SGL Datasheet

SPECIALITY GAS LINE PRESSURE REGULATOR

PRESSURE TECH

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 SGL...

The SGL is a line pressure regulator 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 line pressure from a maximum of 300 bar (4,350 psi) inlet pressure to a lower usable level for subsequent system equipment.

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

It is available in either a 4-port or 6-port body and can be offered as either a single-stage or two-stage pressure reduction. The two-stage option offers fine control of the outlet pressure.

The SGL consists of a pressure regulator and relief valve, plus optional inlet and outlet gauges on the 6-port configuration and outlet gauge only on the 4-port configuration.

STANDARD MATERIALS OF CONSTRUCTION

PART	MATERIALS
Body and Bonnet	ASTM A479 316/316L Stainless Steel (UNS S31600/S31603)
	Chrome Plated Brass CW614N (UNS C38500)
Main Valve Pin	Hastelloy C276® (UNS N10276)
Soft Seat	PCTFE (Kel-F)
Valve Spring	Inconel® X750 (UNS N07750)
Diaphragm	Hastelloy C22® (UNS N06022)
Handwheel	Anodised Aluminium
O-Rings	FKM/FPM (Viton)
Loading Spring	Spring Steel Grade 80 BS 1449
Filter	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	< 1×10 E-6 mbar L/s (Helium)
External Leakage	< 1×10 E-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 1.6kg (3.5lbs) Two-Stage: Up to 2.5kg (5.5lbs)
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.

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 COMPACT DESIGN

Perfect for when installation space is restricted.

3 OPTIONAL OUTLET PRESSURE RELIEF VALVE

Automatically vents gas if downstream pressure rises above required levels.

4 SECOND-STAGE LETDOWN OPTION

Minimises fluctuations in outlet pressure as cylinder pressure drops.

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

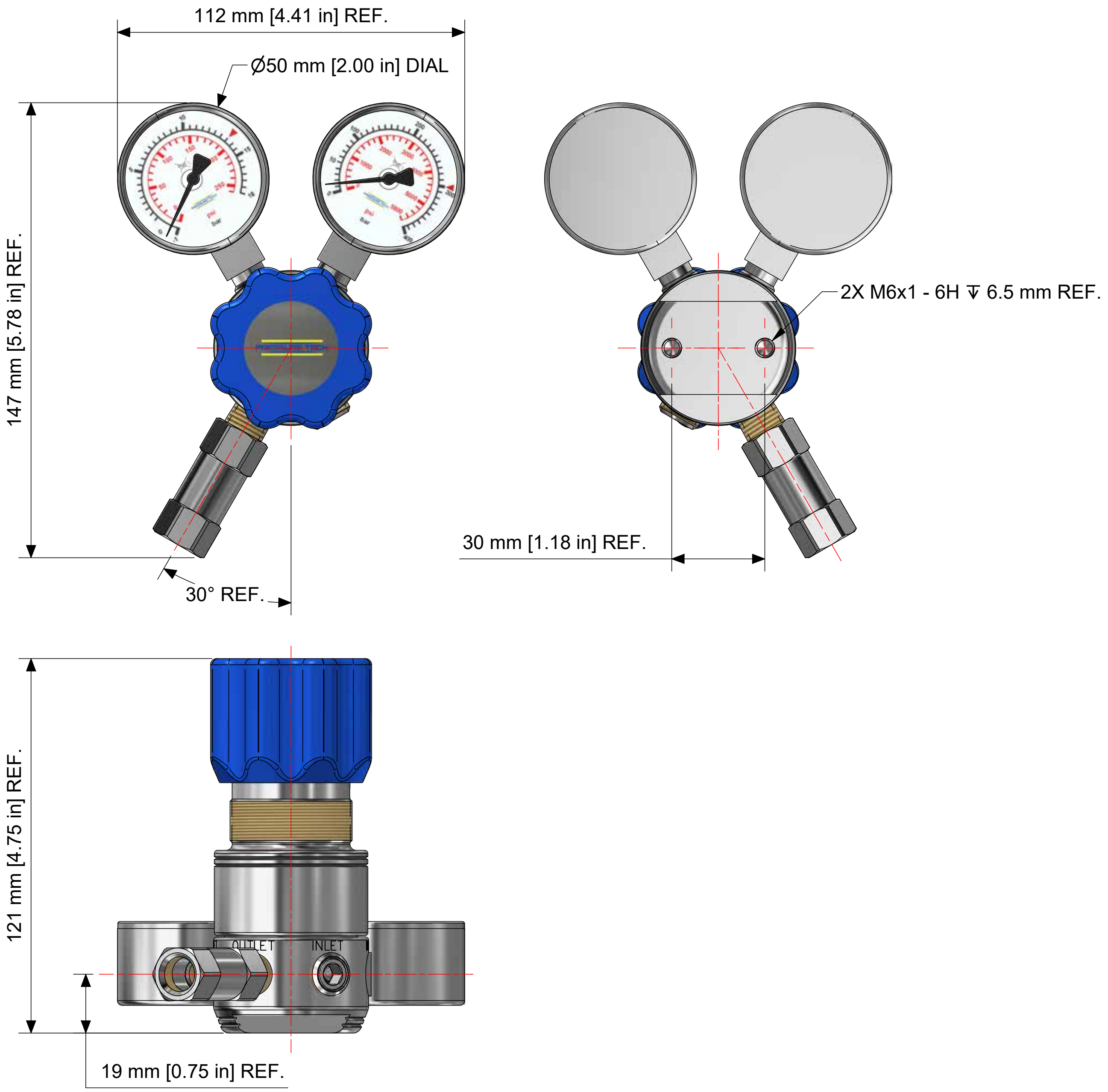
DESIGNED, MANUFACTURED AND BUILT IN THE UK

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.

DRAWINGS AND INSTALLATION DIMENSIONS

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



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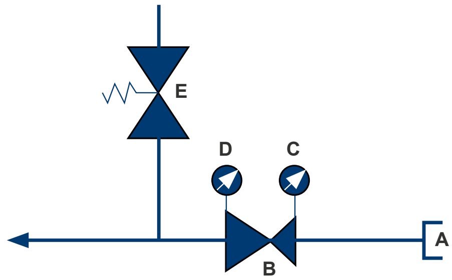
P&ID

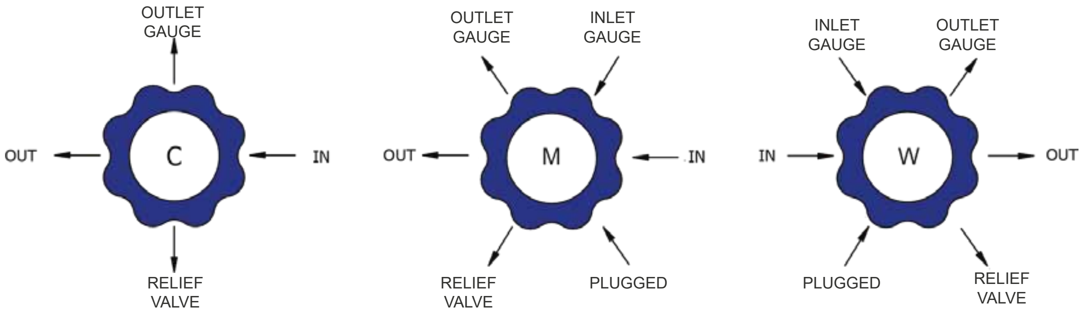


A: Inlet connection
B: Pressure regulator
C: Inlet pressure gauge
D: Outlet pressure gauge
E: Relief valve

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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ORDERING INFORMATION

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

				IN	OUT	PGC
SGL300S	– 1	– S	– 14	– 02N	– 02N	– CGR

INLET PRESSURE / STAGES

SGL12S – Up to 12 bar (175 psi) - Single-stage
SGL12T – Up to 12 bar (175 psi) - Two-stage
SGL50S – Up to 50 bar (725 psi) - Single-stage
SGL50T – Up to 50 bar (725 psi) - Two-stage
SGL230S – Up to 230 bar (3,350 psi) - Single-stage
SGL230T – Up to 230 bar (3,350 psi) - Two-stage
SGL300S – Up to 300 bar (4,350 psi) - Single-stage
SGL300T – Up to 300 bar (4,350 psi) - Two-stage

CV

1 – 0.1

MATERIAL

C – Chrome Plated Brass
S – ASTM A479 316/316L Stainless Steel

OUTLET PRESSURE

01 – Up to 1 bar (14.5 psi)
02 – Up to 2 bar (29 psi)
03 – Up to 3 bar (45 psi)
04 – Up to 4 bar (58 psi)
06 – Up to 6 bar (87 psi)
10 – Up to 10 bar (145 psi)
14 – Up to 14 bar (203 psi)
28 – Up to 28 bar (405 psi) - Single-stage only
50 – Up to 50 bar (725 psi) - Single-stage only

CONFIGURATION (C)

N – No Relief Valve
R – Relief Valve

GAUGE OPTIONS (G)

N – No Gauges
G – Standard Gauges
Y – Pressure Transducer

PORT CONFIGURATION (P)

C – C (Outlet gauge, no inlet gauge)
M – M
W – W

INLET / OUTLET PORT*

01T – 1/8” Tube
01U – 1/8” Compression
06M – 6mm Tube
06L – 6mm Compression
02N – 1/4” NPT
02T – 1/4” Tube
02U – 1/4” Compression
08M – 8mm Tube
08L – 8mm Compression
03T – 3/8” Tube
03U – 3/8” Compression

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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