



400 Series Regulators

411 SERIES

The 411 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
- Chrome-plated Brass Barstock
- Six Port Configuration
- 316L Stainless Steel Diaphragm



411 2331-580 shown

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
- Chrome-plated 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**
Chrome-plated brass barstock
- Bonnet**
Chrome-plated brass barstock
- Seat**
PTFE (first stage)
PTFE (second stage)
- Filter**
10 micron sintered bronze
- Diaphragm**
316L stainless steel
- Internal Seals**
PTFE

Specifications

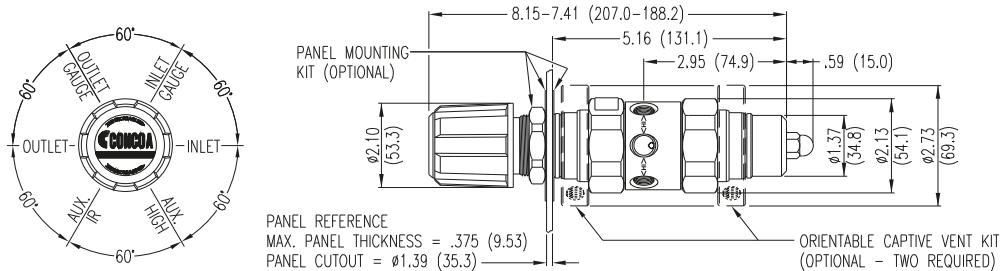
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
3500 PSIG (240 BAR) optional
4500 PSIG (310 BAR) optional
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauges**
2" (53mm) diameter chrome-plated
- Ports**
1/4" FPT
- Helium Leak Integrity**
1 x 10⁻⁹ scc/sec
- Cv**
0.1
See page 202 for flow curves
- Weight (411 2331-580)**
5.3 lbs. (2.40 kg)

CRN 0H15806.5R1

400 Series Regulators



Installation Dimensions



Ordering Information

411	A	B	C	D	-CON	Options	
Series 411	Max Outlet Pressure	Max Outlet Gauge	Inlet Gauge	Outlet Assemblies	Assembly/Gauges	Inlet Connections	Installed Options
	1: 0-15 PSIG (0-1 BAR)	30"-0-30 PSIG/ -1-0-2 BAR	0: None	0: 1/4" FPT port	0: Bare body	000: 1/4" FPT	B: Protocol alarm station with pressure switch gauges
	2: 0-50 PSIG (0-3.5 BAR)	30"-0-100 PSIG/ -1-0-7 BAR	3: 0-4000 PSIG/ 0-275 BAR	1: 1/4" MPT	1: Cleanroom assembly (PSIG/kPa gauges)	TF2: 1/8" tube	C: Protocol switchover station
	3: 0-100 PSIG (0-7 BAR)	30"-0-200 PSIG/ -1-0-14 BAR	5: 0-1000 PSIG/ 0-70 BAR	2: 1/4" tube fitting	2: Cleanroom assembly (BAR/PSIG gauges)	TF4: 1/4" tube	D: Deep purge*
	4: 0-250 PSIG (0-17 BAR)	0-400 PSIG/ 0-27 BAR	6: 0-300 PSIG/ 0-21 BAR	3: Diaphragm valve 1/4" tube fitting		TF6: 3/8" tube	E: Protocol alarm station with intrinsically safe transducer for hazardous environments
	7: 0-150 PSIG (0-10 BAR)	30"-0-200 PSIG/ -1-0-14 BAR	7: 0-400 PSIG/ 0-27 BAR	4: Diaphragm valve 1/4" MPT		M06: 6mm tube	H: Protocol switchover alarm station with pressure switch gauges
	E: 0-350 PSIG (0-24 BAR)	0-400 PSIG/ 0-27 BAR	8: 0-6000 PSIG/ 0-415 BAR*	5: Needle valve 1/4" MPT		CGA DIN 477 BS 341 and others available	J: Protocol alarm station with standard transducer for non hazardous environments
			G: 0-4000 PSIG/ 0-275 BAR†	6: 1/8" tube fitting			K: Protocol switchover alarm station with standard transducer for non hazardous environments
			*Maximum inlet pressure 4500 PSIG (310 BAR) with PCTFE seat CAPSULE®	7: 3/8" tube fitting			M: Protocol station
			†Maximum inlet pressure 3500 PSIG (240 BAR) with PCTFE seat CAPSULE®	8: Diaphragm valve 1/8" tube fitting			Q: Protocol purge station*
				9: Diaphragm valve 1/4" FPT			X: Protocol switchover alarm station with intrinsically safe transducer for hazardous environments
				A: 3/8" BSP RH fitting			*Not available with 4500 PSIG (310 BAR) max inlet pressure
				B: Diaphragm valve 3/8" tube fitting			
				C: 3/8" BSP LH fitting			
				D: 6mm brass hose barb (not available if A=4 or 5)			
				G: 1/8" stainless steel tube fitting			
				H: 1/4" stainless steel tube fitting			
				M: 6mm tube fitting			
				S: Diaphragm valve 6mm tube fitting			

Related Options

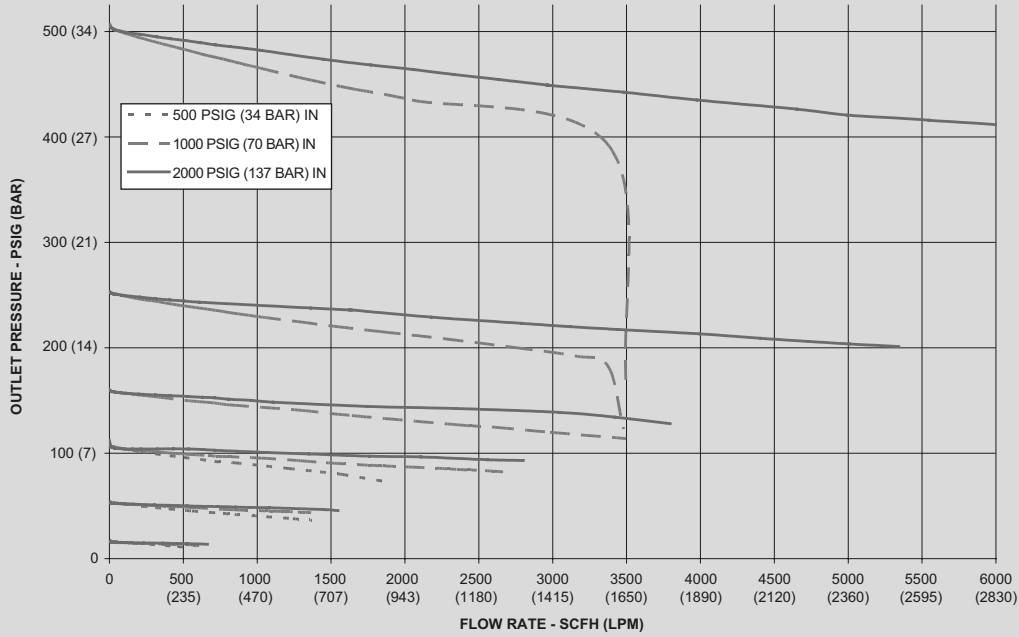
Order No.	Description
550 0002	Panel mount kit
550 0001	Captured vent kit
476 0002	Helium Leak certification

REGULATORS



Regulator Flow Curves

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

