

SGC Datasheet

SPECIALITY GAS CYLINDER PRESSURE REGULATOR ASSEMBLY

Gas
 Liquid
 Diaphragm
 Piston
 Self-Venting
 Non-Venting
 Max Inlet: 300 bar (4,350 psi)
 Max Outlet: 50 bar (725 psi)
 Cv 0.1



INTRODUCING THE SGC...

The SGC is a cylinder pressure regulator assembly for inert, reactive, flammable, corrosive, and oxidising gases and gas mixtures, with a maximum purity of 6.0.

It offers a compact and economical means of reducing the cylinder pressure from a maximum of 300 bar (4,350 psi) inlet pressure to a lower usable level.

It is designed to be connected directly to gas cylinders and comes in a variety of gas cylinder connectors. It can be offered either as single-stage or two-stage pressure reduction. The two-stage option offers fine control of the outlet pressure.

Typical applications include gas supply to analytical instruments and engine emission testing for automotive industries.

The SGC consists of a pressure regulator, and relief valve, plus optional inlet and outlet gauges, bottle connector, and downstream shut-off valve.

FEATURES AND BENEFITS

1 FOR HIGH PURITY GAS ≥ 6.0

Ensures the materials, design, and internal surface finish do not contaminate high purity gases.

2 ERGONOMIC DESIGN

Handwheel and body shape makes it easier for technicians to adjust pressures.

3 LOW INTERNAL VOLUME DESIGN

Improves purge efficiency and gas consumption.

4 SECOND-STAGE LETDOWN OPTION

Minimises fluctuations in outlet pressure as cylinder pressure drops.

STANDARD MATERIALS OF CONSTRUCTION

PART	MATERIALS
Body and Spring Housing	ASTM A479 316/316L Stainless Steel (UNS S31600/S31603)
Main Valve Pin	Chrome Plated Brass CW614N (UNS C38500)
Seat	Hastelloy® C276 (UNS N10276)
Valve Spring	PCTFE (Kel-F)
Diaphragm	Inconel® X750 (UNS N07750)
O-Rings	Hastelloy® C22 (UNS N06022)
Loading Spring	FKM/FPM (Viton)
Filter	Spring Steel Grade 80 BS 1449
	100 Microns

Note: Pressure regulator rating may be limited by connection type, Cv and/or seat material. Contact the office for specific pressure or temperature requirements.

SPECIFICATIONS

Max. Inlet	300 bar (4,350 psi)
Max. Outlet	Single-Stage: Up to 50 bar (725 psi) Two-Stage: Up to 14 bar (203 psi)
Cv	0.1
Design Proof Pressure	150% max. working pressure
Seat Leakage	$< 1 \times 10^{-6}$ mbar L/s (Helium)
External Leakage	$< 1 \times 10^{-9}$ mbar L/s (Helium)
Purity	≥ 6.0
Min/Max Temperatures	-25°C to +70°C (-13°F to 158°F)
Weights	Single-Stage: Up to 2kg (4.4lbs) Two-Stage: Up to 2.9kg (6.4lbs)
Dimensions	See page 2

Note: Unless otherwise requested, the relief valve's set pressure will be 120% of the regulator's nominal outlet set pressure.

Product availability and specifications contained herein are subject to change without notice. Consult local distributor or factory for potential revisions and/or service related issues. Pressure Tech Ltd support with product selection recommendations only - it is the users responsibility to ensure the product is suitable for their specific application requirements.



PRESSURE TECH LTD

Units 1-2, Graphite Way, Hadfield, Glossop, Derbyshire, UK, SK13 1QH

+44 (0)1457 899 307 | sales@pressure-tech.com | www.pressure-tech.com

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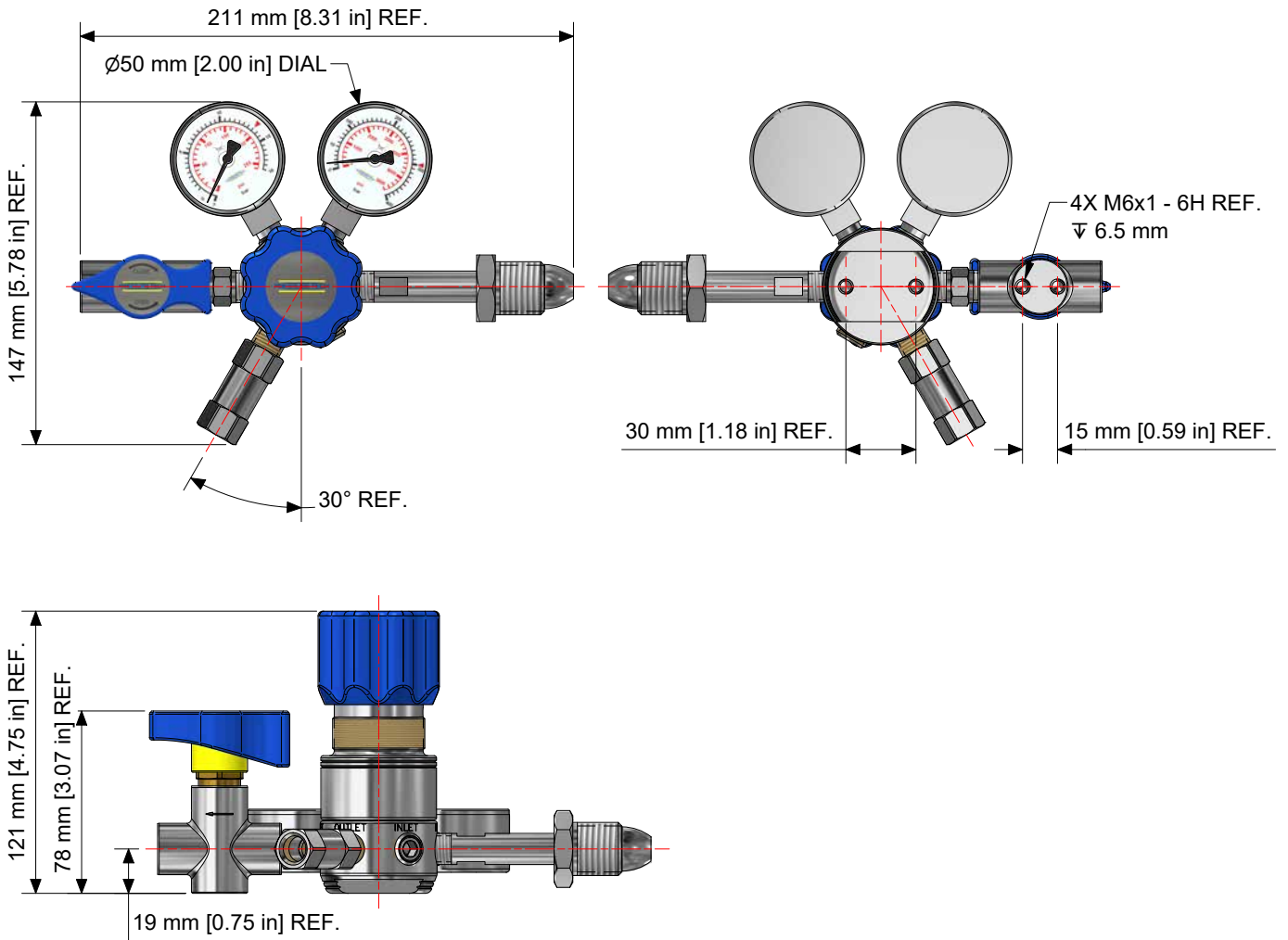
● Gas ● Liquid | ● Diaphragm ● Piston | ● Self-Venting ● Non-Venting | Max Inlet: 300 bar (4,350 psi) | Max Outlet: 50 bar (725 psi) | Cv 0.1

CLEANLINESS STANDARDS & SURFACE FINISH

All components are precision-cleaned to meet stringent cleanliness levels of 1mg/m², in accordance with ASTM G93/G93M, ASTM F331-13, and ISO 15001:2011. Brass products are electroplated as standard to enhance durability and corrosion resistance.

DRAWING AND INSTALLATION DIMENSIONS

Dimensions shown for standard configurations only – please contact the office for other options.



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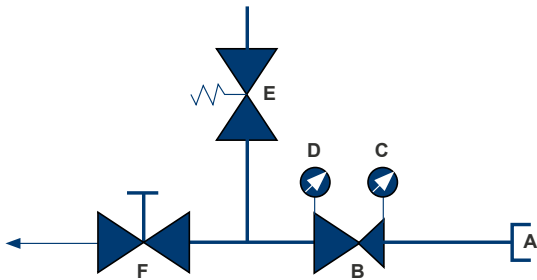
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P&ID



- A: Cylinder connection
- B: Pressure regulator
- C: Inlet pressure gauge
- D: Outlet pressure gauge
- E: Relief valve
- F: Downstream shut-off valve

FLOW CURVE

The flow charts for line pressure regulators have been generated in accordance with ISO 2503 which requires the upstream pressure to be approximately twice that of the downstream pressure.

PORTING CONFIGURATIONS



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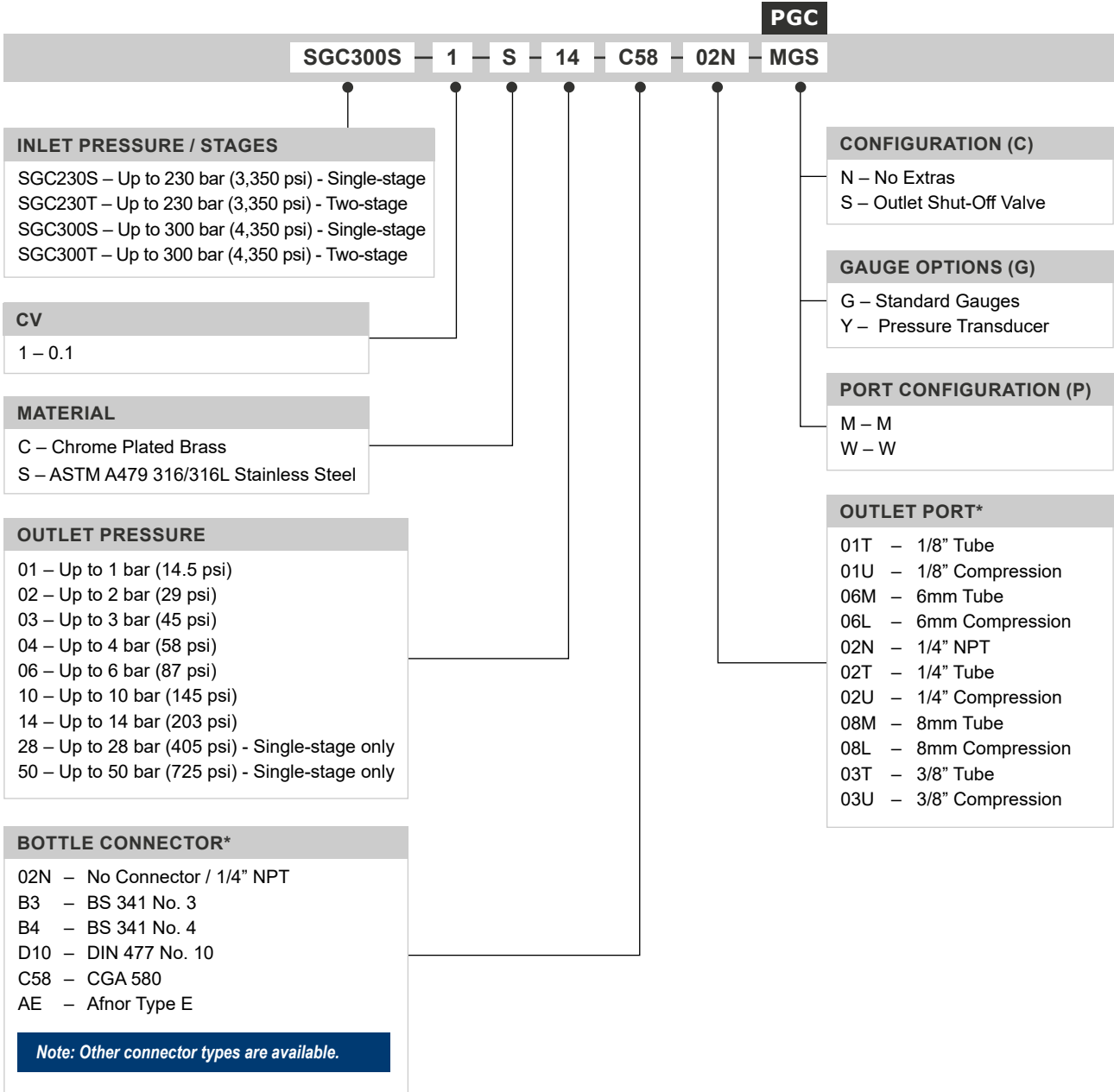
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ORDERING INFORMATION

To build a Pressure Tech part number, simply combine the characters identified below in sequence:



TRADEMARKS: Inconel® is a registered trademark of Inco Alloys International
 Hastelloy® is a registered trademark of Haynes International, Inc

* Other options available

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