

# SG3 Series

## Regulators - Pressure Reducing

DSG032033X012

### 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, 50, 125, 250 psig  
103, 345, 862, 1724 kPa  
1.0, 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**

-40°F to 140°F / -40°C to 60°C

**Flow Capacity**

$C_v = 1.0$

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

0.8 psig / 100 psig  
0.06 bar / 6.9 bar

**For Neoprene Diaphragm**

0.49 psig / 100 psig  
0.03 bar / 6.9 bar

#### MEDIA CONTACT MATERIALS

**Body**

316L Stainless Steel, Nickel-Plated Brass

**Seat**

PCTFE

**Diaphragm**

316L Stainless Steel or 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: 1/2" NPTF  
Accessories: 1/4" NPTF

**Cleaning**

CGA 4.1 and ASTM G93

**Weight**

5.5 lbs / 2.5 kg

Teflon® is a registered trademark of E.I. du Pont de Nemours and Company.



TESCOM SG3 Series is a compact, lightweight, high purity single-stage regulator for specialty, flammable and industrial gas flows of 5-200 SCFM / 141-5600 SLPM. Sensitive, extra long-life metal diaphragm ensures gas purity and integrity. Exceptionally low decaying inlet characteristic provides a stable outlet pressure as inlet pressure varies. 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.

### Applications

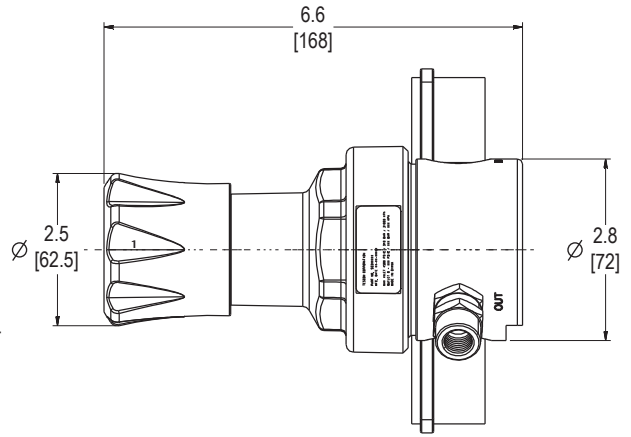
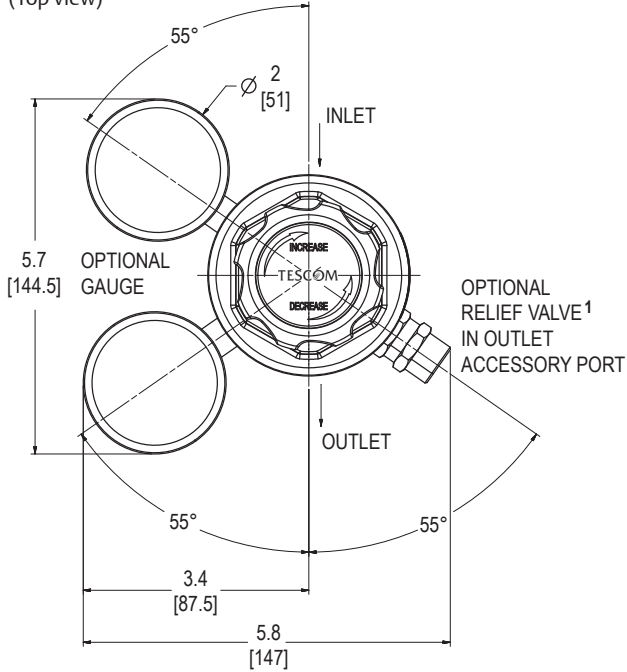
- Laboratory and Point-of-Use Gas Systems in medical, pharmaceutical, food and beverage and other high purity applications
- High flow, high purity air (CDA and APR) in semiconductor and biotech facilities

### Features and Benefits

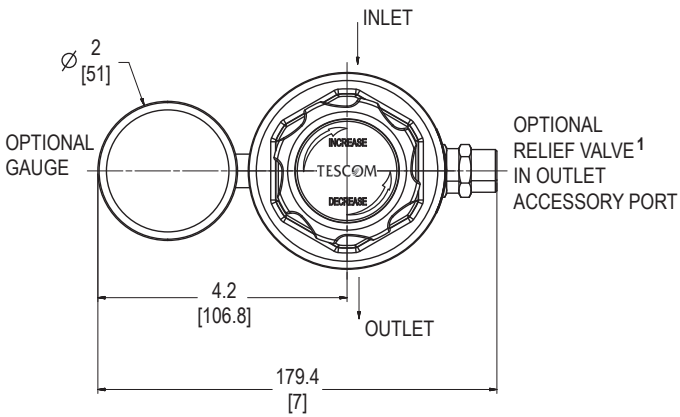
- Optional neoprene diaphragm provides exceptional sensitivity for precise pressure control
- Cartridge valve design incorporates 10 micron filter to protect the regulator seat and makes service simple

**SG3 Series Regulator Drawing**

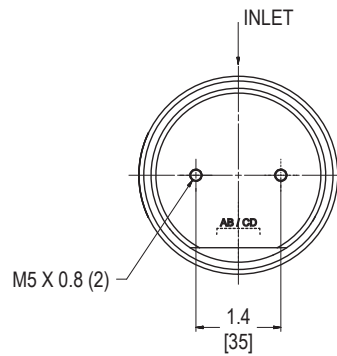
**5 Ports  
(Top view)**



**4 Ports  
(Top view)**



**Bottom Mounting**



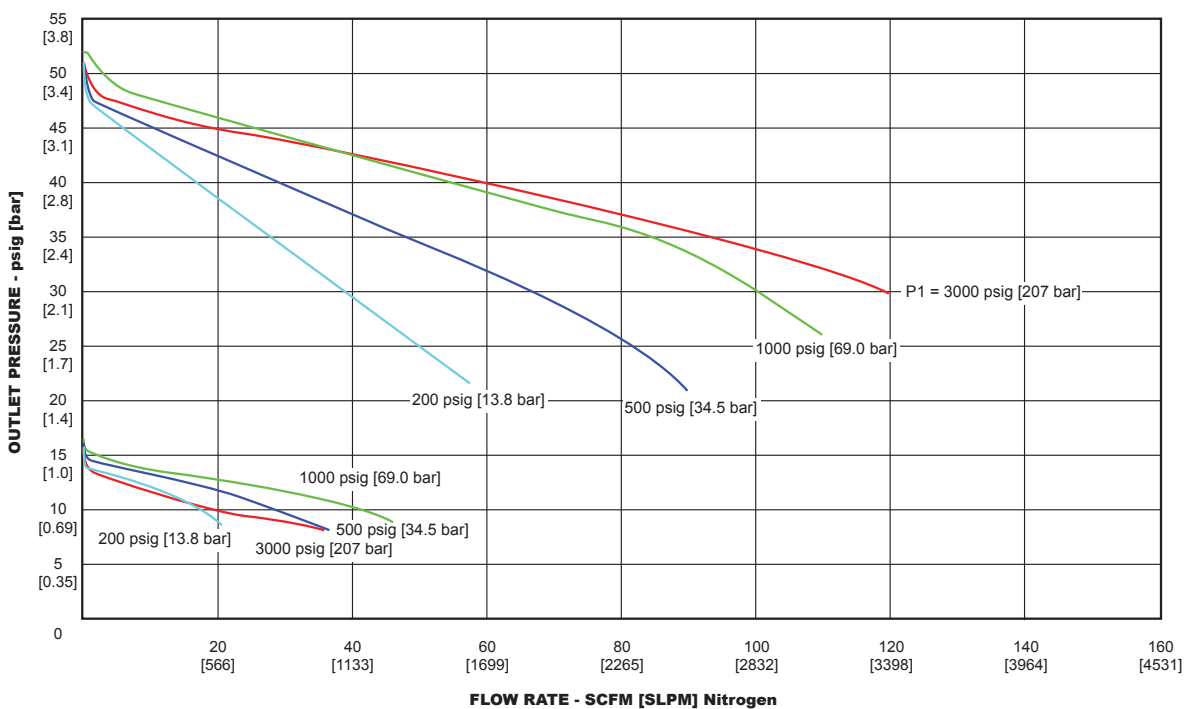
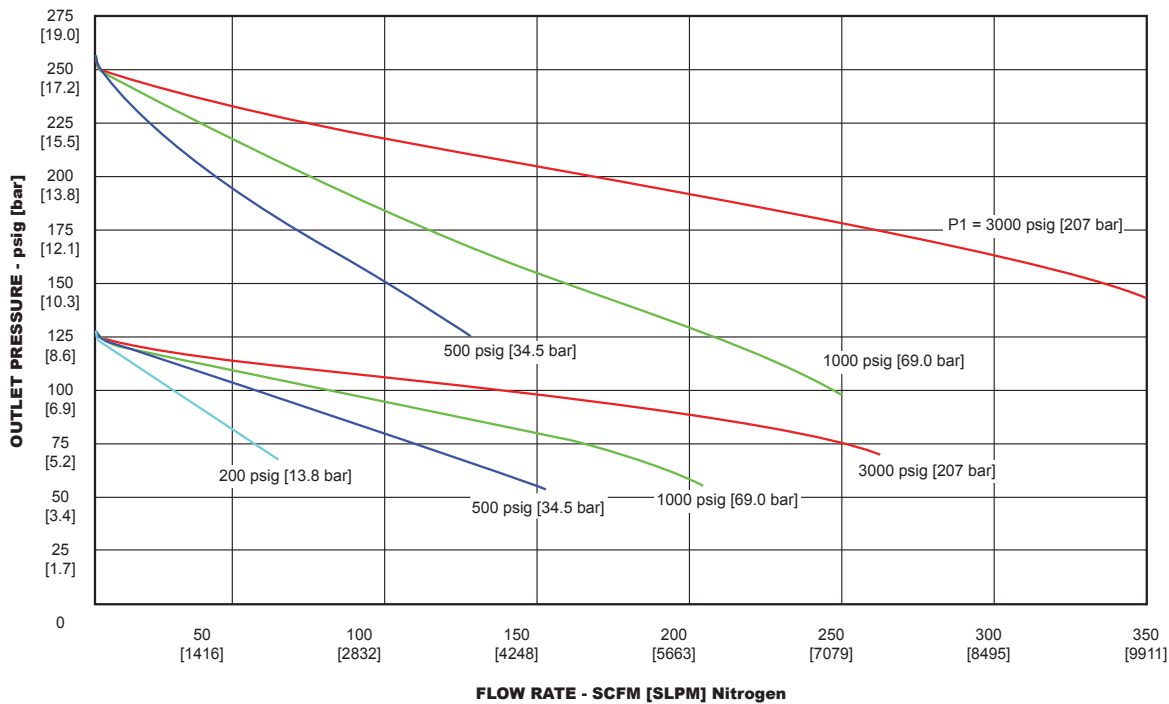
*All dimensions are reference & nominal  
Metric [millimeter] equivalents are in brackets*

## SG3 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).

### $C_v = 1.0$ Model

### Metal Diaphragm

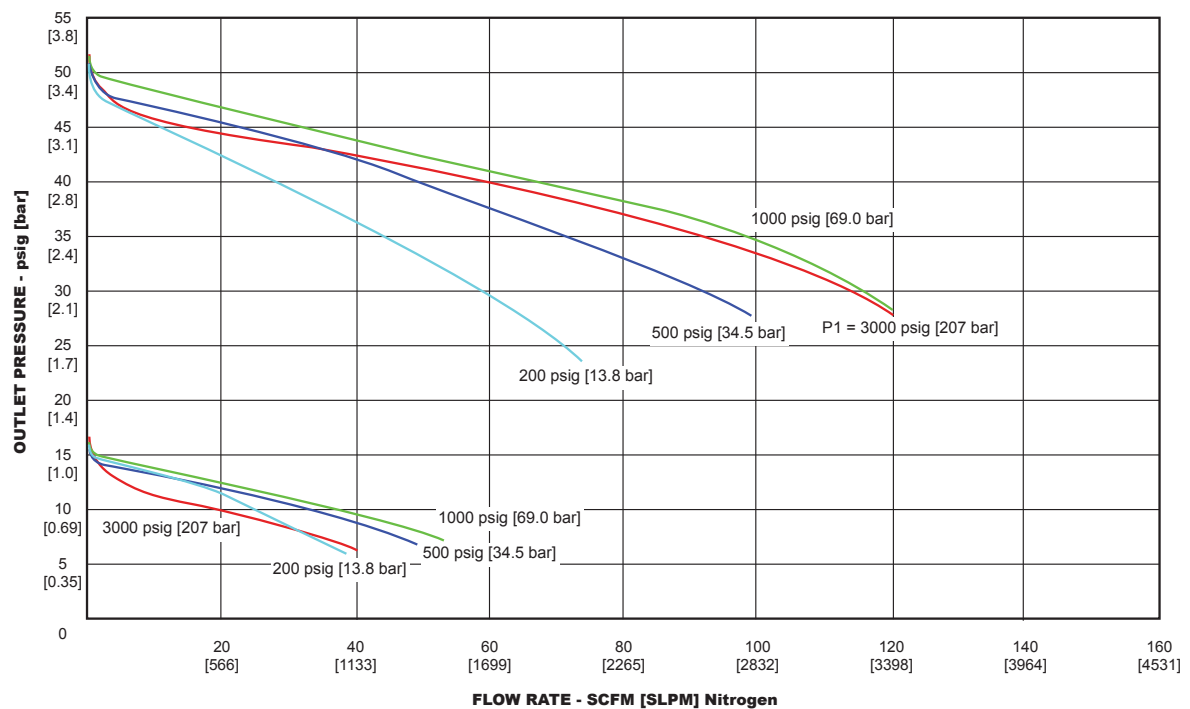
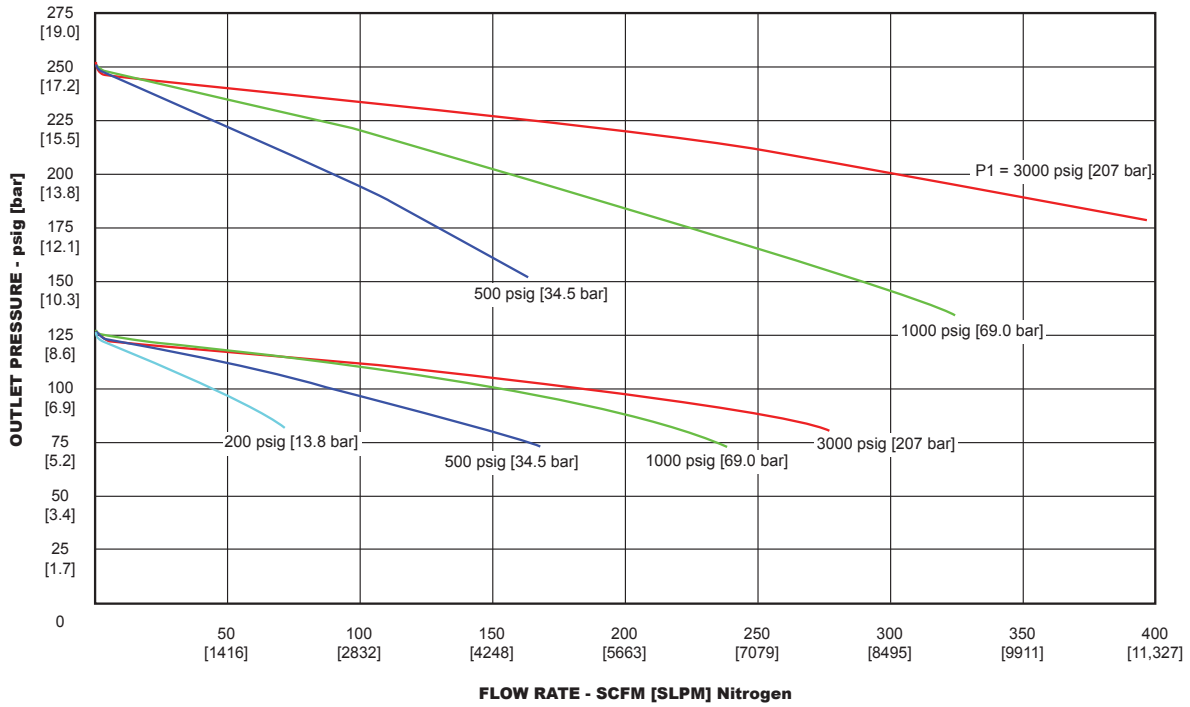


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### C<sub>v</sub> = 1.0 Model

### Neoprene Diaphragm

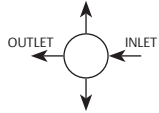
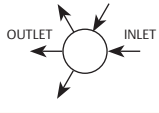


## SG3 Series Regulator Part Number Selector

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

### Base Model

Example for selecting a part number:

SG3	6	3	1	4	0	
BASIC SERIES	BODY MATERIAL	OUTLET PRESSURE RANGES	DIAPHRAGM MATERIAL	SEAL MATERIAL	PORTS <sup>2</sup> (TOP VIEW)	C <sub>v</sub>
SG3	P – Nickel-Plated Brass 6 – 316L Stainless Steel	1 – 15 psig / 103 kPa / 1.0 bar 3 – 50 psig / 345 kPa / 3.5 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	4 – 4 port  5 – 5 port 	0 – 1.0

### Accessories

Extension to base model part number:

SG3XXXXX – 0 0 A 1 0

BASE MODEL NUMBER			GAUGES <sup>2</sup>	RELIEF VALVE <sup>1</sup>	
			0 – None P – Plug(s) A – psi / kPa B – bar / psi	A – None P – Plug 1 – Teflon® Pipe-away	
<sup>1</sup> 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 (2014/68/EU). 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.					
<b><sup>2</sup>GAUGE PRESSURE RANGES</b>					
<b>OUTLET PRESSURE RANGE</b>			<b>OUTLET GAUGE PRESSURE RANGE</b>		
SG3X1XXX – 15 psig / 103 kPa / 1.0 bar			0-30 psig / 200 kPa / 2 bar		
SG3X3XXX – 50 psig / 345 kPa / 3.4 bar			0-60 psig / 400 kPa / 4 bar		
SG3X4XXX – 125 psig / 862 kPa / 8.6 bar			0-160 psig / 1100 kPa / 11 bar		
SG3X5XXX – 250 psig / 1724 kPa / 17.2 bar			0-300 psig / 2000 kPa / 20 bar		
<b>INLET PRESSURE RANGE</b>			<b>INLET GAUGE PRESSURE RANGE</b>		
All			6000 psig / 41,000 kPa / 400 bar		

## SG3 Series Rebuild Kits

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

KIT PART NUMBER	FOR SG PART NUMBER
JT389-8939	SG3PX1X0
JT389-8940	SG3PX2X0
JT389-8941	SG36X1X0
JT389-8942	SG36X2X0



**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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