

## GD80 Series

*High Pressure Dome-loaded Regulator  
Inlet & Outlet to 10,000 psig*



### Features

- High pressure
- Bubble-tight seal
- Internally or externally dome loaded

### Applications

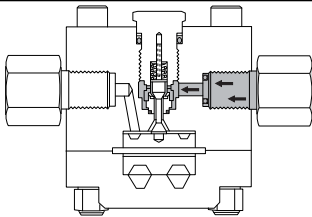
- High pressure testing
- Facility gas systems
- Industrial gas plants
- Process gas controls
- Chemical/petroleum plants

### Technical Data

<b>Body Construction Material</b>	303 stainless steel
<b>Seal &amp; Diaphragm Material</b>	Neoprene
<b>Seat Material</b>	Nylatron® GS
<b>Spring Material</b>	Stainless steel
<b>Port Size</b>	<ul style="list-style-type: none"> <li>• Inlet &amp; outlet: ¼" &amp; ½" NPT female, ¼" &amp; ⅝" Aminco</li> <li>• Dome port GD81B Series only: ¼" NPT female or ¼" Aminco</li> </ul>
<b>Pressure Ratings</b>	Inlet/Outlet: 0 to 10,000 psig (690 BAR)
<b>Temperature Range</b>	-65° F to +160° F (-54° C to +71° C)
<b>Flow Capacity</b>	Cv = 0.365
<b>Weight</b>	28 lbs

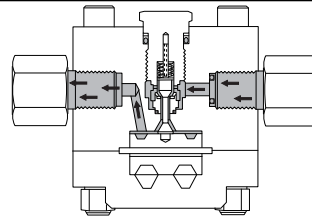
*Note: Proper filtration is recommended to prevent damage to sealing surfaces.*

### How it Works



#### Closed

The balanced poppet is spring-loaded against the seat. Bubble-tight sealing is ensured (by a considerable force) when full upstream pressure is applied over the entire effective area of the seating diameter.



#### Regulating

Dome-loading may be accomplished by the built-in load and bleed valve combination or by an externally located pressure regulator.

As the downstream process demands flow, the decreasing pressure (acting on the outlet side of the diaphragm) allows the dome pressure force to push the diaphragm and lower plate up which, in turn, unseats the poppet.

This action permits flow to start and the pressure under the piston to gradually increase until balance is achieved between dome pressure forces and opposing downstream pressure forces. The modulation of the poppet position continues in this manner until process flow demand ceases. The diaphragm is then moved in a downward direction, thus allowing the spring-loaded poppet to close off flow from the upstream side of the regulator.

### Circle Seal Controls

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# GD80 Series

## How to Order

**K/ GD80A T 4 2 L M**

**REPAIR KIT**

**BASIC MODEL NUMBER**

**GD80A** Internally dome-loaded  
**GD81B** Externally dome-loaded

**BODY MATERIAL**

**T** 303 stainless steel

**OPTIONS**

**L** 10,000 psig 2-12" brass gauges, gauge port 1/4" pipe  
**M** Extended bolts for mounting

**CLEANING LEVELS**

**2** For general pneumatic service  
**3** Specify\*  
**4** Precision pneumatic service

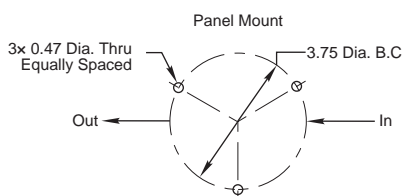
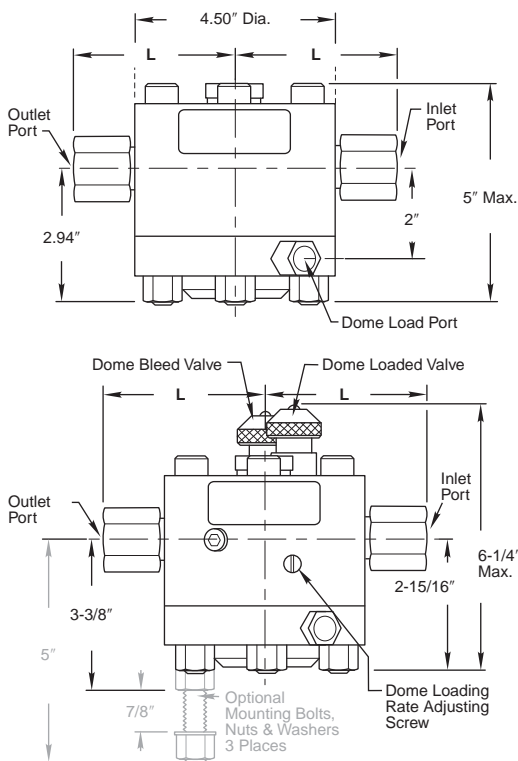
**INLET/OUTLET PORT**

	Size & Type	Dimension "L" (below)
<b>4</b>	1/4" NPT female	3 11/32"
<b>6</b>	1/2" NPT female	3 19/32"
<b>7</b>	1/4" Aminco	3 11/32"
<b>8</b>	5/16" Aminco	3 25/32"

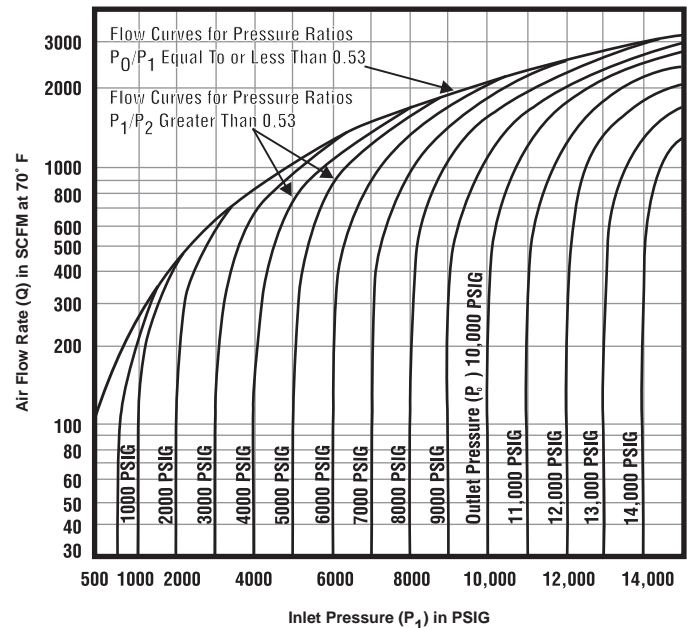
\* List requirements or furnish the factory a copy of the requirements or specifications.

Outlet pressure change per 100 psig of inlet pressure change is 2 psig.

## Dimensions & Flow Curves



## Air Flow Chart



## For Your Safety

It is solely the responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or property damage.

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