Diaphragm-seal Pressure Gauges for High Temperature

OUTLINE

These are pressure gauges that use a liquid filled between the pressure sensing section and the Bourdon tube, which is the element, as the pressure transmitting medium. They are used to measure the pressure of material melted under a high temperature and the pressure of a liquid which has a high viscosity under room temperature and are extensively used in the synthetic chemical industry, textile chemical industry, and plastics industry.

FEATURES

- **These pressure gauges can measure pressure over a wide temperature range of 0℃ to 330℃. They demonstrate little indication fluctuations due to temperature changes and do not require indication compensation.**
- **Because they are sealed, and the measured liquid does not directly enter the element (Bourdon tube), the pressure of high density liquids can be measured.**
- **Since the specific gravity of the filled liquid is low, the indication error (elevation error) due to the difference of height of the sensing section and the indicator does not require compensation.**

＊When selecting a pressure gauge, select the pressure range over which the gauge will demonstrate top performance in a working pressure range within 30 to 65% of full scale. Also check whether the wetted parts material is suitable for the gas or fluid to be measured.

SPECIFICATION 1

Fluid:
Gas or liquid

Type:
Direct type, remote type

Filled liquid:
X3 ····· The filled fluid is a stably quality harmless oil. (NKS instrument oil) Applicable when the use of mercury is unsuitable.

Case construction:
Sealed type
These gauges have a drip-proof II (JIS C 0920) sealed construction; not a completely sealed construction.

Size:
100 DIA.

Mounting:
Type B (Mounting hole)

Diaphragm:
18 DIA., 23.6 DIA.

Connection:
G3/4B (PF), G1B (PF)
Specify the A and B dimensions of the wetted parts. (See to Dimensions for details.)

Wetted parts materials:
SUS316, SUS316, or Hastelloy C (remote type only)

Detecting element:
With protector or without protector

Allowable temperature range (detecting element):
0～330℃

Pressure range:
0～10→0～50 MPa

Indication accuracy:
±1.5%F.S. (Within 20～80%F.S.)

Dial scale specification:
270°

Blowout disk:
If by chance the Bourdon tube should explode, the blowout disk releases the internal pressure to prevent shattering of the window.
Note For the blowout disk to function normally, when installing, provide a space of at least 10mm behind the gauge. Also, do not block the window hole and plug with your hand.

Case material & finish:
ADC12・Black

Max. capillary tube length:
3m (Remote type)

Weight:
Approx. 1.3kg～1.9kg

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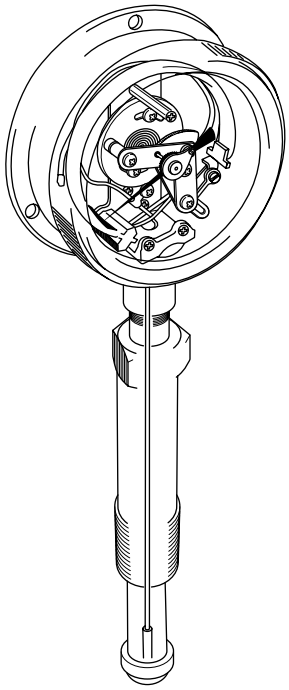
SPECIFICATION 2

Minimum graduation:

Diaphragm	Pressure range MPa	Minimum graduation MPa
18 DIA.	0～25	0.5
	0～35	1
	0～50	1
23.6 DIA.	0～10	0.2
	0～15	0.5
	0～25	0.5
	0～35	1

CONSTRUCTION

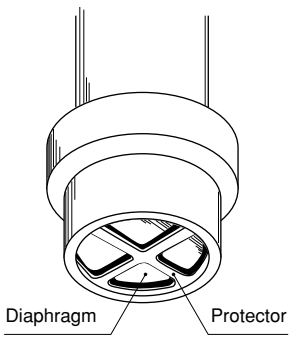


A liquid is filled between the diaphragm and Bourdon tube.
The pressure received by the diaphragm is transmitted to the Bourdon tube, with the filled liquid as the pressure medium, and the Bourdon tube is displaced.
This displacement is used to rotate a pointer.

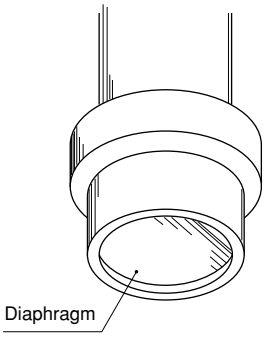
DETECTING ELEMENT

A protector is used to protect the diaphragm.

With protector

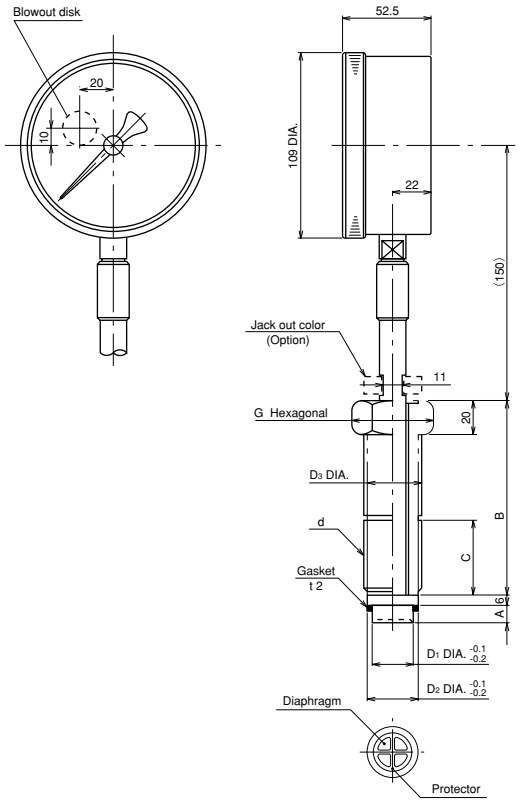


Without protector

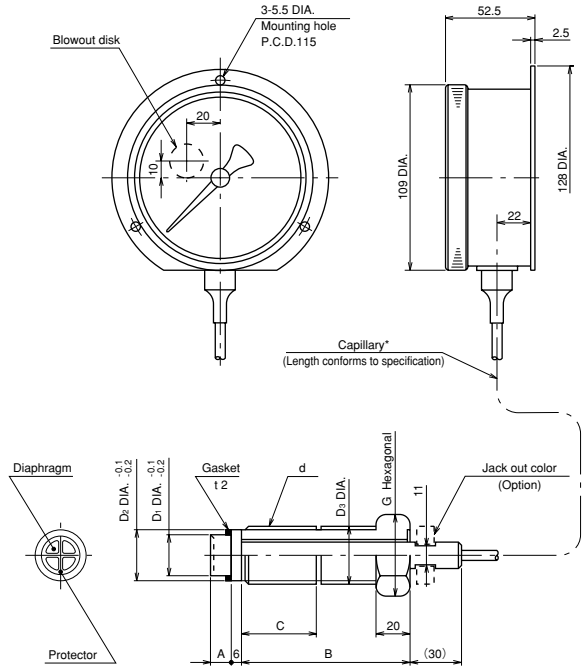


DIMENSIONS

Direct type



Remote type



When ordering, specify the lengths A and B separately.

Diaphragm D_1 DIA.	D_2	D_3	Protector	Screw relief	d	G Hexagonal	Capillary length * (Remote type only)
18	24	26.4	Required	Nil	G3/4B	36×41.6	
18	24	26.4	Nil	Nil	G3/4B	36×41.6	
18	24	23.5	Required	Required	G3/4B	36×41.6	
18	24	23.5	Nil	Required	G3/4B	36×41.6	1m
23.6	30	34	Required	Nil	G1B	41×47.3	2m 3m
23.6	30	34	Nil	Nil	G1B	41×47.3	
23.6	30	29.5	Required	Required	G1B	41×47.3	
23.6	30	29.5	Nil	Required	G1B	41×47.3	

* Length A = 10～30mm (5mm intervals)
Length B = 55, 80～450mm (10mm intervals)
C = 45 (When length B = 55: 25)

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Model number configuration

For ordering, please specify the model number, each specs and range.

S D			—				—		X	X			B	E	1	0	×		
Diaphragm-seal Pressure Gauges for High Temperature				①	②	③		④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮

Model	Selective spec.	Additional spec. (Option)

Model		Diaphragm	Connection	Range	Wetted
4	1	18 DIA.	G3/4B	0～25, 35, 50MPa	SUS316
5	1	23.6 DIA.	G1B	0～10, 15, 25, 35MPa	SUS316

① Connection	6	G3/4B
	8	G1B
② Protector	1	With protection, without screw relief
	2	Without protection, without screw relief
	3	With protector, with screw relief
	4	Without protector, with screw relief
③ Wetted parts materials	3	SUS316
	4	SUS316L
	8	Hastelloy® C or equivalent
④ Diaphragm material	3	SUS316
	4	SUS316L
	8	Hastelloy® C-276 or equivalent
⑤ Length A	X	Specify a length between 10 and 30mm in 5mm intervals.
⑥ Length B	X	Specify the length 55 or 50 to 450m in 10mm intervals.
⑦ Option	0	Nil
	1	With jack out color
⑧ Treatment	0	Nil
	1	Use no oil
	2	Use no water
	3	Use no oil & water
⑨⑩⑪⑫ Indicator	BE10	Pressure gauge Direct and Remote (Specify the range and units separately.)
⑭ Construction and temperature	1	Direct type
	2	Remote type (Specify the lead length and type.)
⑮ Documents	0	Nil
	1	Required (Please specify the desired documents separately.) Submission drawings, instruction manual, inspection procedure, mill sheet, test report (1 pc 1 copy), traceability certificate, strength calculation, attended inspection

When ordering, specify lengths A and B for capillary length and screw mounting.

Specify "X" if there is no specification item.

㊎ NAGANO KEIKI CO., LTD.

Gets ISO 9001, ISO 14001, ISO／TS 16949 Certification

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