

DG95 · 96 · 97 · 98

Differential Pressure Gauge

Overview

This compact differential pressure gauge can measure other various measuring units other than pressure to monitor level or flow measurements. Switch can also be equipped for alarm or pressure control application.

Features

- Selectable upper connection mounting or lower connection mounting available for easy installation
- Since lead switch is used, switch action part is not influenced by external environment with long life and high reliability (DG97·98).
- Certified by the Minister of Trade and Industry type available (Option)



*Reference pressure is the pressure to reference, or less fluctuating pressure side. Proof pressure against single port means the maximum over differential pressure.

Specifications 1

Model:

DG95 · 96 General fine differential pressure gauge
 DG97 · 98 Fine differential pressure switch

Media:

Gases or liquids

Operating environment:

Install in location where no gases or liquids may exist that have the potential to become flammable or ignitable under normal operating condition (for DG97 · 98)

Mounting:

DG95 · 96 2B pipe, wall mounting
 (Zero adjustment screw, air vent, filter)
 DG97 · 98 2B pipe, wall mounting
 (Zero adjustment screw, air vent, filter)

Size:

DG95 · 97 ϕ 100
 DG96 · 98 ϕ 150

Connection:

Rc1/4, 1/4NPT Female

Wetted parts:

Pressure container SCS14
 Bellows SUS316L
 Gasket NBR

Differential pressure range:

0 to 5kPa → 0 to 1MPa

Reference pressure:

0 to 5MPa

Proof pressure for single port:

0.2 to 1.2MPa (Varies depending on pressure ranges)

Operating temperature range:

-5 to 40°C (Non-freezing)

Accuracy:

$\pm 1.5\%$ F.S.
 ($\pm 2\%$ F.S. for 10kPa and below (DG97 · 98))

Case material · finish:

ADC12 · Black

Manifold valve: (Option)

Three-way valve in combination with stop valve both for high and low pressure, and equalizing valve. It prevents from overpressure, reversed pressure during zero point monitoring, zero adjustment operation or when the process starts its operation.

Custom dial: (Option)

Custom letters, colored circle and customer's logo

Weight:

Approx. 2.9kg to 4.3kg

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Specifications 2

Minimum scale:

Differential pressure range	Proof pressure for single port	Minimum scale
0 to 5kPa	0.2MPa	0.1kPa
0 to 7		0.2
0 to 10		0.2
0 to 15		0.5
0 to 20		0.5
0 to 30	0.4MPa	1
0 to 40		1
0 to 50		1
0 to 70	1.2MPa	2
0 to 100		2
0 to 200		5
0 to 300		10
0 to 400		10
0 to 600	20	
0 to 1MPa	20	

Electrical rating (DG97 · 98):

Switch	Rating	Withstand voltage	Insulation resistance
Lead switch	125V AC 0.2A 200V DC 0.25A 100V DC 0.7A (Load resistance)	Between non-continuous terminal strip 400V AC 1 minute Between terminal and case 600V AC 1 minute	500V DC 100MΩ and above Between each terminal and case
Note			
·Ensure the use of protection circuit when capacity load, lamp or long cable are in use carrying inductive load or surge current (Inrush current). ·Not available for 200V AC use			

Specifications for DG97 · 98 pressure switch

Setting accuracy:

±2%F.S.

Repeatability:

±1%F.S.

Deadband:

Fixed 5%F.S. and below

Temperature coefficient:

±0.05%F.S./°C

Switch:

Lead switch

Number of contacts:

One contact or two contacts

Setting method:

Internally adjustable

Electrical wire outlet:

Conduit type G3/4, G1/2, Rc1/2, 1/2NPT

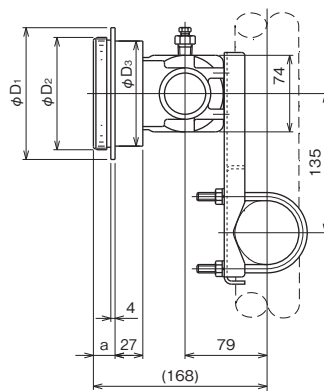
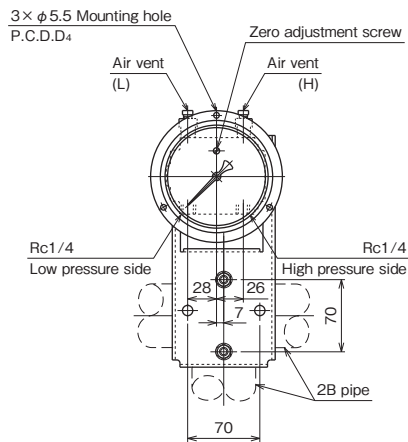
Gland JIS 20b

Dimensions 1

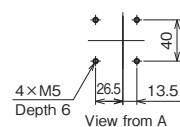
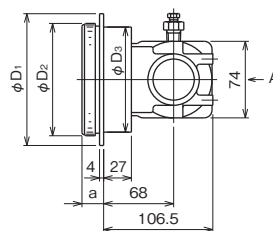
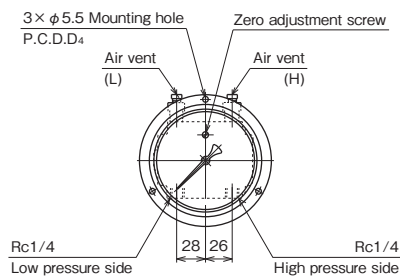
DG95 · 96

Unit: mm

2B pipe



Back connection



Model	D1	D2	D3	D4	a
DG95	128	109	102	119	21
DG96	178	159	152	169	23.5

※ Upper or lower mounting side works for air vent when the other one is in use.

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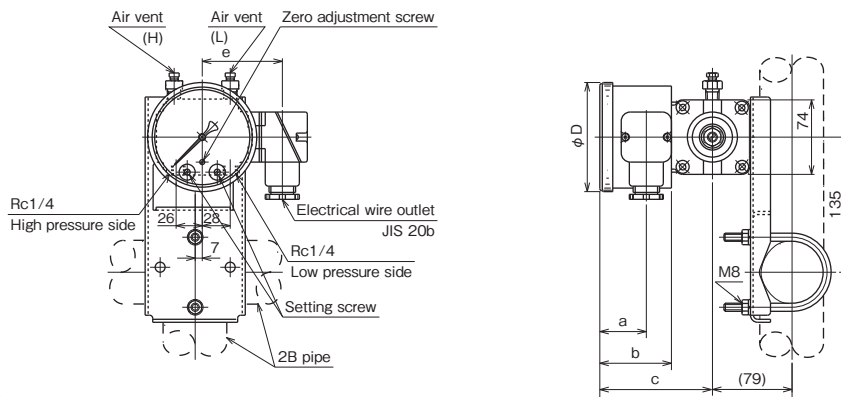
Differential Pressure Gauge

Dimensions 2

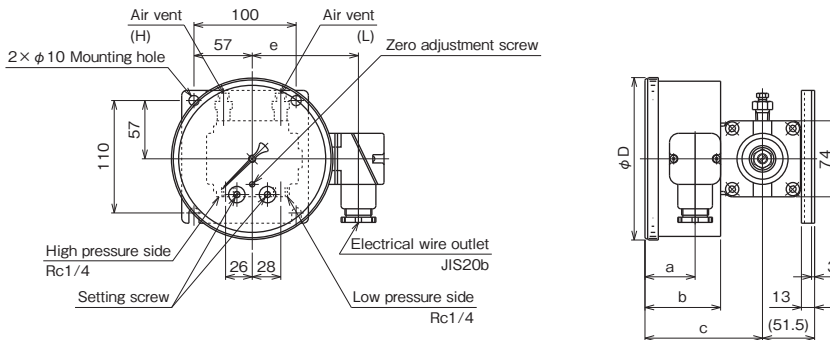
DG97 · 98

Unit: mm

2B pipe



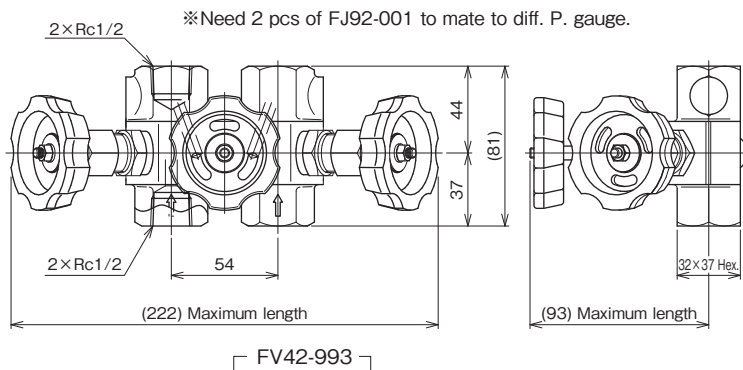
Wall mount



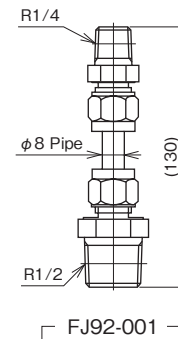
Model	D	e	a	b	c
DG97	109	80	46.5	71.5	112.5
DG98	159	104	49	74	115

※Upper or lower mounting side works for air vent when the other one is in use.

Manifold valve: (Option)



Manifold adapter: (Option)



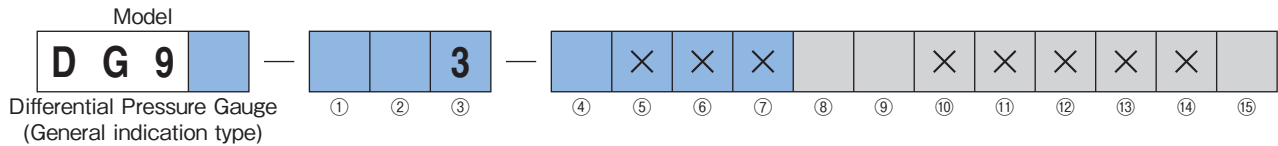
Switch action and wirings

DG97 · 98 Differential pressure switch

Model	Switch action	Mark	Diagram of switch action	Wiring terminal number	Setting pointer
DG97 DG98	Upper limit with one contact (Reversed lower limit with one contact)	H (LR)	When differential pressure goes up (down) and reaches at set point, switch operates and turn circuit ON (OFF). 	① — ②	Red pointer
	Lower limit with one contact (Reversed upper limit with one contact)	L (HR)	When differential pressure goes down (up) and reaches at set point, switch operates and turn circuit ON (OFF). 	③ — ④	Yellow pointer
	Upper and lower limit with two contacts (Reversed upper and lower limit with two contacts)	HL (HRLR)	Independently operates with combination of upper limit (reversed lower limit) and lower limit (reversed upper limit).	① — ② ③ — ④	Red pointer Yellow pointer
	Upper limit with two contacts (Reversed lower limit with two contacts)	2H (2LR)	Independently operates with combination of upper limit (reversed lower limit) with two contacts.	① — ② ③ — ④	Red pointer Yellow pointer
	Lower limit with two contacts (Reversed upper limit with one contacts)	2L (2HR)	Independently operates with combination of lower limit (reversed upper limit) with two contacts.	① — ② ③ — ④	Red pointer Yellow pointer

Model number configuration

Please specify the model, each requiring specification and differential pressure range to order.



Model number		Product specifications	Additional specifications (Optional)
Model	5	φ 100	
	6	φ 150	
① Mounting	1	2B pipe	
	2	Panel	
② Connection	7	Rc1/4	
	X	1/4NPT female	
③ Wetted parts	3	Pressure container: SCS14 Bellows: SUS316L Sealing part: NBR	
④ Differential pressure range	1	0 to 5, 7, 10, 15, 20, 30, 40kPa	
	2	0 to 50, 70, 100, 200, 300, 400, 600kPa, 1MPa	
⑧ Treatment	0	Not required	
	1	Use no oil	
	2	Use no water	
	3	Use no oil & water	
⑨ Other additional spec.	0	Not required	
	1	Required (Specify required additional spec below.) Custom dial [Note 1] (Separate order) Manifold valve FV42-993 Rc1/2 FV42-995 Certified by the Minister of Trade and Industry FV42-DD3 1/2NPT Adapter for FV42 FJ92 (Need 2 pcs) FV42 Use no oil and water standard (No labeled) Movement protection against reverse pressure	
⑮ Documents	0	Not required	
	1	Required (Documents available upon request) Datasheet (Drawing / Specifications) Instruction manual Inspection procedure Mill test report Calibration test report (One-part one sheet) Inspection / Traceability certificate Strength calculation Attending inspection	

Please specify differential pressure range and unit of measure along with corresponding ordering code.

• Specify reference pressure and reference side (L or H) when ordering.

[Scope of manufacturing]

• Indication accuracy: ±1.5%F.S.

[Note 1] Custom dial: Custom letters, colored circle and customer's logo

• Zero adjustment screw, air vent, filter

○As setting scale on dial includes setting error, ensure the use of master gauge and reference pressure gauge to maintain accurate setting.

* Specify code "X" to refer N/A

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Model number configuration

Please specify the model, each requiring specification and differential pressure range to order.

Model

D	G	9				3			0			×	×	×	×	×	
Differential Pressure Gauge (Lead Switch Type)			①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮

Model number	Product specifications	Additional specifications (Optional)
Model	7 ϕ 100	
	8 ϕ 150	
① Mounting	1 2B pipe	
	2 Wall mounting	
② Connection	7 Rc1/4	
	X 1/4NPT female	
③ Wetted parts	3 Pressure container: SCS14 Bellows: SUS316L Sealing part: NBR	
④ Differential pressure range	1 0 to 5, 7, 10, 15, 20, 30, 40kPa	
	2 0 to 50, 70, 100, 200, 300, 400, 600kPa, 1MPa	
⑤ Switch action	A H: Upper limit with one contact	
	B L: Lower limit with one contact	
	C HL: Upper and lower limit with two contacts	
	D 2H: Upper limit with two contacts	
	E 2L: Lower limit with two contacts	
⑥ Switch type	0 Standard (Lead switch)	
⑦ Electrical wire outlet	7 JIS 20b For gland	
	B G1/2 For conduit type	
	C G3/4 (Standard) For conduit type	
	J Rc1/2 For conduit type	
	K 1/2NPT female For conduit type	
	Others	
⑧ Treatment	0 Not required	
	1 Use no oil	
	2 Use no water	
	3 Use no oil & water	
⑨ Other additional spec.	0 Not required	
	1 Required (Specify required additional spec below.) Custom dial [Note 1] (Separate order) Manifold valve FV42-993 Rc1/2 FV42-995 Certified by the Minister of Trade and Industry FV42-DD3 1/2NPT Adapter for FV42 FJ92 (Need 2 pcs) FV42 Use no oil and water standard (No labeled)	
⑮ Documents	0 Not required	
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• Specify reference pressure and reference side (L or H) when ordering.

[Scope of manufacturing.]

- Indication accuracy: $\pm 1.5\%$ F.S.
 $\pm 2\%$ F.S. for 10kPa and below
- Setting accuracy: $\pm 2\%$ F.S.

[Note 1] Custom dial: Custom letters, colored circle and customer's logo

- Zero adjustment screw, air vent, filter

○As setting scale on dial includes setting error, ensure the use of master gauge and reference pressure gauge to maintain accurate setting.

* Specify code "X" to refer N/A