

# SG2 Series

## Regulators - Pressure Reducing

DSG022032X012

### Specifications

For questions about this product, please consult TESCOM.

#### OPERATING PARAMETERS

Pressure rating per criteria of CGA E-4; ASME B31; ASME BPVC

**Maximum Inlet Pressure**

4500 psig / 310 bar

**Maximum Outlet Pressure**

15, 25, 50, 125, 250 psig  
103, 172, 345, 862, 1724 kPa  
1.0, 1.7, 3.4, 8.6, 17.2 bar

**Design Proof Pressure**

150% of rated pressure

**Leakage**

**Internal:** Bubble-tight

**External:** Designed to meet  $< 2 \times 10^{-8}$  atm cc/sec He

**Operating Temperature**

PCTFE seat: -40°F to 140°F / -40°C to 60°C

Polyimide\* seat: -40°F to 250°F / -40°C to 121°C

**Flow Capacity**

$C_v = 0.06$

**Decaying Inlet Characteristic****For Stainless Steel Diaphragm**

-0.09 psig / -100 psig  
-6 mbar / -6.9 bar

**For Neoprene Diaphragm**

-0.03 psig / -100 psig  
-2 mbar / -6.9 bar



TESCOM SG2 Series is a compact, lightweight, high purity two-stage cylinder regulator for specialty, flammable and industrial gas flows of less than 4 SCFM / 112 SLPM. Sensitive, extra long-life metal diaphragm ensures gas purity and integrity. User-friendly model number enables the specifier to select optional gauges, relief and shut-off valves, and cylinder connections as part of the regulator assembly.

#### MEDIA CONTACT MATERIALS

**Body**

316L Stainless Steel, Nickel-Plated Brass

**Seat**

PCTFE, Polyimide\*

**Diaphragm**

316L Stainless Steel, Neoprene

**Filter**

10 micron nominal sintered Bronze

10 micron nominal sintered 316 Stainless Steel

**Seal**

Teflon® or Buna-N

**Remaining Parts**

Brass, 300 Series Stainless Steel

#### OTHERS

**Connections**

Inlet and outlet: 1/4" NPTF

Accessories: 1/4" NPTF

**Cleaning**

CGA 4.1 and ASTM G93

**Weight**

4.0 lbs / 1.8 kg

Teflon® and VespeI® are registered trademarks of E.I. du Pont de Nemours and Company. Meldin® is a registered trademark of Saint-Gobain.

\*Per ASTM D 6456-99 Type II Class 1M (Meldin® 7021 or VespeI® SP-21)

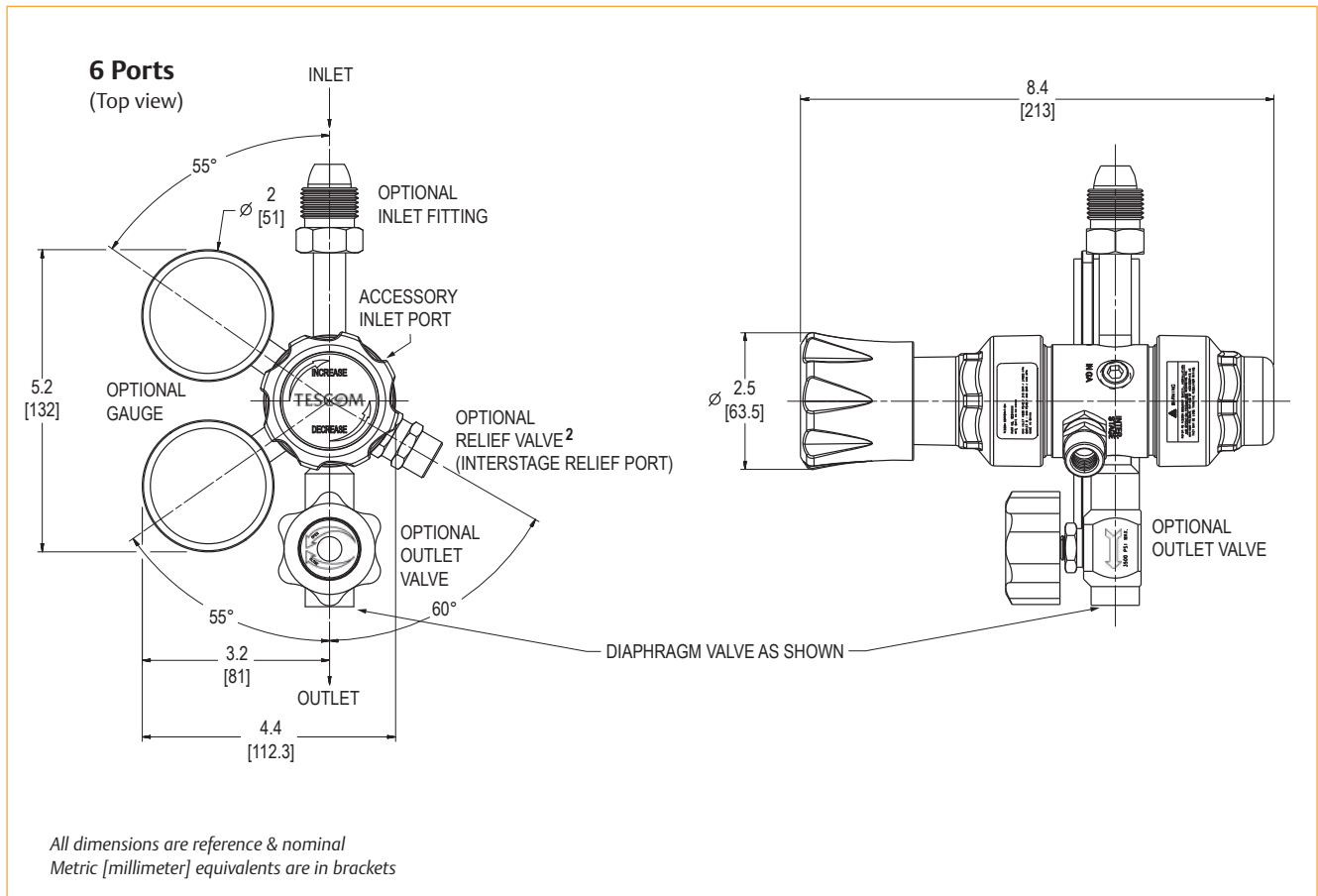
### Applications

- Laboratory and Point-of-Use Gas Systems in medical, pharmaceutical, food and beverage and other high purity applications
- Process analyzer gases, metal fabrication and specialty and industrial gas cylinders

### Features and Benefits

- Cartridge valve design incorporates 10 micron filter to protect the regulator seat and makes service simple
- Optional neoprene diaphragms provide exceptional sensitivity for precise pressure control

SG2 Series Regulator Drawing

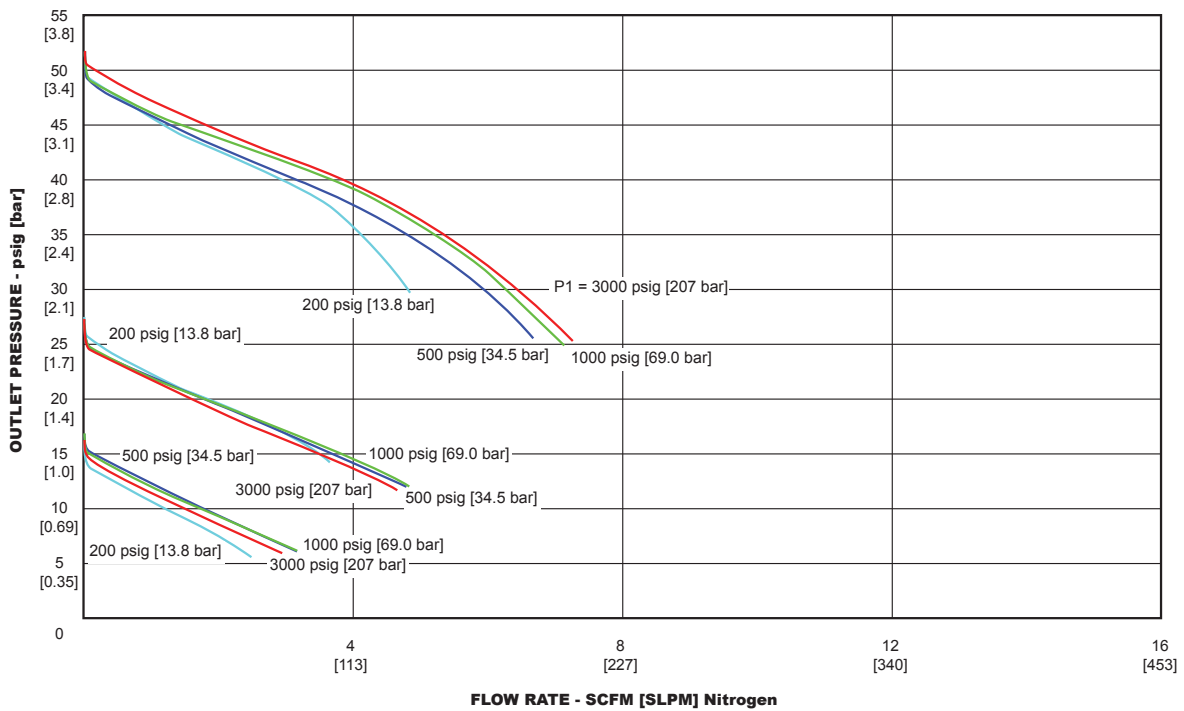
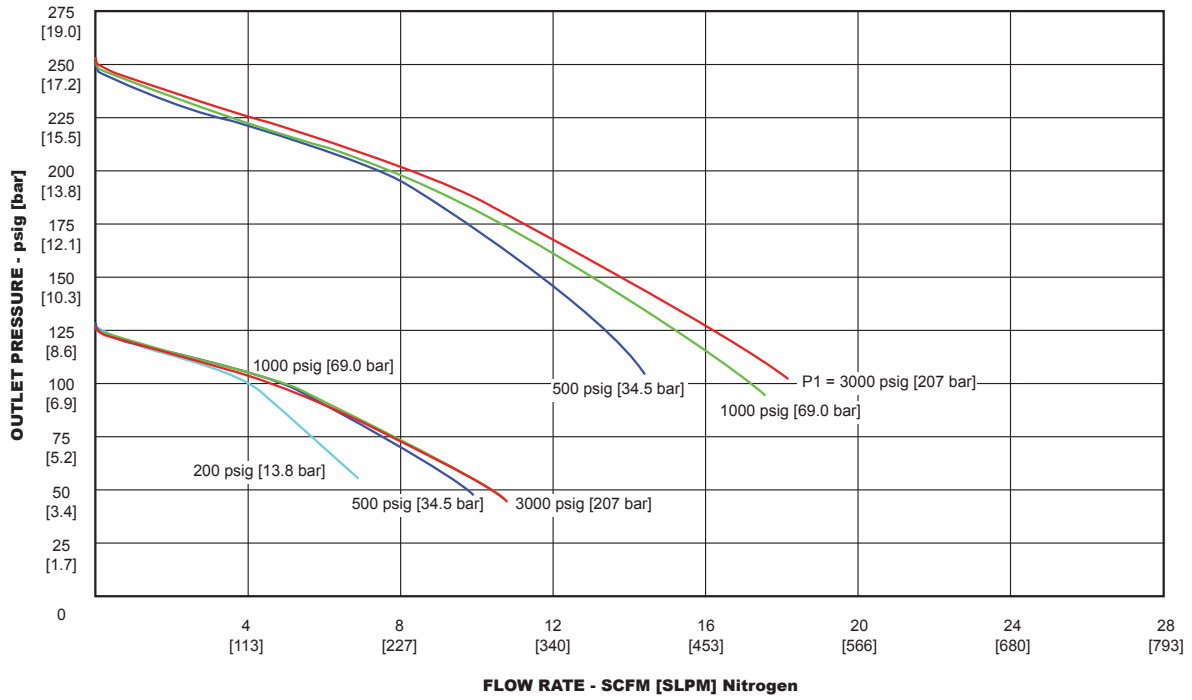


## SG2 Series Regulator Flow Charts

For more information on how to read flow curves, please refer to the Flow Curves and Calculations document (debul2007x012) in the TESCOM catalog or on [www.tescom.com](http://www.tescom.com).

**C<sub>v</sub> = 0.06 Model**

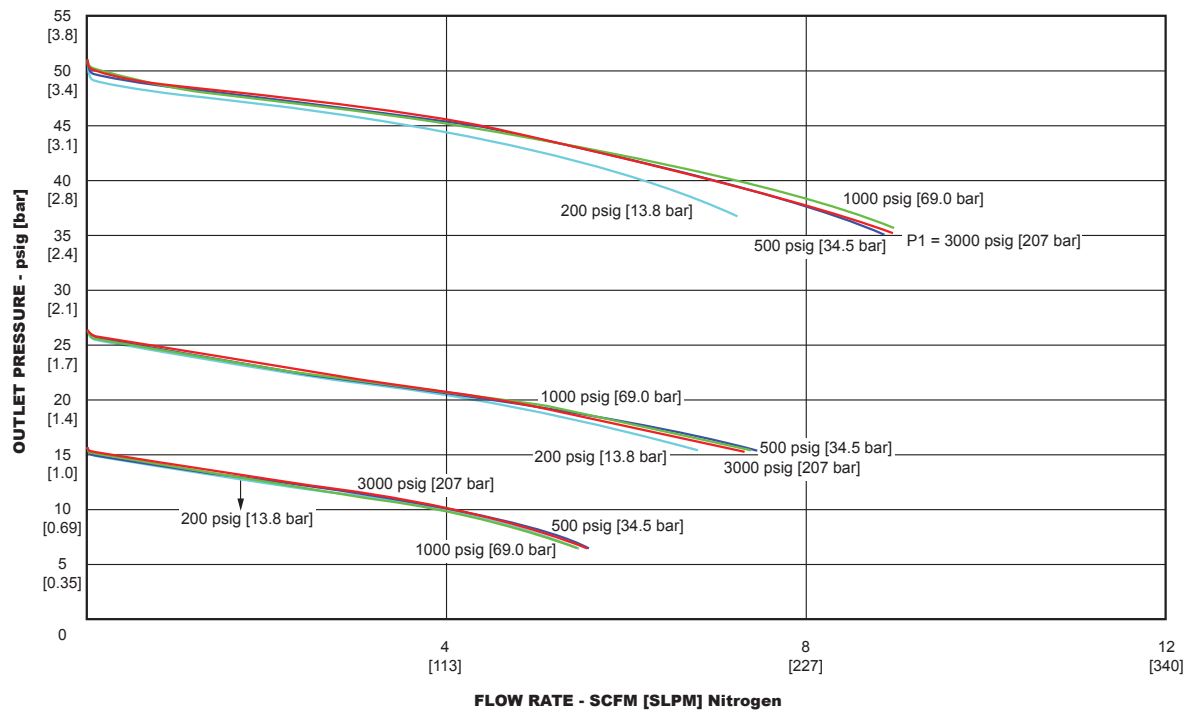
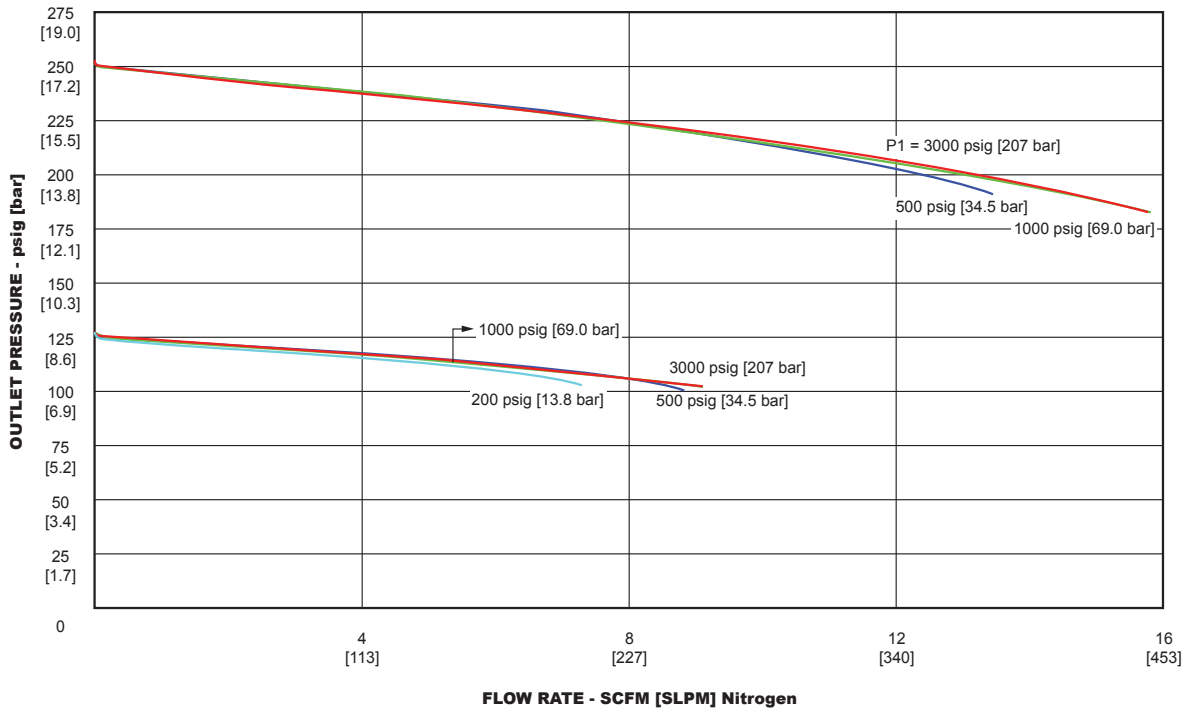
**Metal Diaphragm**



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#### C<sub>v</sub> = 0.06 Model Neoprene Diaphragm

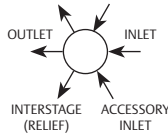


## SG2 Series Regulator Part Number Selector

Repair Kits, Accessories & Modifications may be available for this product. Please contact TESCOM for more information.

### Base Model

Example for selecting a part number:

SG2	6	3	1		0	0	[Blank]
BASIC SERIES	BODY MATERIAL	OUTLET PRESSURE RANGES	DIAPHRAGM MATERIAL	SEAL MATERIAL	PORTS (TOP VIEW)	C <sub>v</sub>	SEAT MATERIAL
SG2	P – Nickel-Plated Brass 6 – 316L Stainless Steel	1 – 15 psig / 103 kPa / 1.0 bar 2 – 25 psig / 172 kPa / 1.7 bar 3 – 50 psig / 345 kPa / 3.4 bar 4 – 125 psig / 862 kPa / 8.6 bar 5 – 250 psig / 1724 kPa / 17.2 bar	1 – 316L Stainless Steel 2 – Neoprene	Teflon® Buna-N	0 – 6 Port 	0 – 0.06	[Blank] – PCTFE V – Polyimide <sup>1</sup>

1. Per ASTM D 6456-99 Type II Class 1M (Meldin® 7021 or VespeI® SP-21)

### Accessories

Extension to base model part number:

SG2XXXXXX	06	A	1	A
BASE MODEL NUMBER	CYLINDER CONNECTIONS	GAUGES <sup>3</sup>	RELIEF VALVE <sup>2</sup>	OUTLET VALVE
	00 – None 01 – CGA 296 02 – CGA 350 C1 – CGA 510 03 – CGA 540 04 – CGA 580 05 – CGA 590 06 – DIN 477-1.1 07 – DIN 477-1.3 08 – DIN 477-1.5 09 – DIN 477-1.6 10 – DIN 477-1.7 11 – DIN 477-1.8 12 – DIN 477-1.9 13 – DIN 477-1.10 14 – DIN 477-1.14 15 – DIN 477-5.54 16 – DIN 477-5.57 17 – DIN 477-5.59 18 – BS 341 (2002) #01 19 – BS 341 (2002) #02 20 – BS 341 (2002) #03 21 – BS 341 (2002) #04 23 – BS 341 (2002) #06 24 – BS 341 (2002) #07 25 – BS 341 (2002) #08 27 – BS 341 (2002) #10 28 – BS 341 (2002) #11 30 – BS 341 (2002) #13 31 – BS 341 (2002) #14 32 – BS 341 (2002) #15	0 – None P – Plug(s) A – psi / kPa B – bar / psi	A – None P – Plug 1 – Teflon® Pipe-away	0 – None A – Diaphragm Valve B – Needle Valve

Note: Cylinder connections are available in all world areas.

2. The relief valve is not intended to be a "Pressure Relief Device" as defined by ASME Boiler & Pressure Vessel Code - Section VIII, nor is it intended to be a "Safety Accessory" or "Pressure Limiting Device" as defined by the Pressure Equipment Directive (97/23/EC). The relief valve is intended to indicate a potential problem with the regulator and prevent further damage to the regulator. The relief valve is not intended to protect the downstream process equipment.

#### <sup>3</sup>GAUGE PRESSURE RANGES

OUTLET PRESSURE RANGE	OUTLET GAUGE PRESSURE RANGE
SG2X1XXXX – 15 psig / 103 kPa / 1.0 bar	0-30 psig / 200 kPa / 2 bar
SG2X2XXXX – 25 psig / 172 kPa / 1.7 bar	0-30 psig / 200 kPa / 2 bar
SG2X3XXXX – 50 psig / 345 kPa / 3.4 bar	0-60 psig / 400 kPa / 4 bar
SG2X4XXXX – 125 psig / 862 kPa / 8.6 bar	0-160 psig / 1100 kPa / 11 bar
SG2X5XXXX – 250 psig / 1724 kPa / 17.2 bar	0-300 psig / 2000 kPa / 20 bar
INLET PRESSURE RANGE	INLET GAUGE PRESSURE RANGE
All	6000 psig / 41,000 kPa / 400 bar

## SG2 Series Rebuild Kits

Rebuild Kits include replacement cartridges, diaphragms, diaphragm seals and instruction sheet.

KIT PART NUMBER	FOR SG PART NUMBER
JT389-8935	SG2PX100
JT389-8936	SG2PX200
JT389-8937	SG26X100
JT389-8938	SG26X200
JT389-8935V	SG2PX100V
JT389-8936V	SG2PX200V
JT389-8937V	SG26X100V
JT389-8938V	SG26X200V



**WARNING!** Do not attempt to select, install, use or maintain this product until you have read and fully understood the *TESCOM Safety, Installation and Operation Precautions*.

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