

# 411 Series Regulator

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



411-1331 shown

The 411 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.

## Typical Applications

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

## Advanced Features

- 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 0-250 PSIG  
Broad range of applications

## 400 Advantage

- *Metal-to-metal diaphragm seal*  
No possibility of gas contamination
- *Capsule® seat*  
Increased serviceability and life
- *316L stainless steel diaphragm*  
No inboard diffusion
- *Orientable captured vent capable*  
Safety in any installation
- *Low wetted surface area*  
Minimal purge requirements
- *Field-adjustable pressure limit*  
Safeguard downstream equipment
- *Pipe away relief valve*  
Safely vent exhaust gases
- *Delivery pressure range easily changed*  
Maximum flexibility

## Materials

*Body*  
Brass barstock

*Bonnet*  
Chrome-Plated Brass barstock

*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

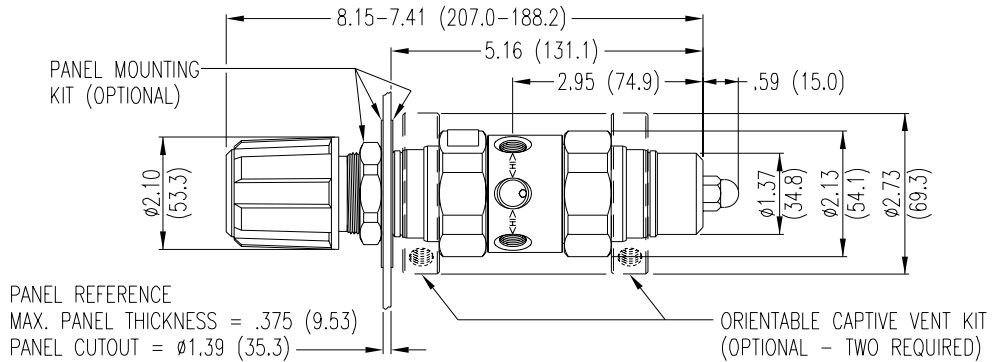
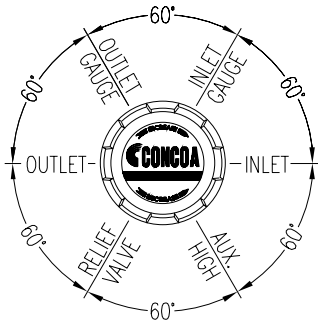
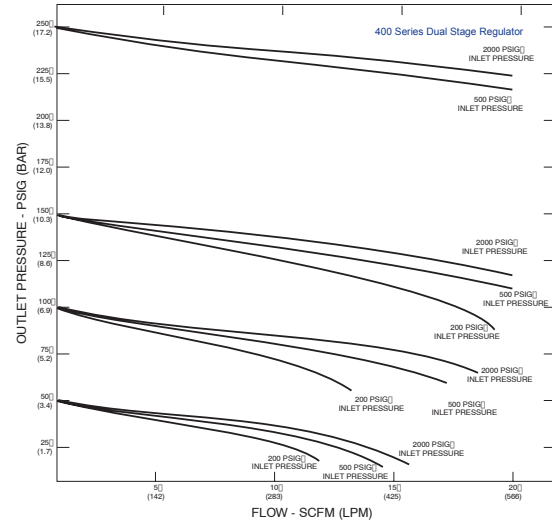
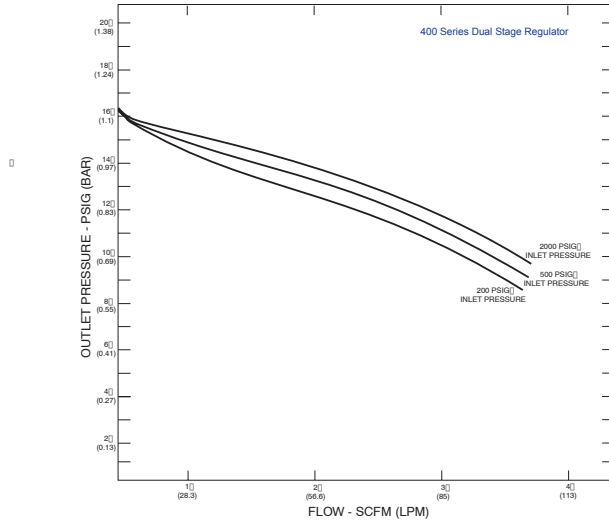
*Ports*  
¼" FPT

*Helium Leak Integrity*  
1 x 10<sup>-9</sup> scc/sec

*Cv*  
0.1

*Weight (411-2331-580)*  
5.3 lbs. (2.40 kg)

# Flow Performance Curves



## Ordering Information *(For information about how to use this table please see page 4.)*

411	A	B	C	D	-Inlet	Options	
Series 411	Outlet Pressure 1: 0-15 2: 0-50 3: 0-100 4: 0-250 7: 0-150	Outlet Gauge 30"-0-30 PSIG 30"-0-100 PSIG 30"-0-200 PSIG 0-400 PSIG 30"-0-200 PSIG	Inlet Gauge 0: None 3: 0-4000 PSIG 5: 0-1000 PSIG 6: 0-300 PSIG 7: 0-400 PSIG 8: 0-6000 PSIG*	Outlet Assemblies 0: ¼" FPT Port 1: ¼" MPT 2: ¼" Tube Fitting 3: Diaphragm Valve ¼" Tube Fitting 4: Diaphragm Valve ¼" MPT 5: Needle Valve ¼" MPT 6: 1/8" Tube Fitting 7: 3/8" Tube Fitting 8: Diaphragm Valve 1/8" Tube Fitting 9: Diaphragm Valve ¼" FPT A: 3/8" BSP Right Hand Fitting M: 6mm Tube Fitting S: Diaphragm Valve 6mm Tube Fitting	Assembly/Gauges 0: Bare Body 1: Standard Assembly (PSIG/kPa Gauges) 2: Standard Assembly (BAR/PSIG Gauges) 4: Cleanroom Assembly (PSIG/kPa Gauges) 5: Cleanroom Assembly (BAR/PSIG Gauges)	Inlet Connections 000: ¼" FPT TF2: 1/8" Tube TF4: ¼" Tube TF6: 1/8" Tube M06: 6mm Tube CGA DIN 477 BS 341 and others available	Installed Options A: Protocol Alarm Station (110V) B: Protocol Alarm Station (220V) C: Protocol Switchover Station D: Deep Purge* G: Protocol Switchover Station with Alarm (110V) H: Protocol Switchover Station with Alarm (220V) M: Protocol Station  <i>*Not available with 4500 PSIG max inlet pressure</i>

### Related Options

- Panel Mount Kit (550-0002)
- Captured Vent Kit (550-0001)
- Helium Leak Certification (476-0002)