### 305 Series

**single stage, chrome-plated brass barstock regulator**

![Image of a regulator with two gauges and the Purity Plus logo](image)

#### Description

The 305 Series regulators are specifically designed for use in the medical laboratory for blood gases, laser gases, and other clinical gas applications where minor fluctuations in outlet pressure due to diminishing inlet supply pressure can be tolerated.

#### Advanced Features

- **Chrome-Plated Brass Barstock Body**
- **316L Stainless Steel Diaphragm**

#### Typical Applications

- Blood gases
- Laser gases
- Medical research
- Pharmaceutical manufacturing
- University laboratories

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### 300 Series Advantage

- **Capsule** seat
- Increased serviceability and life
- **316L stainless steel diaphragm**
- No inboard diffusion
- **Low wetted surface area**
- Minimal purge requirements
- **Field-adjustable pressure limit**
- Safeguard downstream equipment
- **Convoluted diaphragm**
- Smooth pressure changes
- **Compact design**
- Easily transported and integrated

### Materials

- **Body**
  - Chrome-plated brass barstock
- **Bonnet**
  - Chrome-plated die cast zinc
- **Seat**
  - PTFE
- **Filter**
  - 10 micron sintered bronze
- **Diaphragm**
  - 316L stainless steel
- **Internal Seals**
  - PTFE

### Specifications

- **Maximum Inlet Pressure**
  - 3000 PSIG (210 BAR)
- **Temperature Range**
  - -40°F to 140°F (-40°C to 60°C)
- **Gauges**
  - 2" diameter chrome-plated
- **Ports**
  - ¼" FPT
- **Helium Leak Integrity**
  - 1 x 10⁻⁸ scc/sec
- **Cv**
  - 0.1
- **Weight (305-8381-M1L)**
  - 2.8 lbs. (1.29 kg)
### Equipment

**Flow Performance**

![Graph](image)

**Ordering Information and Configuration Options**

<table>
<thead>
<tr>
<th>305 Series</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D -Inlet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet Pressure</td>
<td>Outlet Gauge</td>
<td>Inlet Gauge</td>
<td>Outlet Assemblies</td>
<td>Assembly/Gauges</td>
</tr>
<tr>
<td>1: 0-15</td>
<td>0-30 PSIG</td>
<td>0: None</td>
<td>0: ¼” FPT Port</td>
<td>0: Bare Body</td>
</tr>
<tr>
<td>2: 0-30</td>
<td>0-60 PSIG</td>
<td>3: 0-4000 PSIG</td>
<td>1: ¼” MPT</td>
<td>1: Standard Assembly (PSIG/kPa Gauges)</td>
</tr>
<tr>
<td>3: 0-50</td>
<td>0-100 PSIG</td>
<td>2: ⅛” Tube Fitting</td>
<td>2: Standard Assembly (BAR/PSIG Gauges)</td>
<td></td>
</tr>
<tr>
<td>5: 0-100</td>
<td>0-200 PSIG</td>
<td>3: Diaphragm Valve ¼” Tube Fitting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6: 0-200</td>
<td>0-400 PSIG</td>
<td>4: Diaphragm Valve ¼” MPT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7: 0-500</td>
<td>0-1000 PSIG</td>
<td>5: Needle Valve ⅛” MPT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8: 2-15 LPM CO₂</td>
<td>2-15 LPM Flowgauge</td>
<td>6: ½” Tube Fitting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9: Custom Calibration</td>
<td>Custom Flowgauge</td>
<td>7: ¾” Tube Fitting</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8: Diaphragm Valve ½” Tube Fitting</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>9: Diaphragm Valve ¼” FPT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A: ½” BSP Right Hand Fitting</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Gas Service**

<table>
<thead>
<tr>
<th>Gas Service</th>
<th>Inlet (Threaded)</th>
<th>Inlet (Yoke)</th>
<th>Outlet (Medical DISS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>CGA 346</td>
<td>CGA 950</td>
<td>1160</td>
</tr>
<tr>
<td>Argon</td>
<td>CGA 580</td>
<td>not available</td>
<td>1060 1120</td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>CGA 320</td>
<td>CGA 940</td>
<td>1080</td>
</tr>
<tr>
<td>Carbon Dioxide &lt; 7% and Oxygen</td>
<td>CGA 280</td>
<td>CGA 880</td>
<td>1020 1180 1200</td>
</tr>
<tr>
<td>Carbon Dioxide &gt; 7% and Oxygen</td>
<td>CGA 500</td>
<td>CGA 940</td>
<td>1020 1060 1080</td>
</tr>
<tr>
<td>Clinical Blood Gas Mixtures</td>
<td>CGA 500</td>
<td>CGA 973</td>
<td>1020 1060 1080</td>
</tr>
<tr>
<td>Cyclopropane</td>
<td>not available</td>
<td>CGA 920</td>
<td>1100</td>
</tr>
<tr>
<td>Ethylene</td>
<td>not available</td>
<td>CGA 900</td>
<td>1140</td>
</tr>
<tr>
<td>Helium</td>
<td>CGA 580</td>
<td>not available</td>
<td>1060 1120</td>
</tr>
<tr>
<td>Helium &lt; 80% and Oxygen</td>
<td>CGA 280</td>
<td>CGA 890</td>
<td>1020 1180 1200</td>
</tr>
<tr>
<td>Helium &gt; 80% and Oxygen</td>
<td>CGA 500</td>
<td>CGA 930</td>
<td>1020 1060 1080</td>
</tr>
<tr>
<td>Krypton</td>
<td>CGA 580</td>
<td>not available</td>
<td>1060 1120</td>
</tr>
<tr>
<td>Methylene Fluoride</td>
<td>CGA 320</td>
<td>not available</td>
<td>1080</td>
</tr>
<tr>
<td>Neon</td>
<td>CGA 580</td>
<td>not available</td>
<td>1060 1120</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>CGA 580</td>
<td>CGA 960</td>
<td>1060 1120</td>
</tr>
<tr>
<td>Nitrogen and Oxygen &lt; 23.5%</td>
<td>CGA 280</td>
<td>CGA 890</td>
<td>1020 1180 1200</td>
</tr>
<tr>
<td>Nitrous Oxide</td>
<td>CGA 326</td>
<td>CGA 910</td>
<td>1040</td>
</tr>
<tr>
<td>Nitrous Oxide 47.5% - 52.5% and Oxygen</td>
<td>CGA 280</td>
<td>CGA 965</td>
<td>1020 1180 1200</td>
</tr>
<tr>
<td>Oxygen</td>
<td>CGA 540</td>
<td>CGA 870</td>
<td>1240</td>
</tr>
<tr>
<td>Tetrafluoromethane</td>
<td>CGA 580</td>
<td>not available</td>
<td>1060 1120</td>
</tr>
<tr>
<td>Xenon</td>
<td>CGA 580</td>
<td>not available</td>
<td>1060 1120</td>
</tr>
<tr>
<td>Xenon and Oxygen &lt; 20%</td>
<td>CGA 280</td>
<td>CGA 890</td>
<td>1020 1180 1200</td>
</tr>
</tbody>
</table>

(availability is limited to the combinations shown)

www.purityplusgas.com
## 312 Series
high purity, two stage, brass barstock regulator

### Description
The 312 Series regulators are intended for primary pressure control of noncorrosive, high purity or liquefied gases for applications requiring constant pressure control and delivery regardless of supply pressure variations.

### Advanced Features
- Chrome-plated brass barstock body
- Smooth surface finish
- 10 micron filtration in both stages
- Fail-safe seat performance
- Pressure ranges 0-15 to 0-250 PSIG
- Broad range of applications

### Typical Applications
- EPA Protocol gases
- Gas and liquid chromatography
- High purity carrier gases
- Zero, span, and calibration gases
- High purity chamber pressurization

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### 300 Series Advantage

- **Capsule® seat**
  - Increased serviceability and life
- **316L stainless steel diaphragm**
  - No inboard diffusion
- **Low wetted surface area**
  - Minimal purge requirements
- **Field-adjustable pressure limit**
  - Safeguard downstream equipment
- **Convoluted diaphragm**
  - Smooth pressure changes
- **Compact design**
  - Easily transported and integrated

### Materials
- **Body**
  - Chrome-plated brass barstock
- **Bonnet**
  - Chrome-plated die cast zinc
- **Seat**
  - PTFE
  - PCTFE with 4500 PSIG inlet option
- **Filter**
  - 10 micron sintered bronze
- **Diaphragm**
  - 316L stainless steel
- **Internal Seals**
  - PTFE

### Specifications
- **Maximum Inlet Pressure**
  - 3000 PSIG (210 BAR)
  - 4500 PSIG (310 BAR) optional
- **Temperature Range**
  - -40°F to 140°F (-40°C to 60°C)
- **Gauges**
  - 2” diameter chrome-plated
- **Ports**
  - ¼” FPT
- **Helium Leak Integrity**
  - 1 x 10⁻⁸ scc/sec
- **Cv**
  - 0.1
- **Weight (312-2331-58)**
  - 4.4 lbs. (1.98 kg)
Flow Performance

Ordering Information and Configuration Options

<table>
<thead>
<tr>
<th>Series 312</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>-Inlet</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet Pressure</td>
<td>Outlet Gauge</td>
<td>Inlet Gauge</td>
<td>Outlet Assemblies</td>
<td>Assembly/ Gauges</td>
<td>Inlet Connections</td>
<td>Installed Options</td>
</tr>
<tr>
<td>1: 0-15</td>
<td>30&quot;-0-30</td>
<td>None</td>
<td>0: ¼&quot; FPT Port</td>
<td>0: Bare Body</td>
<td>000: ½&quot; FPT</td>
<td>A: Protocol Alarm Station (110V)</td>
</tr>
<tr>
<td>2: 0-50</td>
<td>30&quot;-0-100</td>
<td>3: 0-4000 PSIG</td>
<td>1: Standard Assembly (PSIG/kPa Gauges)</td>
<td>1: ½&quot; Tube Valve</td>
<td>TF2: ¼&quot; Tube Valve</td>
<td>B: Protocol Alarm Station (220V)</td>
</tr>
<tr>
<td>3: 0-100</td>
<td>30&quot;-0-200</td>
<td>5: 0-1000 PSIG</td>
<td>2: Standard Assembly (BAR/PSIG Gauges)</td>
<td>2: ¾&quot; Tube Valve</td>
<td>TF4: ¾&quot; Tube Valve</td>
<td>C: Protocol Switchover Station</td>
</tr>
<tr>
<td>4: 0-250</td>
<td>0-400 PSIG</td>
<td>6: 0-300 PSIG</td>
<td>3: Diaphragm Valve ¼&quot; Tube Fitting</td>
<td>3: 6mm Tube Fitting</td>
<td>TF6: 6mm Tube M06</td>
<td>D: Protocol Switchover Station with Alarm (220V)</td>
</tr>
<tr>
<td>7: 0-150</td>
<td>30&quot;-0-200</td>
<td>8: 0-400 PSIG</td>
<td>4: Diaphragm Valve ¾&quot; MPT</td>
<td>4: Diaphragm Valve 6mm Tube Fitting</td>
<td>CGA DIN 477 BS 341 and others available</td>
<td>E: Protocol Switchover Station with Alarm (110V)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5: Needle Valve ½&quot; MPT</td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td>6: ¼&quot; Tube Fitting</td>
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<td></td>
<td>7: ¾&quot; Tube Fitting</td>
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<td></td>
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<td></td>
<td>8: Diaphragm Valve ¾&quot; Tube Fitting</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>9: Diaphragm Valve ¼&quot; FPT</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>A: ¾&quot; BSP Right Hand Fitting</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>M: 6mm Tube Fitting</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S: Diaphragm Valve 6mm Tube Fitting</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Not available with 4500 PSIG max Inlet pressure
# 315 Series

dual stage, chrome-plated brass barstock regulator

## Description
The 315 Series regulators are specifically designed for use in the medical laboratory for blood gases, laser gases, and other clinical gas applications requiring constant pressure control and delivery regardless of supply pressure variations.

## Advanced Features
- Chrome-Plated Brass Barstock Body
- 316L Stainless Steel Diaphragm

## Typical Applications
- Blood gases
- Laser gases
- Medical research
- Pharmaceutical manufacturing
- University laboratories

## 315 Series Advantage
- **Capsule® seat**
  Increased serviceability and life
- **316L stainless steel diaphragm**
  No inboard diffusion
- **Low wetted surface area**
  Minimal purge requirements
- **Field-adjustable pressure limit**
  Safeguard downstream equipment
- **Convoluted diaphragm**
  Smooth pressure changes
- **Compact design**
  Easily transported and integrated

## Materials
- **Body**
  Chrome-plated brass barstock
- **Bonnet**
  Chrome-plated die cast zinc
- **Seat**
  PTFE
- **Filter**
  10 micron sintered bronze
- **Diaphragm**
  316L stainless steel
- **Internal Seals**
  PTFE

## Specifications
- **Maximum Inlet Pressure**
  3000 PSIG (210 BAR)
- **Temperature Range**
  -40°F to 140°F (-40°C to 60°C)
- **Gauges**
  2” diameter chrome-plated
- **Ports**
  ¼” FPT
- **Helium Leak Integrity**
  1 x 10⁻⁸ scc/sec
- **Cv**
  0.1
- **Weight** (315-8381-M1L)
  4.2 lbs. (1.90 kg)
Flow Performance

Ordering Information and Configuration Options

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Outlet Pressure</td>
<td>Outlet Gauge</td>
<td>Inlet Gauge</td>
<td>Assembly/ Gauges</td>
</tr>
<tr>
<td>315</td>
<td>0-15</td>
<td>0-30 PSIG</td>
<td>0: None</td>
<td>0: Bare Body</td>
</tr>
<tr>
<td></td>
<td>0-30</td>
<td>0-60 PSIG</td>
<td>3: 0-4000 PSIG</td>
<td>1: Standard Assembly</td>
</tr>
<tr>
<td></td>
<td>0-50</td>
<td>0-100 PSIG</td>
<td></td>
<td>(PSIG/kPa Gauges)</td>
</tr>
<tr>
<td></td>
<td>0-100</td>
<td>0-200 PSIG</td>
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<td>2: Standard Assembly</td>
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<tr>
<td></td>
<td>0-200</td>
<td>0-400 PSIG</td>
<td></td>
<td>(BAR/PSIG Gauges)</td>
</tr>
<tr>
<td></td>
<td>0-500</td>
<td>0-1000 PSIG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:</td>
<td>2-15 LPM CO₂</td>
<td>2-15 LPM Flowgauge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:</td>
<td>Custom Calibration</td>
<td>Custom Flowgauge</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Gas Service | Inlet (Threaded) | Outlet (Medical DISS) |
-------------|------------------|------------------------|
Air          | CGA 346          | CGA 950 1160           |
Argon        | CGA 580          | not available 1060 1120|
Carbon Dioxide | CGA 320        | CGA 940 1080           |
Carbon Dioxide < 7% and Oxygen | CGA 280 | CGA 880 1020 1180 1200 |
Carbon Dioxide > 7% and Oxygen | CGA 500 | CGA 940 1020 1060 1080 |
Clinical Blood Gas Mixtures | CGA 500 | CGA 973 1020 1060 1080 |
Cyclopropane | not available    | CGA 920 1100           |
Ethylene     | not available    | CGA 900 1140           |
Helium       | CGA 580          | not available 1060 1120|
Helium < 80% and Oxygen | CGA 280 | CGA 890 1020 1180 1200 |
Helium > 80% and Oxygen | CGA 500 | CGA 930 1020 1060 1080 |
Krypton      | CGA 580          | not available 1060 1120|
Methylene Fluoride | CGA 320 | not available 1080       |
Neon         | CGA 580          | not available 1060 1120|
Nitrogen     | CGA 580          | CGA 960 1060 1120       |
Nitrogen and Oxygen < 23.5% | CGA 280 | CGA 890 1020 1180 1200 |
Nitrous Oxide | CGA 326         | CGA 910 1040           |
Nitrous Oxide 47.5% - 52.5% and Oxygen | CGA 280 | CGA 965 1020 1180 1200 |
Oxygen       | CGA 540          | CGA 870 1240           |
Tetrafluoromethane | CGA 580 | not available 1060 1120 |
Xenon        | CGA 580          | not available 1060 1120|
Xenon and Oxygen < 20% | CGA 280 | CGA 890 1020 1180 1200 |