# Regulators Reference Guide

## Heavy Duty Regulators

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<tr>
<th>Model</th>
<th>Stage</th>
<th>Duty Type</th>
<th>Feature/Type</th>
<th>Kit/Outfit Usage</th>
<th>Page</th>
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<tbody>
<tr>
<td>SR 700</td>
<td>Single Stage</td>
<td>Extra Heavy Duty</td>
<td>Cylinder</td>
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<td>VTS 700</td>
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<td>Cylinder</td>
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## Medium Duty Regulators

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<td>SR 250</td>
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<td>Cylinder</td>
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## Light Duty Regulators

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## High Pressure Regulators

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<td>SR4</td>
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## High Manifold, High Flow, High Duty

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<td>Manifold Regulators</td>
<td>Single Stage</td>
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<td>Manifold Use</td>
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## Flowmeters

<table>
<thead>
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<td>HVTS</td>
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<td>HRF 2400</td>
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### Flowmeters

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<tr>
<td>DFM (Dual)</td>
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<td>SR 310/311</td>
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### Liquid Cylinder Regulators

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<td>LC 350</td>
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<td>Medium Duty</td>
<td>Liquid Cylinder (Vapor)</td>
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### Pipeline Regulators

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<tbody>
<tr>
<td>S 700</td>
<td></td>
<td>Extra Heavy Duty</td>
<td>Station Regulator</td>
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<tr>
<td>L 700</td>
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<td>Line Regulator</td>
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<td>S 350</td>
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<td>Medium/Heavy Duty</td>
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<td>L 350</td>
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<td>Medium/Heavy Duty</td>
<td>Line Regulator</td>
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<td>S 250</td>
<td></td>
<td>Light Duty</td>
<td>Station Regulator</td>
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### Pipeline Regulators Devices

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<td>Pipeline (Station)</td>
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<tbody>
<tr>
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<td></td>
<td>Heavy Duty</td>
<td>Dome Loaded Line Regulator</td>
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<td>BSL 700</td>
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<td>Heavy Duty</td>
<td>Special Appl./Line Regulator</td>
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### Meco® Regulators

<table>
<thead>
<tr>
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<td>Type “O”</td>
<td>Single Stage</td>
<td>Extra Heavy Duty</td>
<td>Cylinder Regulator (Gauge Guard)</td>
<td>36</td>
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<tr>
<td>Type “P”</td>
<td>Single Stage</td>
<td>Heavy Duty</td>
<td>Cylinder Regulator</td>
<td>37</td>
</tr>
<tr>
<td>BR3, 5, SH9</td>
<td>Single Stage</td>
<td>Medium Duty</td>
<td>Cylinder Regulator</td>
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<tr>
<td>Type “P 600”</td>
<td>Single Stage</td>
<td>Heavy Duty</td>
<td>High Pressure Delivery</td>
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</tr>
</tbody>
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*A THERMADYNE® Company*
# General Information

## Regulator Model Identification Symbols

**Regulator Model Identification**

- SR......Single Stage
- HSR....Single Stage with Flowmeter
- VTS.....Two Stage Design
- HVTS...Two Stage with Flowmeter
- AR.......Air Relieving
- S.........Station
- L.........Line
- HRF.....Single Stage with Internal Flowmeter
- AF.......Argon Flowgauge
- CF......CO₂ Flowgauge
- DL.......Dome Loaded
- BSL.....Bulk System Line
- VGS....Gaugeless Regulator Single Stage
- DFM....Dual Flowmeter
- LC......Liquid Cylinder
- VGT.....Victor Gaugeless Two Stage

**Regulator Delivery Ranges**

- A 2-15 PSIG
- B 2-40 PSIG
- C 4-80 PSIG
- D 5-125 PSIG
- E 10-200 PSIG
- F 50-750 PSIG
- G 100-1500 PSIG
- J 200-3000 PSIG
- K 300-4500 PSIG

*Outlet pressure delivery ranges are not minimum or maximum outlet pressure limits. Regulators can be adjusted to zero PSIG outlet pressure and generally, to pressures in excess of those specified. The use of these regulators to control pressures outside of the specified ranges is not recommended.*

**Sample Model Number:**

```
SR 250 D 540 0781-0043
```

- Single Stage Model
- 250 Series
- 5-125 PSIG Delivery Range
- For Oxygen Service
- CGA 540 Inlet
- Part Number

## Regulator Gauges:

Unless otherwise noted, high pressure gauges for all oxygen, inert gas, CO₂ and N₂O, and hydrogen models are graduated 200-4000 PSIG. High pressure gauges for fuel gas models are graduated 10-400 PSIG. Low pressure or outlet gauge ranges are determined by the regulator delivery range selected:

- A Range...............2-30 PSIG Gauge
- B Range...............2-60 PSIG Gauge
- C Range...............4-100 PSIG Gauge
- D Range...............5-200 PSIG Gauge
- E Range...............10-400 PSIG Gauge
- F Range...............50-1000 PSIG Gauge
- G Range...............100-2000 PSIG Gauge
- J Range...............200-4000 PSIG Gauge
- K Range...............200-6000 PSIG Gauge

**Notes:**

- When ordering regulators, specify part numbers.
- See table of contents for information on inlet connections for research and specialty gases.
- See table of contents for CGA inlet connection specifications.

Regulators should not be used for a shut-off.

## Commercial Gases & CGA Inlet Connections

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<th>Gases</th>
<th>CGA Inlet Connection</th>
<th>Gases</th>
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<tr>
<td>CGA 200</td>
<td>Acetylene (MC)</td>
<td>CGA 660</td>
<td>Corrosive</td>
</tr>
<tr>
<td>CGA 240</td>
<td>Ammonia</td>
<td>CGA 677</td>
<td>Inert Gas</td>
</tr>
<tr>
<td>CGA 300 (Commercial)</td>
<td>Acetylene</td>
<td>CGA 680</td>
<td>Nitrogen, Argon</td>
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<tr>
<td>CGA 320</td>
<td>Carbon Dioxide</td>
<td>CGA 701</td>
<td>Oxygen</td>
</tr>
<tr>
<td>CGA 326</td>
<td>Nitrous Oxide</td>
<td>CGA 992</td>
<td>British Oxygen &amp; Inert Gas</td>
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<tr>
<td>CGA 346 (Formerly 1340)</td>
<td>Air</td>
<td>CGA 993</td>
<td>British Fuel Gas</td>
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<td>CGA 347</td>
<td>Air</td>
<td>CGA 996</td>
<td>Manifold Oxygen &amp; Inert Gas</td>
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<td>CGA 350</td>
<td>Fuel Gas, Hydrogen</td>
<td>CGA 997</td>
<td>Manifold Fuel Gas</td>
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<tr>
<td>CGA 500</td>
<td>Medical Mixtures</td>
<td>CGA 024</td>
<td>Station Oxygen</td>
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<td>CGA 510</td>
<td>Acetylene (POL)</td>
<td>CGA 025</td>
<td>Station Fuel Gas</td>
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<td>Acetylene (B)</td>
<td>CGA 034</td>
<td>Station Inert Gas</td>
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<td>CGA 540</td>
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<td>CGA 555</td>
<td>Nitrogen, Argon, Helium</td>
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<td>CGA 577</td>
<td>Oxygen</td>
<td>CGA 580</td>
<td>Nitrogen, Argon, Helium</td>
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<tr>
<td>CGA 590</td>
<td>Air (Industrial)</td>
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</table>
Regulators Design & Construction Features

**Single Stage Regulators:**
are recommended for applications where slight delivery pressure increases due to decreasing cylinder pressures would not affect the performance characteristics of the work or test results.

- **Adjusting Spring**
  - pretested for quality assurance
- **Die-Forged Brass Body**
  - for extra strength
- **Precision Machined Nozzle**
  - for optimum flow control
- **Brass Adjusting Screw**
  - with forged T-handle
- **Delrin® Insert Bushing**
  - for durability, easier adjusting
- **Die-Forged Brass Spring Housing Cap**
  - provides greater strength and durability
- **Stainless Steel Diaphragm**
  - gives accurate long lasting service
- **Stem-Type Seat Mechanism**
  - inlet pressure aids in sealing

---

**Two Stage Regulators:**
are recommended for applications that require a constant delivery pressure over a range of decreasing inlet pressures. This precise two stage regulation provides superior operating characteristics for applications where change in delivery pressure would affect performance characteristics of work or test results.

- **Stem-Type Seat Mechanism**
  - inlet pressure aids in sealing
- **Precision Machined Nozzle**
- **Adjusting Spring**
  - designed for precise preset
- **Bronze Inlet Filter**
  - keeps out dirt & foreign materials
- **External Relief Valve System**
SR 700 Series/Single Stage
Extra Heavy Duty

APPLICATION & USES
SR 700 Series
• Extra heavy duty
• High flow rate - Up to 11,800 SCFH
• Heavy duty cutting application
• Single stage construction (Illus. Page 5)
• Manifold models available
  See page 19, Section A

Dimensions: 6-1/2” W x 7-7/8” H x 7” D
(16.5cm x 20.3 cm x 18 cm)
Weight: .......... 7 lb. 10 oz. (3.79 kg)

DESIGN/CONSTRUCTION
• Forged brass body and housing cap
• 2-1/2” Gauges Brass
• Stem type seat mechanism
• 3-1/4" diaphragm (Stainless Steel)
• Delrin® cap bushing for smooth adjustments
• External self reseating relief valve
  Not designed to protect downstream apparatus
  (No relief valve is needed on SR 710 and SR 711 series regulators)
• Sintered inlet filter

PERFORMANCE
Maximum Inlet .......................3000 PSIG
Delivery Range .......................See chart*

SPECIFICATIONS MATERIALS
Body .............................Forged Brass
Diaphragm .........................Stainless Steel
Housing Cap ......................Forged Brass
Inlet Filter  ..................Bronze

NOTE: Regulators will deliver at least the stated upper range and in some cases may exceed the stated upper range.

SAMPLE ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Delivery Range</th>
<th>CGA Inlet Connection</th>
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<td>SR 700</td>
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<th>Delivery Range (PSIG)</th>
<th>Part No.</th>
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<td>0780-0727</td>
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<td>SR 700 D-580</td>
<td>5-125</td>
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<td>SR 700 E-580</td>
<td>10-200</td>
<td>0780-0743</td>
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<td>10-200</td>
<td>0780-0767</td>
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<td>L.P. Gas</td>
<td>SR 711 D-510</td>
<td>5-125</td>
<td>0780-0795</td>
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*Delivery Range Key
A 2-15 PSIG, D 5-125 PSIG, E 10-200 PSIG
Outlet Connections: 7/8” - 14 (M)

Flow Chart: Section A, Page 41
VTS 700 Series / Two Stage
Extra Heavy Duty

APPLICATION & USES

VTS 700 Series

- Extra heavy duty
- Application requiring precise and constant outlet pressure
- Two stage design (Illus. page 5)
- Cylinder and manifold models available

See page 19 (Manifold models), Section A, pages 4 & 5 Section A, Regulator reference guide (for Heavy Duty Cylinder Regulators)

Dimensions: 6-3/4" W x 7-1/2" H x 8-5/8" D
(17.30 cm x 19.28 cm x 22.11 cm)

Weight: ....... 8 lb. 8 oz. (4.23 kg)

DESIGN/CONSTRUCTION

- Forged brass body and housing cap
- 2-1/2" gauges brass
- Stem type seat mechanism
- Diaphragms - 2", 3-1/4" (Stainless Steel)
- Delrin® cap bushing for smooth adjustments
- External self reseating relief valve
  Not designed to protect downstream apparatus
  (No relief valve is needed on VTS 710 regulators)
- Sintered inlet filter

PERFORMANCE

Maximum Inlet 3000 PSIG
Delivery Range .......................See chart

SPECIFICATIONS MATERIALS

Body ...............................Forged Brass
Diaphragm .........................Stainless Steel
Housing Cap ........................Forged Brass
Inlet Filter ..............................Bronze

NOTE: Regulators will deliver at least the stated upper range and in some cases may exceed the stated upper range.

VTS 700

SAMPLE ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Delivery Range</th>
<th>CGA Inlet Connection</th>
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<td>Acetylene</td>
<td>VTS 700 E-580</td>
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<td>VTS 710 A-510</td>
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<td>0780-0984</td>
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Delivery Range Key
A 2-15 PSIG, D 5-125 PSIG, E 10-200 PSIG

NOTE: For ordering manifold connection models add “M” directly following the model number.
Example: SR 700M D.

Outlet Connections: 7/8” - 14 (M)

Flow Chart: Section A, Page 41
# SR 450 Series / Single Stage Heavy Duty

**Application & Uses**
- SR 450 Series
  - Medium to high capacity gas service
  - Wide variety of industrial and commercial applications
    - Construction
    - Petro-Chemical
  - Single stage design (Illus. page 5)
  - Manifold models available. See page 19, Section A

**Dimensions:**
- 7-1/4 W x 7” H x 5-1/8” D
- (18.56 cm x 17.92 cm x 13.12 cm)

**Weight:**
- 5 lb. 2 oz. (2.5 kg)

**Note:** The shape of the SR 450 series regulator is a registered trademark of Victor Equipment Company.

**Design/Construction**
- Forged brass body and housing cap
- 2-1/2” gauges brass
- Stem type seat mechanism
- 3-1/4” diaphragm stainless steel
- Delrin® cap bushing for smooth adjustments
- External self-reseating relief valve not designed to protect downstream apparatus (no relief valve is needed on SR 460 and SR 461 series regulators)
- Sintered inlet filter

**Performance**
- Maximum Inlet: 3000 PSIG
- Delivery Range: See chart

**Specifications**
- **Materials**
  - **Body:** Forged Brass
  - **Diaphragm:** Stainless steel
  - **Housing Cap:** Forged Brass
  - **Inlet Filter:** Bronze

**Note:** Regulators will deliver at least the stated upper range and in some cases may exceed the stated upper range.

**Outfits with SR 450 & CSR 450 Regulators:**

<table>
<thead>
<tr>
<th>Outfit Type</th>
<th>Model No.</th>
<th>Delivery Range (PSIG)</th>
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**Note:** See Outfits Section F

**Part No.**
- 0781-0486 SR450D-540 with Gauge Guards
- 0781-0487 SR460A-510 with Gauge Guards
- 0781-0488 SR460A-300 with Gauge Guards
- 0785-0547 SR450D-992-00 with Gauge Guards
- 0785-0548 SR460A-993-00 with Gauge Guards

**Flow Chart:** Section A, Page 41
### APPLICATION & USES

**VTS 450 Series**
- Medium to high capacity gas service
- Precise and constant outlet pressure
- Two stage design
- Manifold models available. See page 19, Section A

**Dimensions:** 8” W x 8” H x 7-3/8” D  
(20 cm x 20 cm x 19 cm)

**Weight:** ........ 7 lb. 6 oz. (3.67 kg)

### DESIGN/CONSTRUCTION

- Forged brass body and housing cap
- 2-1/2” gauges brass
- Stem type seat mechanism
- Diaphragm - 2”, 3-1/4” (Stainless Steel)
- Delrin® cap bushing for smooth adjustments
- External self reseating relief valve
  - Not designed to protect downstream apparatus
  - (No relief valve is needed on VTS 460 and VTS 461 series regulators)
- Sintered inlet filter

**PERFORMANCE**

Maximum Inlet .......................3000 PSIG  
Delivery Range ......................See chart

### SPECIFICATIONS MATERIALS

- Body .................Forged Brass
- Diaphragm..................Stainless Steel
- Housing Cap.................Forged Brass
- Inlet Filter.................Bronze

**NOTE:** Regulators will deliver at least the stated upper range and in some cases may exceed the stated upper range.

#### SAMPLE ORDERING INFORMATION

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<th>Gas Service</th>
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**Delivery Range Key**

- A 2-15 PSIG,  B 2-40 PSIG,  D 5-125 PSIG,  E 10-200 PSIG

**Outlet Connections:** Cylinder Type

- 9/16” - 18 (M)
- 04 = 5/8” - 18 (F) RH
- 05 = 5/8” - 18 (F) LH

**Flow Chart:** Section A, Page 41
VGS 350, 450 & VGT 450 Series
Gaugeless Regulators
Heavy/Medium Duty

APPLICATION & USES
VGS 450 / VGS 350
Single Stage Series
• Severe duty applications where standard gauges are impractical
• Increases durability and reduces down time
• Heavy & medium duty applications
• Single stage construction (Illus. page 5)

VGS 350
Dimensions: 5-1/2" W x 4-1/4" H x 5" D
(15.7 cm x 13.46 cm x 16.34 cm)
Weight: ....... 3 lb. 3 oz (1.58 kg)

VGS 450
Dimensions: 6-1/8" W x 5-1/4" H x 6-3/8" D
(15.7 cm x 13.46 cm x 16.34 cm)
Weight: ....... 4 lb. 14 oz. (2.42 kg)

VGT 450 Two Stage Series
• Severe duty applications where standard gauges are impractical
• Increases durability and reduces down time
• Heavy duty applications
• Two stage construction

VGT 450
Dimensions: 6-1/8" W x 5-1/4" H x 7-1/8" D
(15.7 cm x 13.46 cm x 17.26 cm)
Weight: ....... 5 lb. 10 oz. (2.80 kg)

DESIGN/CONSTRUCTION
• Forged brass body and housing cap
• Stem type seat mechanism
• Diaphragms - 2", 3-1/4" (Stainless Steel)
• Inlet pressure indicator
• Delrin® cap bushing for smooth adjustments
• External self reseating relief valve. Not designed to protect downstream apparatus (No relief valve is needed on VGS 460)
• Sintered inlet filter

PERFORMANCE
Maximum Inlet ....................... 3000 PSIG
Delivery Range ..................... See chart

NOTE: Regulators will deliver at least the stated upper range and in some cases may exceed the stated upper range.

SPECIFICATIONS MATERIALS
Body ..................................... Forged Brass
Diaphragm........................... Stainless Steel
Housing Cap ......................... Forged Brass
Inlet Filter ............................ Bronze

Flow Chart: Section A, Page 41
SR 350 Series / Single Stage
Heavy/Medium Duty

APPLICATION AND USES
SR 350 Series
• Medium duty applications
• Applications ranging from severe to moderate conditions
• Single stage design. (Illus. page 5) *

Dimensions: 7-1/2” W x 6-1/2” H x 4-1/2” D
(19.23 cm x 16.27 cm x 11.53 cm)
Weight: ........ 3 lb. 8 oz. (1.74 kg)

DESIGN/CONSTRUCTION
• Forged brass body and housing cap
• 2-1/2” gauges brass
• Stem type seat mechanism
• 2-3/4” diaphragm
• Delrin® cap bushing for smooth adjustments
• External self reseating relief valve not designed to protect downstream apparatus (no relief valve is needed on SR 360 regulators)
• Sintered inlet filter

SPECIFICATIONS PERFORMANCE
Maximum Inlet .......................3000 PSIG
Delivery Range ................. See Chart

MATERIALS
Body ..................................Forged Brass
Diaphragm ......................... Fabric Reinforced Neoprene
Housing Cap .....................Forged Brass
Inlet Filter ......................... Bronze

NOTE: Regulators will deliver at least the stated upper range and in some cases may exceed the stated upper range.

* Not available in two stage construction.

SAMPLE ORDERING INFORMATION

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<th>Model No.</th>
<th>Delivery Range CGA Inlet Connection</th>
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Gas Service | Model No. | Delivery Range (PSIG) | Part No. |
-------------|-----------|------------------------|----------|
Oxygen       | SR 350 D-540 | 5-125                 | 0781-2341 |
             | CSR 350 D-540 | 5-125                 | 0781-2274 |
Acetylene    | **CSR 360 A-510 | 2-15                 | 0781-2408 |
             | **CSR 360 A-300 | 2-15                 | 0781-2400 |

Delivery Range Key
A 2-15 PSIG  D 5-125 PSIG
Outlet Connections: Cylinder Type
9/16” 18 (M)
9/16” 18 (M) RH
9/16” 18 (M) LH
CSR * Green Gauges-Oxygen ** Red Gauges-Fuel

Outfits with SR350 & CSR 350 Regulators:
Super Range® VanGuard™
Super Range® II VanGuard™
Cutter “Select™”
See Outfits Section F

Flow Chart: Section A, Page 42
SR 250 Series / Single Stage Medium Duty

APPLICATION & USES
SR 250 Series
- Medium duty capacity.
- Ideal for welding and cutting applications.
- Compact single stage construction.
See Illus. page 5, Section A

Dimensions: 6-3/8" W x 5-1/8" H x 4-1/4" D
(16.5 cm x 13 cm x 11 cm)
Weight: ....... 2 lb. 15 oz. (1.4 kg)

DESIGN/CONSTRUCTION
- Forged brass body and housing cap
- 2" gauges
- Stem type seat mechanism
- 1-3/4" diaphragm
- Delrin® cap bushing for smooth adjustments
- External self reseating relief valve not designed to protect downstream apparatus
  (No relief valve is needed on SR 260 and SR 261 series regulators)
- Sintered inlet filter

SPECIFICATIONS PERFORMANCE
Maximum Inlet .........................3000 PSIG
Delivery Range ......................See chart

MATERIALS
Body......................Forged Brass
Diaphragm............Fabric Reinforced Neoprene
Housing Cap........Forged Brass
Inlet Filter..........Bronze

NOTE: Regulators will deliver at least the stated upper range at no flow and in some cases may exceed the stated upper range.

SAMPLE ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Model No.</th>
<th>Delivery Range (PSIG)</th>
<th>Part No.</th>
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Delivery Range Key
A 2-15 PSIG   B 2-40 PSIG   C 4-80 PSIG   D 5-125 PSIG

Outlet Connections: Cylinder Type
9/16" - 18 (M)
 vodka = 5/8" - 18 (F) RH
 vodka = 5/8" - 18 (F) LH

CS Clamshell pkg.
WQ (Fits Linde WQ type acetylene cylinders)
CSR * Green Gauges-Oxygen ** Red Gauges-Fuel

A THERMODYNE. Company
VTS 250 Series
Two Stage Regulators
Medium Duty

APPLICATION & USES
VTS 250 Series
• Medium duty gas service
• Precise and constant delivery pressure
• Models available for most gas services
• Ideal for some laboratory applications

Dimensions: 6-1/2" W x 5-5/8" H x 6-1/8" D
(16.5 cm x 14.0 cm x 15.0 cm)

Weight: .......... 4 lb. 10 oz. (2.61 kg)

DESIGN/CONSTRUCTION
• Forged brass body and housing cap
• 2" gauges
• Stem type seat mechanism
• Diaphragm 1-1/8" and 1-3/4"
  See Illustration Page 5, Section A
• Delrin® cap bushing for smooth adjustments
• External self reseating relief valve not designed to protect downstream apparatus
  (No relief valve is needed on VTS 260 series regulators)
• Sintered inlet filter

SPECIFICATIONS PERFORMANCE
Maximum Inlet ......................... 3000 PSIG
Delivery Range ....................... See chart

MATERIALS
Body.............................. Forged Brass
Diaphragm................. Fabric Reinforced Neoprene
Housing Cap............... Forged Brass
Inlet Filter....................... Bronze

NOTE: Regulators will deliver at least the stated upper range at and in some cases may exceed the stated upper range.

SAMPLE ORDERING INFORMATION

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Delivery Range Key
A 2-15 PSIG   B 2-40 PSIG,
C 4-80 PSIG   D 5-125 PSIG

Outlet Connections: Cylinder Type
9/16" - 18 (M)
ø4 = 5/8" - 18 (F) RH
ø6 = 5/8" - 18 (F) LH

Flow Chart: Section A, Page 42
**APPLICATION & USES**

**SR 5 Series**
- Light duty capacity
- Light weight, compact
- Models available for various gas services
- Single stage design. See illus. page 5, section A.

**Dimensions:** 4-3/4" W x 4-1/4" H x 3-1/4" D
(12 cm x 11 cm x 8 cm)

**Weight:** ....... 1 lb. 12 oz. (.87 kg)

**DESIGN/CONSTRUCTION**
- Machined brass body and cap
- 1-1/2" gauges
- Stem type seat assembly
- 1-1/4" diaphragm
- Internal self reseating diaphragm relief valve
  (No relief valve is needed on SR 6)
- Sintered inlet filter

**SPECIFICATIONS PERFORMANCE**
- Maximum Inlet: .................3000 PSIG
- Delivery Range: .................See chart

**MATERIALS**
- Body: Machined Brass
- Diaphragm: Neoprene
- Housing Cap: Machined Brass
- Inlet Filter: Bronze

**NOTE:** Regulators will deliver at least the stated upper range at no flow and in some cases may exceed the stated upper range.
SR 150R Rear Entry Regulators
Single Stage • Light Duty

APPLICATION & USES
SR 150R Series
• Light duty flow rates
• Rear entry inlet, ideal for plant maintenance
• Color coded gauges available on some models
• Single Stage design. See illus. page 5, section A.
• Sintered inlet filter.

SAMPLE ORDERING INFORMATION

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<th>Model No.</th>
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<td>SR150CR-540-CS</td>
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<td>Acetylene</td>
<td>SR160AR-200</td>
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Delivery Range Key: AR 2-15PSIG  CR 4-80 PSIG
Outlet Connections: 9/16” - 18 (M)
CS Clamshell Pkg.

MATERIALS
Body..........................Machined Brass
Diaphragm....................Neoprene
Housing Cap..................Machined Brass
Inlet Filter..................Bronze

Kits with SR 150R & CSR 150CR Regulators:
Portable Torch VanGuard™

See Outfits Section F
SR 4 Series High Pressure Piston Regulators Single Stage

APPLICATION & USES
SR 4* Series
• High Pressure.
• Ideally suited for pressure vessel testing.
• Dead-end testing.
• Delivery pressures up to 4500 PSIG on some models.
• May be panel mounted.
• Single Stage design.

Dimensions: 6” W x 6-1/2” H x 6-1/4” D
(15 cm x 16 cm x 15.5 cm)
Weight: ....... 4 lb. (1.8 kg)

OTHER DATA
• All SR 4 series regulators have 1/4” swaged lock type stainless steel outlet fittings.

Panel Mounting Details
• All SR 4 series regulator models may be panel mounted.
  (1-3/4” hole required in panel for mounting) For a flush panel mount installation order one (1) panel mount nut 1409-0093.
  For an adjustable panel mount installation order two (2) panel mount nuts 1409-0093.

DESIGN/CONSTRUCTION
• Piston type actuation
• Machined body and cap
• 2-1/2” gauges brass
• Cartridge type seat assembly with PCTFE seat
• Delrin® cap bushing for smooth adjustments
• External adjustable relief valves on F and G range models
• Hydrogen models have ventable relief valves
  *CJ Series Does Not
• Sintered inlet filter

SPECIFICATIONS PERFORMANCE
MAXIMUM INLET
7500 PSIG with CGA 677
6000 PSIG without Inlet Fitting
5500 PSIG with CGA 701, 680, 347
4000 PSIG with CGA 577
3000 PSIG with CGA 540, 580, 346, 350

NOTE: Regulators will deliver at least the stated upper range at no flow and in some cases may exceed the stated upper range.

MATERIALS
Body..........................Machined Brass
Piston..........................Brass
Housing Cap .................Machined Brass
Inlet Filter ......................Bronze

Flow Chart: Section A, Page 44
### SAMPLE ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Model No.</th>
<th>Delivery Range (PSIG)</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>SR 4F-540</td>
<td>50-750</td>
<td>0781-1405</td>
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<tr>
<td></td>
<td>SR 4G-540</td>
<td>100-1500</td>
<td>0781-1425</td>
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<td>SR 4J-540</td>
<td>200-3000</td>
<td>0781-1445</td>
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<tr>
<td>Inert Gas</td>
<td>SR 4F-580</td>
<td>50-750</td>
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<td>SR 4F-680</td>
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<td>SR 4G-580</td>
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<td>SR 4J-677</td>
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<td>SR 4K-680</td>
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<td>SR 4K-677</td>
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<td>Air</td>
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<td>SR 4G-346</td>
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<td></td>
<td>SR 4K-347</td>
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<td>Methane</td>
<td>SR 4F-350</td>
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<td>Hydrogen</td>
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<td>SR 4J-350</td>
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<tr>
<td>Carbon</td>
<td>SR 4F-320</td>
<td>50-750</td>
<td>0781-1401</td>
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<td>Dioxide</td>
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<tr>
<td>Panel</td>
<td>SR 4PF-250*</td>
<td>50-750</td>
<td>0781-1415</td>
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<tr>
<td>Mount</td>
<td>SR 4PG-250*</td>
<td>100-1500</td>
<td>0781-1420</td>
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<tr>
<td>1/4&quot; NPT</td>
<td>SR 4PJ-250*</td>
<td>200-3000</td>
<td>0781-1455</td>
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<tr>
<td>Inlet</td>
<td>SR 4PK-250*</td>
<td>300-4500</td>
<td>0781-1475</td>
</tr>
<tr>
<td>Manifold</td>
<td>SR 4TJ-996</td>
<td>200-3000</td>
<td>0781-1454</td>
</tr>
<tr>
<td>High Pressure</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Delivery Range Key**

- **F** 50-750 PSIG
- **G** 100-1500 PSIG
- **J** 200-3000 PSIG
- **K** 300-4500 PSIG

**Inlet Fitting:** * - 1/4" NPT (F)

**Outlet Fitting:** 1/4" Swagelok® type stainless steel.
SR 600 Series Regulators
High Pressure Regulators
Single Stage

APPLICATION & USES
SR 600 Series
• Designed for pressure testing
• Ideal where 350 or 550 (maximum) delivery pressures are needed
• Dead-end testing

Dimensions: 7-1/2" W x 6" H x 5" D
(19.23 cm x 15.38 cm x 12.82 cm)
Weight: 5 lb. 7 oz. (2.70 kg)

DESIGN/CONSTRUCTION
• Forged brass body and housing cap
• Stainless steel diaphragm
• 2-1/2" gauges brass (6000 lb High Pressure, 600 lb and 1000 lb. Low Pressure)
• Cartridge Seat Assembly
• External self-Reseating Relief Valve
• CGA 540, 580, 346 have a maximum inlet pressure of 3000 psig
• Single Stage design (See Illus. Page 5, Section A)

SPECIFICATIONS
PERFORMANCE
Maximum Inlet.......................5500 PSIG
Outlet Pressure
Ranges...................... 350 and 550 PSIG
Inlet Port.................................5/8"-20
Outlet Fitting ............1/4" Swagelok® Brass
Temperature Operating Range...0-140°F

MATERIALS
Body .................................. Forged Brass
Spring Housing Cap ....... Forged Brass
Diaphragm .......................Stainless Steel
Nozzle .............................................Brass
Seat ..............................................PCTFE
Seat Return Spring .......Stainless Steel
Pressure Adjusting Spring ....Music Wire
O-Rings ...................................BUNA-NTM

NOTE: Regulators will deliver at least the stated upper range at no flow and in some cases may exceed the stated upper range.

SAMPLE ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Delivery Range</th>
<th>CGA Inlet Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR 600</td>
<td>350</td>
<td>540</td>
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</table>

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Model Number</th>
<th>Delivery Range (PSIG)</th>
<th>Part Number</th>
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<tbody>
<tr>
<td>350 PSIG DELIVERY</td>
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<tr>
<td>Inert Gas</td>
<td>SR600-350-580</td>
<td>5-350</td>
<td>0781-1601</td>
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<tr>
<td>High Pressure Inert Gas</td>
<td>SR600-350-680</td>
<td>5-350</td>
<td>0781-1604</td>
</tr>
<tr>
<td>High Pressure Air</td>
<td>SR600-350-347</td>
<td>5-350</td>
<td>0781-1605</td>
</tr>
</tbody>
</table>

| 550 PSIG Delivery  |              |                       |             |
| Oxygen             | SR600-550-540| 5-550                 | 0781-1610   |
| Inert Gas          | SR600-550-580| 5-550                 | 0781-1611   |

Outlet Fitting: 1/4" Swagelok® Brass

Flow Chart: Section A, Page 44
**Manifold Regulators**

**High Delivery, High Flow**

**Heavy Duty**

**MANIFOLD REGULATORS**

**SAMPLE ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Manifold</th>
<th>Delivery Range (PSIG)</th>
<th>Part No.</th>
</tr>
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<tbody>
<tr>
<td><strong>SR 450</strong></td>
<td><strong>MD-996</strong></td>
<td><strong>F</strong></td>
<td>100-1500</td>
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<tr>
<td><strong>SR 450</strong></td>
<td><strong>ME-996</strong></td>
<td><strong>G</strong></td>
<td>200-3000</td>
</tr>
<tr>
<td><strong>SR 450</strong></td>
<td><strong>MAP-997</strong></td>
<td><strong>J</strong></td>
<td>10-200</td>
</tr>
<tr>
<td><strong>SR 450</strong></td>
<td><strong>MB-997</strong></td>
<td><strong>K</strong></td>
<td>5-125</td>
</tr>
<tr>
<td><strong>SR 700</strong></td>
<td><strong>MD-996</strong></td>
<td><strong>A</strong></td>
<td>50-750</td>
</tr>
<tr>
<td><strong>SR 700</strong></td>
<td><strong>ME-996</strong></td>
<td><strong>B</strong></td>
<td>100-1500</td>
</tr>
<tr>
<td><strong>SR 700</strong></td>
<td><strong>ME-997</strong></td>
<td><strong>C</strong></td>
<td>200-3000</td>
</tr>
<tr>
<td><strong>SR 700</strong></td>
<td><strong>ME-998</strong></td>
<td><strong>D</strong></td>
<td>50-750</td>
</tr>
<tr>
<td><strong>SR 700</strong></td>
<td><strong>ME-999</strong></td>
<td><strong>E</strong></td>
<td>100-1500</td>
</tr>
<tr>
<td><strong>SR 700</strong></td>
<td><strong>ME-1000</strong></td>
<td><strong>F</strong></td>
<td>200-3000</td>
</tr>
<tr>
<td><strong>SR 700</strong></td>
<td><strong>ME-1001</strong></td>
<td><strong>G</strong></td>
<td>50-750</td>
</tr>
<tr>
<td><strong>SR 700</strong></td>
<td><strong>ME-1002</strong></td>
<td><strong>H</strong></td>
<td>100-1500</td>
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<tr>
<td><strong>SR 700</strong></td>
<td><strong>ME-1003</strong></td>
<td><strong>I</strong></td>
<td>200-3000</td>
</tr>
<tr>
<td><strong>SR 700</strong></td>
<td><strong>ME-1004</strong></td>
<td><strong>J</strong></td>
<td>50-750</td>
</tr>
</tbody>
</table>

**DELIVERY RANGE KEY**

- **A** 2-15 PSIG
- **B** 2-40 PSIG
- **C** 5-125 PSIG
- **D** 10-200 PSIG
- **E** 50-750 PSIG
- **F** 100-1500 PSIG
- **G** 200-3000 PSIG
- **H** 50-750 PSIG
- **I** 100-1500 PSIG
- **J** 200-3000 PSIG

**Connections:**

- 1”-11/2 NPS(M) on Inlet
- 1”-11/2 NPS(F) on Outlet

---

**APPLICATION & USES**

**Manifold Regulators**

- Wide range of flow capabilities
- Wide range of pressure delivery
- Single and Two stage models available

---

**Two Stage Design**

**VTS 700 Regulator**

- Wide range of flow capabilities
- Wide range of pressure delivery
- Single and Two stage models available

---

**Single Stage Design**

**SR Series Manifold Regulator**

- Low pressure delivery, low flow
- Wide range of pressure delivery
- Single and Two stage models available

---

**Conforms to**

- CGA E-4
HSR & HVTS Regulator/Flowmeter Combination
Single & Two Stage

APPLICATION & USES
HSR & HVTS Series
• Single or Two Stage design
• Compact in size
• Accurate regulator for gas flow
• MIG / TIG applications
• Two Stage version provides extremely accurate flow rates as cylinder pressures decline
• Low surge rates. 25 PSI preset

HSR Models
Dimensions: 7” W x 6-1/4” H x 4-1/4” D
(17.28cm x 15.87cm x 10.79cm)
Weight: .......... 3 lb. 3 oz. (1.58 kg)

HVTS Models
Dimensions: 7” W x 5-1/2” H x 6-1/2” D
(17.78cm x 13.97cm x 16.51cm)
Weight: .......... 4 lb. 10 oz. (2.30 kg)

DESIGN/CONSTRUCTION
• Forged brass body and housing cap
• 2” High pressure gauge
• Stem type seat mechanism
• External self reseating relief valve
  Not designed to protect downstream apparatus
• Sintered inlet filter

SPECIFICATIONS PERFORMANCE
Maximum Inlet .......................3000 PSIG
Outlet pressure, preset ...............25 PSIG
Flow capacity See ordering information chart

MATERIALS
Body..............................................Forged Brass
Housing Cap....................................Forged Brass
Diaphragm....................................Fabric Reinforced Neoprene
Inlet Filter....................................Sinter Bronze
Flowmeter Tube & Cover.............Lexan

SAMPLE ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Model No.</th>
<th>CGA Inlet Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSR 2530</td>
<td>580</td>
</tr>
<tr>
<td>HVTS 2570</td>
<td>580</td>
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</table>
# HSR & HVTS Regulator/Flowmeter Combination Single & Two Stage (cont.)

## ORDERING INFORMATION

### UNITS WITH TWO GAS CALIBRATIONS ON FLOWMETER

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>SINGLE STAGE FLOWMETER</th>
<th>TWO STAGE FLOWMETER</th>
<th>Flowmeter Range (SCFH)</th>
<th>Specify CGA Inlet Connection</th>
<th>Replacement Tube &amp; Float</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen/Air</td>
<td>* HSR 2530 0781-3819</td>
<td>-</td>
<td>10-60</td>
<td>580</td>
<td>1015-0070</td>
</tr>
<tr>
<td>Argon/Helium</td>
<td>* HSR 2535 0781-3867</td>
<td>* HVTS 2535 0781-3775</td>
<td>4 - 18 / 10 - 50</td>
<td>580</td>
<td>1015-0071</td>
</tr>
<tr>
<td>Argon/Helium</td>
<td>* HSR 2537 0781-3871</td>
<td>* HVTS 2537 0781-3772</td>
<td>15 - 65 / 40 - 200</td>
<td>580</td>
<td>1015-0064</td>
</tr>
</tbody>
</table>

**WARNING:** High gas withdrawal rates on carbon dioxide may require cylinder manifolding. Consult your gas supplier.

**Outlet Connections:** ★ = 5/8” - 18 RH(F)

### UNITS WITH THREE GAS CALIBRATIONS ON FLOWMETER

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>SINGLE STAGE FLOWMETER</th>
<th>TWO STAGE FLOWMETER</th>
<th>Flowmeter Range (SCFH)</th>
<th>Specify CGA Inlet Connection</th>
<th>Replacement Tube &amp; Float</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argon</td>
<td>* HSR 2570 0781-3873</td>
<td>* HVTS 2570 0781-3774</td>
<td>5-40</td>
<td>-</td>
<td>1015-0057</td>
</tr>
<tr>
<td>Argon/(CO₂) Mix</td>
<td>* HSR 2570 0781-3873</td>
<td>* HVTS 2570 0781-3774</td>
<td>20-150</td>
<td>-</td>
<td>-</td>
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</table>

**Outlet Connections:** ★ = 5/8” - 18 RH(F)
**APPLICATION & USES**

**HRF 2400 Series**
- Regulator / Flowmeter combination in one compact unit.
- MIG / TIG applications.
- Ideal for all applications where dependability is needed.
- Calibrated tube at 25 PSIG (Not on HRF 2480)

**Dimensions:** 5-5/8" W x 8-1/4" H x 3" D
(14.29cm x 20.93cm x 7.62cm)

**Weight:** ........ 2 lb. 8 oz. (1.24 kg)

**DESIGN/CONSTRUCTION**
- Machined brass body and housing cap
- Back pressure compensated
- Sintered inlet filter
- Internal self reseating relief (not designed to protect downstream apparatus)

**SPECIFICATIONS PERFORMANCE**
- Maximum Inlet: ..................3000 PSIG
- Outlet pressure preset:
  - HRF 2425: ......................25 PSIG
  - HRF 2480: ......................80 PSIG
- Flow Capacity: ..................See chart

**MATERIALS**
- Body: .......................Brass
- Housing Cap: ...............Brass
- Diaphragm: ................ Fabric Neoprene
- Inlet Filter: ...............Sinter Bronze
- Flowtube: ..................Lexan
- Flowtube Cover: ...........Lexan

**SAMPLE ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>CGA Inlet Connection</th>
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<tbody>
<tr>
<td>HRF 2480</td>
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**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>GAS SERVICE</th>
<th>MODEL NO.</th>
<th>PART NO.</th>
<th>FLOW METER RANGE (SCFH)</th>
<th>SPECIFY CGA INLET CONNECTION</th>
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<tbody>
<tr>
<td>Argon</td>
<td>HRF 2425 Preset @ 25 PSIG</td>
<td>0781-2731</td>
<td>10-50 (Argon) 20-150 (Helium)</td>
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<td>Argon/CO₂ Mix</td>
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<tr>
<td>Helium</td>
<td>HRF 2480 Preset @ 80 PSIG</td>
<td>0781-2728</td>
<td>10-38 (CO₂) 7.5-37.5 (Argon)</td>
<td>320, 580</td>
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<tr>
<td>Carbon Dioxide</td>
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</tr>
<tr>
<td>CO₂ Mixes</td>
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</tr>
</tbody>
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Outlet Connection: 5/8" - 18 (F) RH, CGA 032.
AF 250/CF 253
Flowgauge Regulators

APPLICATION & USES
AF 250 & CF 253 Series
- Ideal for MIG / TIG applications where a flowmeter is not necessary or impractical.
- Designed for small to medium diameter MIG applications (.025 wire to .045 wire).

Dimensions: 6-3/8" W x 5-1/8" H x 4-1/4" D
(16.19cm x 13.01cm x 10.79cm)
Weight: .......... 2 lb., 15 oz. (1.46 kg)

DESIGN/CONSTRUCTION
- Forged brass body and housing cap
- 2" Gauges
- Stem type seat mechanism
- 1-3/4" diaphragm
- Delrin® cap bushing for smooth adjustments
- Internal self reseating relief valve not designed to protect downstream apparatus
- Sintered inlet filter

WARNING:
High gas withdrawal rates may cause regulator freeze up and will require cylinder manifolding. Consult your gas supplier.

Gas Heaters:
See page 39, Section A, manufactured for either Carbon Dioxide (CO₂) or Nitrous Oxide (N₂O).

*Note: A regulator equipped with a flow gauge is not accurate when a back pressure in excess of 2 PSIG exists at the outlet. Back pressure is caused by a restriction in the apparatus downstream of the flowgauge. Metering valves, kinked hoses or even very long hoses are restrictions that can cause back pressure. In applications where back pressure in excess of 2 PSIG can be expected, a regulator equipped with a flowmeter should be used.

SAMPLE ORDERING INFORMATION

<table>
<thead>
<tr>
<th>CGA Inlet</th>
<th>Model No.</th>
<th>Flow Range</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argon</td>
<td>AF 250-580*</td>
<td>10-40 SCFH</td>
<td>580</td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>CF 253-320*</td>
<td>7-35 SCFH</td>
<td>320</td>
</tr>
</tbody>
</table>

Outlet Connection: 5/8" - 18 (F) RH, CGA 032.

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Model No.</th>
<th>Part No.</th>
<th>Flow Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argon</td>
<td>AF 250-580*</td>
<td>0781-0350</td>
<td>10-40 SCFH</td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>CF 253-320*</td>
<td>0781-0351</td>
<td>7-35 SCFH</td>
</tr>
</tbody>
</table>

*Note: A regulator equipped with a flow gauge is not accurate when a back pressure in excess of 2 PSIG exists at the outlet. Back pressure is caused by a restriction in the apparatus downstream of the flowgauge. Metering valves, kinked hoses or even very long hoses are restrictions that can cause back pressure. In applications where back pressure in excess of 2 PSIG can be expected, a regulator equipped with a flowmeter should be used.

Gas Heaters: See page 39, Section A, manufactured for either Carbon Dioxide (CO₂) or Nitrous Oxide (N₂O).
APPLICATION & USES
DFM 150 Series
• Designed to monitor two (2) separate processes or gas flows.
• Ideal for applications where Shielding gas and back purge requirements are needed.
• Designed to offer convenience for the maintenance and the fabrication industries.

DESIGN/CONSTRUCTION
Body ....................................Brass
Seat .....................................Teflon
Inlet Filter ............................Sintered Bronze
Spring .................................Music Wire
Piston ..................................Brass
Ball (Flowmeter Version).......Aluminum
Cover Tube ..........................Lexan

SPECIFICATIONS
Dimensions: DFM - 5-1/2" W x 6-1/2" H x 5" D
(14.10 cm x 16.66 cm x 12.82 cm)
Weight: ...........DFM - 2 lbs. 9 oz (1.27 kg)

NOTE:
• Flowmeter shows actual flow.
• If flow is shut off or restricted downstream of the regulator, the flow gauge will show indicated flow even though there is none.

ORDERING INFORMATION DFM Dual Flowmeter

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>PART NUMBER</th>
<th>GAS SERVICE</th>
<th>CGA INLET CONN</th>
<th>MAX INLET PSIG</th>
<th>HP GAUGE PSIG</th>
<th>FLOW METER RANGE</th>
<th>REPL. TUBE &amp; FLOAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFM 150-580</td>
<td>0781-1153</td>
<td>Argon Helium</td>
<td>580</td>
<td>3000</td>
<td>0-4000</td>
<td>5-50 SCFH Argon</td>
<td>1015-0057</td>
</tr>
</tbody>
</table>

Outlet Connection: 5/8”-18 RH (F), CGA 032
SR 310, SR 311 & 312
High Flow CO₂
Flowmeter / Flowgauge

APPLICATION & USES
SR 310, SR 311 & SR 312 Series
- Designed for CO₂ application (non-siphoned tube cylinders)
- High flow CO₂ applications (SR 310 100 PSIG) (SR 311/312 100 SCFH) with adequate supply or source
- Designed for core wire applications
Dimensions: 8-3/8" W x 7-1/4" H x 2-1/2" D
(21.65 cm x 18.58 cm x 6.4 cm)
Weight: ........2 lb. 15 oz. (1.46 kg)

DESIGN/CONSTRUCTION
- Machined body and housing cap
- 2" Gauge
- Stem type seat mechanism
- 1-3/4" Diaphragm
- Self reseating relief valve
  (Not designed to protect downstream apparatus)
- Sintered inlet filter

SPECIFICATIONS PERFORMANCE
Maximum Inlet .......................1500 PSIG
Delivery Range.......................100 SCFH

NOTE: High gas withdrawal rates may cause regulator freeze up and will require cylinder manifolding. Consult your gas supplier. See page 39, Section A for Gas Heater.

MATERIALS
Body .........................................Aluminum
Diaphragm...................Fabric Reinforced Neoprene
Housing Cap............................Aluminum
Inlet Filter ......................................Bronze

NOTE:
A regulator equipped with a flow gauge is not accurate when a back pressure in excess of 2 PSIG exists at the outlet. Back pressure is caused by a restriction in the apparatus downstream of the flowgauge. Metering valves, kinked hoses or even very long hoses are restrictions that can cause back pressure. In applications where back pressure in excess of 2 PSIG can be expected, a regulator equipped with a flowmeter should be used.

<table>
<thead>
<tr>
<th>GAS SERVICE</th>
<th>MODEL NUMBER</th>
<th>PART NUMBER</th>
<th>FLOW RANGE</th>
<th>SPECIFY CGA INLET CONNECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Dioxide</td>
<td>SR 310 Adjustable Pressure Gauge</td>
<td>0781-0355</td>
<td>10 - 150 PSIG Pressure Delivery</td>
<td>320</td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>SR 311 (Preset @ 80 PSIG) Flow Meter</td>
<td>0781-0353</td>
<td>25 - 100 SCFH</td>
<td>320</td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>SR 312 Flow Gauge</td>
<td>0781-0354</td>
<td>0 - 100 SCFH</td>
<td>320</td>
</tr>
</tbody>
</table>

Outlet Connection: 5/8" - 18 RH (F)
LC 350DR Series
Liquid Cylinder Regulators

APPLICATION & USES
LC-350DR Series
- Ideally suited for full range of control of vaporized gas
- Vapor side of liquid vessel
- Ideally suited to replace cylinder regulator often used on liquid vessel
- High flow rates with proper sizing of supply

DESIGN & CONSTRUCTION
- Designed for vapor side application on liquid vessel
- External pressure relief valve on high pressure side (500 PSI)
- Delrin® cap bushing for smooth adjustment
- Forged brass body and housing cap
- Stem type seat mechanism
- 2-1/2" diameter brass gauge for easy readability
- 2-3/4" stainless steel diaphragm

MODEL SPECIFICATIONS
Maximum Inlet .........................500 PSIG
Delivery Range .....................5-325 PSIG

NOTE: Regulators will deliver at least the stated upper range and in some cases may exceed the stated upper range.

MATERIALS OF CONSTRUCTION
Body ..................................Forged Brass
Housing Cap ........................Forged Brass
Diaphragm .........................Stainless steel
Inlet Filter .........................Stainless steel
Seat ..................................Neoprene

Flow Charts: Section A, Page 44
S 700 Station Regulators

APPLICATION & USES
S 700 Series
• Extra Heavy duty
• Designed for gas distribution system (pipeline)
• Available for a wide range of gas services
• Inlet pressure up to 200 PSIG

DESIGN/CONSTRUCTION
• Forged brass body and housing cap
• 2-1/2" brass gauge
• Stem type seat mechanism
• 3-1/4" diaphragm
• Delrin® cap bushing for smooth adjustments

PERFORMANCE
Maximum Inlet..............S Series 200 PSIG

SAMPLE ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Delivery Range</th>
<th>Inlet Assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>S 700</td>
<td>D 996</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Model No.</th>
<th>Delivery Range (PSIG)</th>
<th>Connections</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen Inert Gas, CO₂</td>
<td>S 700D-996</td>
<td>5-125</td>
<td>1&quot;-11 1/2&quot; NPS(F)</td>
<td>0780-1273</td>
</tr>
</tbody>
</table>

Delivery Range Key
A 2-15 PSIG    B 20-40 PSIG    C 4-80 PSIG    D 5-125 PSIG

See Victor® Gas Systems Manifold Catalog for additional information.

Flow Chart: Section A , Page 43
**APPLICATION & USES**

**L 700 Series**
- Extra Heavy duty.
- Designed for Gas Distribution System (pipeline).
- Available in either 1/2" NPT(F) or 3/4" NPT(F) inlet.
- Inlet pressure up to 350 PSIG.

**DESIGN/CONSTRUCTION**
- Forged brass body and housing cap
- 2-1/2" brass gauge
- Stem type seat mechanism
- 3-1/4" diaphragm
- Delrin® cap bushing for smooth adjustments

## SAMPLE ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Model No.</th>
<th>Delivery Range (PSIG)</th>
<th>Inlet &amp; Outlet Ports</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air, Oxygen</td>
<td>L 700C-500</td>
<td>4-80</td>
<td>1/2&quot; NPT(F)</td>
<td>0780-1229</td>
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<tr>
<td></td>
<td>L 700C-750</td>
<td></td>
<td>3/4&quot; NPT(F)</td>
<td>0780-1220</td>
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<tr>
<td>Inert Gas</td>
<td>L 700D-500</td>
<td>5-125</td>
<td>1/2&quot; NPT(F)</td>
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<td>L 700D-500 PMT,</td>
<td></td>
<td>1/2&quot; NPT(F)</td>
<td>0780-1236</td>
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<tr>
<td></td>
<td>Panel Mount</td>
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<td>3/4&quot; NPT(F)</td>
<td>0780-1209</td>
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<tr>
<td>CO₂, N₂O</td>
<td>L 700D-750</td>
<td>10-200</td>
<td>1/2&quot; NPT(F)</td>
<td>0780-1221</td>
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<tr>
<td></td>
<td>L 700E-500</td>
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<td>3/4&quot; NPT(F)</td>
<td>0780-1222</td>
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<td></td>
<td>L 700E-750</td>
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<td></td>
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<tr>
<td>Acetylene</td>
<td>L 710A-500</td>
<td>2-15</td>
<td>1/2&quot; NPT(F)</td>
<td>0780-1233</td>
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<td></td>
<td>L 710A-750</td>
<td></td>
<td>3/4&quot; NPT(F)</td>
<td>0780-1201</td>
</tr>
<tr>
<td>Hydrogen L.P. Gas</td>
<td>L 711D-500</td>
<td>4-80, 5-125</td>
<td>1/2&quot; NPT(F)</td>
<td>0780-1199</td>
</tr>
</tbody>
</table>

**Delivery Range Key:**
- A 2-15 PSIG
- C 4-80 PSIG
- D 5-125 PSIG
- E 10-200 PSIG

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**Flow Charts:** Section A, Page 43
S 350 Station Regulators
Medium Duty/Heavy Duty

APPLICATION & USES
S 350 Series
- Medium to heavy duty flow requirement
- Gas distribution systems (pipeline)
- Wide range of delivery pressures available
- Matched to the CGA inlet connection for specific gas service and valve (See connection key on chart)

WARNING: The S 350 series regulators have a maximum inlet pressure of 200 PSIG.

NOTE: Regulators will deliver at least the stated upper range at no flow and in some cases may exceed the stated upper range.

DIMENSIONS:
5-1/2" W x 6-1/2" H x 5" D (side inlet) (13.97cm x 16.51cm x 12.70cm)
3" W x 6-1/2" H x 7" D (rear inlet) (7.62cm x 16.51cm x 17.78cm)

WEIGHT: 3 lb. 5 oz. (1.64 kg)

DESIGN/CONSTRUCTION
- Forged body and housing cap
- 2-1/2" gauges brass
- Stem type seat mechanism
- 2-3/4" diaphragm

NOT FOR USE ON CYLINDERS.

Sample Ordering Information

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Model No.</th>
<th>Delivery Range</th>
<th>CGA Inlet Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>SIDE INLET</td>
<td>4-80</td>
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<tr>
<td></td>
<td>S350C-024</td>
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<td>0781-2492</td>
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<tr>
<td></td>
<td>S350D-024</td>
<td></td>
<td>0781-2493</td>
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<tr>
<td></td>
<td>REAR INLET</td>
<td>2-40</td>
<td>4-80</td>
</tr>
<tr>
<td></td>
<td>S350BR-024</td>
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<td>0781-2458</td>
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<tr>
<td></td>
<td>S350CR-024</td>
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<td>0781-2459</td>
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<tr>
<td></td>
<td>*CS350DR-024</td>
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<td>0781-2509</td>
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<tr>
<td>Inert Gas CO₂</td>
<td>REAR INLET</td>
<td>5-125</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S350DR-034</td>
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<td>0781-2465</td>
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<tr>
<td>Acetylene</td>
<td>SIDE INLET</td>
<td>2-15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S360A-025</td>
<td></td>
<td>0781-2500</td>
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<tr>
<td>Hydrogen L.P. Gas</td>
<td></td>
<td>4-80</td>
<td>5-125</td>
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<tr>
<td></td>
<td>S361C-025</td>
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<td>0781-2505</td>
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<td>S361D-025</td>
<td></td>
<td>0781-2506</td>
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<tr>
<td>Acetylene</td>
<td>REAR INLET</td>
<td>2-15</td>
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<tr>
<td></td>
<td>S360AR-025</td>
<td></td>
<td>0781-2472</td>
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<tr>
<td>Hydrogen L.P. Gas</td>
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<td>4-80</td>
<td>5-125</td>
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<tr>
<td></td>
<td>S361CR-025</td>
<td></td>
<td>0781-2485</td>
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<tr>
<td></td>
<td>S361DR-025</td>
<td></td>
<td>0781-2486</td>
</tr>
</tbody>
</table>

Connections Key:
024-CGA Inlet Connection: 7/8"-14 RH(F)
Outlet Connection: "B" 9/16"-18 RH(M)

025-CGA Inlet Connection: 7/8"-14 LH(F)
Outlet Connection: "B" 9/16"-18 LH(M)

034-CGA Inlet Connection: 7/8"-14 RH(M)
Outlet Connection: 5/8"-18 (F)

Delivery Range Key:
A 2-15 PSIG  B 2-40 PSIG  C 4-80 PSIG  D 5-125 PSIG
CS * Green Gauges-Oxygen

See Victor® Gas Systems Manifold Catalog for more information.

Flow Chart: Section A, Page 42
L 350 Line Regulators
Medium Duty / Heavy Duty

APPLICATION & USES
L 350 Series
• Designed for gas distribution systems (pipeline)
• Inlet port 1/4” NPT (F)
• Wide range of gas services
• Maximum inlet 500 PSIG
• Medium to heavy duty capacity

WARNING: Maximum inlet pressure 350 PSIG
Dimensions: 3” W x 6-1/2” H x 5” D
(7.68 cm x 16.68 cm x 12.50 cm)
Weight: 3 lbs. (1.49 kg)

DESIGN/CONSTRUCTION
• Forged body and housing cap
• 2-1/2” gauge brass
• Stem type seat mechanism
• 2-3/4” diaphragm
• Delrin® cap bushing for smooth adjustments

SPECIFICATIONS PERFORMANCE
Maximum Inlet .........................500 PSIG
Delivery Ranges ......................See chart

MATERIALS
Body ...................................Forged Brass
Diaphragm .........................Fabric Reinforced Neoprene
Housing Cap ..................... Forged Brass

NOT FOR USE ON CYLINDERS.

NOTE: Regulators will deliver at least the stated upper range at no flow and in some cases may exceed the stated upper range.

SAMPLE ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Model No.</th>
<th>Delivery Range (PSIG)</th>
<th>Outlet Gauge (PSIG)</th>
<th>Inlet &amp; Outlet Ports</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air, Oxygen</td>
<td>L 350D-250</td>
<td>5-125</td>
<td>0-200</td>
<td>1/4”NPT (F)</td>
<td>0781-2455</td>
</tr>
<tr>
<td>Inert Gas, CO₂, N₂O</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen</td>
<td>L 361C-250</td>
<td>4-80</td>
<td>0-100</td>
<td>1/4”NPT (F)</td>
<td>0781-2480</td>
</tr>
<tr>
<td>L.P. Gas</td>
<td>L 361D-250</td>
<td>5-125</td>
<td>0-200</td>
<td>1/4”NPT (F)</td>
<td>0781-2481</td>
</tr>
<tr>
<td>Acetylene</td>
<td>L 360A-250</td>
<td>2-15</td>
<td>0-30</td>
<td>1/4”NPT (F)</td>
<td>0781-2467</td>
</tr>
</tbody>
</table>

Delivery Range Key
A 2-15 PSIG  C 4-80 PSIG  D 5-125 PSIG

Flow Chart: Section A, Page 42
**APPLICATION & USES**

### S 250 Series
- Light duty application
- Designed for gas distribution system (pipeline)
- Available with CGA inlet 024, 025, and 034 inlet connections
- Wide range of gas service applications
- Maximum inlet pressure 200 PSIG
- Pipeline flowgauge for Inert gases, and CO₂ applications

### L 250 Series
- Light duty application
- Designed for gas distribution system (pipeline)
- Inlet 1/4” NPT(F)
- Wide range of gas service applications
- Maximum inlet pressure 350 PSIG

---

**SAMPLE ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Delivery Range</th>
<th>CGA Inlet Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>S 250 A</td>
<td>024</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Model No.</th>
<th>Delivery Range (PSIG)</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>S 250B-024</td>
<td>2-40</td>
<td>0781-1253</td>
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<tr>
<td></td>
<td>S 250C-024</td>
<td>4-80</td>
<td>0781-1254</td>
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<td>S 250D-024</td>
<td>5-125</td>
<td>0781-1255</td>
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<tr>
<td>Inert Gas</td>
<td>S 250D-034</td>
<td>5-125</td>
<td>0781-1248</td>
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<td>S 2570-034</td>
<td>N/A</td>
<td>0781-1245</td>
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<tr>
<td>Acetylene</td>
<td>S 260A-025</td>
<td>2-15</td>
<td>0781-1256</td>
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<tr>
<td>Hydrogen L.P. Gas</td>
<td>S 261C-025</td>
<td>4-80</td>
<td>0781-1257</td>
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<td>S 261D-025</td>
<td>5-125</td>
<td>0781-1258</td>
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</table>

**Connections Key:**
- 024-CGA Inlet Connection: 7/8”-14 RH(F)
- Outlet Connection: “B” 9/16”-18 RH(M)
- 025-CGA Inlet Connection: 7/8”-14 LH(F)
- Outlet Connection: “B” 9/16”-18 LH(M)
- 034-CGA Inlet Connection: 7/8”-14 RH(M)
- Outlet Connection: 5/8”-18 (F)

**Delivery Range Key:**
- A 2-15 PSIG
- B 2-40 PSIG
- C 4-80 PSIG
- D 5-125 PSIG

---

**SAMPLE ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Delivery Range</th>
<th>Inlet Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>L 250 D</td>
<td>250</td>
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<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Model No.</th>
<th>Delivery Range (PSIG)</th>
<th>Outlet Gauge (PSIG)</th>
<th>Inlet &amp; Outlet Ports</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air, Oxygen Inert Gas CO₂, N₂O</td>
<td>L 250-500-250</td>
<td>10-400</td>
<td>0-600</td>
<td>1/4”NPT (F)</td>
<td>0781-1284</td>
</tr>
<tr>
<td></td>
<td>L 250C-250</td>
<td>4-80</td>
<td>0-100</td>
<td>0781-1283</td>
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<td>L 250D-250</td>
<td>5-125</td>
<td>0-200</td>
<td>0781-1285</td>
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</tr>
<tr>
<td></td>
<td>L 250D-250 PMT</td>
<td>5-125</td>
<td>0-200</td>
<td>1/4”NPT (F)</td>
<td>0781-1294</td>
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<tr>
<td>Acetylene</td>
<td>L 260A-250</td>
<td>2-15</td>
<td>0-30</td>
<td>1/4”NPT (F)</td>
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<td>L 260A-250 PMT</td>
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<td>0-30</td>
<td>1/4”NPT (F)</td>
<td>0781-1281</td>
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<tr>
<td>Hydrogen L.P. Gas</td>
<td>L 261C-250</td>
<td>4-80</td>
<td>0-100</td>
<td>1/4”NPT (F)</td>
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<td>L 261C-250 PMT</td>
<td>4-80</td>
<td>0-100</td>
<td>1/4”NPT (F)</td>
<td>0781-1286</td>
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</tbody>
</table>

**Delivery Range Key:**
- A 2-15 PSIG
- C 4-80 PSIG
- D 5-125 PSIG0

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**Flow Charts:** Section A, Page 43

---

**NOT FOR USE ON CYLINDERS.**
APPLICATION & USES

Flowmeter
- Gas flow measurement in SCFH
- MIG / TIG applications
- Flowtube and outer tube are made of impact resistant Lexan for severe applications
- Pressures compensate for low surge requirement

NOTE: All Victor flowmeters are back pressure compensated to ensure accurate readings at all times, even if line restrictions are present. All flowmeters are calibrated to operate at **25 PSIG inlet pressure** to minimize surge, except the FM 200 which is calibrated to operate at **80 PSIG**.

ORDERING INFORMATION

UNITS WITH SINGLE GAS CALIBRATION

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Part No.</th>
<th>Flow Range</th>
<th>Inlet Fitting</th>
<th>Outlet Fitting</th>
<th>Flowtube</th>
<th>Inlet Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM200</td>
<td>1000-0264</td>
<td>30-100 SCFH CO₂</td>
<td>1/4 NPT M</td>
<td>5/8-18 RH F</td>
<td>1015-0066</td>
<td>80 PSIG</td>
</tr>
</tbody>
</table>

Note: Not designed for cylinder use.

UNITS WITH TWO GAS CALIBRATIONS

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Part No.</th>
<th>Flow Range</th>
<th>Inlet Fitting</th>
<th>Outlet Fitting</th>
<th>Flowtube</th>
<th>Inlet Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM130</td>
<td>1000-0251</td>
<td>10-60 SCFH AIR</td>
<td>9/16-18 RH F</td>
<td>5/8-18 RH F</td>
<td>1015-0060</td>
<td>25 PSIG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10-60 SCFH NITROGEN</td>
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<tr>
<td>FM150</td>
<td>1000-0268</td>
<td>10-60 AIR</td>
<td>1/4-NPT M</td>
<td>5/8-18 RH F</td>
<td>1015-0060</td>
<td>25 PSIG</td>
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<tr>
<td></td>
<td></td>
<td>10-60 NITROGEN</td>
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<tr>
<td>FM135</td>
<td>1000-0255</td>
<td>4-18 SCFH ARGON</td>
<td>9/16-18 RH F</td>
<td>5/8-18 RH F</td>
<td>1015-0063</td>
<td>25 PSIG</td>
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<td></td>
<td></td>
<td>10-50 SCFH HELIUM</td>
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</tr>
<tr>
<td>FM145</td>
<td>1000-0256</td>
<td>4-18 SCFH ARGON</td>
<td>5/8-18 RH M</td>
<td>5/8-18 RH F</td>
<td>1015-0063</td>
<td>25 PSIG</td>
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<td></td>
<td></td>
<td>10-50 SCFH HELIUM</td>
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<td>FM155</td>
<td>1000-0257</td>
<td>4-18 SCFH ARGON</td>
<td>1/4 NPT M</td>
<td>5/8-18 RH F</td>
<td>1015-0063</td>
<td>25 PSIG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10-50 SCFH HELIUM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FM137</td>
<td>1000-0261</td>
<td>15-65 SCFH ARGON</td>
<td>9/16-18 RH F</td>
<td>5/8-18 RH F</td>
<td>1015-0064</td>
<td>25 PSIG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40-200 SCFH HELIUM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>40-200 SCFH HELIUM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FM157</td>
<td>1000-0263</td>
<td>15-65 SCFH ARGON</td>
<td>1/4 NPT M</td>
<td>5/8-18 RH F</td>
<td>1015-0064</td>
<td>25 PSIG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40-200 SCFH HELIUM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Not designed for cylinder use.
## Flowmeter (cont.)

### UNITS WITH THREE GAS CALIBRATION

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Part No.</th>
<th>Flow Range</th>
<th>Inlet Fitting</th>
<th>Outlet Fitting</th>
<th>Flowtube</th>
<th>Inlet Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM370</td>
<td>1000-0258</td>
<td>5-40 SCFH CO₂</td>
<td>9/16-18 RH F</td>
<td>5/8-18 RH F</td>
<td>1015-0057</td>
<td>25 PSIG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-50 SCFH ARGON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20-150 SCFH HELIUM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-50 SCFH ARGON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20-150 SCFH HELIUM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FM372</td>
<td>1000-0182</td>
<td>5-40 SCFH CO₂</td>
<td>1/4 NPT 18M</td>
<td>5/8-18 RH F</td>
<td>1015-0057</td>
<td>25 PSIG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-50 SCFH ARGON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Not designed for cylinder use.
**Special Application Regulators**

**DL 700 Dome Loaded Line Regulator**

**APPLICATION & USES**

**DL 700 Series**
- Externally dome loaded
- Pilot regulator or pressure regulator required
- Remotely controlled pressure adjustment
- Designed for cutting machines
- Designed for applications that demand very consistent delivery pressures

**DIMENSIONS:**
- 3-3/4" W x 4" H x 5-5/8" D
- (9.52cm x 10.16cm x 2.20cm)

**WEIGHT:**
- 4 lbs. 8 oz. (2.24 kg)

**DESIGN/CONSTRUCTION**
- Stem type seat mechanism
- 1/2" NPT (F) inlet & outlet ports

**SPECIFICATIONS PERFORMANCE**
- Maximum Inlet: 500 PSIG
- Maximum Outlet: 125 PSIG
- Temperature operating range: 0-140°F
- Dome load inlet size: 1/4" NPT (F)
- Maximum dome load pressure: 125 PSIG

**MATERIALS**
- Body: Forged Brass
- Housing Cap: Forged Brass
- Seat: Neoprene
- Seat return spring: Stainless steel

The DL 700 line regulator is externally dome loaded for remote control of gases. The delivery pressure on the DL 700 is controlled by the pressure supplied from a remote pilot regulator.

**SAMPLE ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Delivery Range</th>
<th>Gas Service</th>
<th>Model No.</th>
<th>Delivery Range (PSIG)</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL 700</td>
<td>D</td>
<td>A wide range of gases</td>
<td>DL 700</td>
<td>5-125</td>
<td>0780-1188</td>
</tr>
</tbody>
</table>

**Delivery Range Key**
- D 5-125 PSIG

**Connections:** 1/2" NPT (F) inlet & Outlet Ports

**Note:** requires pilot regulator to control pressure in dome for control of delivery Pressure.

**Flow Charts:** Section A, Page 43
APPLICATION & USES
BSL 700 Series
• Designed for downstream vapor applications
• Ideal for bulk system installations
• Durable and will withstand most environmental situations
• Inlet pressure up to 350 PSIG

DIMENSIONS: 3-1/4" W x 8-1/2" H x 7-1/2" D
(8.33 cm x 21.79 cm x 19.23 cm)
WEIGHT: .......... 5 lbs. 8 oz. (2.42 kg)

DESIGN/CONSTRUCTION
• 3-1/4" Stainless steel diaphragm
• Stem type seat mechanism
• 2-1/2" gauge brass
• Bleed valve in low pressure port

SPECIFICATIONS PERFORMANCE
Maximum Inlet .........................350 PSIG
Outlet range .........................10-200 PSIG
Temperature operating range 0-140° F

MATERIALS
Body ................................. Forged Brass
Housing Cap .................... Forged Brass
Diaphragm ....................... Stainless steel
Nozzle ............................... Brass
Seat ................................. Neoprene
Seat return spring ............. Stainless steel
Seals ............................... Silicone & Nylon

NOTE: Regulators will deliver at least the stated upper range at no flow and in some cases may exceed the stated upper range.

SAMPLE ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Model No.</th>
<th>Delivery Range (PSIG)</th>
<th>Outlet Gauge (PSIG)</th>
<th>Inlet &amp; Outlet Ports</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>BSL 700</td>
<td>10-200</td>
<td>0-400</td>
<td>1/2&quot; NPT(F)</td>
<td>0780-1200</td>
</tr>
</tbody>
</table>
Type “O” Series
Single Stage Cylinder Regulator
Extra Heavy Duty

APPLICATION AND USES
Type “O” Cylinder Regulator
• Extra heavy duty applications
• Single stage design.
• Heavy duty steel Gauge Guard (GG) available for all “O” cylinder regulators

DESIGN/CONSTRUCTION
• 3” stainless steel diaphragm
• Multi-Seat 4 way seat block
• “Positive Pressure” yoke type regulation
• Inlet pressures up to 5500 PSIG/380 bar
• “Safe-T-Check” helps to prevent damage due to pressure surge
• 2-1/2” brass gauges
• Easily replaced cylinder coupling with body nut
• 8 bolt bonnet construction

Outlet Connections: Cylinder Type
9/16” - 18 (M) Unless noted
12 = 9/16” - 18 (M) LH
08 = 1/4” - 18 NPT (F)

Flow Charts: Section A, Page 45
Type “P” Series
Single Stage Cylinder Regulator
Heavy Duty

APPLICATION AND USES
Type “P” Cylinder Regulator
• Heavy duty applications
• Single stage design.

DESIGN/CONSTRUCTION
• Stainless steel diaphragm 2-1/4”
• “Positive pressure” yoke type regulator
• Multi-seat 4 way seat block
• Inlet pressures to 5500 psi/380 bar
• Safe-T-Check® helps to prevent damage
due to pressure surge
• 2” steel gauges

Weight: 4.75 lbs. (2.2 Kg)

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Model No.</th>
<th>Delivery Range (PSIG/Bar)</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>“P”-CGA 540</td>
<td>125/ 8.6</td>
<td>5640-6556</td>
</tr>
<tr>
<td>Acetylene</td>
<td>“P”-CGA 510</td>
<td>15/ 1.0</td>
<td>5640-6567</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>“P”-CGA 580</td>
<td>125/ 8.6</td>
<td>5640-6751</td>
</tr>
<tr>
<td>Breathing Air</td>
<td>“P”-CGA 346</td>
<td>70/ 4.8</td>
<td>5640-6804</td>
</tr>
<tr>
<td>Breathing Air</td>
<td>“P”-CGA 347</td>
<td>125/ 8.6</td>
<td>5640-6805</td>
</tr>
</tbody>
</table>

Outlet Connections: Cylinder Type
9/16” - 18 (M) Unless noted.
=M = 1/4”NPT (F)

Flow Charts: Section A, Page 45
BR 3, BR 5, & SH 9
Single Stage Cylinder Regulators
Medium Duty

BR 5 & BR 3 Regulators
APPLICATION AND USES
BR Series Regulators are ideally suited for a wide variety of breathing air and air applications. A compact single stage design with hand tight connections on inlet.

FEATURES & BENEFITS
• BR 5 models designed for 5500 PSIG inlet
• BR 3 models designed for 3000 PSIG inlet
• Hand wheel inlet connection
• Shut-off valves on inlet standard

DESIGN/CONSTRUCTION
• Forged body and housing cap
• 2” gauges
• Stem type seat mechanism in BR 3
• Cartridge seat design used in the BR 5
• 1 3/8” diaphragm
• Sintered inlet filter

SPECIFICATION PERFORMANCE
Maximum Inlet.............3000 PSIG BR3
6000 PSIG BR5

Flow Charts: Section A, Page 45

<table>
<thead>
<tr>
<th>BR 5 &amp; BR 3 ORDERING INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Service</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td>Air &amp; Breathing</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

SH 9* Regulator
The SH 9 Series high pressure self-venting regulator is a reliable compact piston style. The self venting feature eliminates the need to open the system to lower delivery pressures

APPLICATION AND USES
• Fire fighting air systems
• Aircraft service equipment
• Air tank fill systems
• Calibration panels
• Component testing

FEATURES & BENEFITS
• Self-venting
• 6000 PSIG inlet
• Variety of delivery ranges
• Panel mount capabilities
• High flow capabilities

DESIGN/CONSTRUCTION
• Piston type activation
• Machined bar stock body and housing cap
• 2 1/2” gauges brass
• Cartridge type seat assembly
• Adjusting knob

Flow Chart: Section A, Page 45

<table>
<thead>
<tr>
<th>SH 9 ORDERING INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Service</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td>Air &amp; Breathing</td>
</tr>
</tbody>
</table>

* See Model SR 4 for high pressure delivery regulation. Section A, page 16.
**Type “P-600” Series**  
*Single Stage, High Pressure Delivery*  
*Heavy Duty*

---

**APPLICATION AND USES**  
**Type “P-600” Series Regulator**  
- Maximum inlet 3000 PSI

**DESIGN/CONSTRUCTION**  
- Multi-Seat Block  
- Stainless steel diaphragm  
- Brass forged body & housing cap

**Weight:** 6 lbs. (2.7 Kg)

**Flow Charts:** Section A, Page 45

---

**Gas Service** | **Model No.** | **Delivery Range** | **Part No.**  
---|---|---|---  
Oxygen | “P-600” CGA 540 | 5-150 PSI | 5640-6556

**Outlet Connections:** Cylinder Type  
\(\text{\textdegree} = \frac{1}{4}”\text{NPT (F)}\)

---

**Gas Heaters**  
Manufactured for either Carbon Dioxide (CO₂) or Nitrous Oxide (N₂O). These heaters operate on 110 volts at 120 watts and 1 amp. They are thermostatically controlled at 160°F (+5°F) and rated for flows up to 160 SCFH/75 LPM. Rated for standard cylinder pressures up to 3000 PSI/207 BAR.

---

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>5370-7141</td>
<td>Electric CO₂ Heater</td>
<td>2</td>
</tr>
<tr>
<td>5370-7142</td>
<td>Electric Nitrous Oxide Heater</td>
<td>2</td>
</tr>
</tbody>
</table>
The regulator flow data is provided to assist in determining the proper regulator for the required application. The data is given for reference purpose only. If additional information is necessary contact your local distributor or the Customer Service Department at:
Victor Equipment Co.,
P.O. Drawer 1007,
Denton Texas 76202-1007
Phone: 1-800 426-1888.

The regulator flow data was established by connecting a valve to the regulator outlet. The valve was opened and the flow rates measured. The amount of pressure drop is shown on the curves as the flow increases.

Example:
An SR 450D with an inlet of 2000 PSIG and an internal pressure setting of 125 PSIG (no flow) will flow 1000 SCFH, but the delivery pressure will drop to 115 lbs. As the flow increased to 2000 SCFH, the pressure will drop to 78 PSIG.

Cylinder Pressure Rise
Single Stage regulators have a rise (increase) in delivery pressure as the cylinder pressure decreases. Listed below is the amount of pressure rise (increase) per 100 PSIG decrease in cylinder (inlet) pressure.

<table>
<thead>
<tr>
<th>Pressure Range</th>
<th>Static Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>15 PSIG</td>
</tr>
<tr>
<td>B</td>
<td>40 PSIG</td>
</tr>
<tr>
<td>C</td>
<td>80 PSIG</td>
</tr>
<tr>
<td>D</td>
<td>125 PSIG</td>
</tr>
<tr>
<td>E</td>
<td>200 PSIG</td>
</tr>
<tr>
<td>F</td>
<td>750 PSIG</td>
</tr>
<tr>
<td>G</td>
<td>1500 PSIG</td>
</tr>
<tr>
<td>J</td>
<td>3000 PSIG</td>
</tr>
<tr>
<td>K</td>
<td>4500 PSIG</td>
</tr>
</tbody>
</table>

For conversion to Other Gases
All flow capacity information is given in SCFH of free air (1.00). For conversion to other gases multiply the air flow by the correction factor listed below:

<table>
<thead>
<tr>
<th>Gas</th>
<th>Correction Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetylene</td>
<td>1.05</td>
</tr>
<tr>
<td>Argon</td>
<td>0.85</td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>0.81</td>
</tr>
<tr>
<td>Helium</td>
<td>2.69</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>3.79</td>
</tr>
<tr>
<td>Mapp®</td>
<td>0.82</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>1.28</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>1.02</td>
</tr>
<tr>
<td>Oxygen</td>
<td>0.95</td>
</tr>
<tr>
<td>Propane</td>
<td>0.80</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>1.28</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>1.02</td>
</tr>
<tr>
<td>Oxygen</td>
<td>0.95</td>
</tr>
<tr>
<td>Propane</td>
<td>0.80</td>
</tr>
</tbody>
</table>
Regulator Flow Data (SCFH)

SR 700/Single Stage - Extra Heavy Duty

Reference: SR 700 Series - Section A, Page 6

VTS 700/Two Stage - Extra Heavy Duty

Reference: VTS 700 Series - Section A, Page 7

SR 450/Single Stage - Heavy Duty

Reference: SR 450 Series - Section A, Page 8

VTS 450/Two Stage - Heavy Duty

Reference: VTS 450 Series - Section A, Page 9

VGS 450/Gaugeless Regulator - Heavy

Reference: VGS 450 Series - Section A, Page 10

VGT 450/Gaugeless Two Stage Regulator - Heavy Duty

Reference: VGT 450 Series - Section A, Page 10
Regulator Flow Data (SCFH)

**SR 350/Single Stage - Medium Duty**

FLOW DATA (Flowing Air at STD. Conditions)

Reference: SR 350 Series - Section A, Page 11

**SR 250/Single Stage - Medium Duty**

Reference: SR 250 Series - Section A, Page 12

**VTS 250/Two Stage - Medium Duty**

Reference: VTS 250 Series - Section A, Page 13

**SR 5/Single Stage - Light Duty**

Reference: SR 5 Series - Section A, Page 14

**S 350/Station Reg. - Medium-Heavy Duty**

Reference: S 350 Series - Section A, Page 29

**L 350/Line Regulator - Medium Duty**

Reference: L 350 Series - Section A, Page 30
Regulator Flow Data (SCFH)

**S 250/Station Regulator - Light Duty**

![Outlet Pressure vs. Flow Graph](image1)

**Reference:** S 250 - Section A, Page 31

**L 250/Line Regulator - Light Duty**

![Flow Data Graph](image2)

**Reference:** L 250 - Section A, Page 31

**S 700/Line Regulator - Extra Heavy Duty**

![Flow Data Graph](image3)

**Reference:** S 700 - Section A, Page 27

**L 700/Line Regulator - Extra Heavy Duty**

![Flow Data Graph](image4)

**Reference:** L 700 - Section A, Page 28

**DL 700/Dome Loaded Line Regulator**

![FLOW vs. OUTLET PRESSURE Graph](image5)

**Reference:** DL 700 - Section A, Page 34

**BSL 700/Line Regulator**

![FLOW vs. OUTLET PRESSURE Graph](image6)

**Reference:** BSL 700 - Section A, Page 35
Regulator Flow Data (SCFH)

SR 4 High Pressure Piston Regulator

SR 600 High Pressure Regulator

LC 350DR Liquid Cylinder Regulator

LC 350DR Liquid Cylinder Regulator

Reference: SR 4 Series - Section A, Page 16/17

Reference: SR 600 Series - Section A, Page 18

Reference: LC 350DR - Section A, Page 26

Reference: LC 350DR - Section A, Page 26
Meco "O" Series Cylinder Regulator
Single Stage/Extra Heavy Duty

Reference: “O” Regulator Section A, Page 36

Meco "P" Series Cylinder Regulator
Single Stage/Heavy Duty

Reference: “P” Regulator Section A, Page 37

Meco “P-600” Series Regulator

Reference: “P-600” Regulator Section A, Page 39

Meco “BR 5” Series Regulator

Reference: BR 5 Regulator Section A, Page 38

Meco “BR 3” Series Regulator

Reference: BR 3 Regulator Section A, Page 38

Meco “SH 9” Series Regulator

Reference: SH 9 Regulator Section A, Page 38