

## Pressure Gauge Outdoor series GW49D-□-P10

### INSTRUCTION MANUAL

SM-P00088-A/2



- Read this Instruction Manual before using the product.
- Read the safety notes carefully.
- Keep this Instruction Manual in a safe and convenient place for future reference.

# PREFACE

Thank you for purchasing CKD's "**GW49D-□-P10**" **pressure gauge outdoor series**.

This Instruction Manual contains basic matters such as installation and usage instructions in order to ensure optimal performance of the product. Please read this Instruction Manual thoroughly and use the product properly.

Keep this Instruction Manual in a safe place and be careful not to lose it.

Product specifications and appearances presented in this Instruction Manual are subject to change without notice.

- The product is intended for users who have basic knowledge about materials, piping, electricity, and mechanisms of pneumatic components. CKD shall not be responsible for accidents caused by persons who selected or used the product without knowledge or sufficient training.
- Since there are a wide variety of customer applications, it is impossible for CKD to be aware of all of them. Depending on the application or usage, the product may not be able to exercise its full performance or an accident may occur due to fluid, piping, or other conditions. It is the responsibility of the customer to check the product specifications and decide how the product shall be used in accordance with the application and usage.

# SAFETY INFORMATION

When designing and manufacturing any device incorporating the product, the manufacturer has an obligation to ensure that the device is safe. To that end, make sure that the safety of the machine mechanism of the device, the pneumatic control circuit, and the electric system that controls such mechanism is ensured.

To ensure the safety of device design and control, observe organization standards, relevant laws and regulations, which include the following:

ISO 4414 and JIS B 8370 (the latest edition of each standard)




In order to use our products safely, it is important to select, use, handle, and maintain the products properly.

Observe the warnings and precautions described in this Instruction Manual to ensure device safety.

Although various safety measures have been adopted in the product, customer's improper handling may lead to an accident. To avoid this:

**Thoroughly read and understand this Instruction Manual  
before using the product.**

To explicitly indicate the severity and likelihood of a potential harm or damage, precautions are classified into three categories: "DANGER", "WARNING", and "CAUTION".

 <b>DANGER</b>	Indicates an imminent hazard. Improper handling will cause death or serious injury to people.
 <b>WARNING</b>	Indicates a potential hazard. Improper handling may cause death or serious injury to people.
 <b>CAUTION</b>	Indicates a potential hazard. Improper handling may cause injury to people or damage to property.

Precautions classified as "CAUTION" may still lead to serious results depending on the situation. All precautions are equally important and must be observed.

Other general precautions and tips on using the product are indicated by the following icon.



Indicates general precautions and tips on using the product.

## Precautions on Product Use

### WARNING

**The product must be handled by a qualified person who has extensive knowledge and experience.**

The product is designed and manufactured as a device or part for general industrial machinery.

**Use the product within the specifications.**

The product must not be used beyond its specifications. Also, the product must not be modified and additional work on the product must not be performed.

The product is intended for use in devices or parts for general industrial machinery. It is not intended for use outdoors (Except for outdoor specification products) or in the conditions or environment listed below.

- In applications for nuclear power, railroad system, aviation, ship, vehicle, medical equipment, and equipment that directly touches beverage or food.
- For special applications that require safety including amusement equipment, emergency shut-off circuit, press machine, brake circuit, and safety measures.
- For applications where life or properties may be adversely affected and special safety measures are required.

(Exception is made if the customer consults with CKD prior to use and understands the specifications of the product. However, even in that case, safety measures must be taken to avoid danger in case of a possible failure.)

**Do not handle the product or remove pipes and devices until confirming safety.**

- Inspect and service the machine and devices after confirming the safety of the entire system. Also, turn off the energy source (air supply or water supply) and power to the relevant facility. Release compressed air and fluid from the system and use extreme care to avoid water or electric leakage.
- Since there may be hot or live parts even after operation has stopped, use extreme care when handling the product or removing pipes and devices.
- When starting or restarting a machine or device that incorporates pneumatic components, make sure that a safety measure (such as a pop-out prevention mechanism) is in place and system safety is secured.

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# 1. PRODUCT OVERVIEW

## 1.1 Model Number Indication

GW49D - 6 - P10

A Model No.

B Port size

C Pressure display

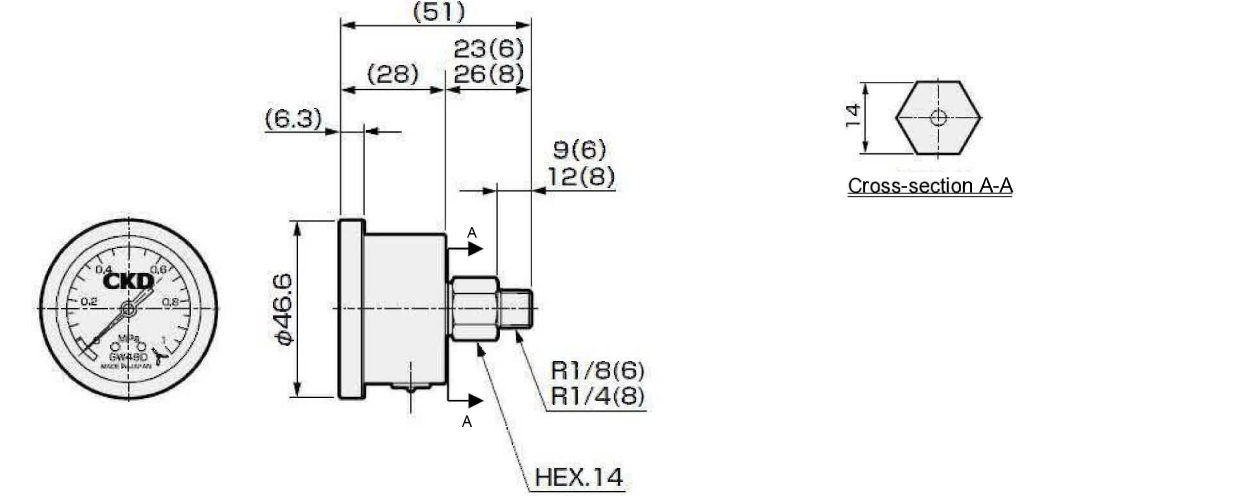
Code	Description
A Model No.	
GW49D	
B Port size	
6	R <sup>1</sup> / <sub>8</sub>
8	R <sup>1</sup> / <sub>4</sub>
C Pressure display [MPa] *1	
P10	0 to 1.0 MPa

## 1.2 Specifications

Descriptions		Pressure gauge
Working fluid		Compressed air
Fluid temperature		-20°C to +60°C(no freezing)
Ambient temperature		-20°C to 60°C
Accuracy <sup>Note 1</sup>		JIS Class 3 or equivalent (± 3%FS)
Shape		DT type (rear side screw, piping joint: hexagon)
Material	Bourdon tube	Copper alloy
	Stock	Copper alloy (nickel plating)
	Housing	Stainless steel
	Lens	Tempered glass
Pressure range <sup>Note 2</sup>		0 MPa to 1.0 MPa
Port size		R1/8,R1/4
Weight		100 g

Note 1: The pressure indication accuracy is guaranteed at 20°C ± 15°C.  
Note 2: Do not apply pressure that exceeds the maximum pressure indicated on the dial face. Otherwise, operation faults may occur.

## 1.3 Dimensions



## 2. INSTALLATION

### 2.1 Environment

#### WARNING

**Do not use the product in an atmosphere where organic solvents or chemicals are present or in a place where they may adhere to the product.**

Chemicals may cause damage to the product and lead to an accident.

**When using in cold regions, take appropriate measures for cold regions.**

- If freezing occurs, leaks and malfunctions can occur. Dew point of air quality please perform appropriate management.

Do not use the product in an environment where:

Ambient temperature is not within the product operating temperature range

(The product temperature is at risk of exceeding the ambient temperature when used in an environment exposed to direct sunlight.)

- Air can freeze
- Atmosphere contains corrosive gas, fluids, or chemicals
- Atmosphere contains a lot of dust
- There is a heat source in the surrounding area and heat is radiated

## 2.2 Unpacking

### ⚠ CAUTION

**Do not open the packing of the product until just before piping.**

Foreign matters may enter the product and cause a failure or malfunction.

- Check that the model number ordered and the model number indicated on the product are the same.
- Check the exterior of the product for any damage.

## 2.3 Piping

### ⚠ CAUTION

**Fully flush and clean the pipes before use.**

Residual dust or foreign matter in a pipe may cause operation fault.

**Tighten the pipes with the appropriate tightening torque.**

Excessive screwing torque or load may cause damage.

**Hold the piping joint (the hexagon connection) during piping.**

Holding the body when piping may cause damage.

### 2.3.1 Pipe cleaning

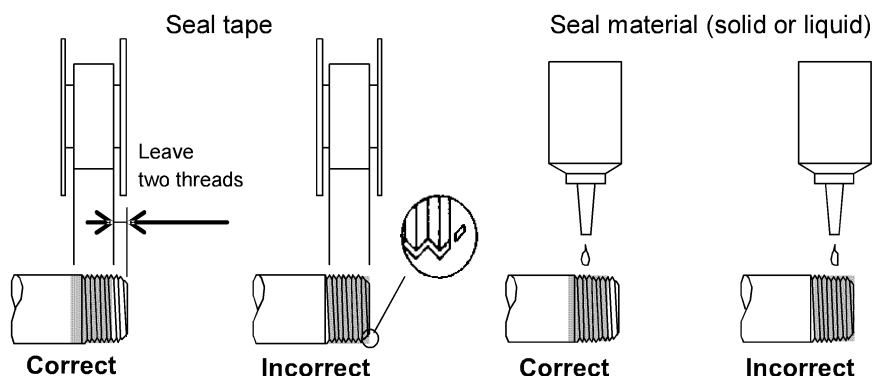
Before piping, blow air into the pipes to clean the interior and to remove cutting chips and foreign matters.

### 2.3.2 Seal material

Apply a seal tape or seal material to the screw threads leaving two or more threads at the pipe end uncovered or uncoated. If the pipe end is fully covered or coated, a shred of seal tape or residue of seal material may enter inside of the pipes or device and cause a failure.

When using a seal tape, wind it around the screw threads in the direction opposite from the screw threads and press it down with your fingers to attach it firmly.

When using a liquid sealant, do not apply seal material to the internal threads.





## 3. USAGE

### WARNING

**Use clean compressed air that does not contain organic solvents, chemicals, or corrosive gases.**

Contaminated compressed air may cause operation faults or damage to the product.

**Use the product within the specifications.**

Using the product outside the specifications may cause damage to the product or malfunction of terminal devices and lead to accidents.

### CAUTION

**Check the working circuit and the working fluid.**

If fluids containing solids or fluids not in the specifications flow into the product, operation faults may occur. Attach a filter to the primary side of the product to prevent solids from entering.

**Avoid using the product under conditions where there are repeated occurrences of sudden rise and drop in pressure and under pressure pulsation.**

Using the product under such conditions may shorten the service life of the product. Adjust the air circuit to decrease the pressure change.

## 4. TROUBLESHOOTING

### 4.1 Problems, Causes, and Solutions

If the product does not operate as intended, check the table below for a possible solution.

Problem	Cause	Solution
Pressure gauge needle does not work.	Air pressure is not supplied.	Supply pressure and adjust with pressure reducing valve.
	Breton tube is damaged.	Replace pressure gauge.

If you have any other questions or concerns, contact your nearest CKD sales office or distributor.

## 5. WARRANTY PROVISIONS

### 5.1 Warranty Conditions

#### ■ Warranty coverage

If the product specified herein fails for reasons attributable to CKD within the warranty period specified below, CKD will promptly provide a replacement for the faulty product or a part thereof or repair the faulty product at one of CKD's facilities free of charge.

However, following failures are excluded from this warranty:

- Failure caused by handling or use of the product under conditions and in environments not conforming to those stated in the catalog, the Specifications, or this Instruction Manual.
- Failure caused by incorrect use such as careless handling or improper management.
- Failure not caused by the product.
- Failure caused by use not intended for the product.
- Failure caused by modifications/alterations or repairs not carried out by CKD.
- Failure that could have been avoided if the customer's machinery or device, into which the product is incorporated, had functions and structures generally provided in the industry.
- Failure caused by reasons unforeseen at the level of technology available at the time of delivery.
- Failure caused by acts of nature and disasters beyond control of CKD.

The warranty stated herein covers only the delivered product itself. Any loss or damage induced by failure of the delivered product is excluded from this warranty.

#### ■ Confirmation of product compatibility

It is the responsibility of the customer to confirm compatibility of the product with any system, machinery, or device used by the customer.

#### ■ Others

The terms and conditions of this warranty stipulate basic matters.

When the terms and conditions of the warranty described in individual specification drawings or the Specifications are different from those of this warranty, the specification drawings or the Specifications shall have a higher priority.

### 5.2 Warranty Period

The product is warranted for one (1) year from the date of delivery to the location specified by the customer.