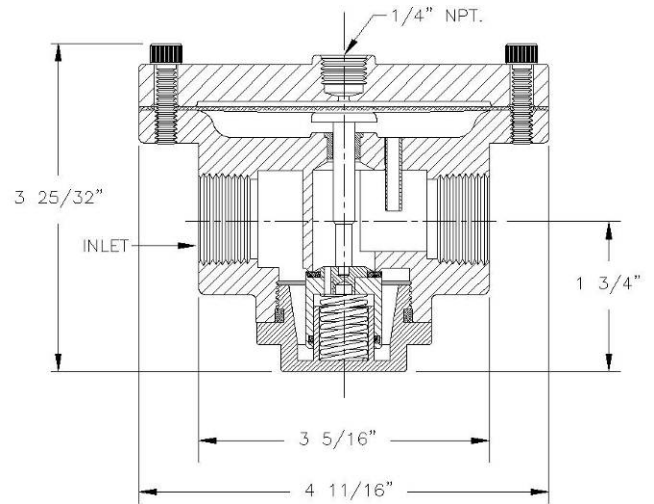
Notes: A, B and C Range Springs are interchangeable

# GAS DELIVERY REGULATOR



**GDR-500, Pilot Operated**

Maximum Pilot Pressure: 450 Psig (31.0 Bar)  
 Maximum Usable Cv: 1.5  
 Pilot Pressure to Outlet Pressure Ratio: 1 : 0.95  
 (100 Psig Pilot Pressure = 95 Psig Outlet Pressure)

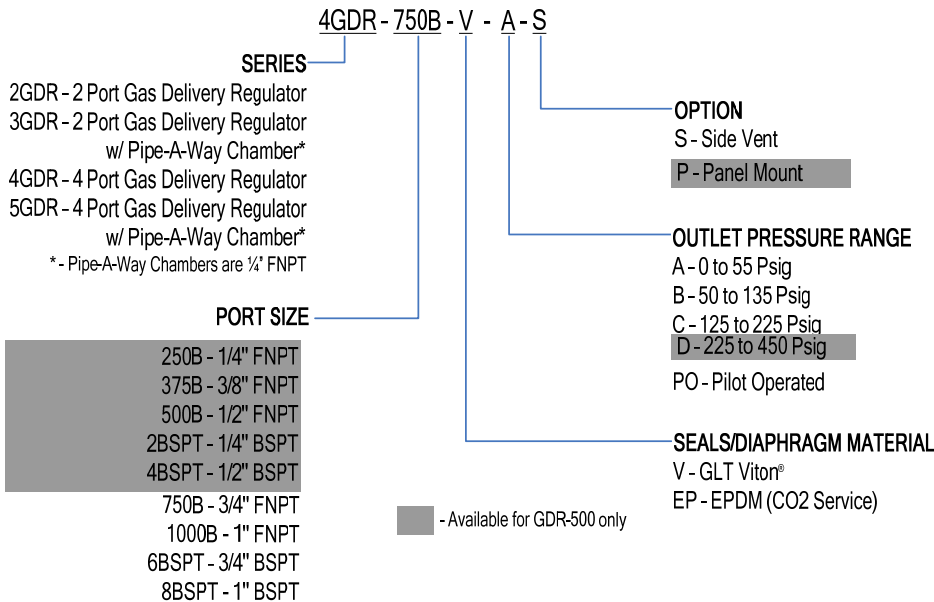


**GDR-1000, Pilot Operated**

Maximum Pilot Pressure: 350 Psig (24.1 Bar)  
 Maximum Usable Cv: 2.7  
 Pilot Pressure to Outlet Pressure Ratio: 1 : 0.90  
 (100 Psig Pilot Pressure = 90 Psig Outlet Pressure)

**Pilot Operated Regulators fail closed on loss of pilot pressure. Regulators fail open on loss of outlet pressure when pilot pressure is present.**

## How To Order



**Note: All 4 Port Regulators Have 1/4" FNPT Gauge Ports.**

## Repair Kits

Includes: Valve Stem, Diaphragm, Valve Assembly, Valve Spring and Bottom Plug O-Ring

Model Size	Seal Material	Specify
1/4", 3/8" & 1/2"	Viton®	GDR-RK-1V
	EPDM	GDR-RK-1EP
3/4" & 1"	Viton®	GDR-RK-2V
	EPDM	GDR-RK-2EP

## Replacement Spring Kits

Includes: Spring (3/4" & 1" kit includes corresponding spring retainer)

Model Size	Specify
1/4", 3/8" & 1/2"	GDR-SK-1-*
3/4" & 1"	GDR-SK-2-*

\*-Specify Spring Model Code: A, B, C, or D

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PROPER COMPONENT SELECTION – When specifying a component, the total system design must be considered to ensure safe and trouble-free performance. Intended component function, materials compatibility, pressure ratings, installation, environment and maintenance are the responsibility of the system designer.



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