

# Diaphragm-Seal type Pressure Gauges



## OUTLINE

These pressure gauges are constructed to use a liquid filled between the diaphragm seal and element as the pressure transmission medium. Our catalog introduces pressure gauges, pressure gauges with electric contact, pressure switches, differential pressure gauges, differential pressure gauges with electric contact, and differential pressure switches.

Since the diaphragm seal and bottom flange of the wetted part can be selected to match the application, these gauges are applicable to measurement of highly corrosive fluids, high viscosity fluids, and fluids which are mixed with solids or which solidify easily.

## FEATURES

- A highly corrosion resistant diaphragm is used at the diaphragm seal so that high viscosity fluids, as well as highly corrosive fluids, can be measured
- When the diaphragm is welded, its surface can be easily cleaned by loosening the case mounting bolt.
- A zero adjustment pointer is used, and temperature error, elevation error, and other errors can be easily corrected.
- The danger of leaking of the filled liquid has been reduced by adopting a welded type diagram.  
(Except some diaphragm materials)

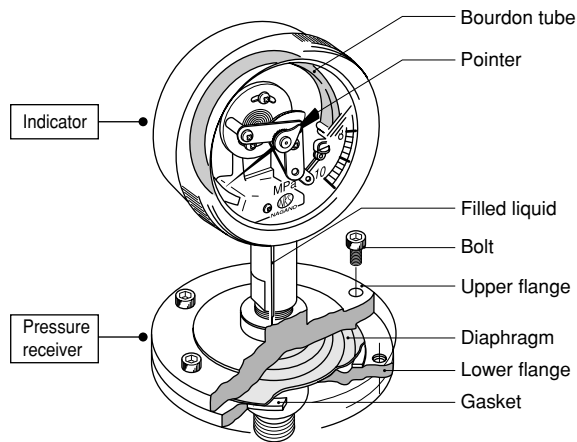
Classification	General pressure gauge		Pressure gauge with electric contacts		Pressure switch			Differential pressure gauge	Differential pressure switch
	Standard type, Sealed type (for JIS)	With glycerine	Microswitch	Electronic formula	Pressure switch (puncture pressure explosion-protected pressure switch)			Differential pressure gauge (with electric contact)	Differential pressure switch (puncture pressure explosion-protected)
	AC, AE, AG, BC, BE, BG	GV42	JM□□	JD1□	CD30	CQ30	CB33, CD75	DG9□	CL71, CD71
Fluid Temperature range	-30~230°C	-5~100°C	-30~230°C	-5~100°C	-30~230°C	-30~230°C	-30~100°C	-5~100°C	-5~100°C
Appearance									
Type	Direct type Remote type (Option)	Direct type Remote type (Option)	Direct type Remote type (Option)	Direct type Remote type (Option)	Remote type	Remote type	Remote type	Remote type	Remote type
Pressure range	Right pressure 0~0.05 MPa ↓ 0~6 MPa	0~0.1 MPa ↓ 0~15 MPa	0~0.1 MPa ↓ 0~5 MPa	0~0.2 MPa ↓ 0~15 MPa	0~0.2 MPa ↓ 0~15 MPa	0~0.2 MPa ↓ 0~15 MPa	0.04~0.4 MPa ↓ 1~10 MPa	0~0.05 MPa ↓ 0~0.5 MPa	0.01~0.05 MPa ↓ 0.2~1 MPa
	Compound	-0.1~0 MPa ↓ -0.1~2.5 MPa	-0.1~0 MPa ↓ -0.1~2 MPa	-0.1~0 MPa ↓ -0.1~2 MPa	-0.1~0.1 MPa ↓ -0.1~2 MPa	-0.1~0 MPa ↓ -0.1~2 MPa		-0.1~0.2 MPa ↓ -0.1~2 MPa	
Diaphragm dia.	40 dia., 60 dia., 80 dia., 110 dia.	40 dia., 60 dia., 80 dia., 110 dia.	60 dia., 80 dia., 110 dia.	40 dia., 60 dia., 80 dia.	40 dia., 60 dia., 80 dia., 110 dia.	40 dia., 60 dia., 80 dia., 110 dia.	60 dia., 110 dia.	110 dia.	110 dia.

Available to the combination of pressure gauge with electric contacts, pressure transmitter, pneumatic pressure transmitter, differential pressure transmitter, etc. except the above list. Please contact NKS.

# Diaphragm-Seal type Pressure Gauges

## CONSTRUCTION

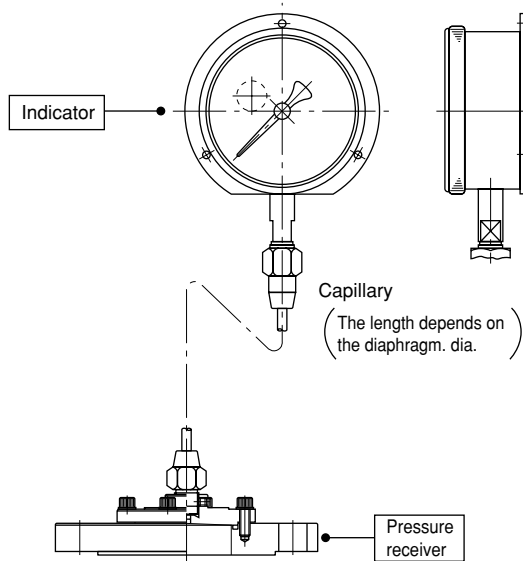
### Direct type:



A liquid sealed in 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.

[In case of the screw type]

### Remote type:



The indicating part and pressure receiver are connected by a capillary filled with liquid.

A bellows type (unfilled type) diaphragm-seal type pressure gauge that does not use a filled liquid is also available. This type is especially suited to the food processing industry and other applications where mixing in of the filled liquid is not allowed.

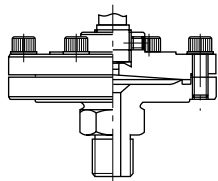
### Caution

When the pressure gauge is to be used with a high pressure gas, always consult NKS beforehand.

## DIAPHRAGM SEAL 1 Mounting:

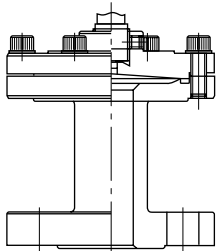
[Screw type] Model 100 · Screw type

(Model : SC10)



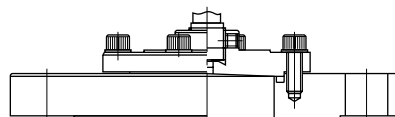
[Flange type] Model 200 · Flange type

(Model : SC2□)



Model 300 · Flange type

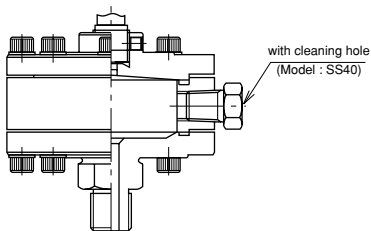
(Model : SC3□)



### Others

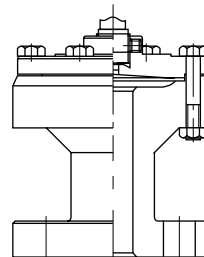
Model 410, screw type with the intermediate flange

(Model : SC40)



Application: When the measurement fluid sticks to the gauge, the interior can be cleaned without removing the bottom flange by removing the cap.

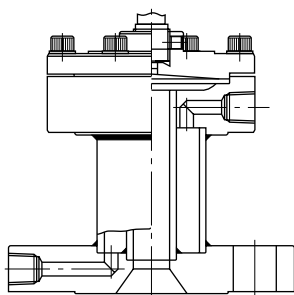
Model 210, flanged type nonmetal



Flange material in case of the nonmetal  
 Material: Hard vinyl chloride, polypropylene  
 Flange mounting: FF (flat face) flange  
 Flange manufacturing range: JIS 10K15A to 40A  
 ANSI 150LB3/4B~1 1/2B  
 (Diaphragm dia. 60 dia., 80 dia. only)  
 Range maximum pressure: 60 dia. ...1MPa or less  
 80 dia. ...0.4MPa or less  
 Operating temperature: 0~60°C

Model 220, with the steam jacket

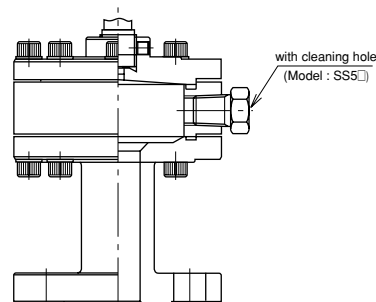
(Model : SJ2□)



Application: Heats the interior by means of steam when you want to prevent freezing or increase the viscosity. (steam 0~230°C 2.7MPa max.)

Model 500, Intermediate flange type

(Model : SC5□)



Application: When the measurement fluid sticks to the gauge, the interior can be cleaned without removing the bottom flange by removing the cap.

# Diaphragm-Seal type Pressure Gauges

## DIAPHRAGM SEAL 2

### Connection/connection flange:

Screw (SC10)	Flange (SC2□ · 3□)	
	Nominal pressure	Nominal size
G3/8B (PF)	JIS10K, JIS16K,	10A, 15A, 20A,
G1/2B (PF)	JIS20K, JIS30K,	25A, 32A, 40A,
R3/8 (PT)	JIS40K, JIS63K,	50A, 65A, 80A,
R1/2 (PT)	ANSI150, ANSI300,	100A
3/8NPT	ANSI600, ANSI900,	3/8", 1/2", 3/4",
1/2NPT	ANSI1500	1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4"

### Materials:

#### Standard (Model : SC□□)

Upper flange	Diaphragm	Lower flange		Gasket	Bolt
		Screw	Flange		
S25C Standard (Ni plating)	SUS316, SUS316L, Monel <sup>®</sup> , Titanium, SUS316 Hastelloy <sup>®</sup> B equivalent, Hastelloy <sup>®</sup> C-276 equivalent, Tantalum, Nickel, SUS316 + neoprene lined, <sup>*1</sup> SUS316 + FEP lined, <sup>*1</sup> SUS316 + FEP coating <sup>*1</sup>	S25C (Ni plating) SUS316, SUS316L, Monel <sup>®</sup> , Titanium, Hastelloy <sup>®</sup> B equivalent, Hastelloy <sup>®</sup> C-276 equivalent	S25C (Ni plating) SUS316, SUS316L, S25C + Lining, (Glass, PTFE, neoprene, ) caoutchouc S25C + FEP coating, SUS316 + lining, (PTFE, neoprene, ) caoutchouc SUS316 + FEP coating, Hard vinyl chloride (PVC), <sup>*2</sup> Polypropylene <sup>*2</sup>	200°C or less PTFE 200°C or over Exfoliated graphite (In only case there is indicated temperature)	A2-70

#### High proof pressure (Model : HH□□ · HD□□)

Upper flange	Diaphragm	Lower flange		Gasket
		Screw	Flange	
S25C Standard (Ni plating) (HD□□ only)	SUS316, SUS316L, SUS316 + FEP lined, <sup>*1</sup> SUS316 + FEP coating <sup>*1</sup>	S25C (Ni plating) (HD□□ only), SUS316, SUS316L (HD□□ only)	S25C (Ni plating) (HD□□ only), SUS316, SUS316L (HD□□ only)	200°C or less PTFE <sup>*3</sup> 200°C or over Exfoliated graphite (In only case there is indicated temperature)

#### High proof pressure full weld (Model : HE□□)

Upper flange	Diaphragm	Lower flange	
		Screw	Flange
SUS316 SUS316L  The upper flange is wetted.	SUS316, SUS316L	SUS316, SUS316L	SUS316, SUS316L

- \*1 When the diaphragm material is FEP or Neoprene, the maximum working temperature of the pressure receiving part is 100°C.
- \*2 When the lower flange material is polyvinylchloride (PVC), polypropylene, or other resin, heat resistance, weather resistance, strength, and durability may be a problem. Therefore, use a metal flange as much as possible. (Model 210 only is manufactured. (Polyvinylchloride (PVC) is manufactured by bonding not by machining.)
- \*3 Regarding the gasket material, check the measurement fluid. (For fluids which may be transmitted, please contact NKS.)

Note 1: Vacuum gauge is to be used with 2.7kPa abs. or over with accuracy.

Note 2: When the pressure gauge is to be used with a high-pressure gas, NKS can provide a strength calculation report conforming to the High Pressure Gas Safety Act. Please request it when necessary.

Note 3: When the diaphragm material is Monel<sup>®</sup>, nickel, or coating, the flange cannot be welded. For FEP, SUS 316 is welded to the top flange and the connected side is lined with FEP. However, for vacuum and compound pressure gauges, please specify "FEP coating".

# Diaphragm-Seal type Pressure Gauges




## SPECIFICATIONS

**Fluid:**  
High corrosion and high viscosity fluid

**Type:**  
Direct type, Remote type (Option)

**Installation method:**  
Screw, Flange

**Accuracy:**  
 $\pm 1.5\% \text{ F.S.} / 20^\circ\text{C} \pm 10^\circ\text{C}$

 Gauges corresponding to "JIS B7505-1999 Bourdon Pressure Gauges" are also available. However, accuracy is  $\pm 1.6\% \text{ F.S.} / 20^\circ\text{C} \pm 10^\circ\text{C}$ .

## INDICATOR

### Pressure indication gauge:

Standard pressure gauge (Model : A□1□)  
Sealed pressure gauge  
(Drip-proof II equivalent) (Model : B□1□)  
Pressure gauge incl. glycerine (Model : GV42)

### Size

75 dia., 100 dia., 150 dia.

### Shape:

Stem (Type A, Type B)

### Main materials:

Socket CAC203  
Bourdon tube C6872T, SUS316

### Case material and finish:

Aluminum alloy, plastic, black  
(Pressure gauge incl. glycerine SUS304, base material)

### Case construction:

Indoor type, sealed type,  
(Drip-proof II equivalent)

\* For details, refer to the catalogue of each pressure gauge.

## DIAPHRAGM / FILLED LIQUID

### Diaphragm dia.:

40 dia., 60 dia., 80 dia., 110  
\* determined by the temperature of pressure range and fluid

### Diaphragm material:

For the material of the upper and lower flange, diaphragm, etc., refer to diaphragm-seal pressure gauge and differential pressure gauge (switch) catalog diaphragm seal part 2 column.

### Filled liquid

Silicon oil  
-30~230°C

Note: Vacuum gauge/ Compound gauge are available in only temperature range-30~100°C.

\* Daifloil<sup>®</sup> glycerine aqueous liquor and propylene-glycol are also available. Please contact NKS.  
(However, the temperature range varies. The vacuum/ compound gauge except silicon oil for cryogenic temperature cannot be used.)

### Maximum capillary length:

In case of remote type (option)  
2m~10m (depends on the range)

# Diaphragm-Seal type Pressure Gauges

## SPECIFICATIONS

Selecting the pressure and temperature range and diaphragm dia: (When Maximum capillary length is remote type (option))

Filled liquid Fluid/Temperature range	Silicon oil for cryogenic temperature				Silicon oil for medium temperature	
	Under -30 to -5°C		-5 to 100°C *		100 over to 230°C	
Pressure range MPa	Diaphragm diameter	Maximum capillary length	Diaphragm diameter	Maximum capillary length	Diaphragm diameter	Maximum capillary length
0~ 0.05 (GV42 is not available)	110 dia.	6m	110 dia.	6m	110 dia.	6m
~ 0.07 (GV42 is not available)	110 dia.	6m	110 dia.	6m	110 dia.	6m
~ 0.1	110 dia.	6m	80 dia.	6m	110 dia.	6m
~ 0.16	110 dia.	6m	80 dia.	6m	110 dia.	6m
~ 0.2	110 dia.	6m	80 dia.	6m	110 dia.	6m
~ 0.25	80 dia.	4m	80 dia.	6m	80 dia.	4m
~ 0.3	80 dia.	4m	80 dia.	6m	80 dia.	4m
~ 0.4	80 dia.	6m	80 dia.	8m	80 dia.	6m
~ 0.6	80 dia.	6m	60 dia.	6m	80 dia.	6m
~ 1	80 dia.	6m	60 dia.	10m	80 dia.	6m
~ 1.5	60 dia.	2m	60 dia.	10m	60 dia.	2m
~ 1.6	60 dia.	2m	60 dia.	10m	60 dia.	2m
~ 2	60 dia.	2m	60 dia.	10m	60 dia.	2m
~ 2.5	60 dia.	2m	60 dia.	10m	60 dia.	2m
~ 3.5	60 dia.	2m	60 dia.	10m	60 dia.	2m
~ 4	60 dia.	2m	60 dia.	10m	60 dia.	2m
~ 5	60 dia.	2m	60 dia.	10m	60 dia.	2m
~ 6	40 dia.	2m	40 dia.	2m	40 dia.	2m
~ 7	40 dia.	2m	40 dia.	2m	40 dia.	2m
~10	40 dia.	2m	40 dia.	2m	40 dia.	2m
~15	40 dia.	2m	40 dia.	2m	40 dia.	2m
~16	40 dia.	2m	40 dia.	2m	40 dia.	2m
-0.1~0MPa	—	—	110 dia. 80 dia.	6m 3m	—	—
~0.05 (GV42 is not available)	—	—	110 dia. 80 dia.	6m 3m	—	—
~0.07 (GV42 is not available)	—	—	110 dia. 80 dia.	6m 3m	—	—
~0.1	—	—	80 dia.	6m	—	—
~0.16	—	—	80 dia.	6m	—	—
~0.2	—	—	80 dia.	6m	—	—
~0.25	—	—	80 dia.	6m	—	—
~0.3	—	—	80 dia.	6m	—	—
~0.4	—	—	80 dia.	8m	—	—
~0.6	—	—	60 dia.	6m	—	—
~1	—	—	60 dia.	10m	—	—
~1.5	—	—	60 dia.	10m	—	—
~1.6	—	—	60 dia.	10m	—	—
~2	—	—	60 dia.	10m	—	—
~2.5	—	—	60 dia.	10m	—	—

\* Pressure gauge incl. glycerine (GV42) is available in only -5 to 100°C.

\* Please specify the capillary length in 1m increments.

□ range responds to the JISB7505-1994

Installation shape and selecting the installation size by diaphragm dia.:

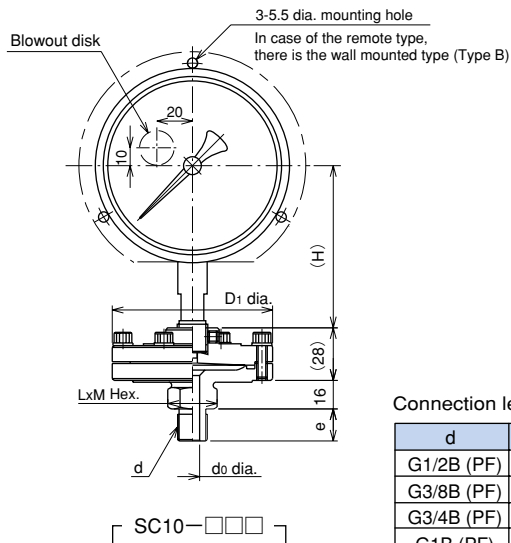
Installation system Diaphragm dia.	Flange								Screw 40 dia., 60 dia., 80 dia., 110 dia.
	40 dia.		60 dia.		80 dia.		110 dia.		
Nominal dia. / Shape	Model 200 (SC2□)	Model 300 (SC3□)	Model 200 (SC2□)	Model 300 (SC3□)	Model 200 (SC2□)	Model 300 (SC3□)	Model 200 (SC2□)	Model 300 (SC3□)	Model 100 (SC1□)
10A (3/8")	○	—	○	—	○	—	○	—	G3/8B G1/2B R3/8 R1/2 1/2NPT 3/8NPT
15A (1/2")	○	—	○	—	○	—	○	—	
20A (3/4")	○	—	○	—	○	—	○	—	
25A (1")	—	○	○	—	○	—	○	—	
32A (1 1/4")	—	○	○	—	○	—	○	—	
40A (1 1/2")	—	○	—	○	○	—	○	—	
50A (2")	—	○	—	○	—	○	○	—	
65A (2 1/2")	—	—	—	○	—	○	○	—	
80A (3")	—	—	—	○	—	○	—	○	
100A (4")	—	—	—	○	—	○	—	○	

## DIMENSIONS

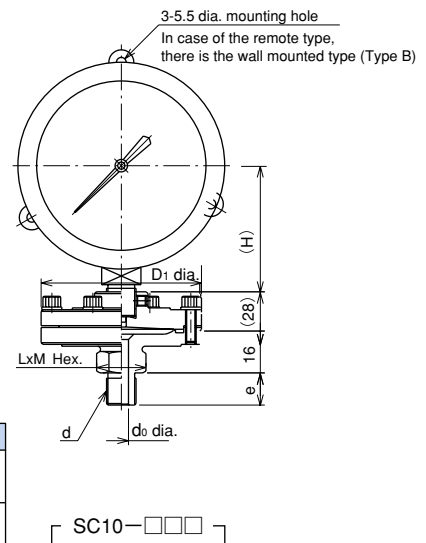
Standard (Model : SC□□)

[Screw type] Model 100/Screw

Standard/sealed pressure



Pressure gauge incl. glycerine



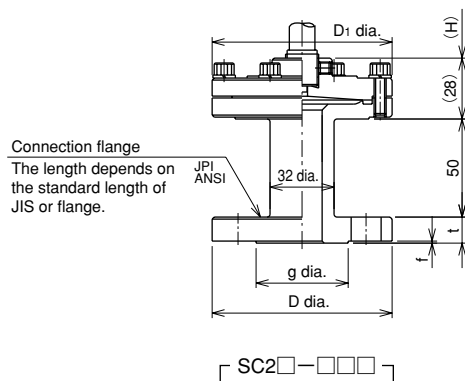
Connection length

d	e	do	L x M
G1/2B (PF)	20	10	24 x 27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36 x 41.6
G1B (PF)	28	20	

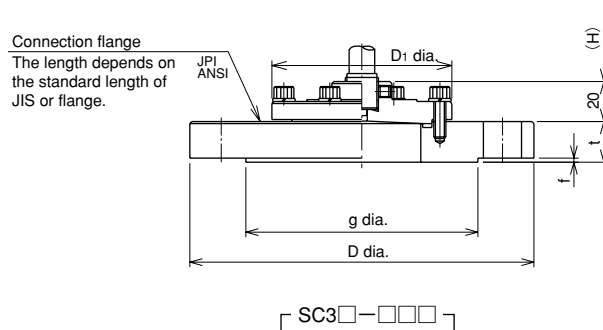
In case indication gauge is the pressure gauge incl. glycerine, the range is -5 to 40°C in the ambient temperature, -5 to 100°C in the fluid temperature.

[Flange type]

Model 200/Flange



Model 300/Flange



Standard type/Sealed type Indicator length

Case material	Size	H	Model number (indicator)	
			Direct type	Remote type
Metal	75	56	AC10-1□□	AC10-2□□
			BC10-1□□	BC10-2□□
	100	94	AE10-1□□	AE10-2□□
			BE10-1□□	BE10-2□□
	150	109	AG10-1□□	AG10-2□□
			BG10-1□□	BG10-2□□
Plastic	75	56	BC12-1□□	BC12-2□□
	100	94	BE12-1□□	BE12-2□□
	150	109	BG12-1□□	BG12-2□□

Pressure gauge incl. glycerine Indicator length

Case material	Size	H	Type number (indicator)	
			Direct type	Remote type
SUS304	100	72	GV42-1□□	GV42-2□□

Pressure receiver dia. (D1 dia.) Length

Diaphragm dia.	D1 dia. length
40 dia.	70 dia.
60 dia.	90 dia.
80 dia.	110 dia.
110 dia.	140 dia.

\* Please contact NKS about the Dimension of remote type (option)

\* For the details of the indicator dimension, please refer to the catalogue of each pressure gauge.

# Diaphragm-Seal type Pressure Gauges

## Model number configuration

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

Model name

**S C 1 0** —

**0** —

— — — — — — — — — — — — — — — — — —

Diaphragm pressure gauge  
Model 100 Screw

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮

Model number		Selective spec.		Additional spec. (Option)	
① Connection	3	G3/8B		H	R1/2
	4	G1/2B		L	3/8NPT
	G	R3/8		M	1/2NPT
② Shape	0	Screw			
③ Wetted parts material (Lower flange)	2	S25C		6	TB35C (Titanium)
	3	SUS316		7	Hastelloy® B equivalent
	4	SUS316L		8	Hastelloy® C-276 equivalent
	5	Monel®			
④ Diaphragm dia.  (MPa)			Measured fluid temperature range (°C)		
			-30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
	4	40 dia.	0~7, 10, 15	0~7, 10, 15	0~7, 10, 15
	6	60 dia.	0~1.5, 2, 2.5, 3.5, 5	0~0.6, 1, 1.5, 2, 2.5, 3.5, 5 -0.1~0.6, 1, 1.5, 2	0~1.5, 2, 2.5, 3.5, 5
	8	80 dia.	0~0.3, 0.4, 0.6, 1	0~0.1, 0.2, 0.3, 0.4 -0.1~0, 0.1, 0.2, 0.3, 0.4	0~0.3, 0.4, 0.6, 1
9	110 dia.	0~0.05, 0.07, 0.1, 0.2	0~0.05, 0.07 -0.1~0, 0.05, 0.07	0~0.05, 0.07, 0.1, 0.2	
⑤ Diaphragm material	1	SUS316 + FEP lined		7	Hastelloy® B equivalent
	2	SUS316 + FEP coating		8	Hastelloy® C-276 equivalent
	3	SUS316		A	TaP (Tantalum)
	4	SUS316L		D	Nickel
	5	Monel®		J	SUS316 + neoprene lined
	6	TB35C (Titanium)			
⑥ Upper flange material	2	Standard S25C			
	3	SUS316			
⑦ For medium temperature	0	Nil (for cryogenic temperature)			
	B	For medium temperature (100 over to 230°C)			
⑧ Treatment	0	Nil			
	1	Use no oil			
	2	Use no water			
	3	Use no oil & water			
⑨⑩⑪⑫ Pressure gauge (Indicator model)	A C 1 0	75 dia.	General pressure gauge standard spec.		
	B C 1 0	75 dia.	Sealed pressure gauge standard spec.		
	B C 1 2	75 dia.	Sealed pressure gauge standard spec.		
	A E 1 0	100 dia.	General pressure gauge standard spec.		
	B E 1 0	100 dia.	Sealed pressure gauge standard spec.		
	B E 1 2	100 dia.	Sealed pressure gauge standard spec.		
	A G 1 0	150 dia.	General pressure gauge standard spec.		
	B G 1 0	150 dia.	Sealed pressure gauge standard spec.		
	B G 1 2	150 dia.	Sealed pressure gauge standard spec.		
	G V 4 2	100 dia.	Pressure gauge incl. glycerine		
⑬ Indicator Element material	0	Nil			
	1	General use (without GV42, JD10)			
⑭ Construction	0	Nil			
	1	Direct type			
	2	Remote type Please specify the lead type and length. (Until 4m)			
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, dialstrength calculation, attended inspection			

Please specify the pressure range, dampener and radiator tube, etc. separately.

- [Manufacturing range]
- Vacuum gauge/ Compound gauge are not available to FEP lined.
  - GV42 is available in -30 to 100°C only.  
However, the range 0.05 and 0.07MPa is impossible.
  - Please specify filled liquid, lead type and length separately.

- Other additional specifications
- Filled liquid  
Standard for cryogenic temperature: silicon  
for medium temperature: DC550  
Glycerine + water  
Ethylene glycol
  - Lead length  
until 4m  
SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube,  
5m or over (/m)
  - Option  
Radiator tube SGD400-D, SUS316  
Dampener SUS316

High pressure resistant type (Model: HD10)  
High pressure resistant fully welded type (Model: HE10)  
has fundamentally the same spec.

Specify "X" if there is no specification item.

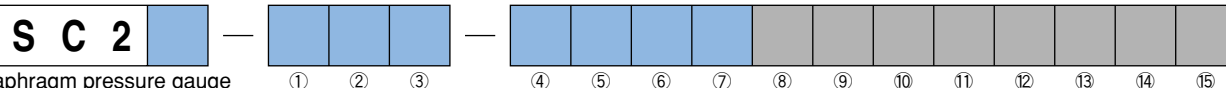
\* When a strength calculation report is necessary, please request it.

# Diaphragm-Seal type Pressure Gauges

## Model number configuration

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

Model name



Diaphragm pressure gauge  
Model 200 Flange

Model number				Selective spec.			Additional spec. (Option)				
Model (Flange rating)	1	JIS 10K	4	JIS 30K	7	ANSI 300	B	JIS 63K	H	JPI 300	
	2	JIS 16K	5	JIS 40K	8	ANSI 600	E	ANSI 1500	K	JPI 600	
	3	JIS 20K	6	ANSI 150	A	JIS 5K	G	JPI 150			

① Flange size	Flange	Diaphragm dia.			
		40	60	80	110
1	15A (1/2")	○	○	○	○
2	20A (3/4")	○	○	○	○
3	25A (1")	×	○	○	○
4	32A (1 1/4")	×	○	○	○
5	40A (1 1/2")	×	×	○	○
6	50A (2")	×	×	×	○
7	65A (2 1/2")	×	×	×	○
A	10A (3/8")	○	○	○	×

② Flange mounting	1	RF	4	GF	7	RJ
	2	FF	5	TF		
	3	MF	6	FMF		

③ Wetted parts material (Lower flange)	2	S25C	K	S25C + caoutchouc lining
	3	SUS316	S	Hard vinyl chloride [Note1]
	4	SUS316L	T	Polypropylene [Note1]
	E	S25C + glass lining	X	SUS316 + PTFE lining
	F	S25C + PTFE lining	Y	SUS316 + FEP coating
	G	S25C + FEP coating	い	SUS316 + neoprene lining
	J	S25C + neoprene lining	う	SUS316 + caoutchouc lining

Please specify the pressure range, dampener and radiator tube, etc. separately.

④ Diaphragm dia. (MPa)	Diaphragm dia.	Measured fluid temperature range (°C)		
		-30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
4	40 dia.	0~7, 10, 15	0~7, 10, 15	0~7, 10, 15
6	60 dia.	0~1.5, 2, 2.5, 3.5, 5	0~0.6, 1, 1.5, 2, 2.5, 3.5, 5 -0.1~0.6, 1, 1.5, 2	0~1.5, 2, 2.5, 3.5, 5
8	80 dia.	0~0.3, 0.4, 0.6, 1	0~0.1, 0.2, 0.3, 0.4 -0.1~0, 0.1, 0.2, 0.3, 0.4	0~0.3, 0.4, 0.6, 1
9	110 dia.	0~0.05, 0.07, 0.1, 0.2	0~0.05, 0.07 -0.1~0, 0.05, 0.07	0~0.05, 0.07, 0.1, 0.2

⑤ Diaphragm material	1	SUS316 + FEP lined	7	Hastelloy®B equivalent
	2	SUS316 + FEP coating	8	Hastelloy®C-276 equivalent
	3	SUS316	A	TaP (Tantalum)
	4	SUS316L	D	Nickel
	5	Monel®	J	SUS316 + neoprene lined
	6	TB35C (Titanium)		

⑥ Upper flange material	2	Standard S25C
	3	SUS316

⑦ For medium temperature	0	Nil (for cryogenic temperature)
	B	For medium temperature (100 over to 230°C)

⑧ Treatment	0	Nil
	1	Use no oil
	2	Use no water
	3	Use no oil & water

⑨⑩⑪⑫ Pressure gauge (Indicator model)	A C 1 0	75 dia.	General pressure gauge standard spec.
	B C 1 0	75 dia.	Sealed pressure gauge standard spec.
	B C 1 2	75 dia.	Sealed pressure gauge standard spec.
	A E 1 0	100 dia.	General pressure gauge standard spec.
	B E 1 0	100 dia.	Sealed pressure gauge standard spec.
	B E 1 2	100 dia.	Sealed pressure gauge standard spec.
	A G 1 0	150 dia.	General pressure gauge standard spec.
	B G 1 0	150 dia.	Sealed pressure gauge standard spec.
	B G 1 2	150 dia.	Sealed pressure gauge standard spec.
	G V 4 2	100 dia.	Pressure gauge incl. glycerine
	J D 1 0		Pressure gauges with electric contacts (for cryogenic temperature only)

⑬ Indicator Element material	0	Nil
	1	General use (without GV42, JD10)
	3	Corrosion-proof use (without GV42, JD10)

⑭ Construction	0	Nil
	1	Direct type
	2	Remote type Please specify the lead type and length. (Until 4m)

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, dialstrength calculation, attended inspection

### [Manufacturing range]

- Vacuum gauge/ Compound gauge are not available to FEP lined.
- Note1: Plastic flange is 0 to 60°C  
40 dia., 110 dia. is not available  
Only available in case of 1MPa or less
- The lining of JIS 63K, ANSI 900, ANSI 1500 is not available
- GV42 is available in -30 to 100°C only.  
However, the range 0.05 and 0.07MPa is impossible.
- Please specify filled liquid, lead type and length separately.

### Other additional specifications

- Filled liquid  
Standard for cryogenic temperature: silicon  
for medium temperature: DC550  
Glycerine + water  
Ethylene glycol
- Lead length  
until 4m  
SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube, 5m or over (/m)
- Option  
Radiator tube SGD400-D, SUS316  
Dampener SUS316  
serration process

High pressure resistant type (Model: HD2□)  
High pressure resistant fully welded type (Model: HE2□)  
has fundamentally the same spec.

Specify "X" if there is no specification item.

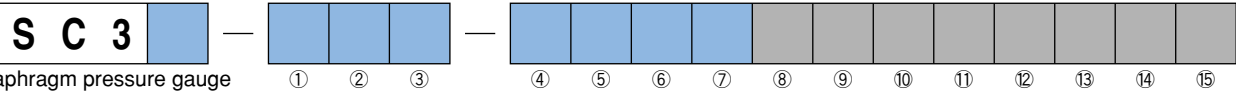
\*When a strength calculation report is necessary, please request it.

# Diaphragm-Seal type Pressure Gauges

## Model number configuration

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

Model name



Diaphragm pressure gauge  
Model 300 Flange

Model number			Selective spec.			Additional spec. (Option)				
Model (Flange rating)	1	JIS 10K	4	JIS 30K	7	ANSI 300	B	JIS 63K	H	JPI 300
	2	JIS 16K	5	JIS 40K	8	ANSI 600	E	ANSI 1500	K	JPI 600
	3	JIS 20K	6	ANSI 150	A	JIS 5K	G	JPI 150		

① Flange size	Flange	Diaphragm dia.			
		40	60	80	110
3	25A (1")	○	×	×	×
4	32A (1 1/4")	○	×	×	×
5	40A (1 1/2")	○	○	×	×
6	50A (2")	○	○	○	×
7	65A (2 1/2")	×	○	○	×
8	80A (3")	×	○	○	○
B	90A (3 1/2")	×	○	○	○
C	100A (4")	×	○	○	○

② Flange mounting	1	RF	4	GF	8	RJ
	2	FF	5	TF		
	3	MF	6	FMF		

③ Wetted parts material (Lower flange)	2	S25C	J	S25C + neoprene lining
	3	SUS316	K	S25C + caoutchouc lining
	4	SUS316L	Y	SUS316 + FEP coating
	E	S25C + glass lining	イ	SUS316 + neoprene lining
	G	S25C + FEP coating	ウ	SUS316 + caoutchouc lining

Please specify the pressure range, dampener and radiator tube, etc. separately.

④ Diaphragm dia. (MPa)		Measured fluid temperature range (°C)		
		-30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
4	40 dia.	0~7, 10, 15	0~7, 10, 15	0~7, 10, 15
6	60 dia.	0~1.5, 2, 2.5, 3.5, 5	0~0.6, 1, 1.5, 2, 2.5, 3.5, 5 -0.1~-0.6, 1, 1.5, 2	0~1.5, 2, 2.5, 3.5, 5
8	80 dia.	0~0.3, 0.4, 0.6, 1	0~0.1, 0.2, 0.3, 0.4 -0.1~-0.1, 0.2, 0.3, 0.4	0~0.3, 0.4, 0.6, 1
9	110 dia.	0~0.05, 0.07, 0.1, 0.2	0~0.05, 0.07 -0.1~-0.1, 0.05, 0.07	0~0.05, 0.07, 0.1, 0.2

⑤ Diaphragm material	1	SUS316 + FEP lined	7	Hastelloy®B equivalent
	2	SUS316 + FEP coating	8	Hastelloy®C-276 equivalent
	3	SUS316	A	TaP (Tantalum)
	4	SUS316L	D	Nickel
	5	Monel®	J	SUS316 + neoprene lined
	6	TB35C (Titanium)		

⑥ Upper flange material	2	Standard S25C
	3	SUS316

⑦ For medium temperature	0	Nil (for cryogenic temperature)
	B	For medium temperature (100 over to 230°C)

⑧ Treatment	0	Nil
	1	Use no oil
	2	Use no water
	3	Use no oil & water

⑨⑩⑪⑫ Pressure gauge (Indicator model)	A C 1 0	75 dia.	General pressure gauge standard spec.
	B C 1 0	75 dia.	Sealed pressure gauge standard spec.
	B C 1 2	75 dia.	Sealed pressure gauge standard spec.
	A E 1 0	100 dia.	General pressure gauge standard spec.
	B E 1 0	100 dia.	Sealed pressure gauge standard spec.
	B E 1 2	100 dia.	Sealed pressure gauge standard spec.
	A G 1 0	150 dia.	General pressure gauge standard spec.
	B G 1 0	150 dia.	Sealed pressure gauge standard spec.
	B G 1 2	150 dia.	Sealed pressure gauge standard spec.
	G V 4 2	100 dia.	Pressure gauge incl. glycerine
J D 1 0		Pressure gauges with electric contacts (for cryogenic temperature only)	

⑬ Indicator Element material	0	Nil
	1	General use (without GV42, JD10)
	3	Corrosion-proof use (without GV42, JD10)

⑭ Construction	0	Nil
	1	Direct type
	2	Remote type Please specify the lead type and length. (Until 4m)

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, dialstrength calculation, attended inspection

### [Manufacturing range]

- Vacuum gauge/ Compound gauge are not available to FEP lined.
- The lining of JIS 63K, ANSI 900, ANSI 1500 is not available
- GV42 is available in -30 to 100°C only.
- However, the range 0.05 and 0.07MPa is impossible.
- Please specify filled liquid, lead type and length separately.

### Other additional specifications

- Filled liquid  
Standard for cryogenic temperature: silicon  
for medium temperature: DC550  
Glycerine + water  
Ethylene glycol
- Lead length until 4m  
SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube, 5m or over (/m)
- Option  
Radiator tube SGD400-D, SUS316  
Dampener SUS316  
serration process

High pressure resistant type (Model: HD3□)  
High pressure resistant fully welded type (Model: HE3□)  
has fundamentally the same spec.

Specify "X" if there is no specification item.

\*When a strength calculation report is necessary, please request it.

# Diaphragm-Seal type Pressure Gauges With Electric contacts



## SPECIFICATIONS

- Fluid:**  
High corrosion and high viscosity fluid
- Type:**  
Direct type, Remote type (Option)
- Installation method:**  
Screw, Flange
- Accuracy:**  
 $\pm 1.5\% \text{F.S.}/20^\circ\text{C} \pm 10^\circ\text{C}$

## INDICATOR

- Pressure indication gauge:**  
Pressure gauge with microswitch contacts (Model: JM□□)  
Pressure gauge with electronic contacts (Model: JD1□)
- Size:**  
100 dia., 150 dia.
- Shape:**  
Stem (Type A, Type B), Panel
- Main materials:**  
Socket CAC203, SUS316 or SCS14  
Bourdon tube C6872T, SUS316

- Number of contacts:**  
1 contact or 2 contacts
- Setting system:**  
Internal adjustment type
- Case material and finish:**  
ADC12 or AC7A  
· Black or blue & gray
- Case construction:**  
Drip-proof II or drip-proof type (IP43)
- \* For details, refer to the catalogue of each pressure gauge with electric contacts.

## DIAPHRAGM / FILLED LIQUID

- Diaphragm dia.:**  
Pressure gauge with microswitch contacts  
60 dia., 80 dia., 110 dia.  
Pressure gauge with electronic contacts  
40 dia., 60 dia., 80 dia.  
\* determined by the temperature of pressure range and fluid
- Diaphragm material:**  
For the material of the upper and lower flange, diaphragm, etc., refer to diaphragm-seal pressure gauge and differential pressure gauge (switch) catalog diaphragm seal part 2 column.

- Filled liquid:**  
Silicon oil  
-30 to 230°C  
Note: Vacuum gauge/ Compound gauge are available in only temperature range -30 to 100°C  
\* Daifloil<sup>®</sup>, glycerine aqueous liquor and propylene-glycol are also available. Please contact NKS.  
(However, the temperature range varies. The vacuum/ compound gauge except silicon oil for cryogenic temperature cannot be used.)
- Maximum capillary length:**  
In case of remote type (option)  
2m to 15m (depends on the range)

# Diaphragm-Seal type Pressure Gauges With Electric Contacts

## SPECIFICATIONS

Selecting the pressure and temperature range and diaphragm dia: (When Maximum capillary length is remote type (option))

Filled liquid	Silicon oil for cryogenic temperature										Silicon oil for medium temperature			
Fluid Temperature range	Under -30 to -5°C				-5 to 100°C						100 over to 230°C			
Number of contacts	1 contact		2 contacts		1 contact		2 contacts				1 contact		2 contacts	
Indication gauge	JM□□		JM□□		JM□□		JM□□		JD□□		JM□□		JM□□	
Pressure range MPa	Diaphragm diameter	Max. capillary length	Diaphragm diameter	Max. capillary length	Diaphragm diameter	Max. capillary length	Diaphragm diameter	Max. capillary length	Diaphragm diameter	Max. capillary length	Diaphragm diameter	Max. capillary length	Diaphragm diameter	Max. capillary length
0~ 0.1	110 dia.	6m	110 dia.	6m	110 dia.	6m	110 dia.	6m	—	—	110 dia.	6m	110 dia.	6m
~ 0.2	110 dia.	6m	110 dia.	6m	80 dia.	4m	110 dia.	6m	80 dia.	6m	110 dia.	6m	110 dia.	6m
~ 0.3	110 dia.	6m	110 dia.	6m	80 dia.	4m	80 dia.	4m	80 dia.	6m	110 dia.	6m	110 dia.	6m
~ 0.4	80 dia.	2m	110 dia.	6m	80 dia.	8m	80 dia.	8m	80 dia.	6m	80 dia.	2m	110 dia.	2m
~ 0.6	80 dia.	2m	80 dia.	2m	80 dia.	8m	80 dia.	8m	60 dia.	6m	80 dia.	2m	80 dia.	2m
~ 1	80 dia.	2m	80 dia.	2m	80 dia.	8m	80 dia.	15m	60 dia.	10m	80 dia.	2m	80 dia.	2m
~ 1.5	80 dia.	2m	80 dia.	2m	60 dia.	6m	80 dia.	15m	60 dia.	10m	80 dia.	2m	80 dia.	2m
~ 2	80 dia.	2m	80 dia.	2m	60 dia.	6m	60 dia.	6m	60 dia.	10m	80 dia.	2m	80 dia.	2m
~ 2.5	60 dia.	2m	80 dia.	2m	60 dia.	6m	60 dia.	6m	60 dia.	10m	60 dia.	2m	80 dia.	2m
~ 3.5	60 dia.	2m	60 dia.	2m	60 dia.	6m	60 dia.	6m	60 dia.	10m	60 dia.	2m	60 dia.	2m
~ 5	60 dia.	2m	60 dia.	2m	60 dia.	6m	60 dia.	6m	60 dia.	10m	60 dia.	2m	60 dia.	2m
~ 7	—	—	—	—	—	—	—	—	40 dia.	2m	—	—	—	—
~10	—	—	—	—	—	—	—	—	40 dia.	2m	—	—	—	—
~15	—	—	—	—	—	—	—	—	40 dia.	2m	—	—	—	—
-0.1~0MPa	—	—	—	—	110 dia.	3m	110 dia.	3m	—	—	—	—	—	—
~0.1	—	—	—	—	110 dia.	6m	110 dia.	6m	80 dia.	6m	—	—	—	—
~0.2	—	—	—	—	80 dia.	4m	110 dia.	4m	80 dia.	6m	—	—	—	—
~0.3	—	—	—	—	80 dia.	4m	80 dia.	4m	80 dia.	6m	—	—	—	—
~0.4	—	—	—	—	80 dia.	8m	80 dia.	8m	80 dia.	6m	—	—	—	—
~0.6	—	—	—	—	80 dia.	8m	80 dia.	8m	60 dia.	6m	—	—	—	—
~1	—	—	—	—	80 dia.	8m	80 dia.	15m	60 dia.	10m	—	—	—	—
~1.5	—	—	—	—	60 dia.	6m	80 dia.	15m	60 dia.	10m	—	—	—	—
~2	—	—	—	—	60 dia.	6m	60 dia.	6m	60 dia.	10m	—	—	—	—

\* Pressure gauge with electronic contacts (JD1□) is available to only 2 contacts in -5 to 100°C

\* Please specify the capillary length in 1m increments.

Installation shape and selecting the installation size by diaphragm dia.:

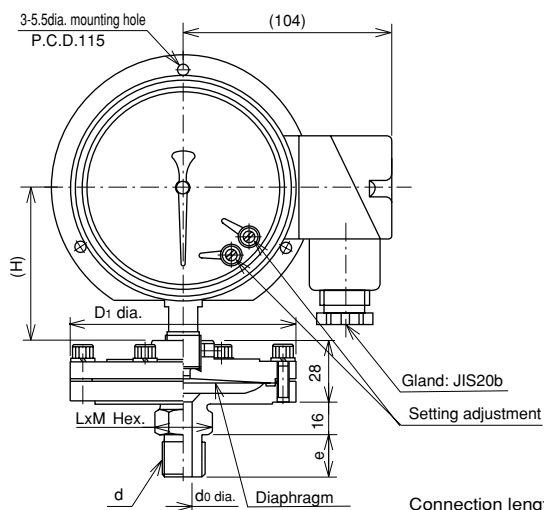
Installation system	Flange								Screw
Diaphragm dia.	40 dia.		60 dia.		80 dia.		110 dia.		40 dia., 60 dia., 80 dia., 110 dia.
Shape Nominal dia.	Model 200 (SC2□)	Model 300 (SC3□)	Model 200 (SC2□)	Model 300 (SC3□)	Model 200 (SC2□)	Model 300 (SC3□)	Model 200 (SC2□)	Model 300 (SC3□)	Model 100 (SC1□)
10A (3/8")	○	—	○	—	○	—	○	—	G3/8B G1/2B R3/8 R1/2 1/2NPT 3/8NPT
15A (1/2")	○	—	○	—	○	—	○	—	
20A (3/4")	○	—	○	—	○	—	○	—	
25A (1")	—	○	○	—	○	—	○	—	
32A (1 1/4")	—	○	○	—	○	—	○	—	
40A (1 1/2")	—	○	—	○	○	—	○	—	
50A (2")	—	○	—	○	—	○	○	—	
65A (2 1/2")	—	—	—	○	—	○	○	—	
80A (3")	—	—	—	○	—	○	—	○	
100A (4")	—	—	—	○	—	○	—	○	

## DIMENSIONS

Standard (Model: SC□□)

[Screw] Model 100/Screw

Pressure gauge with microswitch contacts

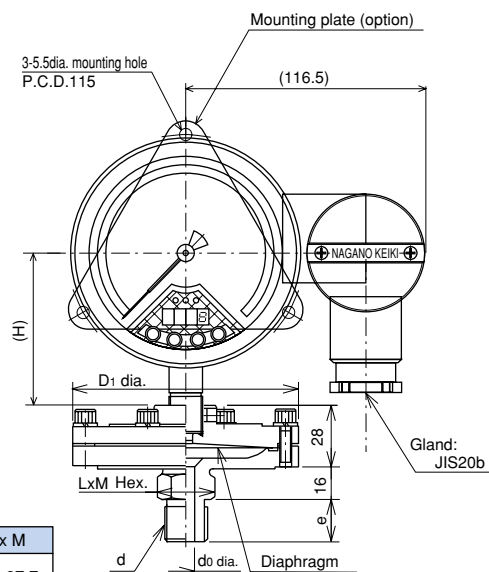


SC10-□□□

Connection length

d	e	do	L x M
G1/2B (PF)	20	10	24 x 27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36 x 41.6
G1B (PF)	28	20	

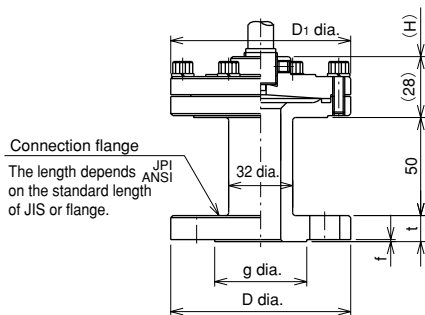
Pressure gauge with electronic contacts



SC10-□□□

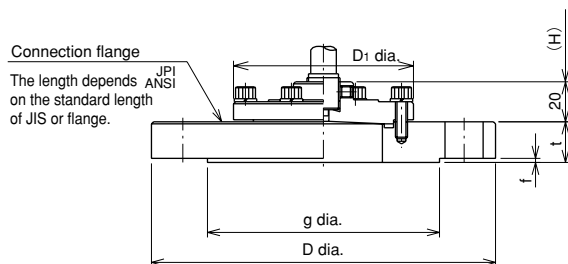
[Flange]

Model 200/flange



SC2□-□□□

Model 300/flange



SC3□-□□□

Indicator length

Case material	Size	H	Model number (Indicator)
Metal	100	74	JM11-□□□
			JD10-2□3
	150	107	JM21-□□□

Pressure receiver dia. (D<sub>1</sub> dia.) Length

Diaphragm dia.	D <sub>1</sub> dia. Length
40 dia.	70 dia.
60 dia.	90 dia.
80 dia.	110 dia.
110 dia.	140 dia.

\* Please contact NKS about the dimension of remote type (option)

\* For the details of the indicator dimension, please refer to the catalogue of each pressure gauge.

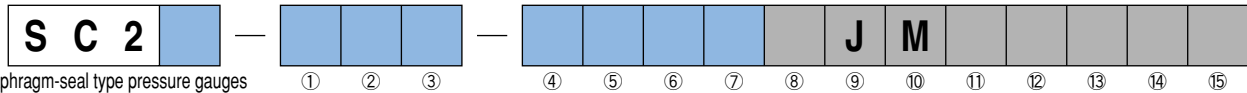


# Diaphragm-Seal type Pressure Gauges With Electric Contacts

## Model number configuration

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

Model name



Diaphragm-seal type pressure gauges with electric contacts Model 200 flange

Model number			Selective spec.			Additional spec. (Option)				
Model (Flange rating)	1	JIS 10K	4	JIS 30K	7	ANSI 300	B	JIS 63K	H	JPI 300
	2	JIS 16K	5	JIS 40K	8	ANSI 600	E	ANSI 1500	K	JPI 600
	3	JIS 20K	6	ANSI 150	A	JIS 5K	G	JPI 150		

① Flange size	Flange	Diaphragm dia.		
		60	80	110
1	15A (1/2")	○	○	○
2	20A (3/4")	○	○	○
3	25A (1")	○	○	○
4	32A (1 1/4")	○	○	○
5	40A (1 1/2")	×	○	○
6	50A (2")	×	×	○
7	65A (2 1/2")	×	×	○
A	10A (3/8")	○	○	×

② Flange mounting	1	RF	4	GF	7	RJ
	2	FF	5	TF		
	3	MF	6	FMF		

③ Wetted parts material (Lower flange)	2	S25C	K	S25C + caoutchouc lining
	3	SUS316	S	Hard vinyl chloride [Note1]
	4	SUS316L	T	Polypropylene [Note1]
	E	S25C + glass lining	X	SUS316 + PTFE lining
	F	S25C + PTFE lining	Y	SUS316 + FEP coating
	G	S25C + FEP coating	ι	SUS316 + neoprene lining
	J	S25C + neoprene lining	ウ	SUS316 + caoutchouc lining

Please specify the pressure range, dampener and radiator tube, etc. separately.

④ Diaphragm dia. (MPa)		Measured fluid temperature range (°C)		
		-30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
6	60 dia. (1 contact)	0~-2.5, 3.5, 5	0~-1.5, 2, 2.5, 3.5, 5 -0.1~-1.5, 2	0~-2.5, 3.5, 5
8	80 dia. (1 contact)	0~-0.4, 0.6, 1, 1.5, 2	0~-0.2, 0.3, 0.4, 0.6, 1 -0.1~-0.2, 0.3, 0.4, 0.6, 1	0~-0.4, 0.6, 1, 1.5, 2
9	110 dia. (1 contact)	0~-0.1, 0.2, 0.3	0~-0.1 -0.1~-0, 0.1	0~-0.1, 0.2, 0.3
6	60 dia. (2 contacts)	0~-3.5, 5	0~-2, 2.5, 3.5, 5 -0.1~-2	0~-3.5, 5
8	80 dia. (2 contacts)	0~-0.6, 1, 1.5, 2, 2.5	0~-0.3, 0.4, 0.6, 1, 1.5 -0.1~-0.3, 0.4, 0.6, 1, 1.5	0~-0.6, 1, 1.5, 2, 2.5
9	110 dia. (2 contacts)	0~-0.1, 0.2, 0.3, 0.4	0~-0.1, 0.2 -0.1~-0, 0.1, 0.2	0~-0.1, 0.2, 0.3, 0.4

⑤ Diaphragm material	1	SUS316 + FEP lined	7	Hastelloy® B equivalent
	2	SUS316 + FEP coating	8	Hastelloy® C-276 equivalent
	3	SUS316	A	TaP (Tantalum)
	4	SUS316L	D	Nickel
	5	Monel®	J	SUS316 + neoprene lined
	6	TB35C (Titanium)		

⑥ Upper flange material	2	Standard S25C
	3	SUS316

### [Manufacturing range]

- Vacuum gauge/ Compound gauge are not available to FEP lined.
- Note1: Plastic flange is 0 to 60°C  
60dia. .... 1MPa or less  
80dia. .... 0.4MPa or less  
1/2B 150 is not available.
- The lining of JIS 63K, ANSI 900, ANSI 1500 in 60dia. is not available.
- Please specify filled liquid, lead type and length separately.

### Other additional specifications

- Filled liquid  
Standard for cryogenic temperature: silicon  
for medium temperature: DC550  
Glycerine + water  
Ethylene glycol
- Lead length  
until 4m  
SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube,  
5m or over (m)
- Option  
Radiator tube SGD400-D, SUS316  
Dampener SUS316  
serration process

When ordering the other indicator, please contact NKS.

⑦ For medium temperature	0	Nil (for cryogenic temperature)
	B	For medium temperature (100 over to 230°C)

⑧ Treatment	0	Nil
	1	Use no oil
	2	Use no water
	3	Use no oil & water

⑨⑩⑪⑫ Pressure gauge (Indicator model)	J M 1 1	100dia. Pressure gauge with JM contact (1 contact)
	J M 1 6	100dia. Pressure gauge with JM contact (1 contact)
	J M 2 1	150dia. Pressure gauge with JM contact (1 contact)
	J M 2 6	150dia. Pressure gauge with JM contact (1 contact)

⑬ Indicator Element material	0	Nil
	1	General use
	3	Corrosion-proof use

⑭ Construction	0	Nil
	1	Direct type
2	Remote type Please specify the lead type and length. (until 4m)	

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, dial strength calculation, attended inspection

High pressure resistant type (Model: HD2□)  
High pressure resistant fully welded type (Model: HE2□)  
has fundamentally the same spec.

Specify "X" if there is no specification item.

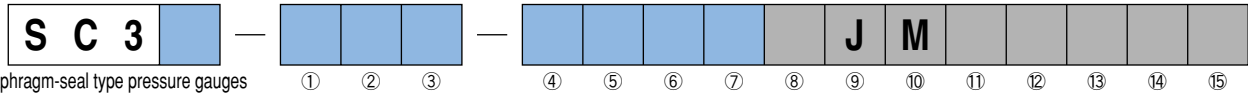
\*When a strength calculation report is necessary, please request it.

# Diaphragm-Seal type Pressure Gauges With Electric Contacts

## Model number configuration

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

Model name



Diaphragm-seal type pressure gauges with electric contacts Model 300 flange

Model number			Selective spec.				Additional spec. (Option)			
Model (Flange rating)	1	JIS 10K	4	JIS 30K	7	ANSI 300	B	JIS 63K	H	JPI 300
	2	JIS 16K	5	JIS 40K	8	ANSI 600	E	ANSI 1500	K	JPI 600
	3	JIS 20K	6	ANSI 150	A	JIS 5K	G	JPI 150		

① Flange size	Flange	Diaphragm dia.		
		60	80	110
5	40A (1 1/2")	○	×	×
6	50A (2")	○	○	×
7	65A (2 1/2")	○	○	×
8	80A (3")	○	○	○
B	90A (3 1/2")	○	○	○
C	100A (4")	○	○	○

② Flange mounting	1	RF	4	GF	7	RJ
	2	FF	5	TF		
	3	MF	6	FMF		

③ Wetted parts material (Lower flange)	2	S25C	J	S25C + neoprene lining
	3	SUS316	K	S25C + caoutchouc lining
	4	SUS316L	Y	SUS316 + FEP coating
	E	S25C + glass lining	イ	SUS316 + neoprene lining
	G	S25C + FEP coating	ウ	SUS316 + caoutchouc lining

Please specify the pressure range, dampener and radiator tube, etc. separately.

④ Diaphragm dia.  (MPa)		Measured fluid temperature range (°C)		
		-30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
6	60 dia. (1 contact)	0~2.5, 3.5, 5	0~1.5, 2, 2.5, 3.5, 5 -0.1~1.5, 2	0~2.5, 3.5, 5
8	80 dia. (1 contact)	0~0.4, 0.6, 1, 1.5, 2	0~0.2, 0.3, 0.4, 0.6, 1 -0.1~0.2, 0.3, 0.4, 0.6, 1	0~0.4, 0.6, 1, 1.5, 2
9	110 dia. (1 contact)	0~0.1, 0.2, 0.3	0~0.1 -0.1~0, 0.1	0~0.1, 0.2, 0.3
6	60 dia. (2 contacts)	0~3.5, 5	0~2, 2.5, 3.5, 5 -0.1~2	0~3.5, 5
8	80 dia. (2 contacts)	0~0.6, 1, 1.5, 2, 2.5	0~0.3, 0.4, 0.6, 1, 1.5 -0.1~0.3, 0.4, 0.6, 1, 1.5	0~0.6, 1, 1.5, 2, 2.5
9	110 dia. (2 contacts)	0~0.1, 0.2, 0.3, 0.4	0~0.1, 0.2 -0.1~0, 0.1, 0.2	0~0.1, 0.2, 0.3, 0.4

⑤ Diaphragm material	1	SUS316 + FEP lined	7	Hastelloy® B equivalent
	2	SUS316 + FEP coating	8	Hastelloy® C-276 equivalent
	3	SUS316	A	TaP (Tantalum)
	4	SUS316L	D	Nickel
	5	Monel®	J	SUS316 + neoprene lined
	6	TB35C (Titanium)		

⑥ Upper flange material	2	Standard S25C
	3	SUS316

⑦ For medium temperature	0	Nil (for cryogenic temperature)
	B	For medium temperature (100 over to 230°C)

⑧ Treatment	0	Nil
	1	Use no oil
	2	Use no water
	3	Use no oil & water

⑨⑩⑪⑫ Pressure gauge (Indicator model)	J M 1 1	100dia. Pressure gauge with JM contact (1 contact)
	J M 1 6	100dia. Pressure gauge with JM contact (1 contact)
	J M 2 1	150dia. Pressure gauge with JM contact (1 contact)
	J M 2 6	150dia. Pressure gauge with JM contact (1 contact)

⑬ Indicator Element material	0	Nil
	1	General use
	3	Corrosion-proof use

⑭ Construction	0	Nil
	1	Construction
	2	Remote type Please specify the lead type and length. (until 4m)

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, dialstrength calculation, attended inspection

### [Manufacturing range]

- Vacuum gauge/ Compound gauge are not available to FEP lined.
- The lining of JIS 63K, ANSI 900, ANSI 1500 in is not available.
- Please specify filled liquid, lead type and length separately.

### Other additional specifications

- Filled liquid  
Standard for cryogenic temperature: silicon  
for medium temperature: DC550  
Glycerine + water  
Ethylene glycol
- Lead length until 4m  
SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube, 5m or over (/m)
- Option  
Radiator tube SGD400-D, SUS316  
Dampener SUS316  
serration process

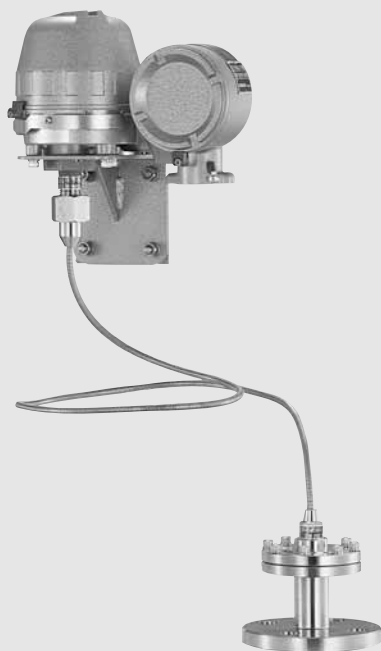
When ordering the other indicator, please contact NKS.

High pressure resistant type (Model: HD3□)

High pressure resistant fully welded type (Model: HE3□)  
has fundamentally the same spec.

Specify "X" if there is no specification item.

\* When a strength calculation report is necessary, please request it.



## Diaphragm-Seal type Pressure Switch

CQ30, CD30 BOURDON TUBE for low, medium and high pressure

### SPECIFICATIONS

**Fluid:**

High corrosion and high viscosity fluid

**Type:**

Direct type, Remote type (option)

**Installation method:**

Screw, Flange

**Accuracy:**

±1.0%F.S./Normal temperature  
(However, provided by constant temperature)

**Temperature range:**

CQ30 -20 to 60 °C

CD30 -5 to 40 °C

### INDICATOR

**Pressure switch:**

Pressure switch (Model: CQ30)  
Puncture pressure explosion-protected pressure switch  
(Model: CD30)

**Shape:**

Panel mounted, 2B pipe mounted

**Main materials:**

Socket SCS14  
Bourdon tube SUS316

**Case material and finish:**

ADC12  
• Gray crystal paint (CD30)  
or blue & gray epoxy painted (CQ30)

**Case construction:**

Waterproof, drip-proof or outdoor type

\* For details, refer to the catalogue of each pressure switch.

### DIAPHRAGM / FILLED LIQUID

**Diaphragm dia.:**

40 dia., 60 dia., 80 dia., 110 dia.  
\* determined by the temperature of pressure range and fluid

**Diaphragm material:**

For the material of the upper and lower flange, diaphragm, etc., refer to diaphragm-seal pressure gauge and differential pressure gauge (switch) catalog diaphragm seal part 2 column.

**Filled liquid:**

Silicon oil  
-30 to 230 °C

Note: Vacuum gauge/ Compound gauge are available in only temperature range -30 to 100 °C

\* Daifloil<sup>®</sup>, glycerine aqueous liquor and propylene-glycol are also available. Please contact NKS.  
(However, the temperature range varies. The vacuum/ compound gauge except silicon oil for cryogenic temperature cannot be used.)

**Maximum capillary length:**

In case of remote type (option)  
2m to 10m (depends on the range)

# Diaphragm-Seal type Pressure Switch (Bourdon Tube)

## SPECIFICATIONS

### Diaphragm dia./Puncture pressure and Temperature coefficient (pro forma amount):

Diaphragm dia.	Diaphragm puncture pressure (MPa)	Switch parts temperature coefficient (%F.S./°C)	Lead parts temperature coefficient (Pa/°C/m)	Wetted parts temperature coefficient (Pa/°C)
110 dia.	0.5	-0.2	15	50
80 dia.	1.5	-0.2	30	100
60 dia.	5	-0.1	150	250
40 dia.	15	-0.1	1500	5000

\* For titanium and other low strength material and when the contact temperature is high, the diaphragm puncture pressure is lower than this value.

\* The puncture pressure of the instrument is the puncture pressure of the switch (1.5 times the pressure range) or the diaphragm, whichever is lower.

### Selecting the pressure and temperature range and diaphragm dia: (When Maximum capillary length is remote type)

Fluid/Temperature range	Under -30 to -5°C		-5 to 100°C		100 over to 230°C	
	Diaphragm diameter	Max. capillary length	Diaphragm diameter	Max. capillary length	Diaphragm diameter	Max. capillary length
0 ~ 0.2	110 dia.	6m	80 dia.	6m	110 dia.	6m
~ 0.4	80 dia.	6m	80 dia.	8m *	80 dia.	6m
~ 0.6	80 dia.	6m	60 dia.	6m	80 dia.	6m
~ 1	80 dia.	6m	60 dia.	10m	80 dia.	6m
~ 1.5	60 dia.	2m	60 dia.	10m	60 dia.	2m
~ 2	60 dia.	2m	60 dia.	10m	60 dia.	2m
~ 2.5	60 dia.	2m	60 dia.	10m	60 dia.	2m
~ 3.5	60 dia.	2m	60 dia.	10m	60 dia.	2m
~ 5	60 dia.	2m	60 dia.	10m	60 dia.	2m
~ 7	40 dia.	2m	40 dia.	2m	40 dia.	2m
~ 10	40 dia.	2m	40 dia.	2m	40 dia.	2m
~ 15	40 dia.	2m	40 dia.	2m	40 dia.	2m
-0.1 ~ 0.2	—	—	80 dia.	6m	—	—
~ 0.4	—	—	80 dia.	8m *	—	—
~ 0.6	—	—	60 dia.	6m	—	—
~ 1	—	—	60 dia.	10m	—	—
~ 1.5	—	—	60 dia.	10m	—	—
~ 2	—	—	60 dia.	10m	—	—

\* CQ30 is 6m.

Please specify the capillary length in 1m increments.

### Installation shape and the installation size by diaphragm dia.:

Installation system	Flange								Screw	
	40 dia.		60 dia.		80 dia.		110 dia.			
Diaphragm diameter	40 dia.		60 dia.		80 dia.		110 dia.		40 dia., 60 dia., 80 dia., 110 dia.	
Nominal dia.	Shape	Model 200 (SC2□)	Model 300 (SC3□)	Model 200 (SC2□)	Model 300 (SC3□)	Model 200 (SC2□)	Model 300 (SC3□)	Model 200 (SC2□)	Model 300 (SC3□)	Model 100 (SC1□)
10A (3/8")	○	—	○	—	○	—	○	—	—	G3/8B G1/2B R3/8 R1/2 1/2NPT 3/8NPT
15A (1/2")	○	—	○	—	○	—	○	—	—	
20A (3/4")	○	—	○	—	○	—	○	—	—	
25A (1")	—	○	○	—	○	—	○	—	—	
32A (1 1/4")	—	○	○	—	○	—	○	—	—	
40A (1 1/2")	—	○	—	○	○	—	○	—	—	
50A (2")	—	○	—	○	—	○	○	—	—	
65A (2 1/2")	—	—	—	○	—	○	○	—	—	
80A (3")	—	—	—	○	—	○	—	○	—	
100A (4")	—	—	—	○	—	○	—	○	—	

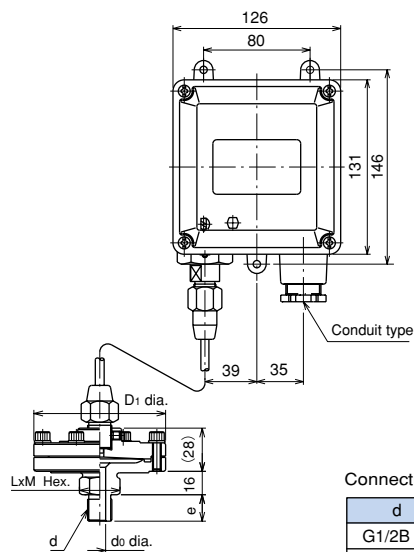
## DIMENSIONS

Standard (Model: SC□□)

[Screw]

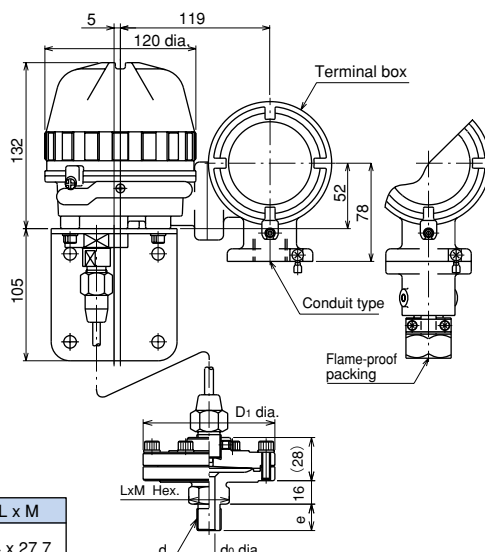
Model 100/Screw

CQ30 Pressure switch



SC10-□□□

CD 30 Puncture pressure explosion-protected pressure switch



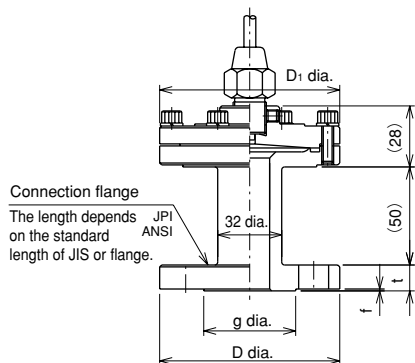
SC10-□□□

Connection length

d	e	do	L x M
G1/2B (PF)	20	10	24 x 27.7
G3/8B (PF)	18	8	24 x 27.7
G3/4B (PF)	24	15	36 x 41.6
G1B (PF)	28	20	36 x 41.6

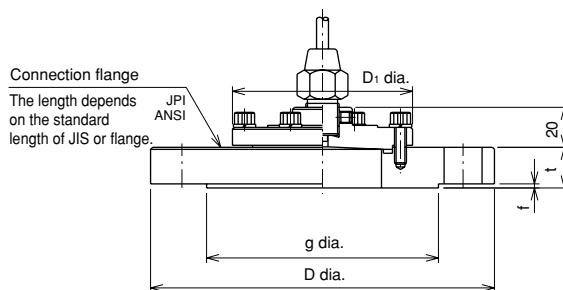
[Flange]

Model 200/flange



SC2□-□□□

Model 300/flange



SC3□-□□□

Indicator length

Model number (Indicator)	Installation
CQ30-□□3	Panel mounted
CD30-□□3	Panel mounted
	2B panel mounted

Pressure receiver dia. (D1 dia.) Length

Diaphragm dia.	D1 dia. Length
40 dia.	70 dia.
60 dia.	90 dia.
80 dia.	110 dia.
110 dia.	140 dia.

- Please contact NKS about the dimension of the CQ30 direct (option)
- For the details of the indicator dimension, please refer to the catalogue of each pressure gauge.



## Diaphragm-Seal type Pressure Switch

CB33, CD75 Bellows for low and medium pressure

### SPECIFICATIONS

**Fluid:**

High corrosion and high viscosity fluid

**Type:**

Remote type

**Installation method:**

Screw, Flange

**Accuracy:**

±0.5%F.S./Normal temperature  
(However, provided by constant temperature) (CB33)

± 1 %F.S./Normal temperature  
(However, provided by constant temperature) (CD75)

**Response time:**

Within 15 sec.

**Temperature range:**

-5 to 40 °C

### INDICATOR

**Pressure switch:**

Pressure switch (Model: CB33)  
Puncture pressure explosion-protected pressure switch  
(Model: CD75)

**Shape:**

Panel mounted, 2B pipe mounted

**Main materials:**

Socket SUS316  
Bellows SUS316L

**Number of contacts:**

1 contact or 2 contacts

**Setting system:**

Internal adjustment type

**Case material and finish:**

ADC12 or AC 7A  
• Blue & gray epoxy painted

**Case construction:**

Drip-proof or outdoor type

\* For details, refer to the catalogue of each pressure switch.

### DIAPHRAGM / FILLED LIQUID

**Diaphragm dia.:**

60 dia., 110 dia.  
\* determined by the temperature of pressure range and fluid

**Diaphragm material:**

For the material of the upper and lower flange, diaphragm, etc., refer to diaphragm-seal pressure gauge and differential pressure gauge (switch) catalog diaphragm seal part 2 column.

**Filled liquid:**

Silicon oil  
-30 to 100°C

**Maximum capillary length:**

2m to 8m (depends on the range)

## SPECIFICATIONS

**Pressure range, Diaphragm dia , Puncture pressure and Temperature coefficient (pro forma amount):**

Pressure range MPa	Diaphragm diameter	Diaphragm * puncture pressure (MPa)	Max. capillary length	Pressure switch parts ambient temperature coefficient (inc. capillary) (%max. P./°C)	Wetted parts temperature coefficient (Pa/°C)
0.04 ~ 0.4	110 dia.	3	2m	-0.1	-50
0.06 ~ 0.6	110 dia.	3	3m	-0.1	
0.1 ~ 1	110 dia.	3	8m	-0.1	
0.15 ~ 1.5	110 dia.	3	8m	-0.07	
0.2 ~ 2	110 dia.	3	8m	-0.07	
0.3 ~ 3	110 dia.	3	8m	-0.07	
0.5 ~ 5	60 dia.	15	5m	-0.07	-250
0.7 ~ 7	60 dia.	15	5m	-0.07	
1 ~ 10	60 dia.	15	5m	-0.07	

\* For titanium and other low strength material and when the contact temperature is high, the diaphragm puncture pressure is lower than this value.

\* The puncture pressure of the instrument is the puncture pressure of the switch (1.5 times the pressure range) or the diaphragm, whichever is lower.

Please specify the capillary length in 1m increments.

**Installation shape and the installation size by diaphragm dia.:**

Installation system	Flange				Screw
Diaphragm diameter	60 dia.		110 dia.		60 dia., 110 dia.
Shape Nominal dia.	Model 200 (HH2□)	Model 300 (HH3□)	Model 200 (HH2□)	Model 300 (HH3□)	Model 100 (HH1□)
10A (3/8")	○	—	○	—	G3/8B G1/2B R3/8 R1/2 1/2NPT 3/8NPT
15A (1/2")	○	—	○	—	
20A (3/4")	○	—	○	—	
25A (1")	○	—	○	—	
32A (1 1/4")	○	—	○	—	
40A (1 1/2")	○	—	○	—	
50A (2")	○	—	○	—	
65A (2 1/2")	—	○	○	—	
80A (3")	—	○	○	—	
100A (4")	—	○	○	○*	
125A (5")	—	○	—	○	
150A (6")	—	○	—	○	

\* Nominal dia. 100A is available, in case of the nominal pressure 30K or over.

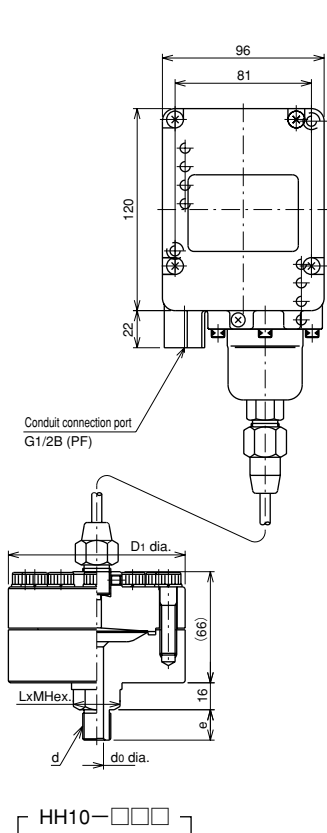
# Diaphragm-Seal type Pressure Switch (Bellows)

## DIMENSIONS

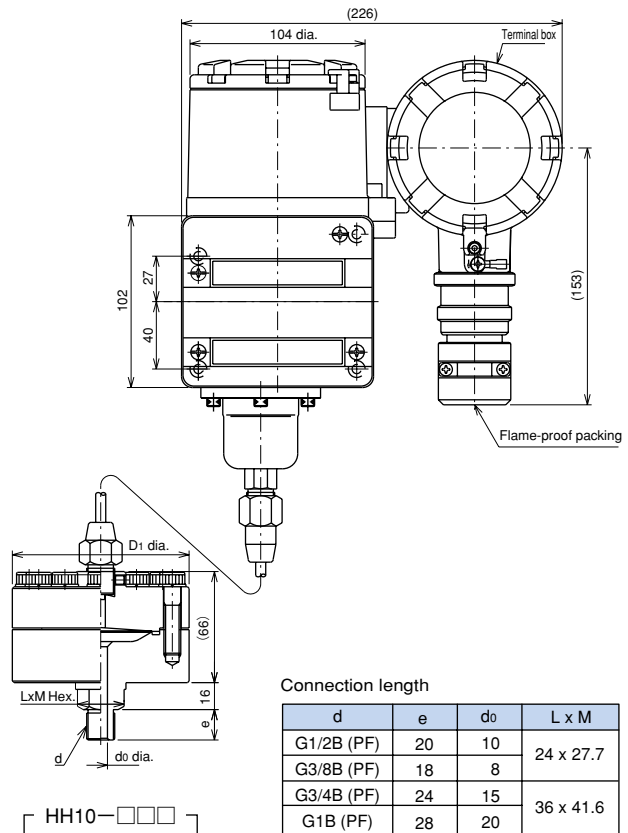
### High puncture pressure type (Model: HH□□)

[Screw]

Model 100/screw  
CB33 Pressure switch



CD75 Puncture pressure explosion-protected pressure switch

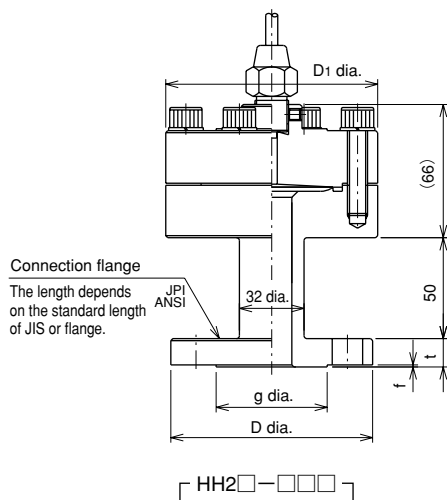


Connection length

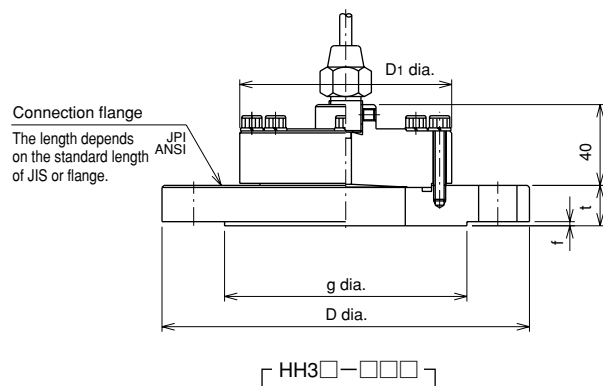
d	e	d <sub>0</sub>	L x M
G1/2B (PF)	20	10	24 x 27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36 x 41.6
G1B (PF)	28	20	

[Flange]

Model 200/flange



Model 300/flange



### Indicator length

Model number (Indicator)	Installation
CB33-□□3	Panel mounted
CD75-3□□	Panel mounted
CD75-7□□	2B pipe mounted

### Pressure receiver dia. (D<sub>1</sub> dia.) Length

Diaphragm dia.	D <sub>1</sub> dia. Length
60 dia.	105 dia.
110 dia.	155 dia.

\* For the details of the indicator dimension, please refer to the catalogue of each pressure gauge.

# Diaphragm-Seal type Pressure Switch

## Model number configuration

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

Model name

**S C 1 0**

**0**

**C**

**3**

**0**

**3**

Diaphragm-seal type pressure switch Model 100 Screw

Model number

Selective spec.

Additional spec. (Option)

① Connection	3	G3/8B	H	R1/2
	4	G1/2B	L	3/8NPT
	G	R3/8	M	1/2NPT
② Shape	0	Screw		
③ Wetted parts material (Lower flange)	2	S25C	6	TB35C (Titanium)
	3	SUS316	7	Hastelloy® B equivalent
	4	SUS316L	8	Hastelloy® C-276 equivalent
	5	Monel®	B	SUS304
④ Diaphragm dia.  (MPa)	Measured fluid temperature range (°C)			
	-30 to -4 For cryogenic temperature      -5 to 100 For cryogenic temperature      101 to 230 For medium temperature			
	4	40 dia.	0~7, 10, 15	0~7, 10, 15      0~7, 10, 15
	6	60 dia.	0~1.5, 2, 2.5, 3.5, 5	0~0.6, 1, 1.5, 2, 2.5, 3.5, 5 -0.1~0.6, 1, 1.5, 2      0~1.5, 2, 2.5, 3.5, 5
	8	80 dia.	0~0.4, 0.6, 1	0~0.2, 0.4 -0.1~0.2, 0.4      0~0.3, 0.4, 0.6, 1
9	110 dia.	0~0.2	0~0.2	
⑤ Diaphragm material	1	SUS316 + FEP lined	7	Hastelloy® B equivalent
	2	SUS316 + FEP coating	8	Hastelloy® C-276 equivalent
	3	SUS316	A	TaP (Tantalum)
	4	SUS316L	D	Nickel
	5	Monel®	J	SUS316 + neoprene lined
	6	TB35C (Titanium)		
⑥ Upper flange material	2	Standard S25C		
	3	SUS316		
⑦ For medium temperature	0	Nil (for cryogenic temperature)		
	B	For medium temperature (100 over to 230°C)		
⑧ Treatment	0	Nil		
	1	Use no oil		
	2	Use no water		
	3	Use no oil & water		
⑨⑩⑪⑫ Pressure gauge (Indicator model)	C Q 3 0	Pressure switch 1contact		
	C D 3 0	Puncture pressure explosion-protected pressure switch 1contact		
⑬ Indicator Element material	3	Corrosion-proof use		
	0	Nil		
⑭ Construction	1	Direct type		
	2	Remote type Please specify the lead type and length. (until 4m)		
	0	Nil		
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, dialstrength calculation, attended inspection		

Please specify the pressure range, dampener and radiator tube, etc. separately

When ordering the other indicator, please contact NKS.

### [Manufacturing range]

- Vacuum gauge/ Compound gauge are not available to FEP lined.
- CD30 with the Radiator tube cannot be manufactured.
- Please specify filled liquid, lead type and length separately.

### Other additional specifications

- Filled liquid
  - Standard for cryogenic temperature: silicon
  - for medium temperature: DC550
  - Glycerine + water
  - Ethylene glycol
- Lead length
  - until 4m
  - SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube, 5m or over (/m)
- Option
  - Radiator tube SGD400-D, SUS316
  - Dampener SUS316

\* When a strength calculation report is necessary, please request it.

High pressure resistant type (Model: HD10)  
High pressure resistant fully welded type (Model: HE10)  
has fundamentally the same spec.

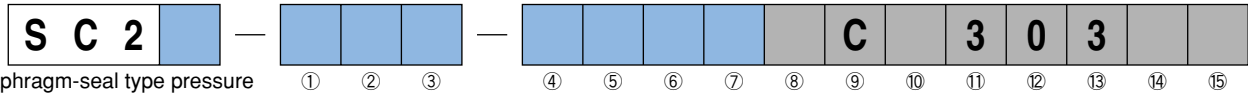
Specify "X" if there is no specification item.

# Diaphragm-Seal type Pressure Switch

## Model number configuration

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

Model name



Diaphragm-seal type pressure switch Model 200 Flange

Model number		Selective spec.			Additional spec. (Option)					
Model (Flange rating)	1	JIS 10K	4	JIS 30K	7	ANSI 300	B	JIS 63K	H	JPI 300
	2	JIS 16K	5	JIS 40K	8	ANSI 600	E	ANSI 1500	K	JPI 600
	3	JIS 20K	6	ANSI 150	A	JIS 5K	G	JPI 150		

① Flange size	Flange	Diaphragm dia.			
		40	60	80	110
1	15A (1/2")	○	○	○	○
2	20A (3/4")	○	○	○	○
3	25A (1")	×	○	○	○
4	32A (1 1/4")	×	○	○	○
5	40A (1 1/2")	×	×	○	○
6	50A (2")	×	×	×	○
7	65A (2 1/2")	×	×	×	○
A	10A (3/8")	○	○	○	×

② Flange mounting	1	RF
	2	FF
	Others	

③ Wetted parts material (Lower flange)	2	S25C	K	S25C + caoutchouc lining
	3	SUS316	S	Hard vinyl chloride [Note1]
	4	SUS316L	T	Polypropylene [Note1]
	E	S25C + glass lining	X	SUS316 + PTFE lining
	F	S25C + PTFE lining	Y	SUS316 + FEP coating
	G	S25C + FEP coating	イ	SUS316 + neoprene lining
	J	S25C + neoprene lining	ウ	SUS316 + caoutchouc lining

Please specify the pressure range, dampener and radiator tube, etc. separately

④ Diaphragm dia.  (MPa)		Measured fluid temperature range (°C)		
		-30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
4	40 dia.	0~7, 10, 15	0~7, 10, 15	0~7, 10, 15
6	60 dia.	0~1.5, 2, 2.5, 3.5, 5	0~0.6, 1, 1.5, 2, 2.5, 3.5, 5 -0.1~0.6, 1, 1.5, 2	0~1.5, 2, 2.5, 3.5, 5
8	80 dia.	0~0.4, 0.6, 1	0~0.2, 0.4 -0.1~0, 0.2, 0.4	0~0.4, 0.6, 1
9	110 dia.	0~0.2	-0.1~0	0~0.2

⑤ Diaphragm material	1	SUS316 + FEP lined	7	Hastelloy®B equivalent
	2	SUS316 + FEP coating	8	Hastelloy®C-276 equivalent
	3	SUS316	A	TaP (Tantalum)
	4	SUS316L	D	Nickel
	5	Monel®	J	SUS316 + neoprene lined
	6	TB35C (Titanium)		

⑥ Upper flange material	2	Standard S25C
	3	SUS316

### [Manufacturing range]

- Vacuum gauge/ Compound gauge are not available to FEP lined.
- Note1: Plastic flange is 0 to 60°C  
60dia. .... 1MPa or less  
80dia. .... 0.4MPa or less
- The lining of JIS 63K, ANSI 900, ANSI 1500 is not available.
- CD30 with the Radiator tube is not available.
- Please specify filled liquid, lead type and length separately.

### Other additional specifications

- Filled liquid  
Standard for cryogenic temperature: silicon  
for medium temperature: DC550  
Glycerine + water  
Ethylene glycol
- Lead length until 4m  
SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube, 5m or over (/m)
- Option  
Radiator tube SGD400-D, SUS316  
Dampener SUS316

When ordering the other indicator, please contact NKS.

⑦ For medium temperature	0	Nil (for cryogenic temperature)
	B	For medium temperature (100 over to 230°C)

⑧ Treatment	0	Nil
	1	Use no oil
	2	Use no water
	3	Use no oil & water

⑨⑩⑪⑫ Pressure gauge (Indicator model)	C Q 3 0	Pressure switch 1contact
	C D 3 0	Puncture pressure explosion-protected pressure switch 1contact

⑬ Indicator Element material	3	Corrosion-proof use

⑭ Construction	0	Nil
	1	Direct type
	2	Remote type Please specify the lead type and length. (until 4m)

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, dialstrength calculation, attended inspection

Specify "X" if there is no specification item.

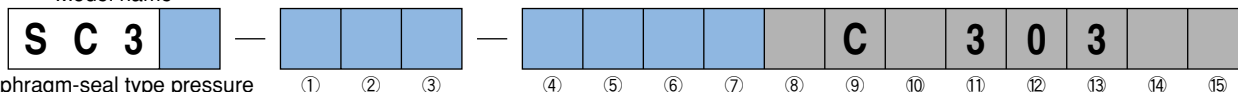
\* When a strength calculation report is necessary, please request it.

# Diaphragm-Seal type Pressure Switch

## Model number configuration

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

Model name



Diaphragm-seal type pressure switch Model 300 Flange

Model number		Selective spec.			Additional spec. (Option)					
Model (Flange rating)	1	JIS 10K	4	JIS 30K	7	ANSI 300	B	JIS 63K	H	JPI 300
	2	JIS 16K	5	JIS 40K	8	ANSI 600	E	ANSI 1500	K	JPI 600
	3	JIS 20K	6	ANSI 150	A	JIS 5K	G	JPI 150		

① Flange size	Flange	Diaphragm dia.			
		40	60	80	110
3	25A (1")	○	×	×	×
4	32A (1 1/4")	○	×	×	×
5	40A (1 1/2")	○	○	×	×
6	50A (2")	○	○	○	×
7	65A (2 1/2")	×	○	○	×
8	80A (3")	×	○	○	○
B	90A (3 1/2")	×	○	○	○
C	100A (4")	×	○	○	○

② Flange mounting	1	RF
	2	FF
	Others	

③ Wetted parts material (Lower flange)	2	S25C	J	S25C + neoprene lining
	3	SUS316	K	S25C + caoutchouc lining
	4	SUS316L	Y	SUS316 + FEP coating
	E	S25C + glass lining	イ	SUS316 + neoprene lining
	G	S25C + FEP coating	ウ	SUS316 + caoutchouc lining

Please specify the pressure range, dampener and radiator tube, etc. separately

④ Diaphragm dia. (MPa)		Measured fluid temperature range (°C)		
		-30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
4	40 dia.	0~7, 10, 15	0~7, 10, 15	0~7, 10, 15
6	60 dia.	0~1.5, 2, 2.5, 3.5, 5	0~0.6, 1, 1.5, 2, 2.5, 3.5, 5 -0.1~0.6, 1, 1.5, 2	0~1.5, 2, 2.5, 3.5, 5
8	80 dia.	0~0.4, 0.6, 1	0~0.2, 0.4 -0.1~0, 0.2, 0.4	0~0.4, 0.6, 1
9	110 dia.	0~0.2	-0.1~0	0~0.2

⑤ Diaphragm material	1	SUS316 + FEP lined	7	Hastelloy®B equivalent
	2	SUS316 + FEP coating	8	Hastelloy®C-276 equivalent
	3	SUS316	A	TaP (Tantalum)
	4	SUS316L	D	Nickel
	5	Monel®	J	SUS316 + neoprene lined
	6	TB35C (Titanium)		

⑥ Upper flange material	2	Standard S25C
	3	SUS316

⑦ For medium temperature	0	Nil (for cryogenic temperature)
	B	For medium temperature (100 over to 230°C)

⑧ Treatment	0	Nil
	1	Use no oil
	2	Use no water
	3	Use no oil & water

⑨⑩⑪⑫ Pressure gauge (Indicator model)	C Q 3 0	Pressure switch 1contact
	C D 3 0	Puncture pressure explosion-protected pressure switch 1contact

⑬ Indicator Element material	3	Corrosion-proof use

⑭ Construction	0	Nil
	1	Direct type
	2	Remote type Please specify the lead type and length. (until 4m)

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, dialstrength calculation, attended inspection

### [Manufacturing range]

- Vacuum gauge/ Compound gauge are not available to FEP lined.
- The lining of JIS 63K, ANSI 900, ANSI 1500 is not available.
- CD30 with the Radiator tube cannot be manufactured.
- Please specify filled liquid, lead type and length separately.

### Other additional specifications

- Filled liquid
  - Standard for cryogenic temperature: silicon
  - for medium temperature: DC550
  - Glycerine + water
  - Ethylene glycol
- Lead length
  - until 4m
  - SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube, 5m or over (/m)
- Option
  - Radiator tube SGD400-D, SUS316
  - Dampener SUS316

When ordering the other indicator, please contact NKS.

High pressure resistant type (Model: HD3□)

High pressure resistant fully welded type (Model: HE3□)  
has fundamentally the same spec.

Specify "X" if there is no specification item.

\* When a strength calculation report is necessary, please request it.

# Diaphragm-Seal type Differential Pressure Gauges

## Differential Pressure Gauges With Electric Contacts

### SPECIFICATIONS

**Fluid:**

High corrosion and high viscosity fluid

**Type:**

Remote type

**Installation method:**

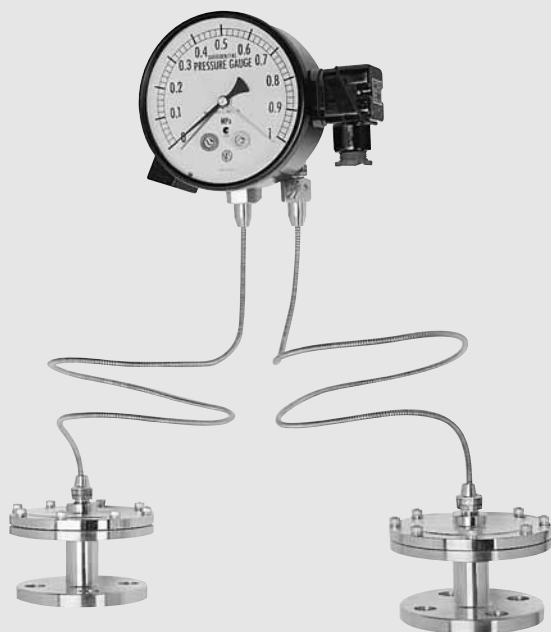
Screw, Flange

**Accuracy:**

±1.5%F.S./Normal temperature  
(However, provided by constant temperature)

**Temperature range:**

-5 to 40 °C



### INDICATOR

**Pressure indication gauge:**

Differential pressure gauge (Model: DG95/96)  
Differential pressure gauge with contacts (Model: DG97/98)

**Size:**

100 dia., 150 dia.

**Shape:**

Wall mounted type, 2B pipe mounted

**Main materials:**

Body: SCS14  
Bellows: SUS316L

**Number of contacts: (DG97/98)**

1 contact or 2 contacts

**Contact method: (DG97/98)**

External adjustment type

**Case material and finish:**

ADC12 · black

\* For details, refer to the catalogue of the differential pressure gauges.

### DIAPHRAGM / FILLED LIQUID

**Type: determined by the working pressure (Maximum working pressure)**

Standard type (0.5MPa) (Model: SC□□)  
High puncture pressure type (2MPa) (Model: HD□□)  
High puncture pressure fully welded type (5MPa) (Model: HE□□)

**Diaphragm dia.:**

110 dia.

**Diaphragm material:**

For the material of the upper and lower flange, diaphragm, etc., refer to diaphragm-seal pressure gauge and differential pressure gauge (switch) catalog diaphragm seal part 2 column.

**Filled liquid:**

Silicon oil  
-5 to 100°C

**Maximum capillary length:**

2m or less (please indicate the length in 1m increments)

Note: · Always install a diaphragm-seal section at both the H and L sides, to make the temperature difference small.  
· Make the diaphragm-seal section the same height at the H and L sides. (If there is a level difference, the correct differential pressure will not be displayed.)

# Diaphragm-Seal type Differential Pressure Gauges (With Electric Contacts)

## SPECIFICATIONS

Differential pressure range, One side puncture pressure and Temperature coefficient (pro forma amount):

Differential pressure range MPa	One side puncture pressure (Differential puncture pressure) (MPa)	Indicator temperature coefficient (inc. capillary) (%F.S./°C)	Diaphragm temperature coefficient (The same temperature in H/L) (Pa/°C)
0~0.05	0.2	±0.15	±50
~0.07	0.2	±0.15	
~0.1	0.2	±0.1	
~0.15	1.2 * 1	±0.1	
~0.2	1.2 * 1	±0.1	
~0.3	1.2 * 1	±0.1	
~0.4	1.2 * 1	±0.1	
~0.5	1.2 * 1	±0.1	

\* 1 0.5 MPa in case of the diaphragm SC type

Installation shape and the installation size by diaphragm dia.:

Installation system		Flange				Screw
Diaphragm diameter		Model 200		Model 300		Model 100
Nominal dia.	* 2 Shape	Standard (SC2□)	High puncture pressure fully welded (HE2□)	Standard (SC3□)	High puncture pressure fully welded (HE3□)	Standard (SC1□) High puncture pressure (HD1□) Puncture pressure fully welded (HE1□)
	10A (3/8")		○	○	—	—
15A (1/2")		○	○	—	—	
20A (3/4")		○	○	—	—	
25A (1")		○	○	—	—	
32A (1 1/4")		○	○	—	—	
40A (1 1/2")		○	○	—	—	
50A (2")		○	○	—	—	
65A (2 1/2")		○	○	—	—	
80A (3")		—	○	○	—	
100A (4")		—	○	○	—	
125A (5")		—	—	○	○	
150A (6")		—	—	○	○	

\* 2 Please select the diaphragm type from the pressure (standard pressure + differential pressure) which must be used.

- Standard type (Model: SC□□): Maximum working pressure 0.5MPa
- High puncture pressure type (Model: HD□□): Maximum working pressure 2MPa
- High puncture pressure fully welded type (HE□□) 5MPa

\* Please indicate the actual maximum working pressure certainly.

# Diaphragm-Seal type Differential Pressure Gauges (With Electric Contacts)

## DIMENSIONS 1

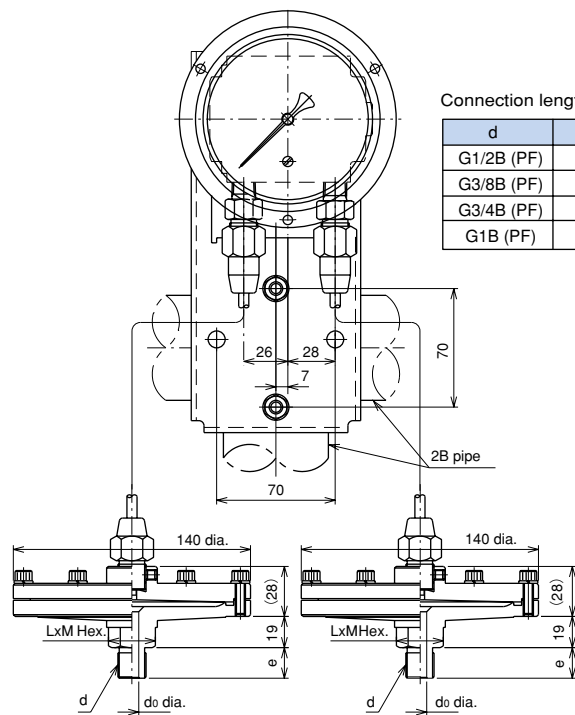
Standard type (Model: SC□□□)

[Screw]

Model 100/screw

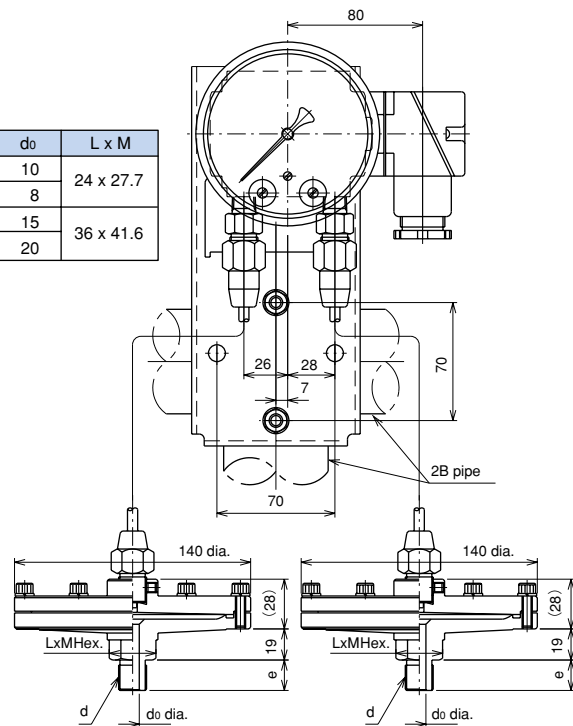
DG95 · 96 Differential pressure gauge

DG97 · 98 Differential pressure gauge with contacts



Connection length

d	e	d <sub>0</sub>	L x M
G1/2B (PF)	20	10	24 x 27.7
G3/8B (PF)	18	8	36 x 41.6
G3/4B (PF)	24	15	
G1B (PF)	28	20	



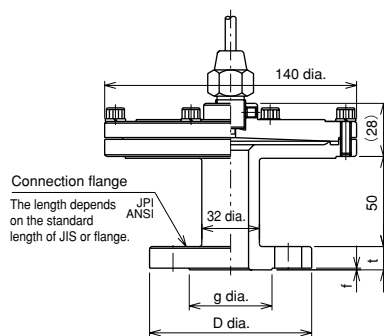
SC10-□□□

SC10-□□□

[Flange]

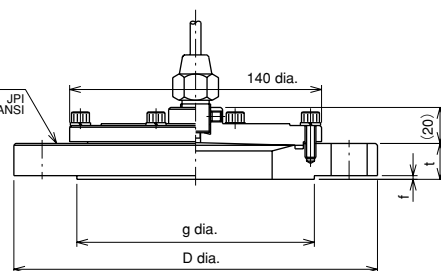
Model 200/flange

Model 300/flange



Connection flange

The length depends on the standard length of JIS or flange.



SC2□-□□□

SC3□-□□□

## Indicator length

	Installation	Size	Model number (Indicator)	Reference drawing
General indication	2B pipe mounted	100	DG95-W01	DG95-173
		150	DG96-W01	DG96-173
with contacts	2B pipe mounted	100	DG97-W01	DG97-173
		150	DG98-W01	DG98-173
	Wall mounted type	100	DG97-W02	DG97-273
		150	DG98-W02	DG98-273

\* For the details of the indicator dimension, please refer to the catalogue of each differential pressure gauge.

# Diaphragm-Seal type Differential Pressure Gauges (With Electric Contacts)

## DIMENSIONS 2

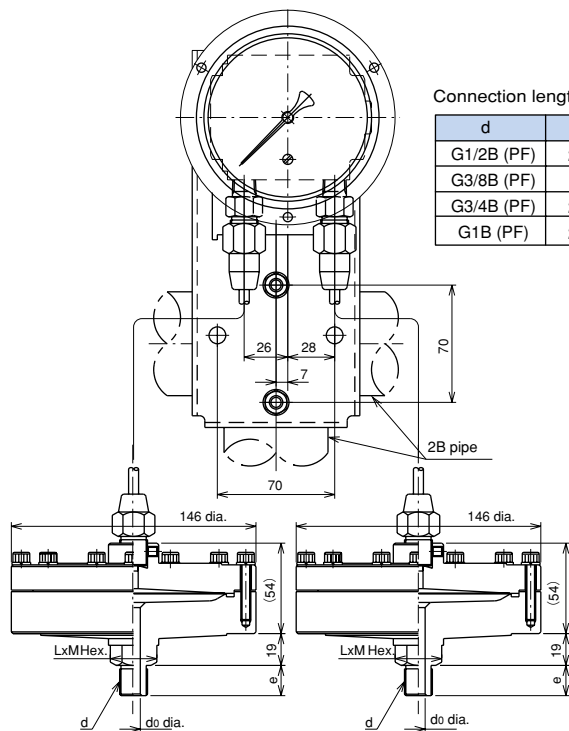
High puncture pressure type (Model: HD□□□)

[Screw]

Model 100/screw

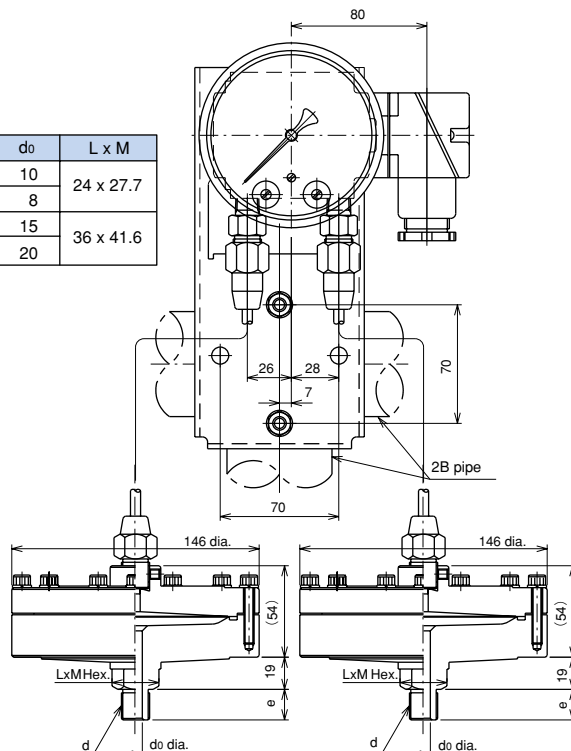
DG95 · 96 Differential pressure gauge

DG97 · 98 Differential pressure gauge with contacts



Connection length

d	e	do	L x M
G1/2B (PF)	20	10	24 x 27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36 x 41.6
G1B (PF)	28	20	



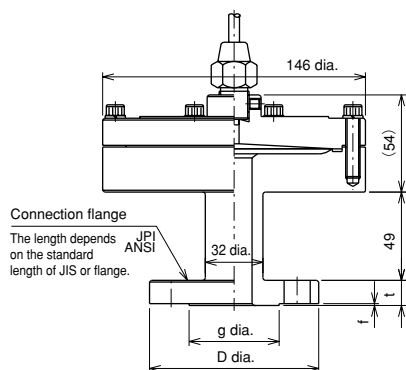
HD10-□□□

HD10-□□□

[Flange]

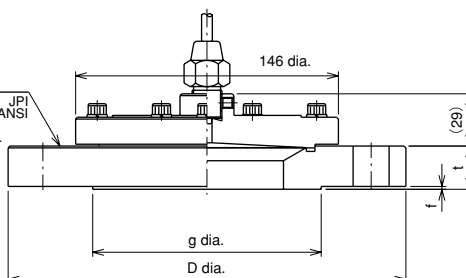
Model 200/flange

Model 300/flange



Connection flange  
The length depends on the standard length of JIS or flange.

Connection flange  
The length depends on the standard length of JIS or flange.



HD2□-□□□

HD3□-□□□

### 指示部寸法

	Installation	Size	Model number (Indicator)	Reference drawing
General indication	2B pipe mounted	100	DG95-W01	DG95-173
		150	DG96-W01	DG96-173
with contacts	2B pipe mounted	100	DG97-W01	DG97-173
		150	DG98-W01	DG98-173
	Wall mounted type	100	DG97-W02	DG97-273
		150	DG98-W02	DG98-273

\* For the details of the indicator dimension, please refer to the catalogue of each differential pressure gauge.

# Diaphragm-Seal type Differential Pressure Gauges (With Electric Contacts)

## DIMENSIONS 3

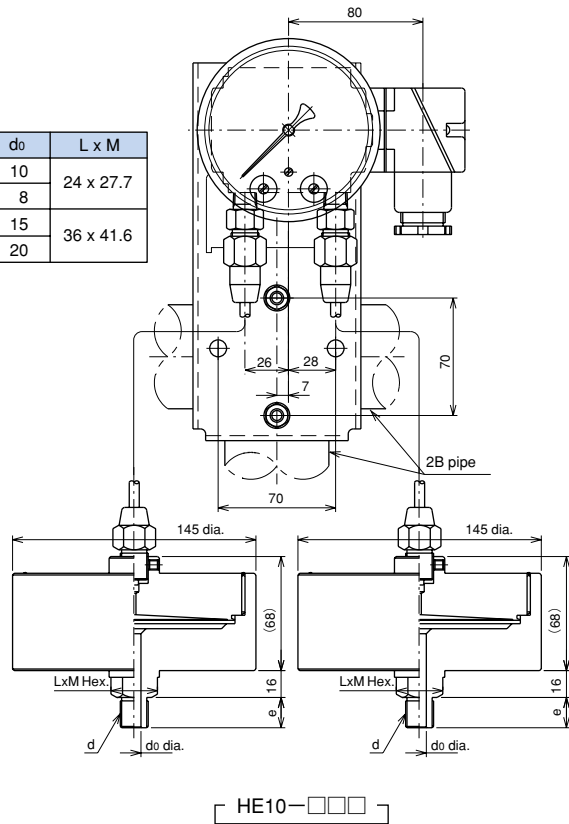
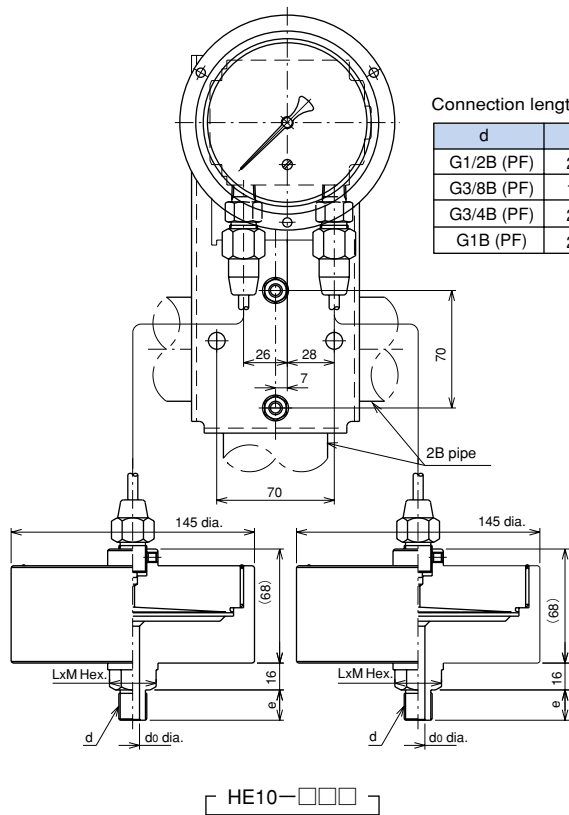
High puncture pressure fully welded type (Model: HE□□)

[Screw]

Model 100/screw

DG95 · 96 Differential pressure gauge

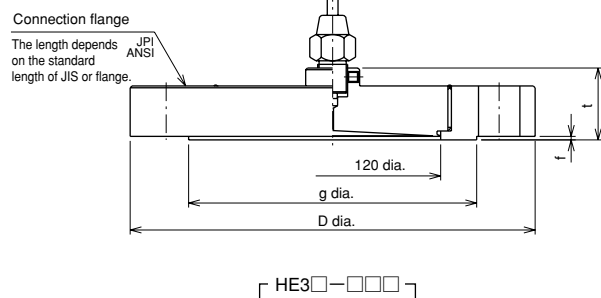
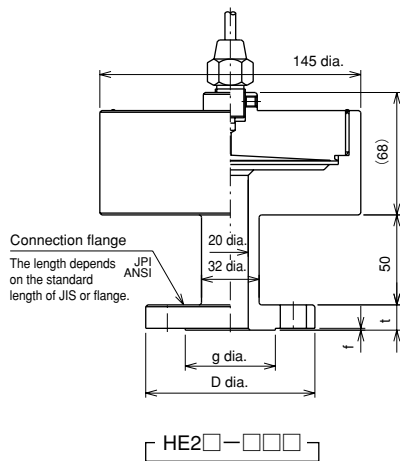
DG97 · 98 Differential pressure gauge with contacts



[Flange]

Model 200/flange

Model 300/flange

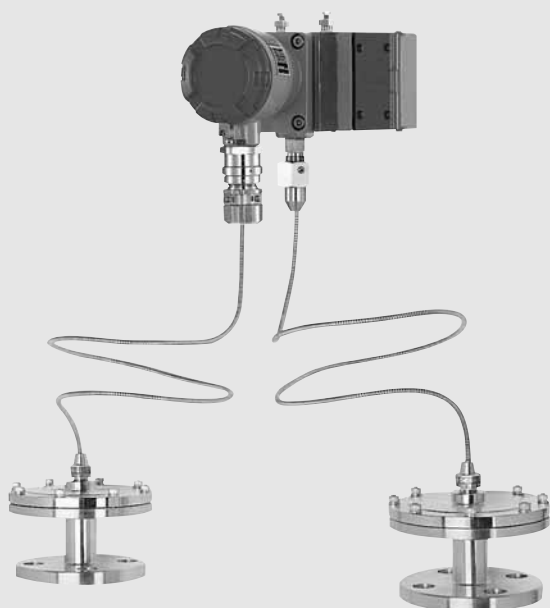


### Indicator length

	Installation	Size	Model number (Indicator)	Reference drawing
General indication	2B pipe mounted	100	DG95-W01	DG95-173
		150	DG96-W01	DG96-173
with contacts	2B pipe mounted	100	DG97-W01	DG97-173
		150	DG98-W01	DG98-173
	Wall mounted type	100	DG97-W02	DG97-273
		150	DG98-W02	DG98-273

\* For the details of the indicator dimension, please refer to the catalogue of each differential pressure gauge.

# Diaphragm-Seal type Differential Pressure Switch



## SPECIFICATIONS

**Fluid:**  
High corrosion and high viscosity fluid

**Type:**  
Remote type

**Installation method:**  
Screw, Flange

**Accuracy:**  
 $\pm 1.5\% \text{ F.S.} / 20^\circ\text{C} \pm 10^\circ\text{C}$

**Temperature range:**  
-5 to 40 °C

## INDICATOR

**Differential pressure switch:**  
Differential pressure switch (Model: CL71)  
Puncture pressure explosion-protected differential switch (Model: CD71)

**Shape:**  
Panel mounted, 2B pipe mounted

**Main materials:**  
Diaphragm SUS316 + NBR (Beech N)  
Body SCS14

**Number of contacts:**  
1 contact or 2 contacts

**Setting system:**  
Internal adjustment type

**Case material and finish:**  
ADC12 • Blue & gray epoxy painted

**Case construction:**  
IP65

\* For details, refer to the catalogue of each differential pressure switch.

## DIAPHRAGM / FILLED LIQUID

**Type: determined by the working pressure (Maximum working pressure)**  
Standard type (0.5MPa) (Model: SC□□)  
High puncture pressure type (2MPa) (Model: HD□□)  
High puncture pressure fully welded type (5MPa) (Model: HE□□)

**Diaphragm dia.:**  
110 dia.

**Diaphragm material:**  
For the material of the upper and lower flange, diaphragm, etc., refer to diaphragm-seal pressure gauge and differential pressure gauge (switch) catalog diaphragm seal part 2 column.

**Filled liquid:**  
Silicon oil  
-5 to 100°C

**Capillary length:**  
2m (please indicate the length in 1m increments)

**Note:**

- Always install a diaphragm-seal section at both the H and L sides, to make the temperature difference small.
- Make the diaphragm-seal section the same height at the H and L sides. (If there is a level difference, the correct differential pressure will not be displayed.)

# Diaphragm-Seal type Differential Pressure Switch

## SPECIFICATIONS

### Differential pressure range and Temperature coefficient (pro forma amount):

Differential pressure range MPa	Pressure switch parts ambient temperature coefficient (inc. capillary) (%max. P./°C)	Diaphragm temperature coefficient (The same temperature in H/L) (Pa/°C)
* 0 ~0.05	±0.2	±50
0.01~0.05	±0.2	
0.02~0.1	±0.15	
0.04~0.2	±0.1	
0.06~0.3	±0.1	
0.08~0.4	±0.1	
0.1 ~0.5	±0.1	
0.12~0.6	±0.07	
0.16~0.8	±0.07	
0.2 ~1	±0.07	

For ranges with the \* mark, use the 0.01 to 0.05MPa range as much as possible. In addition, \* mark ranges can be set near differential pressure 0 for both lower limit system and reverse lower limit system. However, take into account that the instrument has an inherent accuracy, temperature coefficient, etc. and that the operating pressure of the switch changes and decide the set point by forecasting an ample system safety factor.

### Installation shape and the installation size by diaphragm dia.:

Installation system	Flang				Screw
Diaphragm diameter	Model 200		Model 300		Model 100
* Shape Nominal dia.	Standard (SC2□) High puncture pressure (HD2□)	High puncture pressure fully welded (HE2□)	Standard (SC3□) High puncture pressure (HD3□)	High puncture pressure fully welded (HE3□)	Standard (SC1□) High puncture pressure (HD1□) Puncture pressure fully welded (HE1□)
10A (3/8")	○	○	—	—	G3/8B G1/2B R3/8 R1/2 1/2NPT 3/8NPT
15A (1/2")	○	○	—	—	
20A (3/4")	○	○	—	—	
25A (1")	○	○	—	—	
32A (1 1/4")	○	○	—	—	
40A (1 1/2")	○	○	—	—	
50A (2")	○	○	—	—	
65A (2 1/2")	○	○	—	—	
80A (3")	—	○	○	—	
100A (4")	—	○	○	—	
125A (5")	—	—	○	○	
150A (6")	—	—	○	○	

\*2 Please select the diaphragm type from the pressure (standard pressure + differential pressure) which must be used.

- Standard type (Model: SC□□): Maximum working pressure 0.5MPa
- High puncture pressure type (Model: HD□□): Maximum working pressure 2MPa
- High puncture pressure fully welded type (HE□□) 5MPa

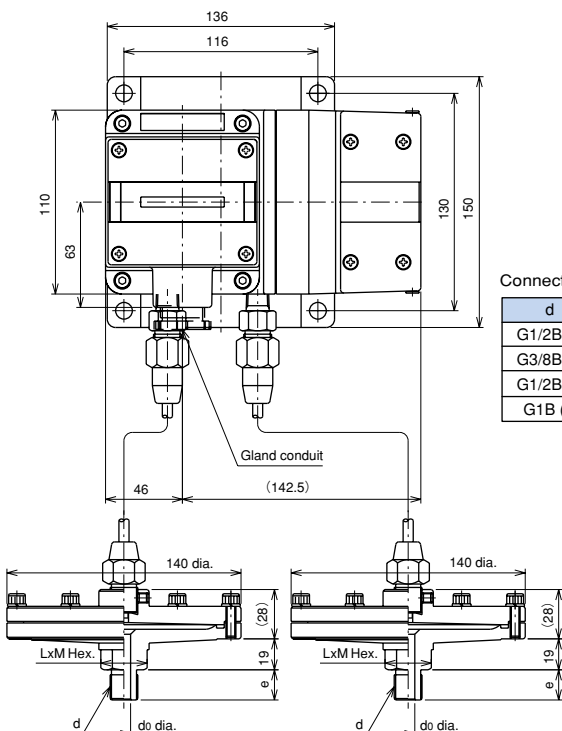
\* Please indicate the actual maximum working pressure certainly.

## DIMENSIONS 1

Standard type (Model: SC□□)

[Screw] Model 100/screw

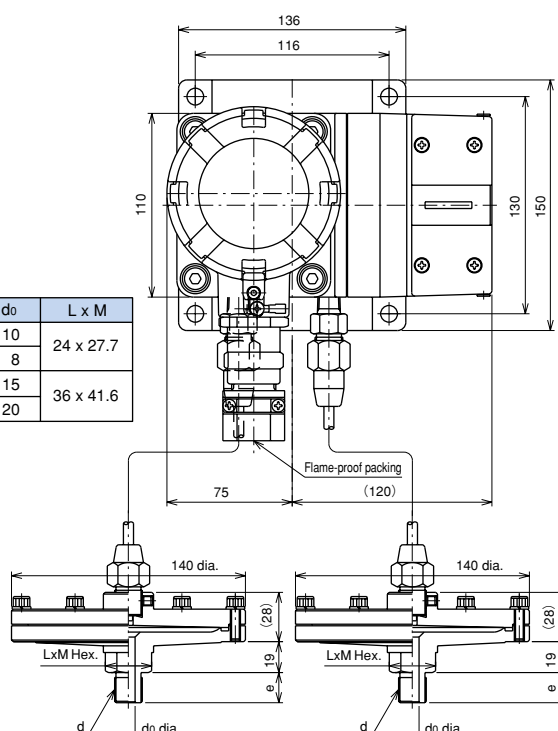
CL71 Differential pressure switch



Connection length

d	e	do	L x M
G1/2B (PF)	20	10	24 x 27.7
G3/8B (PF)	18	8	
G1/2B (PF)	24	15	36 x 41.6
G1B (PF)	28	20	

CD71 Puncture pressure explosion-protected pressure switch

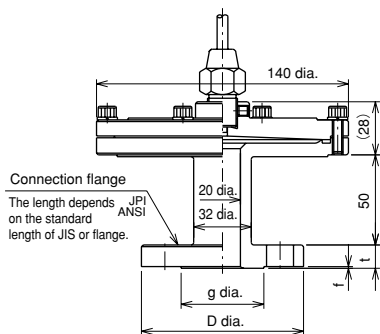


SC10-□□□

SC10-□□□

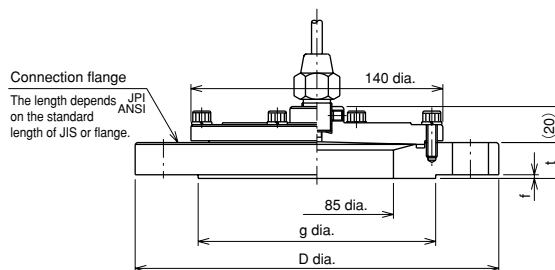
[Flange]

Model 200/flange



SC2□-□□□

Model 300/flange



SC3□-□□□

### Indicator length

Model number (Indicator)	Installation
CL71-173 -273	panel mounted
CL71-373 -473	2B pipe mounted
CL71-373 -473	panel mounted
CL71-773 -873	2B pipe mounted

\* For the details of the indicator dimension, please refer to the catalogue of each differential pressure gauge.

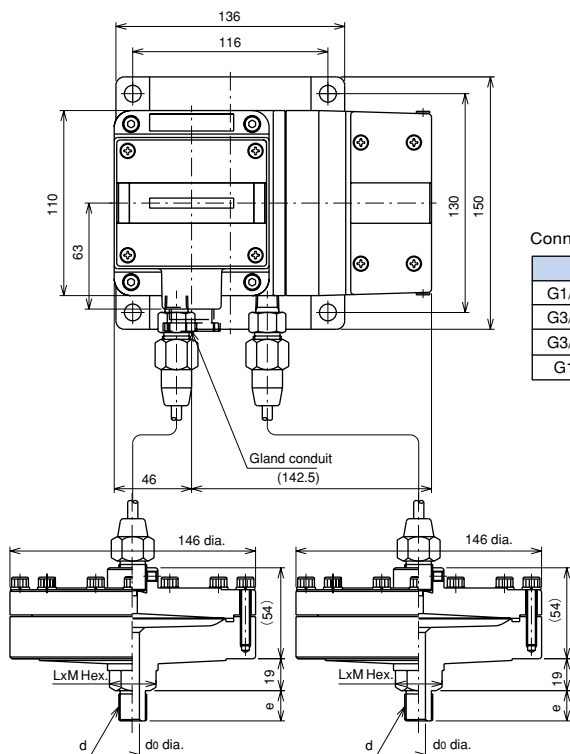
# Diaphragm-Seal type Differential Pressure Switch

## DIMENSIONS 2

High puncture pressure type (Model: HD□□)

[Screw] Model 100/screw

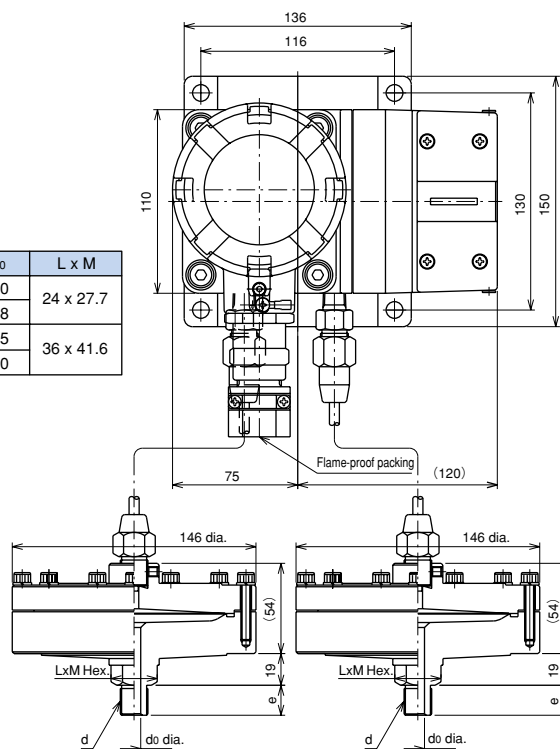
CL71 Differential pressure switch



Connection length

d	e	do	L x M
G1/2B (PF)	20	10	24 x 27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36 x 41.6
G1B (PF)	28	20	

CD71 Puncture pressure explosion-protected pressure switch

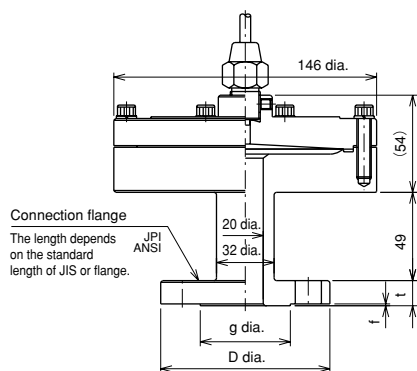


HD10-□□□

HD10-□□□

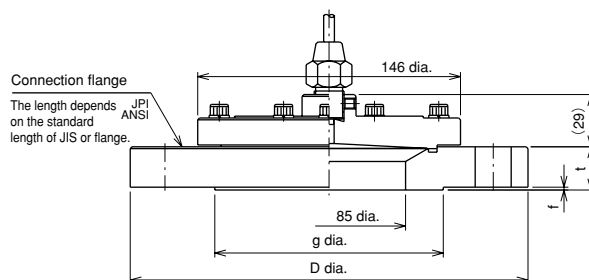
[Flange]

Model 200/flange



HD2□-□□□

Model 300/flange



HD3□-□□□

### Indicator length

Model number (Indicator)	Installation
CL71-173 -273	panel mounted
CL71-373 -473	2B pipe mounted
CL71-373 -473	panel mounted
CL71-773 -873	2B pipe mounted

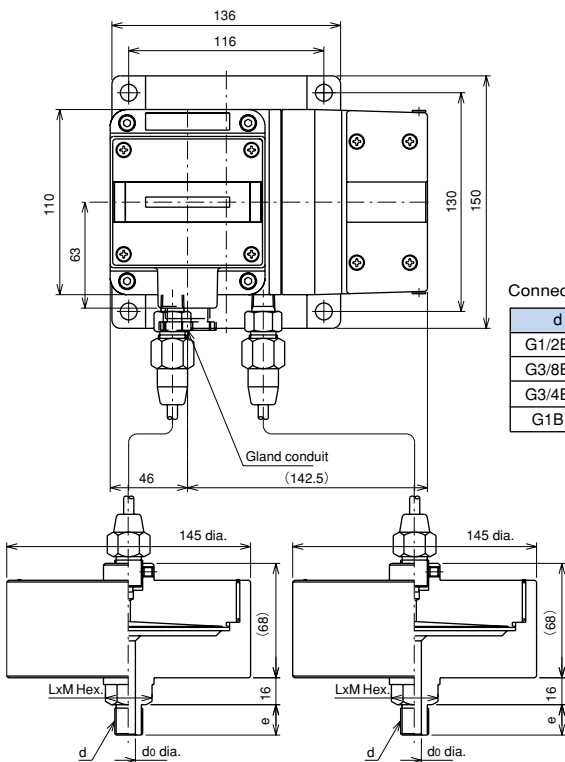
\* For the details of the indicator dimension, please refer to the catalogue of each differential pressure gauge.

## DIMENSIONS 3

### High puncture pressure fully welded type (Model: HE□□□)

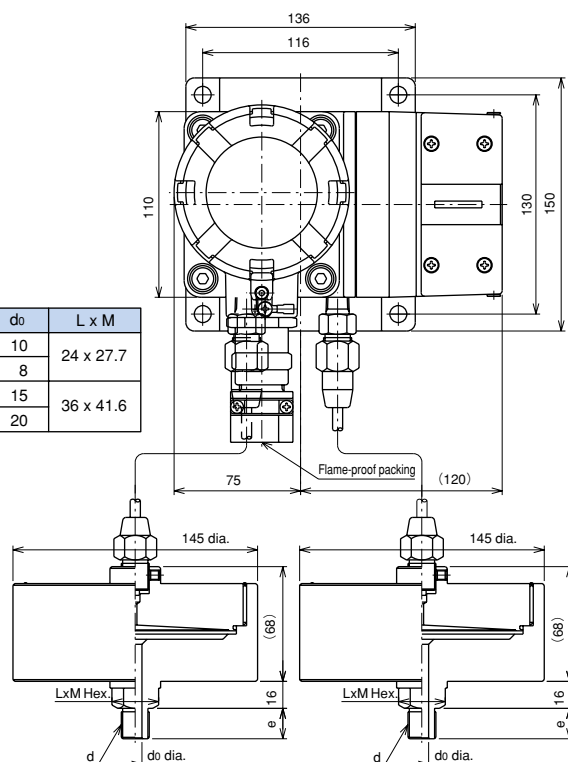
[Screw] Model 100/screw

#### CL71 Differential pressure switch



HE10-□□□

#### CD71 Puncture pressure explosion-protected pressure switch

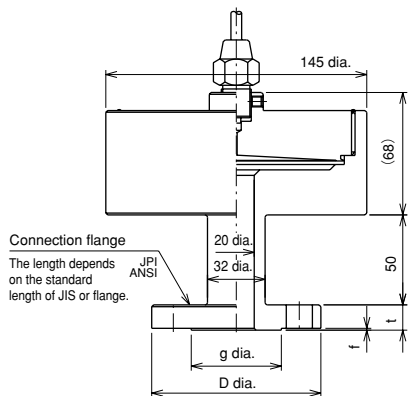


HE10-□□□

Connection length

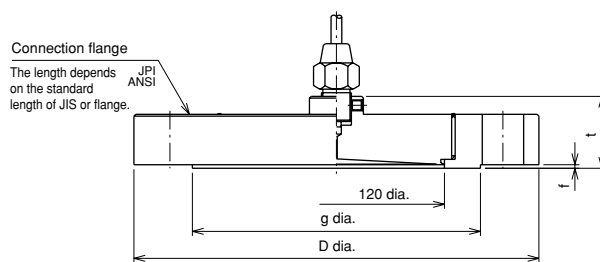
d	e	do	L x M
G1/2B (PF)	20	10	24 x 27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36 x 41.6
G1B (PF)	28	20	

[Flange] Model 200/flange



HE2□-□□□

Model 300/flange



HE3□-□□□

### Indicator length

Model number (Indicator)	Installation
CL71-173 -273	panel mounted
CL71-373 -473	2B pipe mounted
CL71-373 -473	panel mounted
CL71-773 -873	2B pipe mounted

\* For the details of the indicator dimension, please refer to the catalogue of each differential pressure gauge.

# Diaphragm-Seal type Differential Pressure Gauges & Switch

## Model number configuration

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

Model name

S	C	1	0	—	0	—	9	—	—	—	—	—	—	—	—	—	—	3	2	—													
					①		②		③		④		⑤		⑥		⑦		⑧		⑨		⑩		⑪		⑫		⑬		⑭		⑮

Diaphragm-seal type differential pressure gauges & differential pressure switch Model 100 Screw

Model number		Selective spec.		Additional spec. (Option)		
① Connection	3	G3/8B		H	R1/2	
	4	G1/2B		L	3/8NPT	
	G	R3/8		M	1/2NPT	
② Shape	0	Screw				
③ Wetted parts material (Lower flange)	2	S25C				
	3	SUS316				
	4	SUS316L				
④ Diaphragm dia.	9	110 DIA. (for cryogenic temperature only) Differential pressure range: 0~0.05, 0.07, 0.1, 0.15, 0.2, 0.3, 0.4, 0.5 MPa				
		1	SUS316 + FEP lined			
⑤ Diaphragm material		2	SUS316 + FEP coating			
		3	SUS316			
		4	SUS316L			
		2	Standard S25C			
⑥ Upper flange material		3	SUS316			
		0	Nil (for cryogenic temperature)			
⑦ For medium temperature		0	Nil			
		1	Use no oil			
		2	Use no water			
		3	Use no oil & water			
⑧ Treatment		0	Nil			
		1	Use no oil			
		2	Use no water			
		3	Use no oil & water			
	⑨⑩⑪⑫ Pressure gauge (Indicator model)		D G 9 5	100dia. Differential pressure gauge (DG95-W01)		
			D G 9 7	100dia. Differential pressure gauge with contacts (DG97-W01) 1contact		
		D G 9 6	150dia. Differential pressure gauge (DG96-W01)			
		D G 9 8	150dia. Differential pressure gauge with contacts (DG98-W01) 1contact			
		C D 7 1	Puncture pressure explosion-protected pressure switch 1contact			
		C L 7 1	Differential pressure switch 1contact			
⑬ Indicator Element material		3	Corrosion-proof use			
		2	Remote type Please specify the lead type and length. (until 2m)			
⑭ Construction		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, dialstrength calculation, attended inspection			

Please specify the pressure range, dampener and radiator tube, etc. separately.

### [Manufacturing range]

- Vacuum gauge/ Compound gauge are not available to FEP lined.
- Please specify filled liquid, lead type and length separately.

### Other additional specifications

- Filled liquid
  - Standard for cryogenic temperature: silicon
  - for medium temperature: DC550
  - Glycerine + water
  - Ethylene glycol
- Lead length
  - until 2m
  - SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube

\* When a strength calculation report is necessary, please request it.

High pressure resistant type (Model: HD10)  
High pressure resistant fully welded type (Model: HE10)  
has fundamentally the same spec.

Specify "X" if there is no specification item.

# Diaphragm-Seal type Differential Pressure Gauges & Switch

## Model number configuration

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

Model name

<b>S</b>	<b>C</b>	<b>2</b>					<b>9</b>								<b>3</b>	<b>2</b>		
			①	②	③		④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮

Diaphragm-seal type differential pressure gauges & differential pressure switch Model 200 Flange

Model number			Selective spec.				Additional spec. (Option)			
	1	JIS 10K	4	JIS 30K	7	ANSI 300	B	JIS 63K	H	JPI 300
Model	2	JIS 16K	5	JIS 40K	8	ANSI 600	E	ANSI 1500	K	JPI 600
(Flange rating)	3	JIS 20K	6	ANSI 150	A	JIS 5K	G	JPI 150		

① Flange size	Flange	
	1	15A (1/2")
	2	20A (3/4")
	3	25A (1")
	4	32A (1 1/4")
	5	40A (1 1/2")
	6	50A (2")
	7	65A (2 1/2")

② Flange mounting	1	RF	4	GF	7	RJ
	2	FF	5	TF		
	3	MF	6	FMF		

③ Wetted parts material (Lower flange)	2	S25C	J	S25C + neoprene lining
	3	SUS316	K	S25C + caoutchouc lining
	4	SUS316L	X	SUS316 + PTFE lining
	E	S25C + glass lining	Y	SUS316 + FEP coating
	F	S25C + PTFE lining	い	SUS316 + neoprene lining
	G	S25C + FEP coating	う	SUS316 + caoutchouc lining

Please specify the pressure range, dampener and radiator tube, etc. separately.

④ Diaphragm dia.	9	110 DIA. (for cryogenic temperature only) Differential pressure range: 0~0.05, 0.07, 0.1, 0.2, 0.3, 0.4, 0.5 MPa
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⑤ Diaphragm material	1	SUS316 + FEP lined	7	Hastelloy® B equivalent
	2	SUS316 + FEP coating	8	Hastelloy® C-276 equivalent
	3	SUS316	A	TaP (Tantalum)
	4	SUS316L	D	Nickel
	5	Monel®	J	SUS316 + neoprene lined
	6	TB35C (Titanium)		

⑥ Upper flange material	2	Standard S25C
	3	SUS316

⑦ For medium temperature	0	Nil (for cryogenic temperature)
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⑧ Treatment	0	Nil
	1	Use no oil
	2	Use no water
	3	Use no oil & water

⑨⑩⑪⑫ Pressure gauge (Indicator model)	D G 9 5	100dia. Differential pressure gauge (DG95-W01)	
	D G 9 7	100dia. Differential pressure gauge with contacts (DG97-W01) 1contact	
	D G 9 6	150dia. Differential pressure gauge (DG96-W01)	
	D G 9 8	150dia. Differential pressure gauge with contacts (DG98-W01) 1contact	
	C D 7 1	Puncture pressure explosion-protected pressure switch 1contact	
When ordering the other indicator, please contact NKS.		C L 7 1	Differential pressure switch 1contact

⑬ Indicator Element material	3	Corrosion-proof use
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⑭ Construction	2	Remote type Please specify the lead type and length. (until 2m)
-------------------	---	--

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, dialstrength calculation, attended inspection

### [Manufacturing range]

- Vacuum gauge/ Compound gauge are not available to FEP lined.
- Please specify filled liquid, lead type and length separately.

### Other additional specifications

- Filled liquid
  - Standard for cryogenic temperature: silicon
  - for medium temperature: DC550
  - Glycerine + water
  - Ethylene glycol
- Lead length
  - until 2m
  - SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
- Option
  - serration process

High pressure resistant type (Model: HD2□)

High pressure resistant fully welded type (Model: HE2□)  
has fundamentally the same spec.

Specify "X" if there is no specification item.

\* When a strength calculation report is necessary, please request it.

# Diaphragm-Seal type Differential Pressure Gauges & Switch

## Model number configuration

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

Model name

<b>S</b>	<b>C</b>	<b>3</b>	—				<b>9</b>								<b>3</b>	<b>2</b>		
				①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮

Diaphragm-seal type differential pressure gauges & differential pressure switch Model 300 Flange

Model number			Selective spec.			Additional spec. (Option)				
Model (Flange rating)	1	JIS 10K	4	JIS 30K	7	ANSI 300	B	JIS 63K	H	JPI 300
	2	JIS 16K	5	JIS 40K	8	ANSI 600	E	ANSI 1500	K	JPI 600
	3	JIS 20K	6	ANSI 150	A	JIS 5K	G	JPI 150		

① Flange size	Flange	
	8	80A (3")
	B	90A (3 1/2")
	C	100A (4")

② Flange mounting	1	RF	4	GF	7	RJ
	2	FF	5	TF		
	3	MF	6	FMF		

③ Wetted parts material (Lower flange)	2	S25C	J	S25C + neoprene lining
	3	SUS316	K	S25C + caoutchouc lining
	4	SUS316L	Y	SUS316 + FEP coating
	E	S25C + glass lining	ι	SUS316 + neoprene lining
	G	S25C + FEP coating	ϖ	SUS316 + caoutchouc lining

Please specify the pressure range, dampener and radiator tube, etc. separately.

④ Diaphragm dia.	9	110 DIA. (for cryogenic temperature only) Differential pressure range: 0~0.05, 0.07, 0.1, 0.2, 0.3, 0.4, 0.5 MPa
---------------------	---	---

⑤ Diaphragm material	1	SUS316 + FEP lined	7	Hastelloy <sup>®</sup> B equivalent
	2	SUS316 + FEP coating	8	Hastelloy <sup>®</sup> C-276 equivalent
	3	SUS316	A	TaP (Tantalum)
	4	SUS316L	D	Nickel
	5	Monel <sup>®</sup>	J	SUS316 + neoprene lined
	6	TB35C (Titanium)		

⑥ Upper flange material	2	Standard S25C
	3	SUS316

⑦ For medium temperature	0	Nil (for cryogenic temperature)
-----------------------------	---	---------------------------------

⑧ Treatment	0	Nil
	1	Use no oil
	2	Use no water
	3	Use no oil & water

⑨⑩⑪⑫ Pressure gauge (Indicator model)	D G 9 5	100dia. Differential pressure gauge (DG95-W01)
	D G 9 7	100dia. Differential pressure gauge with contacts (DG97-W01) 1contact
	D G 9 6	150dia. Differential pressure gauge (DG96-W01)
	D G 9 8	150dia. Differential pressure gauge with contacts (DG98-W01) 1contact
	C D 7 1	Puncture pressure explosion-protected pressure switch 1contact
	C L 7 1	Differential pressure switch 1contact

⑬ Indicator Element material	3	Corrosion-proof use
---------------------------------	---	---------------------

⑭ Construction	2	Remote type Please specify the lead type and length. (until 2m)
-------------------	---	--

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, dialstrength calculation, attended inspection

### [Manufacturing range]

- Vacuum gauge/ Compound gauge are not available to FEP lined.
- Please specify filled liquid, lead type and length separately.

### Other additional specifications

- Filled liquid
  - Standard for cryogenic temperature: silicon
  - for medium temperature: DC550
  - Glycerine + water
  - Ethylene glycol
- Lead length until 2m
  - SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
- Option
  - serration process

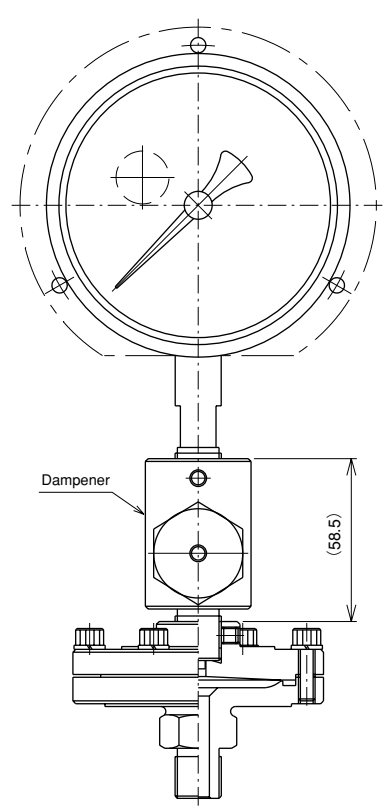
High pressure resistant type (Model: HD3□)

High pressure resistant fully welded type (Model: HE3□)  
has fundamentally the same spec.

Specify "X" if there is no specification item.

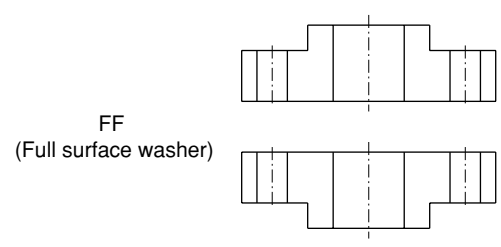
\* When a strength calculation report is necessary, please request it.

## FOR DAMPENER



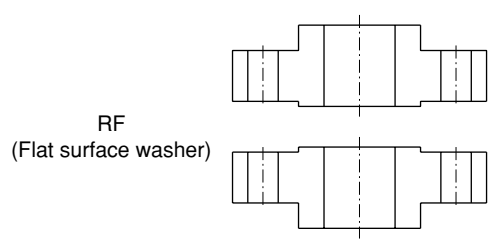
In applications where a severe pulsating pressure and surge pressure is applied to the pressure gauge, protect the pressure gauge by using a dampener. Since the dampener is a variable aperture, the aperture can be adjusted according to the pressure change. When a dampener is incorporated into a diaphragm puncture pressure gauge, since only the filled liquid is throttled, there is no danger of clogging by foreign matter and a stable throttling effect is obtained by the characteristic of the small viscosity change by temperature filled liquid.

## FLANGE MOUNTING



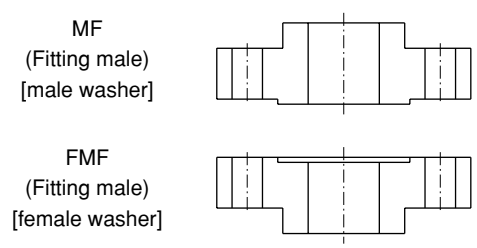
**FF**  
(Full surface washer)

Selection: Suitable for cast iron and copper alloy flanges used at nominal pressures of 16K or less.



**RF**  
(Flat surface washer)

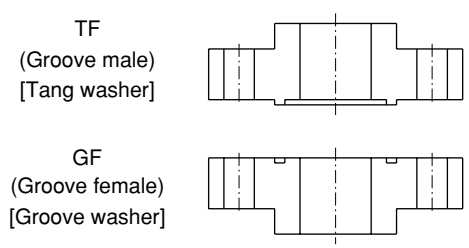
Selection: Can be used with flanges with a nominal pressure of 63K or less.



**MF**  
(Fitting male)  
[male washer]

**FMF**  
(Fitting male)  
[female washer]

Selection: suitable in case the air proof of nominal pressure 16K or over is used.



**TF**  
(Groove male)  
[Tang washer]

**GF**  
(Groove female)  
[Groove washer]

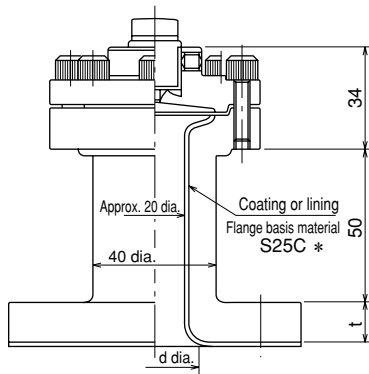
Selection: Suitable for dangerous fluid piping system at nominal pressure of 16K or over or when air tightness is necessary.

\* The designation in ( ) is used in JIS, [ ] is in JPI.

# Diaphragm-Seal type Pressure Gauges

## FOR LINING, COATING

### Lining or coating flange



Product name	Thickness (mm)	Temperature range
Glass lining	0.4 ~ 0.8	-30 ~ 230°C
Neoprene lining	2	-20 ~ 100°C
Caoutchouc lining	2	-15 ~ 80°C
PTFE lining	2	-20 ~ 150°C
FEP coating	0.2 ~ 0.3	-30 ~ 180°C

Since there are cases when d dia. is larger than the flange rated value, pay careful attention to the gasket dimensions.

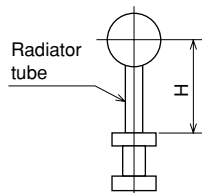
Flange mounting: available to FF flange process  
t length does not include the thickness of the coating and lining.

\* Flange basis material SUS316 is also available except the glass lining.

## FOR RADIATOR TUBE

For medium puncture pressure gauge (over 100 to 230°C) direct type, pressure 180°C receiving section, use a heat dissipation tube as shown below so that the effect of temperature on the indicator is minimal. Specify the temperature of the measurement liquid. A similar effect is also obtained with the diaphragm-seal type.

**With radiator tube** (In case of model 200)



### H length

Height	Sealed type 100 dia.	Sealed type 150 dia.
H	213	228

### Material

Upper flange	S25C	SUS316
Radiator tube	SS400	SUS316

The contents in the catalogue are subject to change without notice.

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