



Operation Manual

PRODUCT NAME

Pressure Gauge

MODEL/ Series

G43

SMC Corporation

Contents

Safety Instructions	2~3
1. Specifications	4
2. Operation principle	5
3. Type marking	5
4. Caution on handling	6~7
5. Pattern of the dial	8
6. Drawing	8



Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “Caution,” “Warning” or “Danger.”

They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

*1) ISO 4414: Pneumatic fluid power -- General rules relating to systems.

ISO 4413: Hydraulic fluid power -- General rules relating to systems.

IEC 60204-1: Safety of machinery -- Electrical equipment of machines .(Part 1: General requirements)

ISO 10218-1992: Manipulating industrial robots -Safety.

etc.



Caution

Operator error could result in injury or equipment damage.



Warning

Operator error could result in serious injury or loss of life.



Danger

In extreme conditions, there is a possibility of serious injury or loss of life.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results.

The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product.

This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly.

The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.

When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.

Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1) Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.

2) Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.

3) An application which could have negative effects on people, property, or animals requiring special safety analysis.

4) Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.



Safety Instructions

Caution

The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries. If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary. If anything is unclear, contact your nearest sales branch.

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

Limited warranty and Disclaimer/Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".

Read and accept them before using the product.

Limited warranty and Disclaimer

The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)

Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.

For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.

This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.

Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

***2) Vacuum pads are excluded from this 1 year warranty.**

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.

Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

When the product is exported, strictly follow the laws required by the Ministry of Economy, Trade and Industry (Foreign Exchange and Foreign Trade Control Law).

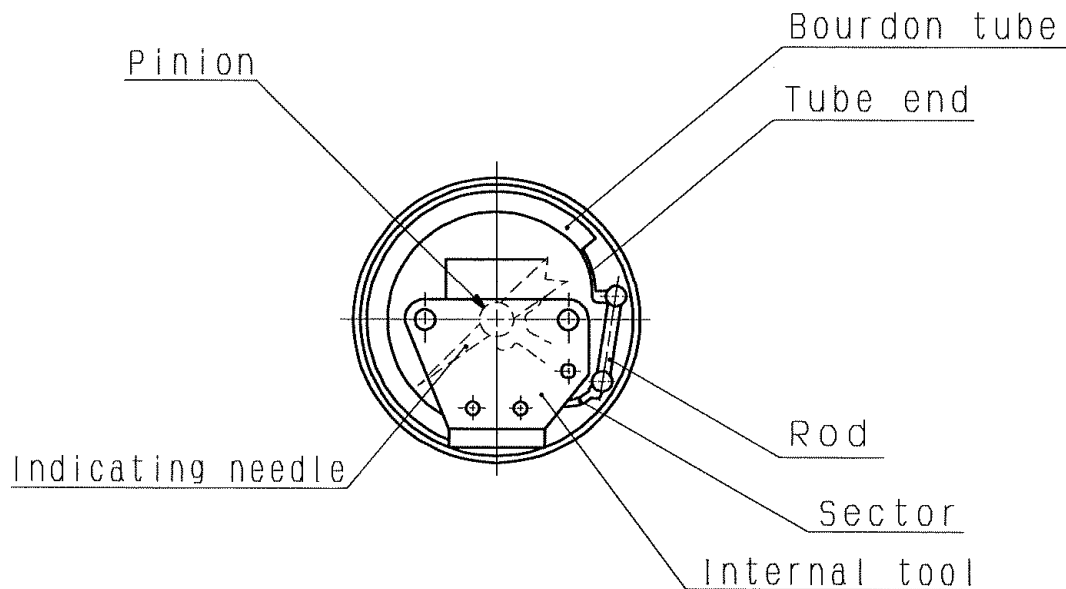
1. Specifications

Type	G43					
Connect port	R	1/8 , 1/4				
Connect port	NPT	1/8 , 1/4				
Max. operating pressure (MPa)	0.2	0.3	0.4	0.6	0.7	1.0
Pressure range (MPa)	0~0.2	0~0.3	0~0.4	0~0.6	0~0.7	0~1.0
Accuracy	±3%F.S(Full span) ※					
Operating fluid	Air					
Ambient temp. & operating fluid temp.	-5°C~60°C (No freezing)					

※Full span depending on the Max. operating pressure.(ex.G43-2-01:0.2MPa)

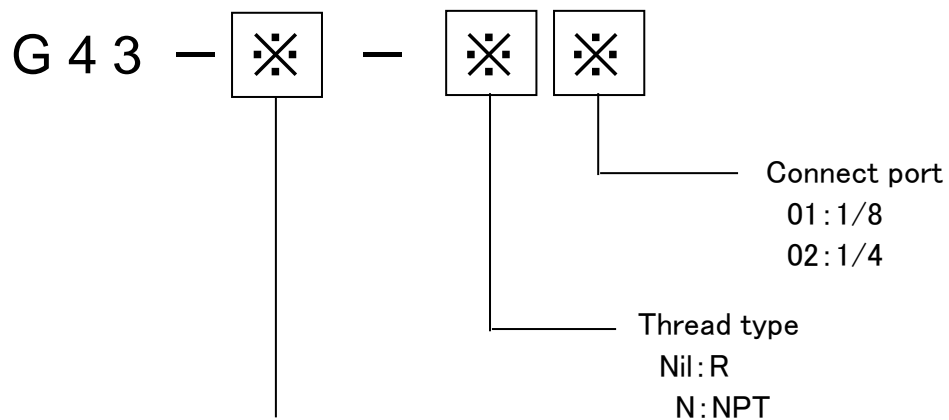
2. Operation principle

Deviation due to pressure difference between in/outside of bourdon tube is transmitted to the sector through the rod to rotate the pinion engaging the sector. The indicating needle and scale display the pressure value.



3. Type marking

How to Order



Symbol of the MAX. Pressure

- 2 : 0. 2 MPa
- 3 : 0. 3 MPa
- 4 : 0. 4 MPa
- 6 : 0. 6 MPa
- 7 : 0. 7 MPa
- 1 0 : 1. 0 MPa

4. Caution on Handling



Warning **Operation**

- (1) Do not give the pressure more than max. (indicated by max. scale). Otherwise, displacement of zero point of needle and deformation of Bourdon tube may be caused. Select the gauge in accordance with max. operating pressure.
- (2) Do not use the fluid which may corrode the material of contact part to liquid and gas. Otherwise, pressure element is broken or burst and released to outside, and finally, that damage human body and peripheral equipment.
- (3) Please provide the space by 10mm or more of the glass of the pressure gauge in surroundings.
The glass is damaged if the glass doesn't operate normally and it is very dangerous.
- (4) Use within operating temperature range. Otherwise, the gauge breaks and damages human body and peripheral equipment.



Warning **Handling**

- (1) Do not use for oxygen.
- (2) Do not give any modification to the product and its function.
- (3) Before installation and removal, shut off supply pressure completely and exhaust residual pressure in tubing and other pressure line.



Caution

Environment

- (1) Do not mount the product in a location where it is subject to strong vibrations and/or shock.
- (2) Avoid to expose the gauge to direct sunlight because it can make ambient temperature increase quickly and also prevent the air from freezing during cold season.



Caution

Piping

- (1) Before piping
Make sure that all debris, cutting oil, dust, etc. are removed from the piping.
- (2) Sealant tape
When installing piping or fitting into a port, ensure that sealant material does not clog up the pressure port. When using sealant tape, leave the first 2 thread turns exposed at the end of pipe/fitting.



Caution

Operation

If the gauge is dropped and given impact, its performance may lower.



Caution

How to store

- (1) Preserve under the environment with low humidity and no vibration and dust.
- (2) If multiple gauges should be piled up, avoid deformation due to their weight, and drop.

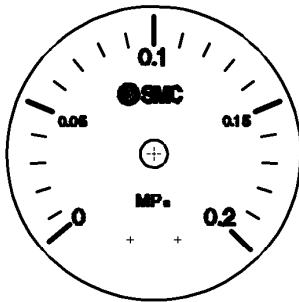


Caution

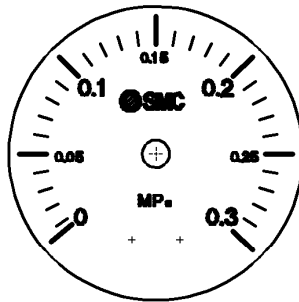
Handling

For installation and removal, be sure to use spanner and do not hold the body.

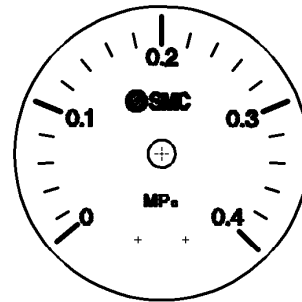
5. Pattern of the dial



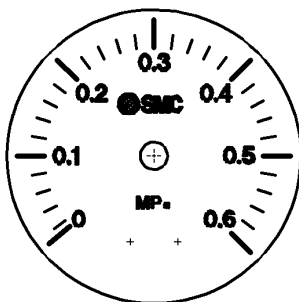
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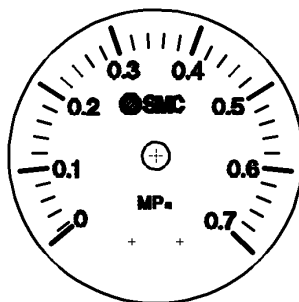
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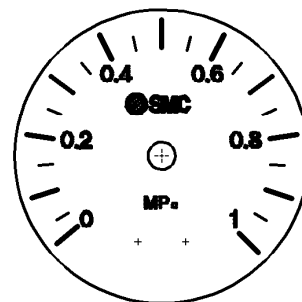
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G43-6-***

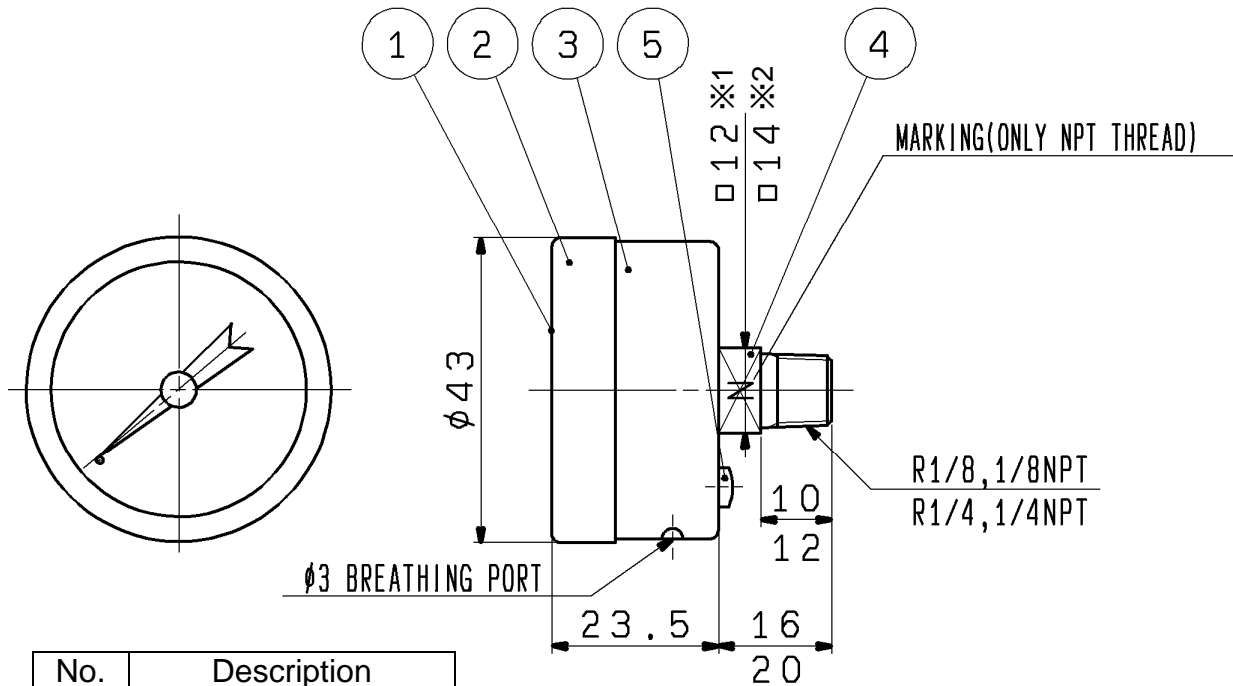


G43-7-***



G43-10-***

6. Drawing



No.	Description
1	Glass
2	Cover
3	Cover
4	Socket
5	Self-Binding Screw

Note) *1 shows R thread, *2 shows NPT thread.

Revision history	
A	"Safety Instructions" is updated.
B	Note addition of metrology

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Note: Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.
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