

### **Cylinder Regulators**

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CRANE Instrumentation & Sampling, Go Regulator PO Box 4866 • Spartanburg, SC 29305-4866 (864) 574-7966 • www.goreg.com

### 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. When selecting products, the total system design must be considered to ensure safe, trouble-free performance. 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.

Contact your authorized GO Regulator sales and service representative for information about additional sizes and special alloys.

### **SAFETY WARNING:**

GO Regulator products are designed for installation only by professional suitably qualified licensed system installers experienced in the applications and environments for which the products are intended. These products are intended for integration into a system. Where these products are to be used with flammable or hazardous media, precautions must be taken by the system designer and installer to ensure the safety of persons and property. Flammable or hazardous media pose risks associated with fire or explosion, as well as burning, poisoning or other injury or death to persons and/ or destruction of property. The system designer and installer must provide for the capture and control of such substances from any vents in the product(s). The system installer must not permit any leakage or uncontrolled escape of hazardous or flammable substances. The system operator must be trained to follow appropriate precautions and must inspect and maintain the system and its components including the product(s) and at regular intervals in accordance with timescales recommended by the supplier to prevent unacceptable wear or failure.

### **CC2** Series

Compact Two-stage Cylinder Pressure Regulator



The CC2 Series compact two-stage precision pressure regulator is well suited for instrumentation applications requiring a precise and stable delivery pressure. This regulator was originally designed to meet the needs of the instrumentation industry; however, it would also be very useful in many other applications that require a compact two-stage pressure regulator to supply a precise delivery pressure with fluctuating supply pressures.

Another benefit of using the CC2 Series is that internally, it shares some of its design features and options with the time proven CPR-1 Series pressure regulator. These features and options allow the customer to essentially tailor this regulator to accommodate virtually any application requiring low to moderate flow rates. The unit will also be offered with inlet/outlet pressure gauges, CGA connections and relief valves.

The CC2 Series regulator is manufactured in 316L stainless steel as a standard option. Please consult GO Regulator for any optional materials of construction that might be required for toxic or corrosive process gas applications.

### Features & Specifications

- Compact size
- Two-stage regulation
- Stainless steel diaphragm
- Gas or liquid service
- Low internal volumes
- Maximum inlet pressure up to 3600 psig
- Outlet pressure ranges: 0–10 psig, 0–25 psig, 0–50 psig, 0–100 psig, 0–250 psig and 0–500 psig
- Cv flow coefficients: 0.06, 0.025, 0.2
- Leak rate, bubble-tight
- Operating temperatures: -40° F to +175° F (-40° C to +80° C)
- Inlet/outlet connections: 1/8" FNPT

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**GO**REGULATOR, INC.

## **CYL-1 Series**

Single Stage Brass Cylinder; Gas Pressure Reducing Regulator



(Shown with optional outlet valve)

The CYL-1 Series is designed as a complete compact pressure control module. The basis of this unit is the economical PR-2 Series pressure control valve which is widely used in instrumentation sample systems as well as many other applications requiring maximum reliability. This regulator, when ordered with appropriate gauges and CGA inlet fitting, is designed for use as a compressed gas cylinder regulator for those applications where the corrosion resistance of stainless steel is not a requirement.

- CGA inlet fitting
- Integral inlet filter
- 2<sup>"</sup> diameter brass gauges
- PTFE-lined stainless steel diaphragm
- Maximum inlet pressure: 3600 psig
- Outlet pressure ranges: 0–10 psig, 0–25 psig, 0–50 psig, 0–100 psig, 0–250, 0–500 and 0–750 psig
- Fluid media; non-corrosive gases
- Operating temperatures: -40° F to +175° F (-40° C to +80° C)
- Cv flow coefficients: 0.025, 0.06, 0.20 and 0.5



### Outline & Mounting Dimensions

Weight = 1.9 lbs (0.86 kg)

NOTE: Contact the factory for any additional requirements.

Tefzel<sup>®</sup> is a registered trademark of the DuPont Company. PEEK™ is a trademark of Victrex PLC.





## **CYL-2 Series**

Two-stage Brass Cylinder Gas Pressure Reducing Regulator



The CYL-2 Series is a precision two-stage regulator well suited for instrumentation applications requiring a precise and stable pressure source. This pressure regulator was developed to meet the needs of the instrumentation industry, but is also well suited for other applications requiring precision pressure supply.

The development of this series provides the maximum flexibility that is available in any cylinder regulator.

- Brass construction
- 1<sup>st</sup> stage integral 20 micron filter and 2<sup>nd</sup> stage integral 40 micron filter
- PTFE-lined stainless steel diaphragm in both stages
- Tefzel<sup>®</sup> seats are standard
- 2<sup>"</sup> diameter brass gauges
- CGA inlet fitting
- Stainless steel caps
- Optional relief valves and shut off valves
- Maximum inlet pressure: 3600 psig
- Outlet pressure ranges 0–10 psig, 0–25 psig, 0–50 psig, 0–100 psig, 0–250 psig and 0–500 psig
- Fluid media; non-corrosive gases
- Cv flow coefficients: 0.06, 0.025, 0.20, 0.50
- Operating temperatures: -40° F to +175° F (-40° C to +80° C)
- 1/4" FNPT inlet/outlet connections standard

### **CYL-2 Series**

Verify that your chosen part number is valid using the GO Wizards at www.goreg.com/products/matrix/index.htm



## **CYL-3 Series**

High Pressure Economy Brass Cylinder Regulator



The CYL-3 Series is an economical brass high pressure regulator, designed to accept inlet pressures up to 3600 psig and deliver outlet pressures from 0–100 psig up to 0–2000 psig. This single-stage brass regulator is perfectly suited for cylinder usage with non-corrosive gases. Good regulation characteristics are provided by a carefully engineered piston sensor. Ease of outlet pressure adjustment is provided by the T-handle, which is offered as standard.

#### Features & Specifications

Inlet pressures up to 3600 psig

- Control pressures from 0–100 psig up to 0–2000 psig
- Brass (alloy 360) construction
- Stainless steel poppet
- 20 micron inlet filter
- Bubble-tight shutoff
- CGA connection with integral inlet filter
- 2" diameter brass gauges
- Cv flow coefficients: 0.06 (standard), 0.2 (optional)
- Better than 25 Ra finish in diaphragm cavity
- Optional relief valves and outlet shutoff valves



### **Operating Inlet Pressures**

SEAT MATERIAL	MAXIMUM TEMPERATURE		MAXIMUM OPERATING INLET PRESSURE
Tefzel®	150° F (66° C)	@	3600 psig (24.82 MPa)
High density PTFE	150° F (66° C)	@	3600 psig (24.82 MPa)

NOTE: Contact the factory for any additional requirements.

*Tefzel<sup>®</sup> is a registered trademark of the DuPont Company.* 

### **Outline & Mounting Dimensions**

Weight = 2.74 lbs (1.22 kg)





## **CYL-20 Series**

Corrosion-resistant Two-stage Pressure Reducing Regulator



Precision pressure control is now possible with the CYL-20 Series regulator. This two-stage regulator, constructed of 316L stainless steel and PTFE, has less than 0.01 percent outlet pressure change with varying inlet pressures and is designed for use in gas calibration systems and semiconductor materials processing.

With materials of only 316L stainless steel, PTFE and Tefzel<sup>®</sup>, this regulator is suitable for service in corrosive streams as well as non-corrosive streams with potential surface absorption problems. This regulator accepts inlet pressures up to 6000 psig and has bubble-tight shutoff. Operating temperature ranges may vary from  $-40^{\circ}$  C up to  $+260^{\circ}$  C and outlet pressure ranges of 0-10 psig up to 0-500 psig are easily adjustable by a fluted knob.

#### Features & Specifications

- 316L stainless steel, INCONEL<sup>®</sup>, PTFE & Tefzel<sup>®</sup> in contact with operating media only
- Stainless steel caps & adjusting screws
- Bubble-tight shutoff
- CGA fitting for cylinder connection
- 2" diameter 316 stainless steel gauges
- Maximum inlet pressure: 6000 psig
- Outlet pressure ranges of 0–10 psig, , 0-25 psig 0–50 psig, 0–100 psig, 0–250 psig and 0–500 psig
- PTFE lined INCONEL<sup>®</sup> diaphragm standard
- Cv flow coefficients: 0.025, 0.06, 0.20, 0.50
- Operating temperatures of one line: -40° F to +500° F (-40° C to +260° C)
- Outlet pressure change is 0.01 psig per 100 psig of inlet decay

#### Options

- Captured vent
- Shutoff valve
- 3⁄8″ FNPT



Verify that your chosen part number is valid using the GO Wizards at www.goreg.com/products/matrix/index.htm



Outline & Mounting Dimensions



Tefzel<sup>®</sup> is a registered trademark of the DuPont Company. INCONEL<sup>®</sup> is a registered trademark of Special Metals Corporation. PEEK<sup>TM</sup> is a trademark of Victrex PLC.





## **CYL-21 Series**

Corrosion-resistant Single Stage Cylinder Regulator



(Shown with optional outlet valve)

The CYL-21 Series is a compact cylinder regulator based on the time proven design of the PR-1 Series single-stage stainless steel line regulator and is suitable for most corrosive gas cylinder applications. While normally used for low and moderate flow service, optional high flow orifices are available.

The standard unit is equipped with CGA connector, integral inlet filter, inlet and outlet pressure gauges and may be ordered with extra inlet or outlet ports for inlet purging, outlet relief valves or other accessory items. When used in service with toxic or explosive gases, we recommend the installation of a captured vent option. This option is a true captured vent cap and not merely a standard cap with a vent port. It comes complete with a CGA fitting and 2<sup>"</sup> diameter gauges.

- 316L stainless steel construction (standard), MONEL<sup>®</sup> optional
- Inlet pressures up to 6000 psig
- Electropolished body with better than 25 Ra finish in diaphragm cavity
- 20 micron inlet filter
- Bubble-tight shutoff
- CGA inlet fitting
- 2<sup>"</sup> diameter 316 stainless steel gauges
- Outlet pressure ranges 0–10 psig, 0–25 psig, 0–50 psig, 0–100 psig, 0–250 psig, 0–500 psig, and 0-750 psig
- Optional Cv flow coefficients: 0.025, 0.06, 0.20, 0.50

### **CYL-21 Series**

To Order, contact your local Distributor Link below: www.goreg.com/distributor/index.htm Verify that your chosen part number is valid using the GO Wizards at www.goreg.com/products/matrix/index.htm

MONEL<sup>®</sup> is a registered trademark of Special Metals Corporation. Tefzel<sup>®</sup> is a registered trademark of the DuPont Company.

PEEK™ is a trademark of Victrex PLC.



\* Temperatures in excess of 175° F (80° C) require the use of a metal knob or the tamper-proof option.

### **Outline & Mounting Dimensions**





### **COM-1** Series

Crossover Manifold Regulator System



The COM-1 Series crossover manifold system consists of two PR-1-type stainless steel regulators (PR-2-type brass, optional) mounted on a panel-mounting-type bracket shown with optional gauges. The primary regulator, supplied with a tamper-proof nut, is set at an outlet operating pressure at least 15 psig higher than the secondary regulator (supplied with a standard adjusting knob). As the primary supply source depletes and the operating outlet pressure of the primary regulator falls below the preset operating pressure of the secondary regulator, the secondary regulator takes over. Once this occurs, the secondary regulator can be manually adjusted ½-turn clockwise, the secondary regulator is now the primary and the depleted supply source can be replaced.

- Inlet pressure to 6000 psig
- Outlet pressures range: 0–10 psig, 0–25 psig, 0–50 psig, 0–100 psig, 0–250 psig, or 0-500 psig
- Changeover pressures: 15–250 psig
- Cv flow coefficients: 0.025, 0.06, 0.2, 0.5
- All connections: 1/4" FNPT
- 20 micron inlet filter
- 316L stainless steel construction; Brass and MONEL<sup>®</sup> optional
- Seat materials of PCTFE, Tefzel<sup>®</sup>, PEEK™
- Bubble-tight shutoff
- 2" diameter gauges (optional)
- Operating temperatures -40° F to +500° F (-40° C to +260° C)
- Bracket mounted for easy installation
- PTFE lined INCONEL<sup>®</sup> diaphragm standard

### **COM-1** Series

To Order, contact your local Distributor Link below: www.goreg.com/distributor/index.htm

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COM1 – 1

Verify that your chosen part number is valid using the GO Wizards at www.goreg.com/products/matrix/index.htm

### How to Order

Standard items in bold

BODY MATERIAL

- 1 316L stainless steel, stainless steel diaphragm
- 2 Brass, stainless steel diaphragm
- 4
- MONEL®, INCONEL® diaphragm 316L stainless steel, INCONEL® diaphragm C

SEAT MATERIAL

- A Tefzel® B Ceramic Filled PTFE
- H PCTFE
- Q PEEK™

#### Maximum Temperature & **Operating Inlet Pressures**

SEAT MATERIAL	MAXIMUM TEMPERATURE		MAXIMUM OPERATING INLET PRESSURE
Tefzel®	150° F (66° C)	@	3600 psig (24.82 MPa)
PCTFE	175° F (80° C)	@	6000 psig (41.37 MPa)
PEEK™	500° F (260° C)	@	3600 psig (24.82 MPa)
PEEK™	175° F (80° C)	@	6000 psig (41.37 MPa)
Ceramic Filled PTFE	175° F (80° C)	@	3600 psig (24.82 MPa)

#### **Brass**

SEAT MATERIAL	MAXIMUM TEMPERATURE		MAXIMUM OPERATING INLET PRESSURE
Tefzel®	150° F (66° C)	@	3600 psig (24.82 MPa)
PCTFE	175° F (80° C)	@	3600 psig (41.37 MPa)
PEEK™	175° F (80° C)	@	3600 psig (41.37 MPa)
Ceramic Filled PTFE	175° F (80° C)	@	3600 psig (24.82 MPa)

**Outline & Mounting Dimensions** 

#### 3 C A **OPTIONS** A EB33 (oxygen cleaning) **B** EB5 cleaning D Helium leak test Ε Pressure test certificate F Certificate of Conformity G CMTR GAUGES 1 Include gauges 2 Omit gauges 3 Customer-supplied, to be factory installed OUTPUT RANGE **C** 0-10 psig 0–25 psig D **E** 0–50 psig **G** 0–100 psig I 0-250 psig J 0-500 psig FLOW COEFFICIENT (Cv) 3 0.06 **5** 0.2 **C** 0.025 **H** 0.5

NOTE: Contact the factory for any additional requirements.

MONEL<sup>®</sup> is a registered trademark of Special Metals Corporation. Tefzel<sup>®</sup> is a registered trademark of the DuPont Company. PEEK<sup>™</sup> is a trademark of Victrex PLC.



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### **COM-2B Series**

Crossover Manifold Regulator System



The COM-2B Series crossover manifold system uses two PR-1-type stainless steel regulators (PR-2-type brass, optional) built in a single body functioning as the changeover regulators with the common outlet port connected to a single line regulator to provide constant unchanging supply pressure unaffected by supply source depletion. All are mounted on a bracket complete with gauges. As the primary supply source depletes and the operating outlet pressure of the primary regulator falls below the preset changeover pressure of the secondary regulator, the secondary regulator takes over. Once this occurs, the primary regulator can be manually adjusted <sup>1</sup>/<sub>8</sub>-turn counterclockwise, the secondary regulator is now the primary and the depleted supply source can be replaced.

- Bracket-mounted for easy installation
- Allows changing of cylinders during operation\*
- Available in stainless steel, brass and MONEL<sup>®</sup>
- Steady outlet pressure during cylinder depletion
- 0.01% pressure control accuracy
- Inlet pressures to 6000 psig
- Outlet pressure ranges: 0–10 psig, 0–25 psig, 0–50 psig, 0–100 psig or 0–250 psig
- Changeover pressures: 15–250 psig
- Cv flow coefficients: 0.025, 0.06, 0.2, 0.5
- All connections: 1/4" FNPT
- 20 micron inlet filters
- 316L stainless steel construction
- PTFE-lined INCONEL<sup>®</sup> diaphragm, standard
- Operating temperatures: -40° F to +500° F (-40° C to +260° C)
- \* Installation of shut off valves in each inlet port is recommended for complete isolation during change out of cylinders.



Brace

#### Maximum Temperature & Operating Inlet Pressures Stainless steel

SEAT MATERIAL	MAXIMUM TEMPERATURE*		MAXIMUM OPERATING INLET PRESSURE
Tefzel®	150° F (66° C)	@	3600 psig (24.82 MPa)
PCTFE	175° F (80° C)	@	6000 psig (41.37 MPa)
PEEK™	500° F (260° C)	@	3600 psig (24.82 MPa)
PEEK™	175° F (80° C)	@	6000 psig (41.37 MPa)
Ceramic Filled PTFE	175° F (80° C)	@	3600 psig (41.37 MPa)

\* Temperatures in excess of 175° F (80° C) require the use of a metal knob or the tamper-proof option.

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SEAT MATERIAL	MAXIMUM TEMPERATURE		MAXIMUM OPERATING INLET PRESSURE
Tefzel®	150° F (66° C)	@	3600 psig (24.82 MPa)
PCTFE (formerly Kel-F® 81)	175° F (80° C)	@	3600 psig (41.37 MPa)
PEEK™	175° F (80° C)	@	3600 psig (41.37 MPa)
Ceramic Filled PTFE	175° F (80° C)	@	3600 psig (41.37 MPa)

 $MONEL^{\circ}$  is a registered trademark of Special Metals Corporation. Tefzel^{\circ} is a registered trademark of the tef Company.  $PEEK^{TM}$  is a trademark of Victrex PLC.



## **COM-2P Series**

Crossover Manifold Regulator System



The COM-2P employs two discrete single stage PR-1-type regulators built into a single body. These regulators serve as the primary and secondary changeover regulators with the common outlet port connected to a single PR-1 Series regulator. This allows for the non-stop delivery of gas from bottles with only a 0.01% change in outlet pressure as the inlet pressure varies. The hardware comes mounted in an attractive 300 series stainless steel panel that is suitable for surface mounting near the bottles. Labels are permanently silk-screened on the face of the panel for easy identification of process ports and gauges. The unit comes complete with pressure gauges and shutoff valves. Suitable for gases and liquids.

### Features & Specifications

- Complete panel system including gauges and vent valves for easy installation
- Allows changing of cylinders during operation\*
- Available in both stainless steel and brass (other materials also available)
- Steady outlet pressure during cylinder depletion
- 0.01% pressure control accuracy
- Inlet pressures to 6000 psig
- Outlet pressure ranges 0–10 psig, 0–25 psig, 0–50 psig, 0–100 psig or 0–250 psig
- Changeover pressures: 15-250 psig
- Cv flow coefficients 0.025, 0.06, 0.2, 0.5
- All connections: 1/4" FNPT
- 20 micron sintered inlet filters
- PTFE-lined INCONEL<sup>®</sup> diaphragm, standard
- Operating temperatures: -40° F to +500° F
- (-40° C to +260° C)
- Installation of shut off valves in each inlet port is recommended for complete isolation during change out of cylinders.

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### Maximum Temperature & Operating Inlet Pressures

SEAT MATERIAL	MAXIMUM TEMPERATURE*		MAXIMUM OPERATING INLET PRESSURE
Tefzel®	150° F (66° C)	@	3600 psig (24.82 MPa)
PCTFE	175° F (80° C)	@	6000 psig (41.37 MPa)
PEEK™	500° F (260° C)	@	3600 psig (24.82 MPa)
PEEK™	175° F (80° C)	@	6000 psig (41.37 MPa)
Ceramic Filled PTFE	175° F (80° C)	@	3600 psig (41.37 MPa)

\* Temperatures in excess of 175° F (80° C) require the use of a metal knob or the tamper-proof option.

### Outline & Mounting Dimensions

Weight = 13.4 lbs (6.09 kg)



Tefzel<sup>®</sup> is a registered trademark of the DuPont Company. MONEL<sup>®</sup> is a registered trademark of Special Metals Corporation. PEEK<sup>™</sup> is a trademark of Victrex PLC. Brass

SEAT MATERIAL	MAXIMUM TEMPERATURE		MAXIMUM OPERATING INLET PRESSURE
Tefzel®	150° F (66° C)	@	3600 psig (24.82 MPa)
PCTFE	175° F (80° C)	@	3600 psig (41.37 MPa)
PEEK™	175° F (80° C)	@	3600 psig (41.37 MPa)
Ceramic Filled PTFE	175° F (80° C)	@	3600 psig (41.37 MPa)

NOTE: Contact the factory for any additional requirements.

J 150 psig over output regulator range





### Porting Configurations for Dual Stage Pressure Regulators





LOCATION OF PORTS VIEWING FROM TOP OF SECOND STAGE



### Porting Configurations for Single Stage Pressure Regulators



180° 0° 90°

LOCATION OF PORTS FROM TOP VIEW

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