



400 Series Regulators

401 SERIES

The 401 Series regulators are intended for primary pressure control of non-corrosive, high purity or liquefied gases, or for applications where minor fluctuations in outlet pressure due to diminishing inlet supply can be tolerated.

- Single Stage
- Chrome-Plated Brass Barstock Body
- Six Port Configuration
- 316L Stainless Steel Diaphragm

Typical Applications

Bulk gas distribution systems

Gas and liquid chromatography

High purity carrier gases

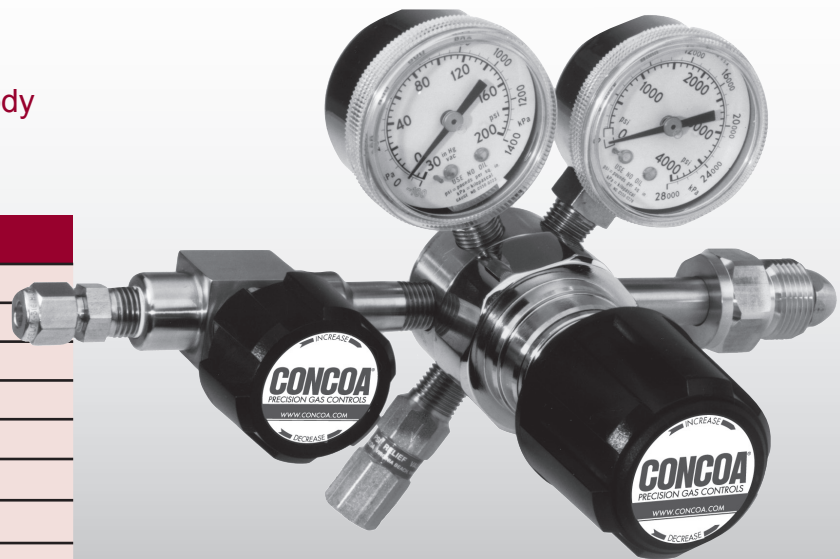
Zero, span, and calibration gases

High purity chamber pressurization

Liquefied hydrocarbon gas control

Control of cryogenic gases

EPA protocol standards



401 7331-580 shown

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 0-500 PSIG (0-1 to 0-34 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

PCTFE with 3500 PSIG (240 BAR) or 4500 PSIG (310 BAR) inlet option

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 188 for flow curves

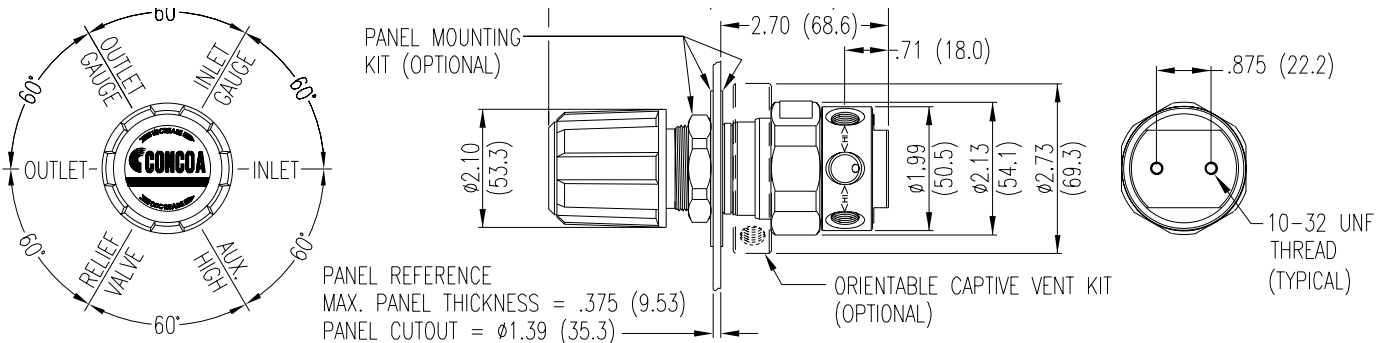
Weight (401 7331-580)

3.99 lbs. (1.81 kg)

400 Series Regulators



Installation Dimensions



400 SERIES

Ordering Information

401	A	B	C	D	-CON	Options	
Series 401	Outlet Pressure	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 (110/220 VAC)
	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	6: Mirror image (PSIG/kPa gauges)	TF6: 3/8" tube	H: Protocol switchover station with alarm (110/220 VAC)
	5: 0-500 PSIG (0-34 BAR)**	0-1000 PSIG / 0-70 BAR	7: 0-400 PSIG/ 0-27 BAR	4: Diaphragm valve 1/4" MPT	7: Mirror image (BAR/PSIG gauges)	M06: 6mm tube	M: Protocol station
	7: 0-150 PSIG (0-10 BAR)	30"-0-200 PSIG/ -1-0-14 BAR	8: 0-6000 PSIG/ 0-400 BAR*	5: Needle valve 1/4" MPT		CGA DIN 477 BS 341 and others available	Q: Protocol purge station*
	A: 0-15 (0-1 BAR)*	0-30 PSIG / 0-2 BAR***	G: 0-4000 PSIG/ 0-275 BAR†	6: 1/8" tube fitting			*Not available with 4500 PSIG (310 BAR) max inlet pressure
	*Not available with 4500 PSIG (310 BAR) maximum inlet pressure		*Maximum inlet pressure 4500 PSIG (310 BAR) with PCTFE Seat CAPSULE®		7: 3/8" tube fitting		
	**Standard assembly does not include relief valve				8: Diaphragm valve 1/8" tube fitting		
	*** With redline for acetylene use.		†Maximum inlet pressure 3500 PSIG (240 BAR) with PCTFE seat CAPSULE®		9: Diaphragm valve 1/4" FPT		
				A: 3/8" BSP RH fitting	B: Diaphragm valve 3/8" 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



400 Series Regulators

402 SERIES

The 402 Series regulators are intended for primary pressure control of non-corrosive, high purity or liquefied gases, or for applications where minor fluctuations in outlet pressure due to diminishing inlet supply can be tolerated.

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

Typical Applications

Bulk gas distribution systems

Gas and liquid chromatography

High purity carrier gases

Zero, span, and calibration gases

High purity chamber pressurization

Liquefied hydrocarbon gas control

Control of cryogenic gases

EPA protocol standards



402 1331-580 shown

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 0-500 PSIG (0-1 to 0-34 BAR)

Broad range of applications

Pipe Away Relief Valve

Safely vents exhaust gases

Materials

Body

Brass barstock

Bonnet

Brass barstock

Seat

PTFE

PCTFE with 3500 PSIG (240 BAR) or 4500 PSIG (310 BAR) inlet option

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 188 for flow curves

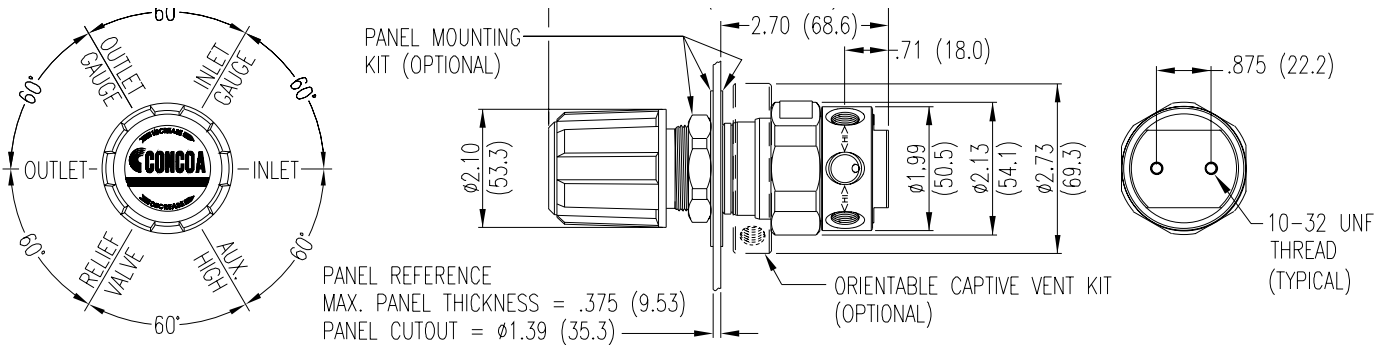
Weight (402 1331-580)

3.99 lbs. (1.81 kg)

400 Series Regulators



Installation Dimensions



400 SERIES

Ordering Information

402	A	B	C	D	-CON	Options	
Series 402	Outlet Pressure	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 (110/220 VAC)
	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	6: Mirror image (PSIG/kPa gauges)	TF6: 3/8" tube	H: Protocol switchover station with alarm (110/220 VAC)
	5: 0-500 PSIG (0-34 BAR)**	0-1000 PSIG/ 0-70 BAR	7: 0-400 PSIG/ 0-27 BAR	4: Diaphragm valve 1/4" MPT	7: Mirror image (BAR/PSIG gauges)	M06: 6mm tube	M: Protocol station
	7: 0-150 PSIG (0-10 BAR)	30"-0-200 PSIG/ -1-0-14 BAR	8: 0-6000 PSIG/ 0-400 BAR*	5: Needle valve 1/4" MPT		CGA DIN 477 BS 341 and others available	Q: Protocol purge station*
	A: 0-15 (0-1 BAR)*	0-30 PSIG / 0-2 BAR***	G: 0-4000 PSIG/ 0-275 BAR†	6: 1/8" tube fitting			*Not available with 4500 PSIG (310 BAR) max inlet pressure
	*Not available with 4500 PSIG (310 BAR) maximum inlet pressure		*Maximum inlet pressure 4500 PSIG (310 BAR) with PCTFE Seat CAPSULE®		7: 3/8" tube fitting		
	**Standard assembly does not include relief valve		†Maximum inlet pressure 3500 PSIG (240 BAR) with PCTFE seat CAPSULE®		8: Diaphragm valve 1/8" tube fitting		
	*** With redline for acetylene use.				9: Diaphragm valve 1/4" FPT		
					A: 3/8" BSP RH fitting		
					B: Diaphragm valve 3/8" 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



400 Series Regulators

403 SERIES

The 403 Series regulators are intended for secondary pressure control of non-corrosive, high purity or liquefied gases or as point of use pressure control in high purity gas distribution systems.

- Single Stage
- Chrome-plated Brass Barstock Body
- Four Port Configuration
- 316L Stainless Steel Diaphragm

Typical Applications

- Bulk gas distribution systems
- Gas and liquid chromatography
- High purity carrier gases
- Zero, span, and calibration gases
- High purity chamber pressurization
- Liquefied hydrocarbon gas control
- Control of cryogenic gases



403 2021-000 shown

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 and Rear Panel-Mountable**
Versatile system configuration
- Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR)**
Broad range of applications
- 3000 PSIG (210 BAR) Inlet Pressure Rating**
Safe use with high pressure cylinders
- Pipe Away Relief Valve**
Safely vents exhaust gases

Materials

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

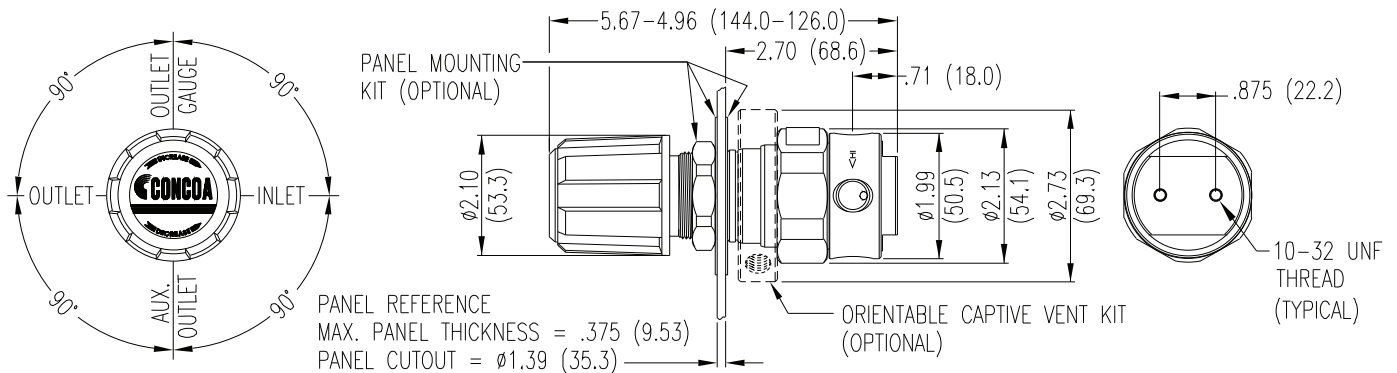
Specifications

- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauge**
2" (53mm) diameter chrome-plated
- Ports**
1/4" FPT
- Helium Leak Integrity**
1 x 10⁻⁹ scc/sec
- Cv**
0.1 Max outlet 50 PSIG (3.5 BAR) or below
0.2 Max outlet above 50 PSIG (3.5 BAR)
See page 189 for flow curves
- Weight (403 2021-000)**
2.71 lbs. (1.23 kg)

400 Series Regulators



Installation Dimensions



400 SERIES

Ordering Information

403	A	B	C	D	-CON	Options	
Series 403	Outlet Pressure	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	D: Deep purge
	2: 0-50 PSIG (0-3.5 BAR)	30°-0-100 PSIG/ -1-0-7 BAR		1: 1/4" MPT	1: Cleanroom assembly (PSIG/kPa gauges)	TF2: 1/8" tube	M: Protocol station
	3: 0-100 PSIG (0-7 BAR)	30°-0-200 PSIG/ -1-0-14 BAR		2: 1/4" tube fitting	2: Cleanroom assembly (BAR/PSIG gauges)	TF4: 1/4" tube	Q: Protocol purge station
	4: 0-250 PSIG (0-17 BAR)	0-400 PSIG/ 0-27 BAR		3: Diaphragm valve 1/4" tube fitting	6: Mirror image (PSIG/kPa gauges)	TF6: 3/8" tube	
	5: 0-500 PSIG (0-34 BAR)**	0-1000 PSIG/ 0-70 BAR		4: Diaphragm valve 1/4" MPT	7: Mirror image (BAR/PSIG gauges)	M06: 6mm tube	
	7: 0-150 (0-10 BAR)	30°-0-200 PSIG/ -1-0-14 BAR		5: Needle valve 1/4" MPT			
	**Standard assembly does not include relief valve			6: 1/8" tube fitting			
				7: 3/8" tube fitting			
				8: Diaphragm valve 1/8" fitting			
				9: Diaphragm valve 1/4" FPT			
				A: 3/8" BSP RH fitting			
				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



400 Series Regulators

405 SERIES

The 405 Series regulators are intended for secondary pressure control of non-corrosive, high purity or liquefied gases or as point of use pressure control in high purity gas distribution systems.

- Single Stage
- Brass Barstock Body
- Four Port Configuration
- 316L Stainless Steel Diaphragm

Typical Applications

Bulk gas distribution systems

Gas and liquid chromatography

High purity carrier gases

Zero, span, and calibration gases

High purity chamber pressurization

Liquefied hydrocarbon gas control

Control of cryogenic gases



405 2021-000 shown

Features

Metal-to-Metal Diaphragm Seal

No possibility of gas contamination

CAPSULE® Seat

Increased serviceability and life

Brass Barstock Body

Smooth surface finish

Front and Rear Panel-Mountable

Versatile system configuration

Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR)

Broad range of applications

3000 PSIG (210 BAR) Inlet Pressure Rating

Safe use with high pressure cylinders

Pipe Away Relief Valve

Safely vents exhaust gases

Materials

Body

Brass barstock

Bonnet

Brass barstock

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)

Gauge

2" (53mm) diameter brass

Ports

1/4" FPT

Helium Leak Integrity

1 x 10⁻⁹ scc/sec

Cv

0.1 Max outlet 50 PSIG (3.5 BAR) or below

0.2 Max outlet above 50 PSIG (3.5 BAR)

See page 189 for flow curves

Weight (405 2021-000)

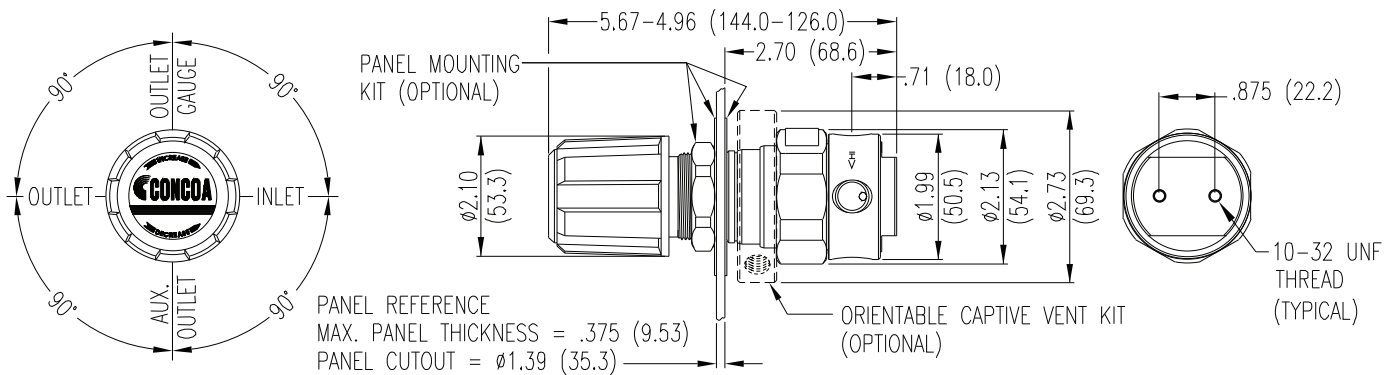
2.71 lbs. (1.23 kg)

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

405	A	B	C	D	-CON	Options	
Series 405	Outlet Pressure	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	D: Deep purge
	2: 0-50 PSIG (0-3.5 BAR)	30"-0-100 PSIG/ -1-0-7 BAR		1: 1/4" MPT	1: Cleanroom assembly (PSIG/kPa gauges)	TF2: 1/8" tube	M: Protocol station
	3: 0-100 PSIG (0-7 BAR)	30"-0-200 PSIG/ -1-0-14 BAR		2: 1/4" tube fitting	2: Cleanroom assembly (BAR/PSIG gauges)	TF4: 1/4" tube	Q: Protocol purge station
	4: 0-250 PSIG (0-17 BAR)	0-400 PSIG/ 0-27 BAR		3: Diaphragm valve 1/4" tube fitting	6: Mirror image (PSIG/kPa gauges)	TF6: 3/8" tube	
	5: 0-500 PSIG (0-34 BAR)**	0-1000 PSIG/ 0-70 BAR		4: Diaphragm valve 1/4" MPT	7: Mirror image (BAR/PSIG gauges)	M06: 6mm tube	
	7: 0-150 (0-10 BAR)	30"-0-200 PSIG/ -1-0-14 BAR		5: Needle valve 1/4" MPT			
	**Standard assembly does not include relief valve			6: 1/8" tube fitting			
				7: 3/8" tube fitting			
				8: Diaphragm valve 1/8" fitting			
				9: Diaphragm valve 1/4" FPT			
				A: 3/8" BSP RH fitting			
				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



400 Series Regulators

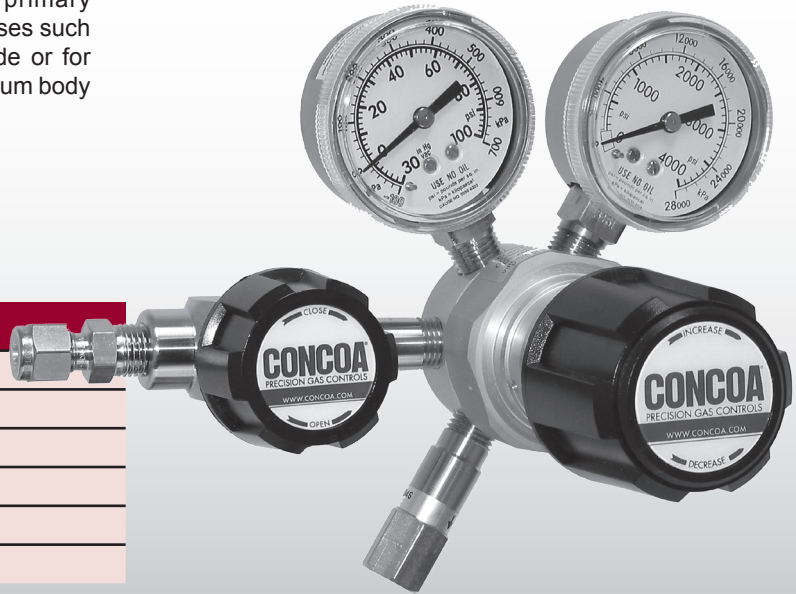
408 SERIES

The 408 Series regulators are intended for primary pressure control of mildly corrosive high purity gases such as ammonia, hydrogen sulfide, and sulfur dioxide or for applications requiring the light weight of an aluminum body regulator.

- Single Stage
- Anodized Aluminum Barstock Body
- 316L Stainless Steel Diaphragm

Typical Applications

- Semi-corrosive gases and mixtures
- Gas and liquid chromatography
- High purity carrier gases
- Zero, span, and calibration gases
- High purity chamber pressurization
- Mildly corrosive gases



408 2331-000 shown

Features

- Metal-to-Metal Diaphragm Seal**
No possibility of gas contamination
- CAPSULE® Seat**
Increased serviceability and life
- Anodized Aluminum Body**
Cost-effective corrosion resistance
- Front and Rear Panel-Mountable**
Versatile system configuration
- Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR)**
Broad range of applications
- Pipe Away Relief Valve**
Safely vents exhaust gases

Materials

- Body**
Anodized aluminum barstock
- Bonnet**
Anodized aluminum barstock
- Seat**
PTFE
- Filter**
Patented 10 micron 316 mesh
- Diaphragm**
316L stainless steel
- Internal Seals**
PTFE

Specifications

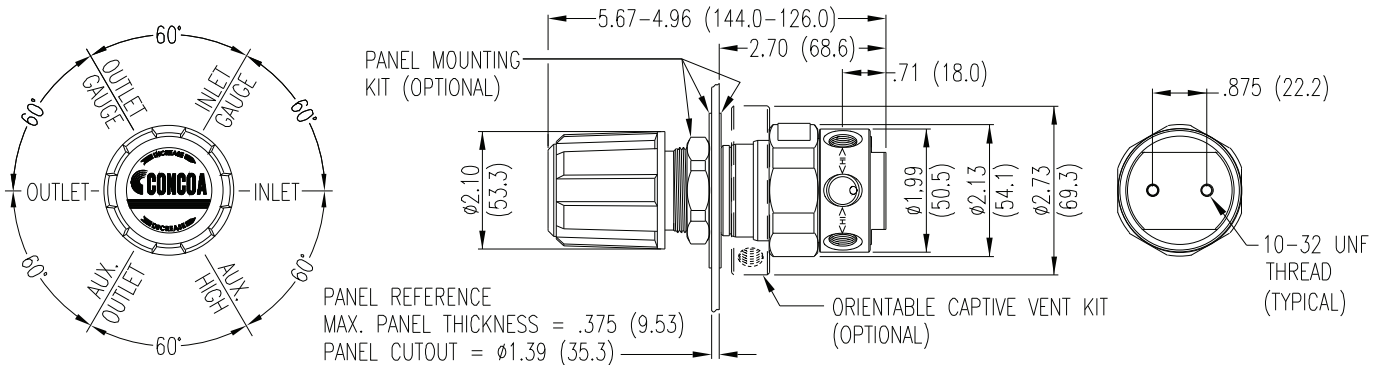
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauges**
2" (53mm) diameter stainless steel
- Ports**
1/4" FPT
- Helium Leak Integrity**
1 x 10⁻⁹ scc/sec
- Cv**
0.1
See page 188 for flow curves
- Weight (408 2331-000)**
2.7 lbs. (1.24 kg)

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

408	A	B	C	D	-CON	Options	
Series 408	Outlet Pressure	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	M: Protocol station
	2: 0-50 PSIG (0-3.5 BAR)	30"-0-100 PSIG/ -1-0-7 BAR	3: 0-4000 PSIG/ 0-310 BAR	1: 1/4" MPT	1: Cleanroom assembly (PSIG/kPa gauges)	TF2: 1/8" tube	D: Deep purge
	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	Q: Protocol purge station
	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	
	5: 0-500 (0-34 BAR)**	0-1000 PSIG/ 0-70 BAR	7: 0-400 PSIG/ 0-27 BAR	4: Diaphragm valve 1/4" MPT		M06: 6mm tube	
	7: 0-150 PSIG (0-10 BAR)	30"-0-200 PSIG/ -1-0-14 BAR		5: Needle valve 1/4" MPT		CGA DIN 477 BS 341 and others available	
	**No relief valve			6: 1/8" tube fitting			
				7: 3/8" tube fitting			
				8: Diaphragm valve 1/8" tube fitting			
				9: Diaphragm valve 1/4" FPT			
				M: 6mm tube fitting			
				S: Diaphragm valve 6mm tube fitting			

Related Options

Options	Order No.	Description
Panel mount kit	550 0002	To mount the regulator using bonnet threads. Material: Nickel-plated brass
Captured vent kit	550 0001	360° Orientation pipes vented gases to safe location in the event of diaphragm failure. Material: Nickel-plated brass
Helium Leak certification 476 0002		Inboard Helium Leak certification to less than 1 x 10 ⁻⁹ cc/sec



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

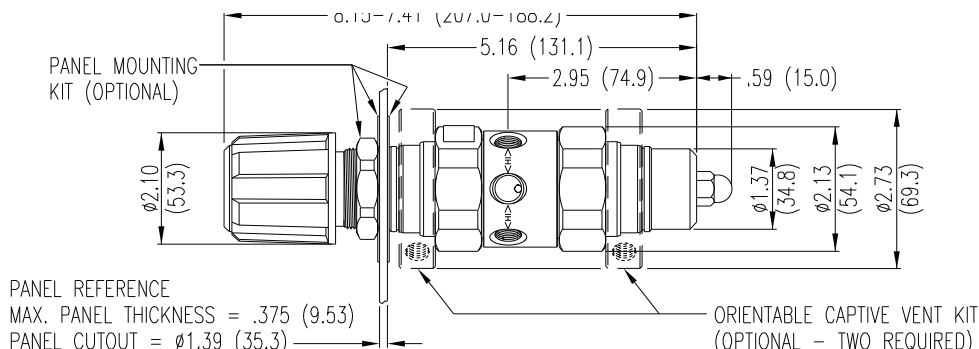
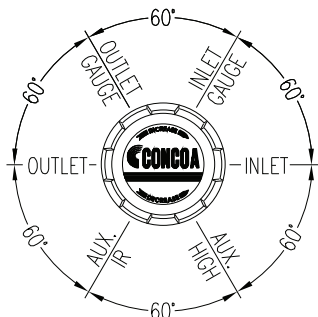
Features	Materials	Specifications
<p>Metal-to-Metal Diaphragm Seal No possibility of gas contamination</p> <p>CAPSULE® Seat Increased serviceability and life</p> <p>Chrome-plated Brass Barstock Body Smooth surface finish</p> <p>Front Panel-Mountable Easy installation</p> <p>10 Micron Filtration in Both Stages Fail-safe seat performance</p> <p>Pressure Ranges 0-15 to 0-350 PSIG (0-1 to 0-24 BAR) Broad range of applications</p> <p>Pipe Away Relief Valve Safely vents exhaust gases</p>	<p>Body Chrome-plated brass barstock</p> <p>Bonnet Chrome-plated brass barstock</p> <p>Seat PTFE PCTFE with 3500 PSIG (240 BAR) or 4500 PSIG (310 BAR) inlet option</p> <p>Filter 10 micron sintered bronze</p> <p>Diaphragm 316L stainless steel</p> <p>Internal Seals PTFE</p>	<p>Maximum Inlet Pressure 3000 PSIG (210 BAR) 3500 PSIG (240 BAR) optional 4500 PSIG (310 BAR) optional</p> <p>Temperature Range -40°F to 140°F (-40°C to 60°C)</p> <p>Gauges 2" (53mm) diameter chrome-plated</p> <p>Ports 1/4" FPT</p> <p>Helium Leak Integrity 1 x 10⁻⁹ scc/sec</p> <p>Cv 0.1 <i>See page 188 for flow curves</i></p> <p>Weight (411 2331-580) 5.3 lbs. (2.40 kg)</p>

400 Series Regulators



400 SERIES

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 (110/220 VAC)
	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	H: Protocol switchover station with alarm (110/220 VAC)
	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	M: Protocol station
	E: 0-350 PSIG (0-24 BAR)	0-400 PSIG/ 0-27 BAR	8: 0-6000 PSIG/ 0-405 BAR*	5: Needle valve 1/4" MPT		CGA DIN 477 BS 341 and others available	Q: Protocol purge station* <i>*Not available with 4500 PSIG (310 BAR) max inlet pressure</i>
		G: 0-4000 PSIG/ 0-275 BAR†	6: 1/8" tube fitting	7: 3/8" tube fitting			
		<i>*Maximum inlet pressure 4500 PSIG (310 BAR) with PCTFE seat CAPSULE®</i>		8: Diaphragm valve 1/8" tube fitting			
		<i>†Maximum inlet pressure 3500 PSIG (240 BAR) with PCTFE seat CAPSULE®</i>		9: Diaphragm valve 1/4" FPT			
				A: 3/8" BSP RH fitting			
				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



400 Series Regulators

412 SERIES

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



412 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

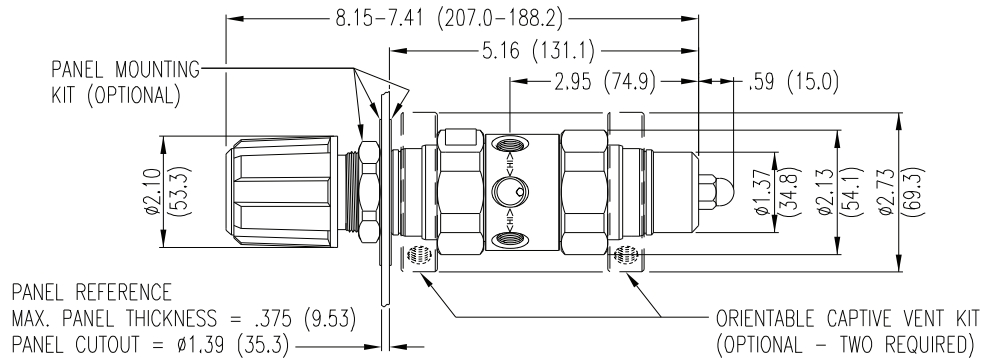
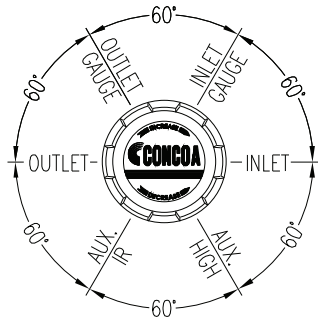
Features	Materials	Specifications
<p>Metal-to-Metal Diaphragm Seal No possibility of gas contamination</p> <p>CAPSULE® Seat Increased serviceability and life</p> <p>Brass Barstock Body Smooth surface finish</p> <p>Front Panel-Mountable Easy installation</p> <p>10 Micron Filtration in Both Stages Fail-safe seat performance</p> <p>Pressure Ranges 0-15 to 0-350 PSIG (0-1 to 0-24 BAR) Broad range of applications</p> <p>Pipe Away Relief Valve Safely vents exhaust gases</p>	<p>Body Brass barstock</p> <p>Bonnet Brass barstock</p> <p>Seat PTFE PCTFE with 3500 PSIG (240 BAR) or 4500 PSIG (310 BAR) inlet option</p> <p>Filter 10 micron sintered bronze</p> <p>Diaphragm 316L stainless steel</p> <p>Internal Seals PTFE</p>	<p>Maximum Inlet Pressure 3000 PSIG (210 BAR) 3500 PSIG (240 BAR) optional 4500 PSIG (310 BAR) optional</p> <p>Temperature Range -40°F to 140°F (-40°C to 60°C)</p> <p>Gauges 2" (53mm) diameter brass</p> <p>Ports 1/4" FPT</p> <p>Helium Leak Integrity 1 x 10⁻⁹ scc/sec</p> <p>Cv 0.1 <i>See page 188 for flow curves</i></p> <p>Weight (412 2331-580) 5.3 lbs. (2.40 kg)</p>

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

412	A	B	C	D	-CON	Options	
Series 412	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 (110/220 VAC)
	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	H: Protocol switchover station with alarm (110/220 VAC)
	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	M: Protocol station
	E: 0-350 PSIG (0-24 BAR)	0-400 PSIG/ 0-27 BAR	8: 0-6000 PSIG/ 0-405 BAR*	5: Needle valve 1/4" MPT		CGA DIN 477 BS 341 and others available	Q: Protocol purge station* *Not available with 4500 PSIG (310 BAR) max inlet pressure
		G: 0-4000 PSIG/ 0-275 BAR†	6: 1/8" tube fitting				
		*Maximum inlet pressure 4500 PSIG (310 BAR) with PCTFE seat CAPSULE®	7: 3/8" tube fitting				
		†Maximum inlet pressure 3500 PSIG (240 BAR) with PCTFE seat CAPSULE®	8: Diaphragm valve 1/8" tube fitting				
			9: Diaphragm valve 1/4" FPT				
			A: 3/8" BSP RH fitting				
			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



400 Series Regulators

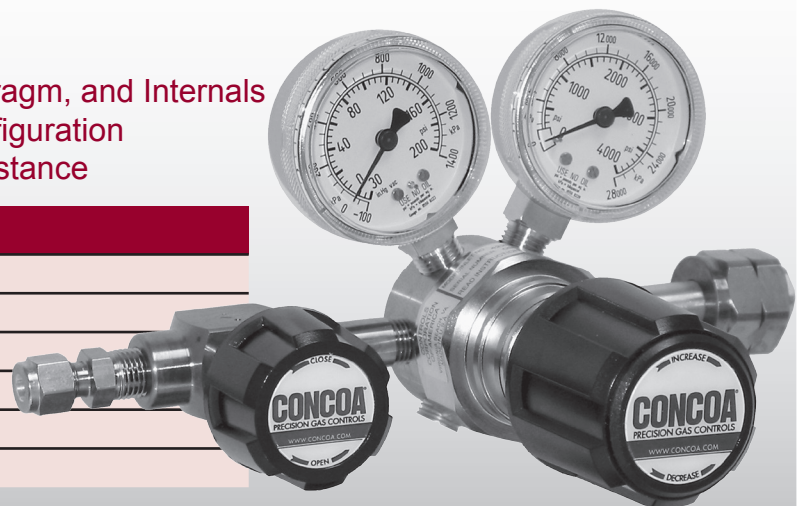
420 SERIES

The 420 Series SilcoNert regulators are intended for primary pressure control of reactive or corrosive calibration mixtures or pure gases in applications where an extremely inert wetted finish is required. The proprietary non-reactive amorphous silicon finish is significantly more inert than 316L stainless steel and ideally suited for Hydrogen Sulfide, reduced Sulfur, Mercury and PPM to PPB calibration mixtures.

- Single Stage
- SilcoNert™ 1020 Barstock Body, Diaphragm, and Internals
- Six Port Configuration or Four Port Configuration
- Inert Surface Finish and Corrosion Resistance

Typical Applications

- Reactive calibration standard
- Emissions monitoring
- Hydrogen sulfide PPM to PPB standards
- Mercury standards
- Sulfur mixtures
- Corrosive service



420 3331-330 shown

Features	Materials	Specifications
<p>Metal-to-Metal Diaphragm Seal No possibility of gas contamination</p> <p>CAPSULE® Seat Increased serviceability and life</p> <p>SilcoNert 1020 Barstock Body Increased corrosion resistance</p> <p>Front and Rear Panel-Mountable Versatile system configuration</p> <p>Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR) Broad range of applications</p>	<p>Body SilcoNert 1020</p> <p>Bonnet SilcoNert 1020</p> <p>Seat PTFE</p> <p>Filter SilcoNert 1020 10 micron mesh</p> <p>Diaphragm SilcoNert 1020</p> <p>Internal Seals PTFE</p>	<p>Maximum Inlet Pressure 3000 PSIG (210 BAR) 4500 PSIG (310 BAR) optional</p> <p>Temperature Range -40°F to 140°F (-40°C to 60°C)</p> <p>Gauge 2" (53mm) diameter stainless steel (bourdon tube not SilcoNert 1020)</p> <p>Ports 1/4" FPT</p> <p>Helium Leak Integrity 1 x 10⁻⁹ scc/sec</p> <p>Cv 0.1 (Max outlet 50 PSIG/3.5 BAR or below) 0.2 (Max outlet above 50 PSIG/3.5 BAR) See page 188 for flow curves</p> <p>Weight (420 3331-330) 3.8 lbs. (1.73 kg)</p>

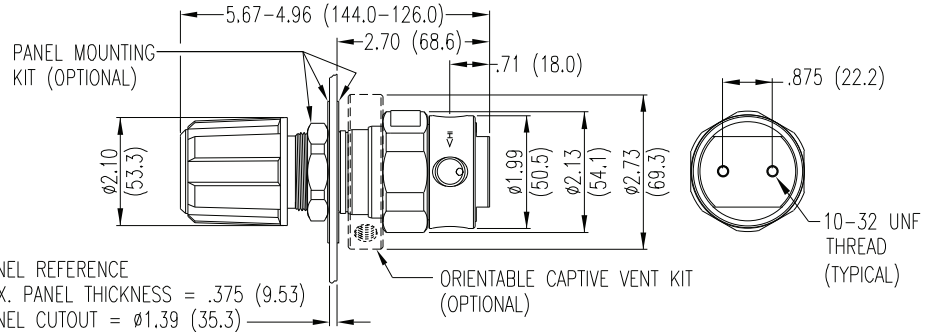
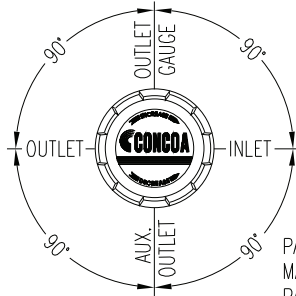
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400 Series Regulators

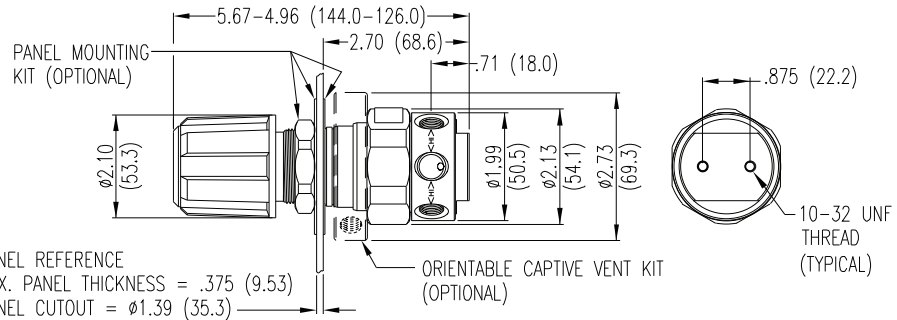
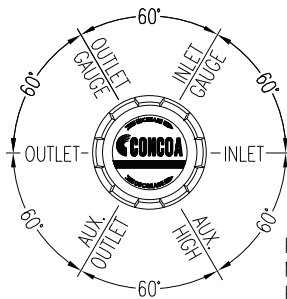


Installation Dimensions

Four Port Configuration



Six Port Configuration



Ordering Information

420	A	B	C	D	-CON	Options	
Series 420	Outlet Pressure	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: Six-port bare body	000: 1/4" FPT	B: Protocol alarm station (110/220 VAC)
	2: 0-50 PSIG (0-3.5 BAR)	30"-0-100 PSIG/ -1-0-7 BAR)	3: 0-4000 PSIG/ 0-275 BAR	2: 1/4" tube fitting	1: Six-port 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	3: Diaphragm valve 1/4" tube fitting	2: Six-port cleanroom assembly (BAR/PSIG gauges)	TF4: 1/4" tube	H: Protocol switchover station with alarm (110/220 VAC)*
	4: 0-250 PSIG (0-17 BAR)	0-400 PSI/ 0-27 BAR)	6: 0-300 PSIG/ 0-21 BAR	6: 1/8" tube fitting	6: Six-port mirror image (PSIG/kPa gauges)	M06: 6mm tube	M: Protocol station
	5: 0-500 PSIG (0-34 BAR)	0-1000 PSIG/ 0-70 BAR	7: 0-400 PSIG/ 0-27 BAR	8: Diaphragm valve 1/8" tube fitting	7: Six-port mirror image (BAR/PSIG gauges)	CGA DIN 477 BS 341 and others available upon request	Q: Protocol purge station*
	7: 0-150 PSIG (0-10 BAR)	30"-0-200 PSIG/ -1-0-14 BAR)	8: 0-6000 PSIG/ 0-405 BAR*	9: Diaphragm valve 1/4" FPT	A: Four-port bare body		*Not available with 4500 PSIG (310 BAR) max inlet pressure
	*Not available with 4500 PSIG (310 BAR) maximum inlet pressure	*Maximum inlet pressure 4500 PSIG (310 BAR) with PCTFE Seat CAPSULE®		M: 6mm tube fitting	B: Four-port cleanroom assembly (PSIG/kPa gauges)		
				S: Diaphragm valve 6mm tube fitting	C: Four-port cleanroom assembly (BAR/PSIG)		
					D: Four-port mirror image (PSIG/kPa gauges)		
					E: Four-port mirror image (BAR/PSIG gauges)		

Related Options

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

400 SERIES



400 Series Regulators

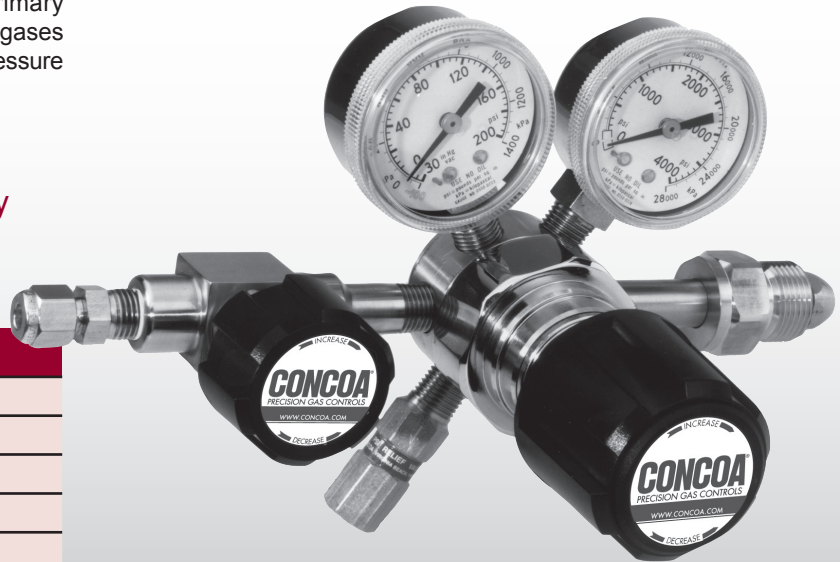
422 SERIES

The 422 Series regulators are intended for primary pressure control of ultra-high purity and corrosive gases in applications where minor fluctuations in outlet pressure due to diminishing inlet supply can be tolerated.

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

Typical Applications

- Gas and liquid chromatography
- Ultra-high purity carrier gases
- Zero, span, and calibration gases
- High purity chamber pressurization
- Liquefied hydrocarbon gas control
- Control of cryogenic gases
- Corrosive gases



422 3331-580 shown

Features

- Metal-to-Metal Diaphragm Seal**
No possibility of gas contamination
- CAPSULE® Seat**
Increased serviceability and life
- 316L Stainless Steel Barstock Body**
Increased corrosion resistance
- Front and Rear Panel-Mountable**
Versatile system configuration
- Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR)**
Broad range of applications
- Pipe Away Relief Valve**
Safely vents exhaust gases

Materials

- Body**
316L stainless steel barstock
- Bonnet**
Chrome-plated brass barstock
- Seat**
PTFE
PCTFE with 3500 PSIG (240 BAR) or 4500 PSIG (310 BAR) inlet option
- Filter**
Patented 10 micron 316 mesh
- Diaphragm**
316L stainless steel
- Internal Seals**
PTFE

Specifications

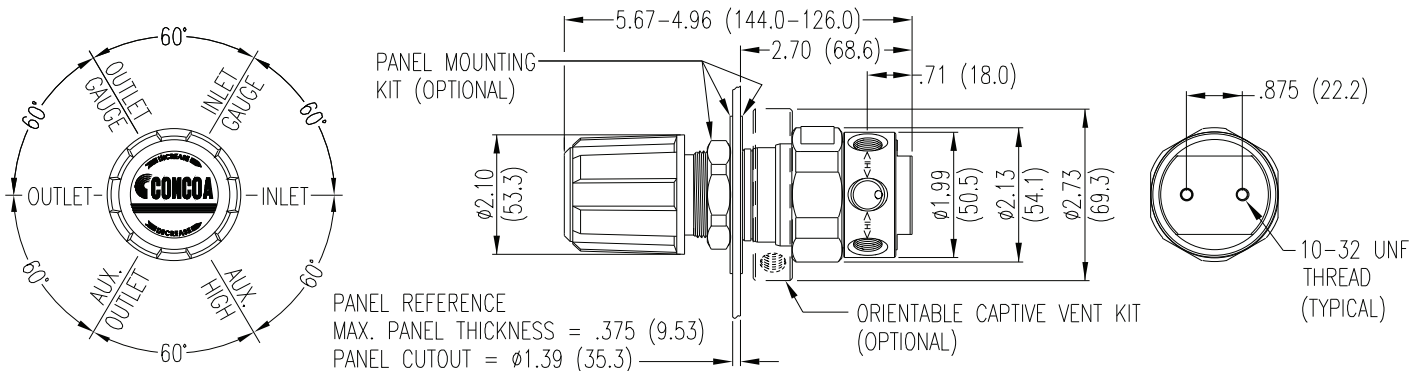
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
3500 PSIG (240 BAR) optional
4500 PSIG (310 BAR) optional
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauges**
2" (53mm) diameter stainless steel
- Ports**
1/4" FPT
- Helium Leak Integrity**
1 x 10⁻⁹ scc/sec
- Cv**
0.1
See page 188 for flow curves
- Weight (422 3331-580)**
3.8 lbs. (1.73 kg)

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

422	A		B	C	D	-CON	Options
Series 422	Outlet Pressure	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 (110/220 VAC)
	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	6: Mirror image (PSIG/kPa gauges)	TF6: 3/8" tube	H: Protocol switchover station with alarm (110/220 VAC)
	5: 0-500 PSIG (0-34 BAR)**	0-1000 PSIG/ 0-70 BAR	7: 0-400 PSIG/ 0-27 BAR	4: Diaphragm valve 1/4" MPT	7: Mirror image (BAR/PSIG gauges)	M06: 6mm tube	M: Protocol station
	7: 0-150 PSIG (0-10 BAR)	30"-0-200 PSIG/ -1-0-14 BAR	8: 0-6000 PSIG* 0-400 BAR	5: Needle valve 1/4" MPT		CGA DIN 477 BS 341 and others available	Q: Protocol purge station*
	*Not available with 4500 PSIG (310 BAR) maximum inlet pressure		G: 0-4000 PSIG/ 0-275 BAR†	6: 1/8" tube fitting			S: Stainless steel bonnet
	**Standard assembly does not include relief valve		*Maximum inlet pressure 4500 PSIG (310 BAR) with PCTFE seat CAPSULE®	7: 3/8" tube fitting			*Not available with 4500 PSIG (310 BAR) max inlet pressure
			†Maximum inlet pressure 3500 PSIG (240 BAR) with PCTFE seat CAPSULE®	8: Diaphragm valve 1/8" tube fitting			
				9: Diaphragm valve 1/4" FPT			
				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



400 Series Regulators

425 SERIES

The 425 Series regulators are intended for secondary pressure control of ultra-high purity and corrosive gases or as point-of-use pressure control in ultra-high purity gas distribution systems.

- Single Stage
- 316L Stainless Steel Barstock Body
- Four Port Configuration
- 316L Stainless Steel Diaphragm



425 2021-000 shown

Typical Applications

- Bulk gas distribution systems
- Gas and liquid chromatography
- Ultra-high purity carrier gases
- Zero, span, and calibration gases
- High purity chamber pressurization
- Liquefied hydrocarbon gas control
- Control of cryogenic gases
- Corrosive gases

Features

- Metal-to-Metal Diaphragm Seal**
No possibility of gas contamination
- CAPSULE® Seat**
Increased serviceability and life
- 316L Stainless Steel Barstock Body**
Increased corrosion resistance
- Front and Rear Panel-Mountable**
Versatile system configuration
- Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR)**
Broad range of applications
- 3000 PSIG (210 BAR) Inlet Pressure Rating**
Safe use with high pressure cylinders
- Pipe Away Relief Valve**
Safely vents exhaust gases

Materials

- Body**
316L stainless steel barstock
- Bonnet**
Chrome-plated brass barstock
- Seat**
PTFE
- Filter**
Patented 10 micron 316 mesh
- Diaphragm**
316L stainless steel
- Internal Seals**
PTFE

Specifications

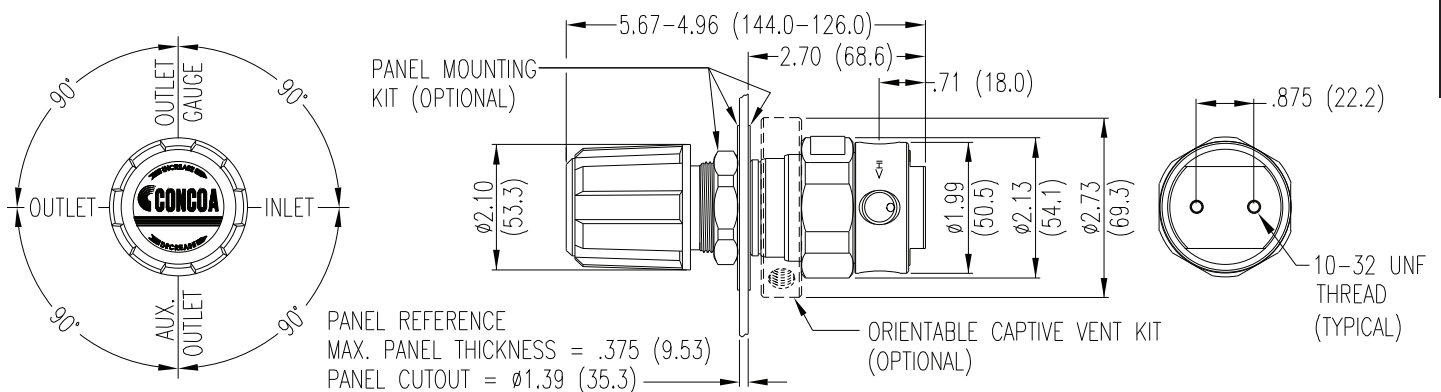
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauges**
2" (53mm) diameter stainless steel
- Ports**
1/4" FPT
- Helium Leak Integrity**
1 x 10⁻⁹ scc/sec
- Cv**
0.1 (Max outlet 50 PSIG/1 BAR or below)
0.2 (Max outlet above 50 PSIG/3.5 BAR)
See page 189 for flow curves
- Weight (425 2021-TF4)**
2.58 lbs. (1.17 kg)

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

425	A	B	C	D	-CON	Options	
Series	Outlet Pressure	Outlet Gauge	Inlet Gauge	Outlet Assemblies	Assembly/ Gauges	Inlet Connections	Installed Options
425	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	M: Protocol station
	2: 0-50 PSIG (0-3.5 BAR)	30"-0-100 PSIG/ -1-0-7 BAR		1: 1/4" MPT	1: Cleanroom Assembly (PSIG/kPa Gauges)	TF2: 1/8" tube	Q: Protocol purge station
	3: 0-100 PSIG (0-7 BAR)	30"-0-200 PSIG/ -1-0-14 BAR		2: 1/4" tube fitting	2: Cleanroom Assembly (BAR/PSIG Gauges)	TF4: 1/4" tube	S: Stainless steel bonnet
	4: 0-250 PSIG (0-17 BAR)	0-400 PSIG/ 0-27 BAR		3: Diaphragm valve 1/4" tube fitting	6: Mirror Image (PSIG/kPa Gauges)	TF6: 3/8" tube	
	5: 0-500 PSIG (0-34 BAR)**	0-1000 PSIG/ 0-70 BAR		4: Diaphragm valve 1/4" MPT	7: Mirror Image (BAR/PSIG Gauges)	M06: 6mm tube	
	7: 0-150 PSIG (0-10 BAR)	30"-0-200 PSIG/ -1-0-14 BAR		5: Needle valve 1/4" MPT			
	**Standard assembly does not include relief valve			6: 1/8" tube fitting			
				7: 3/8" tube fitting			
				8: Diaphragm valve 1/8" tube fitting			
				9: Diaphragm valve 1/4" FPT			
				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



400 Series Regulators

426 SERIES

The 426 Series regulators are intended for secondary pressure control of ultra-high purity and corrosive gases or as point-of-use pressure control in ultra-high purity gas distribution systems.

- Low Dead Volume
- 316L Stainless Steel Barstock Body
- Two Port Configuration
- 316L Stainless Steel Diaphragm

Typical Applications

- Bulk gas distribution systems
- Gas and liquid chromatography
- Ultra-high purity carrier gases
- Zero, span, and calibration gases
- High purity chamber pressurization
- Liquefied hydrocarbon gas control
- Control of cryogenic gases
- Corrosive gases



426 3001-000 shown

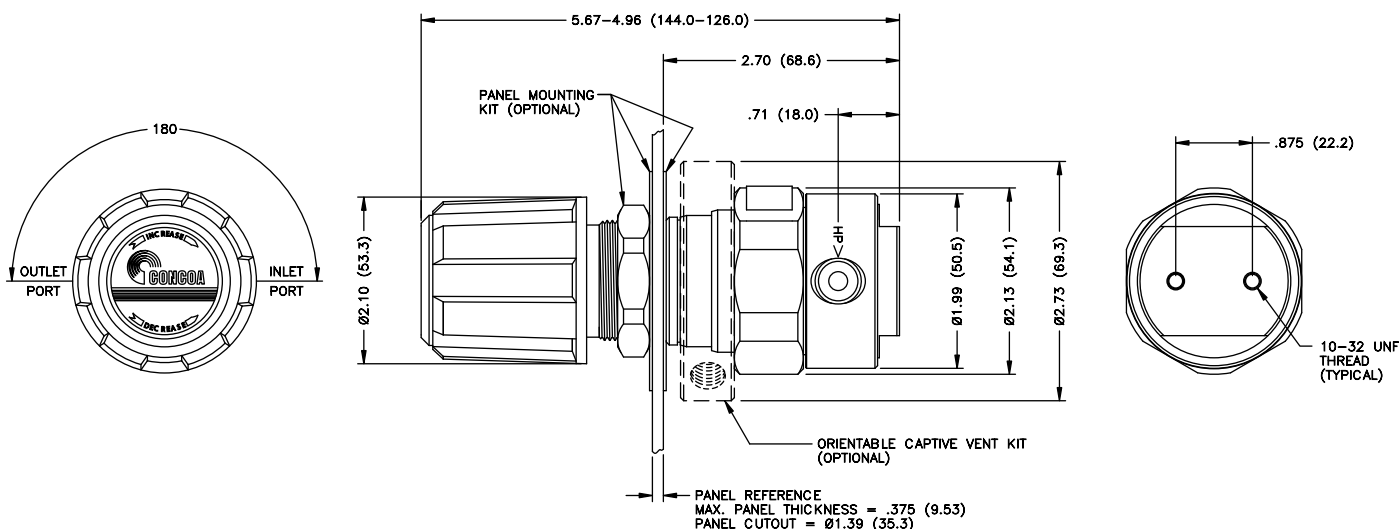
Features	Materials	Specifications
<p>Metal-to-Metal Diaphragm Seal No possibility of gas contamination</p> <p>CAPSULE® Seat Increased serviceability and life</p> <p>316L Stainless Steel Barstock Body Increased corrosion resistance</p> <p>Front and Rear Panel-Mountable Versatile system configuration</p> <p>Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR) Broad range of applications</p> <p>4500 PSIG (310 BAR) Inlet Pressure Rating Safe use with high pressure cylinders</p>	<p>Body 316L stainless steel barstock</p> <p>Bonnet Chrome-plated brass barstock</p> <p>Seat PCTFE</p> <p>Filter Patented 10 micron 316 mesh</p> <p>Diaphragm 316L stainless steel</p> <p>Internal Seals PTFE</p>	<p>Maximum Inlet Pressure 4500 PSIG (310 BAR)</p> <p>Temperature Range -40°F to 140°F (-40°C to 60°C)</p> <p>Ports 1/4" FPT</p> <p>Helium Leak Integrity 1 x 10⁻⁹ scc/sec</p> <p>Cv 0.1 <i>See page 188 for flow curves</i></p> <p>Weight (426 3801-000) 2.2 lbs (1.01 kg)</p>

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

426	A	B	C	D	-CON	Options
Series 426	Outlet Pressure	Inlet Pressure	Outlet Assemblies	Assembly	Inlet Connections	Installed Options
	2: 0-50 PSIG (0-3.5 BAR)	8: 4500 PSIG (310 BAR)	0: 1/4" FPT port	1: Cleanroom assembly	000: 1/4" FPT	B: Protocol alarm station (110/220 VAC)
	3: 0-100 PSIG (0-7 BAR)		1: 1/4" MPT		TF2: 1/8" tube	D: Deep purge*
	4: 0-250 PSIG (0-17 BAR)		2: 1/4" tube fitting		TF4: 1/4" tube	M: Protocol station
	5: 0-500 PSIG (0-34 BAR)		3: Diaphragm valve 1/4" tube fitting		TF6: 3/8" tube	*Only valid with 3000 PSIG cylinder inlet connections
	7: 0-150 PSIG (0-10 BAR)		4: Diaphragm valve 1/4" MPT		M06: 6mm tube	
			5: Needle valve 1/4" MPT		CGA DIN 477 BS 341 and others available	
			6: 1/8" tube fitting			
			7: 3/8" tube fitting			
			8: Diaphragm valve 1/8" tube fitting			
			9: Diaphragm valve 1/4" FPT			
			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



400 Series Regulators

427 SERIES

The 427 Series regulators are intended for secondary pressure control of the highest purity gases or as point of use pressure control in high purity gas distribution systems.

- Single Stage
- 316L Stainless Steel Barstock Body
- Two Port Configuration
- Face Seal Connections

Typical Applications

- Semiconductor process gases
- Gas and liquid chromatography
- Ultra-high purity carrier gases
- Zero, span, and calibration gases
- Liquefied hydrocarbon gas control
- Control of cryogenic gases



427 4004-001 shown

Features

- Metal-to-Metal Diaphragm Seal**
No possibility of gas contamination
- CAPSULE® Seat**
Increased serviceability and life
- Butt-Welded Face Seal connections**
Highest leak integrity available
- 316L Stainless Steel Barstock Body**
Increased corrosion resistance
- Front and Rear Panel-Mountable**
Versatile system configuration
- 3000 PSIG (210 BAR) Inlet Pressure Rating**
Safe use with high pressure cylinders
- Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR)**
Broad range of applications

Materials

- Body**
316L stainless steel barstock
- Bonnet**
Chrome-plated brass barstock
- Seat**
PTFE
- Filter**
Patented 10 micron 316 mesh
- Diaphragm**
316L stainless steel
- Internal Seals**
PTFE

Specifications

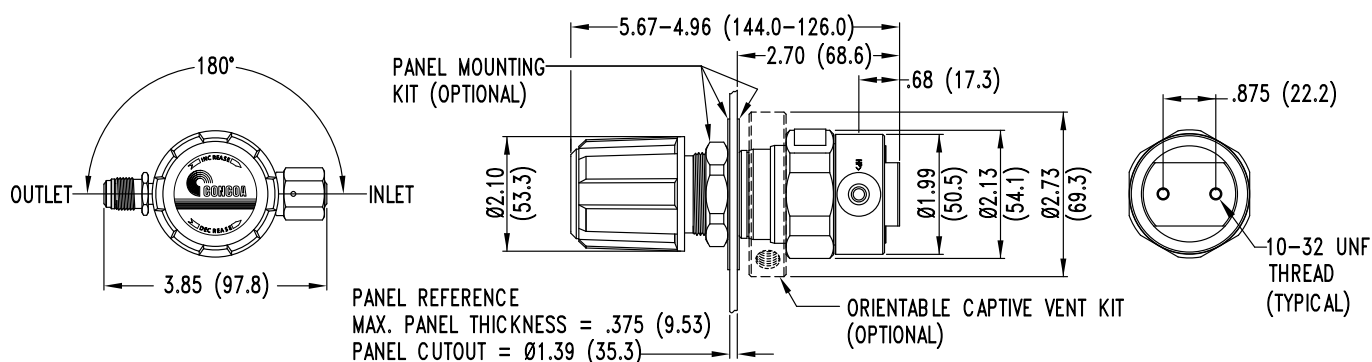
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Ports**
1/4" face seal connection
- Helium Leak Integrity**
1 x 10⁻⁹ scc/sec
- Cv**
0.1
See page 188 for flow curves
- Weight (427 4004-001)**
2.24 lbs. (1.02 kg)

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

427	A	B	C	D
Series 427	Outlet Pressure	Outlet Gauge	Inlet Gauge	Connections - inlet/outlet
	1: 0-15 PSIG (0-1 BAR)	0: None	0: None	1: Female face seal/male face seal
	2: 0-30 PSIG (0-2 BAR)			2: Male face seal/male face seal
	3: 0-50 PSIG (0-3.5 BAR)			3: Male face seal/female face seal
	4: 0-100 PSIG (0-7 BAR)			4: Female face seal/female face seal
	5: 0-250 PSIG (0-17 BAR)			
	6: 0-500 PSIG (0-34 BAR)			
	7: 0-150 PSIG (0-10 BAR)			

Related Options

Options	Order No.	Description
Panel mount kit	550 0002	To mount the regulator using bonnet threads. Material: Nickel-plated brass
Captured vent kit	550 0001	360° Orientation pipes vented gases to safe location in the event of diaphragm failure. Material: Nickel-plated brass
Helium Leak certification	476 0002	Inboard Helium Leak certification to less than 1 x 10 ⁻⁹ cc/sec



400 Series Regulators

428 SERIES

The 428 Series regulators are intended for secondary pressure control of the highest purity gases or as point of use pressure control in high purity gas distribution systems.

- Single Stage
- 316L Stainless Steel Barstock Body
- Three Port Configuration
- Face Seal Connections

Typical Applications

- Semiconductor process gases
- Gas and liquid chromatography
- Ultra-high purity carrier gases
- Zero, span, and calibration gases
- Liquefied hydrocarbon gas control
- Control of cryogenic gases



428 3302-001 shown

Features

- Metal-to-Metal Diaphragm Seal**
No possibility of gas contamination
- CAPSULE® Seat**
Increased serviceability and life
- Butt-Welded Face Seal Connections**
Highest leak integrity available
- 316L Stainless Steel Barstock Body**
Increased corrosion resistance
- Front and Rear Panel-Mountable**
Versatile system configuration
- 3000 PSIG Inlet Pressure Rating**
Safe use with high pressure cylinders
- Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR)**
Broad range of applications

Materials

- Body**
316L stainless steel barstock
- Bonnet**
Chrome-plated brass barstock
- Seat**
PTFE
- Filter**
Patented 10 micron 316 mesh
- Diaphragm**
316L stainless steel
- Internal Seals**
PTFE

Specifications

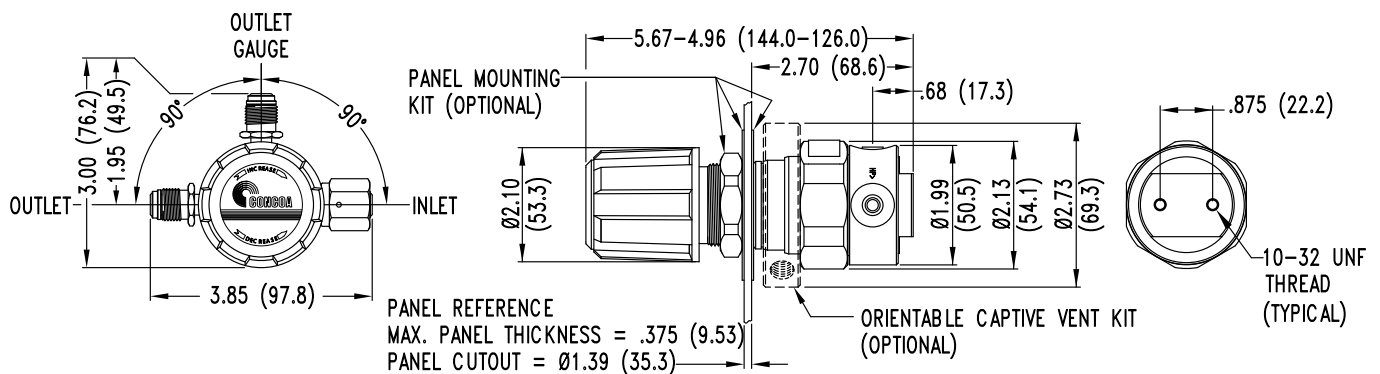
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauge**
2" (53mm) diameter stainless steel
- Ports**
1/4" face seal connection
- Helium Leak Integrity**
1 x 10⁻⁹ scc/sec
- Cv**
0.1
See page 188 for flow curves
- Weight (428 3302-001)**
2.46 lbs. (1.12 kg)

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

428	A	B	C	D
Series 428	Outlet Pressure	Outlet Gauge	Inlet Gauge	Connections - inlet/outlet
	1: 0-15 PSIG (0-1 BAR)	0: None	0: None	1: Female face seal/male face seal
	2: 0-30 PSIG (0-2 BAR)	1: 30"-0-30 PSIG/-1-0-2 BAR		2: Male face seal/male face seal
	3: 0-50 PSIG (0-3.5 BAR)	2: 30"-0-60 PSIG/-1-0-4 BAR		3: Male face seal/female face seal
	4: 0-100 PSIG (0-7 BAR)	3: 30"-0-100 PSIG/-1-0-7 BAR		4: Female face seal/female face seal
	5: 0-250 PSIG (0-17 BAR)	4: 30"-0-200 PSIG/-1-0-14 BAR		
	6: 0-500 PSIG (0-34 BAR)	5: 0-400 PSIG/0-27 BAR		
	7: 0-150 PSIG (0-10 BAR)	6: 0-1000 PSIG/0-70 BAR		

Related Options

Options	Order No.	Description
Panel mount kit	550 0002	To mount the regulator using bonnet threads. Material: Nickel-plated brass
Captured vent kit	550 0001	360° Orientation pipes vented gases to safe location in the event of diaphragm failure. Material: Nickel-plated brass
Helium Leak certification	476 0002	Inboard Helium Leak certification to less than 1×10^{-9} cc/sec



400 Series Regulators

429 SERIES

The 429 Series regulators are intended for primary pressure control of the highest purity gases or for applications where minor fluctuations in outlet pressure due to diminishing inlet supply pressure can be tolerated.

- Single Stage
- 316L Stainless Steel Barstock Body
- Four Port Configuration
- Face Seal Connections

Typical Applications

- Semiconductor process gases
- Gas and liquid chromatography
- Ultra-high purity carrier gases
- Zero, span, and calibration gases
- Liquefied hydrocarbon gas control
- Control of cryogenic gases



429 2241-001 shown

Features

- Metal-to-Metal Diaphragm Seal**
No possibility of gas contamination
- CAPSULE® Seat**
Increased serviceability and life
- Butt-Welded Face Seal Connections**
Highest leak integrity available
- 316L Stainless Steel Barstock Body**
Increased corrosion resistance
- Front and Rear Panel-Mountable**
Versatile system configuration
- 3000 PSIG (210 BAR) Inlet Pressure Rating**
Safe use with high pressure cylinders
- Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR)**
Broad range of applications

Materials

- Body**
316L stainless steel barstock
- Bonnet**
Chrome-plated brass barstock
- Seat**
PTFE
- Filter**
Patented 10 micron 316 mesh
- Diaphragm**
316L stainless steel
- Internal Seals**
PTFE

Specifications

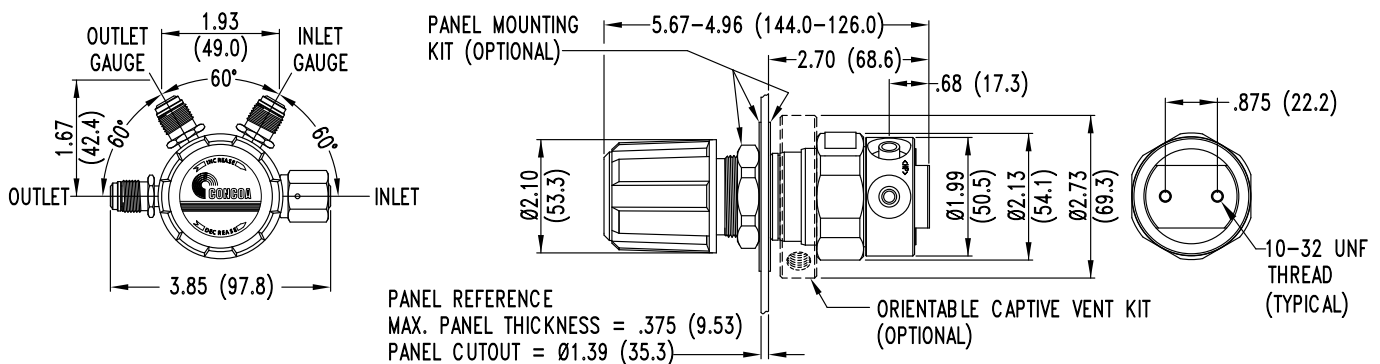
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauges**
2" (53mm) diameter stainless steel
- Ports**
1/4" face seal connection
- Helium Leak Integrity**
1 x 10⁻⁹ scc/sec
- Cv**
0.1
See page 188 for flow curves
- Weight (429 2241-001)**
2.73 lbs. (1.24 kg)

400 Series Regulators



Installation Dimensions

400 SERIES



Ordering Information

429	A	B	C	D
Series 429	Outlet Pressure	Outlet Gauge	Inlet Gauge	Connections - inlet/outlet
	1: 0-15 PSIG (0-1 BAR)	0: None	0: None	1: Female face seal/male face seal
	2: 0-30 PSIG (0-2 BAR)	1: 30"-0-30 PSIG/-1-0-2 BAR	1: 0-4000 PSIG/0-275 BAR	2: Male face seal/male face seal
	3: 0-50 PSIG (0-3.5 BAR)	2: 30"-0-60 PSIG/-1-0-4 BAR	2: 0-400 PSIG/0-27 BAR	3: Male face seal/female face seal
	4: 0-100 PSIG (0-7 BAR)	3: 30"-0-100 PSIG/-1-0-7 BAR	3: 0-1000 PSIG/0-70 BAR	4: Female face seal/female face seal
	5: 0-250 PSIG (0-17 BAR)	4: 30"-0-200 PSIG/-1-0-14 BAR	4: 0-3000 PSIG/0-210 BAR	
	6: 0-500 PSIG (0-34 BAR)	5: 0-400 PSIG/0-27 BAR	5: 30"-0-200 PSIG/-1-0-14 BAR	
	7: 0-150 PSIG (0-10 BAR)	6: 0-1000 PSIG/0-70 BAR	6: 30"-0-100 PSIG/-1-0-7 BAR	
			7: 30"-0-60 PSIG/-1-0-4 BAR	
			8: 30"-0-30 PSIG/-1-0-2 BAR	

Related Options

Options	Order No.	Description
Panel mount kit	550 0002	To mount the regulator using bonnet threads. Material: Nickel-plated brass
Captured vent kit	550 0001	360° Orientation pipes vented gases to safe location in the event of diaphragm failure. Material: Nickel-plated brass
Helium Leak certification	476 0002	Inboard Helium Leak certification to less than 1 x 10 ⁻⁹ cc/sec
0.01 Micron filter	580 2001	Attached at outlet for low particle count gases (with 1/4" connections only)



400 Series Regulators

430 SERIES

The 430 Series SilcoNert™ 1020 coated regulators are intended for pressure control of reactive or corrosive calibration mixtures or pure gases in applications where an extremely inert wetted finish is required along with stable delivery pressure regardless of inlet pressure. The proprietary non-reactive amorphous Silicon finish is desired over standard 316L stainless steel and ideally suited for Hydrogen Sulfide, reduced Sulfur, Mercury and PPM to PPB calibration mixtures.

- Dual Stage
- SilcoNert™ 1020 Barstock Body, Diaphragm, and Internals
- Six Port Configuration
- Inert Surface Finish and Corrosion Resistance

Typical Applications

- Reactive calibration standard
- Emissions monitoring
- Hydrogen sulfide PPM to PPB standards
- Mercury standards
- Sulfur mixtures
- Corrosive service



430 3331-330 shown

Features

- Metal-to-Metal Diaphragm Seal**
No possibility of gas contamination
- CAPSULE® Seat**
Increased serviceability and life
- SilcoNert 1020 Barstock Body**
Increased corrosion resistance
- Front and Rear Panel-Mountable**
Versatile system configuration
- Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR)**
Broad range of applications

Materials

- Body**
SilcoNert 1020
- Bonnet**
SilcoNert 1020
- Seat**
PTFE
- PCTFE with 4500 PSIG (310 BAR) inlet option
- Filter**
SilcoNert 1020 10 micron
- Diaphragm**
SilcoNert 1020
- Internal Seals**
PTFE

Specifications

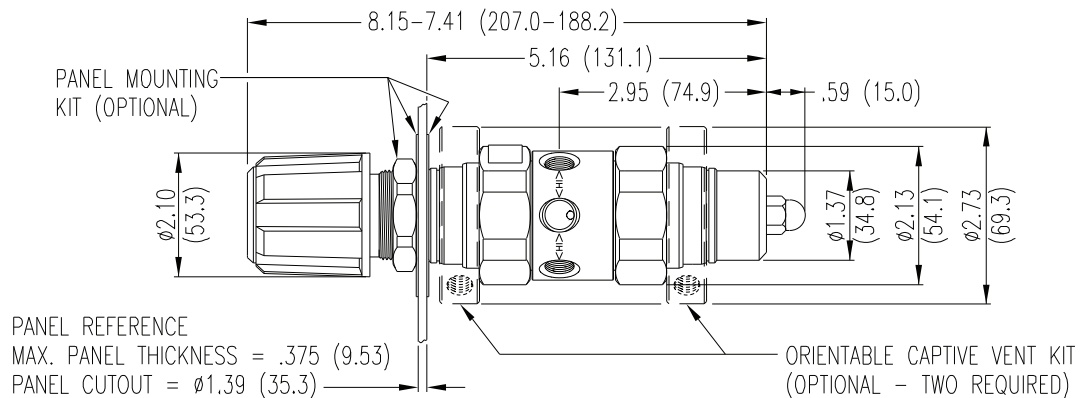
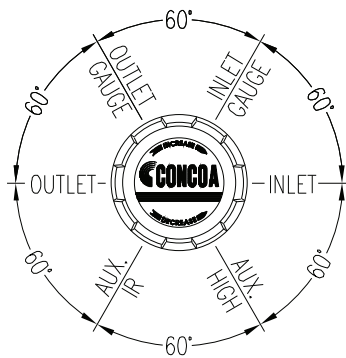
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
4500 PSIG (310 BAR) optional
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauges**
2" (53mm) diameter stainless steel (bourdon tube not SilcoNert 1020)
- Ports**
1/4" FPT
- Helium Leak Integrity**
1 x 10⁻⁹ scc/sec
- Cv**
0.1
See page 188 for flow curves
- Weight (430 3331-330)**
5.09 lbs. (2.31 kg)

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

430	A	B	C	D	-CON	Options	
Series 430	Outlet Pressure	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 (110/220 VAC)
	2: 0-50 PSIG (0-3.5 BAR)	30"-0-100 PSIG/ -1-0-7 BAR	3: 0-4000 PSIG/ 0-275 BAR	2: 1/4" tube fitting	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	3: Diaphragm valve 1/4" tube fitting	2: Cleanroom assembly (BAR/PSIG gauges)	TF4: 1/4" tube	H: Protocol switchover station with alarm (110/220 VAC)*
	4: 0-250 PSIG (0-17 BAR)	0-400 PSIG/ 0-27 BAR	6: 0-300 PSIG/ 0-21 BAR	6: 1/8" tube fitting		M06: 6mm tube	M: Protocol station
	7: 0-150 PSIG (0-10 BAR)	30"-0-200 PSIG/ -1-0-14 BAR	7: 0-400 PSIG/ 0-27 BAR	8: Diaphragm valve 1/8" tube fitting		CGA DIN 477 BS 341 and others available upon request	Q: Protocol purge station*
	<i>*Not available with 4500 PSIG (310 BAR) maximum inlet pressure</i>		8: 0-6000 PSIG/ 0-405 BAR*	9: Diaphragm valve 1/4" FPT			<i>*Not available with 4500 PSIG (310 BAR) max inlet pressure</i>
				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 (2 required)
476 0002	Helium Leak certification



400 Series Regulators

432 SERIES

The 432 Series regulators are intended for primary pressure control of ultra-high purity or corrosive gases for applications requiring constant pressure control and delivery regardless of supply pressure variations.

- Dual Stage
- 316L Stainless Steel 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
- Ultra-high purity chamber pressurization
- Liquefied hydrocarbon gas control
- Corrosive gases



432 3331-580 shown

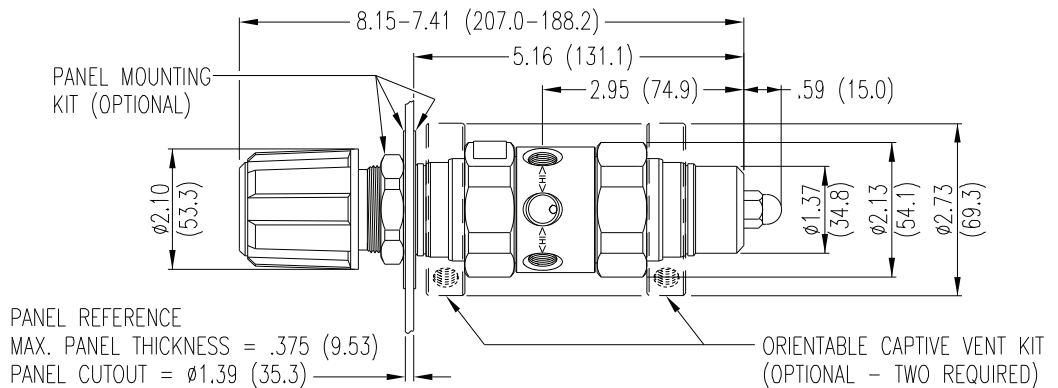
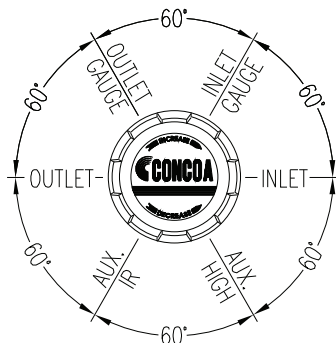
Features	Materials	Specifications
<p>Metal-to-Metal Diaphragm Seal No possibility of gas contamination</p> <p>CAPSULE® Seat Increased serviceability and life</p> <p>316L Stainless Steel Barstock Body Increased corrosion resistance</p> <p>Front Panel-Mountable Easy installation</p> <p>10 Micron Filtration in Both Stages Fail-safe seat performance</p> <p>Pressure Ranges 0-15 to 0-350 PSIG (0-1 BAR to 0-24 BAR) Broad range of applications</p> <p>Pipe Away Relief Valve Safely vents exhaust gases</p>	<p>Body 316L stainless steel barstock</p> <p>Bonnet Chrome-plated brass barstock</p> <p>Seat PTFE PCTFE with 3500 PSIG (240 BAR) or 4500 PSIG (310 BAR) inlet option</p> <p>Filter Patented 10 micron 316 mesh</p> <p>Diaphragm 316L stainless steel</p> <p>Internal Seals PTFE</p>	<p>Maximum Inlet Pressure 3000 PSIG (210 BAR) 3500 PSIG (240 BAR) optional 4500 PSIG (310 BAR) optional</p> <p>Temperature Range -40°F to 140°F (-40°C to 60°C)</p> <p>Gauges 2" (53mm) diameter stainless steel</p> <p>Ports 1/4" FPT</p> <p>Helium Leak Integrity 1 x 10⁻⁹ scc/sec</p> <p>Cv 0.1 <i>See page 188 for flow curves</i></p> <p>Weight (432 3331-580) 5.09 lbs. (2.31 kg)</p>

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

432	A	B	C	D	-CON	Options	
Series 432	Outlet Pressure	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 (110/220 VAC)
	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	H: Protocol switchover station with alarm (110/220 VAC)
	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	M: Protocol station
	E: 0-350 PSIG (0-24 BAR)	0-400 PSIG/ 0-27 BAR	8: 0-6000 PSIG/ 0-405 BAR*	5: Needle valve 1/4" MPT		CGA DIN 477 BS 341 and others available	Q: Protocol purge station*
			G: 0-4000 PSIG/ 0-275 BAR†	6: 1/8" tube fitting			S: Stainless steel bonnets
			*Maximum inlet pressure 4500 PSIG (310 BAR) with PCTFE seat CAPSULE®	7: 3/8" tube fitting			*Not available with 4500 PSIG (310 BAR) max inlet pressure
			†Maximum inlet pressure 3500 PSIG (240 BAR) with PCTFE seat CAPSULE®	8: Diaphragm valve 1/8" tube fitting			
				9: Diaphragm valve 1/4" FPT			
				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 (2 required)
476 0002	Helium Leak certification



400 Series Regulators

435 SERIES

The 435 Series regulators are intended for secondary pressure control of non-corrosive, high purity, or liquefied gases or as point of use pressure control in high purity gas distribution systems.

- Single Stage
- Brass Barstock Body
- Four Port Configuration
- 316L Stainless Steel Diaphragm

Typical Applications
Bulk gas distribution systems
Gas and liquid chromatography
High purity carrier gases
Zero, span, and calibration gases
Liquefied hydrocarbon gas control
Control of cryogenic gases



435 2021-000 shown

Features	Materials	Specifications
<p>Metal-to-Metal Diaphragm Seal No possibility of gas contamination</p> <p>CAPSULE® Seat Increased serviceability and life</p> <p>Brass Barstock Body Smooth surface finish</p> <p>Front and Rear Panel-Mountable Versatile system configuration</p> <p>Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR) Broad range of applications</p> <p>3000 PSIG (210 BAR) Inlet Pressure Rating Safe use with high pressure cylinders</p> <p>Pipe Away Relief Valve Safely vents exhaust gases</p>	<p>Body Brass barstock</p> <p>Bonnet Brass barstock</p> <p>Seat PTFE</p> <p>Filter 10 micron sintered bronze</p> <p>Diaphragm 316L stainless steel</p> <p>Internal Seals PTFE</p>	<p>Maximum Inlet Pressure 3000 PSIG (210 BAR)</p> <p>Temperature Range -40°F to 140°F (-40°C to 60°C)</p> <p>Gauge 2" (53mm) diameter brass</p> <p>Ports 1/4" FPT</p> <p>Helium Leak Integrity 1 x 10⁻⁹ scc/sec</p> <p>Cv 0.1 (Max outlet 50 PSIG/3.5 BAR or below) 0.2 (Max outlet above 50 PSIG/3.5 BAR) <i>See page 189 for flow curves</i></p> <p>Weight (435 2021-000) 2.70 lbs. (1.22 kg)</p>

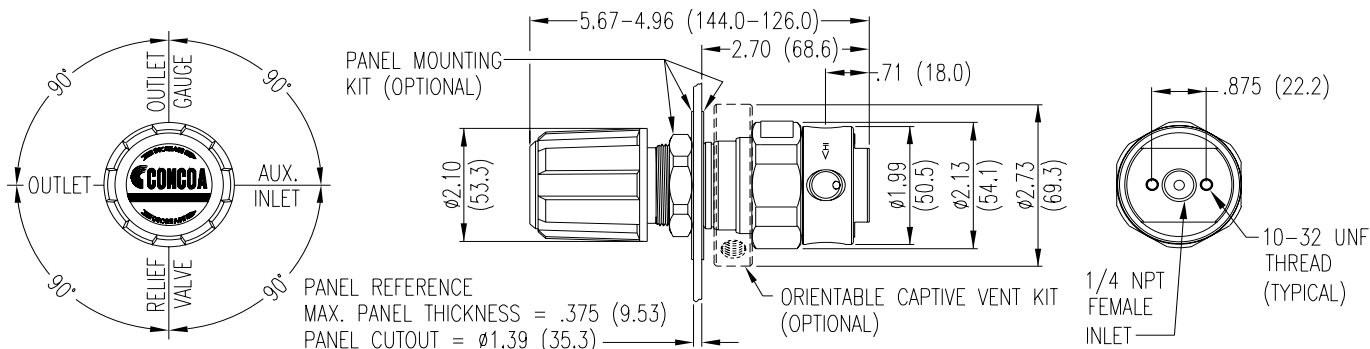
CRN OH 5216.5R1

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

435	A	B	C	D	-CON	Options	
Series 435	Outlet Pressure	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	None
	2: 0-50 PSIG (0-3.5 BAR)	30"-0-100 PSIG/ -1-0-7 BAR		1: 1/4" MPT	1: Cleanroom assembly (PSIG/kPa gauges)	TF2: 1/8" tube	
	3: 0-100 PSIG (0-7 BAR)	30"-0-200 PSIG/ -1-0-14 BAR		2: 1/4" tube fitting	2: Cleanroom assembly (BAR/PSIG gauges)	TF4: 1/4" tube	
	4: 0-250 PSIG (0-17 BAR)	0-400 PSIG/ 0-27 BAR		3: Diaphragm valve 1/4" tube fitting		TF6: 3/8" tube	
	5: 0-500 PSIG (0-34 BAR)**	0-1000 PSIG/ 0-70 BAR		4: Diaphragm valve 1/4" MPT		M06: 6mm tube	
	7: 0-150 PSIG (0-10 BAR)	30"-0-200 PSIG/ -1-0-14 BAR		5: Needle valve 1/4" MPT			
	**Standard assembly does not include relief valve			6: 1/8" tube fitting			
				7: 3/8" tube fitting			
				8: Diaphragm valve 1/8" tube fitting			
				9: Diaphragm valve 1/4" FPT			
				A: 3/8" BSP RH fitting			
				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



400 Series Regulators

445 SERIES

The 445 Series regulators are intended for secondary pressure control of ultra-high purity and corrosive gases or as point-of-use pressure control in high purity gas distribution systems.

- Single Stage
- Rear Entry
- 316L Stainless Steel Barstock Body
- Five Port Configuration
- 316L Stainless Steel Diaphragm

Typical Applications

- Bulk gas distribution systems
- Gas and liquid chromatography
- Ultra-high purity carrier gases
- Zero, span, and calibration gases
- Liquefied hydrocarbon gas control
- Control of cryogenic gases
- Corrosive service



445 2021-000 shown

Features

- Metal-to-Metal Diaphragm Seal**
No possibility of gas contamination
- CAPSULE® Seat**
Increased serviceability and life
- Stainless Steel Barstock Body**
Increased corrosion resistance
- Front and Rear Panel-Mountable**
Versatile system configuration
- Pressure Ranges 0-15 to 0-500 PSIG (0-1 to 0-34 BAR)**
Broad range of applications
- 3000 PSIG (210 BAR) Inlet Pressure Rating**
Safe use with high pressure cylinders

Materials

- Body**
316L stainless steel barstock
- Bonnet**
Chrome-plated brass barstock
- Seat**
PTFE
- Filter**
Patented 10 micron 316 mesh
- Diaphragm**
316L stainless steel
- Internal Seals**
PTFE

Specifications

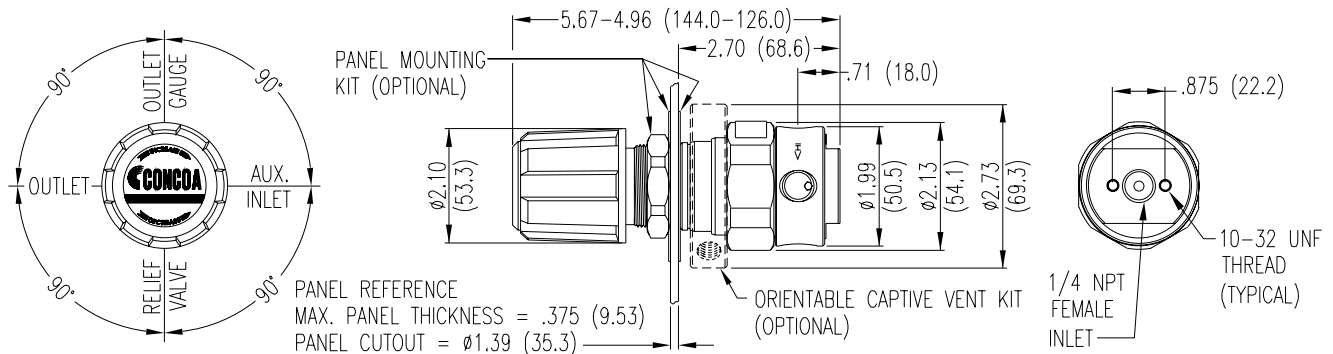
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauge**
2" (53mm) diameter stainless steel
- Ports**
1/4" FPT
- Helium Leak Integrity**
1 x 10⁻⁹ scc/sec
- Cv**
0.1 (Max outlet 50 PSIG/3.5 BAR or below)
0.2 (Max outlet above 50 PSIG/3.5 BAR)
See page 189 for flow curves
- Weight (445 2021-000)**
2.57 lbs. (1.17 kg)

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

445	A	B	C	D	-CON	Options	
Series 445	Outlet Pressure	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	None
	2: 0-50 PSIG (0-3.5 BAR)	30"-0-100 PSIG/ -1-0-7 BAR		1: 1/4" MPT	1: Cleanroom assembly (PSIG/kPa gauges)	TF2: 1/8" tube	
	3: 0-100 PSIG (0-7 BAR)	30"-0-200 PSIG/ -1-0-14 BAR		2: 1/4" tube fitting	2: Cleanroom assembly (BAR/PSIG gauges)	TF4: 1/4" tube	
	4: 0-250 PSIG (0-17 BAR)	0-400 PSIG/ 0-27 BAR		3: Diaphragm valve 1/4" tube fitting		TF6: 3/8" tube	
	5: 0-500 PSIG (0-34 BAR)**	0-1000 PSIG/ 0-70 BAR		4: Diaphragm valve 1/4" MPT		M06: 6mm tube	
	7: 0-150 PSIG (0-10 BAR)	30"-0-200 PSIG/ -1-0-14 BAR		5: Needle valve 1/4" MPT			
	<i>**Standard assembly does not include relief valve</i>			6: 1/8" tube fitting			
				7: 3/8" tube fitting			
				8: Diaphragm valve 1/8" tube fitting			
				9: Diaphragm valve 1/4" FPT			
				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



400 Series Regulators

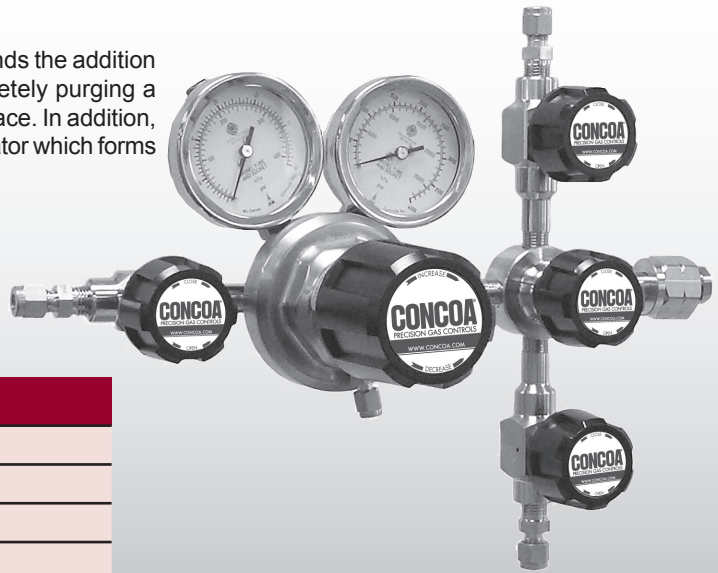
455 SERIES

The 455 Series regulators are intended for primary pressure control of highly corrosive gases such as chlorides, sulfides, and other acid-forming gases.

Deep Purge

For safety and corrosion prevention, CONCOA highly recommends the addition of a Deep Purge assembly to the 455 Series regulator. Completely purging a system prevents the release of hazardous gases into the work place. In addition, the Deep Purge prevents the introduction of moisture to the regulator which forms acids in the body and results in corrosion.

- Single Stage
- Electroless Nickel-Plated Forged Brass Body
- Corrosive Service



455 2332-330 shown

Typical Applications

- Hydrogen chloride
- Chlorine
- Boron trichloride
- Hydrogen sulfide
- Dichlorosilane

Features

- Nickel-Plated Forged Brass Body**
Durable, long lasting construction
- Convolute 316L Stainless Steel Diaphragm**
Sensitive to downstream changes
- CAPSULE® Seat**
Serviceability and long life
- Captured Vent Standard**
Safely vent exhaust gases
- Hastelloy® Seat Assembly**
Superior corrosion resistance
- High Load Marginal Spring**
Positive seat closure

Materials

- Body**
Electroless nickel-plated forged brass
- Bonnet**
Electroless nickel-plated forged brass
- Seat**
PTFE
- Nozzle**
Hastelloy®
- Diaphragm**
316L stainless steel
- Diaphragm Seal**
PTFE
- Filter**
10 micron Hastelloy®

Specifications

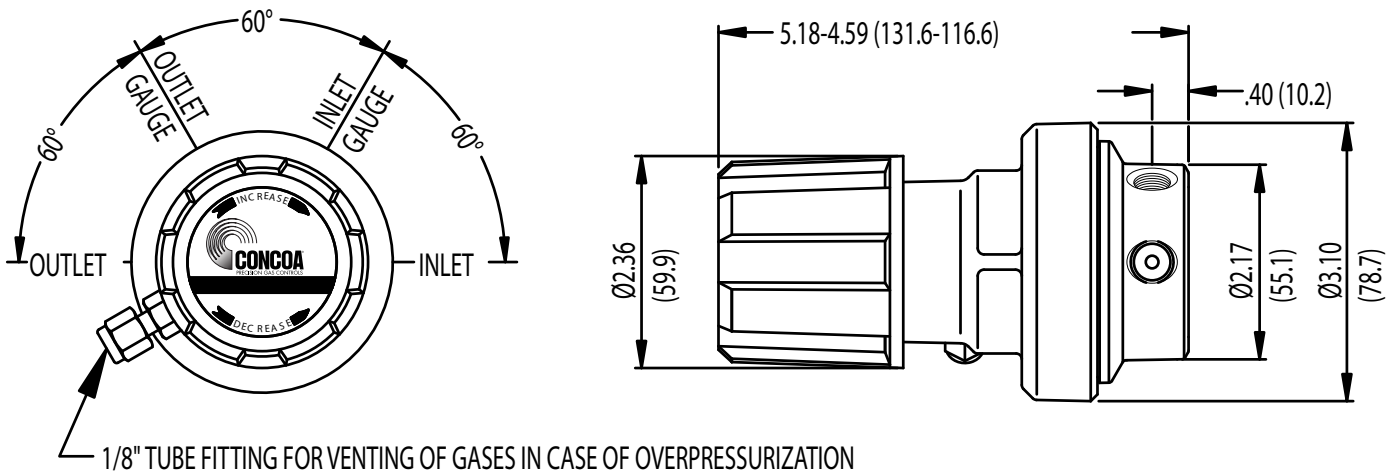
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauges**
2 1/2" (53mm) diameter Monel®
- Ports**
1/4" FPT
- Helium Leak Integrity**
1 x 10⁻⁸ scc/sec
- Cv**
0.2
See page 189 for flow curves
- Weight (455 2332-660)**
7.23 lbs. (3.28 kg)

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

455	A	B	C	D	-CON	Options	
Series 455	Outlet Pressure	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	None
	2: 0-40 PSIG (0-3 BAR)	0-60 PSIG/ 0-4 BAR	3: 0-4000 PSIG/ 0-275 BAR	1: 1/4" MPT	1: Standard assembly without deep purge (PSIG/kPa gauges)	TF2: 1/8" tube	
	3: 0-120 PSIG (0-8 BAR)	0-200 PSIG/ 0-14 BAR	5: 0-1000 PSIG/ 0-70 BAR	2: 1/4" tube fitting	2: Standard assembly with deep purge (PSIG/kPa gauges)	TF4: 1/4" tube	
	4: 0-200 PSIG (0-14 BAR)	0-400 PSIG/ 0-27 BAR	6: 0-300 PSIG/ 0-21 BAR	3: Diaphragm valve 1/4" tube fitting	4: Standard assembly without deep purge (BAR/PSIG gauges)	TF6: 3/8" tube	
	5: 0-250 (0-17 BAR)	0-400 PSIG/ 0-27 BAR	7: 0-400 PSIG/ 0-27 BAR	4: Diaphragm valve 1/4" MPT	5: Standard assembly with deep purge (BAR/PSIG gauges)	M06: 6mm tube	
			8: 0-200 PSIG/ 0-14 BAR	5: Needle valve 1/4" MPT		CGA DIN 477 BS 341 and others available	
				6: 1/8" tube fitting			
				7: 3/8" tube fitting			
				8: Diaphragm valve 1/8" tube fitting			
				9: Diaphragm valve 1/4" FPT			
				M: 6mm tube fitting			
				S: Diaphragm valve 6mm tube fitting			



400 Series Regulators

483 SERIES

The 483 Series regulator applications are wide and varied including high flow purging, non-corrosive process gas control, manifold and line regulation.

- Single Stage
- Ultra-High Flow
- Brass Barstock Body
- Four Port Configuration
- 316L Stainless Steel Diaphragm



483 3001-000 shown

Typical Applications

- Bulk gas distribution systems
- Gas and liquid chromatography
- High purity carrier gases
- Zero, span, and calibration gases
- High purity chamber pressurization
- Liquefied hydrocarbon gas control
- Control of cryogenic gases

Features

- Metal-to-Metal Diaphragm Seal**
No possibility of gas contamination
- ISOFLOW Technology**
Internal equalization provides constant delivery pressure at high flows
- Brass Barstock Body**
Smooth surface finish
- Rear Panel-Mountable**
Versatile system configuration
- Pressure Ranges 0-15 to 0-250 PSIG (0-1 to 0-17 BAR)**
Broad range of applications
- 3000 PSIG (210 BAR) Inlet Pressure Rating**
Safe use with high pressure cylinders
- Pipe Away Relief Valve**
Safely vents exhaust gases

Materials

- Body**
Brass barstock
- Bonnet**
Chrome-plated die-cast zinc
- Seat**
PCTFE
- Filter**
40 micron 316L stainless steel mesh
- Diaphragm**
316L stainless steel
- Internal Seals**
PTFE

Specifications

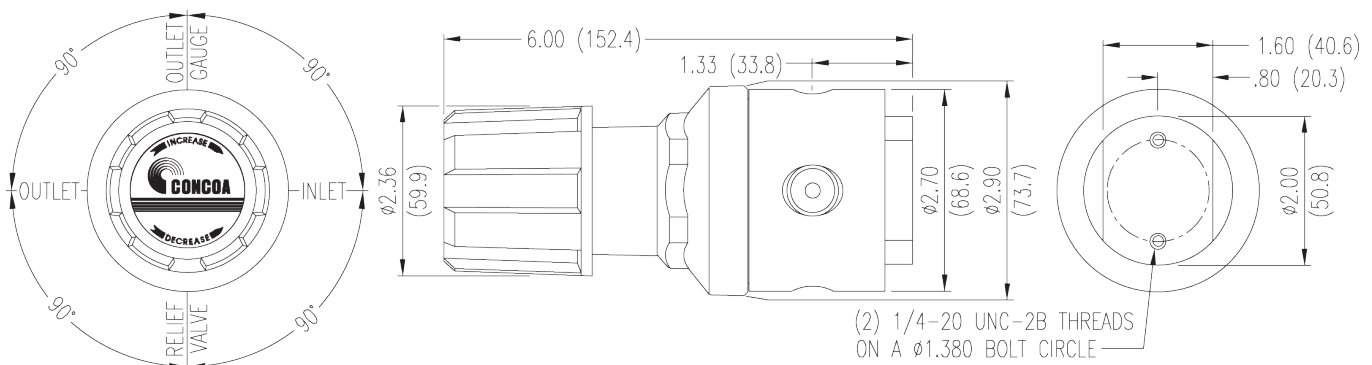
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauge**
2" (53mm) diameter brass
- Ports**
1/2" FPT (inlet/outlet)
1/4" FPT (gauge/relief valve)
- Helium Leak Integrity**
1 x 10⁻⁸ scc/sec
- Cv**
1.0
See page 190 for flow curves
- Weight (483 3001-000)**
4.79 lbs. (2.17 kg)

400 Series Regulators



Installation Dimensions

400 SERIES



Ordering Information

Series	A	B	C	D	-CON	Installed Options	
483	Outlet Pressure	Outlet Gauge	Inlet Gauge	Outlet Assemblies	Assembly/Gauges	Inlet Connections	None
483	1: 0-15 PSIG (0-1 BAR)	30"-0-30 PSIG/ -1-0-2 BAR	0: None	0: 1/2" FPT port	0: Bare body	000: 1/2" FPT	
	2: 0-40 PSIG (0-3 BAR)	30"-0-60 PSIG/ -1-0-4 BAR		1: 1/2" tube fitting	1: Standard assembly (PSIG/kPa gauges)	TF8: 1/2" tube	
	3: 0-120 PSIG (0-8 BAR)	30"-0-200 PSIG/ -1-0-14 BAR		5: Needle valve 1/4" MPT	2: Standard assembly (BAR/PSIG gauges)	M12: 12mm tube	
	4: 0-200 PSIG (0-14 BAR)	0-400 PSIG/ 0-27 BAR		P: 12mm tube fitting	6: Mirror image assembly (PSIG/kPa gauges)		
	5: 0-250 PSIG (0-17 BAR)	0-400 PSIG/ 0-27 BAR			7: Mirror image assembly (BAR/PSIG gauges)		

Related Options

Options	Order No.	Description
Panel mount kit	835 0204	To mount the regulator from the rear



400 Series Regulators

484 SERIES

The 484 Series regulator applications are wide and varied including high flow purging, semiconductor CDA and bulk gas supply, modified atmosphere packaging, pharmaceutical processing, manifold and line regulation.

- Single Stage
- Ultra-High Flow
- Stainless Steel Barstock Body
- Four Port Configuration
- 316L Stainless Steel Diaphragm



484 3001-000 shown

Typical Applications

- Bulk gas distribution systems
- Gas and liquid chromatography
- High purity carrier gases
- Zero, span, and calibration gases
- High purity chamber pressurization
- Liquefied hydrocarbon gas control
- Control of cryogenic gases
- Corrosive gas service

Features

- PTFE Diaphragm Seal**
No possibility of gas contamination
- ISOFLOW Technology**
Internal equalization provides constant delivery pressure at high flows
- 316L Stainless Steel Barstock Body**
Corrosion resistance for smooth surface finish
- Rear Panel-Mountable**
Versatile system configuration
- Pressure Ranges 0-15 to 0-250 PSIG (0-1 to 0-17 BAR)**
Broad range of applications
- 3000 PSIG (210 BAR) Inlet Pressure Rating**
Safe use with high pressure cylinders
- Pipe Away Relief Valve**
Safely vents exhaust gases

Materials

- Body**
316L stainless steel barstock
- Bonnet**
Chrome-plated die-cast zinc
- Seat**
PCTFE
- Filter**
40 micron 316L stainless steel
- Diaphragm**
316L stainless steel
- Internal Seals**
PTFE

Specifications

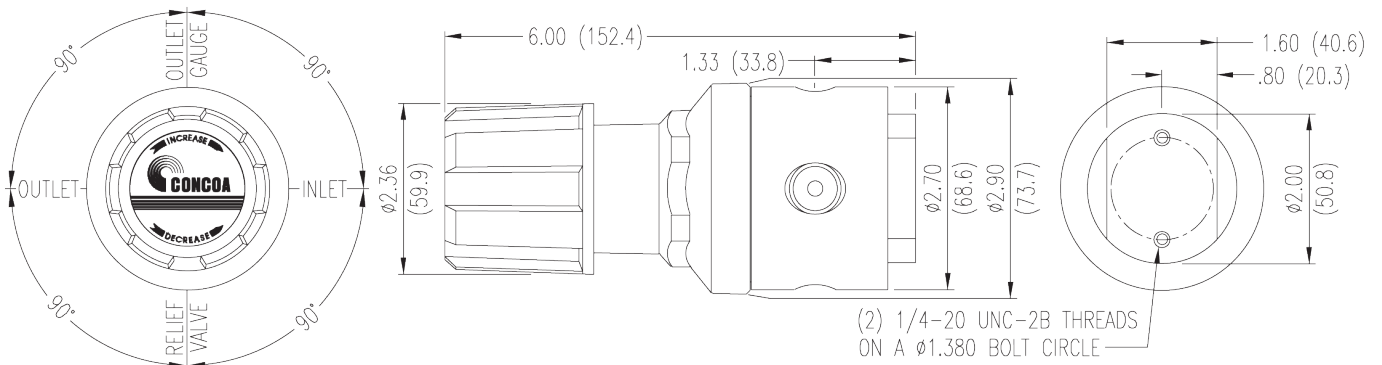
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauge**
2" (53mm) diameter stainless steel
- Ports**
1/2" FPT (inlet/outlet)
1/4" FPT (gauge/relief valve)
- Helium Leak Integrity**
1 x 10⁻⁸ scc/sec
- Cv**
1.0
See page 190 for flow curves
- Weight (484 3001-000)**
4.52 lbs. (2.05 kg)

400 Series Regulators



Installation Dimensions

400 SERIES



Ordering Information

484	A	B	C	D	-CON	Installed Options	
Series 484	Outlet Pressure	Outlet Gauge	Inlet Gauge	Outlet Assemblies	Assembly/Gauges	Inlet Connections	None
	1: 0-15 PSIG (0-1 BAR)	30"-0-30 PSIG/ -1-0-2 BAR	0: None	0: 1/2" FPT port	0: Bare body	000: 1/2" FPT	
	2: 0-40 PSIG (0-3 BAR)	30"-0-60 PSIG/ -1-0-4 BAR		1: 1/2" tube fitting	1: Standard assembly (PSIG/kPa gauges)	TF8: 1/2" tube	
	3: 0-120 PSIG (0-8 BAR)	30"-0-200 PSIG/ -1-0-14 BAR		5: Needle valve 1/4" MPT	2: Standard assembly (BAR/PSIG gauges)	M12: 12mm tube	
	4: 0-200 PSIG (0-14 BAR)	0-400 PSIG/ 0-27 BAR		P: 12mm tube fitting	6: Mirror image assembly (PSIG/kPa gauges)		
	5: 0-250 PSIG (0-17 BAR)	0-400 PSIG/ 0-27 BAR			7: Mirror image assembly (BAR/PSIG gauges)		

Related Options

Options	Order No.	Description
Panel mount kit	835 0204	To mount the regulator from the rear



400 Series Regulators

485 SERIES

The 485 Series regulator applications are wide and varied including high flow purging, non-corrosive process gas control, manifold and line regulation.

- Single Stage
- Ultra-High Flow
- Brass Barstock Body
- Six Port Configuration
- 316L Stainless Steel Diaphragm

Typical Applications

- Bulk gas distribution systems
- Gas and liquid chromatography
- High purity carrier gases
- Zero, span, and calibration gases
- High purity chamber pressurization
- Liquefied hydrocarbon gas control
- Control of cryogenic gases



485 3301-000 shown

Features

- PTFE Diaphragm Seal**
No possibility of gas contamination
- ISOFLOW Technology**
Internal equalization provides constant delivery pressure at high flows
- Brass Barstock Body**
Smooth surface finish
- Rear Panel-Mountable**
Versatile system configuration
- Pressure Ranges 0-15 To 0-250 PSIG (0-1 to 0-17 BAR)**
Broad range of applications
- Pipe Away Relief Valve**
Safely vents exhaust gases

Materials

- Body**
Brass barstock
- Bonnet**
Chrome-plated die-cast zinc
- Seat**
PCTFE
- Filter**
40 micron 316L stainless steel
- Diaphragm**
316L stainless steel
- Internal Seals**
PTFE

Specifications

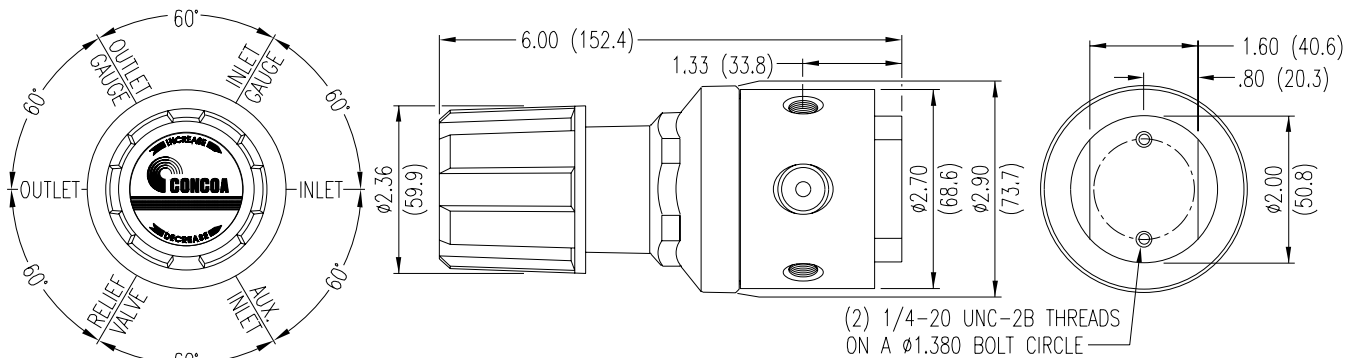
- Maximum Inlet Pressure**
3000 PSIG (210 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauges**
2" (53mm) diameter brass
- Ports**
1/2" FPT (inlet/outlet)
1/4" FPT (gauge/relief valve)
- Helium Leak Integrity**
1 x 10⁻⁸ scc/sec
- Cv**
1.0
See page 190 for flow curves
- Weight (485 3301-000)**
5.85 lbs. (2.65 kg)

400 Series Regulators



Installation Dimensions

400 SERIES



Ordering Information

485	A	B	C	D	-CON	Options	
Series 485	Outlet Pressure	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: 1/2" FPT port	0: Bare body	000: 1/2" FPT	B: Protocol alarm station (110/220 VAC)
	2: 0-40 PSIG (0-3 BAR)	30"-0-60 PSIG/ -1-0-4 BAR	3: 0-4000 PSIG/ 0-275 BAR	1: 1/2" tube fitting	1: Standard assembly (PSIG/kPa gauges)	TF8: 1/2" tube	C: Protocol switchover station
	3: 0-120 PSIG (0-8 BAR)	30"-0-200 PSIG/ -1-0-14 BAR	5: 0-1000 PSIG/ 0-70 BAR	5: Needle valve 1/4" MPT	2: Standard assembly (BAR/PSIG gauges)	M12: 12mm tube	H: Protocol switchover station with alarm (110/220 VAC)
	4: 0-200 PSIG (0-14 BAR)	0-400 PSIG/ 0-27 BAR	6: 0-300 PSIG/ 0-21 BAR	P: 12mm tube fitting	6: Mirror image (PSIG/kPa gauges)	CGA DIN 477 BS 341 and others available	M: Protocol station
	5: 0-250 PSIG (0-17 BAR)	0-400 PSIG/ 0-27 BAR	7: 0-200 PSIG/ 0-17 BAR		7: Mirror image (BAR/PSIG gauges)		
			9: 0-600 PSIG/ 0-42 BAR				



400 Series Regulators

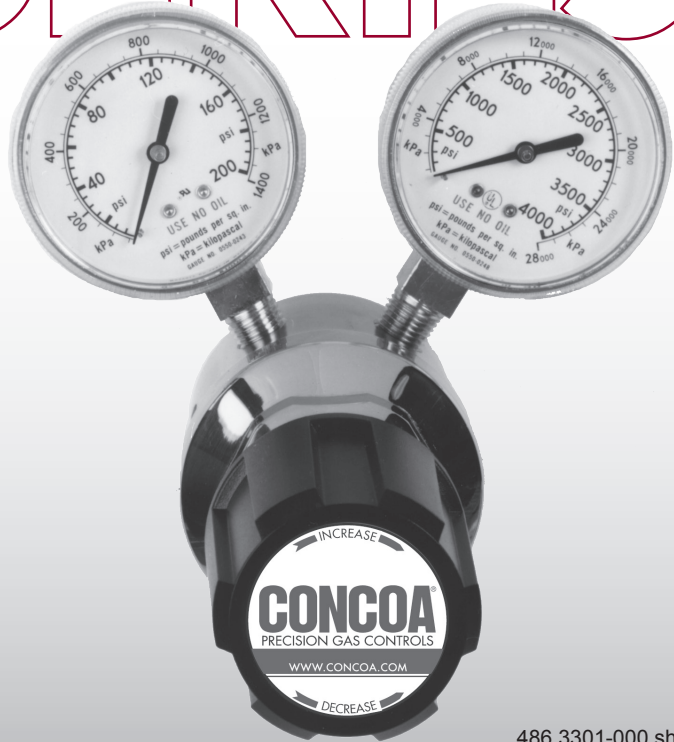
486 SERIES

The 486 Series regulator applications are wide and varied including high flow purging, semiconductor CDA and bulk gas supply, modified atmosphere packaging, pharmaceutical processing, manifold and line regulation.

- Single Stage
- Ultra-High Flow
- 316L Stainless Steel Barstock Body
- Six Port Configuration
- 316L Stainless Steel Diaphragm

Typical Applications

Bulk gas distribution systems
Gas and liquid chromatography
High purity carrier gases
Zero, span, and calibration gases
High purity chamber pressurization
Liquefied hydrocarbon gas control
Control of cryogenic gases



486 3301-000 shown

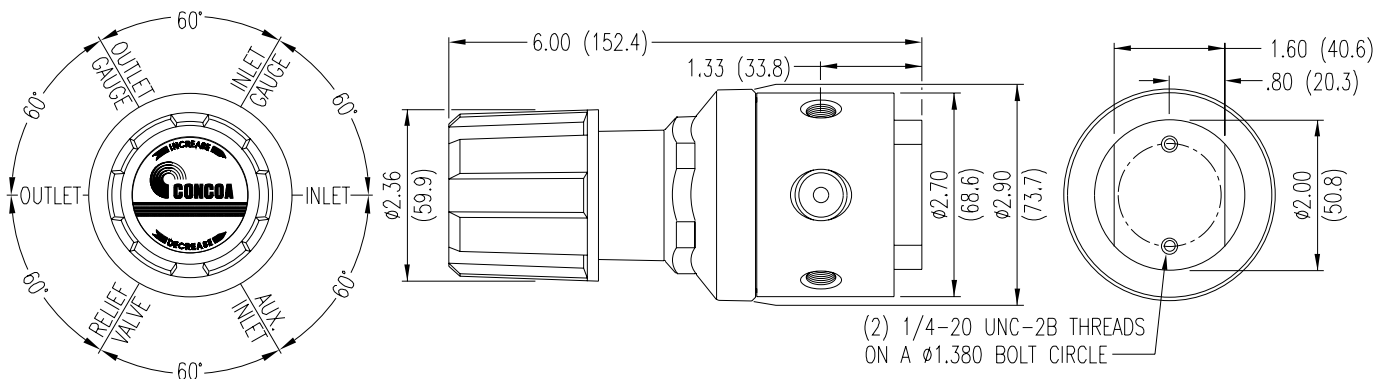
Features	Materials	Specifications
<p>PTFE Diaphragm Seal No possibility of gas contamination</p> <p>ISOFLOW Technology Internal equalization provides constant delivery pressure at high flows</p> <p>316L Stainless Steel Barstock Body Smooth surface finish</p> <p>Rear Panel-Mountable Versatile system configuration</p> <p>Pressure Ranges 0-15 To 0-250 PSIG (0-1 to 0-17 BAR) Broad range of applications</p> <p>Pipe Away Relief Valve Safely vents exhaust gases</p>	<p>Body 316L stainless steel barstock</p> <p>Bonnet Chrome-plated die-cast zinc</p> <p>Seat PCTFE</p> <p>Filter 40 micron 316L stainless steel</p> <p>Diaphragm 316L stainless steel</p> <p>Internal Seals PTFE</p>	<p>Maximum Inlet Pressure 3000 PSIG (210 BAR)</p> <p>Temperature Range -40°F to 140°F (-40°C to 60°C)</p> <p>Gauges 2" (53mm) diameter stainless steel</p> <p>Ports 1/2" FPT (inlet/outlet) 1/4" FPT (gauges/relief valve)</p> <p>Helium Leak Integrity 1 x 10⁻⁸ scc/sec</p> <p>Cv 1.0 See page 190 for flow curves</p> <p>Weight (486 3301-000) 5.06 lbs. (2.30 kg)</p>

400 Series Regulators



Installation Dimensions

400 SERIES



Ordering Information

486	A	B	C	D	-CON	Options	
Series 486	Outlet Pressure	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: 1/2" FPT Port	0: Bare body	000: 1/2" FPT	B: Protocol alarm station (110/220 VAC)
	2: 0-40 PSIG (0-3 BAR)	30"-0-60 PSIG/ -1-0-4 BAR)	3: 0-4000 PSIG/ 0-275 BAR	1: 1/2" tube fitting	1: Standard assembly (PSIG/kPa gauges)	TF8: 1/2" tube	C: Protocol switchover station
	3: 0-120 PSIG (0-8 BAR)	30"-0-200 PSIG/ -1-0-14 BAR	5: 0-1000 PSIG/ 0-70 BAR	5: Needle valve 1/4" MPT	2: Standard assembly (BAR/PSIG gauges)	M12: 12mm tube	H: Protocol switchover station with alarm (110/220 VAC)
	4: 0-200 PSIG (0-14 BAR)	0-400 PSIG/ 0-27 BAR	6: 0-300 PSIG/0- 210 BAR	P: 12mm tube fitting	6: Mirror image (PSIG/kPa gauges)	CGA DIN 477 BS 341 and others available	M: Protocol station
	5: 0-250 PSIG (0-17 BAR)	0-400 PSIG/ 0-27 BAR	7: 0-200 PSIG (0-14 BAR)		7: Mirror image (BAR/PSIG gauges)		
			9: 0-600 PSIG (0-42 BAR)				



400 Series Regulators

492 SERIES

The 492 Series regulators are intended for primary pressure control of non-corrosive gases at a maximum inlet pressure of 6000 PSIG (405 BAR).

- Single Stage
- Piston-Sensed
- Ultra-High Pressure
- Chrome-Plated Brass Barstock Body

Typical Applications

Airplane strut charging
Research and development laboratories
Chemical manufacturing
Aerospace hydraulic systems
Pharmaceutical manufacturing
Gauge calibration



492 5952-677 shown

Features

- Large Piston Sensor**
Safely control pressures to 6000 PSIG (405 BAR)
- CAPSULE® Seat**
Increased serviceability and life
- Low Wetted Surface Area**
Minimal purge requirements
- Field-Adjustable Pressure Limit**
Safeguard downstream equipment
- Chrome-Plated Brass Barstock Body**
Smooth surface finish
- Front and Rear Panel-Mountable**
Versatile system configuration
- Pressure Ranges 0-750 to 0-6000 PSIG (0-50 to 0-405 BAR)**
Broad range of applications
- Six Port Design**
Flexible installation alternatives

Materials

- Body**
Chrome-plated brass barstock
- Bonnet**
Chrome-plated brass barstock
- Seat**
PCTFE 3000 and 4500 PSIG (210 and 310 BAR) inlet
Arlon® (PEEK) (6000 PSIG inlet)
- Piston**
Brass barstock
- Filter**
10 micron sintered bronze
- Internal Seals**
Viton® (encapsulated)

Specifications

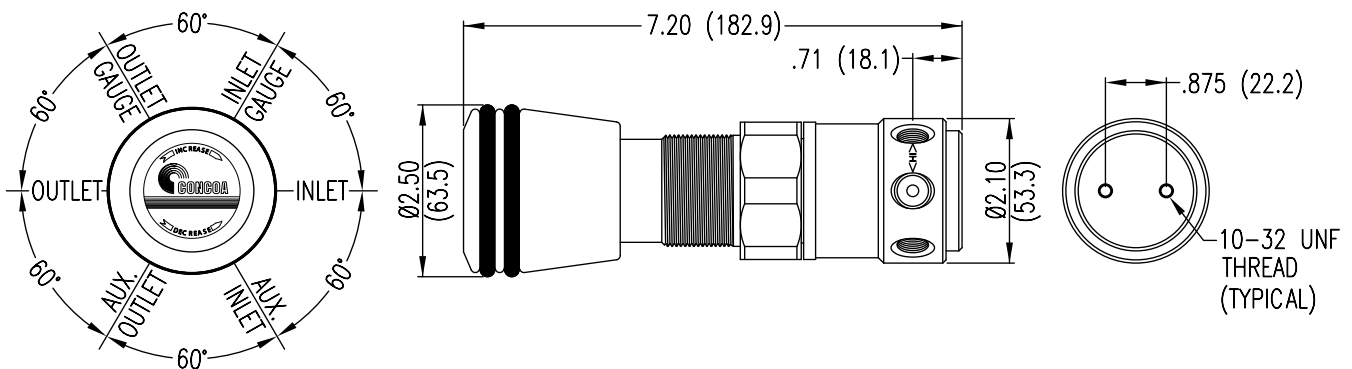
- Maximum Inlet Pressure**
6000 PSIG (405 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauges**
2 1/2" (53mm) diameter chrome-plated brass
- Ports**
1/4" FPT
- Cv**
0.1
See page 190 for flow curves
- Weight (492 4952-677)**
5.59 lbs. (2.54 kg)

400 Series Regulators



Installation Dimensions

400 SERIES



Ordering Information

492	A	B	C	D	-CON	Options		
Series 492	Outlet Pressure	Outlet Gauge	Inlet Maximum	Inlet Gauge	Outlet Assemblies	Assembly Gauges	Inlet Connections	Installed Options
	1: 0-750 PSIG (50 BAR)	0-1000 PSIG/ 0-70 BAR	0: 6000 PSIG (405 BAR)*	None	0: 1/4" FPT	0: Bare body†	CGA DIN 477 BS 341 and others available	B: Protocol alarm station (110/220 VAC)
	2: 0-1500 PSIG (0-100 BAR)	0-4000 PSIG/ 0-275 BAR	3: 3000 PSIG (210 BAR)	0-4000 PSIG/ 0-275 BAR	1: 1/4" MPT	1: Standard assembly (PSIG/kPa gauges)		C: Protocol switchover station
	3: 0-2500 PSIG (0-170 BAR)	0-4000 PSIG/ 0-275 BAR	8: 5500 PSIG (380 BAR)	0-6000 PSIG/ 0-405 BAR	2: 1/4" tube fitting	2: Standard assembly (BAR/PSIG gauges)		H: Protocol switchover station with alarm (110/220 VAC)
	4: 0-4500 PSIG (0-310 BAR)*	0-6000 PSIG/ 0-405 BAR	9: 6000 PSIG (405 BAR)	0-10,000 PSIG/ 0-700 BAR	5: Needle valve 1/4" MPT	6: Mirror image (BAR/kPa gauges)		M: Protocol station
	5: 0-6000 PSIG (0-405 BAR)†	0-10,000 PSIG/ 0-700 BAR	*Only valid if D = 1 or 2 (outlet gauge specified)		6: 1/8" tube fitting	7: Mirror image (BAR/PSIG gauges)		Q: Protocol purge station*
	6: 0-3500 PSIG (0-240 BAR)*	0-6000 PSIG/ 0-405 BAR			7: 3/8" tube fitting	†B must be 3, 8 or 9 (maximum pressure specified)		*3000 PSIG (210 BAR) maximum inlet only valid if B=3
	*Not available with 3000 PSIG (210 BAR) maximum inlet pressure				F: Needle valve 1/4" tube fitting			
	†Only available with 6000 PSIG (405 BAR) maximum inlet pressure				M: 6mm tube fitting			
					Note: Outlet fittings and outlet valves are 316 stainless steel			

Related Options

Options	Order No.	Description
Panel mount kit	830 6483	To mount the regulator using bonnet threads. Material: Chrome-plated brass



400 Series Regulators

493 SERIES

The 493 Series regulator applications are wide and varied including high flow purging, pressure testing, manifold and line regulation.

- Single Stage
- Piston-Sensed
- Ultra-High Pressure
- 316L Stainless Steel Barstock Body

Typical Applications

- Airplane strut charging
- Research and development laboratories
- Chemical manufacturing
- Aerospace hydraulic systems
- Pharmaceutical manufacturing
- Gauge calibration



493 5952-677 shown

Features

- Large Piston Sensor**
Safely control pressures to 6000 PSIG (405 BAR)
- CAPSULE® Seat**
Increased serviceability and life
- Low Wetted Surface Area**
Minimal purge requirements
- Field-Adjustable Pressure Limit**
Safeguard downstream equipment
- 316 Stainless Steel Barstock Body**
Smooth surface finish
- Front and Rear Panel-Mountable**
Versatile system configuration
- Pressure Ranges 0-750 to 0-6000 PSIG (0-50 to 0-405 BAR)**
Broad range of applications
- Six Port Design**
Flexible installation alternatives

Materials

- Body**
316L stainless steel barstock
- Bonnet**
304 stainless steel
- Seat**
PCTFE 3000 and 4500 PSIG (210 and 310 BAR) inlet
Arlon® (PEEK) 6000 PSIG (405 BAR) inlet
- Piston**
316L stainless steel
- Filter**
Patented 10 micron 316 mesh
- Internal Seals**
Viton®

Not for N₂O or CO₂

Specifications

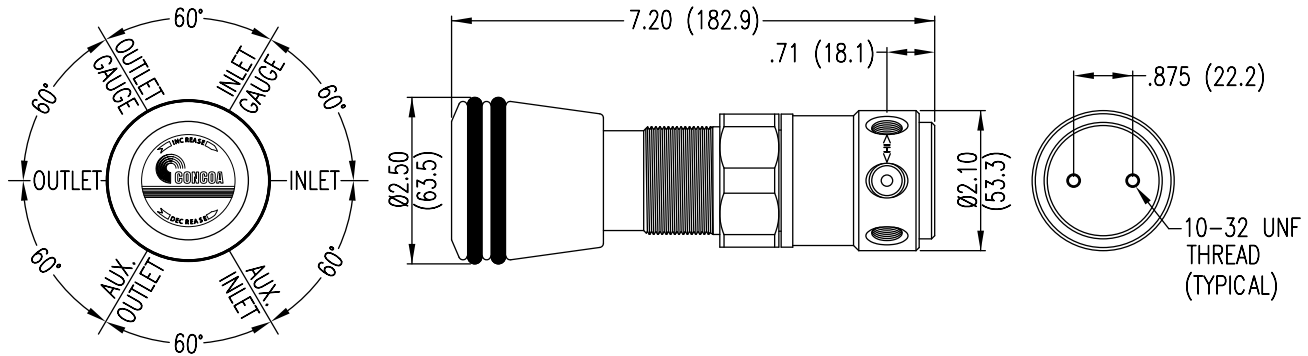
- Maximum Inlet Pressure**
6000 PSIG (405 BAR)
- Temperature Range**
-40°F to 140°F (-40°C to 60°C)
- Gauges**
2 1/2" (53mm) diameter stainless steel
- Ports**
1/4" FPT
- Cv**
0.1
See page 190 for flow curves
- Weight (493 5952-677)**
4.64 lbs. (2.10 kg)

400 Series Regulators



400 SERIES

Installation Dimensions



Ordering Information

493	A		B		C	D	-CON	Options
Series 493	Outlet Pressure	Outlet Gauge	Inlet Maximum	Inlet Gauge	Outlet Assemblies	Assembly Gauges	Inlet Connections	Installed Options
	1: 0-750 PSIG (0-50 BAR)	0-1000 PSIG/ 0-70 BAR	0: 6000 PSIG (0-405 BAR)*	None	0: 1/4" FPT	0: Bare body†	CGA DIN 477 BS 341 and others available	B: Protocol alarm station (110/220 VAC)
	2: 0-1500 PSIG (0-100 BAR)	0-4000 PSIG/ 0-275 BAR	3: 3000 PSIG (210 BAR)	0-4000 PSIG/ 0-275 BAR	1: 1/4" MPT	1: Standard assembly (PSIG/kPa gauges)		C: Protocol switchover station
	3: 0-2500 PSIG (0-170 BAR)	0-4000 PSIG/ 0-275 BAR	8: 5500 PSIG (379 BAR)	0-6000 PSIG/ 0-405 BAR	2: 1/4" tube fitting	2: Standard assembly (BAR/PSIG gauges)	Not for N ₂ O or CO ₂	H: Protocol switchover station with alarm (110/220 VAC)
	4: 0-4500 (0-310 BAR)*	0-6000 PSIG/ 0-405 BAR	9: 6000 PSIG (405 BAR)	0-10,000 PSIG/ 0-700 BAR	5: Needle valve 1/4" MPT	6: Mirror image (BAR/kPa gauges)		M: Protocol station
	5: 0-6000 PSIG (0-405 BAR)†	0-10,000 PSIG/ 0-700 BAR	* Only valid if D=1 or 2 (outlet gauge specified)		6: 1/8" tube fitting	7: Mirror image (BAR/PSIG gauges)		Q: Protocol purge station*
	6: 0-3500 (241 BAR)*	0-6000 PSIG/ 405 BAR			7: 3/8" tube fitting	<i>†B must be 3, 8 or 9 (maximum pressure specified)</i>		<i>*3000 PSIG (210 BAR) maximum inlet only valid if B=3</i>
	*Not available with 3000 PSIG (210 BAR) maximum inlet pressure				F: Needle valve 1/4" tube fitting			
	†Only available with 6000 PSIG (405 BAR) maximum inlet pressure				M: 6mm tube fitting			
					<i>Note: Outlet fittings and outlet valves are 316 stainless steel</i>			

Related Options

Options	Order No.	Description
Panel Mount Kit	830 6483	To mount the regulator using bonnet threads. Material: Chrome-plated brass