Gas Delivery
Pressure Regulators

High Purity and Ultra-High Purity Pressure Regulators

- Specially cleaned to eliminate halocarbon and hydrocarbon residues
- Filters in fitting and regulator body protect regulator from particles and pressure surges
- Easy-to-read 2 1/2"/6.3cm gauges (0-200psi or 0-14 bar)
- Leak tested[2], ready to use

SPECIFICATIONS

High Purity Regulators (in-line, single-stage, two-stage)

Body:	nickel-plated brass or brass
Diaphragm:	316 stainless steel
Diaphragm Seal:	captive Teflon gasket
Maximum Inlet Pressure (psig/bar):	In-Line: 400/27
	Single-Stage: 3000/204
	Two-Stage: 3000/204
Delivery Pressure (psig/bar):	0-100/0-7

Ultra-High Purity Regulators (in-line, single-stage, two-stage)

Body:	nickel-plated brass or brass
Diaphragm:	316 stainless steel
Diaphragm Seal:	metal-to-metal
Maximum Inlet Pressure (psig/bar):	In-Line: 400/27
	Single-Stage: 3000/204
	Two-Stage: 3000/204
Delivery Pressure (psig/bar):	0-100/0-7

APPLICATION/TYPE	FITTING	SINGLE-STAGE CAT. NO.	SINGLE-STAGE PRICE	TWO-STAGE CAT. NO.	TWO-STAGE PRICE
FOR He, N_2, Ar					
General Purpose					
endfitting = 1/4" male NPT	CGA 580	503436		503479	
High Purity					
no purge valves, endfitting = 1/4" male NPT	CGA 580	503355		503398	
purge valves,endfitting = 1/8" Swagelok	CGA 580	23876		23879	
purge valves,endfitting = 1/8" Swagelok	DIN 6	—	—	24972	
Ultra-High Purity					
no purge valves, endfitting = 1/4" compression, unplated brass	CGA 580	503312		503339	
purge valves,endfitting = 1/8" Swagelok	CGA 580	23870		23872	
FOR CO_2					
General Purpose					
endfitting = 1/4" male NPT	CGA 320	503460		503509	
FOR H_2, CH_4 , AR/CH_4					
General Purpose					
endfitting = 1/4" male NPT	CGA 350	503444		503487	
High Purity					
no purge valves, endfitting = 1/4" male NPT	CGA 350	503363		503401	
purge valves,endfitting = 1/8" Swagelok	CGA 350	23877		23880-U	
purge valves,endfitting = 1/8" Swagelok	DIN 1	—	—	24974	
Ultra-High Purity					
no purge valves, endfitting = 1/4" compression, unplated brass	CGA 350	503320		503347	
purge valves,endfitting = 1/8" Swagelok	CGA 350	23871		23873	
FOR PURIFIED AIR[3]					
General Purpose					
endfitting = 1/4" male NPT	CGA 590	503452		503495	
High Purity					
no purge valves, endfitting = 1/4" male NPT	CGA 590	503371		503428	
purge valves,endfitting = 1/8" Swagelok	CGA 590	23878		23881	
purge valves,endfitting = 1/8" Swagelok	DIN 13	—	—	24973	
FOR COMPOUND AIR[4]					
High Purity					
purge valves,endfitting = 1/8" Swagelok	CGA 346	—	—	23899	

[1] Gauges calibrated in psi on regulators with CGA fittings, in bar on regulators with DIN fittings.
[2] High purity regulators leak tested to 2 x 10^{-5} cc/second (helium); ultra-high purity regulators leak tested to 2 x 10^{-8} cc/second (helium).
[3] Air purified to meet specifications for contaminants; no control of oxygen and nitrogen levels.
[4] Pure oxygen and pure nitrogen blended to specific levels.

In-Line Regulators

Include 1/8" Swagelok fittings. Maximum inlet pressure of 400psi.

REGULATOR	CAT. NO.	PRICE
Economy, 0-60 psi (gauge and panel mount, brass fittings)	23831-U	
Economy, 0-60 psi (no gauge or panel mount, brass fittings)	23832-U	
Gauge for 23832-U, (0-60psi, 1/8" male NPT fitting)	23833-U	
Bracket and nut for 23832-U,	23834-U	
General Purpose, 0-50 psi (Air, H_2, N_2, Ar) (brass fittings)	23883	
High Purity (Air, H_2, N_2, Ar, He), 0-100 psi (stainless steel fittings)	23882	
Ultra High Purity (Air, H_2, N_2, Ar, He), 0-100 psi (stainless steel fittings)	23884	

Diaphragm Shutoff Valves

- Multiple metal diaphragms provide a permanent seal, prevent diffusion of air and water vapor into the gas flow
- Brass body, KEL-F seat

Grease-free, high integrity valves, leak tested to 10^{-10} cc/sec (helium). Maximum operating pressure: 2000psig (350kg/cm^2), operating temperature range: -40°C to 93°C.

DESCRIPTION	CAT. NO.	PRICE
1/4" Male NPT x 1/4" Female NPT	23896	
1/4" Male NPT x 1/4" Male NPT	23897	

Pressure Gauges

2"/5cm, steel and copper alloy.

DESCRIPTION	CAT. NO.	PRICE
GAUGE WITH 1/8" TEE		
0-30psi	20469	
0-60psi	20470	
0-100psi	22423	
GAUGE WITH 1/8" NPT FITTING		
0-30psi	20393	
0-60psi	20394	

Complete Pressure Gauge Kit

2"/5cm gauge (0-100psi), NPT to Swagelok adapter, 18"/1/2m of 1/8" copper line, 1/8" tee, assembly and installation instructions.

DESCRIPTION	CAT. NO.	PRICE
Pressure Gauge Kit	20392	

Gas Delivery
Flow Control

Backpressure Regulation

Backpressure regulation is used in almost all modern gas chromatographs, to control column inlet pressure rather than outlet pr
By updating your instrument with backpressure regulation, you can:

- Conserve carrier gas
- Set linear velocity more accurately
- Use hydrogen carrier gas more safely

The pressure regulators on this page are made by Porter Instrument Company, and are specifically designed for gas chromatograph
They are suitable for panel mounting, and can be used to 160°F. All backpressure regulators on this page have 1/8" brass Swagelok
connectors and provide bubble-tight shutoff to 250psi (helium).

22811-U

Porter Backpressure Regulator

Use of this regulator requires a low flow controller (Cat. No. 22834, below) with a 0-535cc/min flow element (Cat. No. 22839).

SPECIFICATIONS (MODEL 9000)	
Flow Capacity:	0-1000cc/min
Regulation Range:	0-100psig (0-7.0kg/cm^2)
Construction:	aluminum body & bonnet, Fairprene 5029A diaphragm, Viton valve seat

DESCRIPTION	CAT. NO.	PRICE
Model 9000 Backpressure Regulator	22811-U	

22834

Porter Variable Constant Low Flow Controller

Use the VCD 1000 Variable Constant Low Flow Controller to maintain the flow of carrier gas, make-up gas, etc. to within ±0.3% of any rate from 0-110cc/min, regardless of pressure changes downstream. Optional flow elements maintain flow rates over lower (0-10cc/min) or wider (0-535cc/min) flow ranges.

SPECIFICATIONS (VCD 1000)	
Max. Operating Pressure:	250psig/17.6kg/cm^2
Pressure Drop Required:	≥15psi/1kg/cm^2
Control Accuracy:	±0.3% of instantaneous flow rate
Construction:	aluminum body & filter, Fairprene 5029A diaphragm, Buna-N O-rings, Viton valve seat

DESCRIPTION	CAT. NO.	PRICE
with 0-110cc/min Flow Element (Green)	22834	
Optional additional flow elements		
0-10cc/min element only (Blue)	22836	
0-535cc/min element only (Black)	22839	

22813-U

Porter Model 4000 Miniature Pressure Regulator

Provides the same control and stability at lower pressures as the larger low flow regulator (Cat. No. 22816), but requires much less space – the 1 1/8 inch/2.9cm OD body fits into the smallest of instruments. Recommended for flows of 0-500cc/min. A 10psi pressure change will not change the outlet pressure by more than 0.05psi; from 2cc/min to 250cc/min, the outlet pressure will not change by more than 0.2psi.

SPECIFICATIONS (MINIATURE)	
Max. Operating Pressure:	250psig/17.6kg/cm^2
Flow Capacity:	0-15 liters/min (60psig helium supply, 15psig outlet)
Regulation Range:	0-60psig (0-4.2kg/cm^2)
Pressure Drop Required:	≥10psi/0.7kg/cm^2
Construction:	aluminum body & bonnet, stainless steel diaphragm

DESCRIPTION	CAT. NO.	PRICE
Miniature Pressure Regulator	22813-U	

22816

Porter Low Flow Pressure Regulator

Precise pressure regulation at very low flows – particularly useful with 0.53mm ID capillary columns. Outlet pressure will not decrease more than 0.3psi over entire flow range. Regulation range: 0-100psig (0-7.0kg/cm^2).

SPECIFICATIONS (LOW FLOW)	
Max. Operating Pressure:	250psig/17.6kg/cm^2
Pressure Drop Required:	≥10psi/0.7kg/cm^2
Control Accuracy:	less than 0.3psi decrease over total flow range
Construction:	aluminum body & bonnet, stainless steel diaphragm & filter, Buna-N O-rings, Viton valve seat

DESCRIPTION	CAT. NO.	PRICE
Model 8311 Low Flow Pressure Regulator	22816	