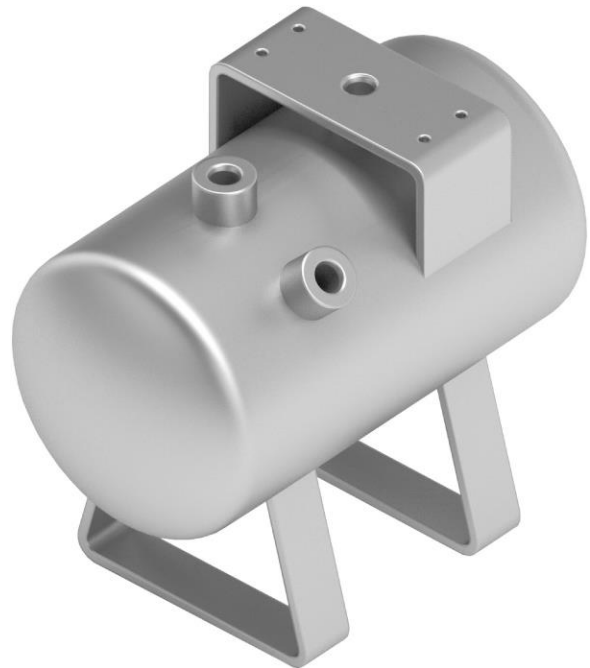


Air tank AT2 Series

INSTRUCTION MANUAL

SM-A50879-A



- 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 " **AT2 Series**" **Air tank**.

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 fluid 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, JIS B 8370, JFPS 2008 (the latest edition of each standard), the High Pressure Gas Safety Act, the Industrial Safety and Health Act, other safety rules, organization standards, relevant laws and regulations




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".

 DANGER	Indicates an imminent hazard. Improper handling will cause death or serious injury to people.
 WARNING	Indicates a potential hazard. Improper handling may cause death or serious injury to people.
 CAUTION	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.
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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 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.

Precautions on Product Disposal

CAUTION

When disposing of the product, comply with laws pertaining to disposal and cleaning of wastes and have an industrial waste disposal company dispose of the product.

CONTENTS

PREFACE	i
SAFETY INFORMATION	ii
Precautions on Product Use	iii
Precautions on Product Disposal	iv
CONTENTS	v
1. PRODUCT OVERVIEW	1
1.1 Model Number Indication.....	1
1.1.1 AT2 Series	1
1.2 Specifications.....	1
1.2.1 Product specifications	1
1.3 Dimensions	2
1.3.1 AT2-05S.....	2
1.3.2 AT2-10S.....	2
2. INSTALLATION	3
2.1 Environment.....	3
2.2 Unpacking	4
2.3 Mounting	4
2.3.1 Mounting attitude.....	4
2.4 Piping	5
3. USAGE	7
3.1 Precautions for use	7
3.1.1 Necessity to install a safety valve	7
4. MAINTENANCE AND INSPECTION	8
4.1 Periodic Inspection.....	8
4.1.1 Inspection item	8
5. WARRANTY PROVISIONS	9
5.1 Warranty Conditions	9
5.2 Warranty Period	9

1. PRODUCT OVERVIEW

1.1 Model Number Indication

1.1.1 AT2 Series



Code	Description
A Internal capacity	
05	5L
10	10L

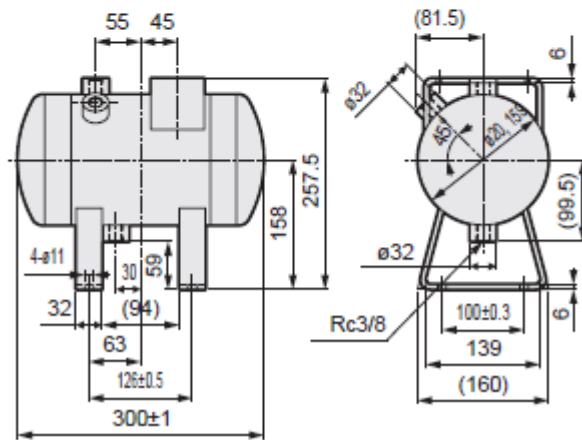
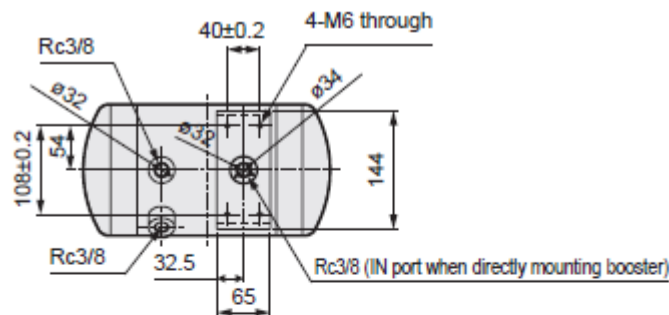
1.2 Specifications

1.2.1 Product specifications

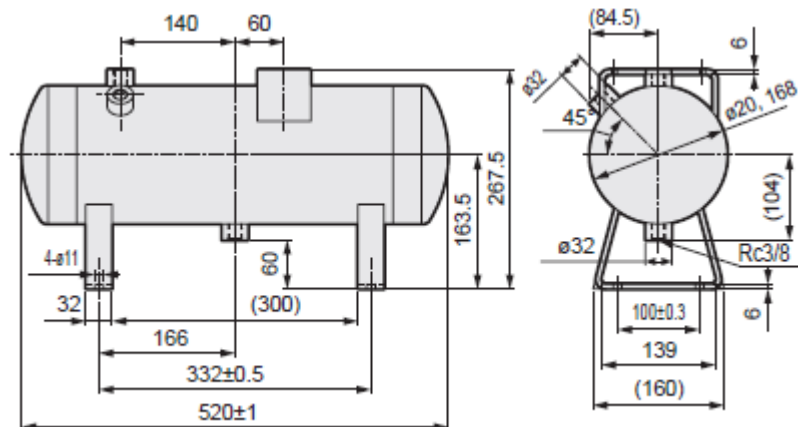
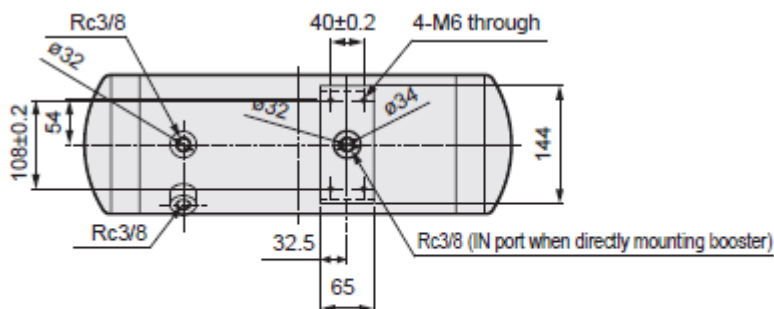
Model		AT2-05S	AT2-10S
Description			
Working fluid		Compressed air	
Max.working pressure	MPa	0.99	
Water test pressure	MPa	1.5	
Ambient temperature	°C	0 to 50 (no freezing)	
Internal capacity	L	5	10
Port size		Rc3/8	
Material		Stainless steel	
Weight	kg	7.3	10.5

1.3 Dimensions

1.3.1 AT2-05S



1.3.2 AT2-10S



2. INSTALLATION

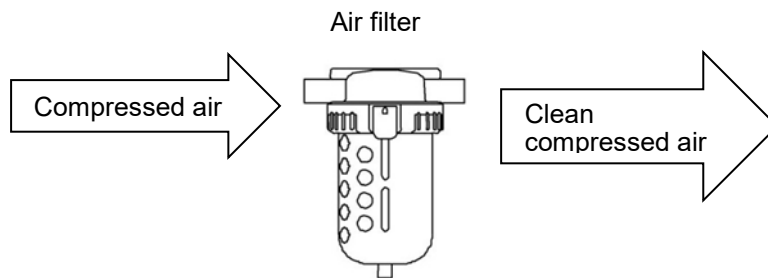
2.1 Environment

CAUTION

When using the product in a cutting, casting, or welding plant, install a cover to prevent foreign matters such as cutting fluid, chips, powder, and dust from entering.

Do not use the equipment in the following environments.

- Where cutting oil can splash onto the product (abrasives and polishing powder in the oil can abrade the sliding section)
 - Where organic solvents, chemicals, acids, alkalis, and kerosene are present
 - Where water can splash onto the product
- Use the product within the following ambient temperature range.
0 to 50°C (no freezing)
 - For compressed air, use clean and dry air that has been passed through an air filter. Use an air filter in the circuit and be careful with the filtration rate (a filter that removes particles exceeding 5 µm is desirable), flow rate, and mounting position (install the filter near the directional control valve).



2.2 Unpacking

- Be careful not to injure yourself when removing the heavy air tank from plastic air-mat wrapping.
- 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.
- To prevent foreign matter from entering the air tank, do not yet remove the seal plugs.

2.3 Mounting

2.3.1 Mounting attitude

- 1** Secure the air tank vertically on a horizontal, flat surface, with the fixing plates facing down.
Take care not to injure yourself on the angular corners of the fixing plates during this work.

※Be sure to mount the tank on a horizontal surface.
Mounting the product on a slanting surface will hinder drainage, resulting in internal corrosion.
- 2** For maintenance, connect a drain cock to the drain port located on the bottom of the tank.
- 3** Space necessary to perform maintenance
When installing the air tank secure sufficient space to conduct draining.
- 4** Protection against rusting
To prevent rust formation, do not expose the tank to water.
- 5** For mounting with the booster, refer to the instruction manual "SM-A50870-A, ABP2-HP1 series".

2.4 Piping

WARNING

Insert the tube into the fitting until it firmly rests on the tube end and make sure that the tube does not come off before use.

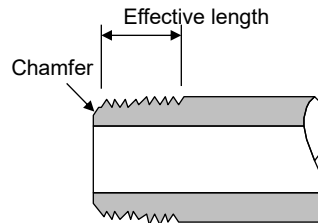
Use piping with a stop valve at the air tank's drain port.

Regularly discharge drain from the tank.



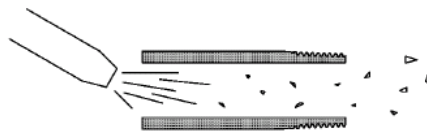
- Use pipes that are made of corrosion-resistant materials after the filter such as zinc-plated pipes, nylon tubes, and rubber tubes.
- Use pipes with an effective cross-sectional area that allows the cylinder to achieve the predetermined piston speed.
- Install the filter for removing rust, foreign matters, and drainage from the piping as close as possible to the solenoid valve.
- Observe the effective thread length for the gas pipes.

In addition, chamfer the threaded end of the pipes by about a 1/2 pitch.



■ Pipe cleaning

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



■ Seal material

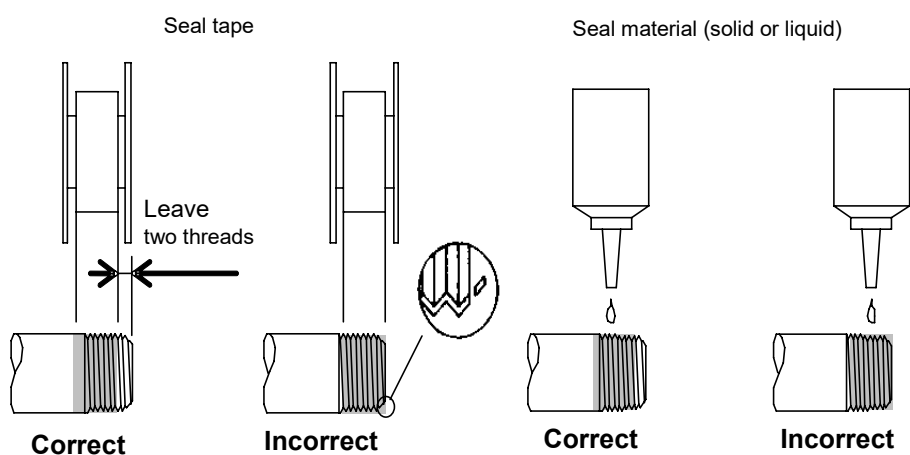
Use a seal tape or a seal material to stop leakage from piping.

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 seal material, be careful not to apply it to resin parts. The resin parts can become damaged and this may lead to a failure or malfunction.

Also, do not apply seal material to the internal threads.



■ Piping tightening torque

Port size	Tightening Torque (N·m)
Rc3/8	13 to 15

3. USAGE

3.1 Precautions for use

CAUTION

Only use compressed air as the media. Maintain the pressure of the media within the specified pressure range. Do not use pressure exceeding 0.99 MPa.

Failure to follow this instruction may cause explosion.

3.1.1 Necessity to install a safety valve

Install a safety valve or other effective safety device to prevent the internal tank pressure from exceeding the maximum working pressure due to exposure to extreme heat in case of fire or other emergency situations.

4. MAINTENANCE AND INSPECTION

4.1 Periodic Inspection

In order to use the product under optimum conditions, perform a periodic inspection once or twice a year.

4.1.1 Inspection item

- Air leakage
- External damage
- Internal corrosion

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.