

# SG3860 Series

## Silane & Dichlorosilane, Positive Seal (Tied Seat) Regulators

These regulators are specifically designed to handle the unique properties of Silane and Dichlorosilane.

### Standard Features

- Type 316 Stainless Steel Construction provides maximum corrosion resistance.
- 2½" Stainless Steel Gauges read easily for more precise settings.
- Tied Seat (tied diaphragm) reduces premature regulator failure caused by silicon dioxide build-up on seat created by reaction of silane with air.
- Unique Regulator Design permits regulator to be used with low vapor pressure gases such as Dichlorosilane.
- Diaphragm Seal Outlet Valve maintains gas purity.

### Optional Features

- Rupture Disk Assembly (Model SG3862, SG3865 & SG3866 Only) prevents overpressurization of regulator and downstream system and allows for connection to a disposal system.
- Bonnet Vent Connector provides ½" NPT female port allowing bonnet to be connected to a vent line or disposal system as a precaution in the unlikely event of a diaphragm failure.
- Internal (Inboard) Helium Leak Test and Test Report determines inboard leak rate; test report certifies leak rate of less than  $2 \times 10^{-8}$  sccs air equivalent.
- External (Outboard) Helium Leak Test and Test Report determines leak rate of gas from regulator to atmosphere; test report certifies leak rate of less than  $5 \times 10^{-7}$  sccs air equivalent.

### Specifications

Maximum Inlet Pressure: See Table I

Inlet Pressure Gauge: See Table I

Delivery Pressure Range: See Table I

Delivery Pressure Gauge: See Table I

Gauge Size: 2½" Dial

Flow Coefficient:

Regulator:  $C_v = 0.624$

Outlet Valve:  $C_v = 0.17$

Inlet Connection:

SG3862, SG3865 & SG3866:

CGA 350 for Silane & Silane Mixtures

SG3860: CGA 678 for Dichlorosilane

Outlet Connection:

¼" NPT female (on outlet valve)

Optional Rupture Disk Vent Connection:

¼" NPT male

Supply Pressure Effect:

1 psi per 100 psi (approximate)

Approximate Weight: 7 lbs

### Materials of Construction

Body: Type 316 Stainless Steel Bar Stock

Outlet Valve and Gauges:

Type 316 Stainless Steel

Bonnet: Nickel-Chrome Plated Brass

Other Metal Parts Exposed to Gas:

Type 316 Stainless Steel

Seats (Regulator and Outlet Valve): PCTFE

Diaphragm: Type 316 Stainless Steel

Seals: Teflon®



SG3865 Regulator with Optional Rupture Disk Assembly

Table I, Regulators

Part No.	Service	Inlet Pressure (psig)		Delivery Pressure (psig)	
		Max.	Gauge	Range	Gauge
SG3862	Silane or Silane Mixtures	3000	0-4000	2-15	*
SG3865	Silane or Silane Mixtures	3000	0-4000	3-75	0-100
SG3866	Silane or Silane Mixtures	3000	0-4000	10-150	0-200
SG3860	Dichlorosilane	30	0-60	2-15	*

\* This is a compound gauge with a range of 30" Hg vacuum to 0 to 30 psig.

Table II, Optional Rupture Disk Assembly

For Regulator	Rupture Disk Assembly Part No.	Rupture Pressure (psig)	Replacement Rupture Disk Part No.
SG3866	SG3867	190-200	0202-3410
SG3865	SG3868	90-100	0202-3411
SG3862	SG3869	65-75	0202-3412

### Optional Equipment

Equipment	Part No.
Inboard Helium Leak Test and Test Report	HT1000
Outboard Helium Leak Test and Test Report	HT1001
Bonnet Vent Connector**	SG5647V
Teflon® Washers for CGA 678 (package of 25)	SG6077
Purge Assemblies** (Cross purge assemblies are recommended)	See page 134

\*\* If selected, these items are not installed on the regulator. They are shipped as separate items.