

SensorsX

SX-PGABC Series

High-Purity Mechanical Pressure Gauge

Industrial Process Measurement | Semiconductor | Photovoltaic | Biopharmaceutical



Grade A / Grade B Accuracy Class	-14.7 ... 3,000 psi Pressure Range	ASME B40.1 Standard
IP54 Ingress Protection	RoHS / CE / SIL Certifications	40 mm / 50 mm Dial Diameter

Industrial Process Measurement | Semiconductor | High-Purity Gas | Biopharmaceutical

■ PRODUCT OVERVIEW

The SX-PGABC Series is a high-purity mechanical pressure gauge designed for semiconductor, photovoltaic, biopharmaceutical, food-processing, and specialty-gas applications. The gauge features all-316L stainless-steel welded construction, specially treated wetted surfaces, and optional high-purity process connections. Electrical contact options are available for single- or dual-contact switching outputs. BA and EP internal surface finishes are available to support clean-process pressure measurement requirements.



■ KEY FEATURES

- | | |
|---|--|
| ◆ Electropolished wetted surfaces | ◆ 100% helium leak tested; leak rate $\leq 10^{-9}$ kPa·L/s |
| ◆ BA Surface Finish Internal channel surface finish $R_a \leq 0.4 \mu\text{m}$ (BA grade) | ◆ EP Surface Finish Internal channel surface finish $R_a \leq 0.25 \mu\text{m}$ (EP grade) |
| ◆ Cleanroom vacuum-sealed packaging | |

■ TYPICAL APPLICATIONS

Industries Served

- | | | |
|--|---|--|
| ● Gaseous, liquid, or corrosive media requiring high-purity and high-cleanliness measurement | ● Semiconductor wafer & photovoltaic panel processing — ultra-pure gas pressure measurement | ● Biopharmaceutical technology, gene technology, and related industry pressure measurement |
|--|---|--|

■ PERFORMANCE SPECIFICATIONS

Measurement

Dial Diameter	40 mm (1.5 in) / 50 mm (2 in)
Measuring Range	-0.1 to 0-100 MPa / 0 to 0.1-42 MPa (0 to 15-6,000 psi)
Mounting Orientation	Radial or axial
Accuracy	
Accuracy Class	NS 1-1/2" (40 mm): Grade B per ASME B40.1 (3/2/3 % of span) NS 2" (50 mm): Grade A per ASME B40.1 (2/1/2 % of span)
Cleanliness & Surface Finish	
Cleanliness Level	Per SEMI standard
Surface Finish — BA	Internal channel Ra ≤ 0.4 µm (Bright Annealed grade)
Surface Finish — EP	Internal channel Ra ≤ 0.25 µm (Electropolish grade)
Leak Test	100% helium leak test, leak rate ≤ 10 ⁻⁹ kPa·l/s
Packaging	Cleanroom vacuum packaging
Environmental	
Ingress Protection	IP54 per IEC 60529
■ PROCESS CONNECTIONS & WETTED MATERIALS	
Process Connection	
Material	316L stainless steel
Connection Types	VCR seal / Nut with female thread / Male nut or 9/16-18 UNF male thread / 1/4"-18 NPT female thread
Wetted Materials	
Wetted Surface	All-316L welded metal construction; 100% special surface treatment on all wetted surfaces
Internal Surface	BA grade: Ra ≤ 0.4 µm / EP grade: Ra ≤ 0.25 µm
■ CERTIFICATIONS & APPROVALS	
General Compliance	
RoHS	RoHS compliant
CE Marking	CE marked
SIL	Safety Integrity Level capable
Explosion Protection	
Explosion-proof (EX)	ATEX/IECEX
Material Certificates	
EN 10204 2.2	Available
EN 10204 3.1	Available
NACE MR0175	Available
PMI	Available

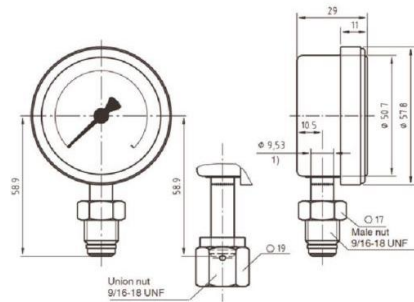
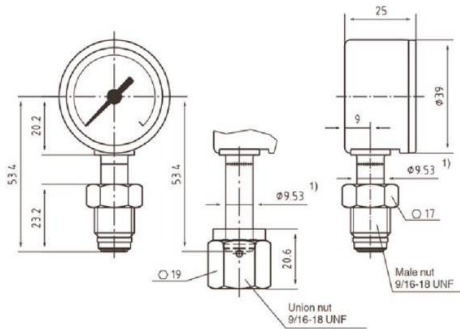
※ Certificate availability depends on specific product configuration and order quantity. Contact SensorsX Technology Inc. for the applicable certificates for your order.

■ MECHANICAL DIMENSIONS

※ All dimensions in mm. Drawings show standard configurations with 9/16-18 UNF connection. See Ordering Information for connection variants.

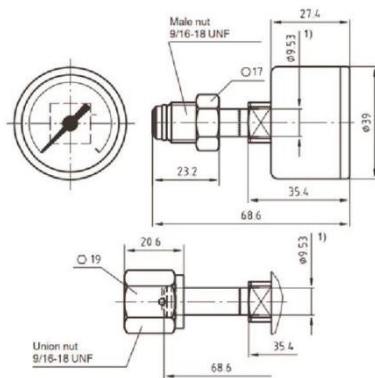
Radial Mounting (LC)

NS 1-1/2" (40 mm) — Radial	NS 2" (50 mm) — Radial
----------------------------	------------------------

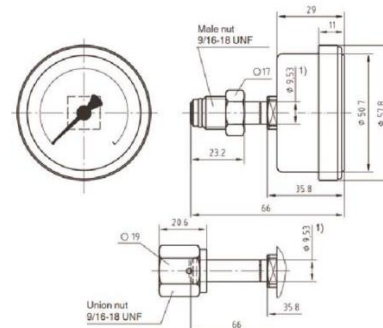


Axial Mounting (BC)

NS 1-1/2" (40 mm) — Axial



NS 2" (50 mm) — Axial



■ ORDERING INFORMATION

Complete model number example: **SX-PGABC-40EPMLC080**

SX-PGABC = Series | 40 = 40 mm dial | EP = Electropolish | M = 9/16-18 UNF male | LC = Radial | 08 = 0-40 bar (0-580 psi) | O = No special requirement

Dial Diameter

40	40 mm (1.5 in / NS 1-1/2")
50	50 mm (2 in / NS 2")

Surface Treatment

EP	EP grade — internal surface $Ra \leq 0.25 \mu m$
BA	BA grade — internal surface $Ra \leq 0.4 \mu m$

Pressure Connection

M	9/16"-18 UNF Male external thread
F	9/16"-18 UNF Female internal thread
WS	W-Seal
CS	C-Seal

Mounting Orientation

LC	Radial
BC	Axial

Pressure Range

01	-1 to 0 bar (gauge) -100 to 0 kPa	-14.50 to 0 psi
02	0 to 1 bar (gauge) 0 to 100 kPa	0 to 14.50 psi
03	0 to 2 bar (gauge) 0 to 200 kPa	0 to 29.0 psi
04	0 to 4 bar (gauge) 0 to 400 kPa	0 to 58.0 psi
05	0 to 10 bar (gauge) 0 to 1 MPa	0 to 145 psi

06	0 to 16 bar (gauge) 0 to 1.6 MPa 0 to 232 psi
07	0 to 25 bar (gauge) 0 to 2.5 MPa 0 to 363 psi
08	0 to 40 bar (gauge) 0 to 4 MPa 0 to 580 psi
09	0 to 60 bar (gauge) 0 to 6 MPa 0 to 870 psi
0A	0 to 100 bar (gauge) 0 to 10 MPa 0 to 1,450 psi
0B	0 to 160 bar (gauge) 0 to 16 MPa 0 to 2,321 psi
0C	0 to 200 bar (gauge) 0 to 20 MPa 0 to 2,901 psi
Additional Options	
D	Single contact switch output
S	Double contact switch output
V	VIM / VAR material
P	PNP contact output
O	No special requirement
Customized	
D	Customized — specify requirements in order remarks