

# LAMP<sup>®</sup>

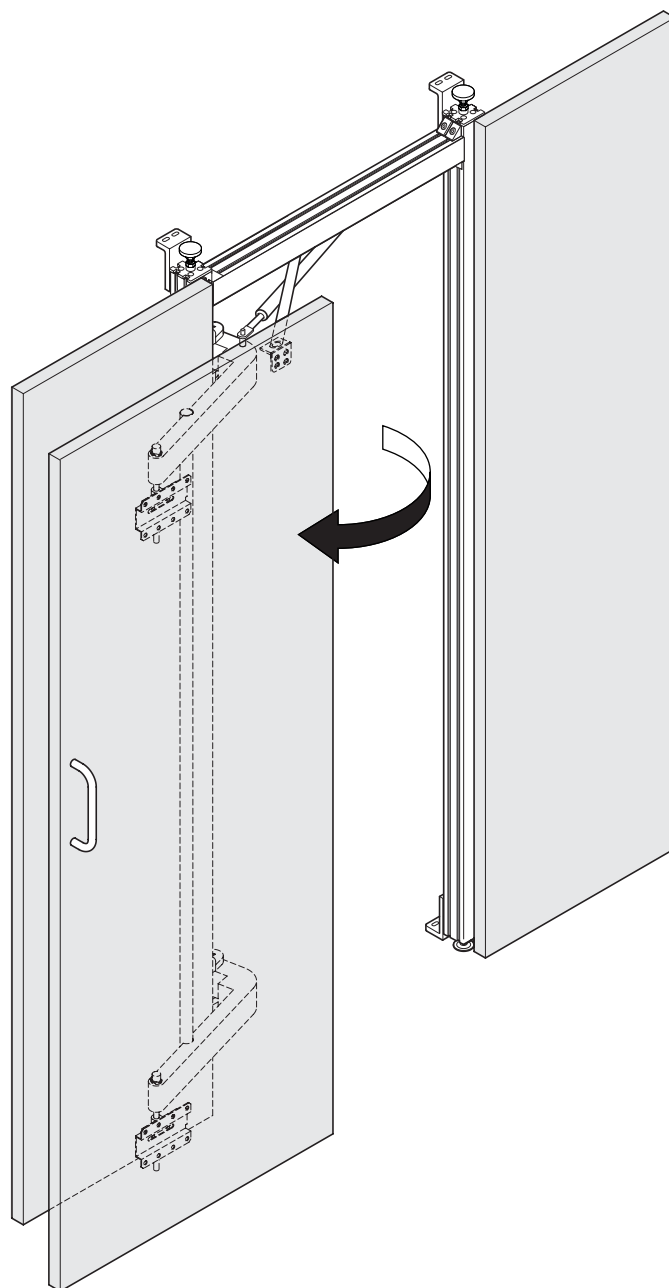
## Flat Door Hardware FAD-54 Instruction Manual

### Aluminum Frame Type

PAT.P

Thank you very much for your purchase of our product.

For safe and proper assembly, fully read this manual before installation.



**SUGATSUNE KOGYO CO., LTD.**

# Safety Cautions

For your safety, be sure to read the following safety cautions first.



Please follow these instructions carefully for proper use.



## WARNING

Indicates a matter which, if neglected, may cause loss of life or serious injuries.



## CAUTION

Indicates a matter which, if neglected, may cause injuries or property damage.

In addition, the following pictographs are used to indicate the types of warnings (cautions).

Meanings of pictographs	
	Indicates a warning (caution) which you are required to take. It is followed by specific content of the warning (caution).
	Indicates an act which you must not do. It is followed by specific content of the act.
	Indicates an instruction which you must follow. It is followed by specific content of the instruction.



If you need to install this product, ask the dealer that you purchased our product or technicians who are skilled in the installation work of the product. Improper installation may lead to a fall of the product during usage, causing an extreme danger.



When installing the product, fully check the surface of the ceiling or floor, and securely fix with the proper anchor nuts and screws. Insufficient strength of the positions that the product is to be installed may lead to breakage of it, causing injury.

## Notes on works

### Handling of product

- Use your desired door.
- Work on a clean floor to prevent any flaws or scratches on the aluminum frame flat surface.
- After unpacking the product, check for damages on the parts.
- DO NOT modify the product. Otherwise, its strength may be decreased.
- Ask the technicians who are skilled in the installation work of the product for assembly or installation of the product.
- When working on the product, be sure to observe the instructions in this manual.



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# ● Specifications

Frame width	From 750 mm to 800 mm If the overlay distance on both sides of aluminum frame is 25 mm, the door width should be 800~850 mm.	Door thickness	From 24 to 38 mm
Door height	2380 mm max.	Door weight	Max. 30 kg / 1 door

# ● Description of parts

**1**

Aluminum frame (vertical use) x 2

Aluminum frame (horizontal use) x 1

**2**

Adjuster base x 4      Bracket for Aluminum frame x 4      Angle joint x 6

Screw		Q'ty
Square nut M6		28
Hexagon socket head cap screw M6x12		28
Hexagon socket head cap screw M6x16		8
Flat washer		36
Countersunk self-tapping screw 4.5x15		16

**3**

Arm connecting pipe x 1      Pipe clamp x 1

Screw		Q'ty
Hexagon socket head cap screw M6x35		4
Flat washer		4

**4**

Gas spring holder x 1      Screw pin x 1

Conical spring washer x 1

Screw		Q'ty
Hexagon socket head cap screw M6x12		2
Spring washer		2
Square nut M6		2
Flat washer		2
E-ring		2

**5**

Bearing housing x 4

Screw		Q'ty
Hexagon socket head cap screw M6x12		8
Spring washer		8
Square nut M6		8

**6**

Positioning unit x 2

Screw		Q'ty
Cross-recessed blind self-tapping screw 4.5 x 20		16
Hexagon head bolt M10x150		2
Hexagon nut M10		2
Flat washer 10		2

**7**

Support arm x 1      Upper arm (w/ stopper) x 1      Lower arm x 1

Clear cushion rubber x1 + 1 (spare)

Screw		Q'ty
Hexagon socket head cap screw M6x12		4
Spring washer		4
Flat washer		2
Square nut M6		2

Adjuster x 4      Gas spring x 1      Handle x 1      PJ-60 x 8 (Frame connector)      Pile seal x 1

# 1

# Assembling Aluminum Frames



When  
orient

## Assembling aluminum frame

The figures shown in this manual are applicable to the left-side-opening type door (left-hinged type). For the right-side-opening type (right-hinged type), install the parts symmetrically.

Check the contents of packing.  
Anchors must be separately prepared.

Symbols from 1 to 8 shown in the figure indicate the locations described below.

### 1 Cutting aluminum frame (vertical use)

Cut the "Aluminum frame (vertical use)" to the length "Ceiling height - 100mm". The maximum ceiling height is 2400 mm.

Ex) If the ceiling height is 2300mm, the frame length is 2200 mm.

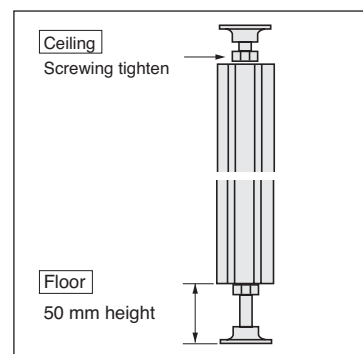
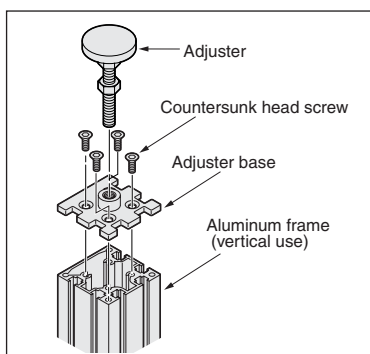
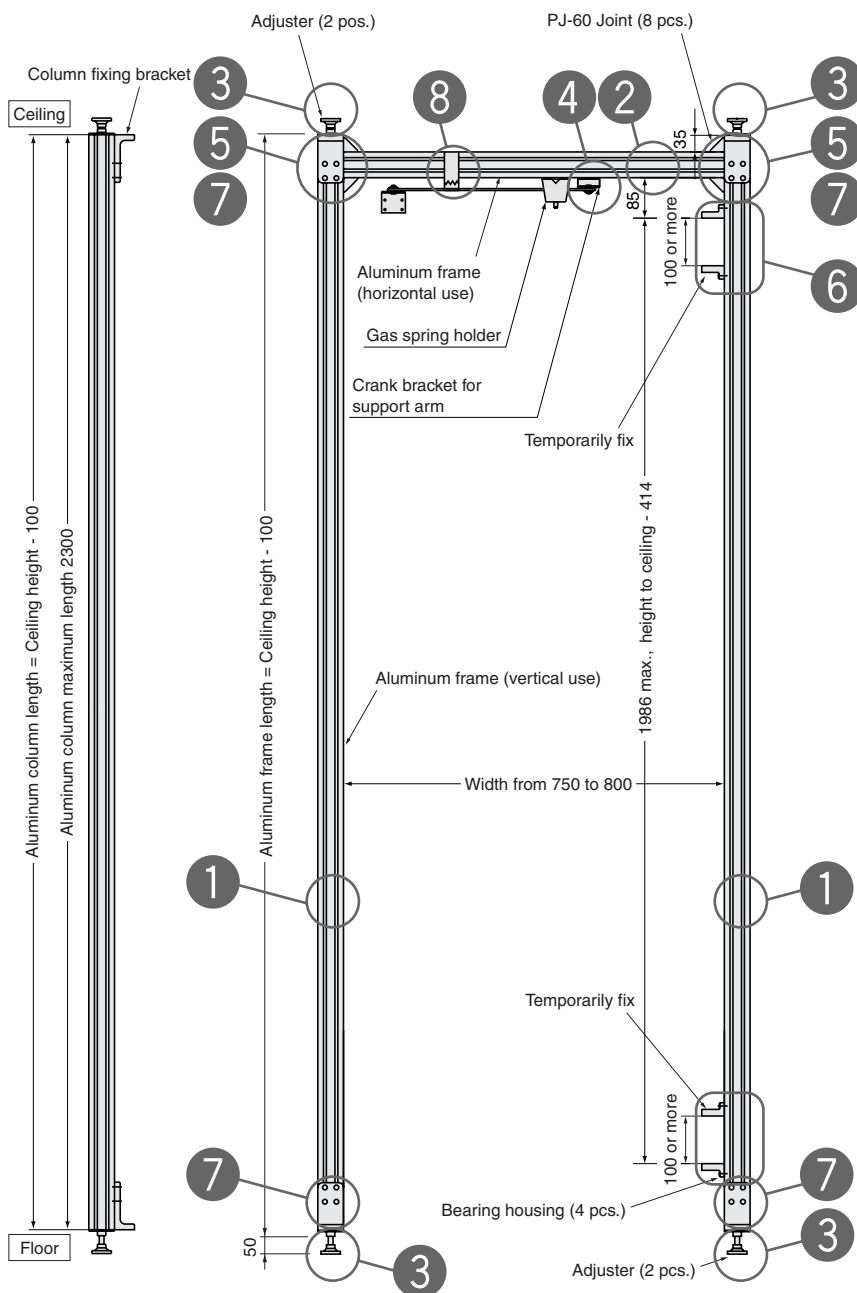
### 2 Cutting aluminum frame (horizontal use)

Cut the "Aluminum frame (horizontal use)" to the setup width (from 750 to 800mm).

### 3 Installing the adjuster

Install the "Adjuster base" to the both ends of the "Aluminum frame vertical column" with the attached four countersunk head screws.

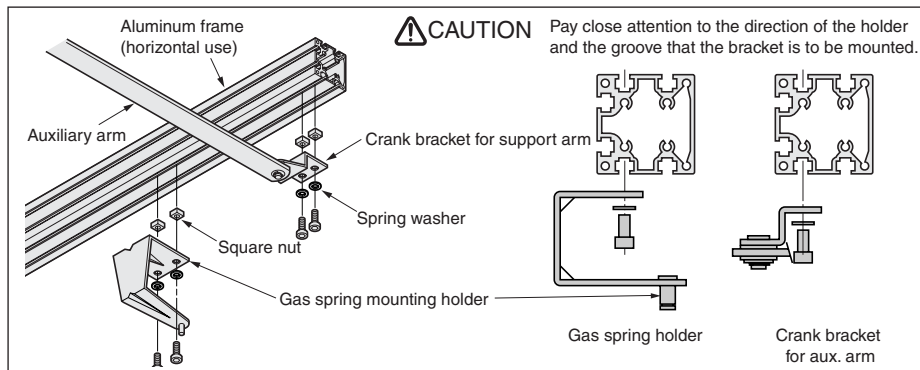
Then, screw the "Adjuster" into the "Adjuster base". Height of the adjuster on the floor side should be 50 mm from the floor surface. Fully screw in the adjuster on the ceiling side.



# When assembling the aluminum frames, work on the floor, and do not groove the surface of the aluminum frame without groove downward.

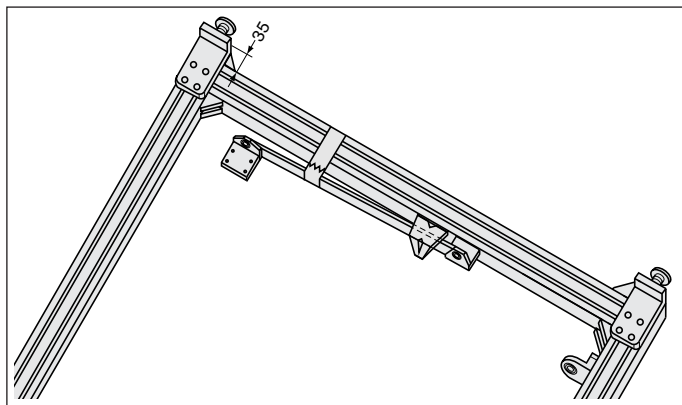
## 4 Installing bracket

Temporarily fix the "Crank bracket for support arm" and "Gas spring holder" to the "Aluminum frame (horizontal use)".

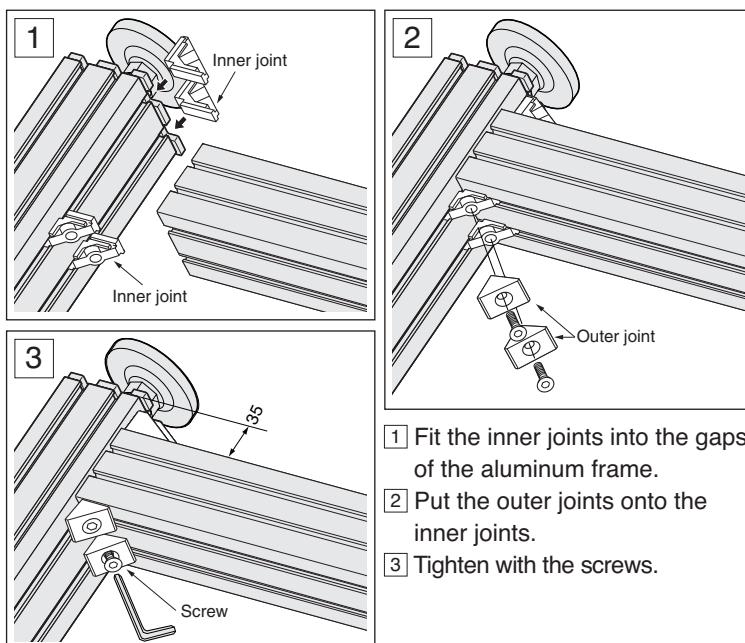


## 5 Assembling aluminum frames

Completely assemble the "Aluminum frame (vertical use)" and "Aluminum frame (horizontal use)" into a gate with "PJ-60 (frame connector)".

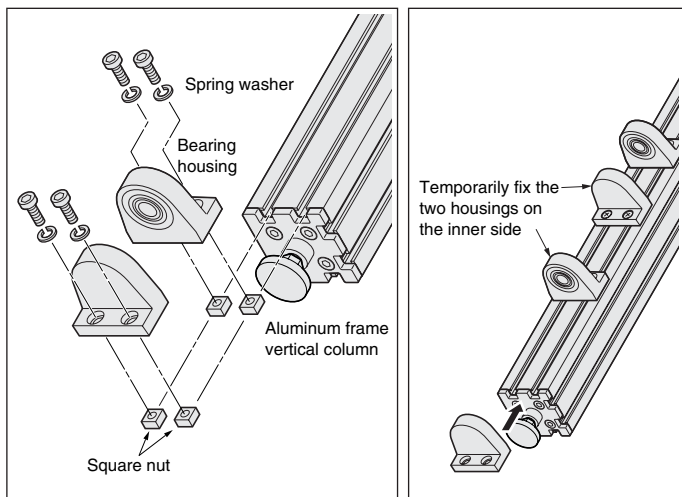


**!** When assembling, pay close attention to prevent any gap in the joint of the aluminum frames.



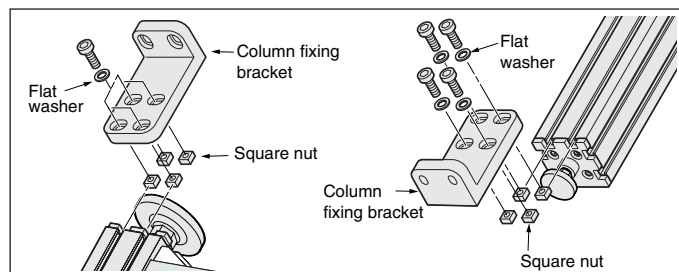
## 6 Fixed bearing housing

Fix the "Bearing housings" with the screws as shown in the figure below. For the mounting dimensions, see the figure shown on P.1. Temporarily fix the two housings located to the inner side of the upper and lower sets of the bearing housing.



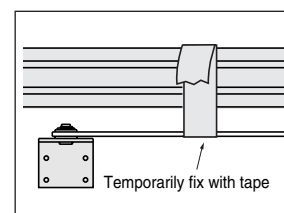
## 7 Installing aluminum frame fixing bracket

Temporarily fix the "Column fixing bracket" with the attached screws to the location shown on the figure on P.1 (upper and lower ends of aluminum frame).



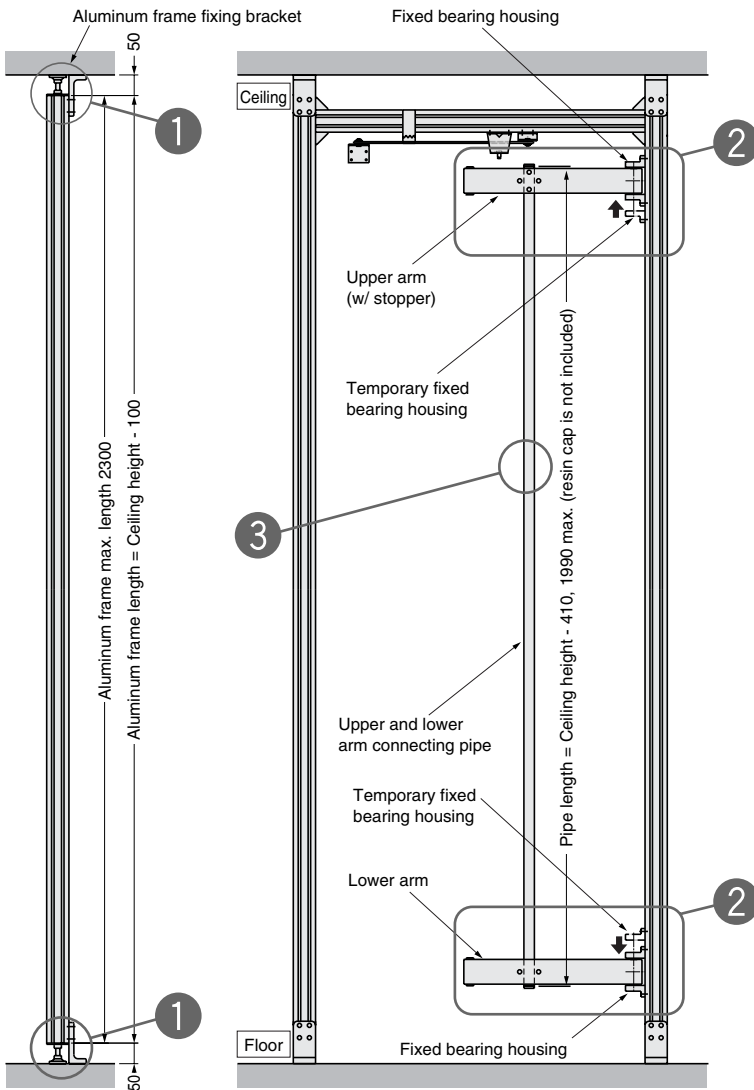
## 8 Temporary fixing of auxiliary arm

Temporarily fix the "Auxiliary arm" with tape to the aluminum frame (horizontal use) so that it is not moved. (Tape is not enclosed.)



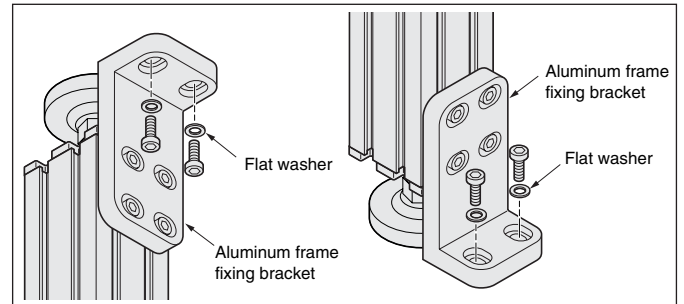
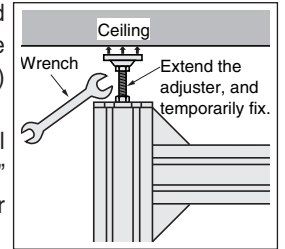
# 2

## Fixing Aluminum Frame



### 1 Fixing aluminum frame to installing location

Temporarily fix the assembled aluminum frame with facing the surface without gap to the front side (door side) and extending the ceiling side adjuster. Then, fix the “Aluminum frame (vertical use)” with the “Alu-frame fixing bracket” to the ceiling surface and the floor surface with the screws.

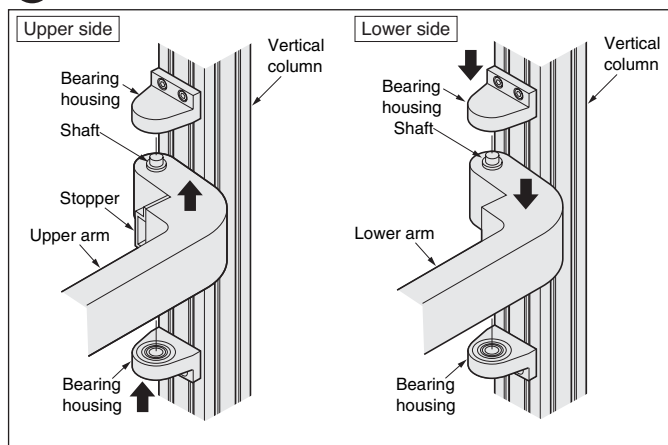


- ❗ When fixing the “Aluminum frame (vertical use) with the (Alu-frame) fixing bracket”, vertically fix the aluminum frame (vertical use) with a use of leveler or bubble leveler.
- ❗ When installing the aluminum frame onto the concrete surface, put a M6 anchor nut, and fix with screws in 16 mm or more length.
- ❗ When installing the aluminum frame onto the wooden or plywood surface, put a M6 insert nut, and fix with screws in 16 mm or more length or self-tapping screw or wooden screw of nominal size from 5 to 6. Use the screw with length that enough strength can be secured. (No anchor nut, insert nut, self-tapping screw, or wooden screw is attached.)

### 2 Installing upper and lower arms

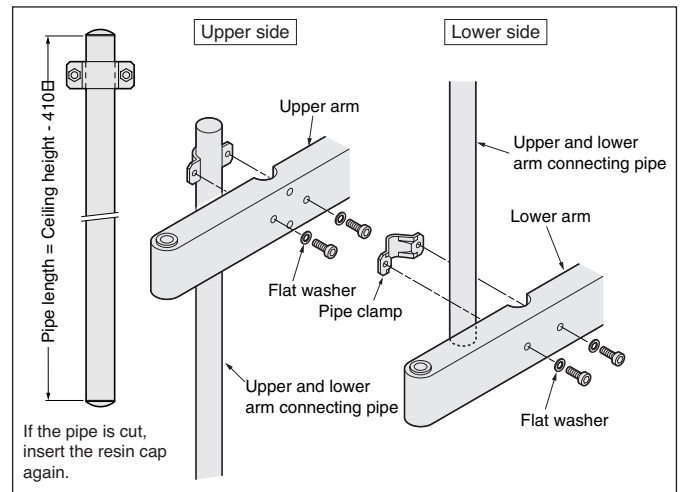
Insert the shaft of the “Upper arm (w/ stopper)” into the upper “Bearing housing”. Insert the temporarily fixed “Bearing housing” into the lower shaft of the arm, and securely fix. Insert the “Lower arm” in a same manner from the direction reverse to the above, and fix.

❗ Ensure that all the screws are securely tightened.

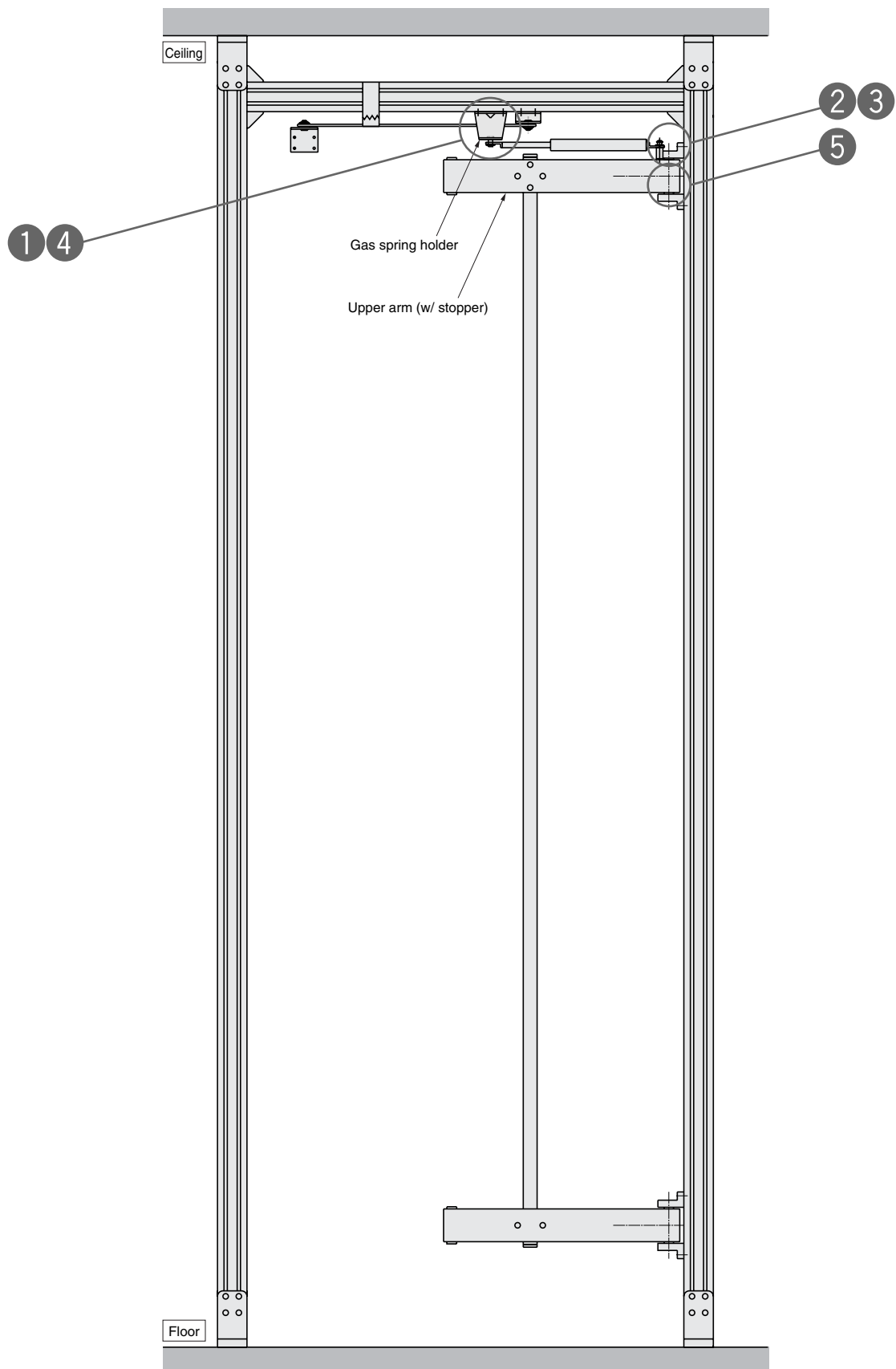


### 3 Installing upper and lower arm connecting pipe

Cut the “Upper and lower arm connecting pipe” as shown on the figure below. Fit the “Upper and lower arm connecting pipe” to the recess of the “Upper arm”, and fix it with the attached screws. Fix the “Upper and lower arm connecting pipe” to the “Lower arm” with the “Pipe clamp” and the attached screw.

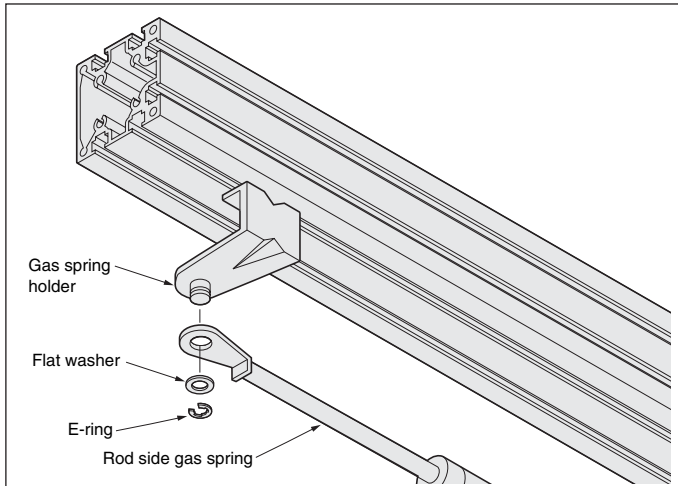


# 3 Installing Gas Spring



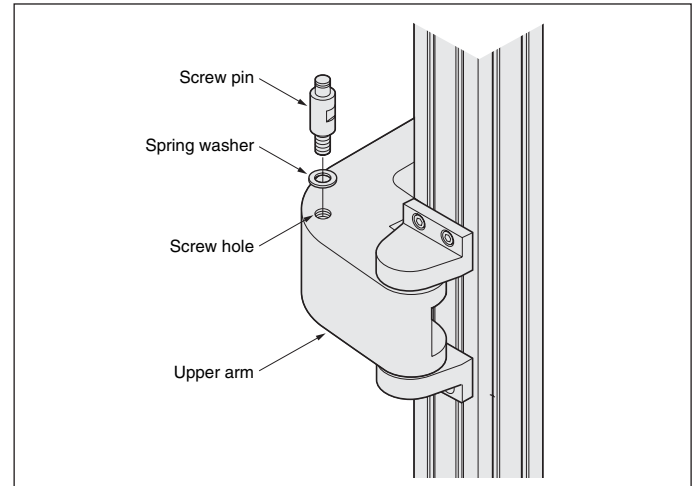
### 1 Installing the gas spring (frame side)

Install the "Gas spring" to the "Gas spring holder" as shown on the figure below.



### 2 Screwing screw pin

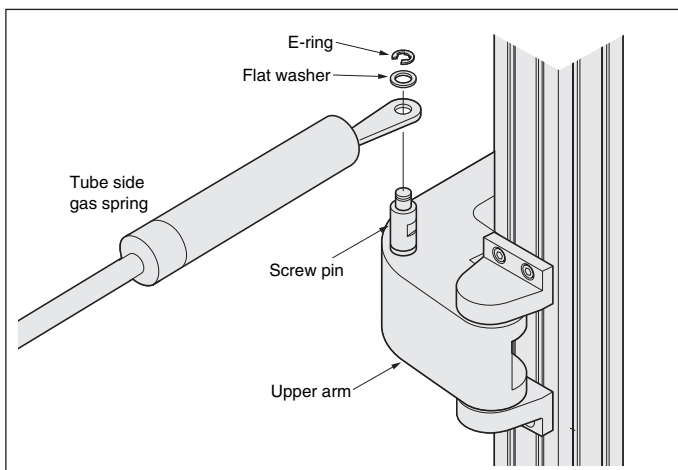
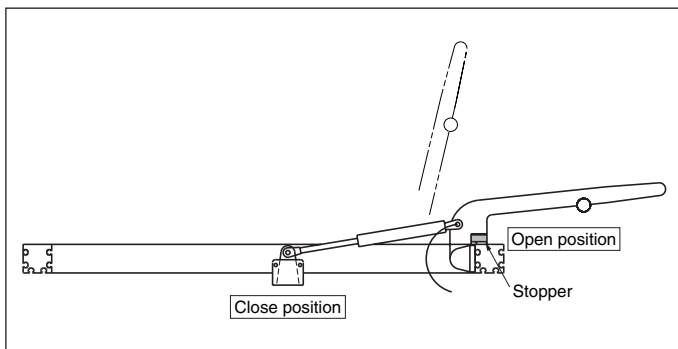
Screw tightly the "Screw pin" into the screw hole on the top face of the "Upper arm". (Use a wrench (10).)



### 3 Installing the gas spring (arm side)

loose the screw on "Gas spring holder" (see the figure (1)) so that the holder can be moved.

Move the arm to the stopper of "Upper arm" until it contacts with the aluminum frame (open position), and install the gas spring to the screw pin as below.

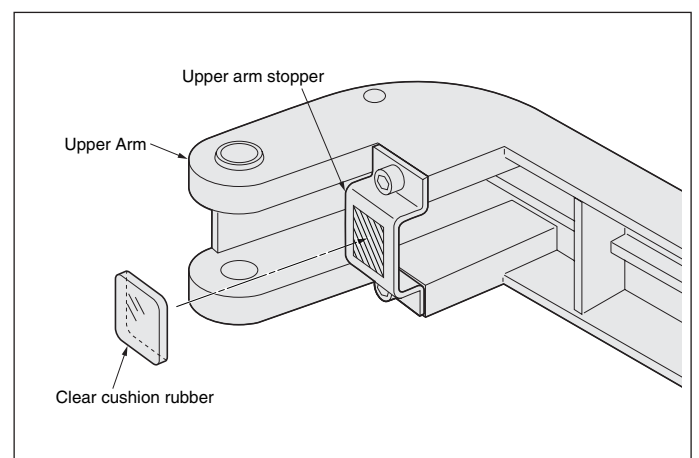


### 4 Tightening fixing screw

Tighten the screw on gas spring holder (see the figure (1)) while the stopper of the "Upper arm" is coming in contact with the aluminum frame.

### 5 Attaching clear cushion rubber

Return the upper arm in close position, and attach the clear cushion rubber to the center of the "Stopper of upper arm" as below.





# 4 Installing Parts to Door

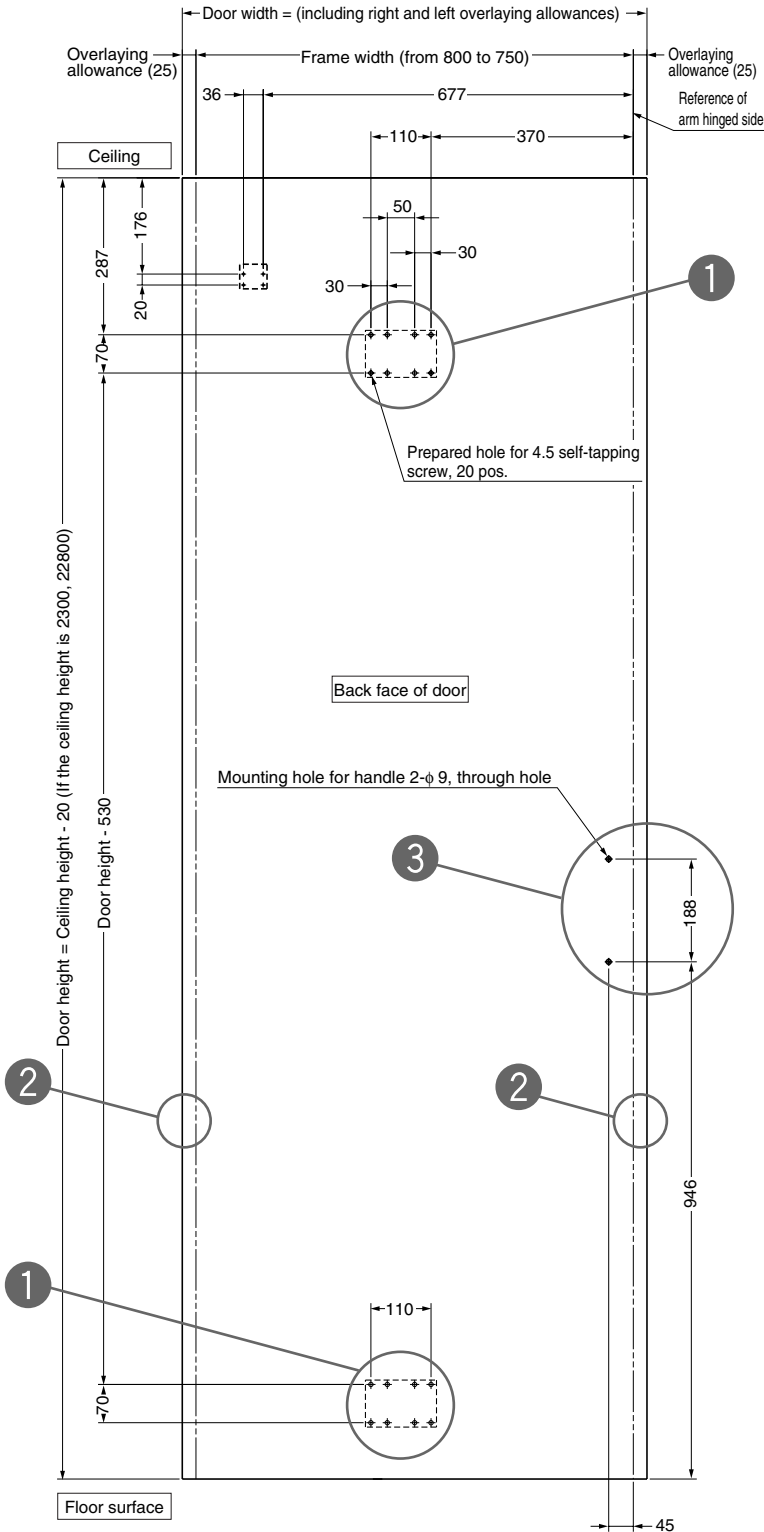
The door is not supplied.

## CAUTION

Set core material of which strength is enough for secure tightening of self-tapping screws to the locations that parts are to be installed.

## CAUTION

Dimensions in lateral direction are determined with the frame width. If the door end face is regarded as the reference position, add the overlaying allowance.

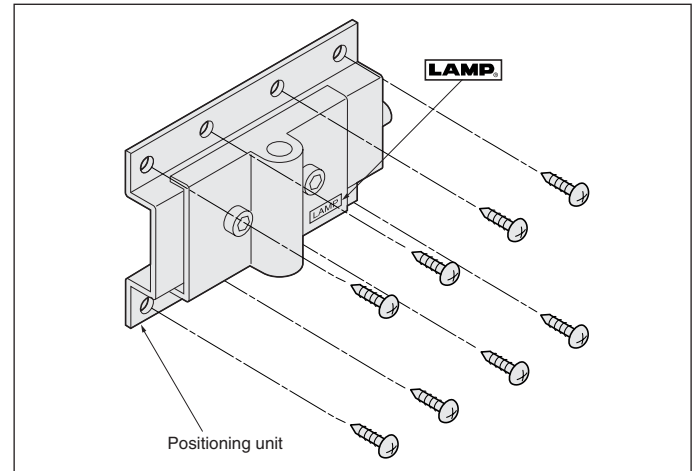


Working dimensional drawing of door

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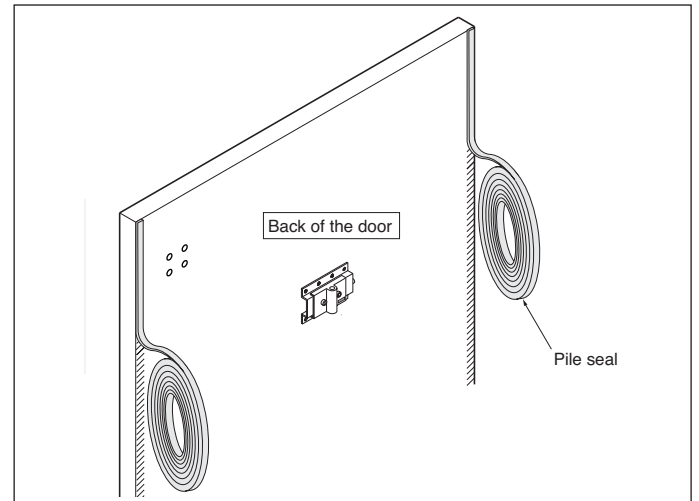
## 1 Fixing positioning unit

Fix the "Positioning unit" to the back of the door with the supplied screws so that the **LAMP** mark can be seen as below.



## 2 Attaching pile seal

Attach "pile seal" to the (edge of the door) shown as below.

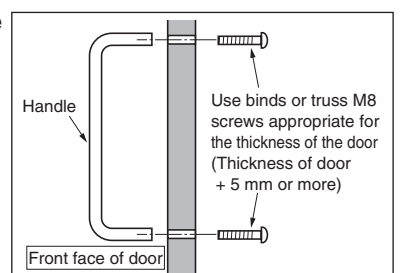


## 3 Installing the handle

Install the handle to the front of the door.

## CAUTION

Be sure to install the handle to the location closer to the hinge than the center of the door.

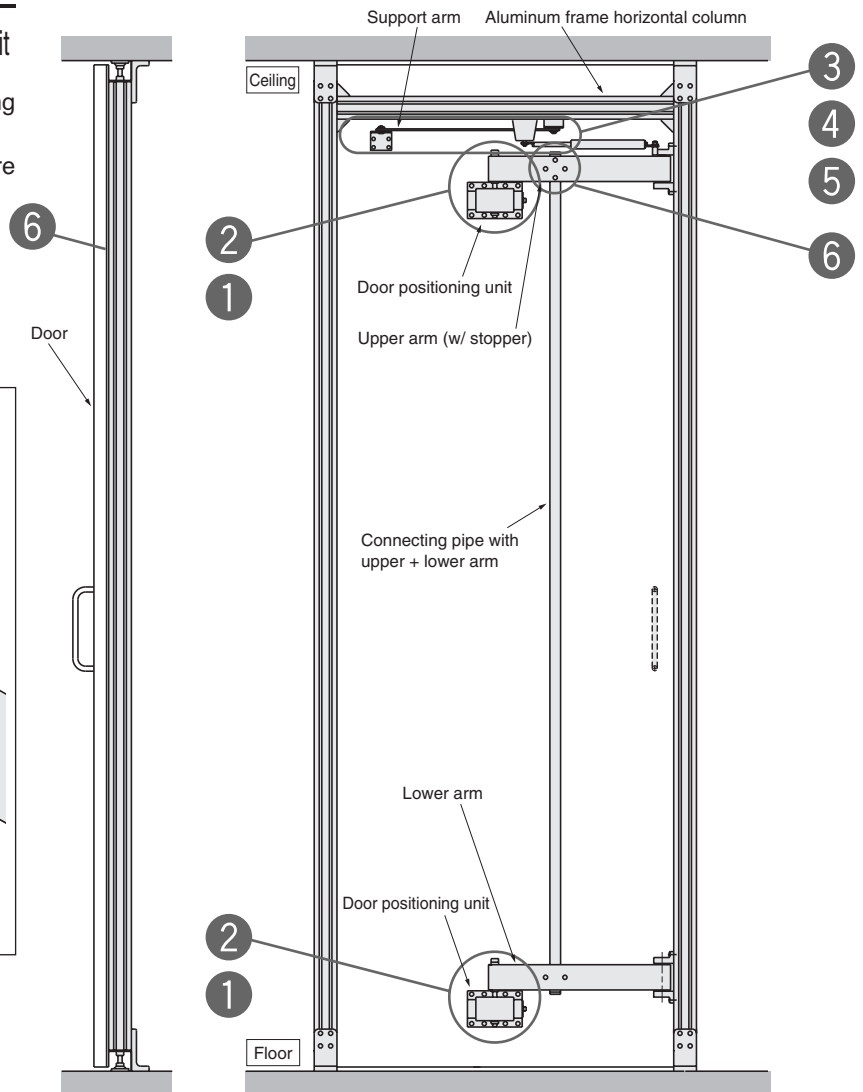
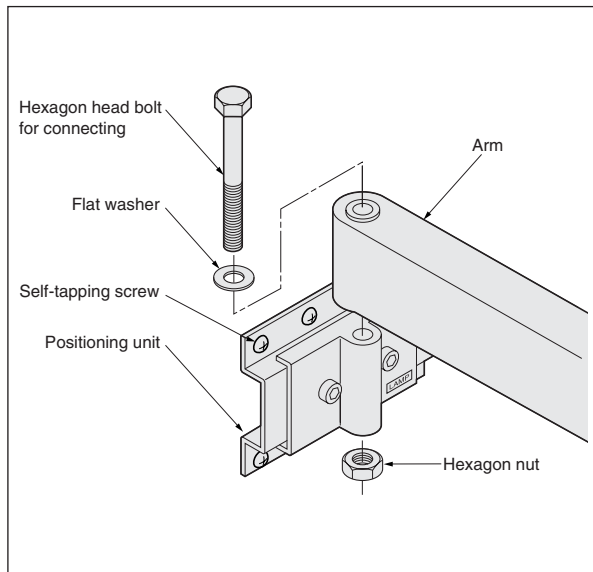


# 5 Installing Door

## 1 Connecting upper and lower arms to positioning unit

Connect the upper and lower arms to the "Positioning unit".

Insert hexagon head bolt with flat washer, then secure it by hexagon nut.



## 2 Vertical and horizontal positioning of door

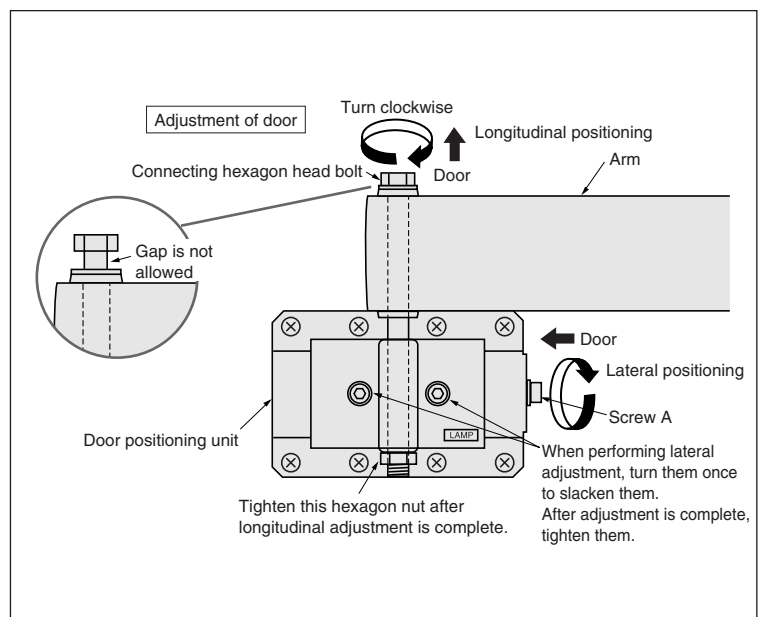
Adjust the vertical and horizontal positions after closing the door completely.

**Horizontal Adjusting:** Turn the screw A of the "Door positioning unit" clockwise. Then, the door is moved leftward when it is seen from the back of the door. It is moved rightward when the screw A is turned counterclockwise.

**Vertical Adjusting:** Turn the connecting hexagon head bolt clockwise. Then, the door is raised. It can be lowered when it is turned counterclockwise.

### CAUTION

For both the upper and lower arms, gap should not be allowed between the head of the hexagon head bolt and the flat washer. If there is any gap, turn the hexagon head bolt clockwise to eliminate the gap so that the weight of the door is received by the upper and lower arms uniformly.



### 3 Loosing bracket

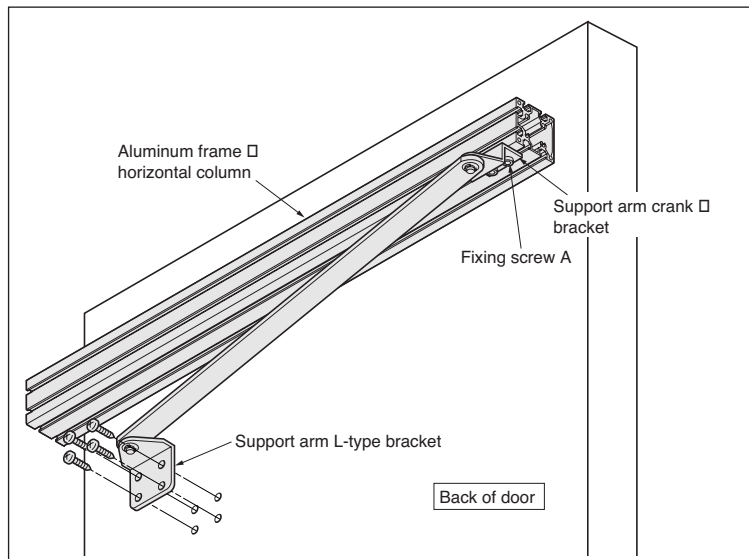
Loose the fixing screw A so that the "Support arm crank bracket" is slid along the groove of the "Aluminum frame horizontal column".

### 4 Fixing support arm

When the door is completely closed, fix the "Support arm L-type bracket" to the door with the supplied screws.

### 5 Fixing bracket

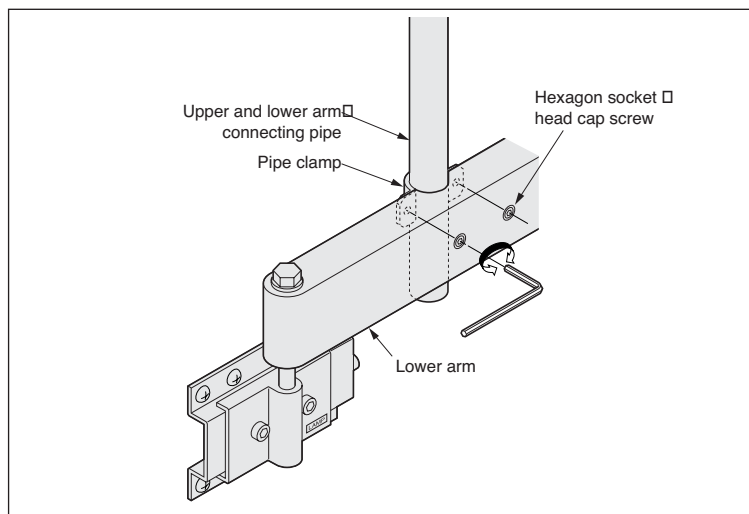
Tighten the fixing screw A, and fix the "Support arm crank bracket".



When the door position is required to adjust, be sure to loosen the fixing screw A first so that the bracket can be slid. After adjustment is complete, fix the "Support arm crank bracket".

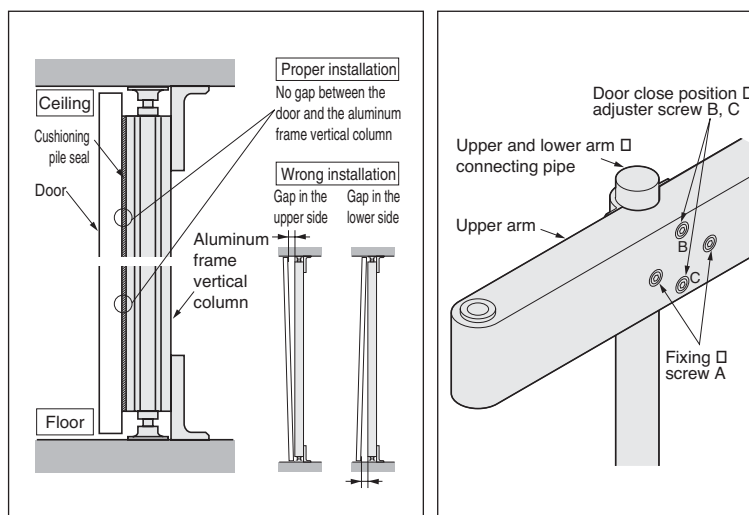
### 6 Adjusting the gap between frame and door

While keeping the door closed with no gap between the door and frame, loosen the "Hexagon socket head cap screws" fixing the "Pipe clamp" attached to the lower arm, and retighten them. If there is any gap, adjust it by referring to the following instructions on the adjustment and figures on the right side.



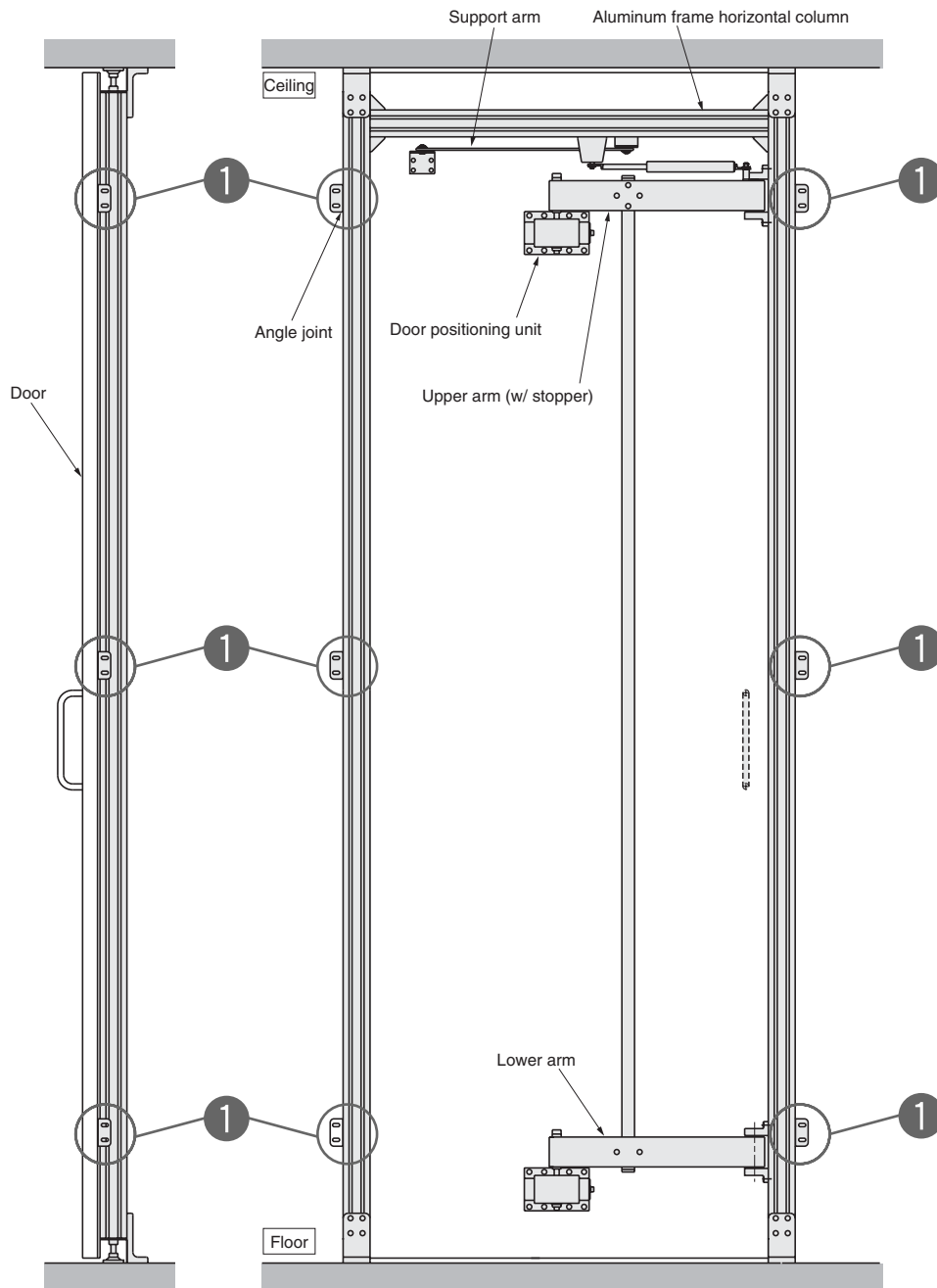
- If there is any gap between the "Aluminum frame vertical column" and the upper side of the door, be sure to loosen the fixing screw A at first, and tighten the "Door close positioning screw C". Then, retighten the fixing screw A for re-adjustment.

- If there is any gap between the "Aluminum frame vertical column" and the lower side of the door, adjust the upper "Door close positioning screw B" in a similar manner to the above.



# 6

## Installing Angle Joint (Installing Side Plate)



### 1 Fixing angle joint and side plate

When the side plate is installed, attach the “Angle joint” to the “Aluminum frame vertical column”, and fix them to the side plate with the self-tapping screw or wooden screw of nominal size 5 or 6. Neither the self-tapping screw nor wooden screw is supplied.

