

# NITTO KOHKI AUTO HINGES



Horizontal

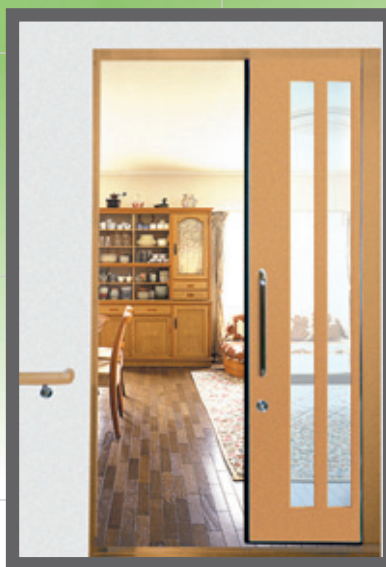
## Sliding Closer

### NSC Series

New-generation sliding door closers developed with user-friendly technologies.  
We propose a new style of door opening/closing.



● Hospital/medical care center (toilet door)



● Elderly nursing home (dining hall door)



● Hospital/medical care center (consultation/examination room door)

# Horizontal Sliding Closer Developed with User-Friendly Technologies

These newly developed door closers are friendly to elderly persons and children. Doors equipped with these door closers can be easily opened even by gentle force and close quietly and properly at a favorite speed.

Horizontal sliding closers

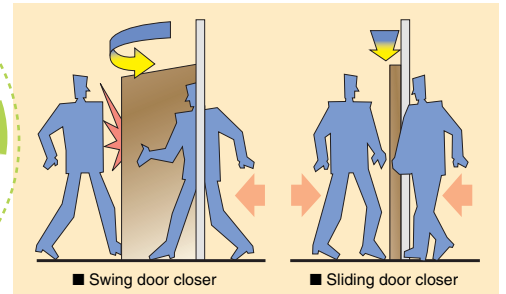
## NSC Series

**New**



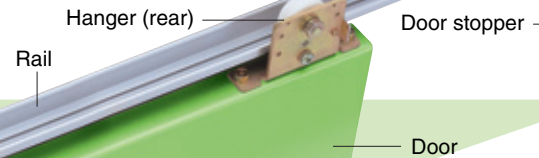
When you release the door, it closes quietly and slowly. It closes automatically, saving you the trouble of closing it.

Increased space savings are provided.



Sliding door closer system for eliminating the existence of an unusable space and offering increased safety assurance

Reinforced resin door rollers and aluminum rail are used to make the door opening/closing motion quiet.



- Door opening force: 3.9 N (required for initial motion when the door weight is 40 kg)
  - Spiral spring type closing drive
  - Fluid friction resistance control device
  - Applicable frame dimensions: 120 mm high x 70 mm thick
  - Applicable door: weight, 10 to 80 kg; maximum stroke, 1500 mm
- The bathroom door type (stainless steel) is also available.

The following options are available for keeping the door opened.

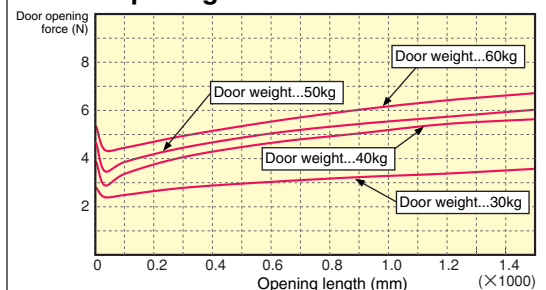
- Full-opening stopper
- Free stop unit (stop at any position)
- Time stop device

※ Sliding closers having a heat/smoke detection coordination function are also available.

Increased ease of maintenance is provided.

Model	<b>NSC-23R-22</b>
	Horizontal sliding closer
<b>Rail length</b>	22 : 2200 mm 28 : 2800 mm 34 : 3400 mm
<b>Opening orientation</b>	R : Right-handed opening L : Left-handed opening
<b>Door weight</b>	23 : 10 ~ 30 kg 36 : 30 ~ 60 kg 48 : 60 ~ 80 kg

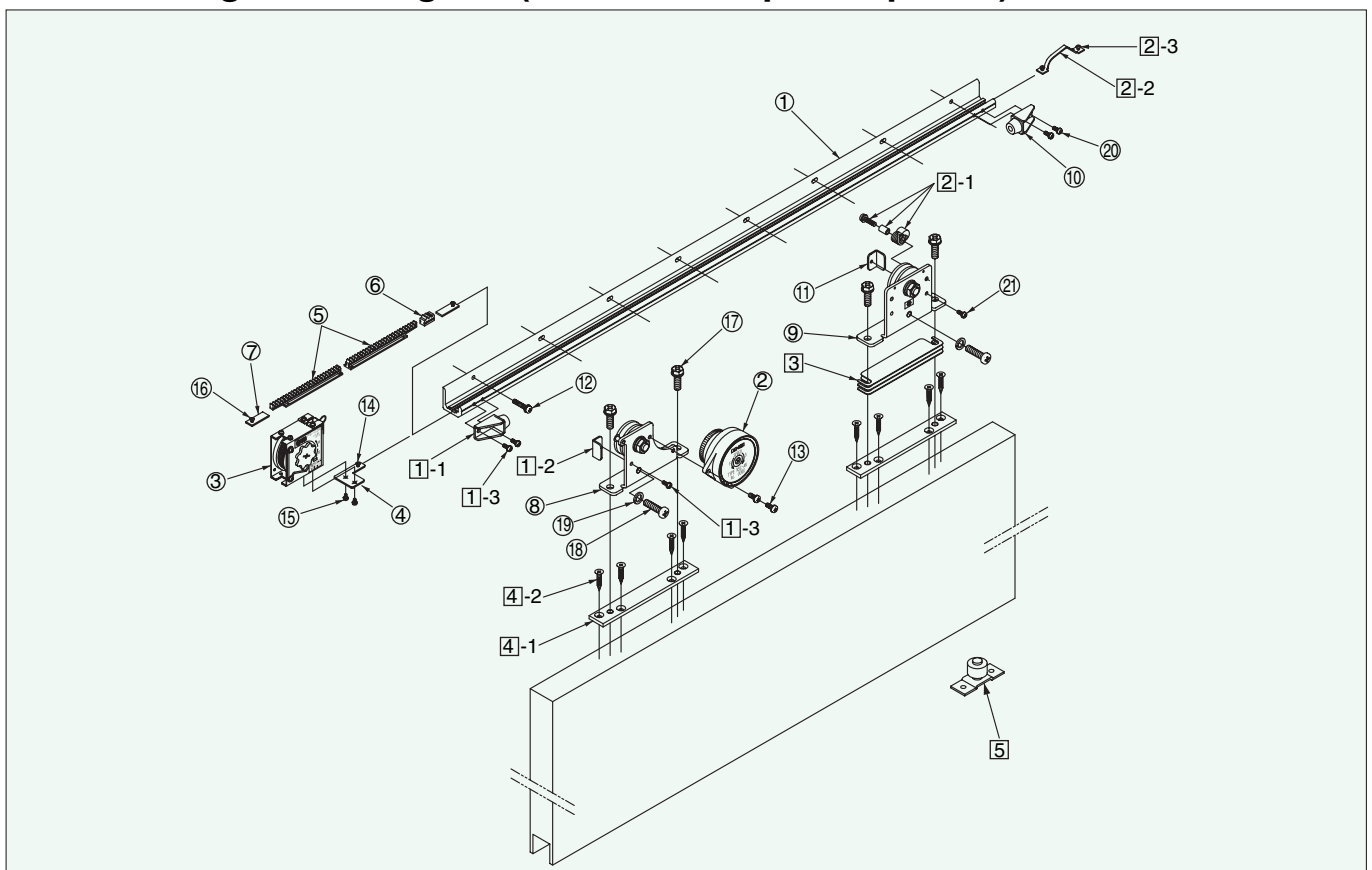
### Door opening force data



## ■ Specifications

Model		NSC-23R/L-22/-28/-34			NSC-36R/L-22/-28/-34			NSC-48R/L-22/-28/-34		
Applicable door	Weight	10~30 kg			30~60 kg			60~80 kg		
	Width	700~1200 mm	1200~1400 mm	1400~1600 mm	700~1200 mm	1200~1400 mm	1400~1600 mm	700~1200 mm	1200~1400 mm	1400~1600 mm
Rail		L = 2200 mm	L = 2800 mm	L = 3400 mm	L = 2200 mm	L = 2800 mm	L = 3400 mm	L = 2200 mm	L = 2800 mm	L = 3400 mm
Maximum stroke		1500 mm			1500 mm			1500 mm		
Closing drive system		Spiral spring type			Spiral spring type			Spiral spring type		
Control system		Fluid friction resistance type			Fluid friction resistance type			Fluid friction resistance type		
Control time		8.0 to 15.0 sec (at a door opening distance of 900 mm)			8.0 to 15.0 sec (at a door opening distance of 900 mm)			8.0 to 15.0 sec (at a door opening distance of 900 mm)		
Durability		More than 1 million open/close operations			More than 1 million open/close operations			More than 1 million open/close operations		
Pull spring		PS-02R/L			PS-03R/L			PS-04R/L		
Spring's pulling force		1.3~2.1 N			1.8~3.9 N			3.4~4.7 N		
Initial door opening force		2.16~2.84 N			3.24~5.39 N			5.59~7.06 N		

## ■ Part arrangement diagram (standard set parts/options)



### Standard parts

No.	Part name	Qty.
①	Rail	1
②	Control device	1
③	Pull spring	1
④	Pull spring mounting bracket	1
⑤	Control rack	2
⑥	Noise suppression rubber	1
⑦	Rack retainer	2
⑧	Hanger, front	1
⑨	Hanger, rear	1
⑩	Door stopper	1
⑪	Door stopper supporting plate	1
⑫	M5x25 pan head screw (for a rail length of 2200 mm)	8※
⑬	M5x12 pan head screw	2
⑭	M3x 5 pan head screw	1
⑮	M3x 6 pan head screw	2
⑯	M3x 5 pan head screw	2
⑰	M8x25 hex head bolt	4

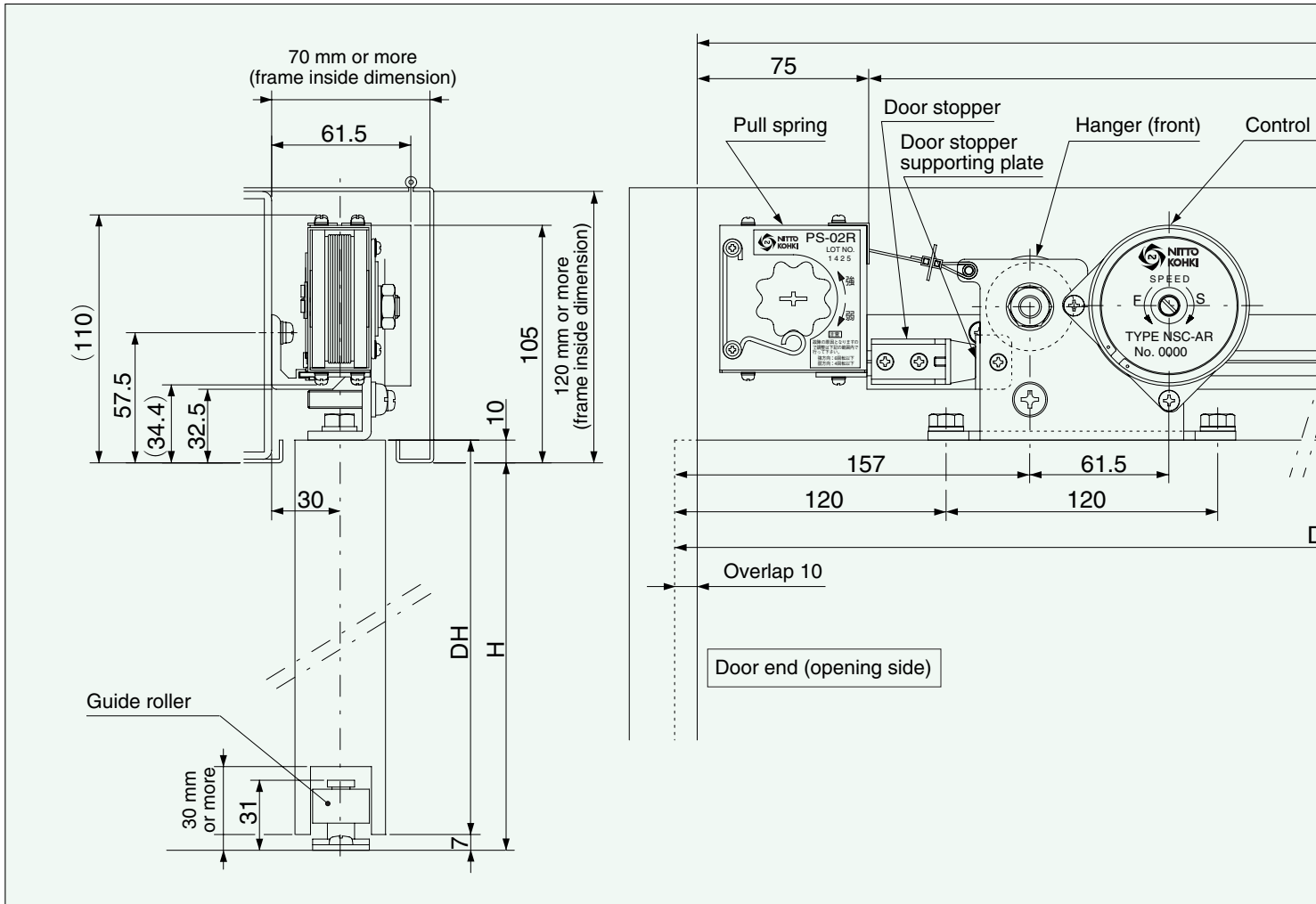
No.	Part name	Qty.
⑱	M8x30 pan head screw	2
⑲	Spring washer, 8 mm nominal	2
⑳	M4x10 pan head screw	3

### Options

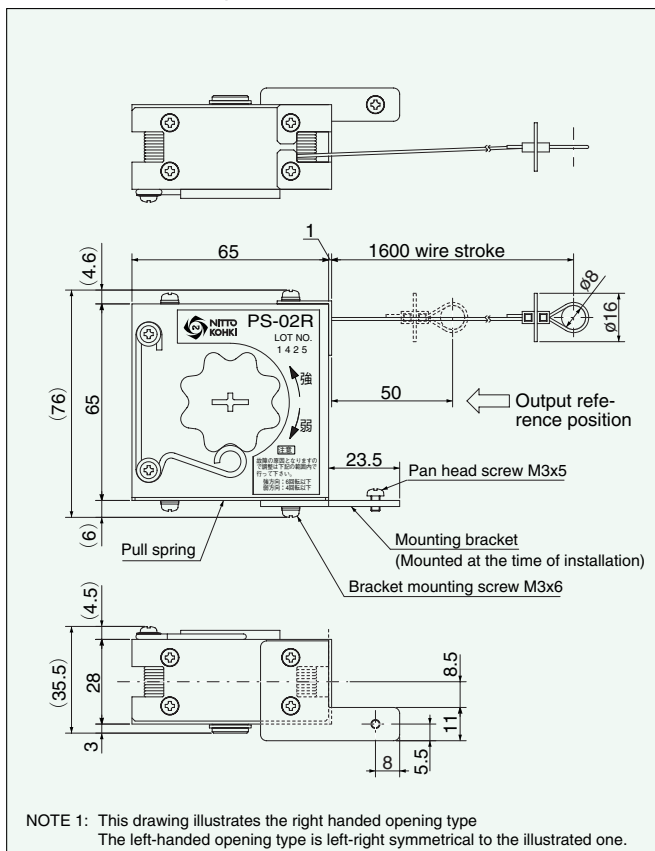
No.	Part name	Qty.
①-1	Door stopper	1
①-2	Door stopper supporting plate	1
①-3	M4x10 pan head screw	3
②-1	Stop equipment	1
②-2	Stop plate	1
②-3	M3x5 pan head screw	2
③	Height adjusting plate (t=1.0, 0.5)	1
④-1	Wooden door plate	2
④-2	φ5x30 countersunk wood screw	8
⑤	Guide roller (φ16, 25, 30, 35)	1

※ 10 and 12 pieces respectively for rail lengths of 2800 mm and 3400 mm

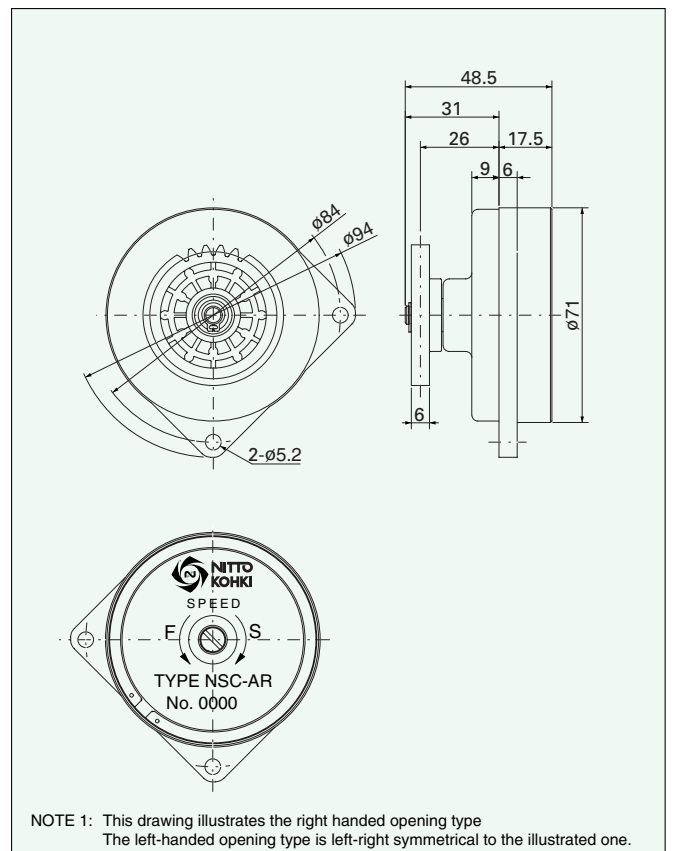
## ■ Setup view of horizontal sliding closer

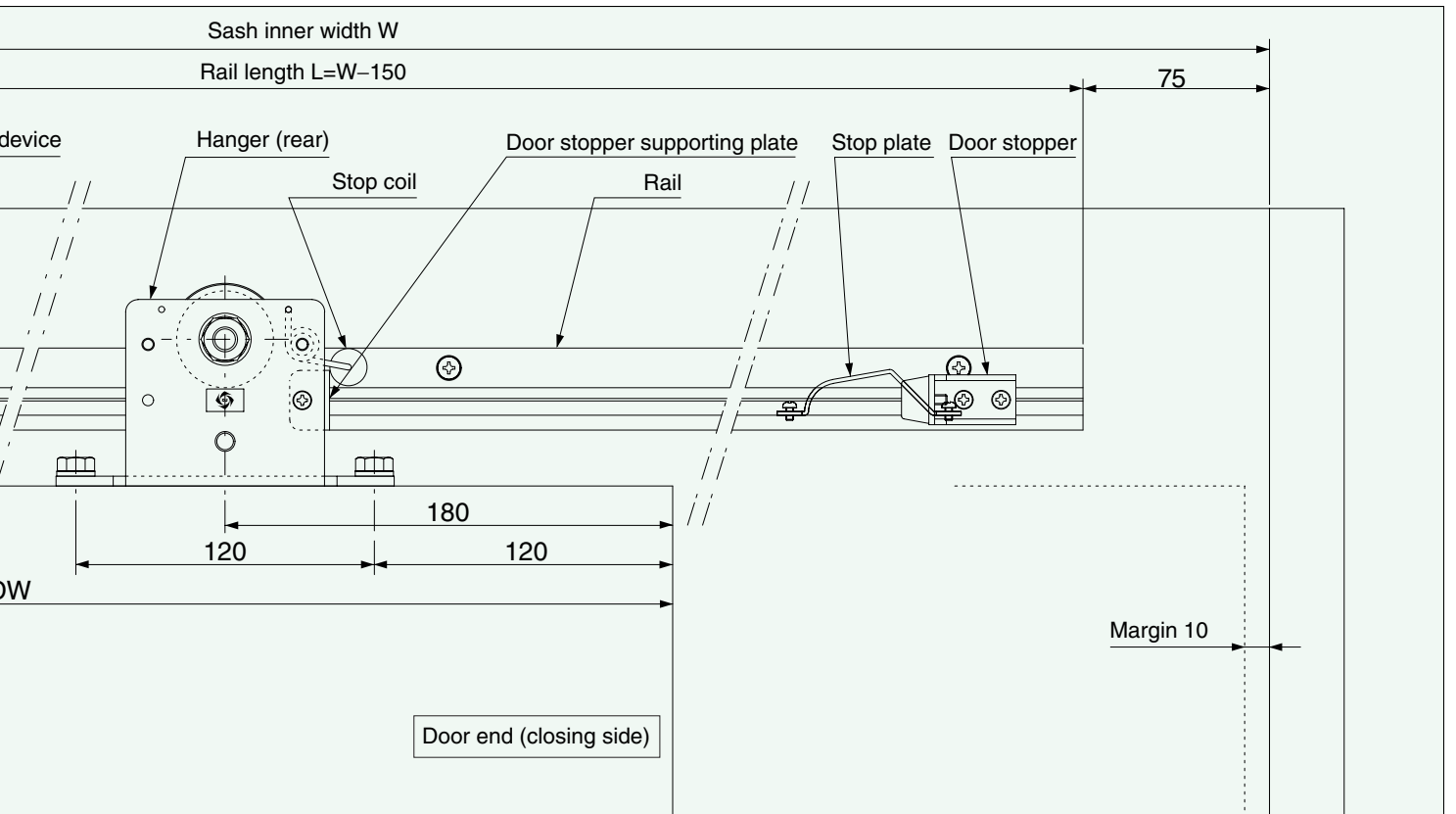


## ■ Pull spring



## ■ Control device

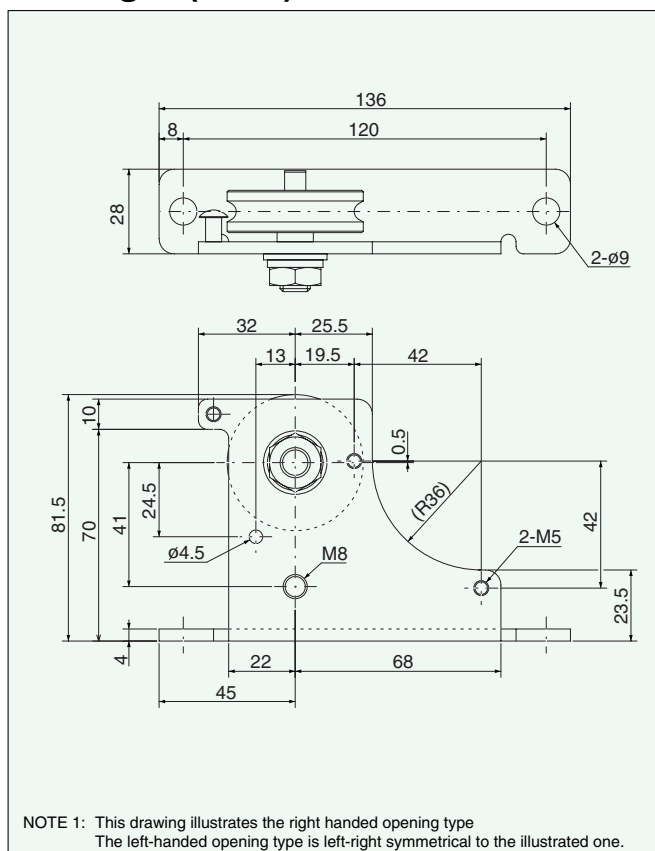




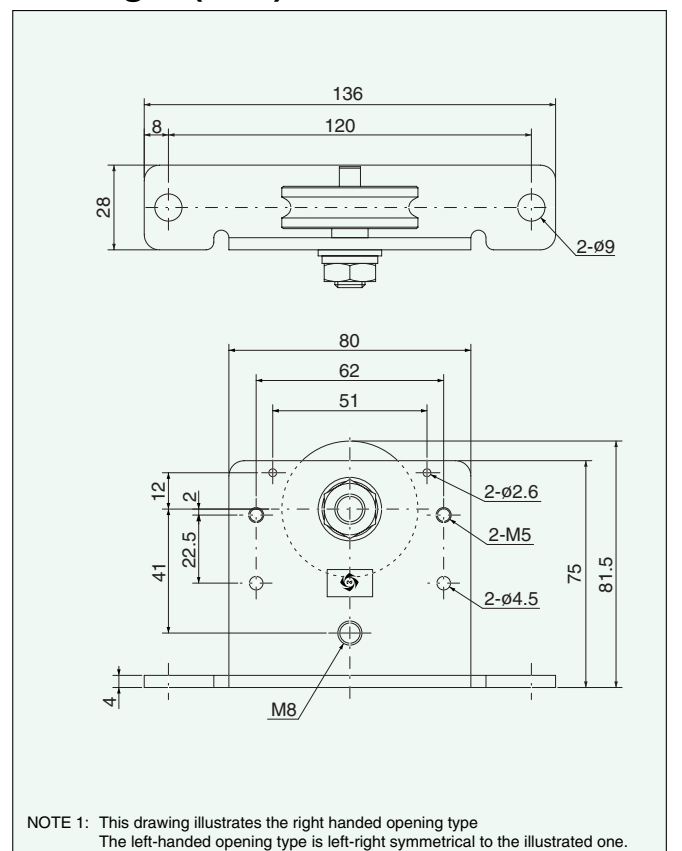
NOTE 1: This drawing illustrates the sliding closer for right handed opening.  
The left-handed opening closer is left-right symmetrical to the illustrated one.

NOTE 2: This drawing shows a sliding closer that is installed when the door opening end overlap is 10 mm and the door closing end margin is 10 mm.

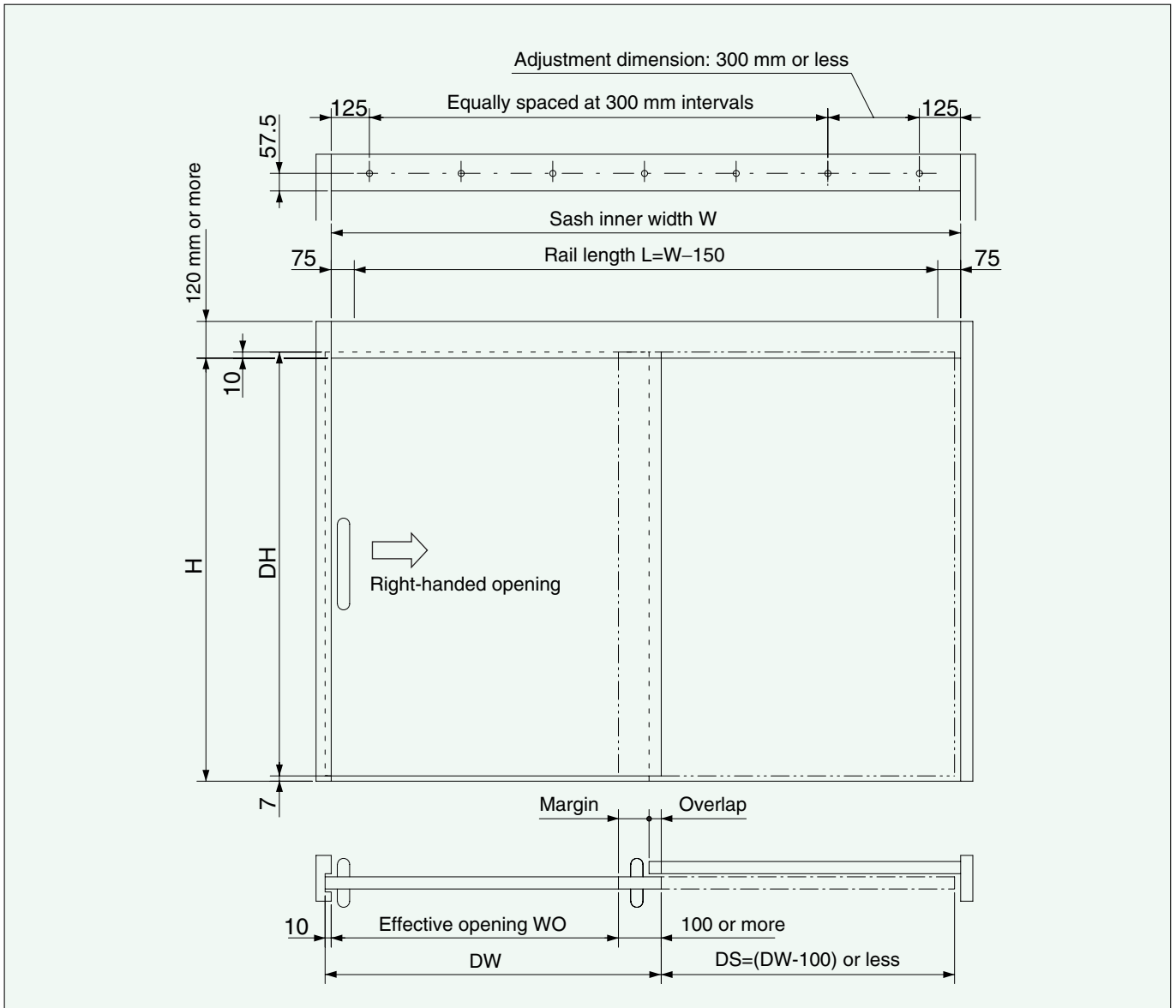
### ■ Hanger (front)



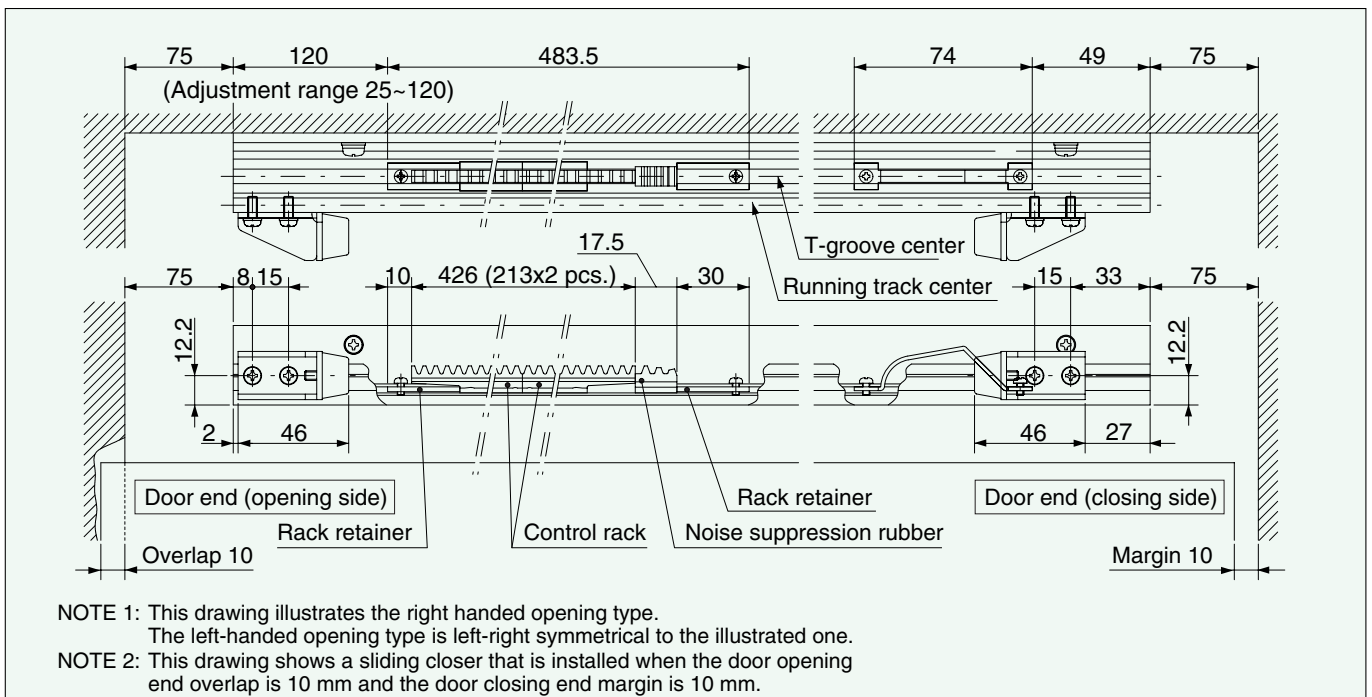
### ■ Hanger (rear)



## ■ Rail mounting hole tapping diagram (right-handed opening type) M5(P=0.8)



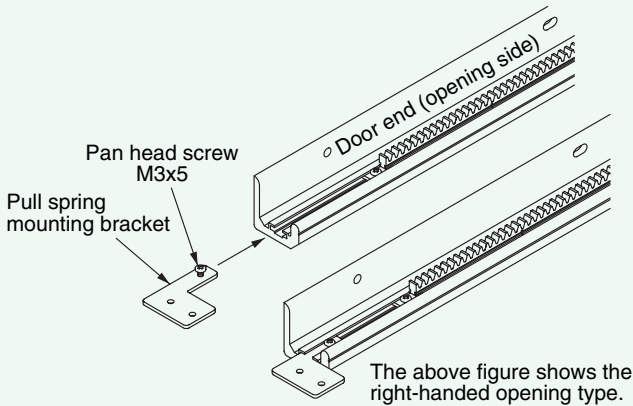
## ■ Door stopper/control rack/stop plate setup dimensions



## ■ Installing the pull spring

### ① Mounting the pull spring mounting bracket

- As shown below, insert the pull spring mounting bracket into the T-groove in the rail, and secure it by tightening the M3 screw.

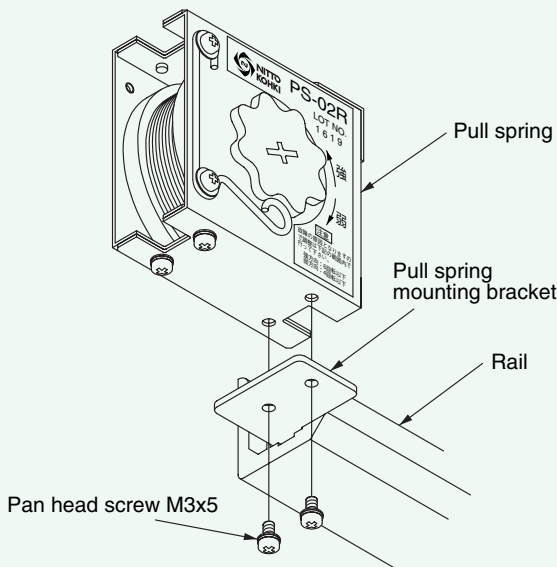


#### CAUTION

- Screw down the bracket while it is pressed against the rail.

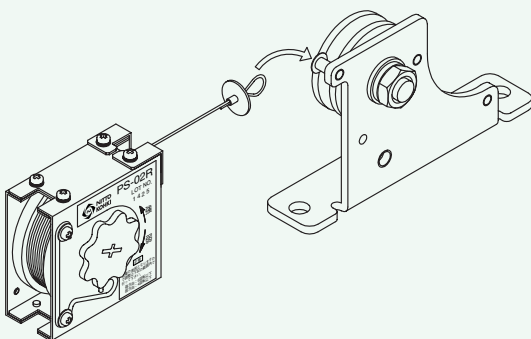
### ② Mounting the pull spring

- As shown below, fasten the pull spring to its mounting bracket with the supplied screws (M3x6).



### ③ Setting the wire

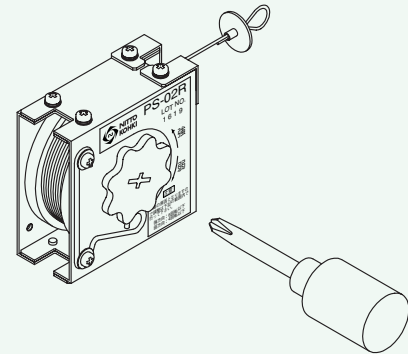
- Pull out the pull spring wire and engage it with the hanger (front).



## ■ Adjusting the closing force and speed

### ① Adjusting the closing force

- If you encounter the following situations, make adjustments by rotating the gear at the center of the pull spring with a thin-blade or Phillips screwdriver:
  1. The door does not completely close.  
→ Rotate the gear in the Harder direction.
  2. The door moves too fast in the closing direction from the fully-open position to the control position.  
→ Rotate the gear in the Softer direction.



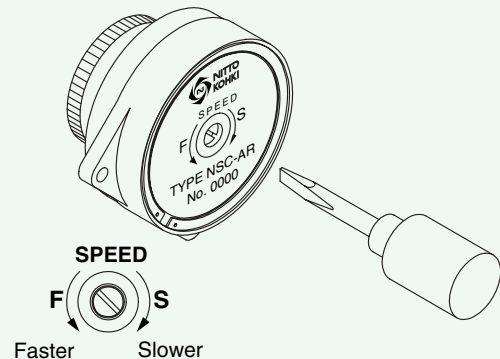
For right handed opening For left handed opening

#### CAUTIONS

- When making adjustments, be sure to observe the precautions indicated on the main body label.
- Exercise due care not to rotate the gear excessively in the Harder direction because a malfunction may occur.

### ② Adjusting the closing speed

- With a thin-blade screwdriver, make adjustments by rotating the adjustment screw at the center of the control device.
- Move the door from the fully-open position to the closed position and make adjustments as needed to obtain the proper control speed.
- Open and close the door two or three times to check for proper control.



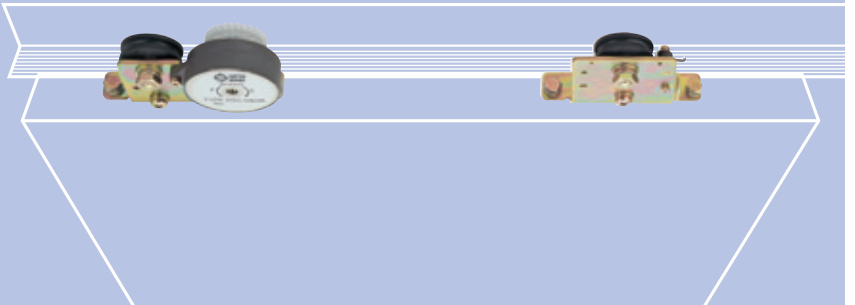
#### CAUTION

- Gently rotate the adjustment screw.

# Sliding Closer Series

## Inclined Sliding Closers

- The rail is inclined so that the door automatically closes because of its weight.
- The endless, fluid friction resistance type control (patent pending) is employed to offer a compact, lightweight, long-life closer.
- The temperature compensation function (patent pending) is incorporated so that the closing speed remains virtually the same even when the ambient temperature changes.



## DSC Series

### Specifications

Model	DSC-031AR/L	DSC-081AR/L
Door width	800~1200mm (1600mm※1)	800~1200mm (1600mm※1)
Door thickness	More than 30mm	More than 30mm
Door weight	10~30kg	30~80kg
Closing drive system	Inclined rail	
Control system	Fluid friction resistance type	
Control time	7.0 to 11.0 sec (at a door opening distance of 900 mm)	
Durability	More than 1 million open/close operations (except for door rollers)	
Door opening force	Varies with the rail inclination, door roller diameter, material, and door weight. The standard rail is 2.2 m long. Custom-made rails are also available (2.8 m and 3.4 m).	
Options	Full-opening stopper, free stop unit, and time stop device	
Rail inclination	45' (13.3mm/1000mm)	

※1 Door width prevailing when the optional 3.4 mm rail is used.

### DSC series standard set parts

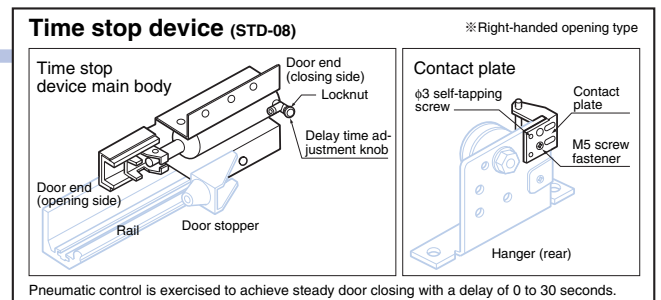
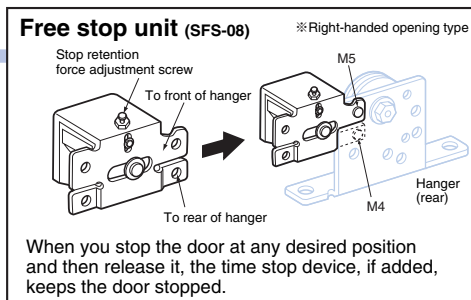
Product name	Qty.	Product name	Qty.
Rail L= 2200	1	M5x12 pan head screw	2
Hanger (door roller attached), front (R/L)	1	M8x30 pan head screw	2
Hanger (door roller attached), rear	1	Spring washer, 8 mm nominal	2
Control device (R/L)	1	M3x5 pan head screw	2
Control rack	2	Door stopper	1
Height adjusting plate (t = 1.0 ,0.5)	13	Door stopper supporting plate	1
Rack retainer	2	M4x10 pan head screw	3
M5x25 pan head screw	8	Noise suppression rubber	1
M8x25 hex head bolt	4		

### DSC Series options

- Door stopper
- Stop equipment
- Wooden door plate
- Door roller (φ16, 25, 30, 35)
- Door stopper supporting plate
- Stop plate
- φ5 x 30 countersunk wood screw
- M4x10 pan head screw
- M3x5 pan head screw
- Rail L=2800, 3400

## Options

DSC/NSC Series  
Function enhancement



### ⚠ Safety precautions

- To avoid personal injury and other accidents, thoroughly read the precautions set forth in the "Instruction Manual" or "Catalog" and properly complete the installation and adjustment procedures before use.
- Ensure that the door closing speed is properly adjusted at all times. If it is too high, personal injury may result.

\* The colors of the cataloged products may slightly differ from those of the actual products.  
\* The contents of this catalog are effective as of November 2001. For product improvement purposes, the specifications and designs are subject to change without prior notice.

### Distributed by



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## ◆ Features

**NSC-B 33R-22**

<b>Series name (Bathroom sliding closers)</b>	<b>Opening orientation</b> R: Right-handed opening L: Left-handed opening	<b>Rail length</b> 22: 2200 mm 28: 2800 mm 34: 3400 mm
	<b>Door weight</b> 33: 10-30 kg 46: 30-60 kg 58: 60-80 kg	

Model	NSC-B33R/L-22	NSC-B33R/L-28	NSC-B33R/L-34	NSC-B46R/L-22	NSC-B46R/L-28	NSC-B46R/L-34	NSC-B58R/L-22	NSC-B58R/L-28	NSC-B58R/L-34	
Applicable door	Weight	10-30kg			30-60kg			60-80kg		
	Width	700-1200mm	1200-1400mm	1400-1600mm	700-1200mm	1200-1400mm	1400-1600mm	700-1200mm	1200-1400mm	1400-1600mm
Rail	L=2200mm	L=2800mm	L=3400mm	L=2200mm	L=2800mm	L=3400mm	L=2200mm	L=2800mm	L=3400mm	
Maximum stroke	1500 mm or less									
Closing drive system	Spiral spring type									
Control system	Fluid friction resistance type									
Control time	8.0 to 15.0 sec (at a door opening distance of 900 mm)									

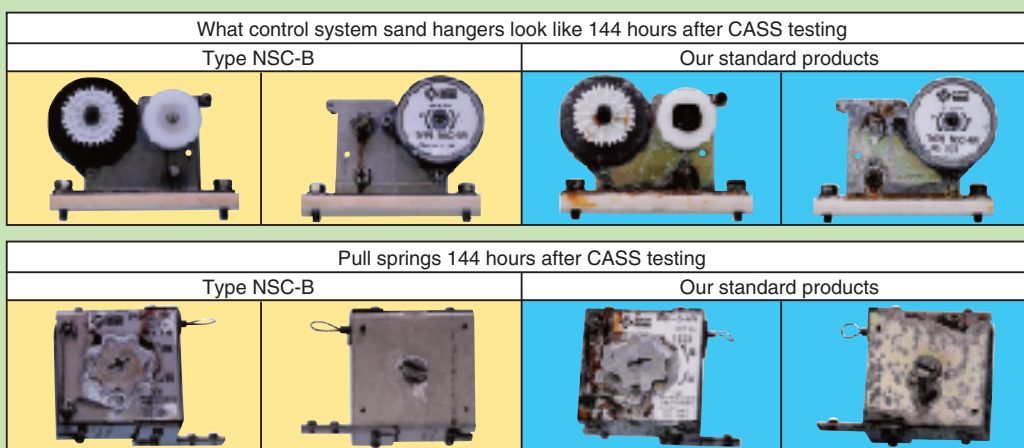
## ◆ Corrosion resistance

Sliding doors used to date in bathrooms have been susceptible to possible rusting, but they are now made of stainless steel to provide drastically added corrosion resistance.

**Test procedures:**

CASS test (JIS H8502), 48 hrs x 3 cycles ... total 144 hrs

Mix the sodium chloride solution used in a salt spray test with slight volumes of acetic acid and copper chloride for enhanced corrosion resistance to examine the corrosion resistance of test specimens. This test method is mainly used to test the corrosive resistance of plated articles, such as auto parts. Being a corrosion test carried out in an acid atmosphere, this test is more demanding than the salt spray test.



## ⚠ Safety precautions

- To avoid personal injury and other accidents, thoroughly read the precautions set forth in the "Instruction Manual" or "Catalog" and properly complete the installation and adjustment procedures before use.
- Ensure that the door closing speed is properly adjusted at all times. If it is too high, personal injury may result.

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