GW

Pressure Gauges for Semiconductor Industry

OUTLINE

This pressure gauge demonstrates excellent performance even under severe conditions such as measuring highly-corrosive fluid and in a corrosive atmosphere.
As enough attention has been paid for hermetic properties and cleanliness at the time of manufacture, this pressure gauge is appropriate for the application to especially fluid of a high degree of purity including semiconductor process.

FEATURE

- As main parts including a Bourdon tube, socket, casing and movement are made of stainless steel, excellent corrosion resistance not only for measuring fluid but also for environment is demonstrated.
- Wetted parts such as a pressure element are welded by an argon-arc welding method, and, additionally, this pressure gauge has been manufactured under strict quality control including pressure resistance and hermetic properties test.
- Blowout disk* is installed to the case as a standard.
  In case of Bourdon tube rupture, glass damage will be prevented.

* In case of selecting pressure gauge,choose the pressure range which can be used in between 30 ~ 65% of full scale, so that the gauge can give its full capacity.

SPECIFICATION

Fluid:
Gas or liquid

Mounting:
Stem •••••  Type A

Panel •••••  Type D

Size:
50 DIA. (Model: GW11 • 16 • 21)
60 DIA. (Model: GW12 • 17 • 22 • 27)

Connection:
R1/4 (PT), 9/16-18UNF, 1/4NPT, G1/4B (PF)

Wetted parts material:

Bourdon tube • Socket	316st.st. (GW2□ is 316Lst.st.)
Case	304st.st.
Movement	st.st.

Inside of gas contact parts :
GW2□ Polishing finish

Welding method:
Argon arc welding

Pressure range:
0 ~ 0.2 → 0 ~ 100MPa
(0 ~ 2 → 0 ~ 1000kgf/cm^2)
-0.1 ~ 0.1 → -0.1 ~ 2MPa
(76cmHg ~ 1kgf/cm^2 → 76cmHg ~ 20kgf/cm^2)

Operating temperature:
-5 ~ 40℃

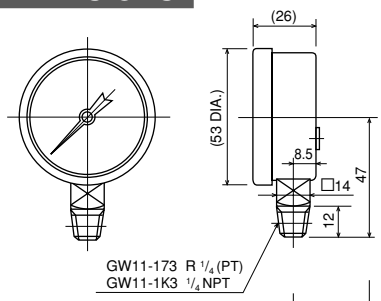
Accuracy:
±1.5%F.S.

Leakage: (Helium leak test)
1.01×10^{-9} Pa • m^3/s (1×10^{-8} atm cc/s or less)

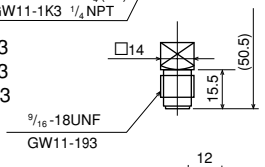
Use no oil & water:
Produce it not to remain oil or water in wetted parts.

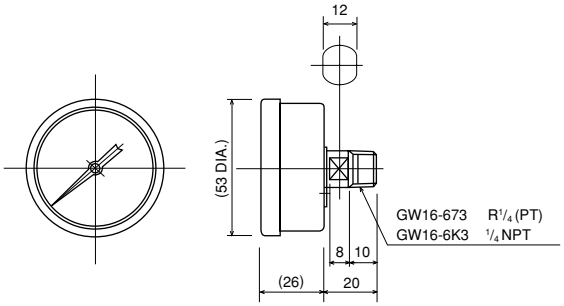
* Note:
To keep normal function, please take a space behind of gauge at least 10mm when installing. Don't process or stop up the blowout disk.

DIMENSIONS

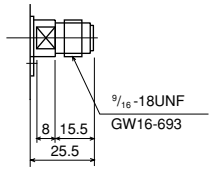


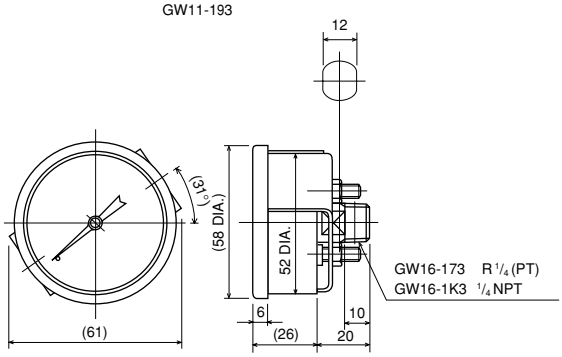
GW11 - 173
- 193
- 1K3



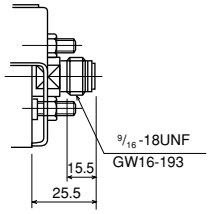


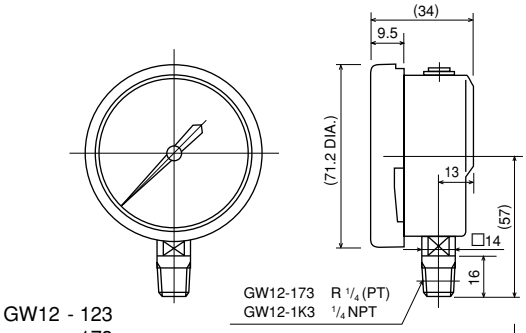
GW16 - 673
- 693
- 6K3



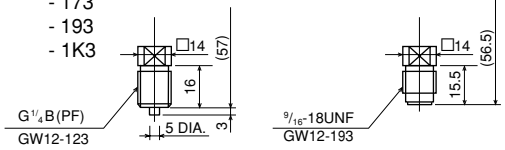


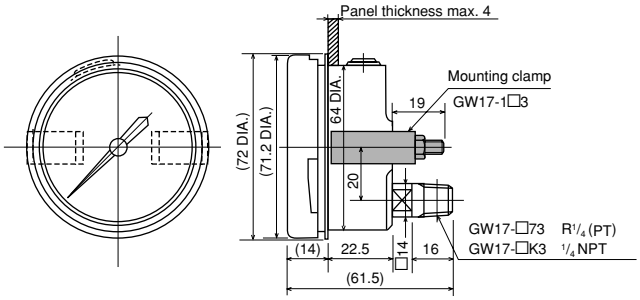
GW16 - 173
- 193
- 1K3

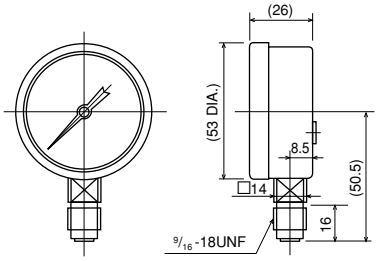




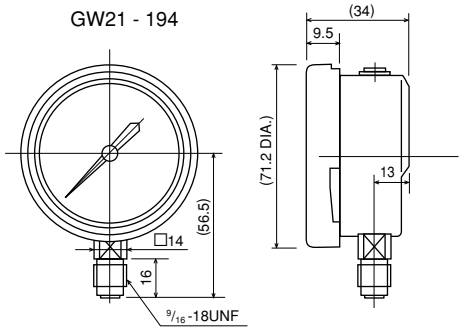
GW12 - 123
- 173
- 193
- 1K3





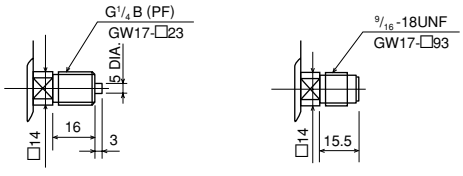


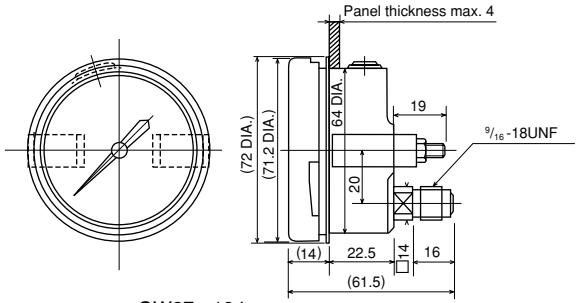
GW21 - 194



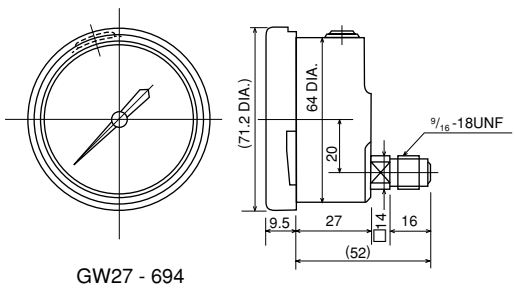
GW22 - 194

GW17 - 123
- 173
- 193
- 1K3
- 623
- 673
- 693
- 6K3





GW27 - 194



GW27 - 694

GRADE CONFIGURATION TABLE

Grade constitution of pressure gauge is divided by cleanliness factor and contents of production • test process and it's standard as follows.

Grade	A	B
Washing degree	According to right table	
Washing	Freon (substitute flon) ultrasonic cleaning finish washing: Freon (substitute flon)	Dichloromethane washing
Structure•adjustment	In a clean room (class 10,000)	General production line
Leak test	He leak test	Freon leak (substitute flon)
Use no oil • water	Use no oil • water	Use no oil • water
Packing	After N2 gas flushing Clean polyethylene sealing up packing	Polyethylene bag

CLEANLINESS FACTOR LIST

Grade	A minute particle and number of fiber											Permission number of hydrocarbon (max.:ppm)
	Size of a minute particle (μm)					Size of fiber (μm)						
	0 ~ 20	20 ~ 50	50 ~ 100	100 ~ 500	500 ~ 1000	0 ~ 20	20 ~ 50	50 ~ 100	100 ~ 700	700 ~ 1000	1000 ~ 6000	
A	(a)	(a)	(a)	5	1 (b)	(a)	(a)	5	1 (b)			
B	(a)	(a)	(a)	25 (b)						(b)		50

Note: (a) No limit
(b) This size is max.

* Wetted parts inside: Polished finish contains grade A.

Type No. constitution

Please specify Type No.,each specification and range,when ordering.

Note: For this Model,there is no applicable item for the figures X,but please specify X when ordering.

A Grade

50 DIA.
- GW11 — 1 Type A Stem
- GW16 — 1 Type D Panel (Mounting clamp)
- GW16 — 6 Type D Panel (Stem)
- GW21 — 1 Type A Stem*

60 DIA.
- GW12 — 1 Type A Stem
- GW17 — 1 Type D Panel (Mounting clamp)
- GW17 — 6 Type D Panel (Stem)
- GW22 — 1 Type A Stem*
- GW27 — 1 Type D Panel (Mounting clamp)*
- GW27 — 6 Type D Panel (Stem)*

W — A Grade

B Grade

50 DIA.
- GW11 — 1 Type A Stem
- GW16 — 1 Type D Panel (Mounting clamp)
- GW16 — 6 Type D Panel (Stem)

60 DIA.
- GW12 — 1 Type A Stem
- GW17 — 1 Type D Panel (Mounting clamp)
- GW17 — 6 Type D Panel (Stem)

0 — B Grade

Model

1 Mounting (Type)

14 Grade

0	B Grade GW1☐ only
W	A Grade * Wetted parts inside: Polishing

Pressure gauges for semiconductor industry

Selection spec.

Additional spec. (Option)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
G	W	○	○	○	—	7	0	0	X	X	X	X	X	X	X	○	○

Type No.

2 Connection

	Possible or not	GW11•16	GW12•17	GW2☐
2	G1/4B		○	—
7	R1/4	○	○	—
9	9/16-18UFN	○	○	○
K	1/4NPT	○	○	—

3 Wetted parts material

3	GW1☐: 316st.st.
4	GW2☐: 316Lst.st.

4 Pressure range (MPa)

(Please specify Type No.,each specifycation and range when ordering.)

	Possible or not	GW11•16 (Grade A•B)	GW12•17 (Grade A)	GW12•17 (Grade B)	GW2☐
1	0.1 ~ 0.1, 0.2, 0.3, 0.4, 0.6, 1, 1.5, 2	○	○	○	○
2	0 ~ 0.2, 0.3, 0.4, 0.6, 1, 1.5, 2, 2.5, 3.5	○	○	○	○
3	0 ~ 5, 7, 10	○	○	○	○
4	0 ~ 15, 25	○	○	○	○
5	0 ~ 35	—	—	○	—
6	0 ~ 50, 70	—	—	○	—
7	0 ~ 100	—	—	○	—

5 Accuracy

7	±1.5%F.S.

6 Pointer

0	Standard type

7 Window

0	Inorganic glass

15 Document

0	Nil
1	Please specify your requirement Drawing one sheet,Instruction manual,Inspection procedure, Mill sheet,Test report