

Model DG80•82 Differential Pressure Gauges



OUTLINE

This is a minute differential pressure gauge with high reliability, equipped with magnetic couplings as the expanding mechanism. This pressure gauge is used to detect the pressure difference due to pressure loss in air filters of air conditioners for checking and controlling the clogged conditions of air filters. This pressure gauge can also be applied for checking and controlling interior pressure of clean and bioclean rooms. Additionally, this pressure gauge can be used as a micropressure gauge by opening its low pressure side to the atmosphere.

FEATURES

- A diaphragm used as a differential pressure element is protected from excessive deformation by a backup plate.
- For both expanding mechanism and contact point mechanism, contact-free design has been adopted as far as possible, to obtain high sensibility and high reliability. Contact-free expanding mechanism with out linkage mechanism is also adopted.
- A setting pointer is provided on the indicator dial. Its setting knob is installed in front of the pressure gauge, making the setting work easier. (for DG82 type only)
- This gauge is of small and lightweight type.

SPECIFICATION 1

Model:

- DG80 Differential pressure gauge
- DG82 Differential pressure gauge with electric contacts

Fluid:

Air or non corrosive gas

Operating condition:

In case of DG82, Under the normal condition, where there is no inflammable gas and liquid which cause the ignition or explosion.

Differential pressure gauges construction:

Indicator sealed case type

Installation system (Installation posture):

Mounting clamp (vertical installation) or installation screw (vertical installation)

Size:

100 DIA.

Connection:

Rc1/8 (PT female)

Wetted parts material:

- Diaphragm NBR
 - * Material silicon is also available.
- Body ADC12, AC2A

Differential pressure range:

0 ~ 0.1 → 0 ~ 5kPa (0 ~ 10 → 0 ~ 500mmH₂O)

Withstand pressure:

200kPa (2kgf/cm²)
* High withstand pressure type (1MPa) is available.
(Model DG81)

Operating temperature:

-5~40°C (But fluid should not be frozen)

Indication accuracy:

±3% F.S. (Below 0.1kPa is ±5% F.S.)

Scale angle:

90°

Dial scale specified: (Option)

Printed words, customer's logo

Weight:

- DG80 Approx. 0.57 kg
- DG82 Approx. 1.6 kg

DG82 DIFFERENTIAL PRESSURE GAUGE WITH ELECTRIC CONTACTS

Setting accuracy:

±3%F.S. (Below 0.1kPa:±5%F.S)

Repeatability:

Within 2%F.S. (Below 0.1kPa:±3%F.S)

Dead band:

Fixed.Blow 6%F.S. (Below 0.1kPa:±10%F.S)

Switch:

Photosensor

Number of Contact:

One contact or two contact

Setting system:

External adjustment type

Outlet for electric wire:

Hole for electric wire 9DIA.

Auxiliary power source:

100V/110V AC or 200V/220V AC

Electrical characteristic:

Electrical

Item	Load	Resistance load (cos φ =1)	Inductive load (cos φ =0.4, L/R=7ms)
Rated load		100V AC 1A 24V DC 1A	100V AC 0.5A 24V DC 0.5A
The maximum of rating working voltage		250V AC	60V DC
The maximum of rating use power source		1A	1A
The maximum of opening and shutting volume		120VA 30W	60VA 15W
Minimum application load		5V DC	1mA

Withstand voltage

1000V AC Between terminal and case

Insulation resistance

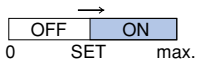
500V DC Over 100MΩ
Between terminal and case

TYPE OF CONTACT POINT AND WIRING SYSTEM

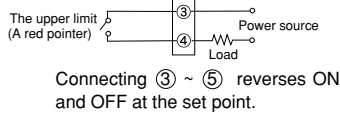
DG82 Differential pressure gauge with electric contacts

1.Upper limit type with one contact (H)

When the differential pressure rises to a set value,contact points work to turn a circuit ON.

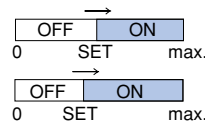


Wiring
③ ~ ④ Connection A red pointer

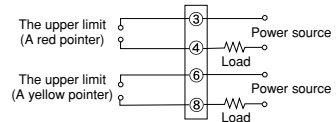


4.Upper limit type with two contact (2H)

This is the combination of two upper limit types and each works independently.

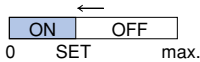


Wiring
③ ~ ④ Connection A red pointer
⑥ ~ ⑧ Connection A yellow pointer

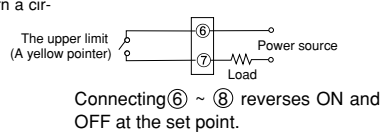


2.Lower limit type with one contact (L)

When the differential pressure decreases to a set value,contact points work to turn a circuit ON.

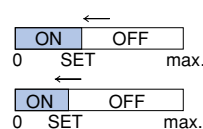


Wiring
⑥ ~ ⑦ Connection A yellow pointer

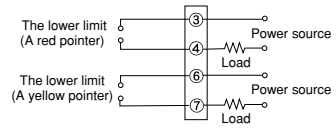


5.Lower limit type with two contact (2L)

This is the combination of two lower limit types and each works independently.

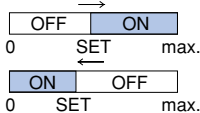


Wiring
③ ~ ⑤ Connection A red pointer
⑥ ~ ⑦ Connection A yellow pointer

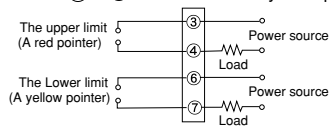


3.Upper and lower limit type with two contact (HL)

This is the combination of the upper limit type and the lower limit type and each works independently.



Wiring
③ ~ ④ Connection A red pointer
⑥ ~ ⑦ Connection A yellow pointer



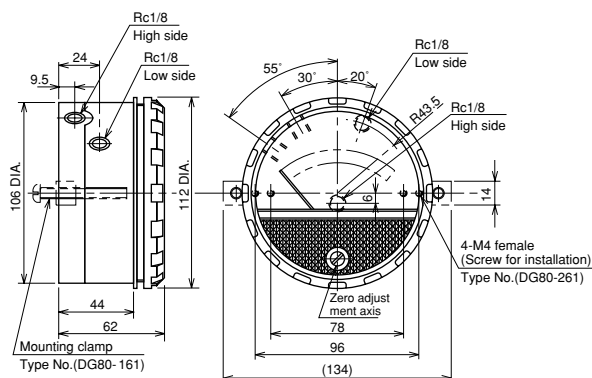
* One or two is a terminal for the input power source.

Note : It isn't possible to establish yellow pointer (a red pointer) in HL.2H.2L more aloft than a red pointer (yellow pointer) (in the lower part).

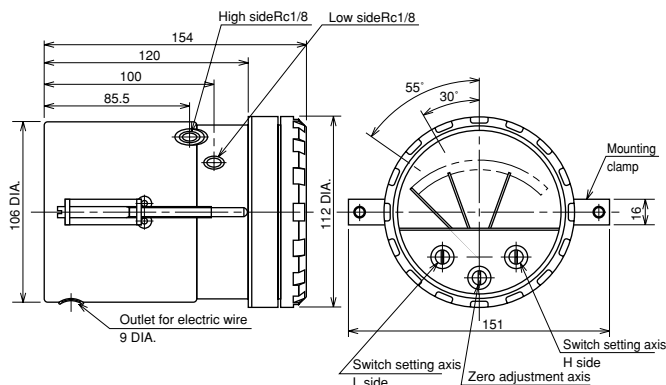
DIMENSION

(Unit:mm)

DG80

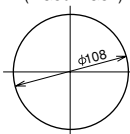


DG82



Panel cut

(DG80-DG82)

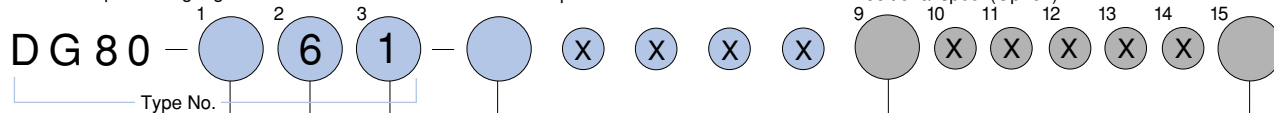


Type No. constitution

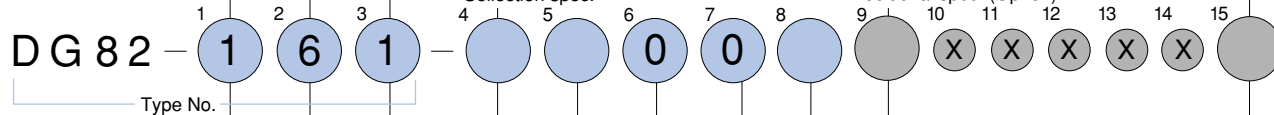
Please specify Type No., each specification and range, when ordering.

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

Differential pressure gauges



Differential pressure gauge with electric contacts



1 Installation system

- 1 Mounting clamp
- 2 Installation screw
- 2 Available DG80 only

2 Connection

- 6 Rc1/8

3 Wetted parts material

- 1 Diaphragm: NBR

4 Differential pressure range(kPa)

(I do case in an order, and a range and the unit and standard pressure, standard pressure side appoint low pressure (L) or high pressure (H) extra)

- 0 0 ~ 0.1, 0.2, 0.3, 0.5
- 1 0 ~ 1, 2, 3, 5

5 Type of contact point

- 1 H : Upper limit type with one contact
- 2 L : Lower limit type with one contact
- 3 HL : Upper and lower limit type with two contact
- 4 2H : Upper limit type with two contact
- 5 2L : Lower limit type with two contact

15 Document

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

9 Other additional spec.

- 0 Nil
- 1 Please specify your requirement
Dial scale specified

8 Auxiliary power source

- 1 100 V /110 V AC
- 2 200 V /220 V AC

7 Outlet for electric wire

- 0 Hole for electric wire 9DIA.

6 Switch

- 0 Photosensor