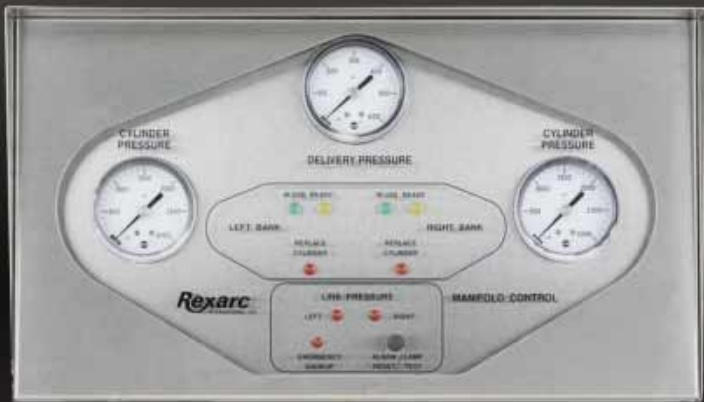


SPECIALTY GAS EQUIPMENT

AUTOMATIC SWITCHOVER SYSTEMS



CYLINDER REGULATORS



LINE REGULATORS



Rexarc®

Choosing a Rexarc Regulator

Both here and in the following pages you will find help in how to choose a regulator, where to find the details on the regulator that meets your needs (Gas Compatibility Table, pg 40 and Table of Contents, pgs 4-5), and how to order that regulator (How to order a Rexarc Regulator, next page). They represent a series of simple navigational tools designed to help you arrive at a safe and effective product for your application. At any time during this process, our customer service personnel would be happy to assist you or answer any other questions you may have.

The following are some of the most important factors you need to know prior to deciding which Rexarc regulator is right for your application. While this is not a comprehensive list, it is a good start in determining your regulator choice.

Materials of Construction

The materials that make up your regulator are one of the most important factors (some even say THE most important) in selecting a regulator. Equipment products that are effective for one gas may not be appropriate, or may be very dangerous to use in another gas service. The properties of the gas determine the materials of construction needed for a regulator to function properly. Please refer to the Gas Compatibility Table on page 40 and your gas supplier for more information. But, as a basic primer, brass regulators are compatible with most non-reactive gases. 316L stainless steel regulators are corrosion resistant and therefore suitable for many of the anhydrous corrosive gases such as nitric oxide (NO) and nitrogen dioxide (NO₂). Chrome-plated brass regulators should be treated just like brass regulators.

Maintaining Gas Purity (Forged or Barstock Bodies)

Forged body regulators are more economical than barstock regulators. However, the internal wetted surface area is greater and the surface rougher than barstock. These factors add to the increased

contamination potential, since evacuation of ambient atmosphere through vacuuming or purging is more difficult. Barstock regulators have all wetted surfaces machined to a smooth finish and have a smaller internal volume. All these factors apply to brass, chrome-plated brass and stainless steel regulators.

Inlet Pressure Rating

The pressure regulator chosen must be able to handle the gas supply pressure. Be sure to determine the supply pressure from your gas supplier or from the gas source and use a regulator that can handle that pressure. When in doubt, call Customer Service.

Delivery Pressure Range

The basic object of a pressure regulator is to reduce the supply pressure (either from a cylinder or other gas supply source) to a level compatible with the system or process in use. Rexarc's increased number of regulator choices just about assures you there is one suitable for your needs in the following pages.

Single Stage or Dual Stage

Single stage regulators reduce pressure in one step. If used on a cylinder, you will notice a slight rise in the outlet pressure as cylinder pressure falls with use. If this is tolerable in your application, or if you are using a liquefied gas like propane, then a single stage regulator may be suitable. They are also suited for situations where the outlet pressure is constantly monitored and adjusted. Dual stage regulators are actually two regulators in one. They have a nonadjustable first stage usually set at 250 – 300 psig which feeds gas at that reduced pressure to the second stage. There it is further reduced to the working pressure required. The result is a constant deliver pressure throughout the usable life of the cylinder. They are ideally suited to situations where constant delivery pressure is essential.

How to Order a Rexarc Regulator

The new Rexarc catalog you are reviewing offers so many options to accommodate your regulator requirements that listing individual part numbers would not be practical. So, the following matrix has been designed for you to create a unique part number for the regulator you need.

Should you need help at any step of the way in this process, just call Rexarc Customer Service or your Rexarc Distributor for assistance. We welcome your calls.

First Step

Consider which regulator models are compatible with the gases you are using in your application, then look at the **Table of Contents** for regulators made of those compatible materials. Finally, review the description of the regulator. The model number of the regulator becomes the first three digits of the part number.

Please refer to page 40, **Materials Gas Compatibility Table** or call Rexarc Customer Service for assistance at any point in this process.

Second Step

Choose your delivery pressure range from those available in the column labeled "Delivery Pressure". (Note: the outlet gauge supplied to deliver the desired pressure will have an appropriately higher maximum pressure as determined by our factory. For more information, contact Customer Service at Rexarc.

Third Step

Choose the inlet pressure gauge (this reads the pressure in your gas cylinder or other supply source) from the column labeled "Inlet Gauge". Some regulators like the Models 915, 815, 715 and 717 have only a delivery pressure gauge.

Fourth Step

Choose the outlet assembly desired from the column labeled "Outlet Assemblies". You will note that most regulators offer a wide variety of options including diaphragm valves and tube connectors of several sizes to meet your needs.

Fifth Step

Indicate whether you wish to have the regulator installed on a Protocol Station. The Protocol Station, with integral stainless steel pigtail, CGA connector, check valve and wall mounting bracket is an important safety feature and extends the useful life of the regulator.

Sixth Step

Indicate the inlet connection desired. This is normally a CGA connection (Compressed Gas Association) but can also be no inlet, in which case the inlet connection is 1/4" FNPT. Check with your gas supplier if you are not sure which inlet connection is appropriate. A CGA inlet connection listing common gases can be found on page 41.

Example Ordering Information

Model Number	Delivery Pressure	Inlet Gauge	Outlet Assemblies	Options	Inlet Connection
720	1) 0-15 psig	1) None	1) 1/4" FNPT	1) None	1) None
	2) 0-40 psig	2) 0-4000 psig	2) 1/4" Tube Fitting	2) Protocol Station with 36" Pigtail with Check Valve	CGA#
	3) 0-100 psig		3) 1/8" Tube Fitting		
	4) 0-150 psig		4) Diaphragm Valve with 1/4" Tube Fitting	3) Protocol Station with 72" Pigtail with Check Valve	
	5) 0-200 psig		5) Diaphragm Valve with 1/8" Tube Fitting		
				6) Needle Valve with 1/4" Tube Fitting	

Table of Contents

Choosing a Rexarc RegulatorPage 2

How to Order a Rexarc RegulatorPage 3

Switchover-Gas Distribution Systems

Cryogenic Liquid / Liquid Electronic Switchover Manifold Page 6

Cryogenic Liquid / High Pressure Electronic Switchover Manifold .. Page 7

491 Series Switchover (Stainless Steel Components) Page 8

471 Series Switchover (Chrome Plated Brass Components) Page 10

Regulators

Stainless Steel -

920 Model (Dual Stage – Cylinder Regulator – Six Ports) Page 12

915 Model (Single Stage – Line Regulator – Four Ports) Page 14

910 Model (Single Stage – Cylinder Regulator – Six Ports) Page 16

Brass Barstock -

820 Model (Dual Stage – Cylinder Regulator – Six Ports) Page 18

815 Model (Single Stage – Line Regulator – Four Ports) Page 20

810 Model (Single Stage – Cylinder Regulator – Six Ports) Page 22

Chromed Plated Brass -

720 Model (Dual Stage – Cylinder Regulator – Six Ports) Page 24

717 Model (Cryogenic Liquid Cylinder Regulator) Page 26

715 Model (Single Stage – Line Regulator – Four Ports) Page 28

710 Model (Single Stage – Cylinder Regulator – Six Ports) Page 30

Protocol Station Page 32

Purge Assemblies

546 Model Cross Purge (Stainless Steel Components) Page 34

536 Model Tee Purge (Stainless Steel or Brass Components) Page 35

526 Model Straight Purge (Stainless Steel or Brass Components) . . . Page 36

Accessories

583 Model Gas Distribution Block Page 38
(Stainless Steel or Chrome Plated Brass)

521 Model Diaphragm Sealed Valves Page 38
(Brass, Stainless Steel or Nickel Plated Brass Components)

Pigtails (Flexible Stainless Steel Components) Page 39

Cylinder Wall Mounts – Single, Dual and Triple Page 39

Materials Gas Compatibility Chart Page 40

CGA Cylinder Valve Connections Page 41

Rexarc Warranty Information Page 43

Liquid Switchover



*The Rexarc Electronic Cryogenic Liquid Switchover System
(Shown with liquid primary & liquid reserve)*

*Visible & Audible
Warning Signals*

*RS-485 Compatible for
Computer Monitoring*

*E-mail / Internet
Capability*

*For Analytical &
Medical*

Using only the most up-to-date microprocessors in this manifold system, the software in the Rexarc Electronic Series Cryogenic Liquid-to-Liquid automatic switchover system allows for the most advanced communication and information processing available.

The automatic switchover system is the most advanced gas management available in the market for supplying nonflammable, vaporized cryogenic gases to scientific and medical applications.

It is ideally suited for argon delivery to Inductively Coupled Plasma (ICP) analyzers in the analytical laboratory.

It is equally effective in medical applications and can be factory preset to NFPA standards (see Rexarc Medical Manifold catalog or call customer service for full information).

The system offers e-mail notification to all involved people regarding any current status condition in the manifold system, including notifying suppliers of reorder situations.

It also monitors and records pressure readings, maintains an event log, and much more! Please inquire.

Specifications

Cabinet
Stainless Steel

Internal connections
Brass & copper
Stainless steel option available

Delivery Pressure
0-450 psig

Maximum Flow Rate
Up to 6000 scfh
(Depending on configuration)

Ordering Information

Series Number	A Switching Pressure (Priority Right/Left)	B Line Regulator	C Inlet Connections	D Number Cyls. Per Side	Connection CGA#
482	Please contact	Customer	Service for ordering	details.	

Liquid/High Pressure Switchover



The Rexarc Electronic Cryogenic Liquid / High Pressure Switchover Manifold System (Shown with liquid primary & high pressure reserve)

Cryogenic and High Pressure Supply Modes

Visible & Audible Warning Signals

RS-485 Compatible for Computer Monitoring

E-mail / Internet Capability

The Model 483 is ideally suited for argon delivery to Inductively Coupled Plasma (ICP) analyzers in the analytical laboratory, inert purge or blanketing applications and other applications where a continuous and secure supply of inert gases is required.

This automatic switchover system is the most advanced gas management available in the market for supplying nonflammable, vaporized cryogenic gases to scientific and medical applications where low pressure and moderate demand levels are required.

It is equally effective in medical applications and can be factory preset to NFPA standards (see Rexarc Medical Manifold catalog or call customer service for full information).

The system offers many options similar to the Model 482 liquid/liquid switchover manifold such as e-mail notification regarding any current status condition in the manifold system, including notifying suppliers of reorder situations.

It also monitors and records pressure readings, maintains an event log, and much more by incorporating the available options. Please inquire.

Specifications

Cabinet
Stainless steel

Internal Connections
Brass & copper
Stainless steel option available

Delivery Pressure
0-200 psig

Maximum Flow Rate
Up to 3000 scfh
(Depending on configuration)

Ordering Information

Series Number	A Switching Pressure (Priority Right/Left)	B Line Regulator	C Inlet Connections	D Number Cyls. Per Side	Connection CGA#
483	Please contact	Customer	Service for ordering	details.	

491 Series Switchover



Automatic Switchover System

Primary and Secondary Regulation

Corrosive and High Purity Applications

316L Stainless Steel Components

The Model 491 switchover system is designed to provide a continuous supply of high purity or corrosive gases from two or more cylinders, allowing uninterrupted delivery of gas. A line regulator can be incorporated into the system to assure no downstream fluctuation of gas pressure during the switchover sequence.

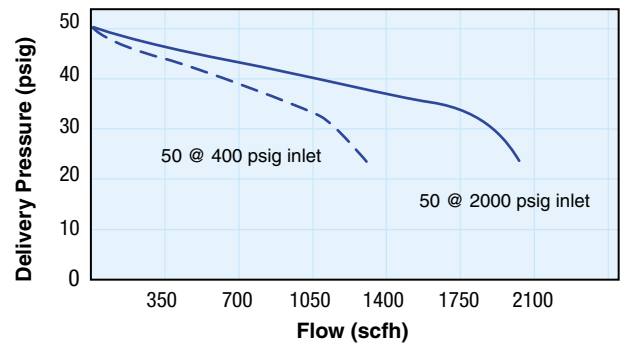
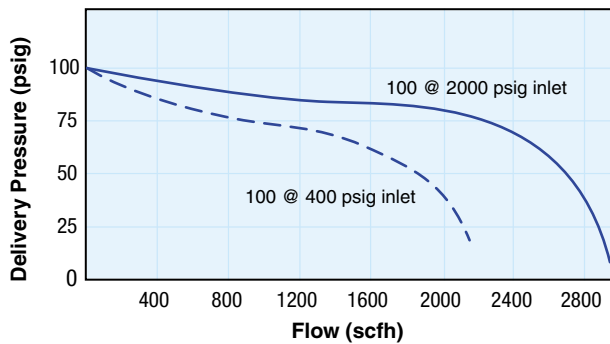
491 Series Switchover shown with optional line regulator and pigtails.

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p>	<p><i>Bodies</i> 316L stainless steel barstock</p>	<p><i>Metal-to-metal diaphragm seal</i> No possibility of gas contamination</p>
<p><i>Temperature Range</i> -40°F to 165°F (-40°C to 74°C)</p>	<p><i>Diaphragms</i> 316L stainless steel</p>	<p><i>316L stainless steel diaphragm</i> Eliminates inboard diffusion</p>
<p><i>Ports</i> 1/4" FNPT</p>	<p><i>Seat and Seal</i> PCTFE</p>	<p><i>Minimal wetted surface area</i> Minimizes purging requirements</p>
<p><i>Helium Leak Rate</i> 1 x 10⁻⁸ scc/sec</p>	<p><i>Filters</i> 10-micron</p>	<p><i>Optional line regulator</i> No fluctuation of line pressure during switchover</p>
<p><i>Weight</i> 9.04 lbs (4.1 kgs)</p>	<p><i>Gauges</i> 316L stainless steel</p>	<p><i>Multiple source cylinders</i> Can be configured to accept multiple cylinder</p>

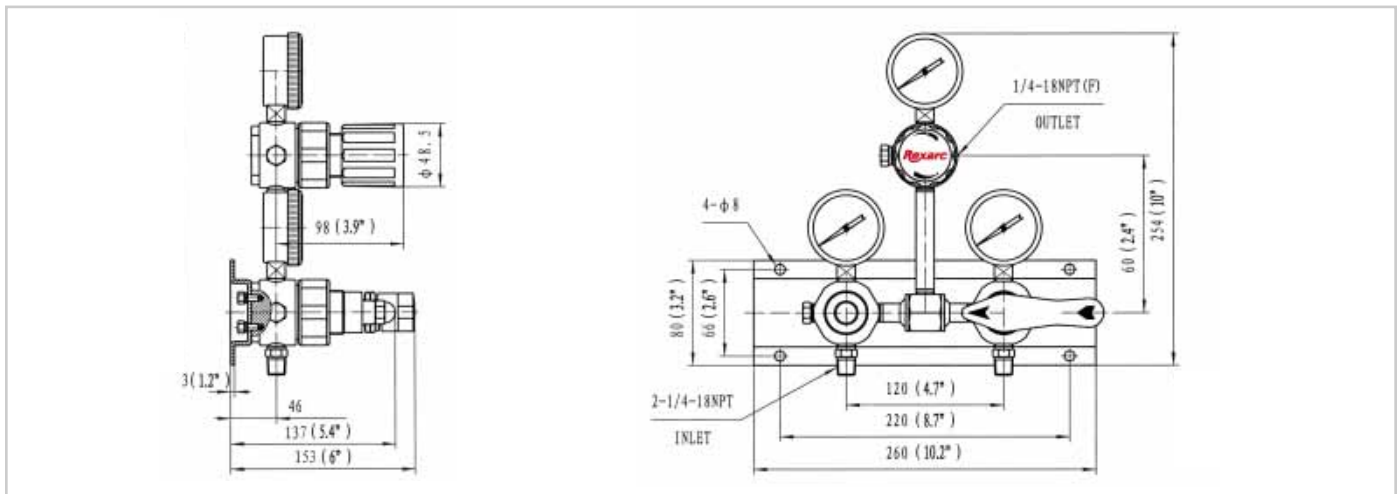
Ordering Information

Series Number	A Switching Pressure (Priority Right/Left)	B Line Regulator	C Inlet Connections	D Number Cyls. Per Side	Connection CGA#
491	1) 200 psig - 170 psig	1) None	1) No Pigtails	0	
	2) 300 psig - 270 psig	2) 0-15 psig	2) 36" Stainless Steel Pigtails with Check Valves	1	
	3) 450 psig - 420 psig	3) 0-100 psig	3) 72" Stainless Steel Pigtails with Check Valves	2	
		4) 0-250 psig	4) Diaphragm Valves with 36" Stainless Steel Pigtails and Check Valves	3	
		5) 0-15 psig (Acetylene)	5) Diaphragm Valves with 72" Stainless Steel Pigtails and Check Valves		

Performance Data



Dimensions



471 Series Switchover



471 Series Switchover shown with optional line regulator, inlet distribution blocks and pigtails.

Automatic Switchover System

Primary and Secondary Regulation

High Purity Applications

Chrome Plated Brass Barstock

The Model 471 Switchover system is designed to provide a continuous supply of non-corrosive gas or liquefied gas from two or more cylinders, allowing uninterrupted delivery of gas to critical applications such as gas chromatography carrier gases. A line regulator incorporated into the system assures no downstream fluctuation of gas pressure during the automatic switchover sequence.*

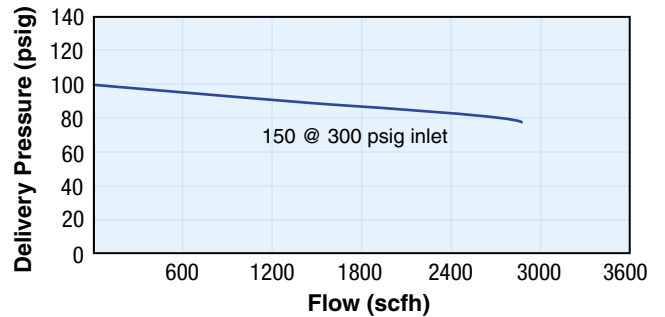
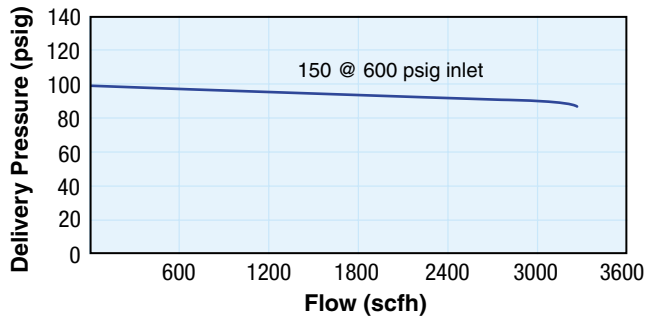
**Provided the liquefied gases have a vapor pressure of at least 300 psig*

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p> <p><i>Temperature Range</i> -40°F to 150°F (-40°C to 60°C)</p> <p><i>Ports</i> 1/4" FNPT</p> <p><i>Gauge</i> 2" dual-scale psig/kPa</p> <p><i>Helium Leak Rate</i> 1 x 10⁻⁸ scc/sec</p> <p><i>Weight</i> 12.1 lbs (5.5 kgs)</p>	<p><i>Bodies</i> Chrome plated brass barstock</p> <p><i>Diaphragms</i> 316L stainless steel</p> <p><i>Seat and Seal</i> PCTFE</p> <p><i>Filters</i> 10-micron</p> <p><i>Gauges</i> Chrome plated brass</p>	<p><i>Encapsulated seat</i> Ease of service and extended lifetime</p> <p><i>316L stainless steel diaphragm</i> Eliminates inboard diffusion</p> <p><i>Minimal wetted surface area</i> Minimizes purging requirements</p> <p><i>Multi 100-micron inboard filters</i> Protects seat seal</p>

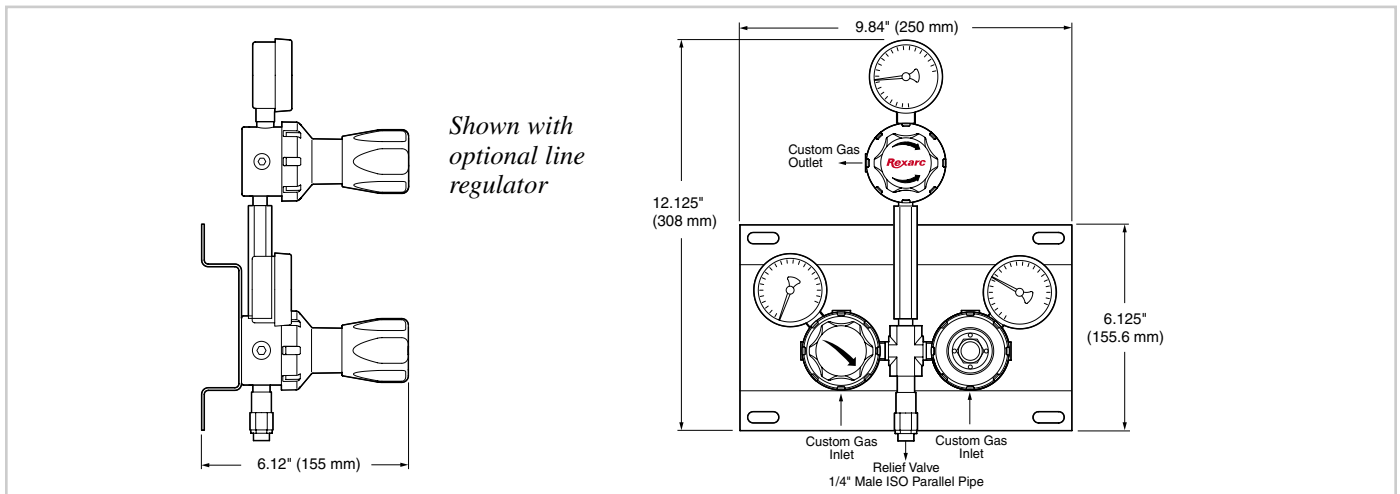
Ordering Information (For information about how to use this table please see page 3.)

Series Number	A Switching Pressure (Priority Right/Left)	B Line Regulator	C Inlet Connections	D Number Cyls. Per Side	Connection CGA#
471	1) 200 psig - 170 psig	1) None	1) No Pigtails	0	
	2) 300 psig - 270 psig	2) 0-15 psig	2) 36" Stainless Steel Pigtails with Check Valves	1	
		3) 0-100 psig	3) 72" Stainless Steel Pigtails with Check Valves	2	
		4) 0-250 psig	4) Diaphragm Valves with 36" Stainless Steel Pigtails and Check Valves	3	
		5) 0-15 psig (Acetylene)	5) Diaphragm Valves with 72" Stainless Steel Pigtails and Check Valves		

Performance Data



Dimensions



Model 920 Regulator



Dual Stage

*316L Stainless Steel
Barstock Body*

316L Stainless Steel Diaphragm

Six-Port Configuration

Model 920 Regulator shown with optional diaphragm outlet valve and tube fitting.

The Model 920 two stage stainless steel cylinder regulator is intended as primary pressure control of ultra-high purity and corrosive gases and delivers constant pressure regardless of variations in supply pressure, such as declining cylinder pressure.

Typical Applications

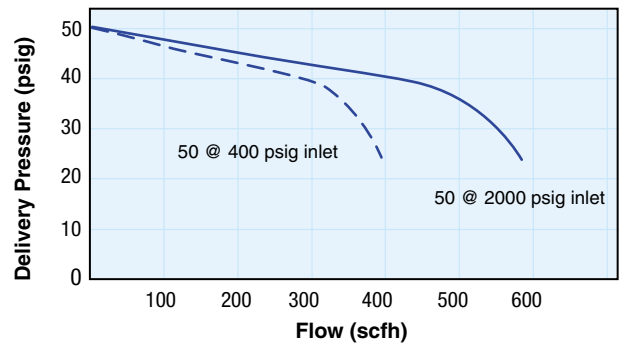
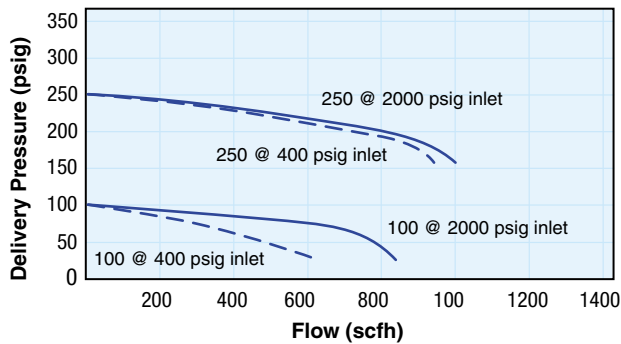
- Corrosive gas applications in petroleum and chemical industries
- Gas and gas/liquid chromatography
- Eximer laser gas systems
- Calibration, span, carrier and zero gases
- High purity gas systems
- EPA Protocol gas mixtures
- Research sampling systems
- Process analyzers

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p> <p><i>Temperature Range</i> -40°F to 165°F (-40°C to 74°C)</p> <p><i>Ports</i> 1/4" FNPT</p> <p><i>Gauges</i> 2" diameter stainless steel</p> <p><i>Helium Leak Rate</i> 1 x 10⁻⁹ scc/sec</p> <p><i>Weight</i> 4.03 lbs (1.83 kgs)</p>	<p><i>Body</i> 316L stainless steel barstock</p> <p><i>Bonnet</i> 316L stainless steel</p> <p><i>Diaphragm</i> 316L stainless steel</p> <p><i>Seat</i> PCTFE (Vespel®)</p> <p><i>Filter</i> 10-micron 316L stainless steel</p> <p><i>Gauges</i> 316L</p>	<p><i>Metal-to-metal diaphragm seal</i> Prevents gas contamination</p> <p><i>316L stainless steel diaphragm</i> Eliminates inboard diffusion</p> <p><i>Minimal wetted surface area</i> Minimizes purging requirements</p> <p><i>10-micron inboard filter</i> Protects seat seal</p> <p><i>Pipe-away relief valve</i> Safely exhaust purged gases</p> <p><i>Panel mount kit available</i></p>

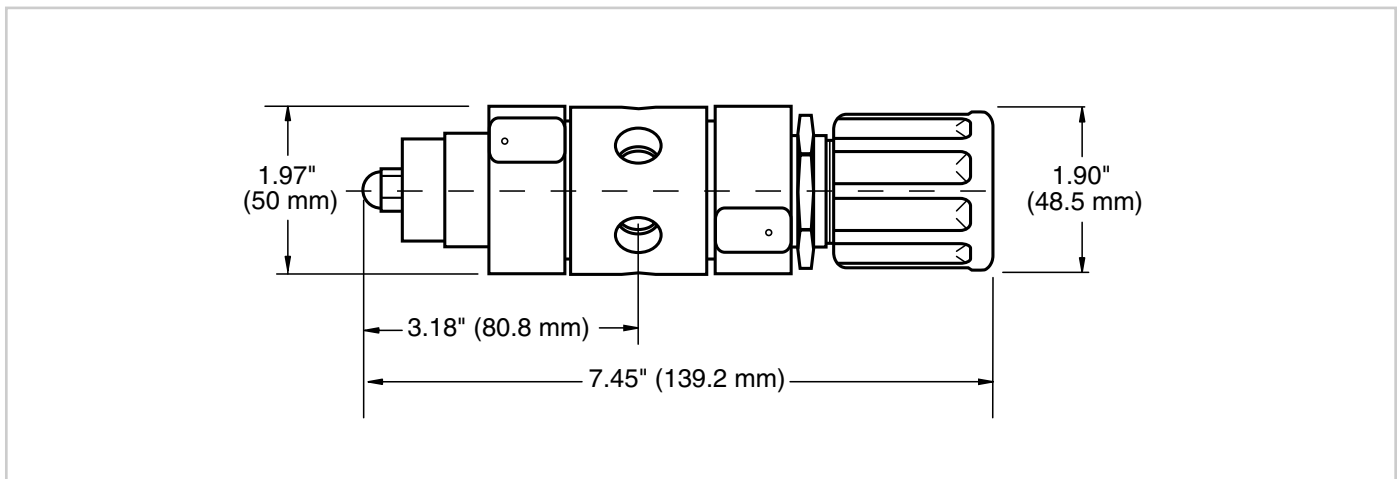
Ordering Information (For information about how to use this table please see page 3.)

Model Number	Delivery Pressure	Inlet Gauge	Outlet Assemblies	Options	Inlet Connection
920	2) 0-50 psig	1) None	1) 1/4" FNPT	1) None	1) None
	3) 0-100 psig	2) 0-4000 psig	2) 1/4" Tube Fitting	2) Protocol Station with 36" Pigtail with Check Valve	CGA#
	6) 0-250 psig	3) 0-1000 psig	3) 1/8" Tube Fitting	3) Protocol Station with 72" Pigtail with Check Valve	
		4) 0-400 psig	4) Diaphragm Valve with 1/4" Tube Fitting		
			5) Diaphragm Valve with 1/8" Tube Fitting		
			6) Needle Valve with 1/4" Tube Fitting		

Performance Data



Dimensions



Model 915 Regulator



Single Stage

*316L Stainless Steel
Barstock Body*

316L Stainless Steel Diaphragm

Four-Port Configuration

Model 915 Regulator shown with optional tubing connection on outlet.

The Model 915 single stage stainless steel barstock regulator is intended for secondary pressure control in gas distribution systems consisting of ultra high purity, and corrosive gases, and also as point-of-use pressure control. The seat design coupled with extensive particle filtering guarantees long life and easy serviceability.

Typical Applications

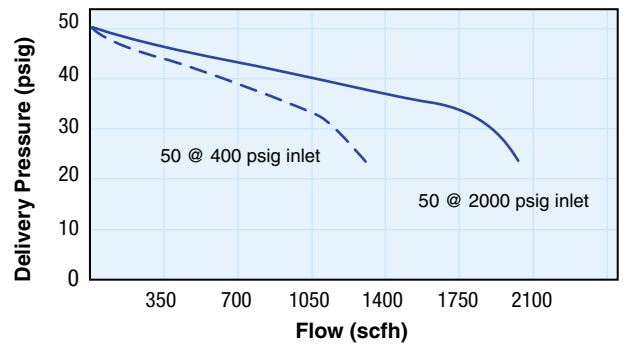
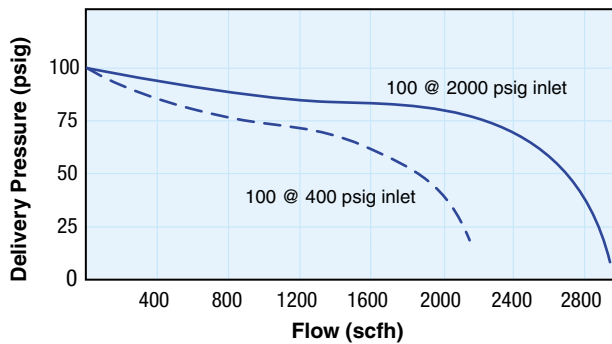
- Bulk gas distribution systems
- Corrosive gas handling
- Point-of-use pressure drops for plant distribution systems
- High purity gas applications
- Liquefied hydrocarbons
- Zero, calibration and span gases
- Contaminant free pressurization of vessels

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p> <p><i>Temperature Range</i> -40°F to 165°F (-40°C to 74°C)</p> <p><i>Ports</i> 1/4" FNPT</p> <p><i>Gauge</i> 2" dual-scale psig / bar</p> <p><i>Helium Leak Rate</i> 1 x 10⁻⁹ scc/sec</p> <p><i>Flow Coefficient</i> C_v = .08</p> <p><i>Weight</i> 4.03 lbs (1.83 kgs)</p>	<p><i>Body</i> 316L stainless steel barstock</p> <p><i>Bonnet</i> 316L stainless steel barstock</p> <p><i>Diaphragm</i> 316L stainless steel</p> <p><i>Seat</i> PCTFE</p> <p><i>Filter</i> 10-micron</p> <p><i>Gauge</i> 316L stainless steel</p>	<p><i>Metal-to-metal diaphragm seal</i> Prevents gas contamination</p> <p><i>316L stainless steel diaphragm</i> Eliminates inboard diffusion</p> <p><i>Minimal wetted surface area</i> Minimizes purging requirements</p> <p><i>10-micron stainless steel inboard filter</i> Protects seat seal</p>

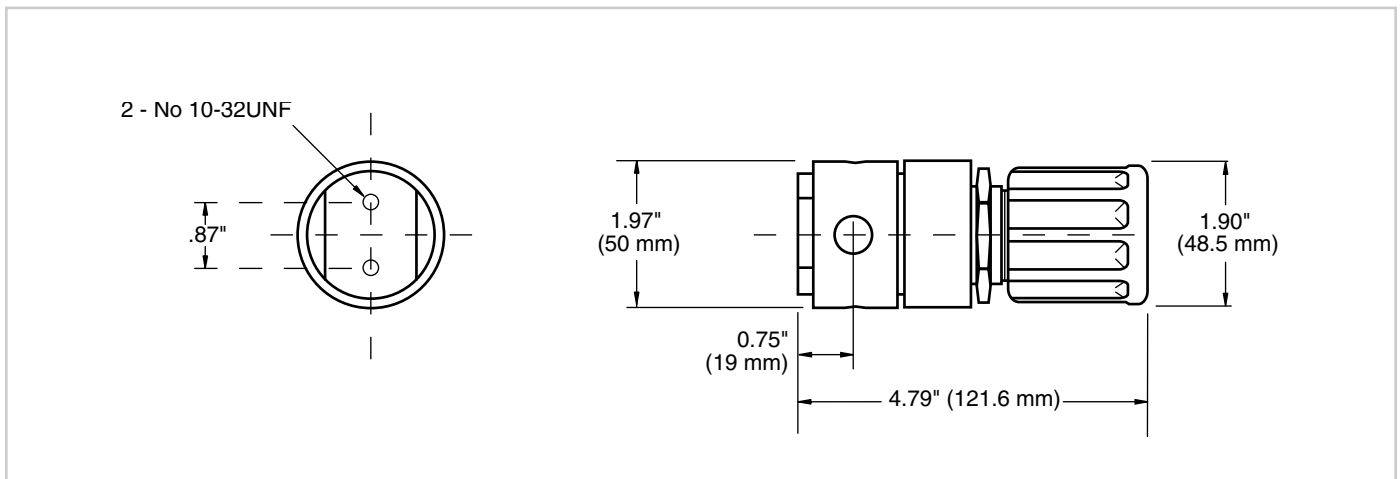
Ordering Information (For information about how to use this table please see page 3.)

Model Number	Delivery Pressure	Inlet Gauge	Outlet Assemblies	Options	Inlet Connection
915	2) 0-50 psig 3) 0-100 psig	1) None	1) 1/4" FNPT 2) 1/4" Tube Fitting 3) 1/8" Tube Fitting 4) Diaphragm Valve with 1/4" Tube Fitting 5) Diaphragm Valve with 1/8" Tube Fitting 6) Needle Valve with 1/4" Tube Fitting	1) None	1) None 2) 1/4" Tube Fitting

Performance Data



Dimensions



Model 910 Regulator



Single Stage

*316L Stainless Steel
Barstock Body*

316L Stainless Steel Diaphragm

Six-Port Configuration

Model 910 Regulator shown with optional diaphragm outlet valve and tube fitting.

The Model 910 single stage stainless steel cylinder regulator is intended as primary pressure control of ultra-high purity and corrosive gases when slight fluctuations in outlet pressure can be tolerated due to declining cylinder or supply pressures.

Typical Applications

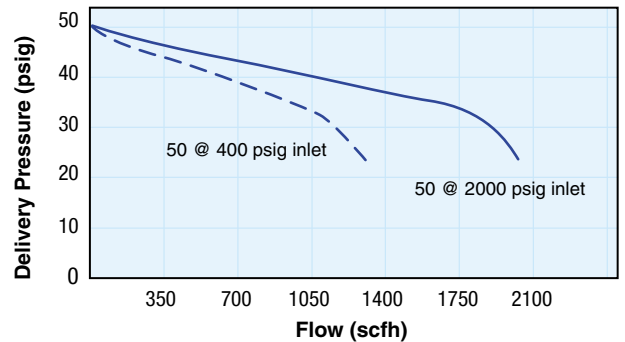
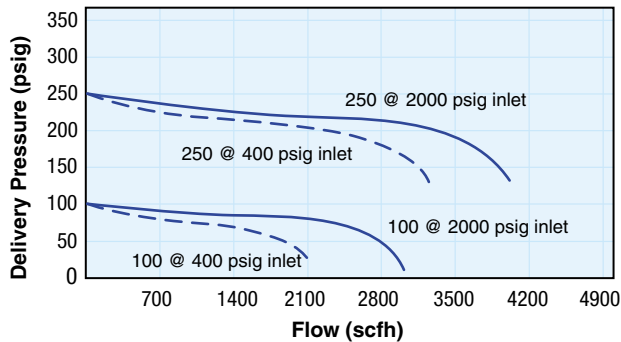
- Gas and gas/liquid chromatography
- Corrosive gas applications in petroleum and chemical industries
- Contaminant free pressurization of vessels
- Calibration, span, carrier and zero gases
- High purity gas systems
- Research sampling systems
- Process analyzers

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p> <p><i>Temperature Range</i> -40°F to 165°F (-40°C to 74°C)</p> <p><i>Ports</i> 1/4" FNPT</p> <p><i>Gauges</i> 2" diameter stainless steel</p> <p><i>Helium Leak Rate</i> 1 x 10⁻⁹ scc/sec</p> <p><i>Weight</i> 4.03 lbs (1.83 kgs)</p>	<p><i>Body</i> 316L stainless steel barstock</p> <p><i>Bonnet</i> 316L stainless steel</p> <p><i>Diaphragm</i> 316L stainless steel</p> <p><i>Seat</i> PCTFE</p> <p><i>Filter</i> 10-micron 316L stainless steel</p> <p><i>Gauges</i> 316L stainless steel</p>	<p><i>Metal-to-metal diaphragm seal</i> Prevents gas contamination</p> <p><i>316L stainless steel diaphragm</i> Eliminates inboard diffusion</p> <p><i>Minimal wetted surface area</i> Minimizes purging requirements</p> <p><i>10-micron inboard filter</i> Protects seat seal</p> <p><i>Pipe-away relief valve</i> Safely exhaust purged gases</p>

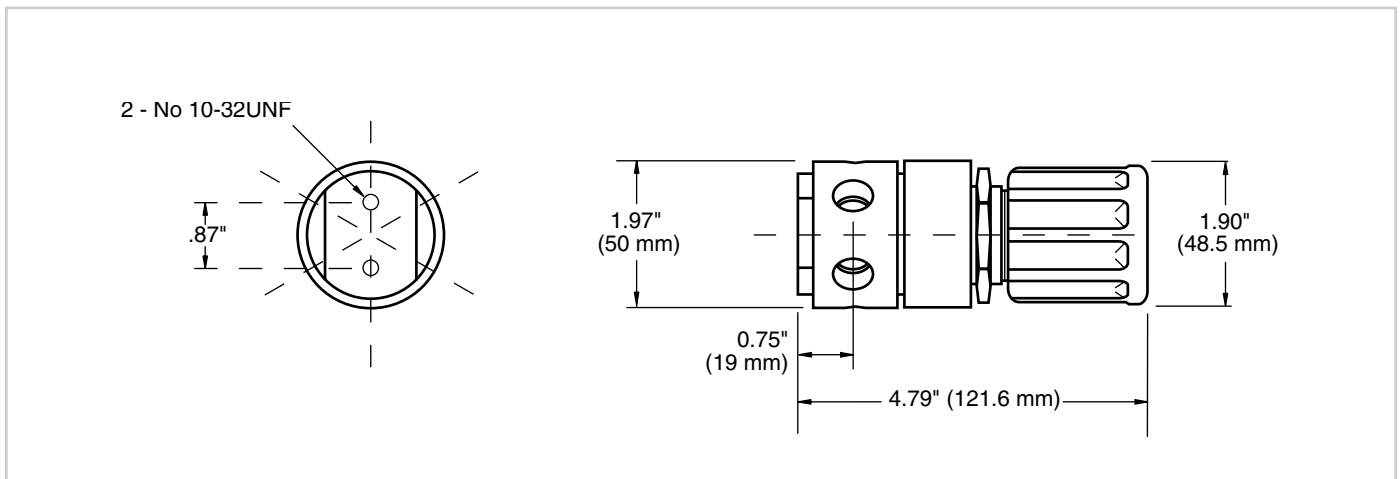
Ordering Information (For information about how to use this table please see page 3.)

Model Number	Delivery Pressure	Inlet Gauge	Outlet Assemblies	Options	Inlet Connection
910	2) 0-50 psig	1) None	1) 1/4" FNPT	1) None	1) None
	3) 0-100 psig	2) 0-4000 psig	2) 1/4" Tube Fitting	2) Protocol Station with 36" Pigtail with Check Valve	CGA#
	6) 0-250 psig	3) 0-1000 psig	3) 1/8" Tube Fitting	3) Protocol Station with 72" Pigtail with Check Valve	
		4) 0-400 psig	4) Diaphragm Valve with 1/4" Tube Fitting		
			5) Diaphragm Valve with 1/8" Tube Fitting		
			6) Needle Valve with 1/4" Tube Fitting		

Performance Data



Dimensions



Model 820 Regulator



Dual Stage

Brass Barstock Body

316L Stainless Steel Diaphragm

Six-Port Configuration

Model 820 Regulator shown with optional diaphragm outlet valve and tube fitting.

The Model 820 two stage brass barstock cylinder regulator is intended as primary pressure control of ultra-high purity gases. It delivers constant pressure regardless of variations in supply pressure, such as decaying cylinder pressure.

Typical Applications

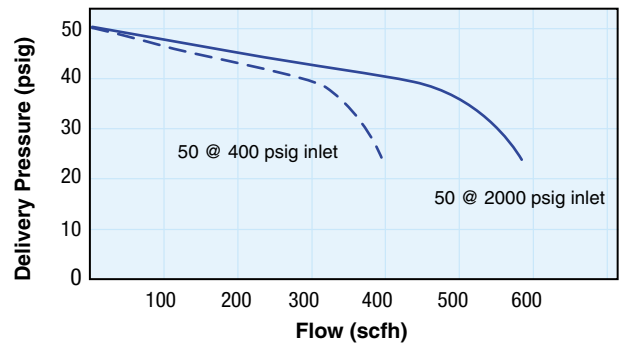
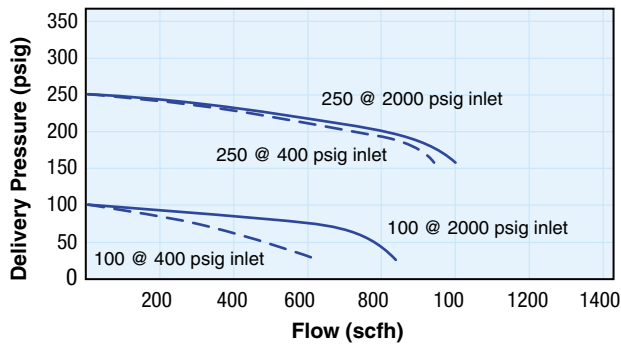
- UHP gas applications in petroleum and chemical industries
- Gas and gas/liquid chromatography
- Eximer laser gas systems
- Calibration, span, carrier and zero gases
- High purity gas systems
- EPA Protocol gas mixtures
- Research sampling systems
- Process analyzers

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p> <p><i>Temperature Range</i> -40°F to 165°F (-40°C to 74°C)</p> <p><i>Ports</i> 1/4" FNPT</p> <p><i>Gauges</i> 2" diameter stainless steel</p> <p><i>Helium Leak Rate</i> 1 x 10⁻⁹ scc/sec</p> <p><i>Weight</i> 4.03 lbs (1.83 kgs)</p>	<p><i>Body</i> Brass barstock</p> <p><i>Bonnet</i> Brass barstock</p> <p><i>Diaphragm</i> 316L</p> <p><i>Seat</i> PCTFE</p> <p><i>Filter</i> 10-micron 316L stainless steel</p> <p><i>Gauges</i> Brass</p>	<p><i>Metal-to-metal diaphragm seal</i> Prevents gas contamination</p> <p><i>316L stainless steel diaphragm</i> Eliminates inboard diffusion</p> <p><i>Minimal wetted surface area</i> Minimizes purging requirements</p> <p><i>10-micron inboard filter</i> Protects seat seal</p> <p><i>Pipe-away relief valve</i> Safely exhaust purged gases</p>

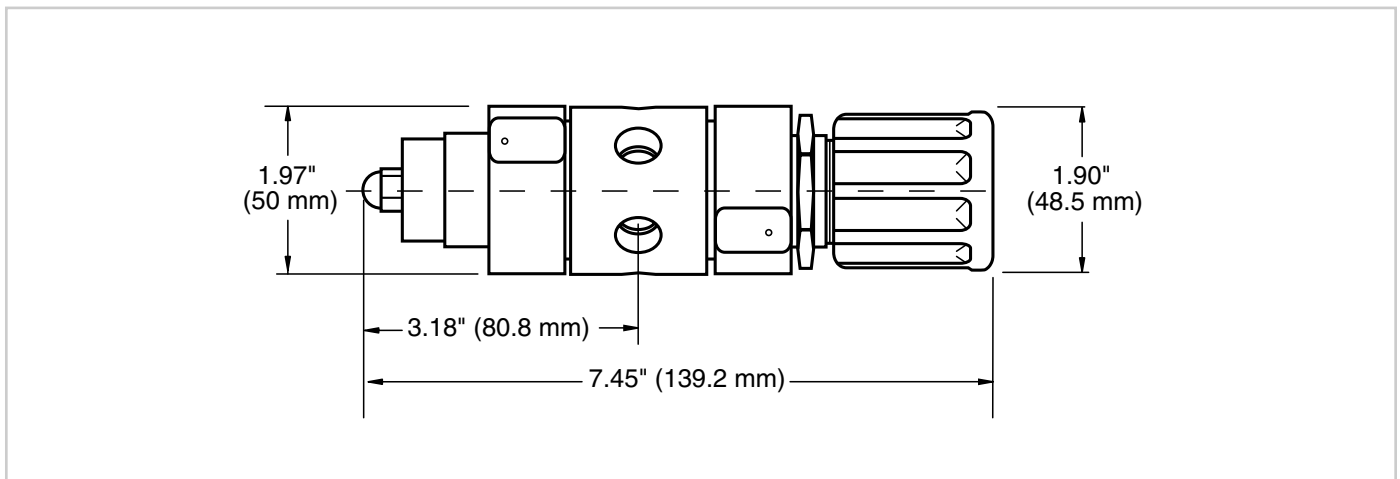
Ordering Information (For information about how to use this table please see page 3.)

Model Number	Delivery Pressure	Inlet Gauge	Outlet Assemblies	Options	Inlet Connection
820	2) 0-50 psig	1) None	1) 1/4" FNPT	1) None	1) None
	3) 0-100 psig	2) 0-4000 psig	2) 1/4" Tube Fitting	2) Protocol Station with 36" Pigtail with Check Valve	CGA#
	6) 0-250 psig	3) 0-1000 psig	3) 1/8" Tube Fitting	3) Protocol Station with 72" Pigtail with Check Valve	
		4) 0-400 psig	4) Diaphragm Valve with 1/4" Tube Fitting		
			5) Diaphragm Valve with 1/8" Tube Fitting		
			6) Needle Valve with 1/4" Tube Fitting		

Performance Data



Dimensions



Model 815 Regulator



Model 815 Regulator shown with optional tubing connection on outlet.

The Model 815 single stage brass barstock regulator is intended for secondary pressure control in gas distribution systems of ultra high purity, non-corrosive and liquefied gases, and also as point-of-use pressure control. The seat design coupled with extensive particle filtering guarantees long life and easy serviceability.

Single Stage

Brass Barstock Body

316L Stainless Steel Diaphragm

Four-Port Configuration

Typical Applications

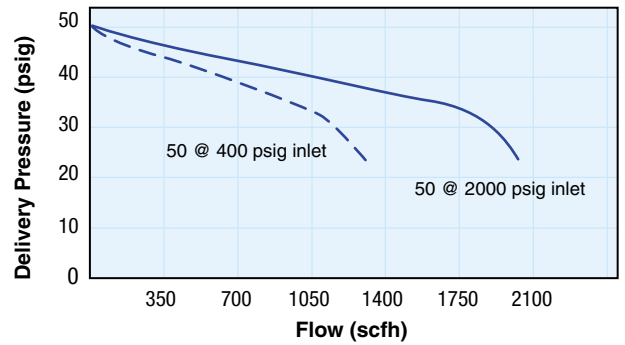
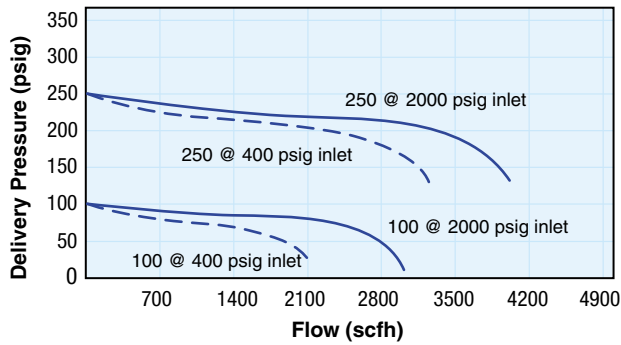
- Bulk gas distribution systems
- Point-of-use pressure drops for plant distribution systems
- High purity gas applications
- Gas chromatography gases
- Contaminant free pressurization of vessels

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p> <p><i>Temperature Range</i> -40°F to 165°F (-40°C to 74°C)</p> <p><i>Ports</i> 1/4" FNPT</p> <p><i>Gauges</i> 2" dual-scale psig / bar</p> <p><i>Helium Leak Rate</i> 1 x 10⁻⁹ scc/sec</p> <p><i>Flow Coefficient</i> C_v = .08</p> <p><i>Weight</i> 2.51 lbs (1.14 kgs)</p>	<p><i>Body</i> Brass barstock</p> <p><i>Bonnet</i> Brass</p> <p><i>Diaphragm</i> 316L stainless steel</p> <p><i>Seat</i> PCTFE</p> <p><i>Filters</i> 10-micron</p> <p><i>Gauge</i> Brass</p>	<p><i>Metal-to-metal diaphragm seal</i> Prevents gas contamination</p> <p><i>316L stainless steel diaphragm</i> Eliminates inboard diffusion</p> <p><i>Minimal wetted surface area</i> Minimizes purging requirements</p> <p><i>10-micron stainless steel inboard filter</i> Protects seat seal</p>

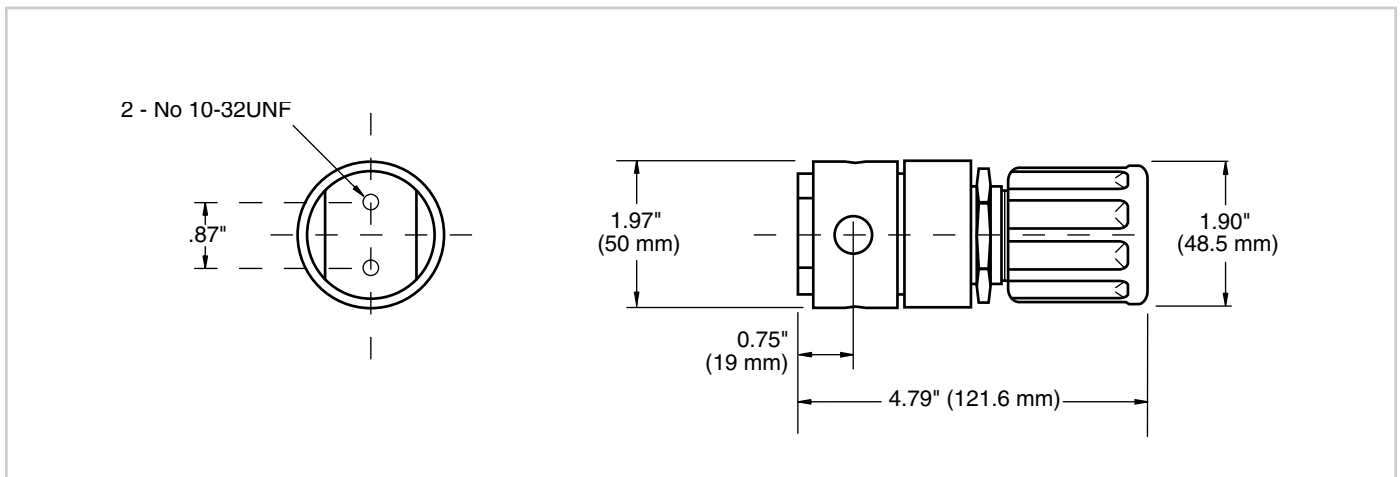
Ordering Information (For information about how to use this table please see page 3.)

Model Number	Delivery Pressure	Inlet Gauge	Outlet Assemblies	Options	Inlet Connection
815	2) 0-50 psig 3) 0-100 psig 6) 0-250 psig	1) None	1) 1/4" FNPT 2) 1/4" Tube Fitting 3) 1/8" Tube Fitting 4) Diaphragm Valve with 1/4" Tube Fitting 5) Diaphragm Valve with 1/8" Tube Fitting 6) Needle Valve with 1/4" Tube Fitting	1) None	1) None 2) 1/4" Tube Fitting

Performance Data



Dimensions



Model 810 Regulator



Single Stage

Brass Barstock Body

316L Stainless Steel Diaphragm

Six-Port Configuration

Model 820 Regulator shown with optional diaphragm outlet valve and tube fitting.

The Model 810 brass barstock cylinder regulator is intended as primary pressure control of liquefied gases and ultra high purity non-corrosive when slight fluctuations in outlet pressure can be tolerated. If your application requires constant outlet delivery pressure, please see Models 820 & 920 for a solution.

Typical Applications

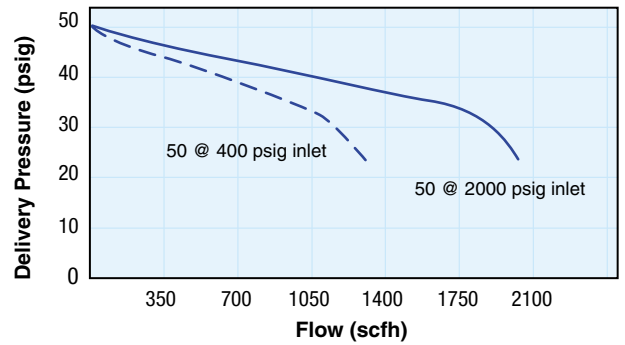
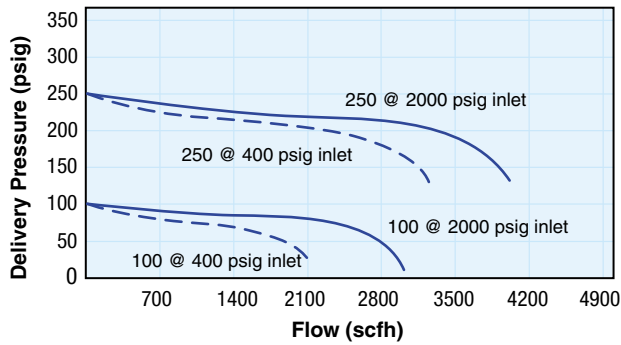
- Ultra high purity gas applications (5.0-6.0)
- Gas chromatography gases and mixtures
- Emission monitoring systems gases
- Chemical & petrochemical applications
- EPA protocol gas mixtures
- Process gas analyzers
- Lasers

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p> <p><i>Temperature Range</i> -40°F to 165°F (-40°C to 74°C)</p> <p><i>Ports</i> 1/4" FNPT</p> <p><i>Gauges</i> 2" dual-scale psig/bar</p> <p><i>Helium Leak Rate</i> 1 x 10⁻⁹ scc/sec</p> <p><i>Flow Coefficient</i> C_v = .08</p> <p><i>Weight</i> 2.9 lbs (1.32 kgs)</p>	<p><i>Body</i> Brass barstock</p> <p><i>Bonnet</i> Brass barstock</p> <p><i>Diaphragm</i> 316L stainless steel</p> <p><i>Seat</i> PCTFE</p> <p><i>Filters</i> 10-micron 316L stainless steel</p> <p><i>Gauges</i> Brass</p>	<p><i>Metal-to-metal diaphragm seal</i> Prevents gas contamination</p> <p><i>316L stainless steel diaphragm</i> Eliminates inboard diffusion</p> <p><i>Minimal wetted surface area</i> Minimizes purging requirements</p> <p><i>10-micron inboard filter</i> Protects seat seal</p> <p><i>Pipe-away relief valve</i> Safely exhaust purged gases</p>

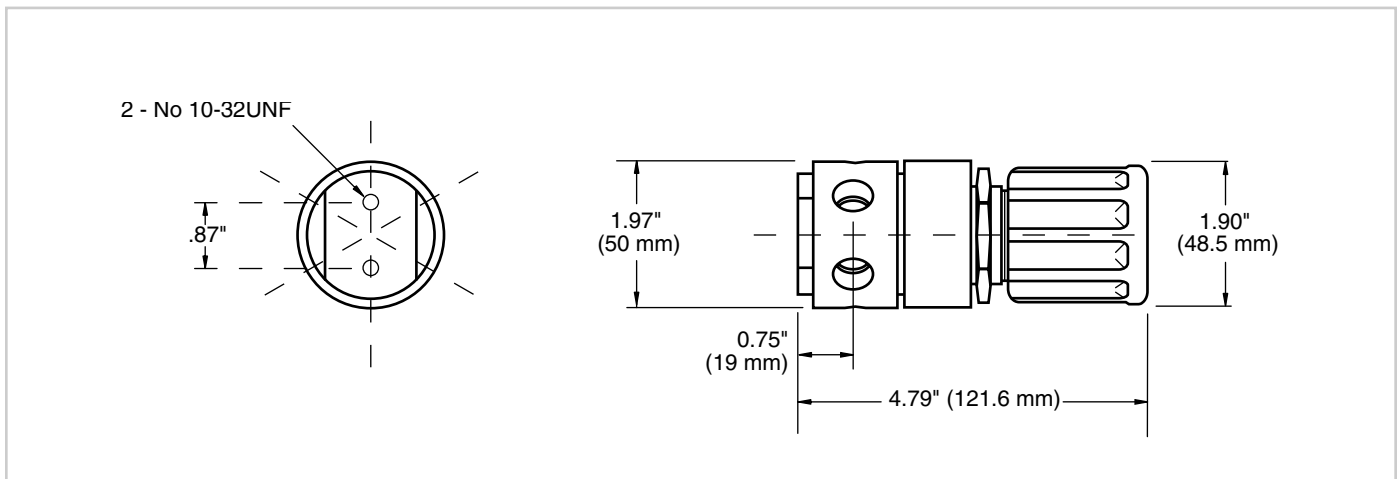
Ordering Information (For information about how to use this table please see page 3.)

Model Number	Delivery Pressure	Inlet Gauge	Outlet Assemblies	Options	Inlet Connection
810	2) 0-50 psig	1) None	1) 1/4" FNPT	1) None	1) None
	3) 0-100 psig	2) 0-4000 psig	2) 1/4" Tube Fitting	2) Protocol Station with 36" Pigtail with Check Valve	CGA#
	6) 0-250 psig	3) 0-1000 psig	3) 1/8" Tube Fitting	3) Protocol Station with 72" Pigtail with Check Valve	
		4) 0-400 psig	4) Diaphragm Valve with 1/4" Tube Fitting		
		5) Diaphragm Valve with 1/8" Tube Fitting			
			6) Needle Valve with 1/4" Tube Fitting		

Performance Data



Dimensions



Model 720 Regulator



Model 720 Regulator shown with optional diaphragm outlet valve and tube fitting.

The Model 720 dual stage chrome plated brass barstock cylinder regulator is intended as primary pressure control in general laboratory use of non-corrosive gases including flammables and oxidizers. The model 720 delivers constant pressure regulation regardless of variations in the supply pressure, such as decaying cylinder pressure. Encapsulated seat design coupled with extensive filtering guarantees long life and easy serviceability.

Dual Stage

*Chrome Plated Brass
Barstock Body*

316L Stainless Steel Diaphragm

Six-Port Configuration

Typical Applications

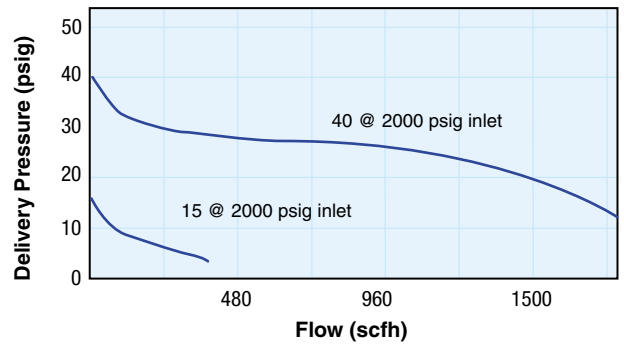
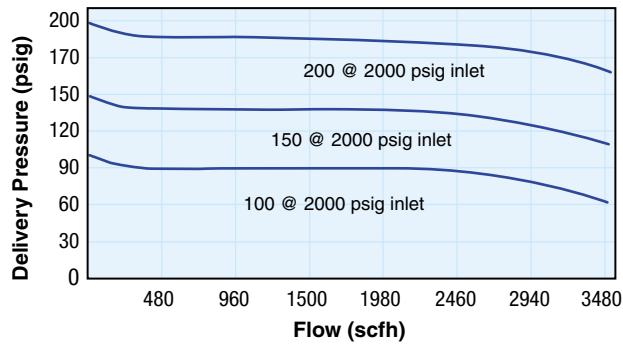
- Gases up to 5.0 purity
- High purity non-corrosive gas applications
- Gas chromatography gases and mixtures
- Emission monitoring systems gases
- Contaminant free pressure testing and blanketing
- EPA protocol gas mixtures
- Process gas analyzers

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p> <p><i>Temperature Range</i> -40°F to 140°F (-40°C to 60°C)</p> <p><i>Ports</i> 1/4" FNPT</p> <p><i>Gauges</i> 2" dual scale (psi/kPa)</p> <p><i>Helium Leak Rate</i> 1 x 10⁻⁸ scc/sec</p> <p><i>Flow Coefficient</i> C_v = .155</p> <p><i>Weight</i> 2.9 lbs (1.32 kgs)</p>	<p><i>Body</i> Chrome plated brass bar stock</p> <p><i>Bonnet</i> Chrome plated brass bar stock</p> <p><i>Diaphragm</i> 316L stainless steel</p> <p><i>Seat</i> PCTFE</p> <p><i>Filters</i> Both seats and each port have dual 100-micron stainless steel filters</p> <p><i>Gauges</i> Brass bourdon tube, polymeric case</p>	<p><i>Encapsulated seat</i> Ease of service and extended lifetime</p> <p><i>316L stainless steel diaphragm</i> Eliminates inboard diffusion</p> <p><i>Minimal wetted surface area</i> Minimizes purging requirements</p> <p><i>Dual 100-micron inboard filters</i> Protects seat seal</p> <p><i>Pipe-away relief valve</i> Safely exhaust purged gases</p>

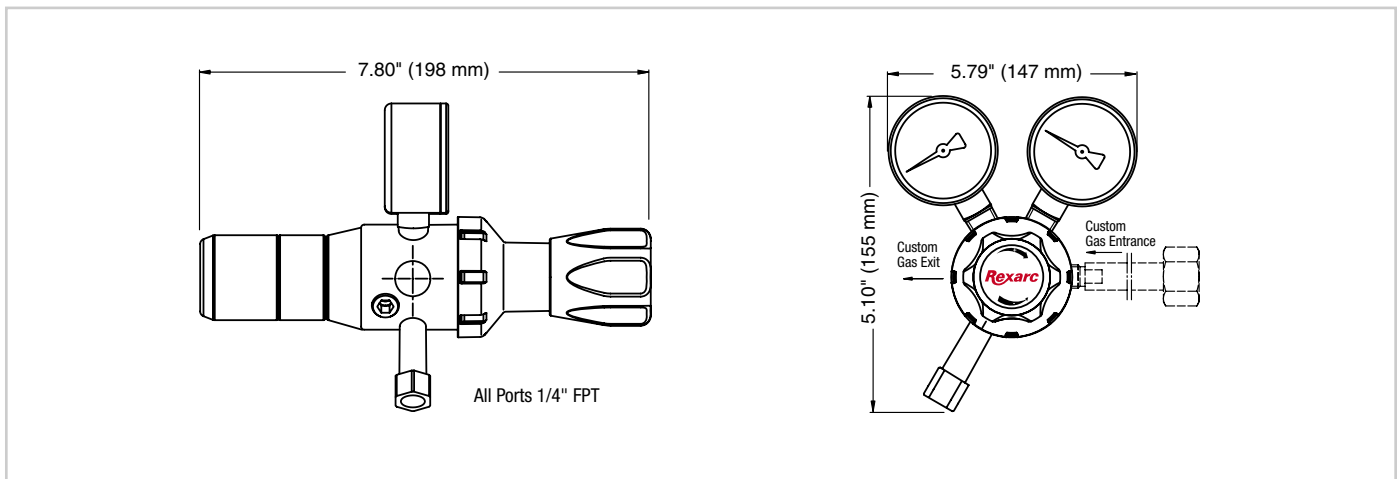
Ordering Information (For information about how to use this table please see page 3.)

Model Number	Delivery Pressure	Inlet Gauge	Outlet Assemblies	Options	Inlet Connection
720	1) 0-15 psig 2) 0-40 psig 3) 0-90 psig 4) 0-145 psig 5) 0-200 psig	1) None 2) 0-4000 psig	1) 1/4" FNPT 2) 1/4" Tube Fitting 3) 1/8" Tube Fitting 4) Diaphragm Valve with 1/4" Tube Fitting 5) Diaphragm Valve with 1/8" Tube Fitting 6) Needle Valve with 1/4" Tube Fitting	1) None 2) Protocol Station with 36" Pigtail with Check Valve 3) Protocol Station with 72" Pigtail with Check Valve	1) None CGA#

Performance Data



Dimensions



Model 717 Regulator



Model 717 Regulator shown with optional tubing connection on outlet.

Liquid Cylinder Regulator

Single Stage

*Chrome Plated Brass
Barstock Body*

316L Stainless Steel Diaphragm

Four-Port Configuration

The Model 717 regulator is particularly suited as the primary pressure control for gases supplied from cryogenic liquid cylinders. Large seat allows excellent flow characteristics.

Typical Applications

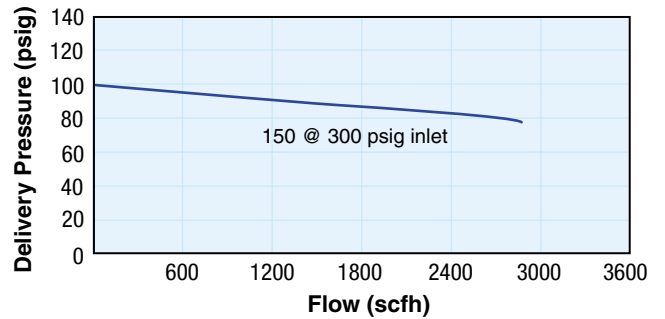
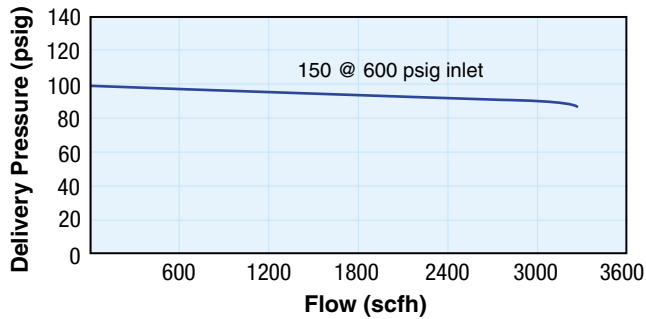
- Cryogenic liquid cylinder gas distribution systems
 - Argon
 - Nitrogen
 - Oxygen
 - CO₂
- ICP (inductively coupled plasma-argon)

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p> <p><i>Temperature Range</i> -40°F to 140°F (-40°C to 60°C)</p> <p><i>Ports</i> 1/4" FNPT</p> <p><i>Gauges</i> 2" dual scale psi/kPa</p> <p><i>Helium Leak Rate</i> 1 x 10⁻⁸ scc/sec</p> <p><i>Flow Coefficient</i> C_v = .1</p> <p><i>Weight</i> 2.9 lbs (1.32 kgs)</p>	<p><i>Body</i> Chrome plated brass bar stock</p> <p><i>Bonnet</i> Chrome plated forged brass</p> <p><i>Diaphragm</i> 316L stainless steel</p> <p><i>Seat & Seal</i> PCTFE</p> <p><i>Filters</i> The seat and all ports have dual 100-micron stainless steel filters</p> <p><i>Gauge</i> Brass bourdon tube, polymeric case</p>	<p><i>Encapsulated seat</i> Ease of service and extended lifetime</p> <p><i>316L stainless steel diaphragm</i> Eliminates inboard diffusion</p> <p><i>Minimal wetted surface area</i> Minimizes purging requirements</p> <p><i>Dual 100-micron inboard filters</i> Protects seat seal</p> <p><i>Pipe-away relief valve</i> Safely exhaust purged gases</p>

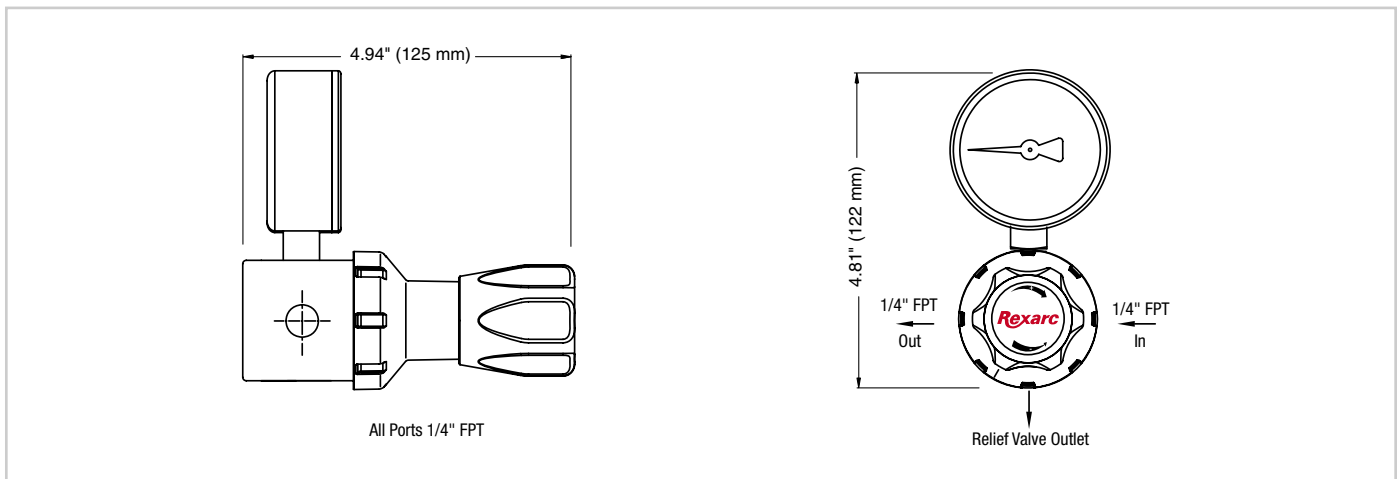
Ordering Information (For information about how to use this table please see page 3.)

Model Number	Delivery Pressure	Inlet Gauge	Outlet Assemblies	Options	Inlet Connection
717	2) 0-40 3) 0-90 psig 4) 0-130 psig	1) None	1) 1/4" FNPT 2) 1/4" Tube Fitting 3) 1/8" Tube Fitting 4) Diaphragm Valve with 1/4" Tube Fitting 5) Diaphragm Valve with 1/8" Tube Fitting 6) Needle Valve with 1/4" Tube Fitting	1) None 2) Protocol Station with 36" Pigtail with Check Valve 3) Protocol Station with 72" Pigtail with Check Valve	1) 1/4" FNPT CGA#

Performance Data



Dimensions



Model 715 Regulator



Model 715 Regulator shown with optional tubing connection on outlet.

The Model 715 chrome plated brass bar stock regulator is designed for secondary pressure regulation while maintaining flow capacity in flammable, oxidizer and inert gas applications with purities up to 5.0, and as point-of-use pressure control in gas distribution systems.

Chrome Plated Brass

Economical Line Regulation

Stainless Steel Diaphragm

Single Stage

Four-Port Configuration

Typical Applications

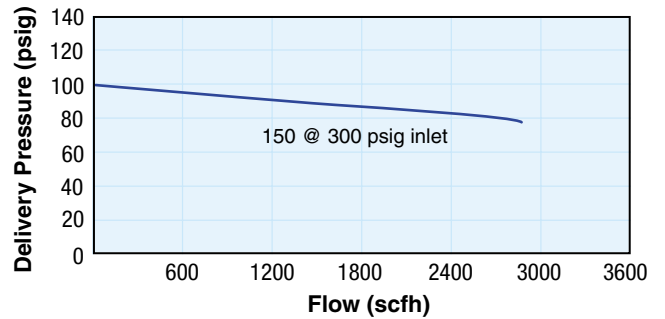
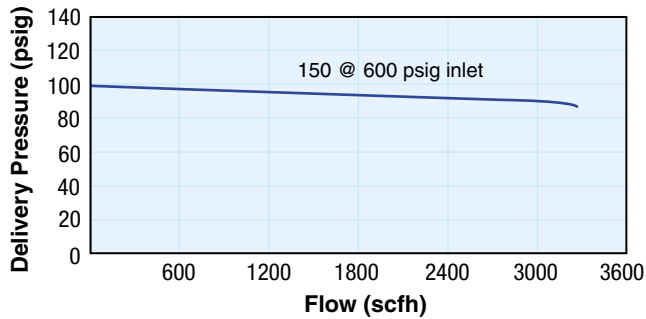
- Point-of-use pressure drops in gas distribution systems
- Purging / blanketing applications
- Bulk gas distribution systems
- Gas chromatography gases
- Liquefied hydrocarbon pressure control

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p> <p><i>Temperature Range</i> -40°F to 140°F (-40°C to 60°C)</p> <p><i>Ports</i> 1/4" FNPT</p> <p><i>Gauges</i> 2" dual scale psi/kPa</p> <p><i>Helium Leak Rate</i> 1 x 10⁻⁸ scc/sec</p> <p><i>Flow Coefficient</i> C_v = .1</p> <p><i>Weight</i> 2.9 lbs (1.32 kgs)</p>	<p><i>Body</i> Chrome plated brass bar stock</p> <p><i>Bonnet</i> Chrome plated forged brass</p> <p><i>Diaphragm</i> 316L stainless steel</p> <p><i>Seat & Seal</i> PCTFE</p> <p><i>Filters</i> The seat and all ports have dual 100-micron stainless steel filters</p> <p><i>Gauge</i> Brass bourdon tube, polymeric case</p>	<p><i>Encapsulated seat</i> Ease of service and extended lifetime</p> <p><i>316L stainless steel diaphragm</i> Eliminates inboard diffusion</p> <p><i>Minimal wetted surface area</i> Minimizes purging requirements</p> <p><i>Dual 100-micron inboard filters</i> Protects seat seal</p>

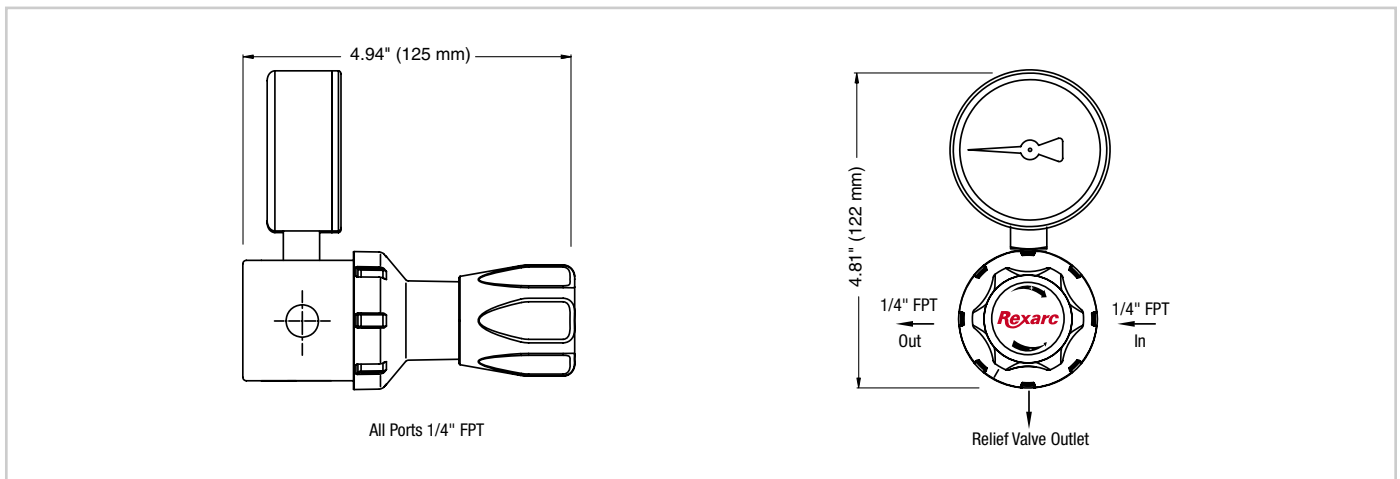
Ordering Information (For information about how to use this table please see page 3.)

Model Number	Delivery Pressure	Inlet Gauge	Outlet Assemblies	Options	Inlet Connection
715	2) 0-40 psig 3) 0-90 psig 4) 0-130 psig	1) None	1) 1/4" FNPT 2) 1/4" Tube Fitting 3) 1/8" Tube Fitting 4) Diaphragm Valve with 1/4" Tube Fitting 5) Diaphragm Valve with 1/8" Tube Fitting 6) Needle Valve with 1/4" Tube Fitting	1) None	1) 1/4" FNPT 2) 1/4" Tube Fitting

Performance Data



Dimensions



Model 710 Regulator



Model 710 Regulator shown with optional diaphragm outlet valve and tube fitting.

The Model 710 single stage chrome plated brass barstock cylinder regulator is intended as primary pressure control of non-corrosive gases, when slight fluctuations in outlet pressure can be tolerated. If your application requires constant outlet delivery pressure, please see Models 720, 820 & 920 for a solution. Encapsulated seat design with extensive filtering guarantees long life and easy serviceability.

Single Stage

*Chrome Plated Brass
Barstock Body*

316L Stainless Steel Diaphragm

Six-Port Configuration

Typical Applications

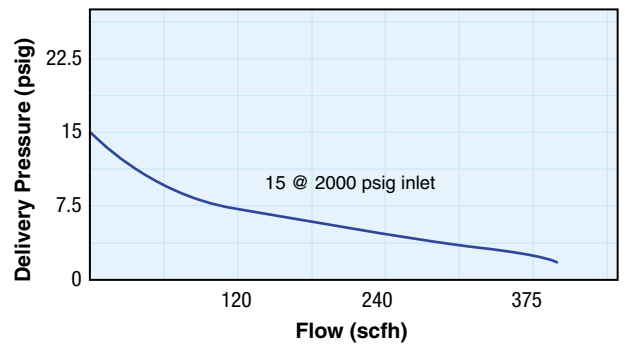
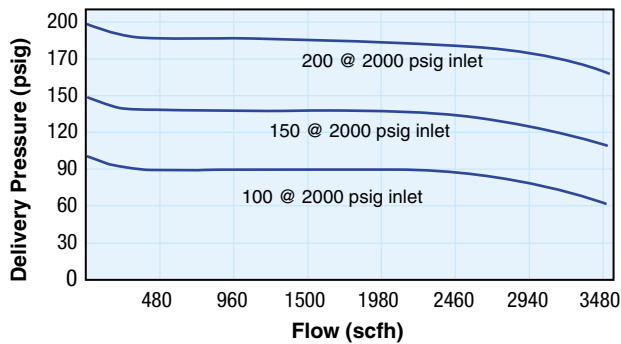
- High purity gas applications
- Gas chromatography gases
- Emission monitoring systems gases
- Contaminant free pressurization of vessels
- EPA protocol gas mixtures
- Process analyzers

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p> <p><i>Temperature Range</i> -40°F to 140°F (-40°C to 60°C)</p> <p><i>Ports</i> 1/4" FNPT</p> <p><i>Gauges</i> 2" dual scale psi/kPa</p> <p><i>Helium Leak Rate</i> 1 x 10⁻⁸ scc/sec</p> <p><i>Flow Coefficient</i> C_v = 1.55</p> <p><i>Weight</i> 2.9 lbs (1.32 kgs)</p>	<p><i>Body</i> Chrome plated brass bar stock</p> <p><i>Bonnet</i> Chrome plated brass bar stock</p> <p><i>Diaphragm</i> 316L stainless steel</p> <p><i>Seat</i> PCTFE</p> <p><i>Filters</i> The seat and all ports have dual 100-micron stainless steel filters</p> <p><i>Gauges</i> Brass bourdon tube, polymeric case</p>	<p><i>Encapsulated seat</i> Ease of service and extended lifetime</p> <p><i>316L stainless steel diaphragm</i> Eliminates inboard diffusion</p> <p><i>Minimal wetted surface area</i> Minimizes purging requirements</p> <p><i>Dual 100-micron inboard filters</i> Protects seat seal</p> <p><i>Pipe-away relief valve</i> Safely exhaust purged gases</p>

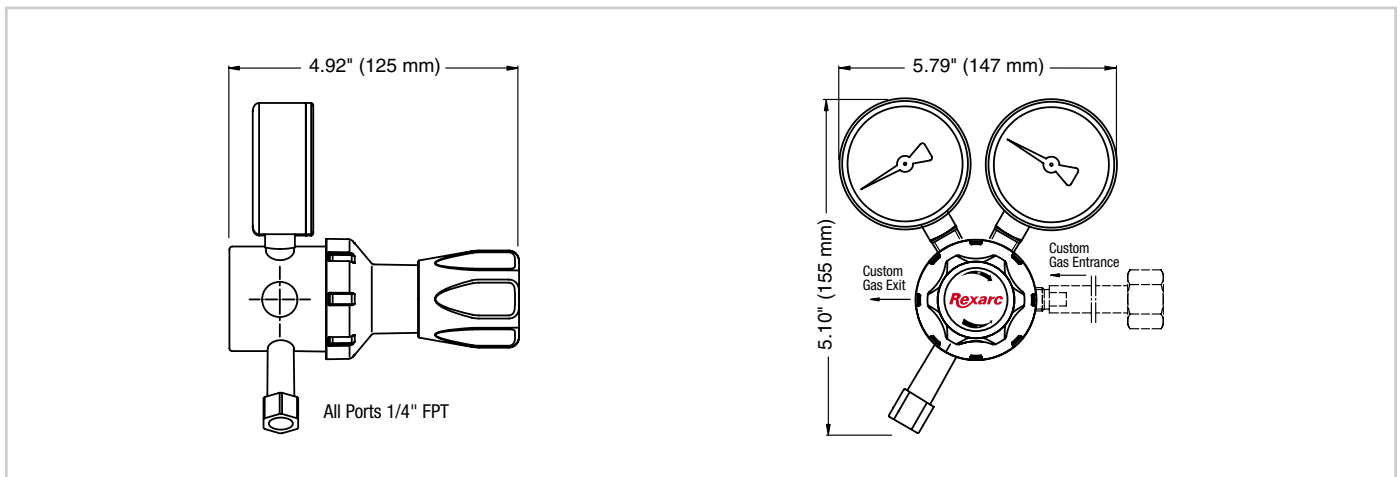
Ordering Information (For information about how to use this table please see page 3.)

Model Number	Delivery Pressure	Inlet Gauge	Outlet Assemblies	Options	Inlet Connection
710	1) 0-15 psig for Acetylene use with redline gauge 2) 0-15 psig 3) 0-90 psig 4) 0-145 psig 5) 0-200 psig	1) None 2) 0-4000 psig 3) 0-1000 psig 4) 0-400 psig	1) 1/4" FNPT 2) 1/4" Tube Fitting 3) 1/8" Tube Fitting 4) Diaphragm Valve with 1/4" Tube Fitting 5) Needle Valve with 1/4" Tube Fitting 6) Diaphragm Valve with 1/8" Tube Fitting	1) None 2) Protocol Station with 36" Pigtail with Check Valve 3) Protocol Station with 72" Pigtail with Check Valve	1) None CGA#

Performance Data



Dimensions



Model 581 Protocol Station



The Rexarc Protocol Station is designed to prevent regulator damage by conveniently attaching to a wall and securing your equipment during cylinder changeovers. All Specialty Gas Regulator models, both single and two stage, brass and stainless steel, may be ordered with this safety and convenience option. The Protocol Station comes in brass, chrome plated brass and stainless steel to support the various model regulators offered. Either a 36" or 72" stainless steel pigtail (shown at left) is included with the option.

The Model 581 has 3000 psig compatibility and a plugged purge port standard. Purity can be maintained up to grade 6.0 with this option.

Two models offer different extensions from the securing wall (see dimensions on next page).

Model 581 Protocol Station shown with Model 910 regulator (sold separately).

Specifications	Materials	Features & Benefits
<p><i>Maximum Inlet Pressure</i> 3000 psig (210 bar)</p> <p><i>Ports</i> 1/4" FNPT</p> <p><i>Temperature Range</i> -40°F to 165°F (-40°C to 74°C)</p> <p><i>Weight</i> 12.1 lbs (5.5 kgs)</p>	<p><i>Tee Block</i> Brass, Chrome plated brass, or 316L stainless steel</p> <p><i>Flexible Pigtails</i> 316L stainless steel</p> <p><i>Wall Mounting Bracket</i> 304 stainless steel</p>	<p><i>Integrated check valve on pigtail inlet</i> Prevents contamination during cylinder changes</p> <p><i>Purge Port</i> Plugged port allows easy purging if desired</p> <p><i>Mounting Bracket</i> Allows easy attachment to wall</p>

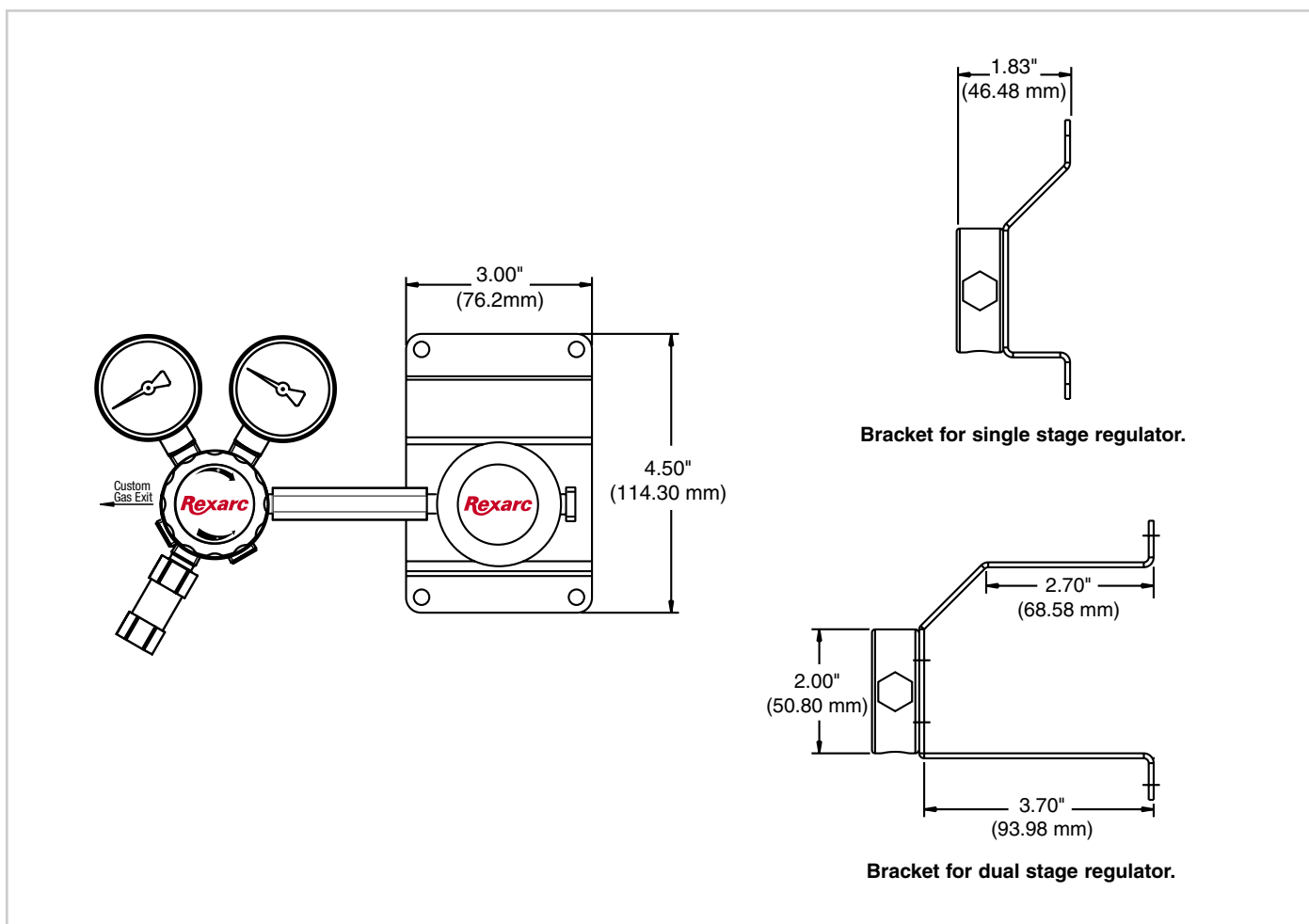
Ordering Information

Model Number	A Material (Gas Contact)	B Mounting Bracket	C Pigtail Assembly*	D CGA Connection
581	1) Brass 2) Stainless Steel 3) Chrome Plated Brass	1) Single Stage Regulator 2) Dual Stage Regulator	2) 36" 3) 72"	1) None CGA#

* Stainless Steel braided and cleaned for Oxygen Service, integral check valve, 1/4" MNPT x 1/4" FNPT.

Note: All protocol stations are supplied with a hex nipple to easily attach the regulator to the protocol station.

Dimensions



Model 546 Cross Purge Assembly



*Stops Release of Gases
into Work Area*

*Eliminates Air Introduction
into System*

Isolates System Components

Safely Vents Trapped Gases

Model 546 Cross Purge Assembly shown with Model 910 regulator (sold separately).

The Model 546 cross purge assembly is used between the gas cylinder and the pressure regulator. It is designed for use with high purity, corrosive, and/or toxic gases to ensure no atmospheric gases enter the process stream during cylinder source gas changeover or during disassembly of components, thus maintaining system integrity. Atmospheric gases include moisture vapor, oxygen, carbon dioxide and carbon monoxide.

Purge assemblies are also an important safety feature that eliminates release of dangerous gases into the workplace environment when changing cylinders.

Pressure purges with high purity purge gases ensure the system is cleared of atmospheric and process gases before opening the downstream system to the new cylinder source gas or new equipment component(s).

The Cross Purge Assembly can be installed on any Rexarc cylinder regulator, or purchased separately for retrofitting onto regulator assemblies currently in operation and manufactured by most suppliers.

Materials & Specifications

Valves and connectors
Stainless Steel

Valve Seats
PCTFE

Valve Diaphragm
Hastelloy®/Elgiloy®

$C_v = 0.294$

Helium Leak Rate
 10^{-9} scc/min

Ordering Information

Model 546 All Stainless Steel is standard, and the system comes with the components shown in the photo above including 1/4" tube fittings on the purge gas inlet and the vent gas outlet, three diaphragm isolation valves and connectors including the 1/4" MNPT hex nipple for connection to the regulator. All that is required is the CGA number.

Model 536 Tee Purge Assembly



Stops Release of Gases into Work Area

Eliminates Air Introduction into System

Safely Vents Trapped Gases

Model 536 Tee Purge Assembly shown with Model 910 regulator (sold separately).

The Model 536 tee purge assembly is used between the gas cylinder and the pressure regulator. It is designed for use with high purity and/or toxic or corrosive gases to ensure no atmospheric gases enter the process stream during cylinder source gas changeover thus maintaining system integrity. Atmospheric gases contain moisture vapor, oxygen, carbon dioxide and carbon monoxide.

Tee purges are more economical than cross purges, and should have a block and bleed system installed downstream to direct vented gases to safe disposal.

Materials of construction are brass or stainless steel, depending on gas.

Purge assemblies are also an important safety feature that eliminates release of gases into the workplace environment when changing cylinders.

Pressure purges with high purity purge gases ensure the system is cleared of atmospheric and process gases before opening the downstream system to the new cylinder source gas.

The Tee Purge Assembly can be installed on any Rexarc cylinder regulator, or purchased separately for retrofitting onto regulator assemblies currently in operation and manufactured by most suppliers. Please inquire for additional details.

Materials & Specifications

Valves and connectors
Stainless Steel or Brass

Valve Seats
PCTFE

Valve Diaphragm
Hastelloy®/Elgiloy®

Seals
Metal to Metal

$C_v = 0.294$

Helium Leak Rate
10⁻⁹ scc/min

Ordering Information

Model	Material	Inlet
536	1) Brass 2) Stainless Steel	CGA#

Model 526 Straight Purge Assembly



Stops Release of Gases into Work Area

Eliminates Air Introduction into System

Vents Trapped Gases

Model 526 Straight Purge Assembly shown with Model 910 regulator (sold separately).

The Model 526 is used through an auxiliary high-pressure port in the regulator body. It is designed for use with high purity and /or toxic or corrosive gases to ensure no atmospheric gases enter the process stream during cylinder source gas changeover or when disassembling the system for component changes. Purging of atmospheric gases, which contain moisture vapor and oxygen, is an important part of maintaining system integrity.

Straight Purge Assemblies are well suited for dilution or pressure cycle purging, and are an economical choice for purging your system.

Materials of construction are brass or stainless steel, depending on gas use.

Straight Purge Assemblies are also an important safety feature that eliminates release of gases into the workplace environment when changing cylinders to ensure the system is cleared of atmospheric and process gases before opening the downstream system to the new cylinder source gas.

The Straight Purge Assembly can be installed on any Rexarc cylinder regulator, or purchased separately for retrofitting onto regulator assemblies currently in operation that have an extra high pressure port available

Materials & Specifications

Valves and connectors
Stainless Steel or Brass

Valve Seats
PCTFE

Valve Diaphragm
Hastelloy®/Elgiloy®

Seals
Metal to Metal

$C_v = 0.294$

Helium Leak Rate
 10^{-9} scc/min

Ordering Information

Model	Material	Inlet
526	1) Brass 2) Stainless Steel	CGA#

Accessories

Model 583 Distribution Block

The Rexarc Model 583 distribution blocks double the number of cylinders supplying the Model 471 and 491 automatic switchover systems from two to four! Available in chrome plated brass barstock and in stainless steel, these distribution blocks can be ordered with the switchover manifold systems or separately for retrofitting existing units in field service. A 1/4" MNPT nipple easily connects to the manifold's inlets.

Stainless steel pigtails can also be ordered separately (see spec's on the next page) or with the distribution block option on new orders.

Purity level served is up to grade 6.0.

Gases and mixtures such as flammable, corrosive, and oxidizers can be serviced with the materials of construction available.

Inlet pressure ratings for these blocks are 3000 psig in all materials supplied.



Model 521 Diaphragm Valves

Model 521 diaphragm valves are manufactured with an extended inlet leg to allow handle clearance from mating equipment without the need for additional bushings. This economical, springless, diaphragm design makes for the perfect regulator outlet valve, providing a positive shut off and smooth operation for pressure ratings from vacuum to 3500 psig.

Available in brass barstock, 316L stainless steel and nickel-plated brass barstock, the valves are 100% helium leak tested.

The multi-turn valve is quick acting open to close, has a low internal volume and ultrasonically deionized cleaned.

Specifications

Maximum Inlet pressure: 3500 psig

Temperature Range: -65°F to 150°F

Seat Material: PCTFE

Diaphragm: 316L stainless steel

Seals: Metal to metal

$C_v = 0.13$

Ordering Information

Model Number	Flow Control	Material	Connection
521	1) Standard	1) Brass	1) 1/4" MNPT x 1/4" FNPT
	2) 1/4-turn	2) 316L Stainless Steel	2) 1/4" MNPT x 1/4" tube
		3) Nickel-plated brass	3) 1/4" MNPT x 1/8" tube

Flexible Stainless Steel Pigtails

These all stainless steel (inside and out) flexible pigtails are intended for the transfer of specialty gases and cryogenic liquids at purities up to grade 6.0.

These pigtails are commonly used to connect cylinders to regulators through Protocol Stations (pg 32) and through switchover manifolds (pgs 6-11).

They are available in various lengths and with various CGA connections on the inlets, or with 1/4" FNPT x 1/4" MNPT.

Pigtails ordered with CGA connections attached contain an integral check valve.



Cylinder Wall Mounts

Fitted with steel-reinforced polyethylene edge guards, Rexarc's forged steel single, dual, and triple cylinder wall brackets will safely support cylinders up to 12" in diameter. Straps are 40" polypropylene with 1-1/4" non-slip spring catches made of

nickel-plated steel. When wall space is at a premium, a cylinder bench clamp is available, please inquire. The clamp attaches a cylinder – up to 14" diameter – next to a lab or work bench without marring the surface.



Single Cylinder Wall Mount
Part Number 1-10-0272



Dual Cylinder Wall Mount
Part Number 1-10-0270-1



Triple Cylinder Wall Mount
Part Number 1-10-0270-2

Technical Information

Materials Gas Compatibility

Gas	Chrome Plated Brass	Brass	Stainless Steel
Acetylene (C ₂ H ₄)	X	X	X
Air	X	X	X
Ammonia (NH ₃)			X
Argon (Ar)	X	X	X
Arsine (AsH ₃)			X
n-Butane (C ₄ H ₁₀)	X	X	X
Carbon Dioxide (CO ₂)	X	X	X
Carbon Monoxide (CO)	X	X	X
Chlorine (CL ₂)			X
Ethane (C ₂ H ₆)	X	X	X
Ethylene (C ₂ H ₄)	X	X	X
Ethylene Oxide (C ₂ H ₄ O)	X	X	X
Helium (He)	X	X	X
Hydrogen (H ₂)	X	X	X
Hydrogen Bromide (HBr)			X
Hydrogen Chloride (HCL)			X
Hydrogen Sulfide (H ₂ S)			X
Isobutane (C ₄ H ₁₀)	X	X	X
Krypton (Kr)	X	X	X
Methane (CH ₄)	X	X	X
Methyl Chloride (CH ₂ CL)			X
Neon (Ne)	X	X	X
Nitric Oxide (NO)			X
Nitrogen Dioxide (NO ₂)			X
Nitrogen (N ₂)	X	X	X
Nitrous Oxide (N ₂ O)	X	X	X
Oxygen (O ₂)	X	X	X
Phosphine (PH ₃)			X
Propane (C ₃ H ₈)	X	X	X
Propylene (C ₃ H ₆)	X	X	X
Silane (SiH ₄)			X
Sulfur Dioxide (SO ₂)			X
Sulfur Hexafluoride (SF ₆)	X	X	X
Xenon (Xe)	X	X	X

Pure Gas Cylinder Valve Connections for Pressure Regulators

Gas	CGA
Acetylene	300, 510
Air	590
Ammonia, Anhydrous	240, 660
Argon	580
Arsine	350
Butane	350
Butenes	510
Carbon Dioxide	320
Carbon Monoxide	350
Chlorine	660
Deuterium	350
Dimethyl Ether	510
Ethane	350
Ethyl Chloride	510
Ethylene	350
Ethylene Oxide	510
Halocarbon-14 (Tetrafluoromethane)	580
Helium	580
Hydrogen	350
Hydrogen Chloride	330
Hydrogen Sulfide	330
Isobutane	510
Krypton	580
Methane	350
Methyl Chloride	510
Natural Gas	350
Neon	580
Nitrogen	580
Nitrous Oxide	326
Oxygen	540
Phosphine	350
Propane	510
Propylene	510
Sulfur Dioxide	660
Sulfur Hexafluoride	590
Xenon	580

It is recommended that the user thoroughly familiarize himself with the specified properties of these gases prior to use.

The Compressed Gas Association (CGA) has selected and standardized the valve outlet to be used with each gas. These standards are contained in the document "CGA STANDARD V-1, Compressed Gas Cylinder Valve Outlet Connections", and also in the "Handbook of Compressed Gases".

The above chart may be used for general purposes only. Please contact your gas supplier to determine the actual CGA connection required when ordering a regulator.

Rexarc LIMITED WARRANTY

- (1) Rexarc International, Inc. ("Rexarc") warrants that the products purchased from Rexarc (the "Products") are free from defects in material and workmanship. This warranty is given only to the original purchaser from Rexarc. The duration of this warranty is one year for parts and components starting from the date of shipment to the original purchaser.
- (2) Rexarc's liability in connection with this warranty or other claim relating to the Products shall be limited to the replacement or refund of the purchase price of any Product that is returned to Rexarc in West Alexandria, Ohio, freight prepaid, and is determined to be defective after examination by Rexarc. No product or parts or components may be returned to Rexarc without first receiving return authorization from Rexarc. Products or parts or components thereof which are replaced by Rexarc will be returned to the purchaser freight collect.
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- (6) Any action for breach of this warranty must be commenced within 15 months following shipment of the Product to the original purchaser.
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