

# 414 SERIES REGULATORS



The 414 Series, dual stage regulators with five port configuration are intended for primary pressure control of non-corrosive, ultra-high purity, or liquefied gases for applications. Two stages of pressure regulation minimize inlet pressure variations that arise due to the depletion of the supply cylinder. This makes the 414 Series regulator ideal for applications where constant delivery pressure is critical.

## Typical Applications

- EPA Protocol Gases
- High Purity Carrier Gases
- Gas and Liquid Chromatography
- Zero, Span, and Calibration Gases
- High Purity Chamber Pressurization



414 3331-01-580 shown

## Features

**Metal-to-Metal Diaphragm Seal** prevents gas contamination

**Brass Barstock Body** provides provides smooth surface finish

**Cleanroom Assembly** eliminates contamination at installation

**Pipe Away Relief Valve** vents exhaust gases safely

**CAPSULE® Seat Design** features integral 360° filtration in both stages

**Pressure Ranges from 0-15 to 0-350 PSIG (0-1 to 0-24 BAR)** accommodate a broad range of applications

## Materials and Specifications

**Maximum Inlet Pressure (bare body):** 3000 PSIG (210 BAR); or 3500 PSIG (240 BAR) or 4500 PSIG (310 BAR) options

**Body:** Brass barstock

**Bonnet:** Brass barstock

**Gauges:** 2 in (50 mm) diameter brass

**Seat:** PTFE; PCTFE with 3500 PSIG (240 BAR) or 4500 PSIG (310 BAR) inlet option

**Filter:** 10-micron sintered bronze

**Temperature Range:** -40°F to 140°F (-40°C to 60°C)

**Diaphragm:** 316L stainless steel

**Cv:** 0.1 *See flow curves attached*

**Helium Leak Integrity:**  $1 \times 10^{-9}$  scc/sec

**Internal Seals:** PTFE

**Ports (bare body):** 1/4 in FNPT

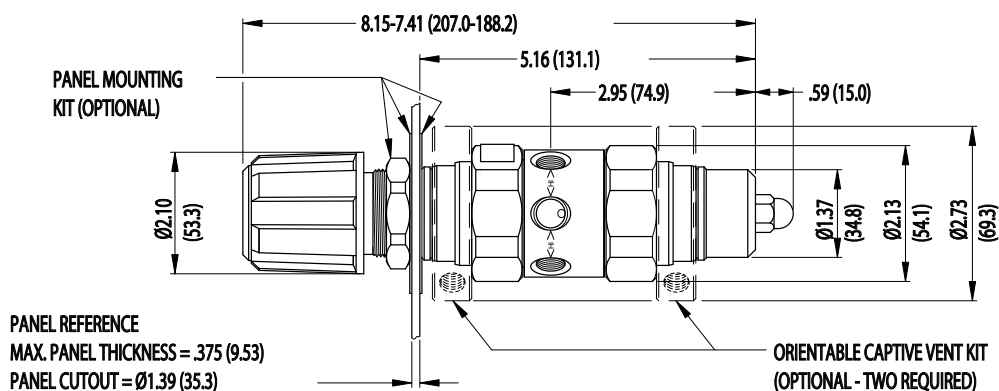
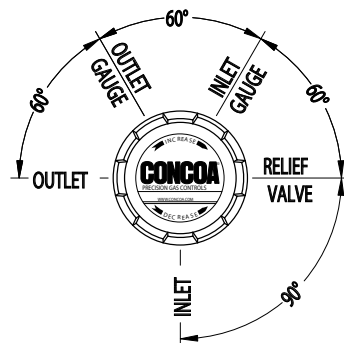
**Weight (414 3331-580):** 5.3 lbs. (2.4 kg)

**Conformances:** Cleanliness meets or exceeds CGA G-4.1; PED 2014/68/EU; ANSI/ASME B40.1; CRN OH5216

# 414 SERIES REGULATORS



## Installation Dimensions



## Ordering Information

| 414        | A                               | B                          | C                                                                            | D                                           | -CON                                           |                                                             |
|------------|---------------------------------|----------------------------|------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------------|-------------------------------------------------------------|
| Series 414 | Max Outlet Pressure             | Max Outlet Gauge           | Inlet Gauge                                                                  | Outlet Assemblies                           | Assembly/Gauges                                | Inlet Connections                                           |
|            | <b>1:</b> 0-15 PSIG (0-1 BAR)   | 30"-0-30 PSIG/-1-0-2 BAR   | <b>0:</b> None                                                               | <b>0:</b> 1/4" FNPT port                    | <b>0:</b> Bare body                            | <b>000:</b> 1/4" FNPT                                       |
|            | <b>2:</b> 0-50 PSIG (0-3.5 BAR) | 30"-0-100 PSIG/-1-0-7 BAR  | <b>3:</b> 0-4000 PSIG/0-275 BAR                                              | <b>1:</b> 1/4" MNPT                         | <b>1:</b> Cleanroom assembly (PSIG/kPa gauges) | <b>TF2:</b> 1/8" tube                                       |
|            | <b>3:</b> 0-100 PSIG (0-7 BAR)  | 30"-0-200 PSIG/-1-0-14 BAR | <b>5:</b> 0-1000 PSIG/0-70 BAR                                               | <b>2:</b> 1/4" tube fitting                 | <b>2:</b> Cleanroom assembly (BAR/PSIG gauges) | <b>TF4:</b> 1/4" tube                                       |
|            | <b>4:</b> 0-250 PSIG (0-17 BAR) | 0-400 PSIG/0-27 BAR        | <b>6:</b> 0-300 PSIG/0-21 BAR                                                | <b>3:</b> Diaphragm valve 1/4" tube fitting |                                                | <b>TF6:</b> 3/8" tube                                       |
|            | <b>7:</b> 0-150 PSIG (0-10 BAR) | 30"-0-200 PSIG/-1-0-14 BAR | <b>7:</b> 0-400 PSIG/0-27 BAR                                                | <b>4:</b> Diaphragm valve 1/4" MNPT         |                                                | <b>M06:</b> 6mm tube                                        |
|            | <b>E:</b> 0-350 PSIG (0-24 BAR) | 0-400 PSIG/0-27 BAR        | <b>8:</b> 0-6000 PSIG/0-415 BAR*                                             | <b>5:</b> Needle valve 1/4" MNPT            |                                                | <i>CGA<br/>DIN 477<br/>BS 341 and<br/>others available.</i> |
|            |                                 |                            | <b>G:</b> 0-4000 PSIG/0-275 BAR†                                             | <b>6:</b> 1/8" tube fitting                 |                                                |                                                             |
|            |                                 |                            | <i>*Maximum inlet pressure 4500 PSIG (310 BAR) with PCTFE seat CAPSULE®.</i> | <b>7:</b> 3/8" tube fitting                 |                                                |                                                             |
|            |                                 |                            |                                                                              | <b>8:</b> Diaphragm valve 1/8" tube fitting |                                                |                                                             |
|            |                                 |                            |                                                                              | <b>9:</b> Diaphragm valve 1/4" FNPT         |                                                |                                                             |
|            |                                 |                            | <i>†Maximum inlet pressure 3500 PSIG (240 BAR) with PCTFE seat CAPSULE.</i>  | <b>A:</b> 3/8" BSP RH fitting               |                                                |                                                             |
|            |                                 |                            |                                                                              | <b>B:</b> Diaphragm valve 3/8" tube fitting |                                                |                                                             |
|            |                                 |                            |                                                                              | <b>C:</b> 3/8" BSP LH fitting               |                                                |                                                             |
|            |                                 |                            | <b>D:</b> 6mm brass hose barb (not available if A=4 or 5)                    |                                             |                                                |                                                             |
|            |                                 |                            | <b>G:</b> 1/8" stainless steel tube fitting                                  |                                             |                                                |                                                             |
|            |                                 |                            | <b>H:</b> 1/4" stainless steel tube fitting                                  |                                             |                                                |                                                             |
|            |                                 |                            | <b>M:</b> 6mm tube fitting                                                   |                                             |                                                |                                                             |
|            |                                 |                            | <b>S:</b> Diaphragm valve 6mm tube fitting                                   |                                             |                                                |                                                             |

## Related Options

| Part No. | Description               |
|----------|---------------------------|
| 550 0001 | Captured vent kit         |
| 550 0002 | Panel mount kit           |
| 476 0002 | Helium Leak certification |

# 414 SERIES REGULATORS



## Flow Curves for 414 Series

