

Model 3800 Series

High Purity Stainless Steel 316 Regulators

DESCRIPTION

The 3800 Series two-stage regulator has established itself as a standard in laboratory and processing facilities as a high purity and/or corrosion resistant regulator. It is a must in systems requiring excellent two-stage pressure regulation combined with high purity system integrity. The stainless steel construction provides corrosion resistance to a wide range of vapors, diffusion resistance from atmospheric contamination and outgassing from materials of construction that occurs from lesser regulators.



APPLICATIONS

Model 3800 Series stainless steel regulators are recommended for free gas or mixture applications which require the high system purity or corrosion resistance of all stainless steel construction. These applications include:

Instrument Analysis	Semiconductor Manufacture
Carrier Gases	Silane handling
Calibration Standards	Doping Gas Mixtures
	Ultra High Purity carrier gases

DESIGN FEATURES

- **Stainless Steel 316 body and diaphragm** . . . Assures high system purity. Allows high vacuum on regulator interior without diaphragm distortion. This assures complete system purging.
- **Ultrasonically cleaned** . . . Allows high purity gas handling without costly "pre-cleaning".
- **Helium leak rate certification available** . . . Assurance that inboard leak rate is less than 2×10^{-10} ccs and that possible back diffusion of atmospheric contamination is eliminated.
- **Stainless Steel 316 diaphragm sealed packless valve on outlet** . . . Maintains system purity even at regulator outlet.
- **Bonnet Vent Port*** . . . Allows safe venting of hazardous gases in the unlikely event of a diaphragm failure.
- **Relief and Purge Ports provided** . . . Simplifies permanent installation of purge connections and relief devices.
- **Integral flareless tube fitting on outlet** . . . Eliminates possible leak paths.

*Specify venting requirement at time of order.

MATERIALS OF CONSTRUCTION

Body:	316 Stainless steel
Diaphragm:	316 Stainless steel
Seat:	Molded Tefzel
Gaskets:	Kel-F® and Teflon®

SPECIFICATIONS

Maximum inlet pressure:	3000 psi (20,700 kPa)
Temperature range:	- 40 to 150°F (- 40 to 65°C)
Maximum flow:	3800: 420 cfh (200 liters/min) 3803: 105 cfh (50 liters/min)
Inlet port in body:	¼" NPT
Outlet:	¼" Flareless tube fitting (SS)
Overall dimensions:	9½" w x 6" h x 6½" d (24 x 15 x 16 cm)
Shipping weight:	7 lbs. (3.2 kg)

NOTE: This regulator is assembled and tested in a class 100 clean room.

For additional information, request Tech/Brief TB-143.

MODELS

Model	Delivery Pressure Range (psig)	Delivery Pressure Gauge (psig)	Cylinder Pressure Gauge (psig)
3800 (Specify CGA)	4-90	0-100	3000
3803 (Specify CGA)	0-15	30" vac. 0-30	3000

OPTIONS

Inboard Helium Leak Rate Certification

Combination Inboard /outboard Helium Leak Rate Certification

Model 4744 Body Purge Assembly (Specify CGA Connection)

Model 4774 Cross Purge Assembly (Specify CGA Connection)

Bonnet Vent Connection

Dome Loading for Remote Setting of Outlet Pressure

Swagelok® Outlet Connection

Model 6248 Relief Valve for Intermediate

Stage Protection (Not recommended for Silane service)