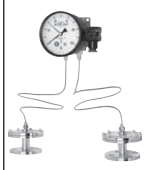
SC_ _
Diaphragm-Seal type Pressure Gauges

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 indicator 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

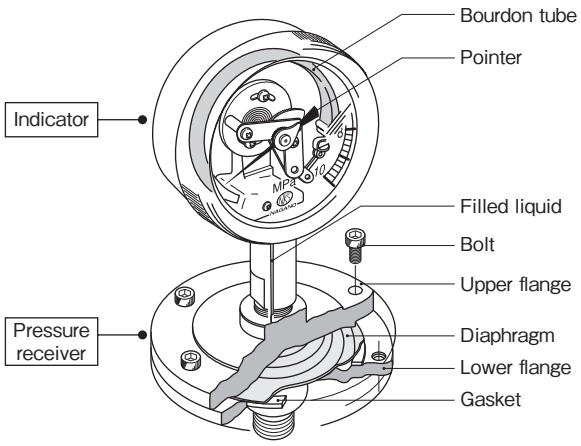
- **A highly corrosion resistant diaphragm is used at the diaphragm seal so that high viscosity fluids, as well as highly corrosive fluids, can be measured.**
- **When the diaphragm is welded, its surface can be easily cleaned by loosening the case mounting bolt.**
- **A zero adjustment pointer is used, 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 (Explosion-proof construction)			Differential pressure gauge (With electric contact)	Differential pressure switch (Explosion-proof construction)
	AC, AE, AG, BC, BE, BG	GV42	JM□□	JD1□	CD30	CQ30	CB33, CD75	DG9□	CL71, CD71
Temperature range of fluid	-30 to 230℃	-5 to 100℃	-30 to 230℃	-5 to 100℃	-30 to 230℃	-30 to 230℃	-30 to 100℃	-5 to 100℃	-5 to 100℃
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 Positive pressure	0 to 0.05MPa ↓ 0 to 6MPa	0 to 0.1MP ↓ 0 to 15MPa	0 to 0.1MPa ↓ 0 to 5MPa	0 to 0.2MPa ↓ 0 to 15MPa	0 to 0.2MPa ↓ 0 to 15MPa	0 to 0.2MPa ↓ 0 to 15MPa	0.04 to 0.4MPa ↓ 1 to 10MPa	0 to 0.05MPa ↓ 0 to 0.5MPa	0.01 to 0.05MPa ↓ 0.2 to 1MPa
Pressure range Compound	-0.1 to 0MPa ↓ -0.1 to 2.5MPa	-0.1 to 0MPa ↓ -0.1 to 2MPa	-0.1 to 0MPa ↓ -0.1 to 2MPa	-0.1 to 0.1MPa ↓ -0.1 to 2MPa	-0.1 to 0MPa ↓ -0.1 to 2MPa	-0.1 to 0.2MPa ↓ -0.1 to 2MPa			
Diaphragm diameter	ϕ40, ϕ60, ϕ80, ϕ110	ϕ40, ϕ60, ϕ80, ϕ110	ϕ60,ϕ80, ϕ110	ϕ40, ϕ60, ϕ80	ϕ40, ϕ60, ϕ80, ϕ110	ϕ40, ϕ60, ϕ80, ϕ110	ϕ60, ϕ110	ϕ110	ϕ110

* 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.

Construction

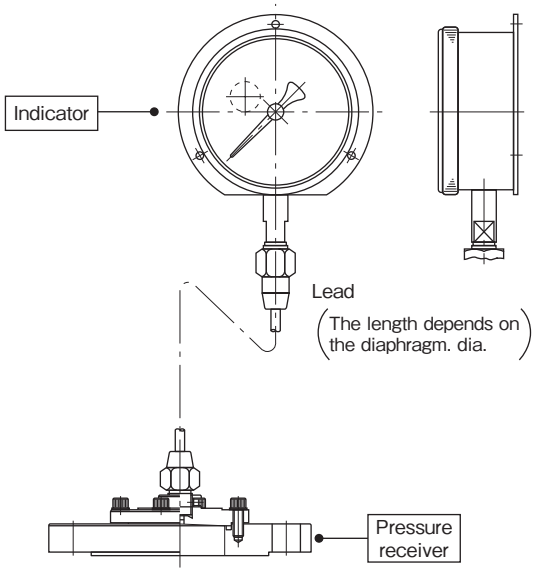
Direct type:



〔In case of the screw 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.

Remote type:



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

Caution

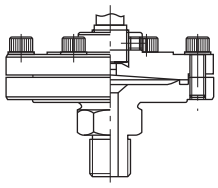
When the pressure gauge is to be used with a high pressure gas, always consult NKS beforehand.

Diaphragm seal 1

Mounting:

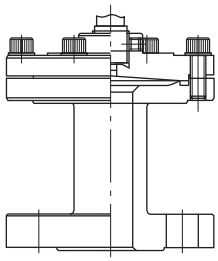
〔Screw type〕 **Model 100, Screw type**

(Model: SC10)



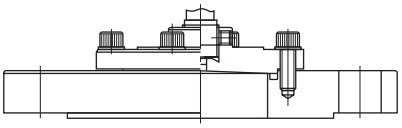
〔Flange type〕 **Model 200, Flange type**

(Model: SC2□)



Model 300, Flange type

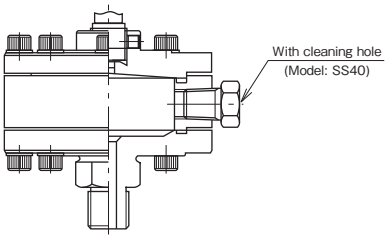
(Model: SC3□)



Others

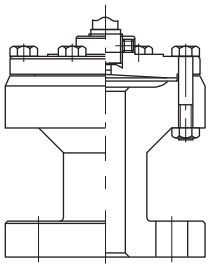
Model 410, Screw type with the intermediate flange

(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.

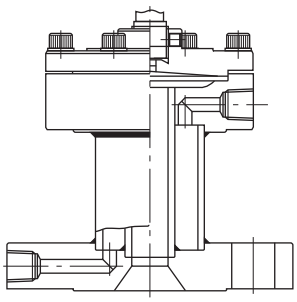
Model 210, Flanged type nonmetal



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
(Diaphragm diameter ϕ60, ϕ80 only)
Range maximum pressure: ϕ60···0.6, 1MPa
ϕ80···0.1 to 0.4MPa
Operating temperature range: 0 to 60℃

Model 220, With the steam jacket

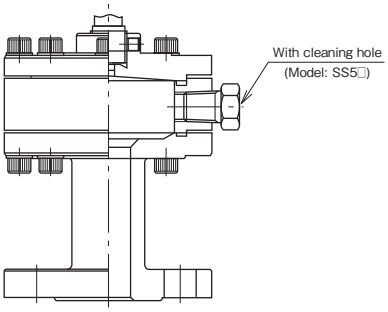
(Model: SJ2□)



Application: Heats the interior by means of steam when you want to prevent freezing or increase the viscosity.
(Steam 0 to 230℃ 2.7MPa maximum)

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 2

Connection, connection flange:

Screw (SC10)	Flange (SC2□·3□)	
	Nominal pressure	Nominal diameter
G3/8B (PF) G1/2B (PF) R3/8 (PT) R1/2 (PT)	JIS10K, JIS16K, JIS20K, JIS30K, JIS40K, JIS63K	10A, 15A, 20A, 25A, 32A, 40A, 50A, 65A, 80A, 100A

Materials:
Standard (Model: SC□□)

Upper flange	Diaphragm	Lower flange		Gasket*4	Bolt
		Screw	Flange		
S25C Standard (Ni plating) SUS316	SUS316 SUS316L Tantalum Titanium Monel ® *1 Nickel *1 Hastelloy ® B equivalent Hastelloy ® C-276 equivalent SUS316 +FEP coating *1 SUS316 +Neoprene ® lined *2 SUS316 +FEP lined *2	S25C (Ni plating) SUS316 SUS316L Titanium Monel ® Hastelloy ® B equivalent Hastelloy ® 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) *3 Polypropylene *3	Less than 200℃ PTFE 200℃ or higher Exfoliated graphite (In only case there is indicated temperature)	A2-70

＊1 When the diaphragm material is Monel ®, nickel, or coating, the upper flange cannot be welded.

＊2 When the diaphragm material is FEP or Neoprene ® lined, the maximum working temperature of the pressure receiving part is 100℃.
FEP or Neoprene ® is lined with in wetted side after the diaphragm made with SUS316 is welded to an upper flange. For vacuum and compound pressure gauges, please specify coating.

＊3 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.)

＊4 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.

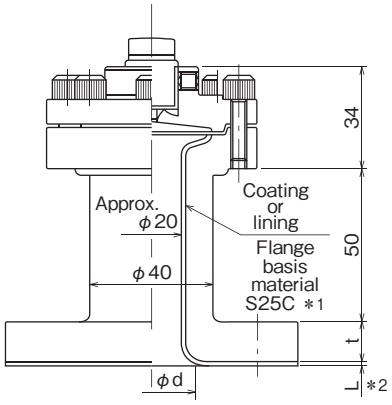
Note 3) When the diaphragm material is Monel ®, nickel, or coating, the upper flange cannot be welded.
For the lined diaphragm, SUS316 is welded to the top flange and the connected side is lined with FEP or Neoprene ®.
However, for vacuum and compound pressure gauges, cannot use lined diaphragm.

Note 4) Coating and Lining correspond to only a FF flange.

For lining, coating

Unit: mm

Lining or coating flange



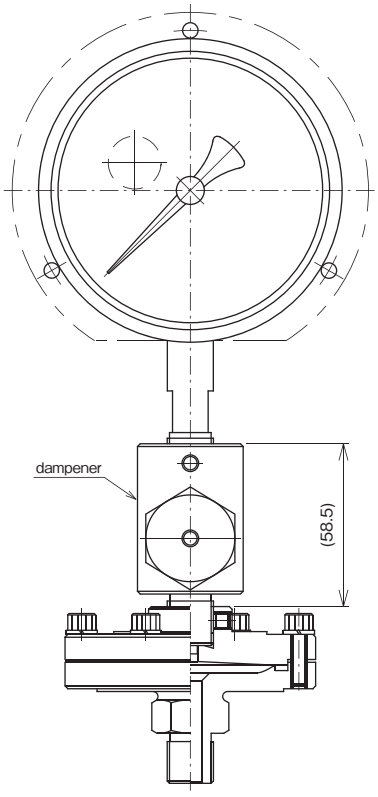
Product name	Thickness (L: mm)	Operating temperature range
Glass lining	0.4 to 0.8	-30 to 230℃
Neoprene lining	2	-20 to 100℃
Caoutchouc lining	2	-15 to 80℃
PTFE lining	2 ＊2	-20 to 150℃
FEP coating	0.2 to 0.3	-30 to 180℃

Since there are cases when φd 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.

＊1 Flange basis material SUS316 is also available except the glass lining.
＊2 Thickness of bottom part of PTFE lining is 5mm. Others part is 2mm.

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.

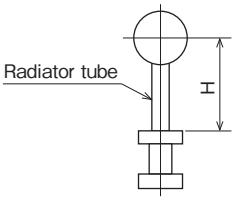
Note) For direct type with dampener, measurement fluid temperature is -5 to 100℃.
(Medium temperature is not available)

For radiator tube

For medium puncture pressure gauge (Over 100 to 230℃) direct type, pressure 180℃ 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)

Unit: mm



H length

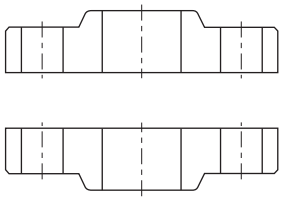
Height	Sealed type ϕ100	Sealed type ϕ150
H	213	228

Material

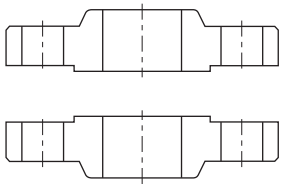
Upper flange	S25C	SUS316
Radiator tube	SGD400-D	SUS316

Flange mounting

FF
(Full surface washer)

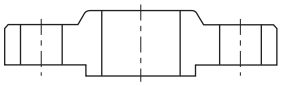


RF
(Flat surface washer)

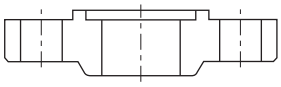


Selection: Suitable for use at nominal pressures of 16K or less.

MF
(Fitting male)

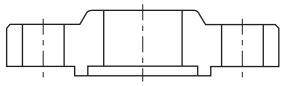


FMF
(Fitting female)

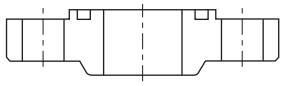


Selection: Suitable in case needing the air tightness.

TF
(Groove male)



GF
(Groove female)



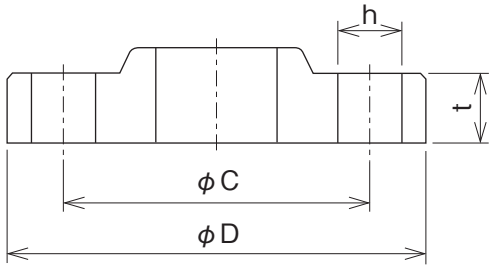
Selection: Suitable for dangerous fluid piping system or at when needing air tightness.

Flange standard has adopted the JIS B 2220-2001.

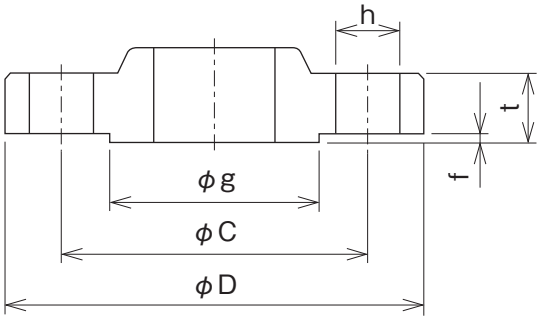
Flange dimensions 1

Unit: mm

FF (Full surface washer)



RF (Flat surface washer)



JIS 10K							
Nominal dia.	Flange dia. D	Size			Bolt hole		
		t	f	g	C	Number	h
10A	90	12	1	46	65	4	15
15A	95	12	1	51	70	4	15
20A	100	14	1	56	75	4	15
25A	125	14	1	67	90	4	19
32A	135	16	2	76	100	4	19
40A	140	16	2	81	105	4	19
50A	155	16	2	96	120	4	19
65A	175	18	2	116	140	4	19
80A	185	18	2	126	150	8	19
(90A)	195	18	2	136	160	8	19
100A	210	18	2	151	175	8	19

JIS 20K							
Nominal dia.	Flange dia. D	Size			Bolt hole		
		t	f	g	C	Number	h
10A	90	14	1	46	65	4	15
15A	95	14	1	51	70	4	15
20A	100	16	1	56	75	4	15
25A	125	16	1	67	90	4	19
32A	135	18	2	76	100	4	19
40A	140	18	2	81	105	4	19
50A	155	18	2	96	120	8	19
65A	175	20	2	116	140	8	19
80A	200	22	2	132	160	8	23
(90A)	210	24	2	145	170	8	23
100A	225	24	2	160	185	8	23

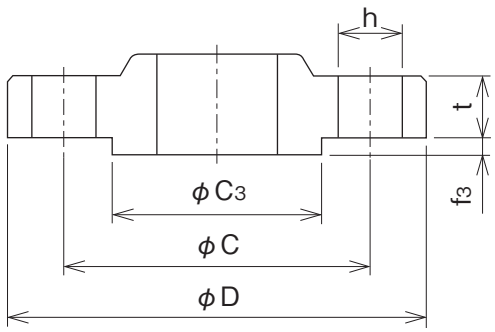
JIS 30K							
Nominal dia.	Flange dia. D	Size			Bolt hole		
		t	f	g	C	Number	h
10A	110	16	1	52	75	4	19
15A	115	18	1	55	80	4	19
20A	120	18	1	60	85	4	19
25A	130	20	1	70	95	4	19
32A	140	22	2	80	105	4	19
40A	160	22	2	90	120	4	23
50A	165	22	2	105	130	8	19
65A	200	26	2	130	160	8	23
80A	210	28	2	140	170	8	23
(90A)	230	30	2	150	185	8	25
100A	240	32	2	160	195	8	25

Flange dimensions 2

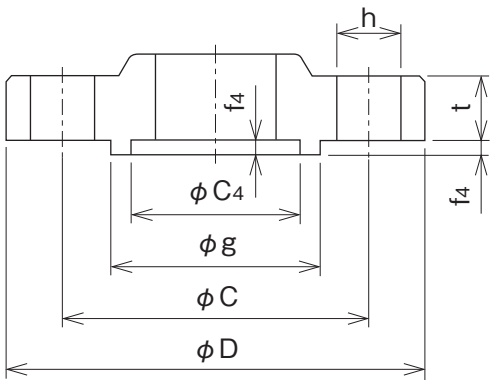
Conforms to JIS B 2220-2001

Unit: mm

MF (Fitting male)



FMF (Fitting female)



JIS 10K							
Nominal dia.	Flange dia. D	Size			Bolt hole		
		t	f3	C3	C	Number	h
10A	90	12	6	38	65	4	15
15A	95	12	6	42	70	4	15
20A	100	14	6	50	75	4	15
25A	125	14	6	60	90	4	19
32A	135	16	6	70	100	4	19
40A	140	16	6	75	105	4	19
50A	155	16	6	90	120	4	19
65A	175	18	6	110	140	4	19
80A	185	18	6	120	150	8	19
(90A)	195	18	6	130	160	8	19
100A	210	18	6	145	175	8	19

JIS 10K								
Nominal dia.	Flange dia. D	Size				Bolt hole		
		t	f4	C4	g	C	Number	h
10A	90	12	5	39	46	65	4	15
15A	95	12	5	43	51	70	4	15
20A	100	14	5	51	56	75	4	15
25A	125	14	5	61	67	90	4	19
32A	135	16	5	71	76	100	4	19
40A	140	16	5	76	81	105	4	19
50A	155	16	5	91	96	120	4	19
65A	175	18	5	111	116	140	4	19
80A	185	18	5	121	126	150	8	19
(90A)	195	18	5	131	136	160	8	19
100A	210	18	5	146	151	175	8	19

JIS 20K							
Nominal dia.	Flange dia. D	Size			Bolt hole		
		t	f3	C3	C	Number	h
10A	90	14	6	38	65	4	15
15A	95	14	6	42	70	4	15
20A	100	16	6	50	75	4	15
25A	125	16	6	60	90	4	19
32A	135	18	6	70	100	4	19
40A	140	18	6	75	105	4	19
50A	155	18	6	90	120	8	19
65A	175	20	6	110	140	8	19
80A	200	22	6	120	160	8	23
(90A)	210	24	6	130	170	8	23
100A	225	24	6	145	185	8	23

JIS 20K								
Nominal dia.	Flange dia. D	Size				Bolt hole		
		t	f4	C4	g	C	Number	h
10A	90	14	5	39	46	65	4	15
15A	95	14	5	43	51	70	4	15
20A	100	16	5	51	56	75	4	15
25A	125	16	5	61	67	90	4	19
32A	135	18	5	71	76	100	4	19
40A	140	18	5	76	81	105	4	19
50A	155	18	5	91	96	120	8	19
65A	175	20	5	111	116	140	8	19
80A	200	22	5	121	132	160	8	23
(90A)	210	24	5	131	145	170	8	23
100A	225	24	5	146	160	185	8	23

JIS 30K							
Nominal dia.	Flange dia. D	Size			Bolt hole		
		t	f3	C3	C	Number	h
10A	110	16	6	38	75	4	19
15A	115	18	6	42	80	4	19
20A	120	18	6	50	85	4	19
25A	130	20	6	60	95	4	19
32A	140	22	6	70	105	4	19
40A	160	22	6	75	120	4	23
50A	165	22	6	90	130	8	19
65A	200	26	6	110	160	8	23
80A	210	28	6	120	170	8	23
(90A)	230	30	6	130	185	8	25
100A	240	32	6	145	195	8	25

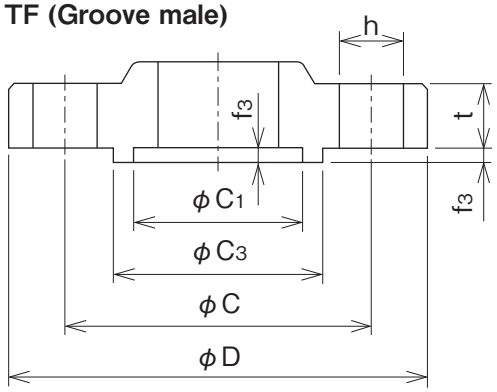
JIS 30K								
Nominal dia.	Flange dia. D	Size				Bolt hole		
		t	f4	C4	g	C	Number	h
10A	110	16	5	39	52	75	4	19
15A	115	18	5	43	55	80	4	19
20A	120	18	5	51	60	85	4	19
25A	130	20	5	61	70	95	4	19
32A	140	22	5	71	80	105	4	19
40A	160	22	5	76	90	120	4	23
50A	165	22	5	91	105	130	8	19
65A	200	26	5	111	130	160	8	23
80A	210	28	5	121	140	170	8	23
(90A)	230	30	5	131	150	185	8	25
100A	240	32	5	146	160	195	8	25

Flange dimensions 3

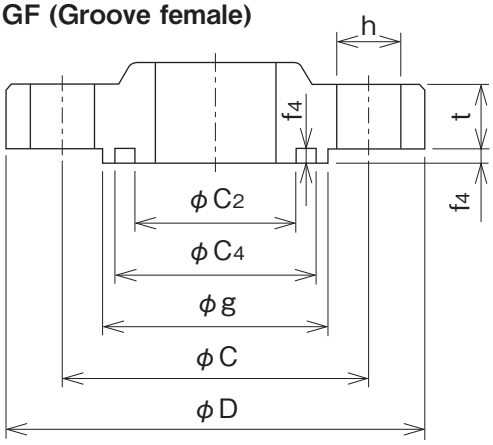
Conforms to JIS B 2220-2001

Unit: mm

TF (Groove male)



GF (Groove female)



JIS 10K								
Nominal dia.	Flange dia. D	Size				Bolt hole		
		t	f3	C1	C3	C	Number	h
10A	90	12	6	28	38	65	4	15
15A	95	12	6	32	42	70	4	15
20A	100	14	6	38	50	75	4	15
25A	125	14	6	45	60	90	4	19
32A	135	16	6	55	70	100	4	19
40A	140	16	6	60	75	105	4	19
50A	155	16	6	70	90	120	4	19
65A	175	18	6	90	110	140	4	19
80A	185	18	6	100	120	150	8	19
(90A)	195	18	6	110	130	160	8	19
100A	210	18	6	125	145	175	8	19

JIS 10K								
Nominal dia.	Flange dia. D	Size					Bolt hole		
		t	f4	C2	C4	g	C	Number	h
10A	90	12	5	27	39	46	65	4	15
15A	95	12	5	31	43	51	70	4	15
20A	100	14	5	37	51	56	75	4	15
25A	125	14	5	44	61	67	90	4	19
32A	135	16	5	54	71	76	100	4	19
40A	140	16	5	59	76	81	105	4	19
50A	155	16	5	69	91	96	120	4	19
65A	175	18	5	89	111	116	140	4	19
80A	185	18	5	99	121	126	150	8	19
(90A)	195	18	5	109	131	136	160	8	19
100A	210	18	5	124	146	151	175	8	19

JIS 20K								
Nominal dia.	Flange dia. D	Size				Bolt hole		
		t	f3	C1	C3	C	Number	h
10A	90	14	6	28	38	65	4	15
15A	95	14	6	32	42	70	4	15
20A	100	16	6	38	50	75	4	15
25A	125	16	6	45	60	90	4	19
32A	135	18	6	55	70	100	4	19
40A	140	18	6	60	75	105	4	19
50A	155	18	6	70	90	120	8	19
65A	175	20	6	90	110	140	8	19
80A	200	22	6	100	120	160	8	23
(90A)	210	24	6	110	130	170	8	23
100A	225	24	6	125	145	185	8	23

JIS 20K								
Nominal dia.	Flange dia. D	Size					Bolt hole		
		t	f4	C2	C4	g	C	Number	h
10A	90	14	5	27	39	46	65	4	15
15A	95	14	5	31	43	51	70	4	15
20A	100	16	5	37	51	56	75	4	15
25A	125	16	5	44	61	67	90	4	19
32A	135	18	5	54	71	76	100	4	19
40A	140	18	5	59	76	81	105	4	19
50A	155	18	5	69	91	96	120	8	19
65A	175	20	5	89	111	116	140	8	19
80A	200	22	5	99	121	132	160	8	23
(90A)	210	24	5	109	131	145	170	8	23
100A	225	24	5	124	146	160	185	8	23

JIS 30K								
Nominal dia.	Flange dia. D	Size				Bolt hole		
		t	f3	C1	C3	C	Number	h
10A	110	16	6	28	38	75	4	19
15A	115	18	6	32	42	80	4	19
20A	120	18	6	38	50	85	4	19
25A	130	20	6	45	60	95	4	19
32A	140	22	6	55	70	105	4	19
40A	160	22	6	60	75	120	4	23
50A	165	22	6	70	90	130	8	19
65A	200	26	6	90	110	160	8	23
80A	210	28	6	100	120	170	8	23
(90A)	230	30	6	110	130	185	8	25
100A	240	32	6	125	145	195	8	25

JIS 30K								
Nominal dia.	Flange dia. D	Size					Bolt hole		
		t	f4	C2	C4	g	C	Number	h
10A	110	16	5	27	39	52	75	4	19
15A	115	18	5	31	43	55	80	4	19
20A	120	18	5	37	51	60	85	4	19
25A	130	20	5	44	61	70	95	4	19
32A	140	22	5	54	71	80	105	4	19
40A	160	22	5	59	76	90	120	4	23
50A	165	22	5	69	91	105	130	8	19
65A	200	26	5	89	111	130	160	8	23
80A	210	28	5	99	121	140	170	8	23
(90A)	230	30	5	109	131	150	185	8	25
100A	240	32	5	124	146	160	195	8	25

SC_ _
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 indicator gauges.
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)**

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

Specification

Fluid:
High corrosion and high viscosity fluid
Type:
Direct type, Remote type (Option)
Mounting system:
Screw type, Flange type

Pressure range:
Positive pressure 0 to 0.06MPa→0 to 16MPa
Vacuum, Compound -0.1 to 0MPa→-0.1 to 2.5MPa
Accuracy:
±1.6%F.S./20℃±10℃

Indicator

Pressure indicator gauge:
General industrial pressure gauges (Model: A□1□)
Process industrial pressure gauges (Equivalent to IP43) (Model: B□1□)
Glycerine bath type pressure gauges (Model: GV42)
Size:
ϕ75, ϕ100, ϕ150
Mounting:
Lower connection (Type A, Type B)
Main materials:
Socket CAC203
Bourdon tube C6872T, SUS316
Case materials, Finish:
Aluminum alloy, plastic, black
(Glycerine bath type pressure gauges: SUS304, base material)
Case construction:
Indoor type, sealed type, (Equivalent to IP43)

＊For details, refer to the catalog of each pressure indicator gauge.

Diaphragm, Filled liquid

Diaphragm diameter:
ϕ40, ϕ60, ϕ80, ϕ110
＊Determined by the temperature of pressure range and fluid
Diaphragm material:
For the material of the upper and lower flange, diaphragm, etc., please refer to diaphragm-seal pressure gauge catalog diaphragm seal part 2 column.
Filled liquid:
Silicone oil
-30 to 230℃ (Operating temperature range)
Note: Vacuum gauge, Compound gauge are available in only temperature range -5 to 100℃.
＊Daifloil®, glycerine aqueous liquor and propylene-glycol are also available. Please contact us.
(However, the operating temperature range varies. The vacuum, compound gauge except silicone oil for cryogenic temperature cannot be used.)
Maximum lead length:
In case of remote type (Option)
2m to 10m (Depends on the range)

Specification

Selecting the pressure and temperature range and diaphragm diameter:
(When maximum lead length is remote type (option))

Filled liquid	Silicone oil for cryogenic temperature				Silicone oil for medium temperature	
Fluid temperature range	Less than -30 to -5℃		-5 to 100℃*		100 over to 230℃	
Pressure range MPa	Diaphragm diameter	Maximum lead length	Diaphragm diameter	Maximum lead length	Diaphragm diameter	Maximum lead length
0 to 0.06 (GV42 is not available)	ϕ110	6m	ϕ110	6m	ϕ110	6m
0 to 0.1	ϕ110	6m	ϕ80	6m	ϕ110	6m
to 0.16	ϕ110	6m	ϕ80	6m	ϕ110	6m
to 0.25	ϕ80	4m	ϕ80	6m	ϕ80	4m
to 0.4	ϕ80	6m	ϕ80	8m	ϕ80	6m
to 0.6	ϕ80	6m	ϕ60	6m	ϕ80	6m
to 1	ϕ80	6m	ϕ60	10m	ϕ80	6m
to 1.6	ϕ60	2m	ϕ60	10m	ϕ60	2m
to 2.5	ϕ60	2m	ϕ60	10m	ϕ60	2m
to 4	ϕ60	2m	ϕ60	10m	ϕ60	2m
to 6	ϕ40	2m	ϕ40	2m	ϕ40	2m
to 10	ϕ40	2m	ϕ40	2m	ϕ40	2m
to 16	ϕ40	2m	ϕ40	2m	ϕ40	2m
-0.1 to 0MPa*1	—	—	ϕ110 ϕ80	6m 3m	—	—
to 0.06 *1 (GV42 is not available)	—	—	ϕ110 ϕ80	6m 3m	—	—
to 0.1	—	—	ϕ80	6m	—	—
to 0.16	—	—	ϕ80	6m	—	—
to 0.25	—	—	ϕ80	6m	—	—
to 0.4	—	—	ϕ80	8m	—	—
to 0.6	—	—	ϕ60	6m	—	—
to 1	—	—	ϕ60	10m	—	—
to 1.6	—	—	ϕ60	10m	—	—
to 2.5	—	—	ϕ60	10m	—	—

*1 Diaphragm diameter of the direct type is only ϕ80.
*Glycerine bath type pressure gauge (GV42) is available in only -5 to 100℃.
*Please specify the lead length in 1m increments.

Installation shape and selecting the installation size by diaphragm diameter:

Mounting system	Flange type								Screw type
Diaphragm diameter	ϕ40		ϕ60		ϕ80		ϕ110		ϕ40, ϕ60, ϕ80, ϕ110
Mounting / Nominal diameter	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	○	—	○	—	○	—	○	—	
15A	○	—	○	—	○	—	○	—	
20A	○	—	○	—	○	—	○	—	
25A	—	○	○	—	○	—	○	—	G3/8B
32A	—	○	○	—	○	—	○	—	G1/2B
40A	—	○	—	○	○	—	○	—	R3/8
50A	—	○	—	○	—	○	○	—	R1/2
65A	—	—	—	○	—	○	○	—	
80A	—	—	—	○	—	○	—	○	
100A	—	—	—	○	—	○	—	○	

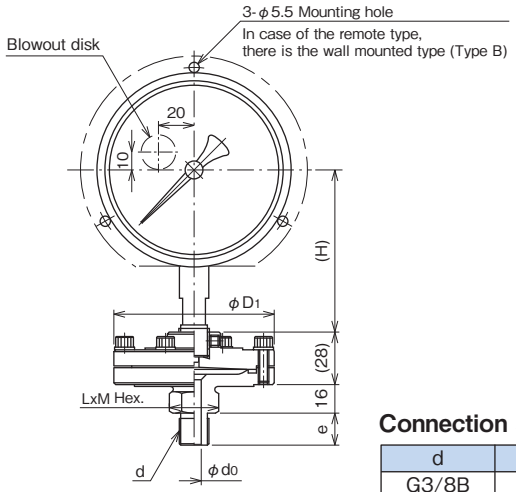
Dimensions

Unit: mm

Standard (Model: SC□□)

〔Screw type〕 Model 100, Screw

General industrial, Process industrial pressure gauges

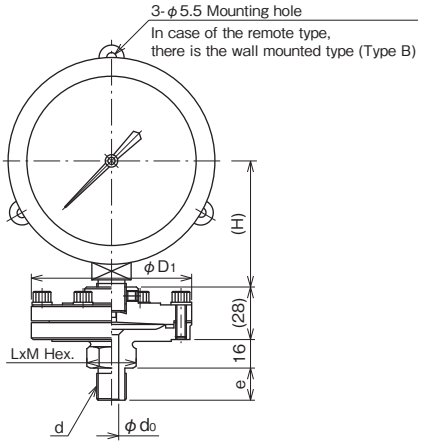


SC10-□□□

Connection size

d	e	d0	LxM
G3/8B	18	8	24x27.7
G1/2B	20	10	
G3/4B	24	15	36x41.6
G1B	28	20	

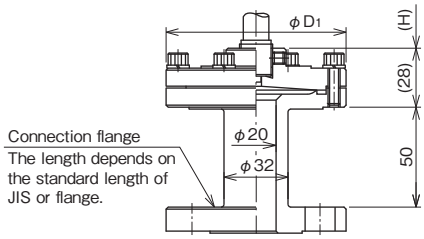
Glycerine bath type pressure gauges



SC10-□□□

In case glycerine bath type pressure gauges, the range is -5 to 40℃ in the ambient temperature, -5 to 100℃ in the fluid temperature.

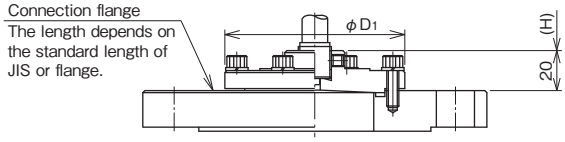
〔Flange type〕 Model 200, Flange



For the details, please refer to the flange dimension.

SC2□-□□□

Model 300, Flange



For the details, please refer to the flange dimension.

SC3□-□□□

General industrial, Process industrial pressure gauges indicator size

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□□

Glycerine bath type pressure gauges indicator size

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

Pressure receiver diameter (φD1) size

Diaphragm diameter	φD1
φ40	φ70
φ60	φ90
φ80	φ110
φ110	φ140

* Please contact us about the dimension of remote type (Option)
* For the details of the indicator dimension, please refer to the catalog of each pressure indicator gauge.

Diaphragm-Seal type Pressure Gauges Model 100 Screw type

Model number configuration

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

Model

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

Diaphragm-seal type pressure gauges
Model 100 screw type

Model number			Selective spec.		Additional spec. (Option)
① Connection	3	G3/8B	G	R3/8	
	4	G1/2B	H	R1/2	
② Mounting	0	Screw type			
③ Wetted parts material (Lower flange)	2	S25C	6	Titanium	
	3	SUS316	7	Hastelloy® B equivalent	
	4	SUS316L	8	Hastelloy® C-276 equivalent	
	5	Monel®			

Please specify applicable diaphragm diameter as well as pressure range and engineering unit.

④ Diaphragm diameter

		Fluid temperature range (℃)		
		-30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
4	φ40	0 to 6, 10, 16	0 to 6, 10, 16	0 to 6, 10, 16
6	φ60	0 to 1.6, 2.5, 4	0 to 0.6, 1, 1.6, 2.5, 4 -0.1 to 0.6, 1, 1.6, 2.5	0 to 1.6, 2.5, 4
8	φ80	0 to 0.25, 0.4, 0.6, 1	0 to 0.1, 0.16, 0.25, 0.4 -0.1 to 0, 0.06, 0.1, 0.16, 0.25, 0.4	0 to 0.25, 0.4, 0.6, 1
9	φ110	0 to 0.06, 0.1, 0.16	0 to 0.06 (-0.1 to 0, 0.06)*1	0 to 0.06, 0.1, 0.16

(MPa)

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

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

⑨⑩⑪⑫ Indicator gauge (Indicator model)		
A C 1 0	φ75	General industrial pressure gauge standard spec.
B C 1 0	φ75	Process industrial pressure gauge standard spec.
B C 1 2	φ75	Process industrial pressure gauge standard spec.
A E 1 0	φ100	General industrial pressure gauge standard spec.
B E 1 0	φ100	Process industrial pressure gauge standard spec.
B E 1 2	φ100	Process industrial pressure gauge standard spec.
A G 1 0	φ150	General industrial pressure gauge standard spec.
B G 1 0	φ150	Process industrial pressure gauge standard spec.
B G 1 2	φ150	Process industrial pressure gauge standard spec.
G V 4 2	φ100	Glycerine bath type pressure gauges

When ordering the other indicator, please contact us.

⑬ Indicator element material		
1	General use (Without GV42)	
3	Corrosion-proof use (Without GV42)	

⑭ Construction		
1	Direct type	
2	Remote type Please specify the lead type and length.	

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), inspection / traceability certificate, strength calculation, attended inspection	

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

＊1 Range in the ( ) is, case of over the lead length 3m.

[Manufacturing range]
- Vacuum gauge, Compound gauge are not available to lined diaphragm.
- GV42 is available in -30 to 100℃ only.
  However, the range 0.06MPa is impossible.
- Please specify filled liquid, lead type and length separately.

[Other additional specifications]
- Filled liquid
  Standard For cryogenic temperature: Silicone
  For medium temperature: DC550
- Lead
  SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
- Option (Please specify separately.
  For the details, please refer to the separately page.)
  Radiator tube SGD400-D, SUS316
  Dampener SUS316

Caution

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

＊Specify by code "X" if there is no applicable specification.

Diaphragm-Seal type Pressure Gauges Model 200 Flange type

Model number configuration

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

Model

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

Diaphragm-seal type pressure gauges
Model 200 flange type

Model number			Selective spec.		Additional spec. (Option)
Model (Flange rating)	1	JIS 10K	3	JIS 20K	
	2	JIS 16K	4	JIS 30K	

① Flange size

	Flange type	Diaphragm diameter 40	60	80	110
1	15A	◎	◎	◎	◎
2	20A	◎	◎	◎	◎
3	25A	×	◎	◎	◎
4	32A	×	◎	◎	◎
5	40A	×	×	◎	◎
6	50A	×	×	×	◎
7	65A	×	×	×	◎
A	10A	◎	◎	◎	◎

② Flange mounting

1	RF	4	GF
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	イ	SUS316 + Neoprene® lining
J	S25C + Neoprene® lining	ウ	SUS316 + Caoutchouc lining

Please specify applicable diaphragm diameter as well as pressure range and engineering unit.

④ Diaphragm diameter

		Fluid temperature range (℃) -30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
4	φ40	0 to 6, 10, 16	0 to 6, 10, 16	0 to 6, 10, 16
6	φ60	0 to 1.6, 2.5, 4	0 to 0.6, 1, 1.6, 2.5, 4 -0.1 to 0.6, 1, 1.6, 2.5	0 to 1.6, 2.5, 4
8	φ80	0 to 0.25, 0.4, 0.6, 1	0 to 0.1, 0.16, 0.25, 0.4 -0.1 to 0, 0.06, 0.1, 0.16, 0.25, 0.4	0 to 0.25, 0.4, 0.6, 1
9	φ110	0 to 0.06, 0.1, 0.16	0 to 0.06 (-0.1 to 0, 0.06)*1	0 to 0.06, 0.1, 0.16

(MPa)

⑤ Diaphragm material

1	SUS316 + FEP lined	7	Hastelloy® B equivalent
2	SUS316 + FEP coating	8	Hastelloy® C-276 equivalent
3	SUS316	A	Tantalum
4	SUS316L	D	Nickel
5	Monel®	J	SUS316 + Neoprene® lined
6	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℃)

⑧ Treatment

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

⑨⑩⑪⑫ Indicator gauge (Indicator model)

A C 1 0	φ75	General industrial pressure gauge standard spec.
B C 1 0	φ75	Process industrial pressure gauge standard spec.
B C 1 2	φ75	Process industrial pressure gauge standard spec.
A E 1 0	φ100	General industrial pressure gauge standard spec.
B E 1 0	φ100	Process industrial pressure gauge standard spec.
B E 1 2	φ100	Process industrial pressure gauge standard spec.
A G 1 0	φ150	General industrial pressure gauge standard spec.
B G 1 0	φ150	Process industrial pressure gauge standard spec.
B G 1 2	φ150	Process industrial pressure gauge standard spec.
G V 4 2	φ100	Glycerine bath type pressure gauges

When ordering the other indicator, please contact us.

⑬ Indicator element material

1	General use (Without GV42)
3	Corrosion-proof use (Without GV42)

⑭ Construction

1	Direct type
2	Remote type Please specify the lead type and length.

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), inspection / traceability certificate, strength calculation, attended inspection

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

＊1 Range in the ( ) is, case of over the lead length 3m.

[Manufacturing range]
- ·Vacuum gauge, Compound gauge are not available to lined diaphragm.
- ·GV42 is available in -30 to 100℃ only. However, the range 0.06MPa is impossible.
- ·Note 1: 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
  (Diaphragm diameter φ60, φ80 only)
  Range maximum pressure: φ60···0.6, 1MPa
  φ80···0.1 to 0.4MPa
  Operating temperature range: 0 to 60℃
- ·Please specify filled liquid, lead type and length separately.

[Other additional specifications]
- ·Filled liquid
  Standard For cryogenic temperature: Silicone
  For medium temperature: DC550
- ·Lead
  SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
- ·Option (Please specify separately.
  For the details, please refer to the separately page.)
  Radiator tube SGD400-D, SUS316
  Dampener SUS316
  Serration process

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

＊Specify by code "X" if there is no applicable specification.

Diaphragm-Seal type Pressure Gauges Model 300 Flange type

Model number configuration

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

Model

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

Diaphragm-seal type pressure gauges
Model 300 flange type

Model number			Selective spec.		Additional spec. (Option)
Model (Flange rating)	1	JIS 10K	3	JIS 20K	
	2	JIS 16K	4	JIS 30K	

① Flange size	Flange type	Diaphragm diameter 40	60	80	110
3	25A	◎	×	×	×
4	32A	◎	×	×	×
5	40A	◎	◎	×	×
6	50A	◎	◎	◎	×
7	65A	×	◎	◎	×
8	80A	×	◎	◎	◎
B	90A	×	◎	◎	◎
C	100A	×	◎	◎	◎

② Flange mounting				
1	RF	4	GF
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 applicable diaphragm diameter as well as pressure range and engineering unit.

④ Diaphragm diameter		Fluid temperature range (℃) -30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
4	φ40	0 to 6, 10, 16	0 to 6, 10, 16	0 to 6, 10, 16
6	φ60	0 to 1.6, 2.5, 4	0 to 0.6, 1, 1.6, 2.5, 4 -0.1 to 0.6, 1, 1.6, 2.5	0 to 1.6, 2.5, 4
8	φ80	0 to 0.25, 0.4, 0.6, 1	0 to 0.1, 0.16, 0.25, 0.4 -0.1 to 0, 0.06, 0.1, 0.16, 0.25, 0.4	0 to 0.25, 0.4, 0.6, 1
9	φ110	0 to 0.06, 0.1, 0.16	0 to 0.06 (-0.1 to 0, 0.06)*1	0 to 0.06, 0.1, 0.16

(MPa)

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

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

⑨⑩⑪⑫ Indicator gauge (Indicator model)			
A C 1 0	φ75	General industrial pressure gauge standard spec.
B C 1 0	φ75	Process industrial pressure gauge standard spec.
B C 1 2	φ75	Process industrial pressure gauge standard spec.
A E 1 0	φ100	General industrial pressure gauge standard spec.
B E 1 0	φ100	Process industrial pressure gauge standard spec.
B E 1 2	φ100	Process industrial pressure gauge standard spec.
A G 1 0	φ150	General industrial pressure gauge standard spec.
B G 1 0	φ150	Process industrial pressure gauge standard spec.
B G 1 2	φ150	Process industrial pressure gauge standard spec.
G V 4 2	φ100	Glycerine bath type pressure gauges

When ordering the other indicator, please contact us.

⑬ Indicator element material		
1	General use (Without GV42)
3	Corrosion-proof use (Without GV42)

⑭ Construction		
1	Direct type
2	Remote type Please specify the lead type and length.

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), inspection / traceability certificate, strength calculation, attended inspection

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

＊1 Range in the ( ) is, case of over the lead length 3m.

[Manufacturing range]
・Vacuum gauge, Compound gauge are not available to lined diaphragm.

・GV42 is available in -30 to 100℃ only.
However, the range 0.06MPa is impossible.

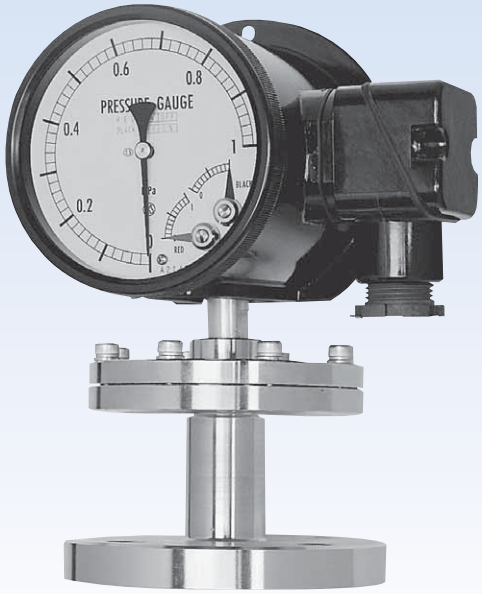
・Please specify filled liquid, lead type and length separately.

[Other additional specifications]
・Filled liquid
Standard For cryogenic temperature: Silicone
For medium temperature: DC550
・Lead
SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
・Option (Please specify separately.
For the details, please refer to the separately page.)
Radiator tube SGD400-D, SUS316
Dampener SUS316
Serration process

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

＊Specify by code "X" if there is no applicable specification.

SC_ _
Diaphragm-Seal Pressure Gauges With Switch



Specification

Fluid:
High corrosion and high viscosity fluid

Type:
Direct type, Remote type (Option)

Mounting system:
Screw type, Flange type

Accuracy:
±1.5%F.S./20℃±10℃

Indicator

Pressure indicator gauge:
Pressure gauge with microswitch contacts (Model: JM□□)
Pressure gauge with electronic contacts (Model: JD1□)

Size:
ϕ100, ϕ150

Mounting:
Lower connection (Type A or Type B), Back connection

Main materials:

Socket	CAC203, SCS14
Bourdon tube	C6872T, SUS316

Number of contacts:
1 contact or 2 contacts

Setting system:
Internal adjustment type

Case materials, Finish:
ADC12 or AC7A
・Black or two-tone (Blue, Gray)

Case construction:
Drip-proof (Equivalent to IP43)

*For details, refer to the catalog of each pressure gauge with electric contacts.

Diaphragm, Filled liquid

Diaphragm diameter:
Pressure gauge with microswitch contacts
ϕ60, ϕ80, ϕ110
Pressure gauge with electronic contacts
ϕ40, ϕ60, ϕ80
*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:
Silicone oil
-30 to 230℃
Note: Vacuum gauge, Compound gauge are available in only temperature range -5 to 100℃.
*Daifloil®, glycerine aqueous liquor and propylene-glycol are also available.
Please contact us.
(However, the temperature range varies.
The vacuum, compound gauge except silicone oil for cryogenic temperature cannot be used.)

Maximum lead length:
In case of remote type (Option)
2m to 10m (Depends on the range)

Specification

Selecting the pressure and temperature range and diaphragm diameter:

(When maximum lead length is remote type (option))

Filled liquid	Silicone oil for cryogenic temperature										Silicone oil for medium temperature			
Fluid temperature range	Less than -30 to -5℃				-5 to 100℃*						100 over to 230℃			
Number of contacts	1 contact		2 contacts		1 contact		2 contacts				1 contact		2 contacts	
Indicator gauge (Model)	JM□□		JM□□		JM□□		JM□□		JD□□		JM□□		JM□□	
Pressure range MPa	Diaphragm diameter	Maximum lead length	Diaphragm diameter	Maximum lead length	Diaphragm diameter	Maximum lead length	Diaphragm diameter	Maximum lead length	Diaphragm diameter	Maximum lead length	Diaphragm diameter	Maximum lead length	Diaphragm diameter	Maximum lead length
0 to 0.1	φ110	6m	φ110	6m	φ110	6m	φ110	6m	—	—	φ110	6m	φ110	6m
to 0.2	φ110	6m	φ110	6m	φ80	4m	φ110	6m	φ80	6m	φ110	6m	φ110	6m
to 0.3	φ110	6m	φ110	6m	φ80	4m	φ80	4m	φ80	6m	φ110	6m	φ110	6m
to 0.4	φ80	2m	φ110	6m	φ80	8m	φ80	8m	φ80	6m	φ80	2m	φ110	2m
to 0.6	φ80	2m	φ80	2m	φ80	8m	φ80	8m	φ60	6m	φ80	2m	φ80	2m
to 1	φ80	2m	φ80	2m	φ80	8m	φ80	8m	φ60	10m	φ80	2m	φ80	2m
to 1.5	φ80	2m	φ80	2m	φ60	6m	φ80	6m	φ60	10m	φ80	2m	φ80	2m
to 2	φ80	2m	φ80	2m	φ60	6m	φ60	6m	φ60	10m	φ80	2m	φ80	2m
to 2.5	φ60	2m	φ80	2m	φ60	6m	φ60	6m	φ60	10m	φ60	2m	φ80	2m
to 3.5	φ60	2m	φ60	2m	φ60	6m	φ60	6m	φ60	10m	φ60	2m	φ60	2m
to 5	φ60	2m	φ60	2m	φ60	6m	φ60	6m	φ60	10m	φ60	2m	φ60	2m
to 7	—	—	—	—	—	—	—	—	φ40	2m	—	—	—	—
to 10	—	—	—	—	—	—	—	—	φ40	2m	—	—	—	—
to 15	—	—	—	—	—	—	—	—	φ40	2m	—	—	—	—
-0.1 to 0MPa	—	—	—	—	φ110	3m	φ110	3m	—	—	—	—	—	—
to 0.1	—	—	—	—	φ110	6m	φ110	6m	φ80	6m	—	—	—	—
to 0.2	—	—	—	—	φ80	4m	φ110	4m	φ80	6m	—	—	—	—
to 0.3	—	—	—	—	φ80	4m	φ80	4m	φ80	6m	—	—	—	—
to 0.4	—	—	—	—	φ80	8m	φ80	8m	φ80	6m	—	—	—	—
to 0.6	—	—	—	—	φ80	8m	φ80	8m	φ60	6m	—	—	—	—
to 1	—	—	—	—	φ80	8m	φ80	8m	φ60	10m	—	—	—	—
to 1.5	—	—	—	—	φ60	6m	φ80	6m	φ60	10m	—	—	—	—
to 2	—	—	—	—	φ60	6m	φ60	6m	φ60	10m	—	—	—	—

*Pressure gauge with electronic contacts (JD1□) is available to only 2 contacts in -5 to 100℃
*Please specify the capillary length in 1m increments.

Installation shape and selecting the installation size by diaphragm diameter:

Mounting system	Flange type								Screw type
Diaphragm diameter	φ40		φ60		φ80		φ110		φ40, φ60, φ80, φ110
Mounting / Nominal diameter	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″)	○	–	○	–	○	–	○	–	
15A (1/2″)	○	–	○	–	○	–	○	–	
20A (3/4″)	○	–	○	–	○	–	○	–	G3/8B
25A (1″)	–	○	○	–	○	–	○	–	G1/2B
32A (1 1/4″)	–	○	○	–	○	–	○	–	R3/8
40A (1 1/2″)	–	○	–	○	○	–	○	–	R1/2
50A (2″)	–	○	–	○	–	○	○	–	1/2NPT
65A (2 1/2″)	–	–	–	○	–	○	○	–	3/8NPT
80A (3″)	–	–	–	○	–	○	–	○	
100A (4″)	–	–	–	○	–	○	–	○	

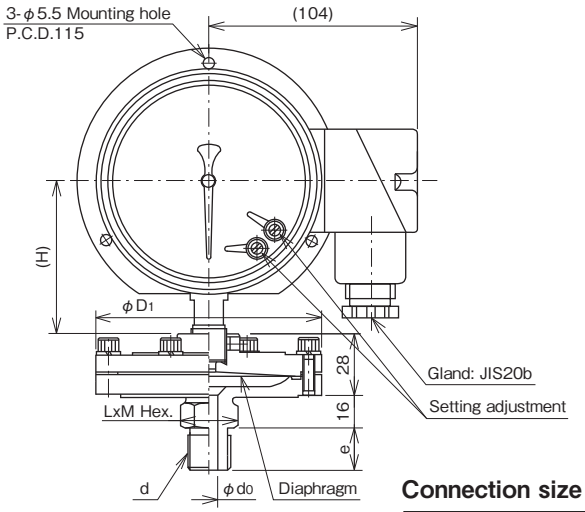
Dimensions

Unit: mm

Standard (Model: SC□□)

〔Screw type〕 Model 100, Screw

Pressure gauge with microswitch contacts

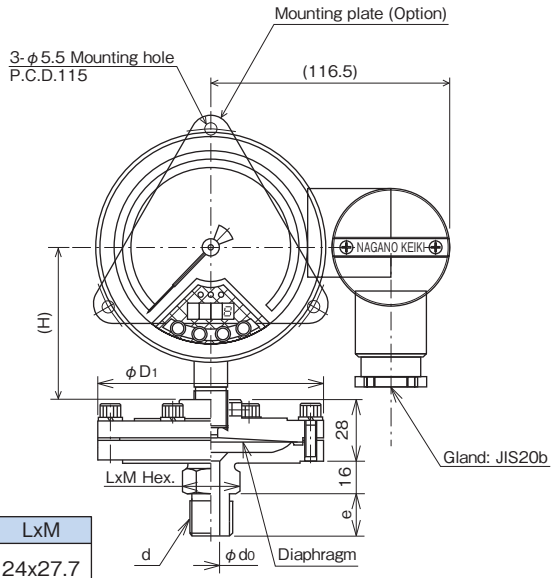


SC10-□□□

Connection size

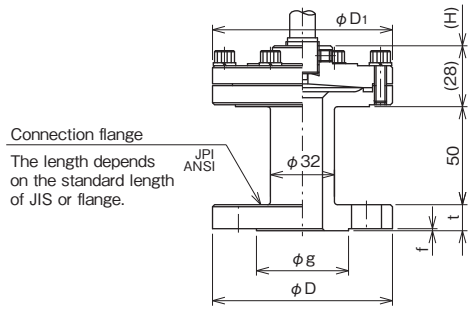
d	e	do	LxM
G3/8B	18	8	24x27.7
G1/2B	20	10	
G3/4B	24	15	36x41.6
G1B	28	20	

Pressure gauge with electronic contacts



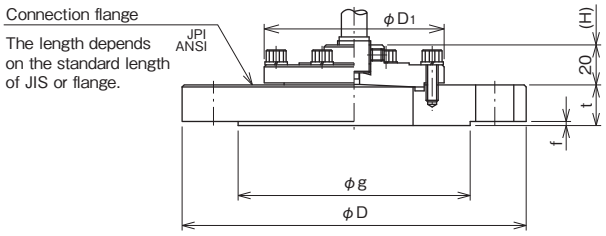
SC10-□□□

〔Flange type〕 Model 200, Flange



SC2□-□□□

Model 300, Flange



SC3□-□□□

Indicator size

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

Note) In the case of the diaphragm diameter φ110 and 300 form flange size 8, B, and C in size 100, H dimensions are 120mm.

Pressure receiver diameter (φD1) size

Diaphragm diameter	φD1
φ40	φ70
φ60	φ90
φ80	φ110
φ110	φ140

* Please contact us about the dimension of remote type (Option)
* For the details of the indicator dimension, please refer to the catalog of each pressure gauge.

Model number configuration

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

Model

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

Diaphragm-seal type pressure gauges with electric contacts model 100 screw type

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 Mounting	0	Screw type			
③ Wetted parts material (Lower flange)	2	S25C	6	Titanium	
	3	SUS316	7	Hastelloy® B equivalent	
	4	SUS316L	8	Hastelloy® C-276 equivalent	
	5	Monel®			

Please specify applicable diaphragm diameter as well as pressure range and engineering unit.

④ Diaphragm diameter (MPa)

		Fluid temperature range (℃)		
		-30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
6	φ60 (1 contact)	0 to 2.5, 3.5, 5	0 to 1.5, 2, 2.5, 3.5, 5 -0.1 to 1.5, 2	0 to 2.5, 3.5, 5
8	φ80 (1 contact)	0 to 0.4, 0.6, 1, 1.5, 2	0 to 0.2, 0.3, 0.4, 0.6, 1 -0.1 to 0.2, 0.3, 0.4, 0.6, 1	0 to 0.4, 0.6, 1, 1.5, 2
9	φ110 (1 contact)	0 to 0.1, 0.2, 0.3	0 to 0.1 -0.1 to 0, 0.1	0 to 0.1, 0.2, 0.3
6	φ60 (2 contacts)	0 to 3.5, 5	0 to 2, 2.5, 3.5, 5 -0.1 to 2	0 to 3.5, 5
8	φ80 (2 contacts)	0 to 0.6, 1, 1.5, 2, 2.5	0 to 0.3, 0.4, 0.6, 1, 1.5 -0.1 to 0.3, 0.4, 0.6, 1, 1.5	0 to 0.6, 1, 1.5, 2, 2.5
9	φ110 (2 contacts)	0 to 0.1, 0.2, 0.3, 0.4	0 to 0.1, 0.2 -0.1 to 0, 0.1, 0.2	0 to 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	Tantalum
	4	SUS316L	D	Nickel
	5	Monel®	J	SUS316 + Neoprene® lined
	6	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℃)		
⑧ Treatment	0	Nil		
	1	Use no oil		
	2	Use no water		
	3	Use no oil & water		
⑨⑩⑪⑫ Indicator gauge (Indicator model)	J M 1 1	φ100 Pressure gauge with JM contact (1 contact)		
	J M 1 6	φ100 Pressure gauge with JM contact (1 contact)		
	J M 2 1	φ150 Pressure gauge with JM contact (1 contact)		
	J M 2 6	φ150 Pressure gauge with JM contact (1 contact)		
⑬ Indicator element material	1	General use		
	3	Corrosion-proof use		
⑭ Construction	1	Direct type		
	2	Remote type Please specify the lead type and length.		
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), inspection / traceability certificate, strength calculation, attended inspection		

When ordering the other indicator, please contact NKS.

[Manufacturing range]
- ·Vacuum gauge, Compound gauge are not available to lined diaphragm.
- ·Please specify filled liquid, lead type and length separately.

[Other additional specifications]
- ·Filled liquid
  - Standard
    - For cryogenic temperature: Silicone
    - For medium temperature: DC550
- ·Lead
  - SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
- ·Option (Please specify separately.
  - For the details, please refer to the separately page.)
  - Radiator tube SGD400-D, SUS316
  - Dampener SUS316

Pressure range 0 to 7, 10MPa also correspond.
Please contact us it will be a special specification.

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

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

＊Specify by code "X" if there is no applicable specification.

Model number configuration

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

Model

S	C	2	□	—	①	②	③	—	④	⑤	⑥	⑦	⑧	J	M	⑪	⑫	⑬	⑭	⑮

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

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 type	Diaphragm diameter 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	イ	SUS316 + Neoprene® lining
J	S25C + Neoprene® lining	ウ	SUS316 + Caoutchouc lining

Please specify applicable diaphragm diameter as well as pressure range and engineering unit.

④ Diaphragm diameter

		Fluid temperature range (℃) -30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
6	φ60 (1 contact)	0 to 2.5, 3.5, 5	0 to 1.5, 2, 2.5, 3.5, 5 -0.1 to 1.5, 2	0 to 2.5, 3.5, 5
8	φ80 (1 contact)	0 to 0.4, 0.6, 1, 1.5, 2	0 to 0.2, 0.3, 0.4, 0.6, 1 -0.1 to 0.2, 0.3, 0.4, 0.6, 1	0 to 0.4, 0.6, 1, 1.5, 2
9	φ110 (1 contact)	0 to 0.1, 0.2, 0.3	0 to 0.1 -0.1 to 0, 0.1	0 to 0.1, 0.2, 0.3
6	φ60 (2 contacts)	0 to 3.5, 5	0 to 2, 2.5, 3.5, 5 -0.1 to 2	0 to 3.5, 5
8	φ80 (2 contacts)	0 to 0.6, 1, 1.5, 2, 2.5	0 to 0.3, 0.4, 0.6, 1, 1.5 -0.1 to 0.3, 0.4, 0.6, 1, 1.5	0 to 0.6, 1, 1.5, 2, 2.5
9	φ110 (2 contacts)	0 to 0.1, 0.2, 0.3, 0.4	0 to 0.1, 0.2 -0.1 to 0, 0.1, 0.2	0 to 0.1, 0.2, 0.3, 0.4

(MPa)

⑤ Diaphragm material

1	SUS316 + FEP lined	7	Hastelloy® B equivalent
2	SUS316 + FEP coating	8	Hastelloy® C-276 equivalent
3	SUS316	A	Tantalum
4	SUS316L	D	Nickel
5	Monel®	J	SUS316 + Neoprene® lined
6	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℃)

⑧ Treatment

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

⑨⑩⑪⑫ Indicator gauge (Indicator model)

J M 1 1	φ100 Pressure gauge with JM contact (1 contact)
J M 1 6	φ100 Pressure gauge with JM contact (1 contact)
J M 2 1	φ150 Pressure gauge with JM contact (1 contact)
J M 2 6	φ150 Pressure gauge with JM contact (1 contact)

When ordering the other indicator, please contact NKS.

⑬ Indicator element material

1	General use
3	Corrosion-proof use

⑭ Construction

1	Direct type
2	Remote type Please specify the lead type and length.

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), inspection / traceability certificate, strength calculation, attended inspection

[Manufacturing range]
- ·Vacuum gauge, Compound gauge are not available to lined diaphragm.
- ·Note 1: 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
  (Diaphragm diameter φ60, φ80 only)
  Range maximum pressure: φ60···0.6, 1MPa
  φ80···0.1 to 0.4MPa
  Operating temperature range: 0 to 60℃ 0 to 60℃
  ANSI, JPI 1/2B 150 is not available
- ·Please specify filled liquid, lead type and length separately.

[Other additional specifications]
- ·Filled liquid
  Standard For cryogenic temperature: Silicone
  For medium temperature: DC550
- ·Lead
  SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
- ·Option (Please specify separately.
  For the details, please refer to the separately page.)
  Radiator tube SGD400-D, SUS316
  Dampener SUS316
  Serration process

Pressure range 0 to 7, 10MPa also correspond.
Please contact us it will be a special specification.

Caution

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

＊Specify by code "X" if there is no applicable specification.

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

Model number configuration

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

Model

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

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

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 type	Diaphragm diameter 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 applicable diaphragm diameter as well as pressure range and engineering unit.

④ Diaphragm diameter			Fluid temperature range (℃) -30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
6	φ60 (1 contact)		0 to 2.5, 3.5, 5	0 to 1.5, 2, 2.5, 3.5, 5 -0.1 to 1.5, 2	0 to 2.5, 3.5, 5
8	φ80 (1 contact)		0 to 0.4, 0.6, 1, 1.5, 2	0 to 0.2, 0.3, 0.4, 0.6, 1 -0.1 to 0.2, 0.3, 0.4, 0.6, 1	0 to 0.4, 0.6, 1, 1.5, 2
9	φ110 (1 contact)		0 to 0.1, 0.2, 0.3	0 to 0.1 -0.1 to 0, 0.1	0 to 0.1, 0.2, 0.3
6	φ60 (2 contacts)		0 to 3.5, 5	0 to 2, 2.5, 3.5, 5 -0.1 to 2	0 to 3.5, 5
8	φ80 (2 contacts)		0 to 0.6, 1, 1.5, 2, 2.5	0 to 0.3, 0.4, 0.6, 1, 1.5 -0.1 to 0.3, 0.4, 0.6, 1, 1.5	0 to 0.6, 1, 1.5, 2, 2.5
9	φ110 (2 contacts)	(MPa)	0 to 0.1, 0.2, 0.3, 0.4	0 to 0.1, 0.2 -0.1 to 0, 0.1, 0.2	0 to 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	Tantalum		
4	SUS316L	D	Nickel		
5	Monel®	J	SUS316 + Neoprene® lined		
6	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℃)

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

⑨⑩⑪⑫ Indicator gauge (Indicator model)	
J M 1 1	φ100 Pressure gauge with JM contact (1 contact)
J M 1 6	φ100 Pressure gauge with JM contact (1 contact)
J M 2 1	φ150 Pressure gauge with JM contact (1 contact)
J M 2 6	φ150 Pressure gauge with JM contact (1 contact)

When ordering the other indicator, please contact NKS.

⑬ Indicator element material	
1	General use
3	Corrosion-proof use

⑭ Construction	
1	Direct type
2	Remote type Please specify the lead type and length.

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), inspection / traceability certificate, strength calculation, attended inspection

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

[Manufacturing range]
- ·Vacuum gauge, Compound gauge are not available to lined diaphragm.
- ·Please specify filled liquid, lead type and length separately.

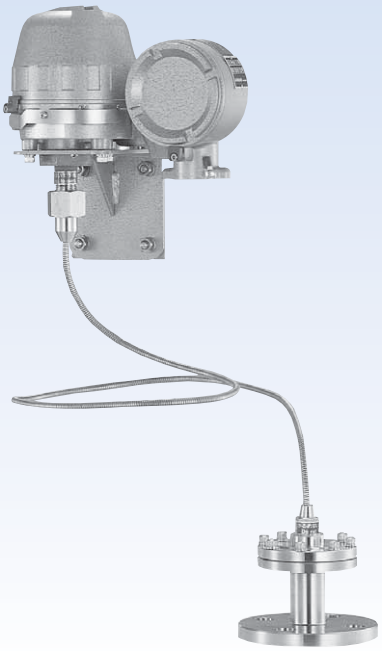
[Other additional specifications]
- ·Filled liquid
  - Standard
    - For cryogenic temperature: Silicone
    - For medium temperature: DC550
- ·Lead
  - SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
- ·Option (Please specify separately.
  - For the details, please refer to the separately page.)
  - Radiator tube SGD400-D, SUS316
  - Dampener SUS316
  - Serration process

Caution

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

＊Specify by code "X" if there is no applicable specification.

SC_ _
Diaphragm-Seal type Pressure Switch
(CQ30, CD30 Bourdon tube type for low, medium and high pressure)



Specification

Fluid:
High corrosion and high viscosity fluid

Type:
Remote type, Direct type (Option)

Mounting system:
Screw type, Flange type

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

Operating temperature range:
CQ30 -20 to 60℃
CD30 -5 to 40℃

Indicator

Pressure switch:
Pressure switch (Model: CQ30)
Explosion-proof construction pressure switch (Model: CD30)

Mounting:
Panel mounting, 2B pipe mounting

Main materials:

Socket	SCS14
Bourdon tube	SUS316

Case materials, Finish:
ADC12
・Gray crystal paint (CD30)
or two-tone (Blue, Gray) epoxy painted (CQ30)

Case construction:
Waterproof, drip-proof or outdoor type

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

Diaphragm, Filled liquid

Diaphragm diameter:
φ40, φ60, φ80, φ110
*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:
Silicone oil
-30 to 230℃
Note: Vacuum gauge, Compound gauge are available in only temperature range -5 to 100℃.
*Daifloil®, glycerine aqueous liquor and propylene-glycol are also available. Please contact us.
(However, the temperature range varies. The vacuum, compound gauge except silicone oil for cryogenic temperature cannot be used.)

Maximum lead length:
In case of remote type
2m to 10m (Depends on the range)

Specification

Diaphragm diameter, proof-pressure and temperature coefficient (Pro forma amount):

Diaphragm diameter	Diaphragm parts proof-pressure (MPa)	Switch parts temperature coefficient (%F.S./℃)	Lead parts temperature coefficient (Pa/℃/m)	Wetted parts temperature coefficient (Pa/℃)
ϕ110	0.5	-0.2	15	50
ϕ80	1.5	-0.2	30	100
ϕ60	5	-0.1	150	250
ϕ40	15	-0.1	1500	5000

*For titanium and other low strength material and when the contact temperature is high, the diaphragm parts proof-pressure is lower than this value.
*Proof-pressure of the instrument is proof-pressure of the switch (1.5 times the pressure range) or the diaphragm, whichever is lower.

Selecting the pressure and temperature range and diaphragm diameter:
(When maximum lead length is remote type)

Fluid temperature range	Less than -30 to -5℃		-5 to 100℃		100 over to 230℃	
Pressure range MPa	Diaphragm diameter	Maximum lead length	Diaphragm diameter	Maximum lead length	Diaphragm diameter	Maximum lead length
0 to 0.2	ϕ110	6m	ϕ80	6m	ϕ110	6m
to 0.4	ϕ80	6m	ϕ80	8m*1	ϕ80	6m
to 0.6	ϕ80	6m	ϕ60	6m	ϕ80	6m
to 1	ϕ80	6m	ϕ60	10m	ϕ80	6m
to 1.5	ϕ60	2m	ϕ60	10m	ϕ60	2m
to 2	ϕ60	2m	ϕ60	10m	ϕ60	2m
to 2.5	ϕ60	2m	ϕ60	10m	ϕ60	2m
to 3.5	ϕ60	2m	ϕ60	10m	ϕ60	2m
to 5	ϕ60	2m	ϕ60	10m	ϕ60	2m
to 7	ϕ40	2m	ϕ40	2m	ϕ40	2m
to10	ϕ40	2m	ϕ40	2m	ϕ40	2m
to15	ϕ40	2m	ϕ40	2m	ϕ40	2m
-0.1 to 0.2	—	—	ϕ80	6m	—	—
to 0.4	—	—	ϕ80	8m*1	—	—
to 0.6	—	—	ϕ60	6m	—	—
to 1	—	—	ϕ60	10m	—	—
to 1.5	—	—	ϕ60	10m	—	—
to 2	—	—	ϕ60	10m	—	—

*1 CQ30 is 6m.
*Please specify the lead length in 1m increments.

Installation shape and selecting the installation size by diaphragm diameter:

Mounting system	Flange type								Screw type
Diaphragm diameter	ϕ40		ϕ60		ϕ80		ϕ110		ϕ40, ϕ60, ϕ80, ϕ110
Mounting / Nominal diameter	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″)	○	—	○	—	○	—	○	—	
15A (1/2″)	○	—	○	—	○	—	○	—	
20A (3/4″)	○	—	○	—	○	—	○	—	G3/8B
25A (1″)	—	○	○	—	○	—	○	—	G1/2B
32A (1 1/4″)	—	○	○	—	○	—	○	—	R3/8
40A (1 1/2″)	—	○	—	○	○	—	○	—	R1/2
50A (2″)	—	○	—	○	—	○	○	—	1/2NPT
65A (2 1/2″)	—	—	—	○	—	○	○	—	3/8NPT
80A (3″)	—	—	—	○	—	○	—	○	
100A (4″)	—	—	—	○	—	○	—	○	

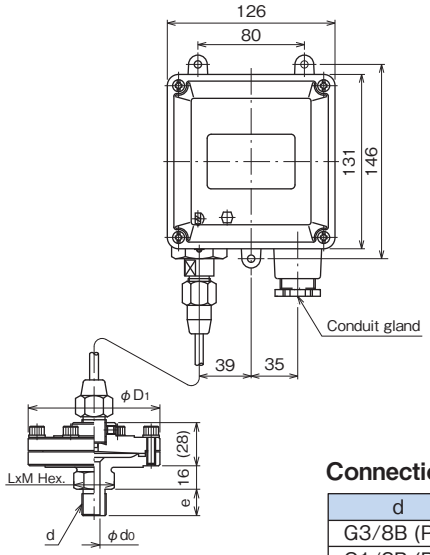
Dimensions

Unit: mm

Standard (Model: SC□□)

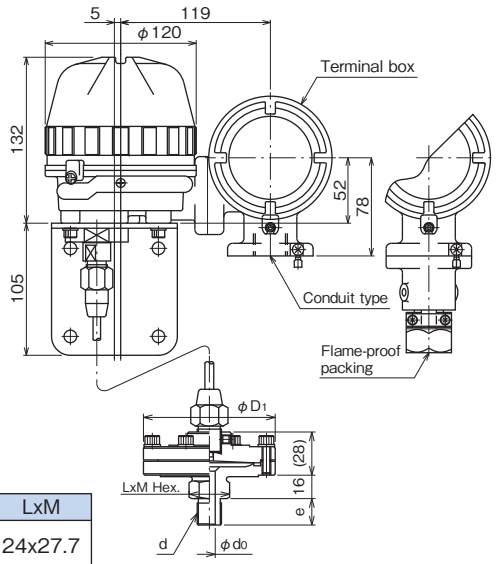
〔Screw type〕 **Model 100, Screw**

CQ30 Pressure switch



SC10-□□□

CD30 Explosion-proof construction pressure switch

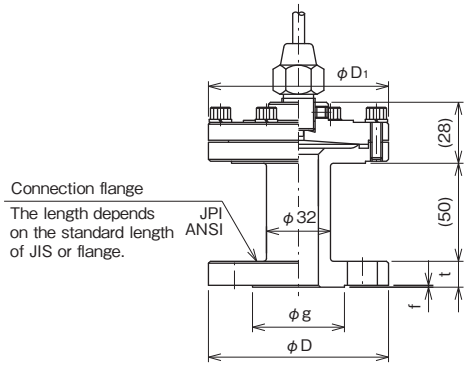


SC10-□□□

Connection size

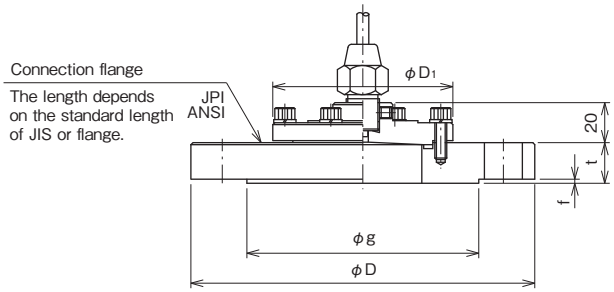
d	e	do	LxM
G3/8B (PF)	18	8	24x27.7
G1/2B (PF)	20	10	
G3/4B (PF)	24	15	36x41.6
G1B (PF)	28	20	

〔Flange type〕 **Model 200, Flange**



SC2□-□□□

Model 300, Flange



SC3□-□□□

Indicator size

Model number (Indicator)	Mounting
CQ30-□□3	Panel mounting
CD30-□□3	Panel mounting
	2B pipe mounting

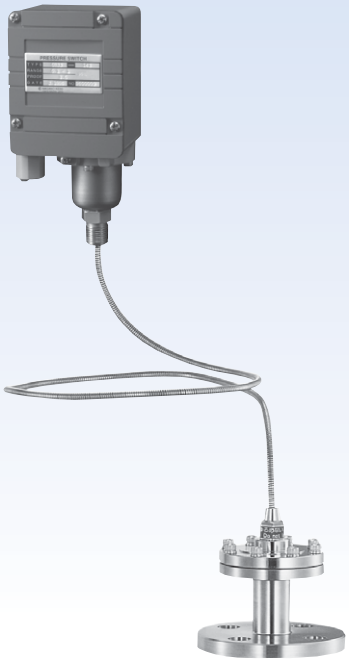
Pressure receiver diameter (φD1) size

Diaphragm diameter	φD1
φ40	φ70
φ60	φ90
φ80	φ110
φ110	φ140

- Please contact NKS about the dimension of the CQ30 direct (Option)
- For the details of the indicator dimension, please refer to the catalog of each pressure switch.

SC_ _
Diaphragm-Seal type Pressure Switch
(CB33, CD75 Bellows type for low and medium pressure)

Specification



Fluid:
High corrosion and high viscosity fluid

Type:
Remote type

Mounting system:
Screw type, Flange type

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 speed:
Within 15 seconds

Operating temperature range:
-5 to 40℃

Indicator

Pressure switch:
Pressure switch (Model: CB33)
Explosion-proof construction pressure switch
(Model: CD75)

Mounting:
Panel mounting, 2B pipe mounting

Main materials:

Socket	SUS316
Bellows	SUS316L

Number of contacts:
1 contact or 2 contacts

Setting system:
Internal adjustment type

Case materials, Finish:
ADC12 or AC7A
・Two-tone (Blue, Gray) epoxy painted

Case construction:
Drip-proof or outdoor type

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

Diaphragm, Filled liquid

Diaphragm diameter:
ϕ60, ϕ110
*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:
Silicone oil
-5 to 100℃

Maximum lead length:
2m to 8m (Depends on the range)

Specification

Pressure range, diaphragm diameter, proof-pressure and temperature coefficient (Pro forma amount):

Pressure range MPa	Diaphragm diameter	Diaphragm parts* proof-pressure (MPa)	Maximum lead length	Pressure switch parts ambient temperature coefficient (Lead include) (%max. P./℃)	Wetted parts temperature coefficient (Pa/℃)
0.04 to 0.4	ϕ110	3	2m	-0.1	-50
0.06 to 0.6	ϕ110	3	3m	-0.1	
0.1 to 1	ϕ110	3	8m	-0.1	
0.15 to 1.5	ϕ110	3	8m	-0.07	
0.2 to 2	ϕ110	3	8m	-0.07	
0.3 to 3	ϕ110	3	8m	-0.07	
0.5 to 5	ϕ60	15	5m	-0.07	-250
0.7 to 7	ϕ60	15	5m	-0.07	
1 to 10	ϕ60	15	5m	-0.07	

*For titanium and other low strength material and when the contact temperature is high, the diaphragm parts proof-pressure is lower than this value.
*Proof-pressure of the instrument is proof-pressure of the switch (1.5 times the pressure range) or the diaphragm, whichever is lower.
Please specify the lead length in 1m increments.

Installation shape and selecting the installation size by diaphragm diameter:

Mounting system	Flange type				Screw type
Diaphragm diameter	ϕ60		ϕ110		ϕ60, ϕ110
Mounting / Nominal diameter	Model 200 (HH2□)	Model 300 (HH3□)	Model 200 (HH2□)	Model 300 (HH3□)	Model 100 (HH1□)
10A (3/8″)	○	—	○	—	
15A (1/2″)	○	—	○	—	
20A (3/4″)	○	—	○	—	
25A (1″)	○	—	○	—	G3/8B
32A (1 1/4″)	○	—	○	—	G1/2B
40A (1 1/2″)	○	—	○	—	R3/8
50A (2″)	○	—	○	—	R1/2
65A (2 1/2″)	—	○	○	—	1/2NPT
80A (3″)	—	○	○	—	3/8NPT
100A (4″)	—	○	○	○*	
125A (5″)	—	○	—	○	
150A (6″)	—	○	—	○	

*Nominal diameter 100A is available, in case of the nominal pressure 30K or higher.

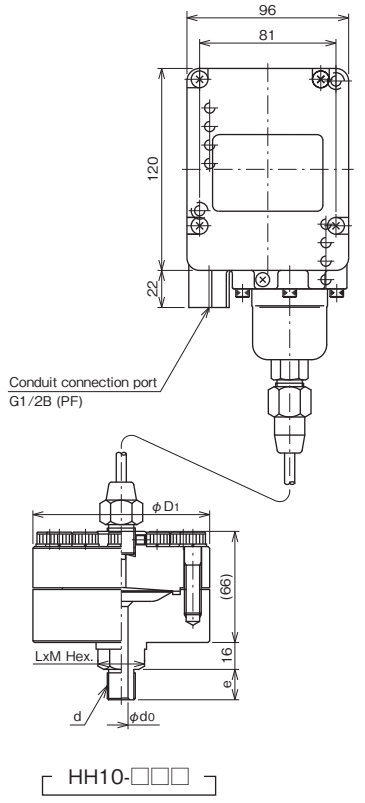
Dimensions

Unit: mm

High proof-pressure type (Model: HH□□)

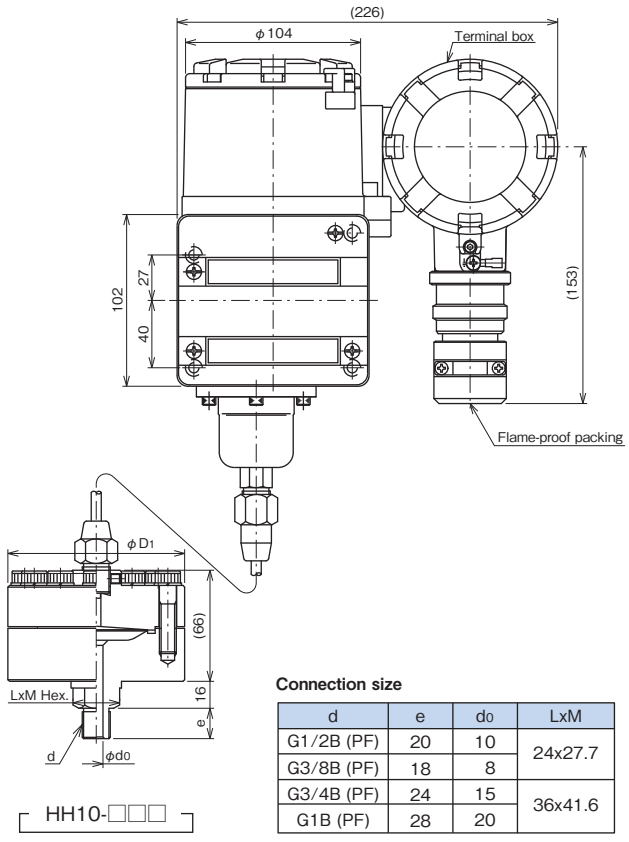
〔Screw type〕 Model 100, Screw

CB33 Pressure switch



HH10-□□□

CD75 Explosion-proof construction pressure switch

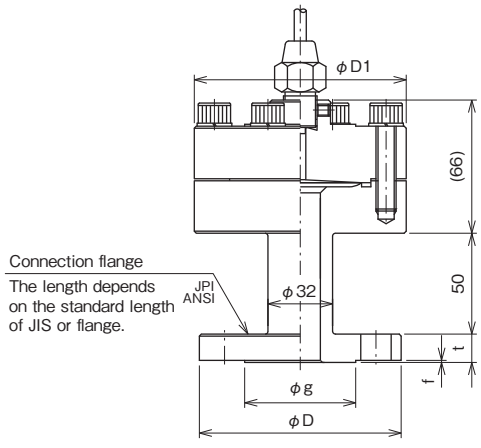


HH10-□□□

Connection size

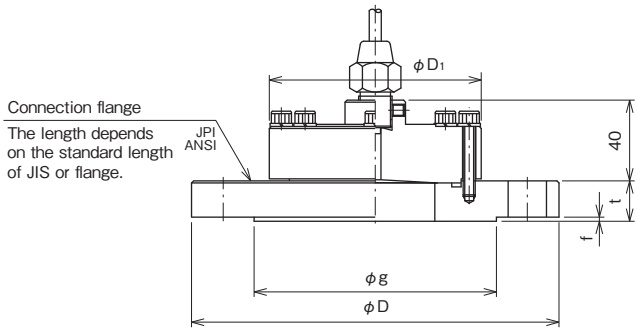
d	e	d0	LxM
G1/2B (PF)	20	10	24x27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36x41.6
G1B (PF)	28	20	

〔Flange type〕 Model 200, Flange



HH2□-□□□

Model 300, Flange



HH3□-□□□

Indicator size

Model number (Indicator)	Mounting
CB33-□□3	Panel mounting
CD75-3□□	Panel mounting
CD75-7□□	2B pipe mounting

Pressure receiver diameter (ϕD1) size

Diaphragm diameter	ϕD1
ϕ60	ϕ105
ϕ110	ϕ155

＊For the details of the indicator dimension, please refer to the catalog of each pressure switch.

Model number configuration

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

Model

S C 1 0	—		0		—						C		3	0	3		
Diaphragm-seal type pressure switch model 100 screw type		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 Mounting	0	Screw type			
③ Wetted parts material (Lower flange)	2	S25C	6	Titanium	
	3	SUS316	7	Hastelloy® B equivalent	
	4	SUS316L	8	Hastelloy® C-276 equivalent	
	5	Monel®			

Please specify applicable diaphragm diameter as well as pressure range and engineering unit.

④ Diaphragm diameter			Fluid temperature range (℃)		
			-30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
(MPa)	4	φ40	0 to 7, 10, 15	0 to 7, 10, 15	0 to 7, 10, 15
	6	φ60	0 to 1.5, 2, 2.5, 3.5, 5	0 to 0.6, 1, 1.5, 2, 2.5, 3.5, 5 -0.1 to 0.6, 1, 1.5, 2	0 to 1.5, 2, 2.5, 3.5, 5
	8	φ80	0 to 0.4, 0.6, 1	0 to 0.2, 0.4 -0.1 to 0.2, 0.4	0 to 0.3, 0.4, 0.6, 1
	9	φ110	0 to 0.2		0 to 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	Tantalum
	4	SUS316L	D	Nickel
	5	Monel®	J	SUS316 + Neoprene® lined
	6	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℃)

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

When ordering the other indicator, please contact us.

⑨⑩⑪⑫ Indicator gauge (Indicator model)		
	C Q 3 0	Pressure switch 1contact
	C D 3 0	Explosion-proof construction 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.

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), inspection / traceability certificate, strength calculation, attended inspection

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

[Manufacturing range]
- ·Vacuum gauge, Compound gauge are not available to lined diaphragm.
- ·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: Silicone
    - For medium temperature: DC550
- ·Lead
  - SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
- ·Option (Please specify separately.
  - For the details, please refer to the separately page.)
  - Radiator tube SGD400-D, SUS316
  - Dampener SUS316

Caution

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

＊Specify by code "X" if there is no applicable specification.

Model number configuration

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

Model

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

Diaphragm-seal type pressure switch model 200 flange type

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 type	Diaphragm diameter 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	イ	SUS316 + Neoprene® lining
J	S25C + Neoprene® lining	ウ	SUS316 + Caoutchouc lining

Please specify applicable diaphragm diameter as well as pressure range and engineering unit.

④ Diaphragm diameter

		Fluid temperature range (℃) -30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
4	φ40	0 to 7, 10, 15	0 to 7, 10, 15	0 to 7, 10, 15
6	φ60	0 to 1.5, 2, 2.5, 3.5, 5	0 to 0.6, 1, 1.5, 2, 2.5, 3.5, 5 -0.1 to 0.6, 1, 1.5, 2	0 to 1.5, 2, 2.5, 3.5, 5
8	φ80	0 to 0.4, 0.6, 1	0 to 0.2, 0.4 -0.1 to 0.2, 0.4	0 to 0.3, 0.4, 0.6, 1
9	φ110	0 to 0.2		0 to 0.2

(MPa)

⑤ Diaphragm material

1	SUS316 + FEP lined	7	Hastelloy® B equivalent
2	SUS316 + FEP coating	8	Hastelloy® C-276 equivalent
3	SUS316	A	Tantalum
4	SUS316L	D	Nickel
5	Monel®	J	SUS316 + Neoprene® lined
6	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℃)

⑧ Treatment

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

⑨⑩⑪⑫ Indicator gauge (Indicator model)

C Q 3 0	Pressure switch 1contact
C D 3 0	Explosion-proof construction pressure switch 1contact

When ordering the other indicator, please contact us.

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.

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), inspection / traceability certificate, strength calculation, attended inspection

[Manufacturing range]
- Vacuum gauge, Compound gauge are not available to lined diaphragm.

- Note 1: 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
  (Diaphragm diameter φ60, φ80 only)
  Range maximum pressure: φ60···0.6, 1MPa
  φ80···0.1 to 0.4MPa
  Operating temperature range: 0 to 60℃
  ANSI, JPI 1/2B 150 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: Silicone
  For medium temperature: DC550
- Lead
  SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
- Option (Please specify separately.
  For the details, please refer to the separately page.)
  Radiator tube SGD400-D, SUS316
  Dampener SUS316

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

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

＊Specify by code "X" if there is no applicable specification.

Model number configuration

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

Model

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

Diaphragm-seal type pressure switch model 300 flange type

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 type	Diaphragm diameter 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	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 applicable diaphragm diameter as well as pressure range and engineering unit.

④ Diaphragm diameter

		Fluid temperature range (℃) -30 to -4 For cryogenic temperature	-5 to 100 For cryogenic temperature	101 to 230 For medium temperature
4	φ40	0 to 7, 10, 15	0 to 7, 10, 15	0 to 7, 10, 15
6	φ60	0 to 1.5, 2, 2.5, 3.5, 5	0 to 0.6, 1, 1.5, 2, 2.5, 3.5, 5 -0.1 to 0.6, 1, 1.5, 2	0 to 1.5, 2, 2.5, 3.5, 5
8	φ80	0 to 0.4, 0.6, 1	0 to 0.2, 0.4 -0.1 to 0.2, 0.4	0 to 0.3, 0.4, 0.6, 1
9	φ110	0 to 0.2		0 to 0.2

(MPa)

⑤ Diaphragm material

1	SUS316 + FEP lined	7	Hastelloy® B equivalent
2	SUS316 + FEP coating	8	Hastelloy® C-276 equivalent
3	SUS316	A	Tantalum
4	SUS316L	D	Nickel
5	Monel®	J	SUS316 + Neoprene® lined
6	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℃)

⑧ Treatment

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

⑨⑩⑪⑫ Indicator gauge (Indicator model)

C Q 3 0	Pressure switch 1contact
C D 3 0	Explosion-proof construction pressure switch 1contact

When ordering the other indicator, please contact NKS.

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.

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), inspection / traceability certificate, strength calculation, attended inspection

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

[Manufacturing range]
- ·Vacuum gauge, Compound gauge are not available to lined diaphragm.
- ·CD30 with the Radiator tube cannot be manufactured.
- ·Please specify filled liquid, lead type and length separately.

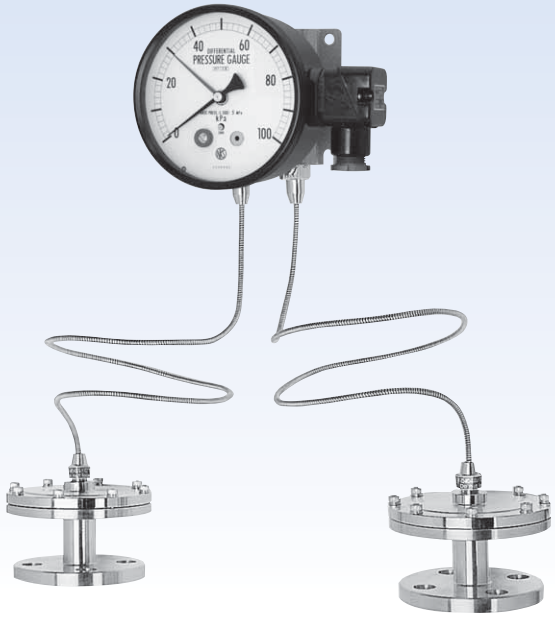
[Other additional specifications]
- ·Filled liquid
  - Standard
    - For cryogenic temperature: Silicone
    - For medium temperature: DC550
- ·Lead
  - SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
- ·Option (Please specify separately.
  - For the details, please refer to the separately page.)
  - Radiator tube SGD400-D, SUS316
  - Dampener SUS316

Caution

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

＊Specify by code "X" if there is no applicable specification.

SC_ _
Diaphragm-Seal type Differential Pressure Gauges
(Differential Pressure Gauges with Electric Contacts)



Specification

Fluid:
High corrosion and high viscosity fluid

Type:
Remote type

Mounting system:
Screw type, Flange type

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

Operating temperature range:
-5 to 40℃

Indicator

Pressure indicator gauge:
Differential pressure gauge (Model: DG95, 96)
Differential pressure gauge with contacts (Model: DG97, 98)

Size:
ϕ100, ϕ150

Mounting:
Surface mounting, 2B pipe mounting

Main materials:
Body SCS14
Bellows SUS316L

Number of contacts: (DG97, 98)
1 contact or 2 contacts

Type of contact: (DG97, 98)
External adjustment type

Case materials, Finish:
ADC12, Black

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

Diaphragm, Filled liquid

Type: Determined by the operating pressure (Maximum operating pressure)
Standard type (0.5MPa) (Model: SC□□)
High proof-pressure type (2MPa) (Model: HD□□)
High proof-pressure fully welded type (5MPa) (Model: HE□□)

Diaphragm diameter:
ϕ110

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:
Silicone oil
-5 to 100℃

Maximum lead 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.)

Specification

Differential pressure range, single withstand pressure and temperature coefficient (Pro forma amount):

Differential pressure range MPa	Single withstand pressure (Differential proof-pressure) (MPa)	Indicator temperature coefficient (Lead include) (%F.S./℃)	Diaphragm temperature coefficient (H, L same temperature) (Pa/℃)
0 to 0.05	0.2	±0.15	±50
to 0.07	0.2	±0.15	
to 0.1	0.2	±0.1	
to 0.15	1.2 *1	±0.1	
to 0.2	1.2 *1	±0.1	
to 0.3	1.2 *1	±0.1	
to 0.4	1.2 *1	±0.1	
to 0.5	1.2 *1	±0.1	

*1 0.5MPa in case of the diaphragm SC type

Installation shape and selecting the installation size by diaphragm diameter:

Mounting system	Flange type				Screw type
Mounting	Model 200		Model 300		Model 100
*2 Type / Nominal diameter	Standard (SC2□) High proof-pressure (HD2□)	High proof-pressure fully welded (HE2□)	Standard (SC3□) High proof-pressure (HD3□)	High proof-pressure fully welded (HE3□)	Standard (SC1□) High proof-pressure (HD1□) Proof-pressure fully welded (HE1□)
10A (3/8″)	○	○	—	—	
15A (1/2″)	○	○	—	—	
20A (3/4″)	○	○	—	—	
25A (1″)	○	○	—	—	G3/8B
32A (1 1/4″)	○	○	—	—	G1/2B
40A (1 1/2″)	○	○	—	—	R3/8
50A (2″)	○	○	—	—	R1/2
65A (2 1/2″)	○	○	—	—	1/2NPT
80A (3″)	—	○	○	—	3/8NPT
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 operating pressure 0.5MPa
- ·High proof-pressure type (Model: HD□□): Maximum operating pressure 2MPa
- ·High proof-pressure fully welded type (Model: HE□□): Maximum operating pressure 5MPa

* Please indicate the actual maximum operating pressure certainly.

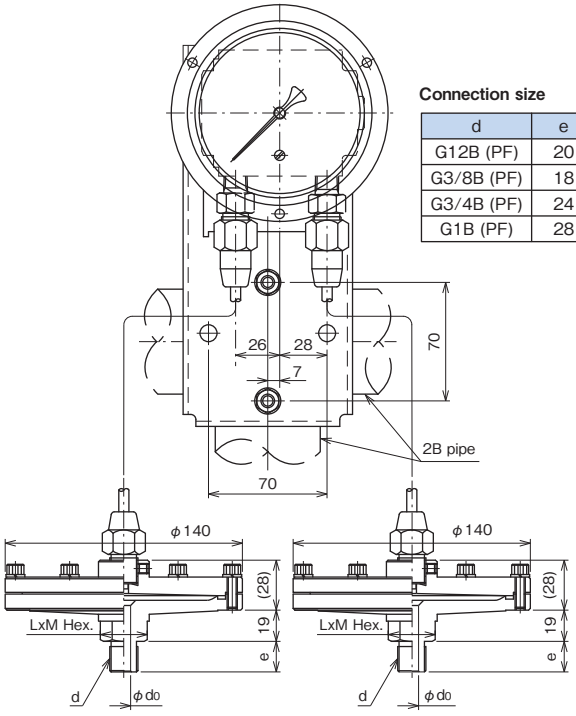
Dimensions 1

Unit: mm

Standard type (Model: SC□□)

〔Screw type〕 Model 100, Screw

DG95, 96 Differential pressure gauge

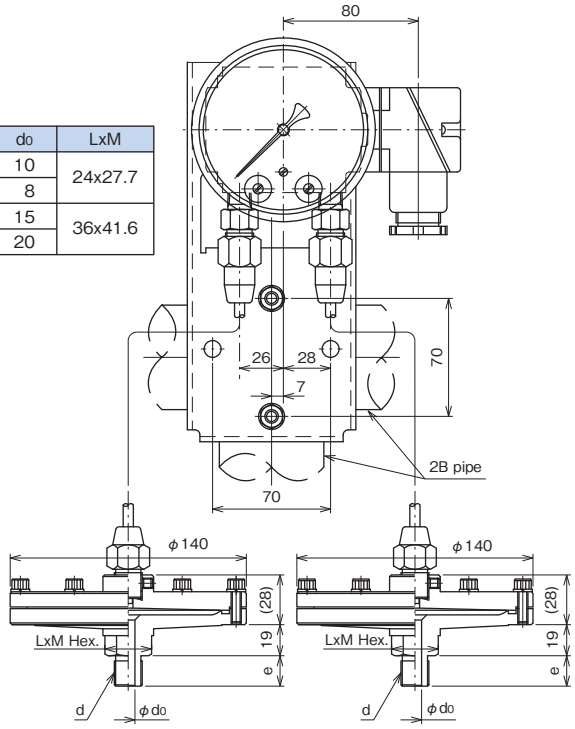


SC10-□□□

Connection size

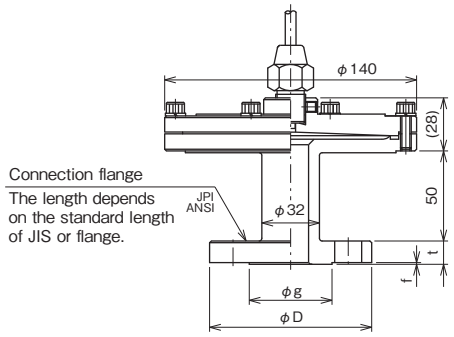
d	e	do	LxM
G12B (PF)	20	10	24x27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36x41.6
G1B (PF)	28	20	

DG97, 98 Differential pressure gauge with contacts



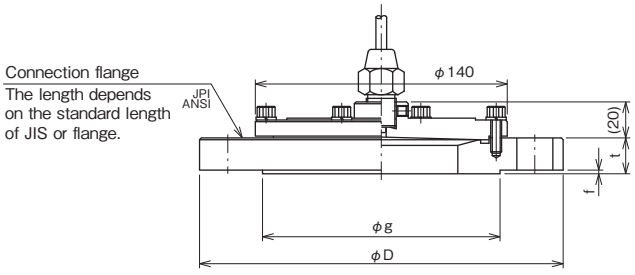
SC10-□□□

〔Flange type〕 Model 200, Flange



SC2□-□□□

Model 300, Flange



SC3□-□□□

Indicator size

	Mounting	Size	Model number (Indicator)	Reference drawing
General indication	2B pipe mounting	100	DG95-W01	DG95-173
		150	DG96-W01	DG96-173
	Surface mounting	100	DG95-W02	DG95-273
		150	DG96-W02	DG96-273
With contacts	2B pipe mounting	100	DG97-W01	DG97-173
		150	DG98-W01	DG98-173
	Surface mounting	100	DG97-W02	DG97-273
		150	DG98-W02	DG98-273

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

Dimensions 2

Unit: mm

High proof-pressure type (Model: HD□□)

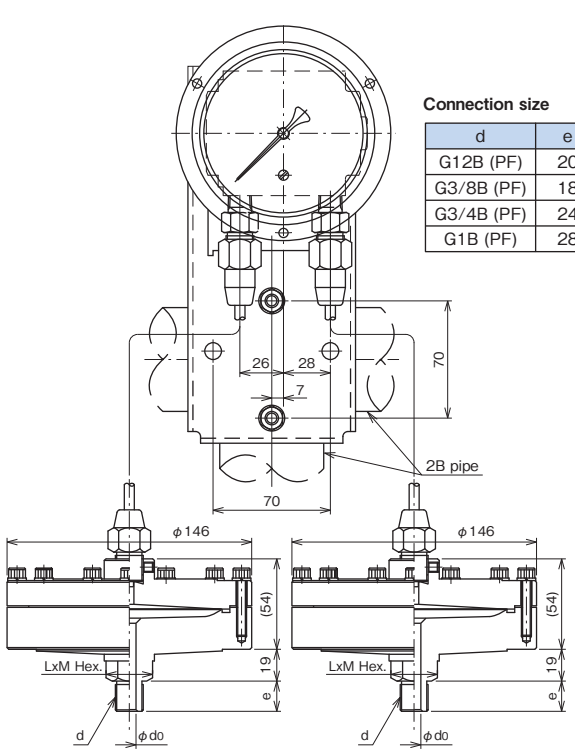
〔Screw type〕 Model 100, Screw

DG95, 96 Differential pressure gauge

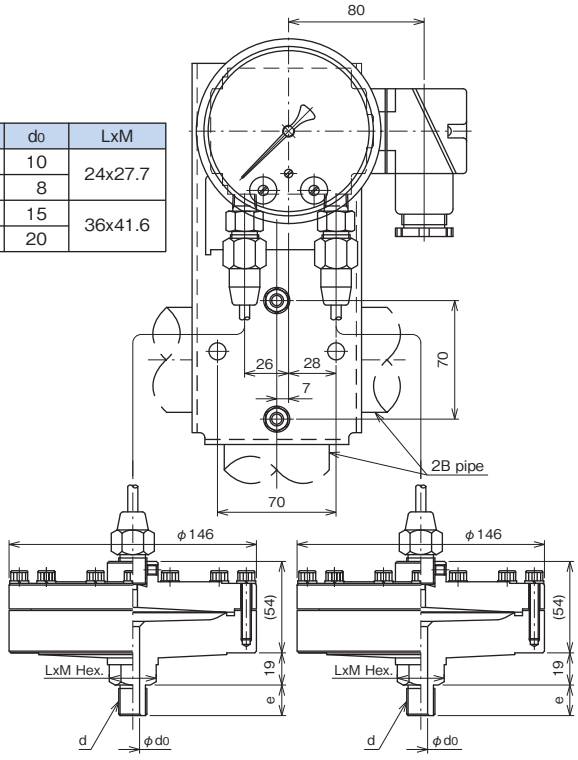
DG97, 98 Differential pressure gauge with contacts

Connection size

d	e	do	LxM
G12B (PF)	20	10	24x27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36x41.6
G1B (PF)	28	20	

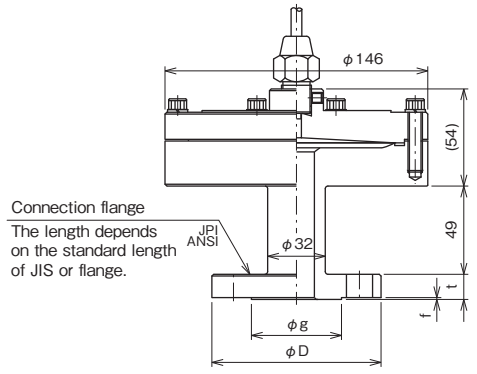


HD10-□□□



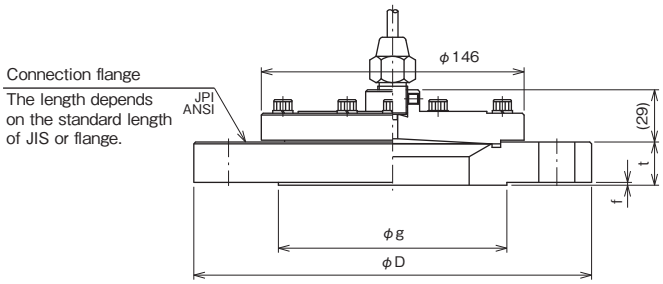
HD10-□□□

〔Flange type〕 Model 200, Flange



HD2□-□□□

Model 300, Flange



HD3□-□□□

Indicator size

	Mounting	Size	Model number (Indicator)	Reference drawing
General indication	2B pipe mounting	100	DG95-W01	DG95-173
		150	DG96-W01	DG96-173
	Surface mounting	100	DG95-W02	DG95-273
		150	DG96-W02	DG96-273
With contacts	2B pipe mounting	100	DG97-W01	DG97-173
		150	DG98-W01	DG98-173
	Surface mounting	100	DG97-W02	DG97-273
		150	DG98-W02	DG98-273

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

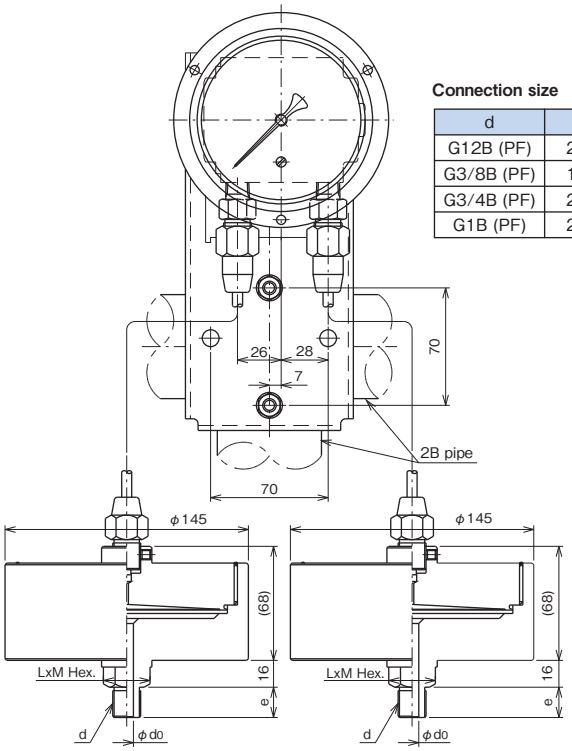
Dimensions 3

Unit: mm

High proof-pressure fully welded type (Model: HE□□)

〔Screw type〕 Model 100, Screw

DG95, 96 Differential pressure gauge

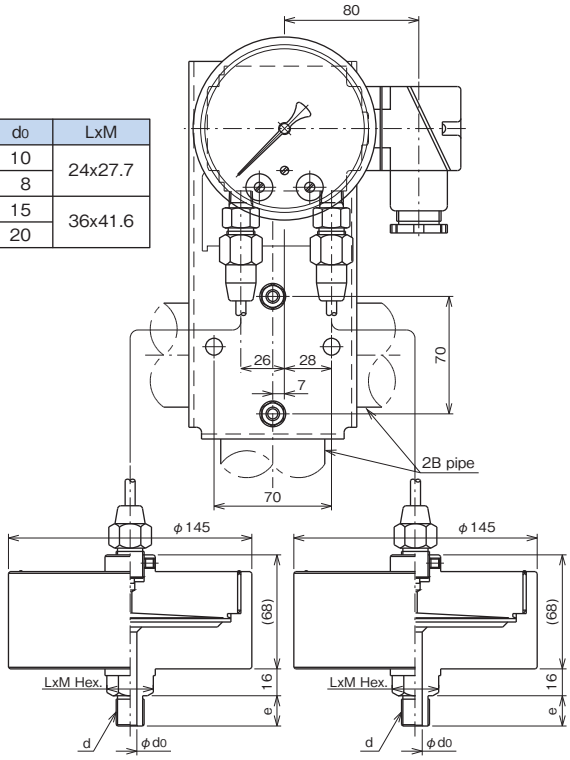


HE10-□□□

Connection size

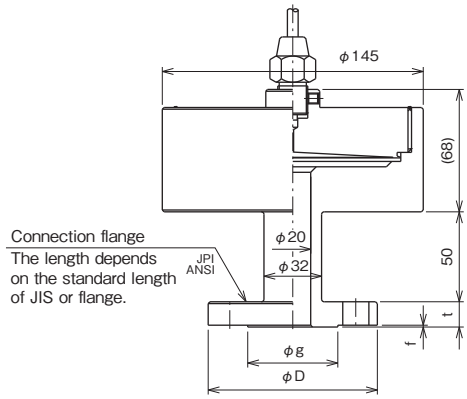
d	e	do	LxM
G12B (PF)	20	10	24x27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36x41.6
G1B (PF)	28	20	

DG97, 98 Differential pressure gauge with contacts



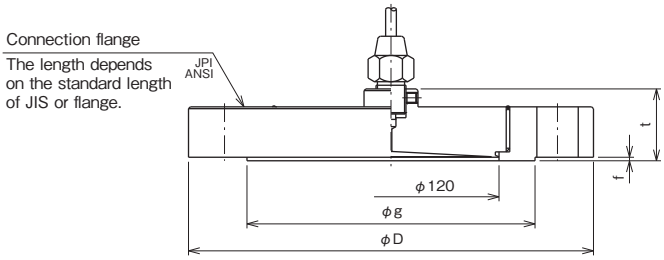
HE10-□□□

〔Flange type〕 Model 200, Flange



HE2□-□□□

Model 300, Flange



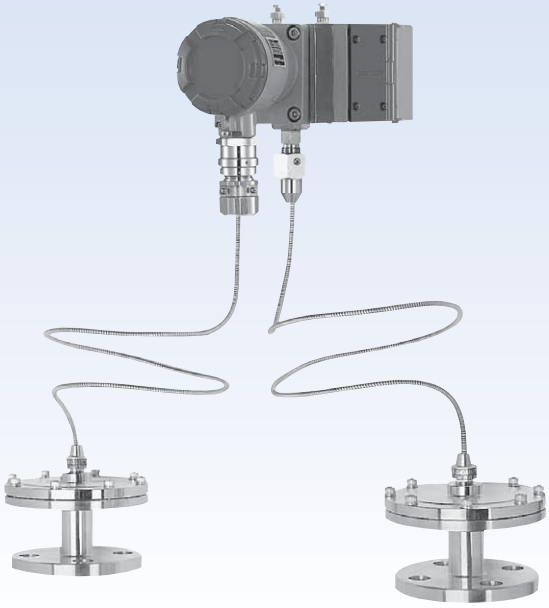
HE3□-□□□

Indicator size

	Mounting	Size	Model number (Indicator)	Reference drawing
General indication	2B pipe mounting	100	DG95-W01	DG95-173
		150	DG96-W01	DG96-173
	Surface mounting	100	DG95-W02	DG95-273
		150	DG96-W02	DG96-273
With contacts	2B pipe mounting	100	DG97-W01	DG97-173
		150	DG98-W01	DG98-173
	Surface mounting	100	DG97-W02	DG97-273
		150	DG98-W02	DG98-273

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

SC_ _
Diaphragm-Seal type Differential Pressure Switch



Specification

Fluid:
High corrosion and high viscosity fluid

Type:
Remote type

Mounting system:
Screw type, Flange type

Accuracy:
±1.5%F.S./20℃±10℃

Operating temperature range:
-5 to 40℃

Indicator

Differential pressure switch:
Differential pressure switch
(Model: CL71)
Explosion-proof construction differential pressure switch
(Model: CD71)

Mounting:
Panel mounting, 2B pipe mounting

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

Number of contacts:
1 contact or 2 contacts

Setting system:
Internal adjustment type

Case materials, Finish:
ADC12 ·Blue/ Gray two-tone epoxy painted

Case construction:
IP65

*For details, refer to the catalog of differential pressure switch.

Diaphragm, Filled liquid

Type: Determined by the operating pressure (Maximum operating pressure)
Standard type (0.5MPa) (Model: SC□□)
High proof-pressure type (2MPa) (Model: HD□□)
High proof-pressure fully welded type (5MPa) (Model: HE□□)

Diaphragm diameter:
ϕ110

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:
Silicone oil
-5 to 100℃

Maximum lead 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.)

Specification

Differential pressure range and temperature coefficient (Pro forma amount):

Differential pressure range MPa	Differential pressure switch parts temperature coefficient (Lead include) (%F.S./℃)	Wetted parts temperature coefficient (H, L same temperature) (Pa/℃)
* 0 to 0.05	±0.2	±50
0.01 to 0.05	±0.2	
0.02 to 0.1	±0.15	
0.04 to 0.2	±0.1	
0.06 to 0.3	±0.1	
0.08 to 0.4	±0.1	
0.1 to 0.5	±0.1	
0.12 to 0.6	±0.07	
0.16 to 0.8	±0.07	
0.2 to 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 selecting the installation size by diaphragm diameter:

Mounting system	Flange type				Screw type
Mounting	Model 200		Model 300		Model 100
*Type / Nominal diameter	Standard (SC2□) High proof-pressure (HD2□)	High proof-pressure fully welded (HE2□)	Standard (SC3□) High proof-pressure (HD3□)	High proof-pressure fully welded (HE3□)	Standard (SC1□) High proof-pressure (HD1□) Proof-pressure fully welded (HE1□)
10A (3/8″)	○	○	—	—	
15A (1/2″)	○	○	—	—	
20A (3/4″)	○	○	—	—	
25A (1″)	○	○	—	—	G3/8B
32A (1 1/4″)	○	○	—	—	G1/2B
40A (1 1/2″)	○	○	—	—	R3/8
50A (2″)	○	○	—	—	R1/2
65A (2 1/2″)	○	○	—	—	1/2NPT
80A (3″)	—	○	○	—	3/8NPT
100A (4″)	—	○	○	—	
125A (5″)	—	—	○	○	
150A (6″)	—	—	○	○	

* Please select the diaphragm type from the pressure (Standard pressure + differential pressure) which must be used.
  ·Standard type (Model: SC□□): Maximum operating pressure 0.5MPa
  ·High proof-pressure type (Model: HD□□): Maximum operating pressure 2MPa
  ·High proof-pressure fully welded type (Model: HE□□): Maximum operating pressure 5MPa

* Please indicate the actual maximum operating pressure certainly.

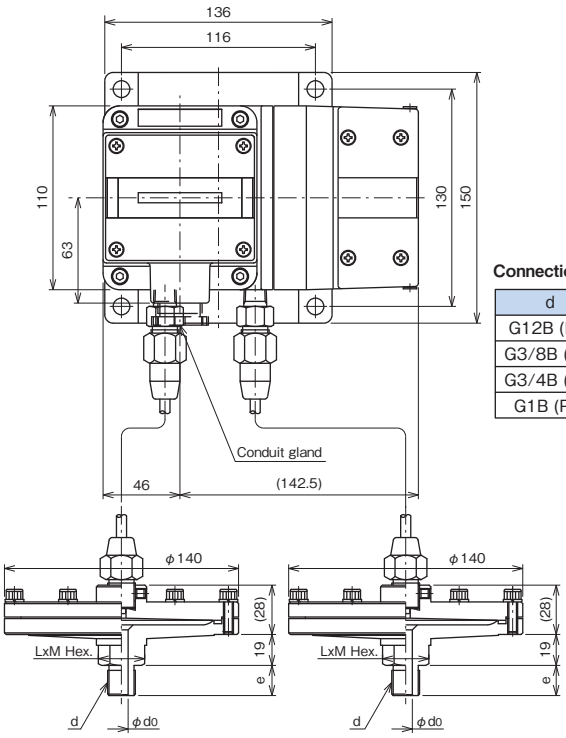
Dimensions 1

Unit: mm

Standard type (Model: SC□□)

〔Screw type〕 Model 100, Screw

CL71 Differential pressure switch

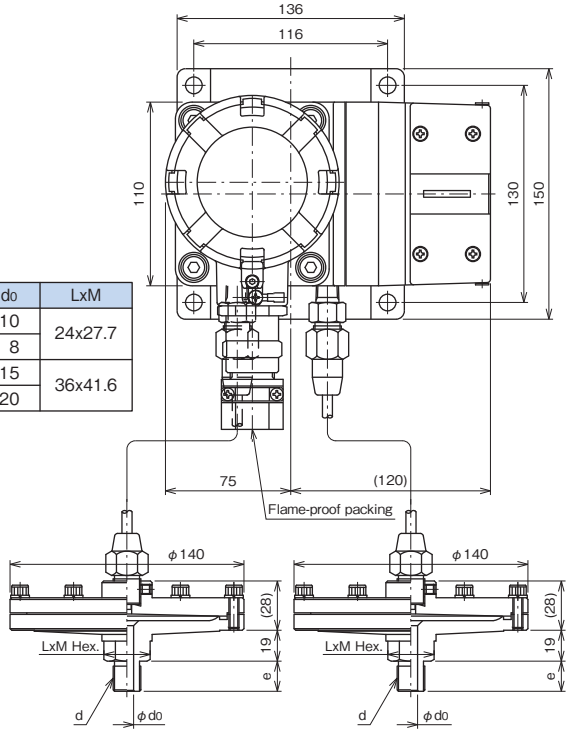


SC10-□□□

Connection size

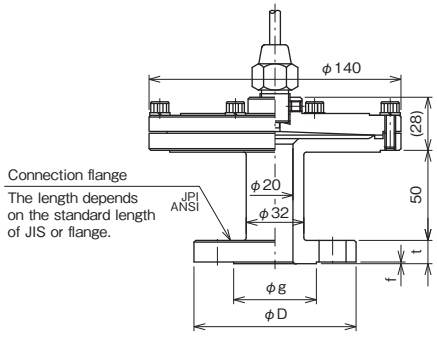
d	e	do	LxM
G12B (PF)	20	10	24x27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36x41.6
G1B (PF)	28	20	

CD71 Explosion-proof construction differential pressure switch



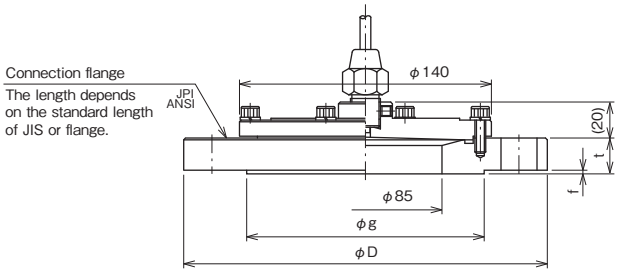
SC10-□□□

〔Flange type〕 Model 200, Flange



SC2□-□□□

Model 300, Flange



SC3□-□□□

Indicator size

Model number (Indicator)	Mounting
CL71-173 -273	Panel mounting
CL71-373 -473	2B pipe mounting
CL71-373 -473	Panel mounting
CL71-773 -873	2B pipe mounting

*For the details of the indicator dimension, please refer to the catalog of each differential pressure switch.

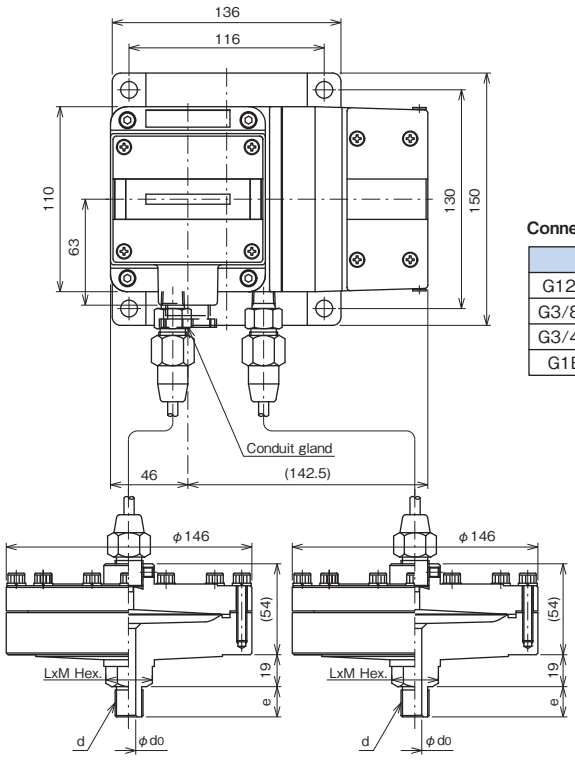
Dimensions 2

Unit: mm

High proof-pressure type (Model: HD□□)

〔Screw type〕 Model 100, Screw

CL71 Differential pressure switch

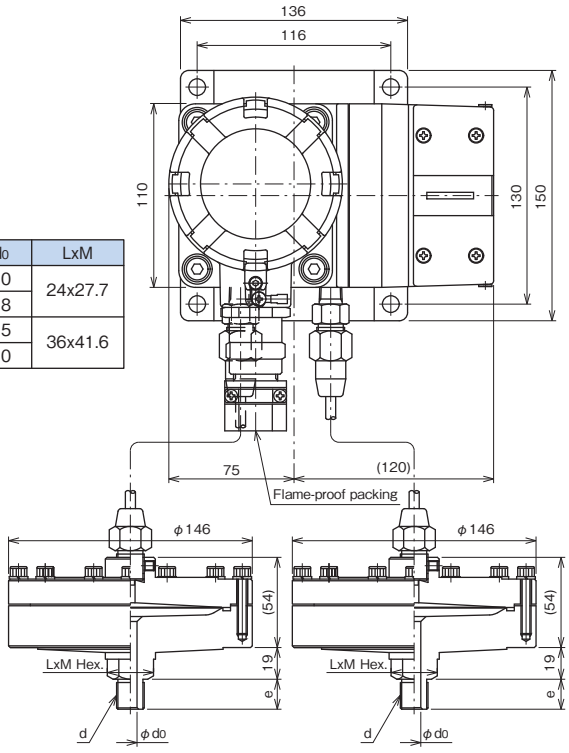


HD10-□□□

Connection size

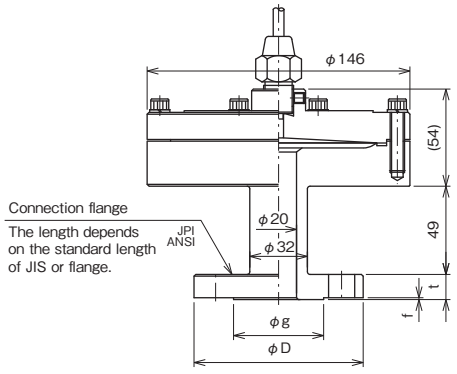
d	e	do	LxM
G12B (PF)	20	10	24x27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36x41.6
G1B (PF)	28	20	

CD71 Explosion-proof construction differential pressure switch



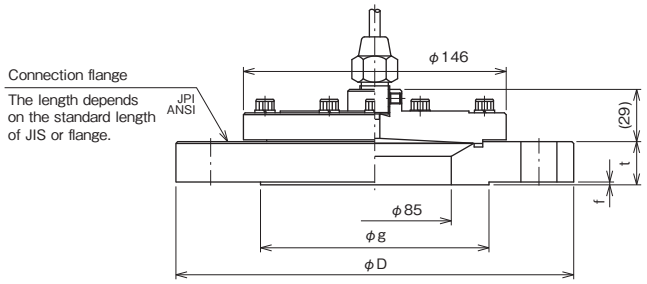
HD10-□□□

〔Flange type〕 Model 200, Flange



HD2□-□□□

Model 300, Flange



HD3□-□□□

Indicator size

Model number (Indicator)	Mounting
CL71-173 -273	Panel mounting
CL71-373 -473	2B pipe mounting
CL71-373 -473	Panel mounting
CL71-773 -873	2B pipe mounting

＊For the details of the indicator dimension, please refer to the catalog of each differential pressure switch.

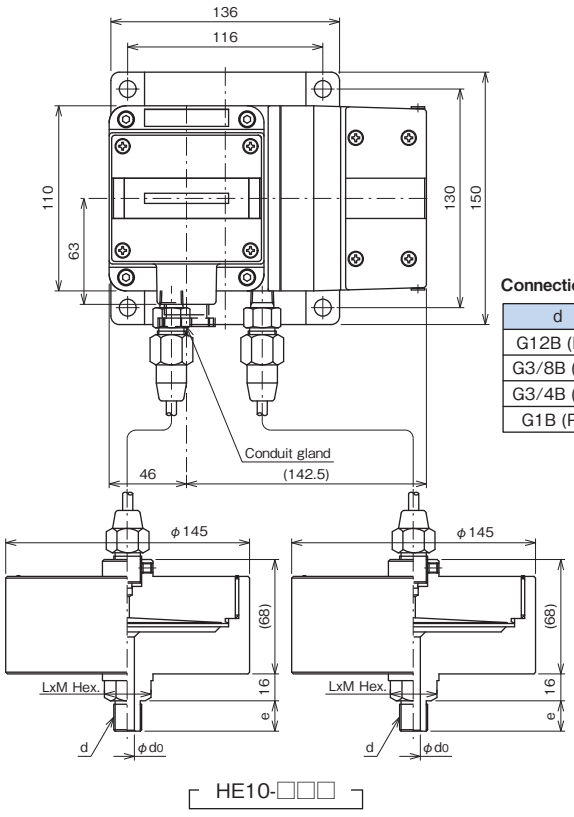
Dimensions 3

Unit: mm

High proof-pressure fully welded type (Model: HE□□)

〔Screw type〕 **Model 100, Screw**

CL71 Differential pressure switch

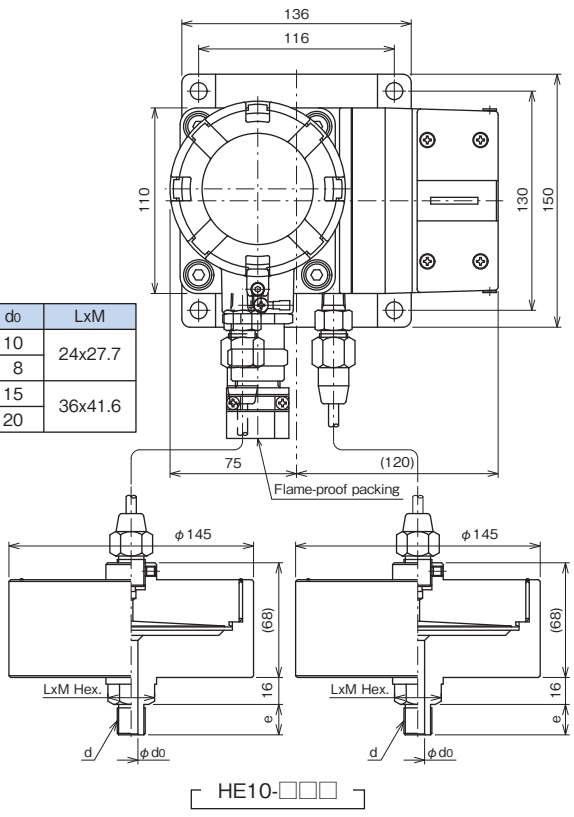


HE10-□□□

Connection size

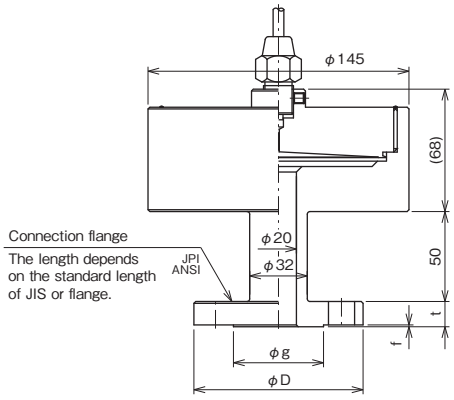
d	e	do	LxM
G12B (PF)	20	10	24x27.7
G3/8B (PF)	18	8	
G3/4B (PF)	24	15	36x41.6
G1B (PF)	28	20	

CD71 Explosion-proof construction differential pressure switch



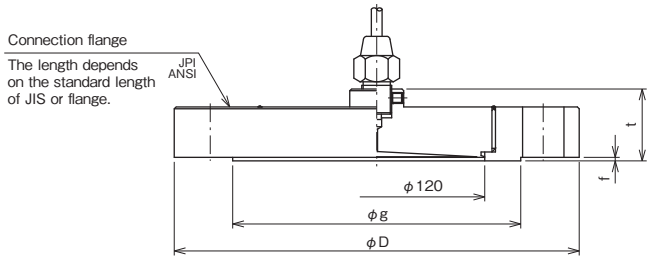
HE10-□□□

〔Flange type〕 **Model 200, Flange**



HE2□-□□□

Model 300, Flange



HE3□-□□□

Indicator size

Model number (Indicator)	Mounting
CL71-173 -273	Panel mounting
CL71-373 -473	2B pipe mounting
CL71-373 -473	Panel mounting
CL71-773 -873	2B pipe mounting

＊For the details of the indicator dimension, please refer to the catalog of each differential pressure switch.

Model number configuration

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

Model

S C 1 0	—		0		—	9			0						3	2	
Diaphragm-seal type differential pressure gauges, differential pressure switch model 100 screw type		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 Mounting	0	Screw type			
③ Wetted parts material (Lower flange)	2	S25C	6	Titanium	
	3	SUS316	7	Hastelloy® B equivalent	
	4	SUS316L	8	Hastelloy® C-276 equivalent	
	5	Monel®			
④ Diaphragm diameter	9	ϕ110 (For cryogenic temperature only) Differential pressure range: 0 to 0.05, 0.07, 0.1, 0.15, 0.2, 0.3, 0.4, 0.5MPa (DG9□) Differential pressure range: 0 to 0.05, 0.01 to 0.05, 0.02 to 0.1, 0.04 to 0.2, 0.06 to 0.3, 0.08 to 0.4, 0.1 to 0.5, 0.12 to 0.6, 0.16 to 0.8, 0.2 to 1MPa (CD71, CL71)			
⑤ Diaphragm material	1	SUS316 + FEP lined	7	Hastelloy® B equivalent	
	2	SUS316 + FEP coating	8	Hastelloy® C-276 equivalent	
	3	SUS316	A	Tantalum	
	4	SUS316L	D	Nickel	
	5	Monel®	J	SUS316 + Neoprene® lined	
	6	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 Indicator gauge (Indicator model)	D G 9 5	ϕ100 Differential pressure gauge (DG95-W01)			
	D G 9 7	ϕ100 Differential pressure gauge with contacts (DG97-W01) 1contact			
	D G 9 6	ϕ150 Differential pressure gauge (DG96-W01)			
	D G 9 8	ϕ150 Differential pressure gauge with contacts (DG98-W01) 1contact			
	C D 7 1	Explosion-proof construction differential 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), inspection / traceability certificate, strength calculation, attended inspection			

Please specify applicable diaphragm diameter as well as differential pressure range and engineering unit.

When ordering the other indicator, please contact us.

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

[Manufacturing range]
・Please specify filled liquid, lead type and length separately.

[Other additional specifications]
・Filled liquid
Standard
For cryogenic temperature: Silicone
・Lead
Until 2m
SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube

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

＊Specify by code "X" if there is no applicable specification.

Model number configuration

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

Model

S C 2		—				—	9			0						3	2	
Diaphragm-seal type differential pressure gauges, differential pressure switch model 200 flange type			①	②	③		④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮

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 type	
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	イ	SUS316 + Neoprene® lining
G	S25C + FEP coating	ウ	SUS316 + Caoutchouc lining

Please specify applicable diaphragm diameter as well as differential pressure range and engineering unit.

④ Diaphragm diameter

9	φ110 (For cryogenic temperature only) Differential pressure range: 0 to 0.05, 0.07, 0.1, 0.15, 0.2, 0.3, 0.4, 0.5MPa (DG9□) Differential pressure range: 0 to 0.05, 0.01 to 0.05, 0.02 to 0.1, 0.04 to 0.2, 0.06 to 0.3, 0.08 to 0.4, 0.1 to 0.5, 0.12 to 0.6, 0.16 to 0.8, 0.2 to 1MPa (CD71, CL71)

⑤ Diaphragm material

1	SUS316 + FEP lined	7	Hastelloy® B equivalent
2	SUS316 + FEP coating	8	Hastelloy® C-276 equivalent
3	SUS316	A	Tantalum
4	SUS316L	D	Nickel
5	Monel ®	J	SUS316 + Neoprene® lined
6	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 Indicator gauge (Indicator model)

D G 9 5	φ100 Differential pressure gauge (DG95-W01)
D G 9 7	φ100 Differential pressure gauge with contacts (DG97-W01) 1contact
D G 9 6	φ150 Differential pressure gauge (DG96-W01)
D G 9 8	φ150 Differential pressure gauge with contacts (DG98-W01) 1contact
C D 7 1	Explosion-proof construction differential pressure switch 1contact
C L 7 1	Differential pressure switch 1contact

When ordering the other indicator, please contact us.

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), inspection / traceability certificate, strength calculation, attended inspection

[Manufacturing range]
・Please specify filled liquid, lead type and length separately.

[Other additional specifications]
・Filled liquid
Standard
For cryogenic temperature: Silicone
・Lead
Until 2m
SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
・Option
Serration process

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

*Specify by code "X" if there is no applicable specification.

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

Model number configuration

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

Model

S	C	3	□	—	①	②	③	—	9	⑤	⑥	0	⑧	⑨	⑩	⑪	⑫	3	2	⑮

Diaphragm-seal type differential pressure gauges, differential pressure switch model 300 flange type

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 type
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 applicable diaphragm diameter as well as differential pressure range and engineering unit.

④ Diaphragm diameter	
9	φ110 (For cryogenic temperature only) Differential pressure range: 0 to 0.05, 0.07, 0.1, 0.15, 0.2, 0.3, 0.4, 0.5MPa (DG9□) Differential pressure range: 0 to 0.05, 0.01 to 0.05, 0.02 to 0.1, 0.04 to 0.2, 0.06 to 0.3, 0.08 to 0.4, 0.1 to 0.5, 0.12 to 0.6, 0.16 to 0.8, 0.2 to 1MPa (CD71, CL71)

⑤ Diaphragm material					
1	SUS316 + FEP lined	7	Hastelloy® B equivalent		
2	SUS316 + FEP coating	8	Hastelloy® C-276 equivalent		
3	SUS316	A	Tantalum		
4	SUS316L	D	Nickel		
5	Monel®	J	SUS316 + Neoprene® lined		
6	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 Indicator gauge (Indicator model)	
D G 9 5	φ100 Differential pressure gauge (DG95-W01)
D G 9 7	φ100 Differential pressure gauge with contacts (DG97-W01) 1contact
D G 9 6	φ150 Differential pressure gauge (DG96-W01)
D G 9 8	φ150 Differential pressure gauge with contacts (DG98-W01) 1contact
C D 7 1	Explosion-proof construction differential pressure switch 1contact
C L 7 1	Differential pressure switch 1contact

When ordering the other indicator, please contact us.

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), inspection / traceability certificate, strength calculation, attended inspection

[Manufacturing range]
・Please specify filled liquid, lead type and length separately.

[Other additional specifications]
・Filled liquid
Standard
For cryogenic temperature: Silicone
・Lead
Until 2m
SUS316, SUS + Corrugated tube, SUS + Vinyl corrugated tube
・Option
Serration process

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

*Specify by code "X" if there is no applicable specification.

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