The 412 Series regulators are intended for primary pressure control of non-corrosive, high purity or liquefied gases for applications requiring constant pressure control and delivery regardless of supply pressure variations.

- Dual Stage
- Brass Barstock Body
- Six Port Configuration
- 316L Stainless Steel Diaphragm

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

### Features
- Metal-to-Metal Diaphragm Seal
  - No possibility of gas contamination
- CAPSULE® Seat
  - Increased serviceability and life
- Brass Barstock Body
  - Smooth surface finish
- Front Panel-Mountable
  - Easy installation
- 10 Micron Filtration in Both Stages
  - Fail-safe seat performance
- Pressure Ranges 0-15 to 0-350 PSIG (0-1 to 0-24 BAR)
  - Broad range of applications
- Pipe Away Relief Valve
  - Safely vents exhaust gases

### Materials
- **Body**: Brass barstock
- **Bonnet**: Brass barstock
- **Seat**: PCTFE (first stage), PTFE (second stage)
- **Filter**: 10 micron sintered bronze
- **Diaphragm**: 316L stainless steel
- **Internal Seals**: PTFE

### Specifications
- **Maximum Inlet Pressure**
  - 3000 PSIG (210 BAR)
  - 3500 PSIG (240 BAR) optional
  - 4500 PSIG (310 BAR) optional
- **Temperature Range**
  - -40°F to 140°F (-40°C to 60°C)
- **Gauges**
  - 2” (53mm) diameter brass
- **Ports**
  - 1/4” FPT
- **Helium Leak Integrity**
  - 1 x 10⁻⁹ scc/sec
- **Cv**
  - 0.1
  - See page 202 for flow curves
- **Weight** (412 2331-580)
  - 5.3 lbs. (2.40 kg)
400 Series Regulators

Installation Dimensions

![Diagram showing installation dimensions]

### Ordering Information

<table>
<thead>
<tr>
<th>412</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>-CON</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Series 412</strong></td>
<td>Max Outlet Pressure</td>
<td>Max Outlet Gauge</td>
<td>Inlet Gauge</td>
<td>Outlet Assemblies</td>
<td>Assembly/ Gauges</td>
<td>Inlet Connections</td>
</tr>
<tr>
<td><strong>1:</strong> 0-15 PSIG (0-1 BAR)</td>
<td>30°-0-30 PSIG/ -1-0-2 BAR</td>
<td>0: None</td>
<td>0: 1/4&quot; FPT port</td>
<td>0: Bare body</td>
<td>000: 1/4&quot; FPT</td>
<td>B: Protocol alarm station with pressure switch gauges</td>
</tr>
<tr>
<td><strong>2:</strong> 0-60 PSIG (0-3.5 BAR)</td>
<td>30°-0-100 PSIG/ -1-0-7 BAR</td>
<td>0: 0-4000 PSIG/ 0-275 BAR</td>
<td>1: 1/4&quot; MPT</td>
<td>1: Cleanroom assembly (PSIG/kPa gauges)</td>
<td>TF2: 1/8&quot; tube</td>
<td>C: Protocol switchover station</td>
</tr>
<tr>
<td><strong>3:</strong> 0-100 PSIG (0-7 BAR)</td>
<td>30°-0-200 PSIG/ -1-0-14 BAR</td>
<td>0: 0-1000 PSIG/ 0-70 BAR</td>
<td>2: 1/4&quot; tube fitting</td>
<td>2: Cleanroom assembly (BAR/PSIG gauges)</td>
<td>TF4: 1/4&quot; tube</td>
<td>D: Deep purge*</td>
</tr>
<tr>
<td><strong>4:</strong> 0-250 PSIG (0-17 BAR)</td>
<td>0-400 PSIG/ 0-27 BAR</td>
<td>6: 0-300 PSIG/ 0-21 BAR</td>
<td>3: Diaphragm valve 1/4&quot; tube fitting</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>5:</strong> 0-150 PSIG (0-10 BAR)</td>
<td>30°-0-200 PSIG/ -1-0-14 BAR</td>
<td>7: 0-400 PSIG/ 0-27 BAR</td>
<td>4: Diaphragm valve 1/4&quot; MPT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6:</strong> 0-350 PSIG (0-24 BAR)</td>
<td>0-400 PSIG/ 0-27 BAR</td>
<td>8: 04000 PSIG/ 0-415 BAR</td>
<td>5: Needle valve 1/4&quot; MPT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>G:</strong> 0-4000 PSIG/ 0-275 BAR*</td>
<td></td>
<td></td>
<td></td>
<td>6: 1/8&quot; tube fitting</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Maximum inlet pressure 4500 PSIG (310 BAR) with PCTFE seat CAPSULE®

†Maximum inlet pressure 3500 PSIG (240 BAR) with PCTFE seat CAPSULE

### Related Options

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
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<tr>
<td>550 0002</td>
<td>Panel mount kit</td>
</tr>
<tr>
<td>550 0001</td>
<td>Captured vent kit</td>
</tr>
<tr>
<td>476 0002</td>
<td>Helium Leak certification</td>
</tr>
</tbody>
</table>

**CONCOA Precision Gas Controls**

CONCOA Research & Specialty Gas 105
Flow Curves for 302, 304, 305, 307, 322, 324, 327, 401, 402, 408, 420, 422, 426, 427, 428, 429 Series

Flow Curves for 312, 315, 332, 411, 412, 414, 415, 430, 432 Series