



# Operation Manual

PRODUCT NAME

Knob Cover

MODEL / Series / Product Number

**AR24P-580AS**

**AR34P-580AS**

**AR44P-580AS**

**AR54P-580AS**

**SMC Corporation**

# Contents

|                        | Page |
|------------------------|------|
| 1. Safety Instructions | 2~5  |
| 2. Application         | 6    |
| 3. Specifications      | 6    |
| 4. Structural Drawing  | 6    |
| 5. How to attach       | 7~8  |
| 6. Dimensions          | 9    |



# 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: Manipulating industrial robots -Safety.

etc.



## Caution

**Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.



## Warning

**Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.



## Danger

**Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

## 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.

1. 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.

2. 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.

3. 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.

## **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**

1. 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.

2. 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.

3. 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**

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction(WMD) or any other weapon is strictly prohibited.

2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulation of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

## **Caution**

### **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.

## Precautions for Design

### Warning

- (1) The recommended shackle length of the padlock to be mounted in the keyhole is 15 mm or more. Please check with the actual product when using a padlock with shackle measuring less than 15 mm.
- (2) The padlock is not supplied. Please prepare at the customer's site.

## Operating environment

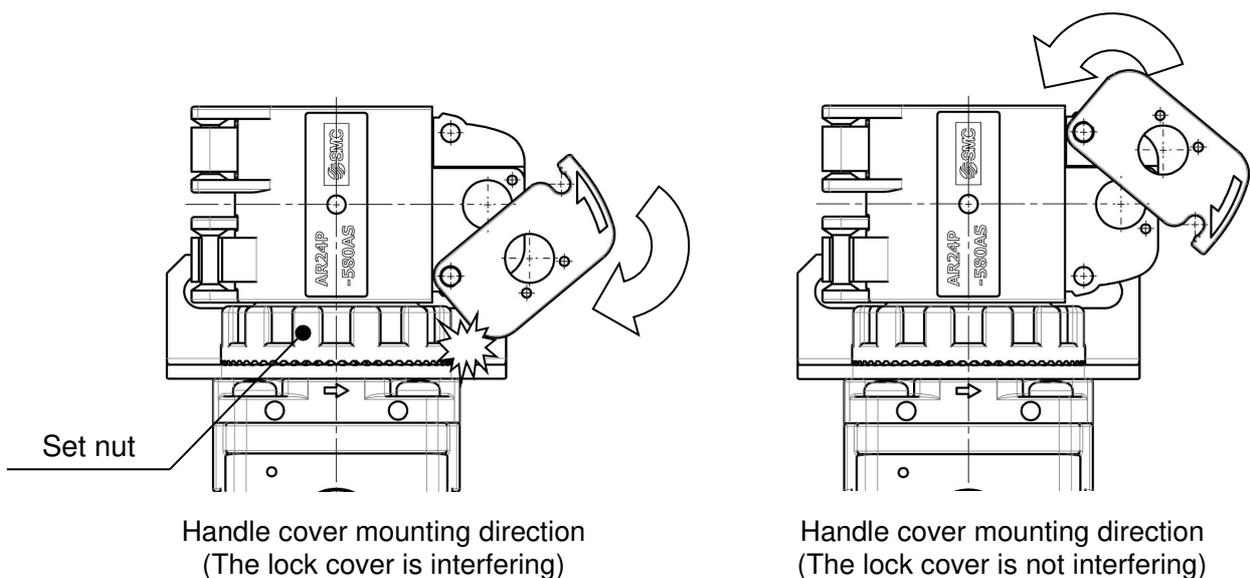
### Warning

- (1) Polyacetal resin is used. Organic solvents including thinner, acetone, alcohol and ethylene chloride; chemicals including sulphuric acid, nitric acid and hydrochloric acid; cutting oil, synthetic oils, ester-based compressor oil, alkali, kerosene, gasoline, lock material of screw are harmful. Do not use the product where these are present.
- (2) Shield from ultra violet light and radiation with protective cover.
- (3) Do not use in an atmosphere where corrosive gases, chemicals, seawater, water, and steam are present, or where there is direct contact with any of these.
- (4) Do not operate in a location subject to vibration or impact load.
- (5) Provide suitable protective measures in locations where there is contact with water droplets, oil, welding spatter, etc.

## Installation

### Warning

- (1) Do not drop or apply impact during transportation or installation. Otherwise, the product may be damaged.
- (2) Do not install in areas of high humidity or high temperature. Operation outside of the product specification range may cause damage to the product or shorten the product life.
- (3) The use of tools can result in damage to the product.
- (4) Mount the handle cover when the handle is in the locked position (the orange line is not visible).
- (5) When using with set nut (B or H), the lock cover may interfere depending on the mounting direction. Mount the lock cover in the direction that does not interfere.





### **Warning**

- (1) Follow the procedure in this operation manual. Incorrect handling of the product may cause damage to the equipment or device.
- (2) The use of tools can result in damage to the product.
- (3) Make sure to remove the handle cover when performing pressure adjustment.

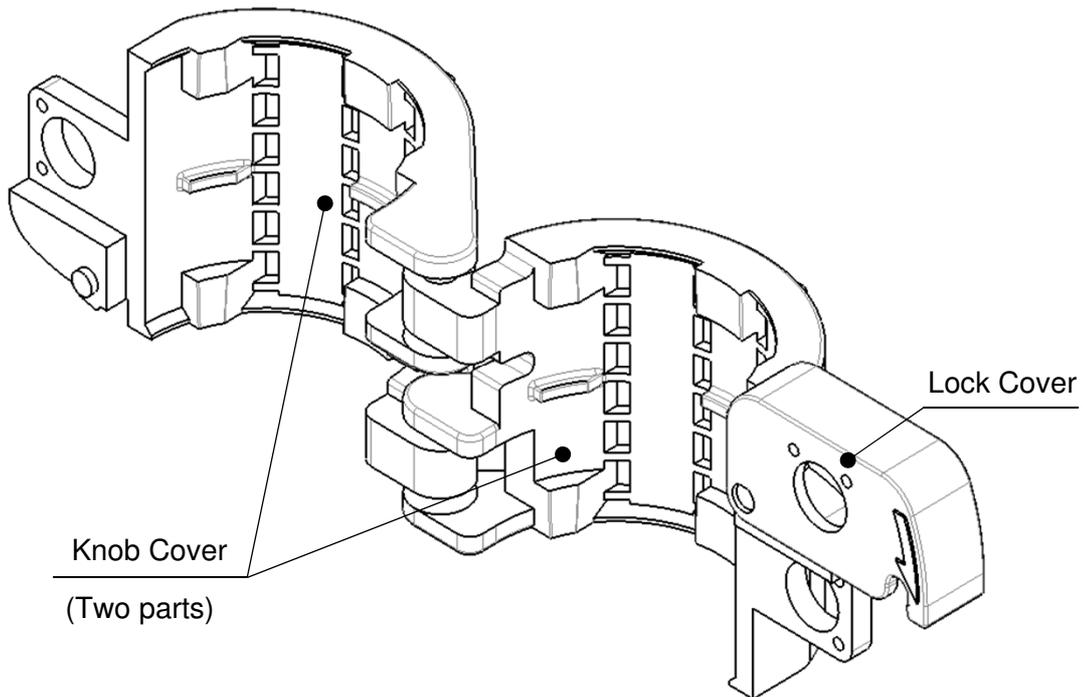
## 2. Application

Prevents inadvertent pressure adjustment (handle operation) by mounting the product to the handle of the regulator.

## 3. Specifications

| Part No.    | Ambient temperature | Weight | Applicable models   |
|-------------|---------------------|--------|---|
| AR24P-580AS | -5°C to 60°C        | 0.02kg | AR20(K)-D,AR20M(K)-D<br>AW20(K)-D,AWM20-D,AWD20-D                           |
| AR34P-580AS |                     | 0.04kg | AR30(K)-D,AR30M(K)-D<br>AW30(K)-D,AWM30-D,AWD30-D                           |
| AR44P-580AS |                     | 0.05kg | AR40(K)-D,AR40M(K)-D,AR40(K)-06-D<br>AW40(K)-D,AWM40-D,AWD40-D,AW40(K)-06-D |
| AR54P-580AS |                     | 0.10kg | AR50(K)-D<br>AR60(K)-D,AW60(K)-D  |

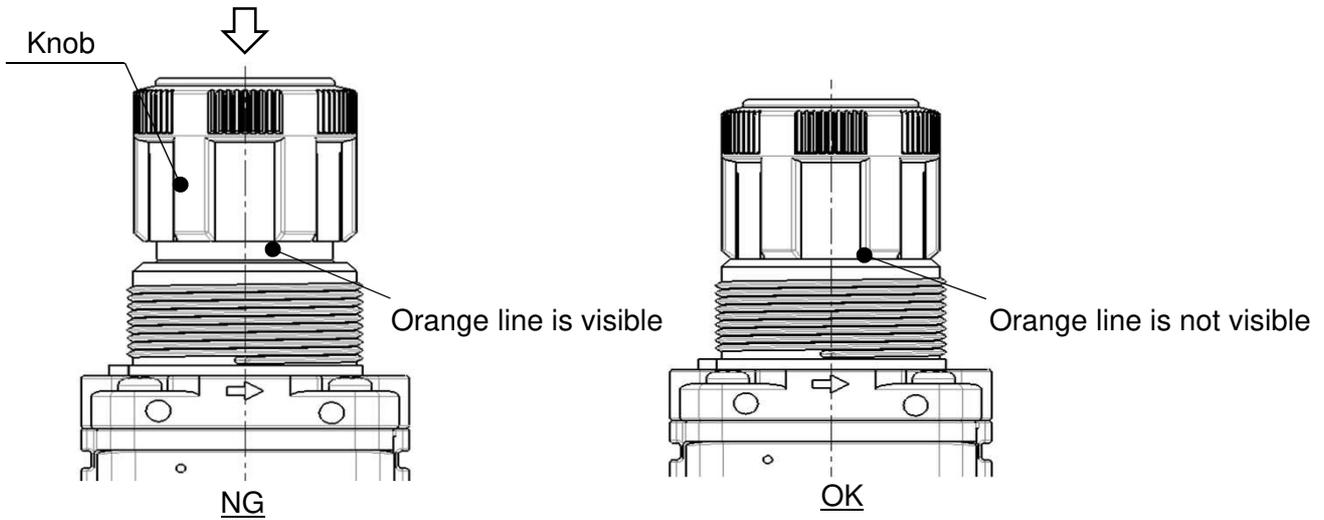
## 4. Structural Drawing



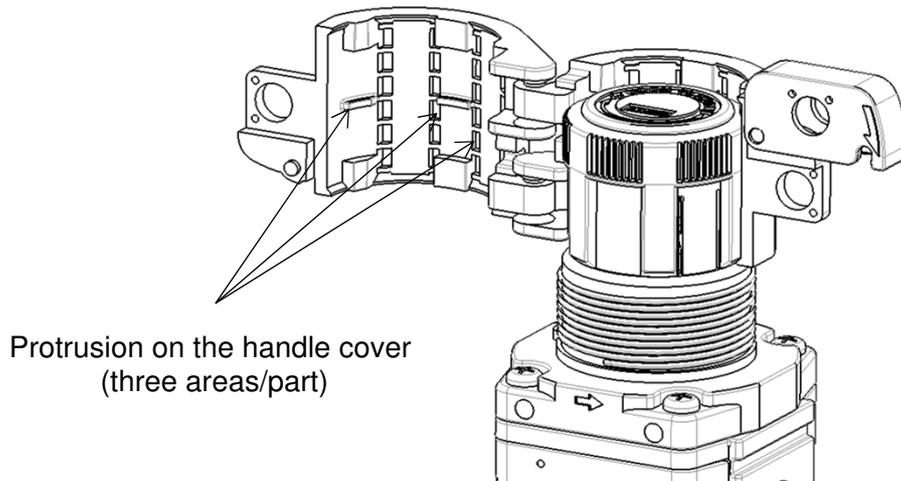
## 5. How to attach

(1) Press in the regulator handle to be in a locked condition (the orange line is not visible).

Press the handle to lock.



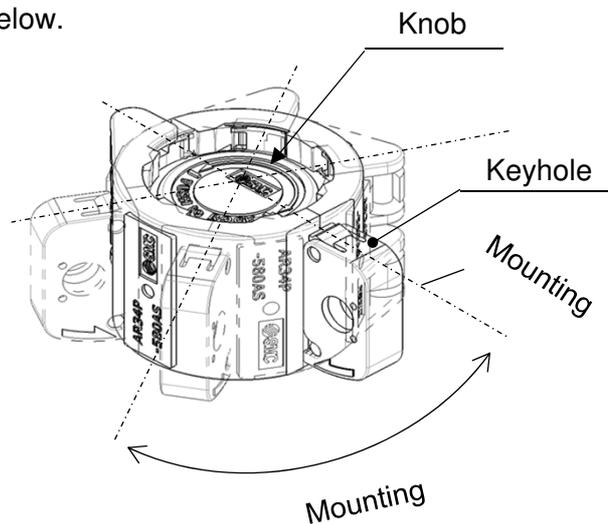
(2) Mount the product avoiding the protrusion areas on the handle cover inner diameter area to interfere with the handle.



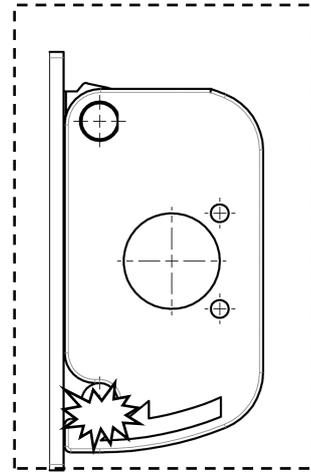
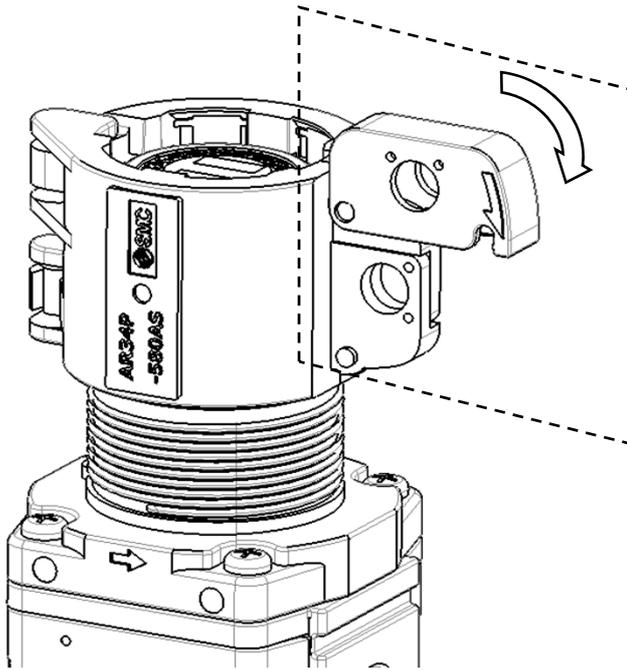
### Note

The handle cover (keyhole mounting area) can be mounted in direction of angles described below.

| Part No.    | Mounting Angle<br>(Mounting Direction) |
|-------------|--|
| AR24P-580AS | 30°<br>(12 directions)                 |
| AR34P-580AS | 60°<br>(6 directions)                  |
| AR44P-580AS |  |
| AR54P-580AS |  |

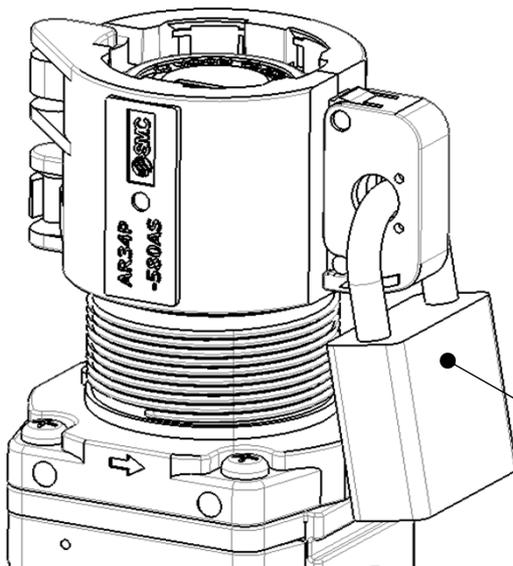


(3) Close the lock cover.



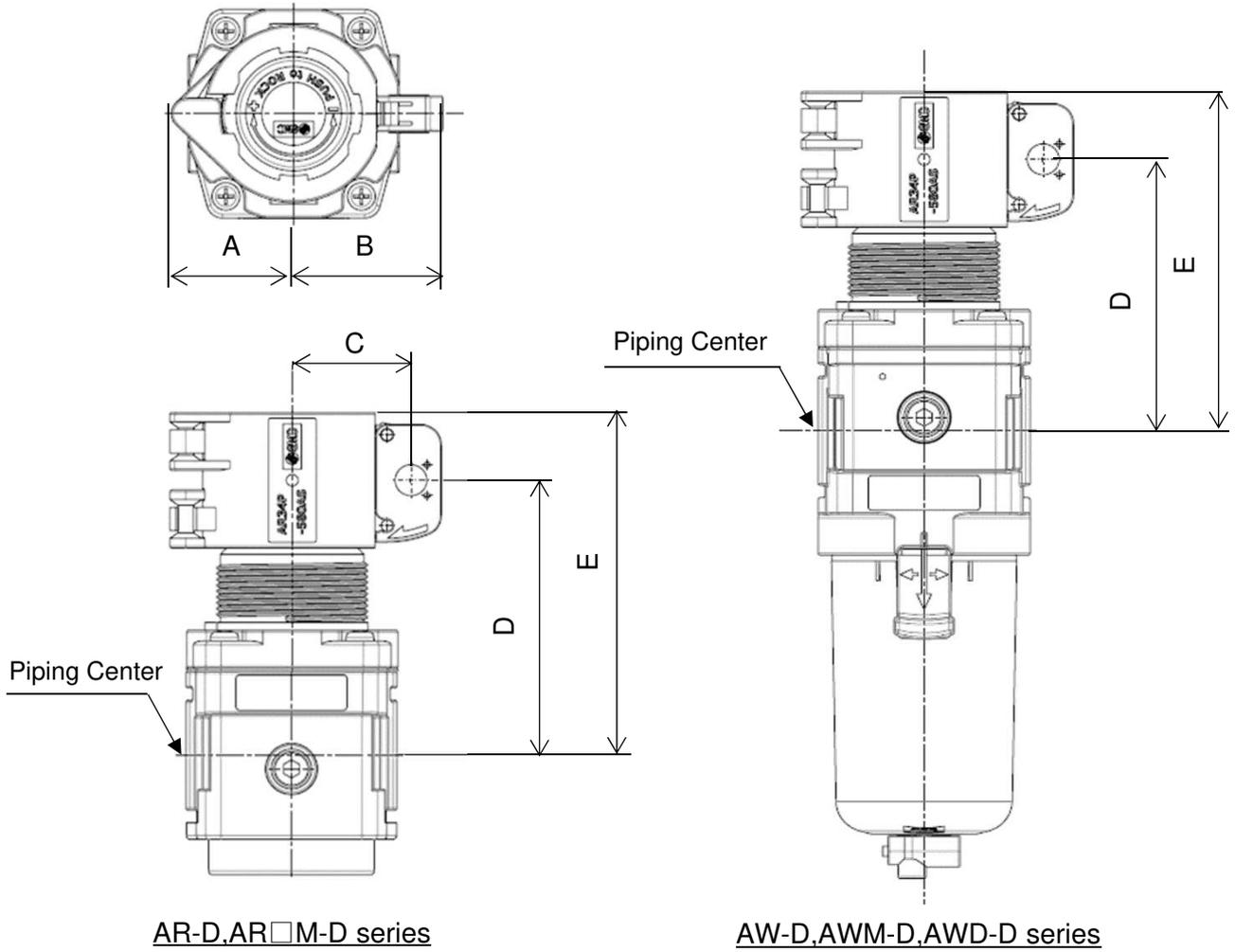
Close it until it makes a click sound.

(4) Attach the padlock.



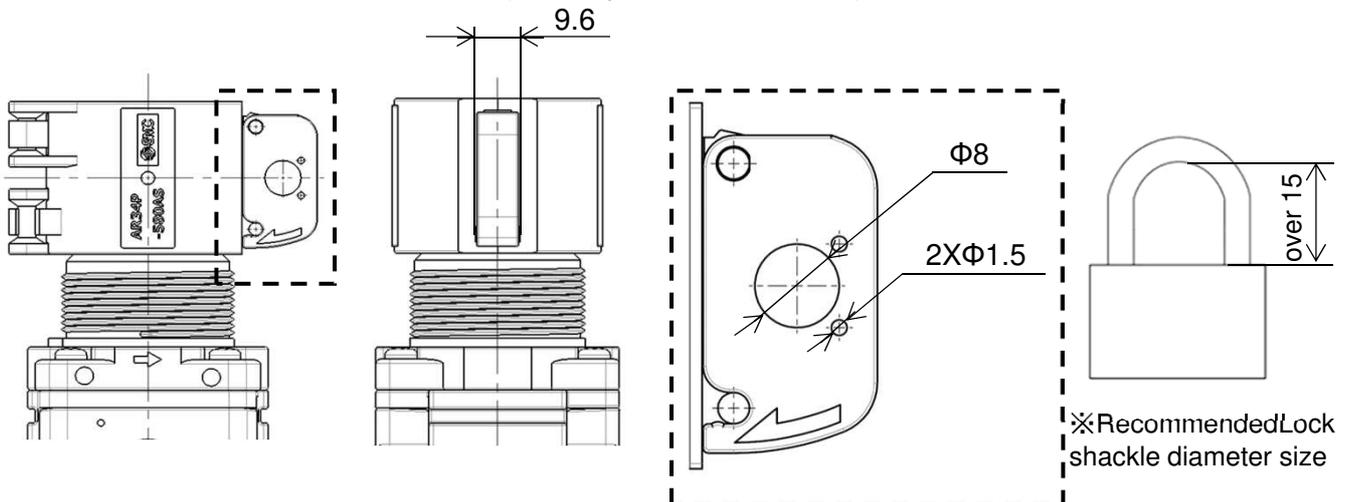
Please prepare the padlock at the customer's site.

## 6. Dimensions



| Part No.    | A    | B    | C    | D     | E     | Applicable Part No.                                |
|-------------|------|------|------|-------|-------|--|
| AR24P-580AS | 23.5 | 32.1 | 24.5 | 53.1  | 69.1  | AR20(K)-D, AR20M(K)-D                              |
|             |      |      |      | 58.1  | 74.1  | AW20(K)-D, AWM20-D, AWD20-D                        |
| AR34P-580AS | 30.7 | 37.4 | 29.8 | 70    | 87.5  | AR30(K)-D, AR30M(K)-D                              |
|             |      |      |      |       |       | AW30(K)-D, AWM30-D, AWD30-D                        |
| AR44P-580AS | 32.8 | 39.4 | 31.8 | 74.5  | 97    | AR40(K)-D, AR40M(K)-D, AW40(K)-D, AWM40-D, AWD40-D |
|             |      |      |      | 76    | 98.5  | AR40(K)-06-D, AW40(K)-06-D                         |
| AR54P-580AS | 42   | 48.9 | 41.3 | 99.6  | 133.6 | AR50(K)-D  |
|             |      |      |      | 129.6 | 163.6 | AR60(K)-D, AW60(K)-D                               |

Detailed dimensions of Lock Cover (Where padlock is installed)



| Revision history |
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