



NEW STAR

ALL LINE-UP CATALOGUE

NIPPON DOOR CHECK MFG. CO., LTD.



Quality Worthy of Tomorrow

In 1919 New Star became the first and foremost manufacturer to launch production of door closers within Japan. From these small beginnings, we have come to enjoy patronage from clients, not only within Japan, but from all around the world, and while having encountered numerous difficulties, New Star has expanded to become Japan's leading specialist maker of door closers, floor hinges and other door related devices. Always bearing in mind our company policy, "Quality Worthy of Tomorrow", we have placed considerable emphasis on building up our plant facilities at the same time as we have concentrated on introducing automation and other economy measures. In this way, we have been able to continue delivery of high quality products at stable prices to our clients via the New Star network stretching across countries all over the world.

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DOOR CLOSERS

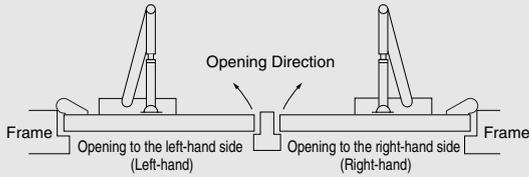
Selection Method

Various New Star Door Closer models are available for a wide range of applications. Select the most suitable model with consideration of the characteristics of your application including the function, size, and installation method of the door, and the conditions of the frame and door. Install a doorstop in the position where the door opens to its maximum extent in order to protect the door, wall, and Door Closer from damage.

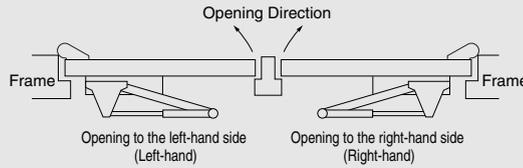
Installation onto Right- or Left-handed Doors

- A right-handed door and left-handed door open to the right-hand side and left-hand side, respectively, when they are pushed.
- Install the standard installation on the door opening side and the parallel installation on the door closing side.

Standard Installation



Parallel Installation



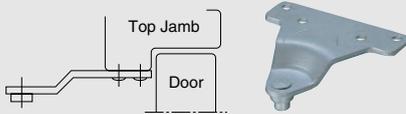
- Standard models with some exceptions can open to a maximum of 180°. The Track Rail Type and some standard Installation cannot open a maximum of 180°. Refer to the explanation of each series and select the most suitable models.

Bracket and Arm Selection Method

The bracket and arm shapes need to be selected according to the shape and dimensions of the top jamb. Select the most suitable bracket and arm models according to the conditions of the frame and door.

Standard Bracket

A bracket mounted onto the bottom (door rebating) of the doorstop on a standard-shaped top jamb.

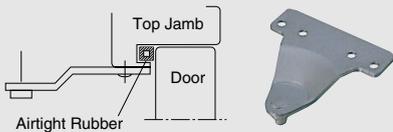


Stepped Bracket (A)

A bracket mounted to the bottom of a top jamb that has a narrow doorstop with a door rebating (dotted part).

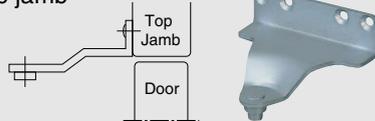


Airtight Door Bracket (AP)



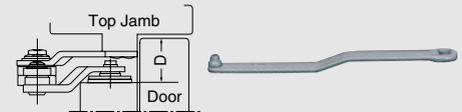
Angle Bracket (L)

Mounted to the front side of the top jamb



Stepped Arm (K)

Used if a wide dimension (D) cannot be secured.

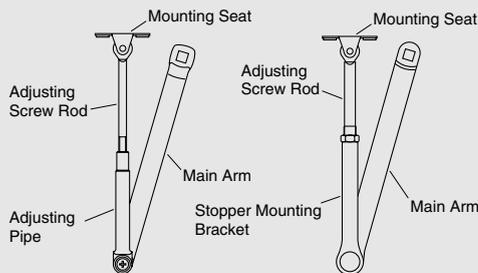


Arm Shapes and Names of Parts

Standard Installation

Without Hold-open

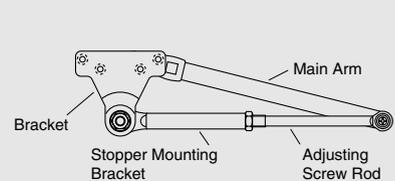
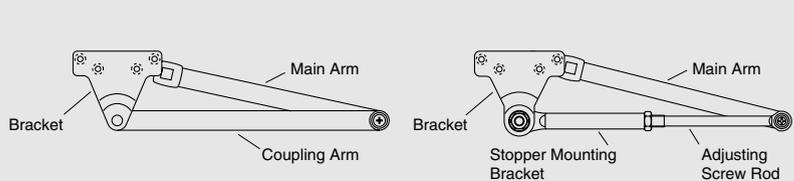
With Hold-open



Parallel Installation

Without Hold-open

With Hold-open



DOOR CLOSERS

80 Series

Surface Mounting Type



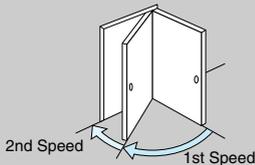
Standard Installation

Right-hand application shown.

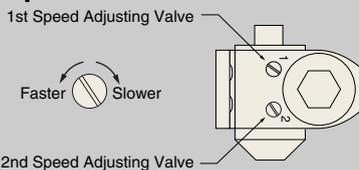
Door Closing Speed Adjustment

Closing Speed Adjusting Valves

Trouble-free adjusting of speeds by simply turning the speed adjusting valves to the right or left.

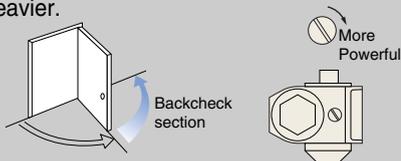


Adjustment of 1st and 2nd Speeds



Backcheck Function (Optional)

This function uses hydraulic pressure to prevent the door from opening rapidly when a strong wind or external force is imposed in the opening direction of the door. You can open the door slowly in the backcheck section though the opening force is felt a little heavier.



There is the right and left hand for 185,186

Parallel Installation



Colors

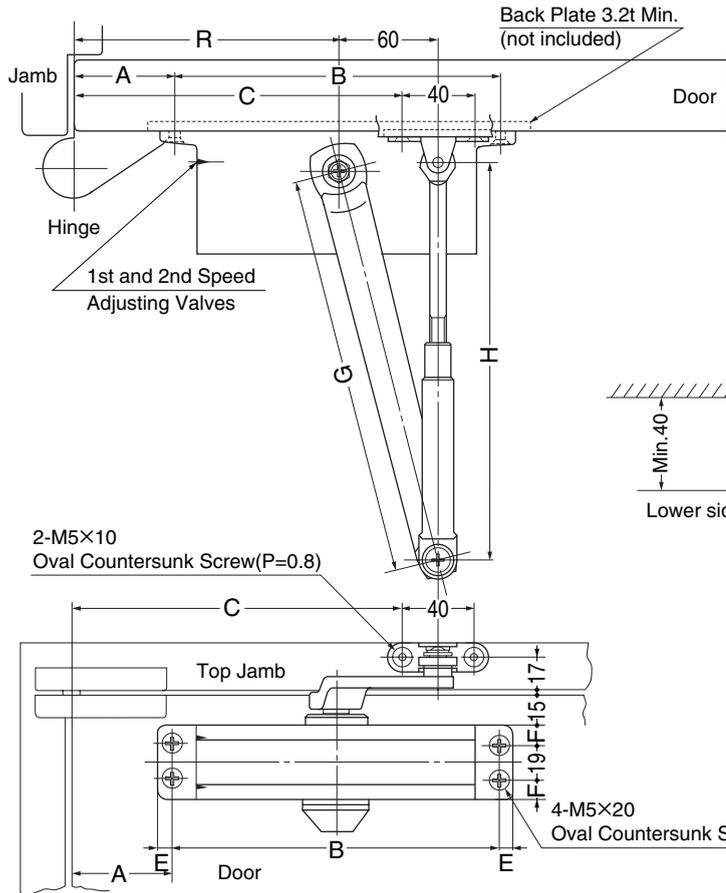
- Silver (N-01)
- Burnt Umber (N-52)

- A horizontal door closer refined by continued research into a product of the finest quality.
- Different models to fit different door sizes. Each of these models is available for either standard installation or parallel installation. Further, a choice can be made between a closer with or without a hold-open device.
- Simple inversion of the main body (turning upside-down) allows installation on both right and left hand doors.
- An adjustable hold-open range of 70° to 180° is available to parallel installation and that of 70° to 120° is available to standard installation.
- Models 81 and 181 allow a maximum door opening angle of 150°.

Model Number				Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Standard Installation		Parallel Installation			
Without Hold-open	With Hold-open	Without Hold-open	With Hold-open		
81	181 <small>The maximum hold-open angle is 120°</small>	P-81	P-181	800×1800	30
82	182 ◊	P-82	P-182	900×2100	45
83	183 ◊	P-83	P-183	950×2100	65
84	184 ◊	P-84	P-184	1050×2400	85
85	* 185 ◊	P-85	P-185	1200×2400	120
86	* 186 ◊	P-86	P-186	1800×2700	180

(Note) • In the case of standard installation, the maximum hold-open angle is 120°. (180° for parallel installation.)
 • For installation on fire doors, select a closer with a temperature fuse.
 • Those models marked with an asterisk (*) are handed.

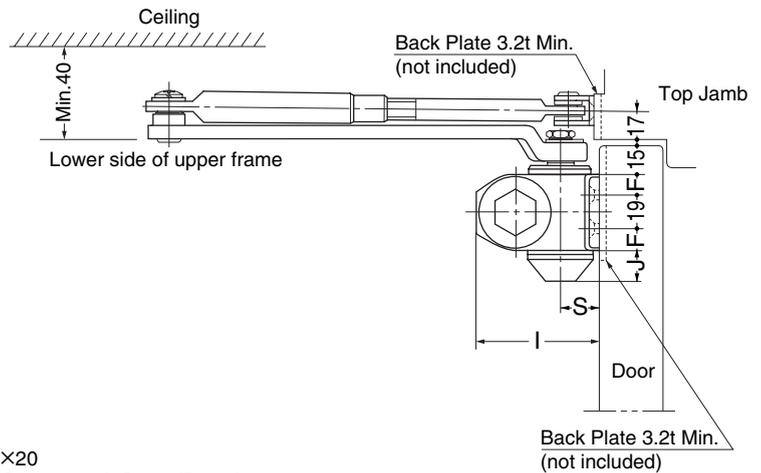
Standard Installation



	A	B	C	E	F	G	H	I	J	R	S	
81	41	178	170	8	11.5	220	219	72.5	19	130	20.5	
82	45	190	180		13					140	24.5	
83	61	208	205	10	14.5	280	282	77	20	165	180	25.5
84	65	230	220							20		

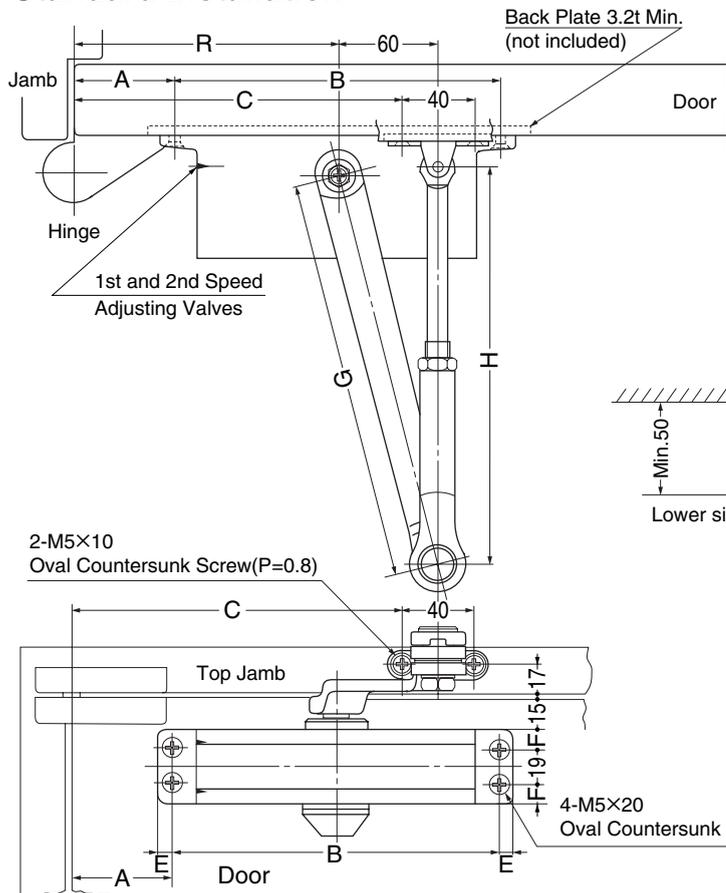
The 81 and 82 are provided with the following mounting woodscrews.

For wooden frames: 2-5.1 x 25 oval countersunk woodscrews
For wooden doors: 4-5.1 x 32 oval countersunk woodscrews



Right-hand application without hold-open shown.

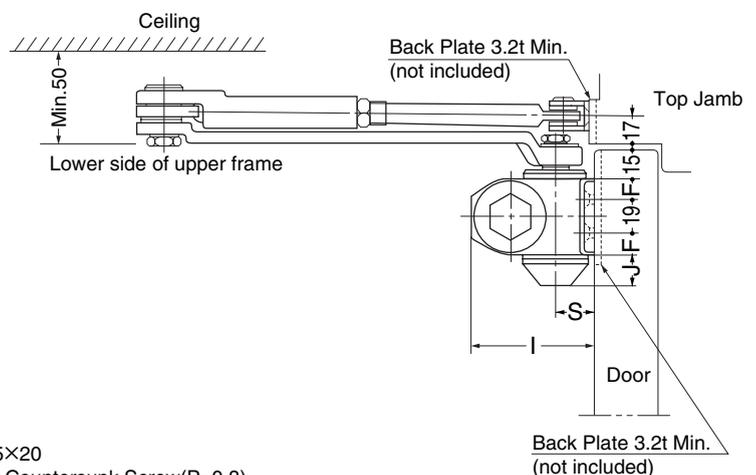
Standard Installation



	A	B	C	E	F	G	H	I	J	R	S	
181	41	178	170	8	11.5	220	219	72.5	19	130	20.5	
182	45	190	180		13					140	24.5	
183	61	208	205	10	14.5	280	282	77	20	165	180	25.5
184	65	230	220							20		

The 181 and 182 are provided with the following mounting woodscrews.

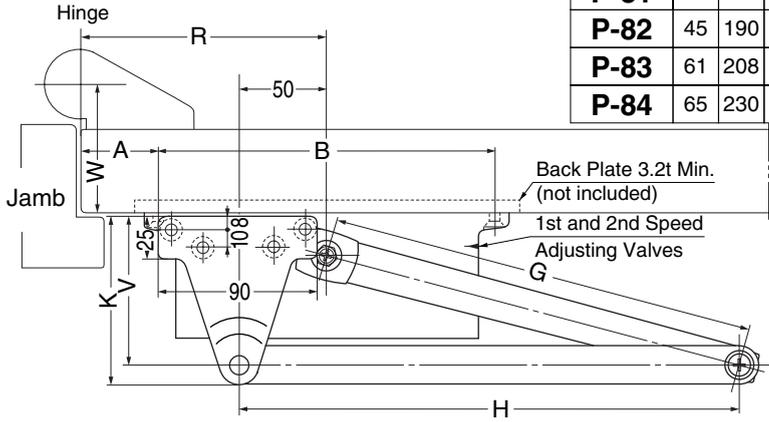
For wooden frames: 2-5.1 x 25 oval countersunk woodscrews
For wooden doors: 4-5.1 x 32 oval countersunk woodscrews



Right-hand application with hold-open shown.

Parallel Installation

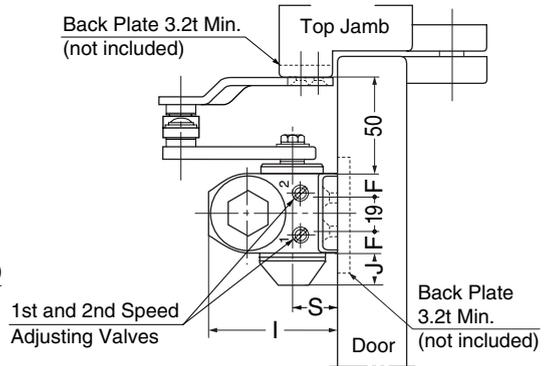
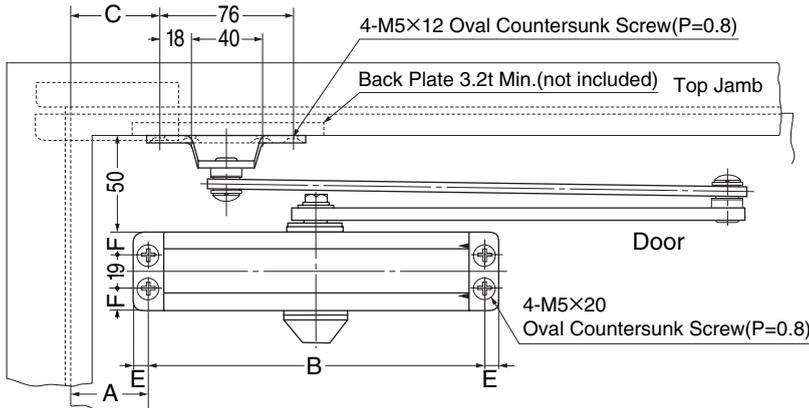
	A	B	C	E	F	G	H	I	J	K	R	S	V	W
P-81	41	178	42		11.5			67			130	20.5		65 Max
P-82	45	190	52	8	13	220	265	72.5	19	80	140	24.5	70	
P-83	61	208	77								165			76 Max
P-84	65	230	92	10	14.5	280	323	77	20	95	180	25.5	85	105 Max



Do not exceed for "W" when using a 180° opening.

Left-hand application without hold-open shown.

The P-81 and P-82 are provided with the following mounting woodscrews.
 For wooden frames: 4-5.1 x 25 oval countersunk woodscrews
 For wooden doors: 4-5.1 x 32 oval countersunk woodscrews



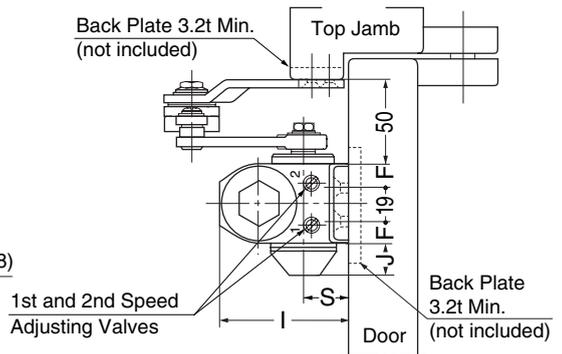
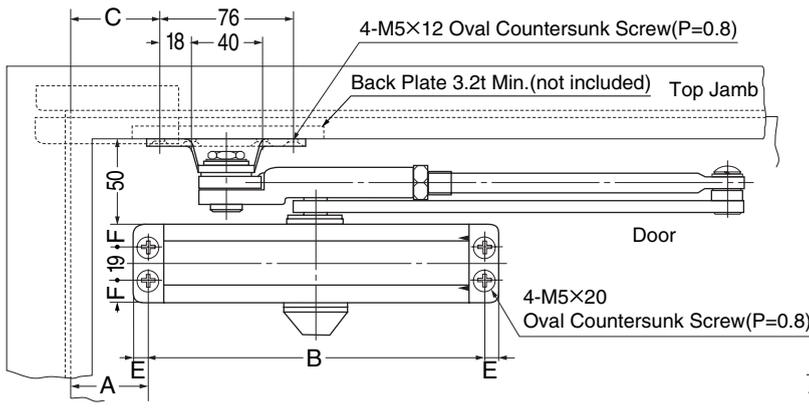
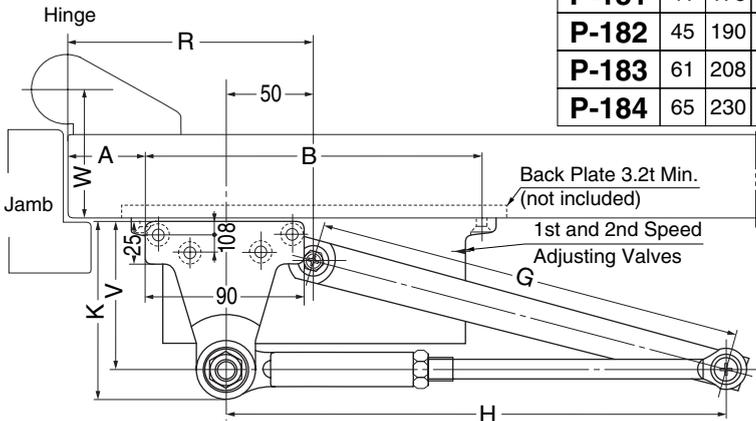
Parallel Installation

	A	B	C	E	F	G	H	I	J	K	R	S	V	W
P-181	41	178	42		11.5			67			130	20.5		65 Max
P-182	45	190	52	8	13	220	265	72.5	19	85	140	24.5	70	
P-183	61	208	77								165			76 Max
P-184	65	230	92	10	14.5	280	323	77	20	102	180	25.5	85	105 Max

Do not exceed for "W" when using a 180° opening.

Left-hand application with hold-open shown.

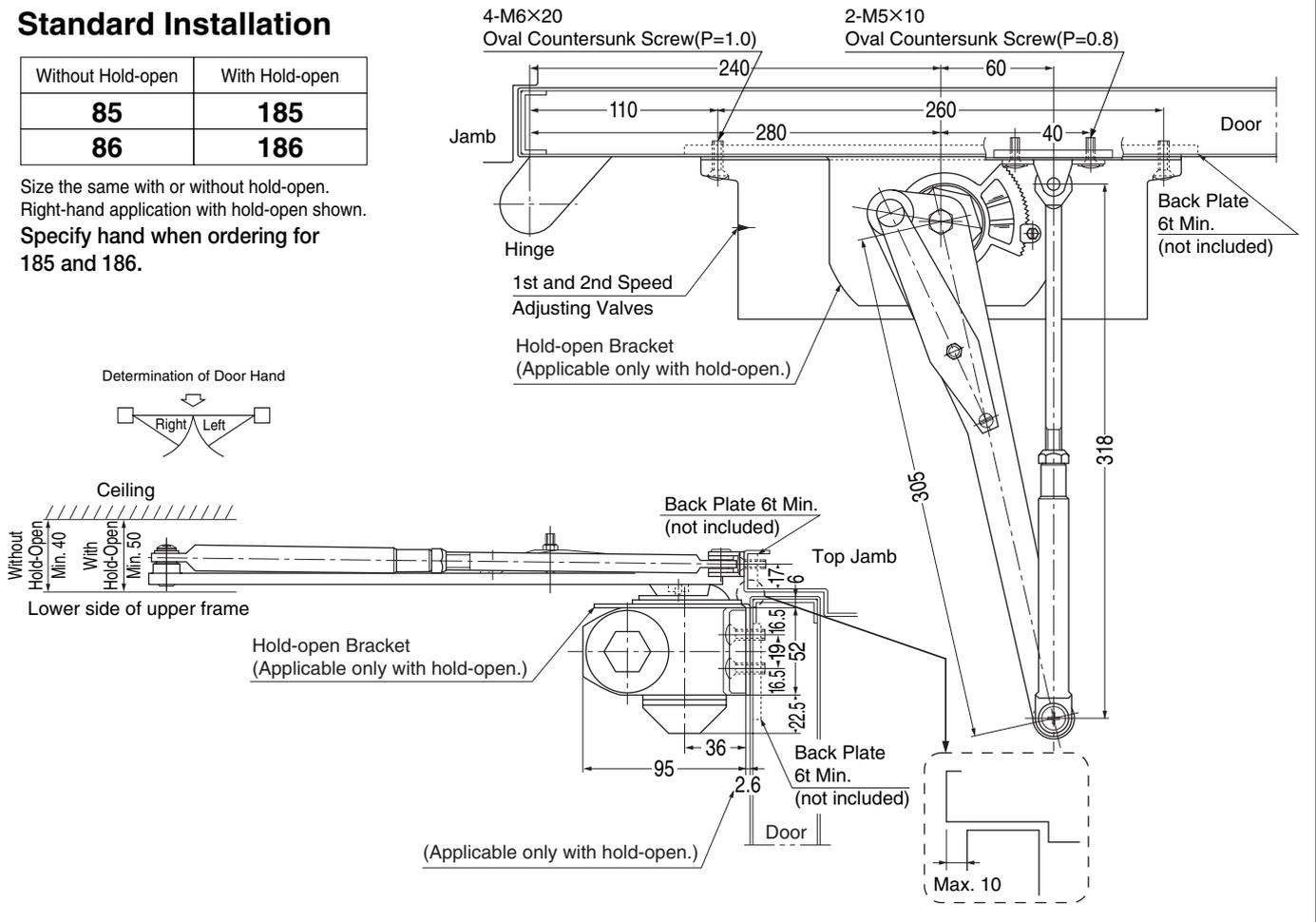
The P-181 and P-182 are provided with the following mounting woodscrews.
 For wooden frames: 4-5.1 x 25 oval countersunk woodscrews
 For wooden doors: 4-5.1 x 32 oval countersunk woodscrews



Standard Installation

Without Hold-open	With Hold-open
85	185
86	186

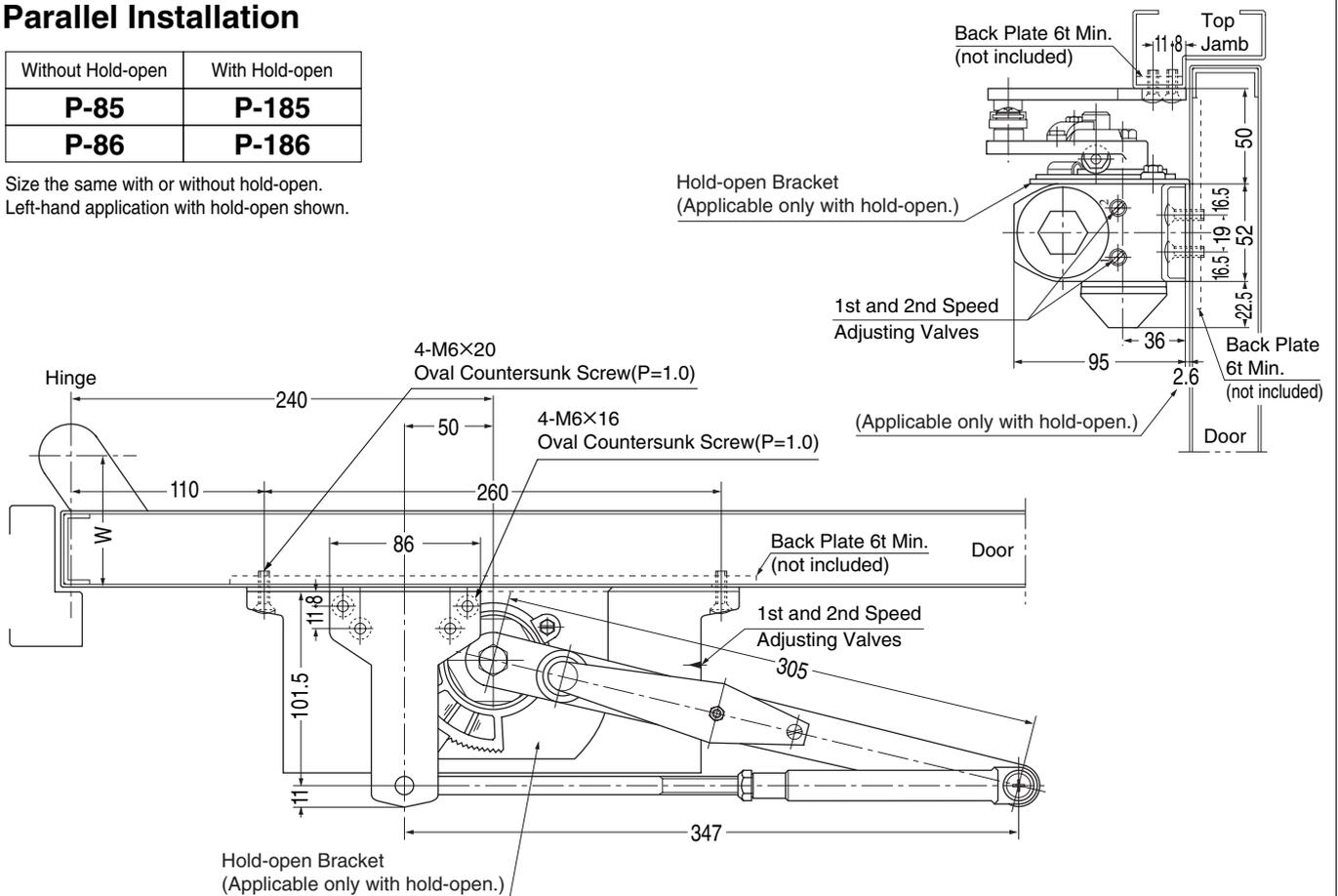
Size the same with or without hold-open.
 Right-hand application with hold-open shown.
Specify hand when ordering for 185 and 186.



Parallel Installation

Without Hold-open	With Hold-open
P-85	P-185
P-86	P-186

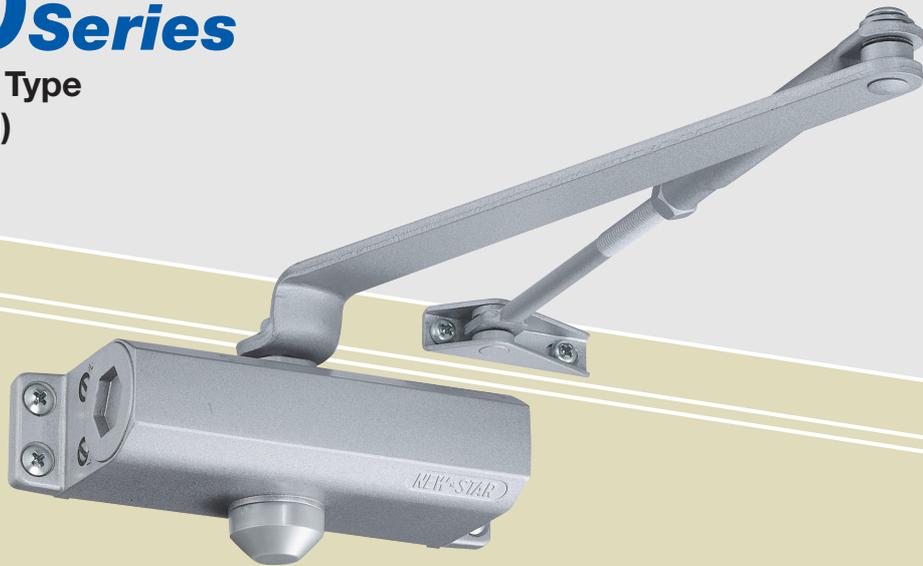
Size the same with or without hold-open.
 Left-hand application with hold-open shown.



Do not exceed 103 for "W" when using a 180° opening.

ZA-80 Series

Surface Mounting Type
(Export use model)



Standard Installation

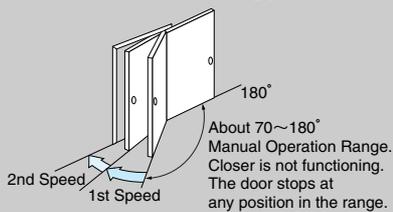
Right-hand application shown.

Door Closing Speed Adjustment

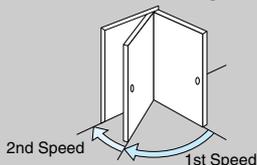
Closing Speed Adjusting Valves

Trouble-free adjusting of speeds by simply turning the speed adjusting valves to the right or left.

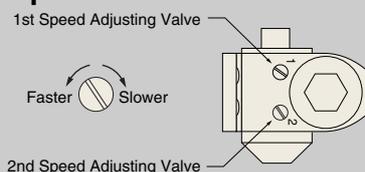
With Hold-open Type



Without Hold-open Type



Adjustment of 1st and 2nd Speeds



Parallel Installation



Colors

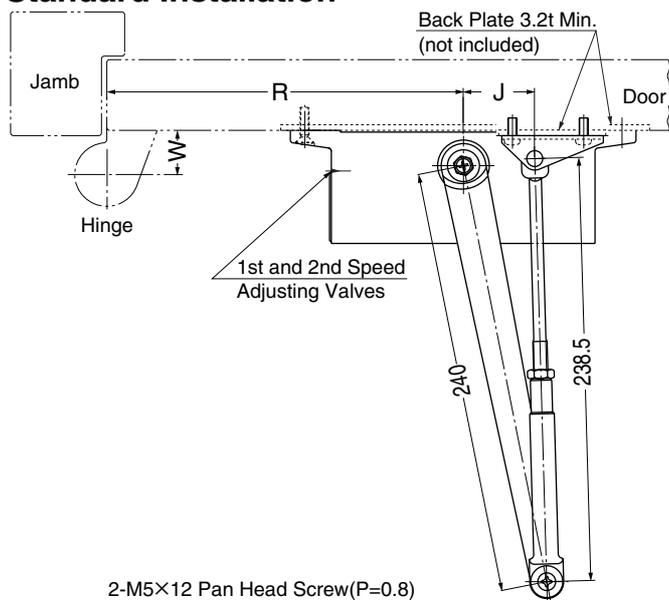
- Silver (N-01)
- Burnt Umber (N-52)

- A body of built-in stop type is used.
- A horizontal door closer refined by continued research into a product of the finest quality.
- Different models to fit different door sizes. Further, a choice can be made between a closer with or without a hold-open device.
- Simple inversion of the main body (turning upside-down) allows installation on both right and left hand doors.

Model Number						Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Standard Installation				Parallel Installation			
Without Hold-open		With Hold-open		Without Hold-open	With Hold-open		
ZA-81	ZA-81N	ZA-181	ZA-181N	ZA-P81	ZA-P181	800×1800	30
ZA-82	*ZA-82N	ZA-182	ZA-182N	ZA-P82	ZA-P182	900×2100	45
*ZA-83	—	ZA-183	—	ZA-P83	ZA-P183	950×2100	65
ZA-84	—	ZA-184	—	—	—	1050×2400	85

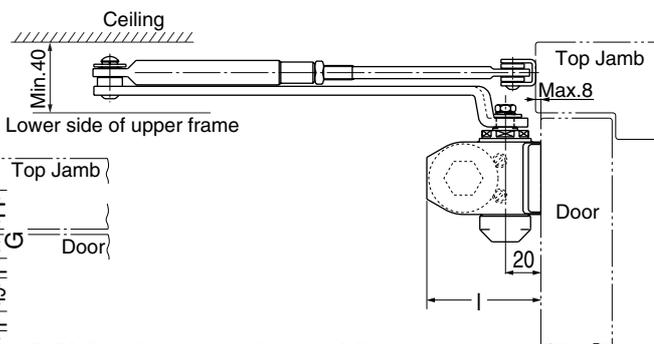
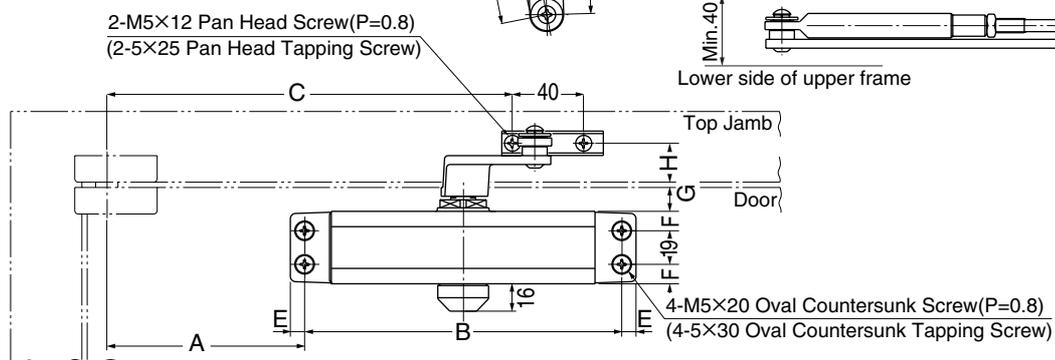
(Note) • The maximum door opening angle of the ZA-81 is 135°, that of the ZA-82 is 150°, and that of any other model is 180°.
• Those model marked with an asterisk (*) have been certified "CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION"

Standard Installation

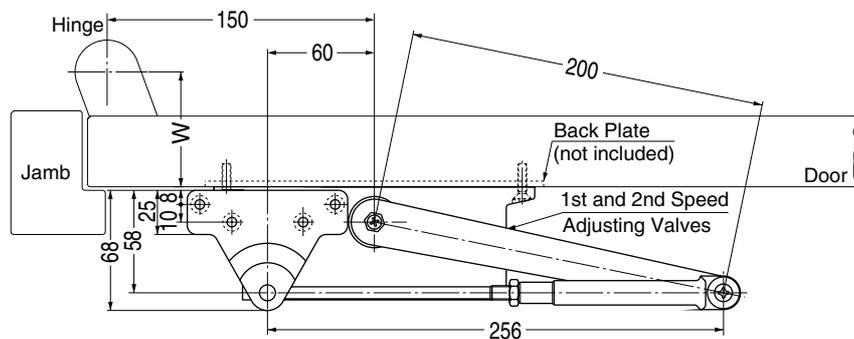


	A	B	C	E	F	G	H	I	J	R	W
ZA-81	170	120	257.5	7	8.5			59		230	6 25
ZA-181	140		227.5							200	
ZA-82	147	146	247.5		220						
ZA-182	127		227.5		9.5	13.5	22	61	40	200	
ZA-83	111	178			11						
ZA-183			227.5	8				64		200	
ZA-84	105	190			13						
ZA-184											
ZA-81N	41	178	170		11			64		130	6 25
ZA-181N				8		15	17	52.5			
ZA-82N	45	190	180		13			67.5		140	
ZA-182N											

Right-hand application without hold-open shown.

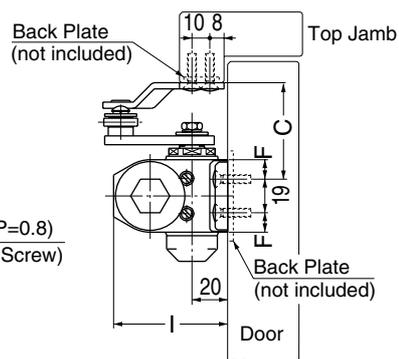
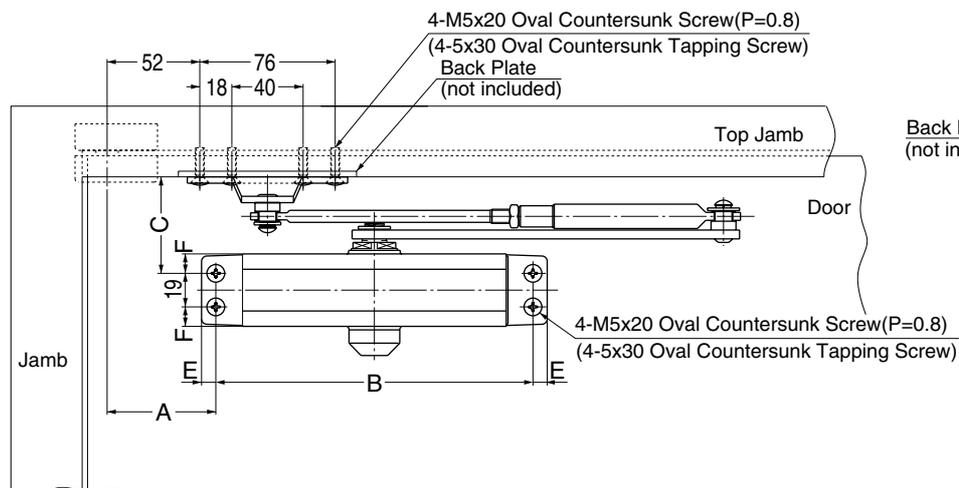


Parallel Installation



	A	B	C	E	F	I	W
ZA-P81	90	120	53	7	8.5	59	90 Max
ZA-P181							
ZA-P82	77	146	54		9.5	61	
ZA-P182							
ZA-P83	61	178	56	8	11	64	
ZA-P183							

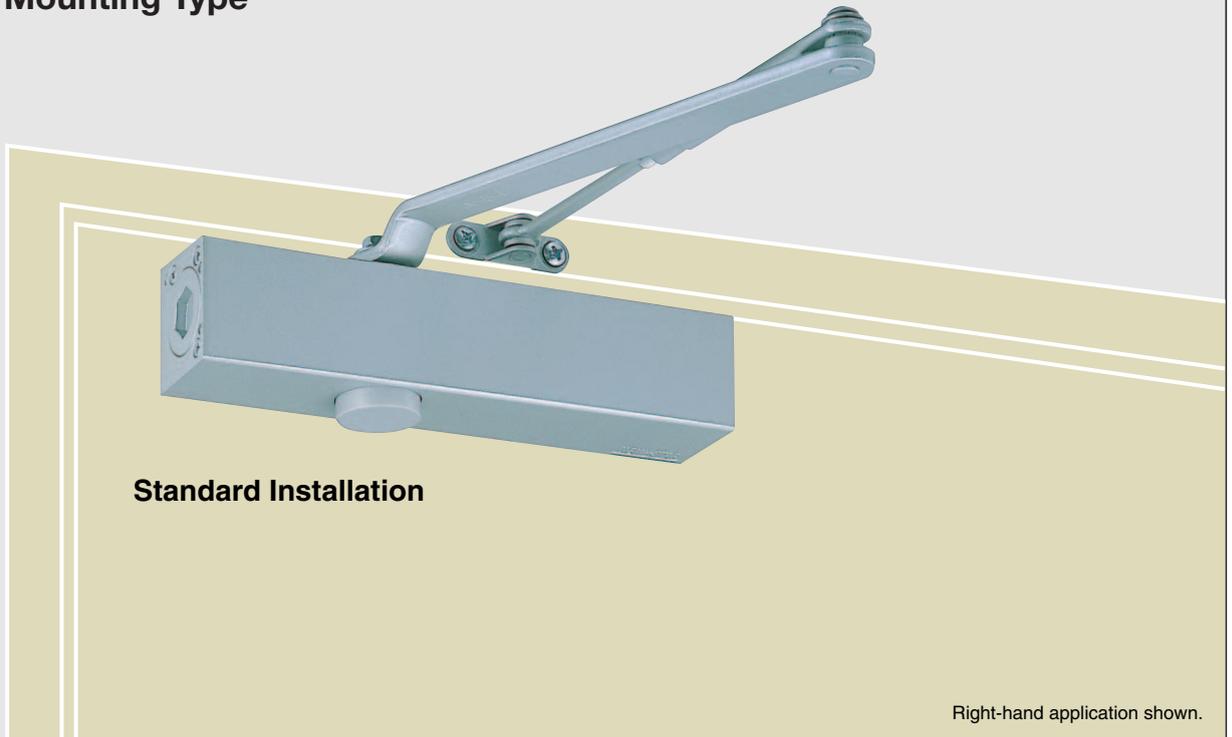
Left-hand application without hold-open shown.



DOOR CLOSERS

7000 Series

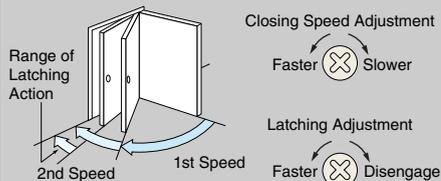
Surface Mounting Type



Door Closing Speed Adjustment

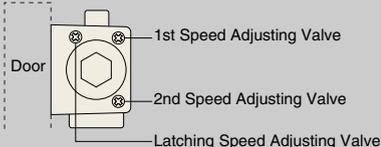
Closing Speed Adjusting Valves

Trouble-free adjusting of speeds by simply turning the speed adjusting valves to the right or left.

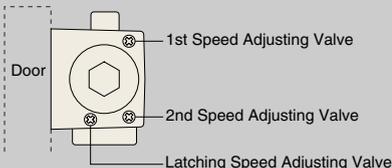


Adjustment of 1st and 2nd Speeds

#7001-7003 #7006-7007



#7004-7005



Latching function (standard feature)

The latching speed can be adjusted for closing the door properly (effective when the frame is airtight or the latch is stiff).

Parallel Installation



Colors

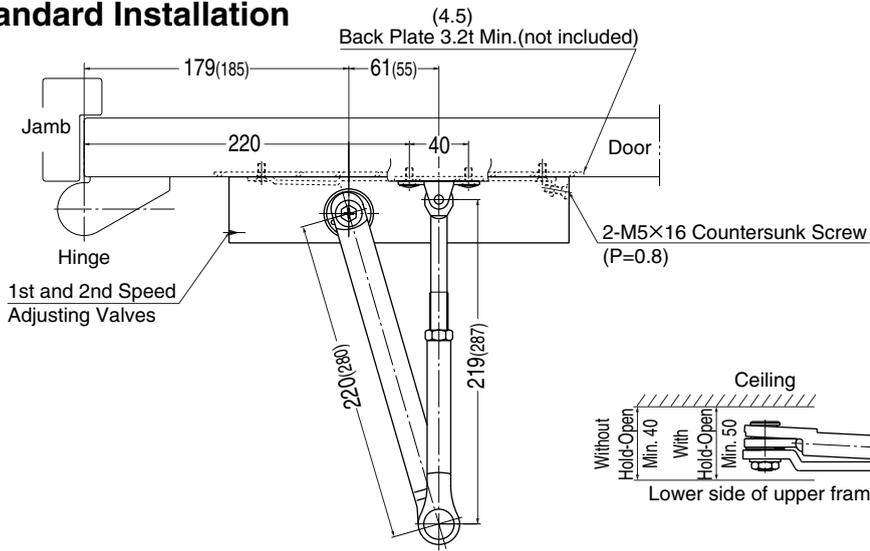
- Silver (N-01)
- Burnt Umber (N-52)

- Concealed screws.
- Three valves for adjusting the closing speed (with latching function).
- The mounting bracket for attaching the door closer is installed beforehand.
- #7001-7003, #7004-7005 and #7006-7007 have the same mounting bracket and mounting location.
- An adjustable hold-open range of 70° to 180° is available to parallel installation and that of 70° to 120° is available to standard installation.

Model Number				Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Standard Installation		Parallel Installation			
Without Hold-open	With Hold-open	Without Hold-open	With Hold-open		
7001	S-7001 <small>The maximum hold-open angle is 120°</small>	P-7001	PS-7001	800×1800	30
7002	S-7002 <small>∕</small>	P-7002	PS-7002	900×2100	45
7003	S-7003 <small>∕</small>	P-7003	PS-7003	950×2100	65
7004	S-7004 <small>∕</small>	P-7004	PS-7004	1050×2400	85
7005	S-7005 <small>∕</small>	P-7005	PS-7005	1200×2400	120
7006	S-7006 <small>∕</small>	P-7006	PS-7006	1800×2700	180
7007	S-7007 <small>∕</small>	P-7007	PS-7007	2000×3000	250

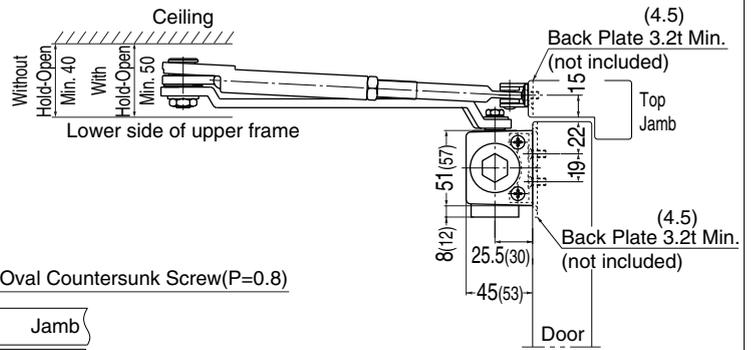
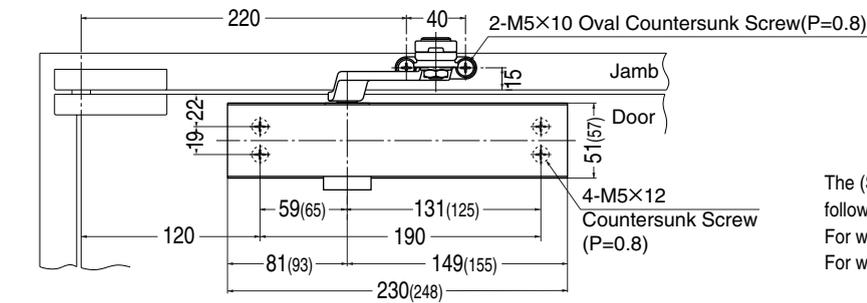
(Note) • Backcheck function: Provided as a standard feature for #7006 and #7007. Provided as an optional feature for #7001 to #7005. (Details per page-3)

Standard Installation



Without Hold-open	With Hold-open
7001	S-7001
7002	S-7002
7003	S-7003
7004	S-7004
7005	S-7005

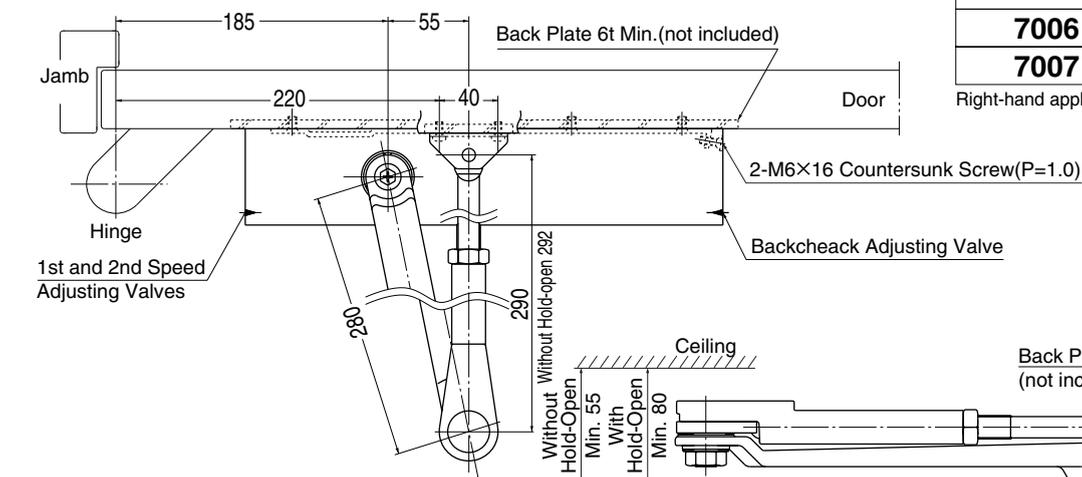
Size the same with or without hold-open.
Right-hand application with hold-open shown.



The (S)-7001 and (S)-7002 are provided with the following mounting woodscrews.
For wooden frames: 2-5.1 x 25 oval countersunk woodscrews
For wooden doors: 4-5.1 x 25 countersunk woodscrews

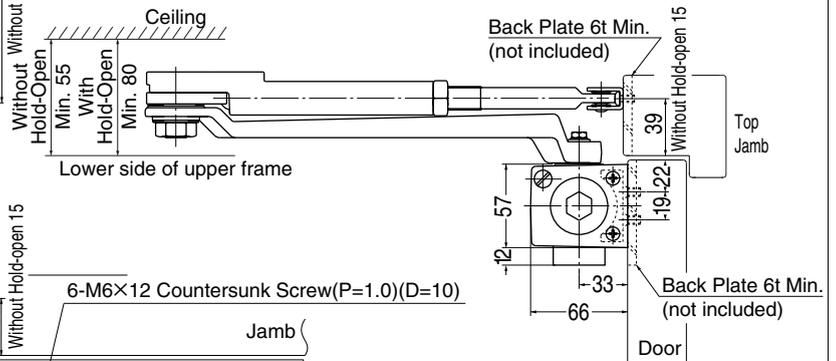
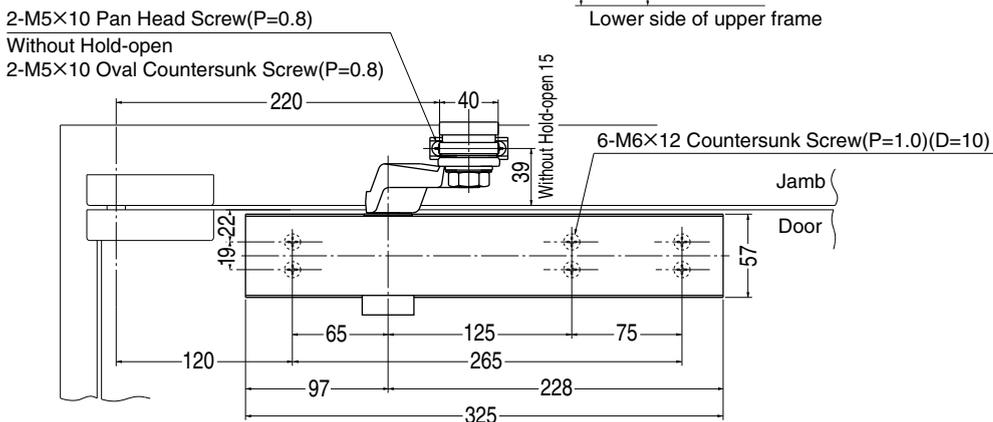
() Measurements in brackets are for 7004, S-7004, 7005 & S-7005.

Standard Installation



Without Hold-open	With Hold-open
7006	S-7006
7007	S-7007

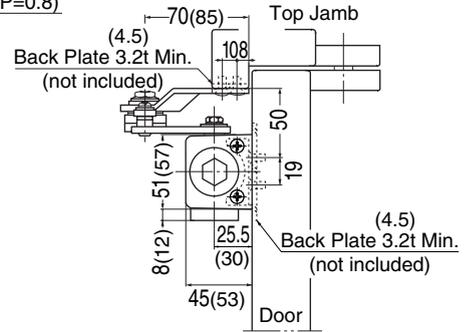
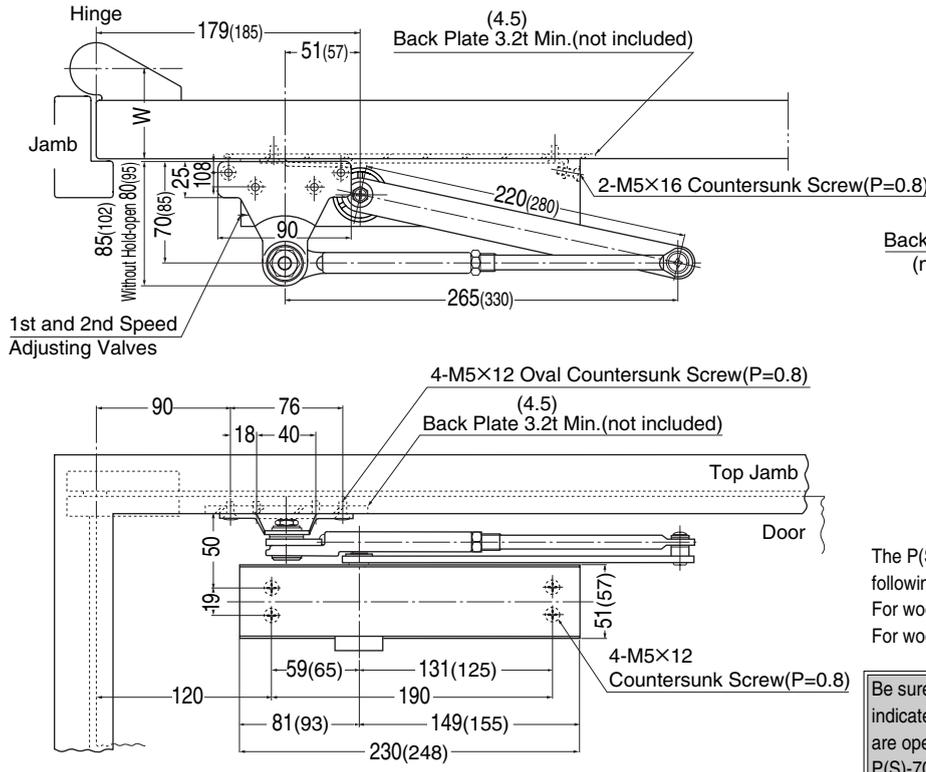
Right-hand application with hold-open shown.



Parallel Installation

Without Hold-open	With Hold-open
P-7001	PS-7001
P-7002	PS-7002
P-7003	PS-7003
P-7004	PS-7004
P-7005	PS-7005

Size the same with or without hold-open.
Left-hand application with hold-open shown.



The P(S)-7001 and P(S)-7002 are provided with the following mounting woodscrews.
For wooden frames: 4-5.1 x 25 oval countersunk woodscrews
For wooden doors: 4-5.1 x 25 countersunk woodscrews

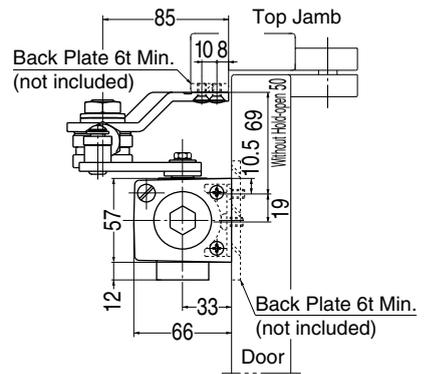
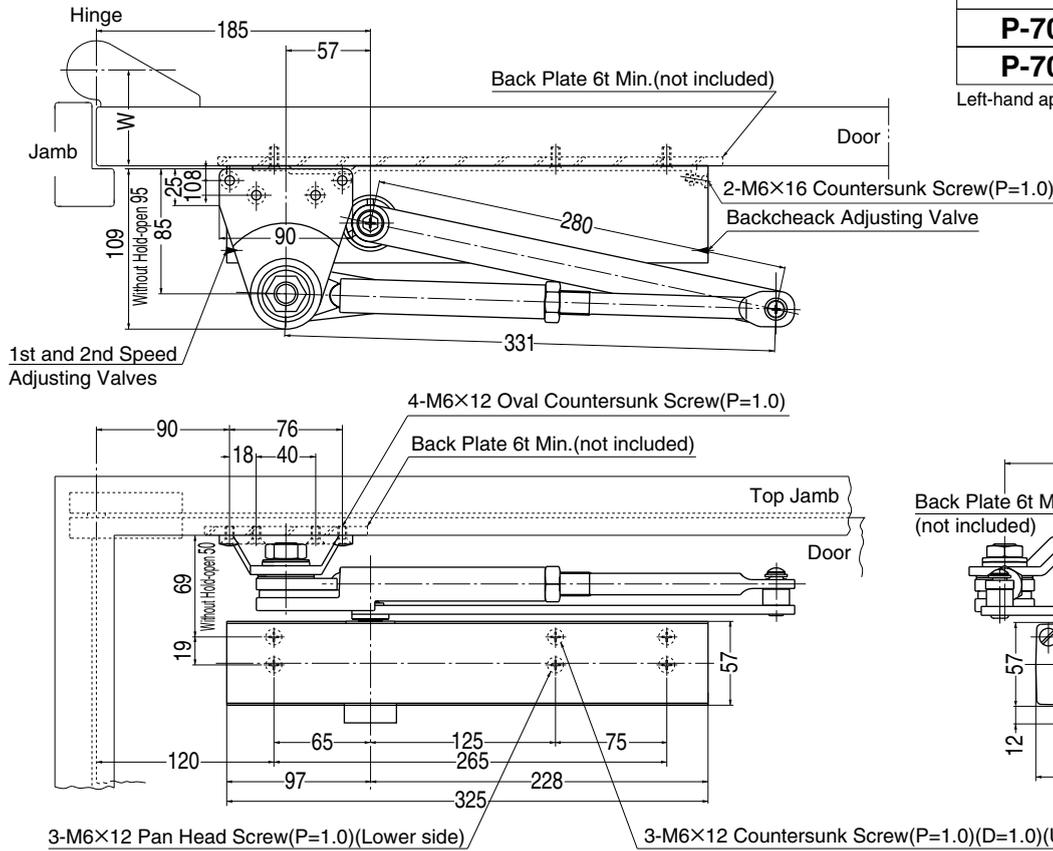
Be sure to keep the following conditions (for the widths indicated by the letter W in the drawing) if the Door Closers are opened 180° for use.
P(S)-7001 to P(S)-7003: 70 max.
P(S)-7004 to P(S)-7005: 100 max.

() Measurements in brackets are for P-7004, PS-7004, P-7005 & PS-7005.

Parallel Installation

Without Hold-open	With Hold-open
P-7006	PS-7006
P-7007	PS-7007

Left-hand application with hold-open shown.



Do not exceed 100 for "W" when using 180° opening.

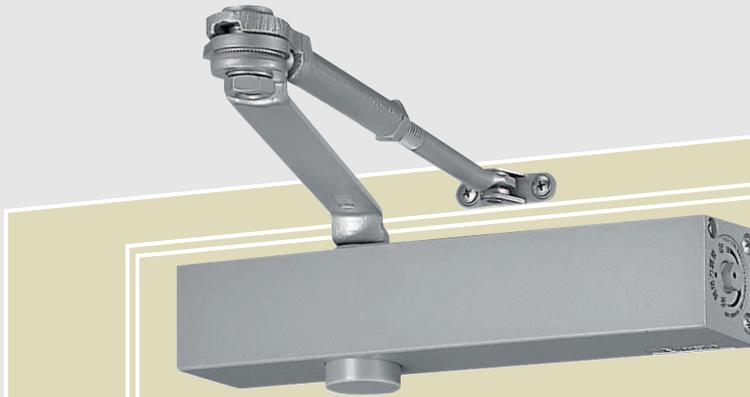
DOOR CLOSERS

GRADE 1



7710V Series Opening/Closing Force Control Type

Surface Mounting Type



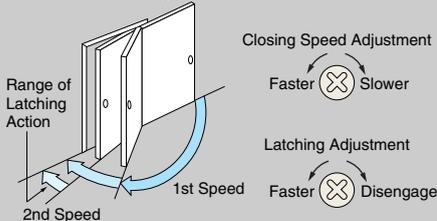
Standard Installation

Right-hand application shown.

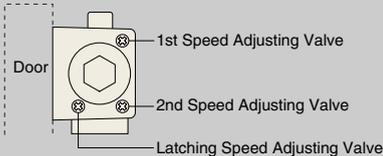
Door Closing Speed Adjustment

Closing Speed Adjusting Valves

Trouble-free adjusting of speeds by simply turning the speed adjusting valves to the right or left.

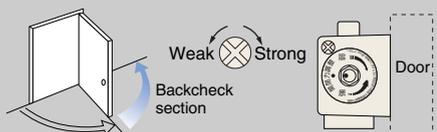


Adjustment of 1st and 2nd Speeds



Backcheck Function

This function uses hydraulic pressure to prevent the door from opening rapidly when a strong wind or external force is imposed in the opening direction of the door. You can open the door slowly in the backcheck section though the opening force is felt a little heavier.



Parallel Installation



Opening/Closing Force Adjustments

The Opening/Closing Force imposed on the door can be adjusted by turning the Opening/Closing Force Adjusting Bolt according to the size, weight, and operating conditions of the door.

Opening/Closing Force Adjusting Bolt



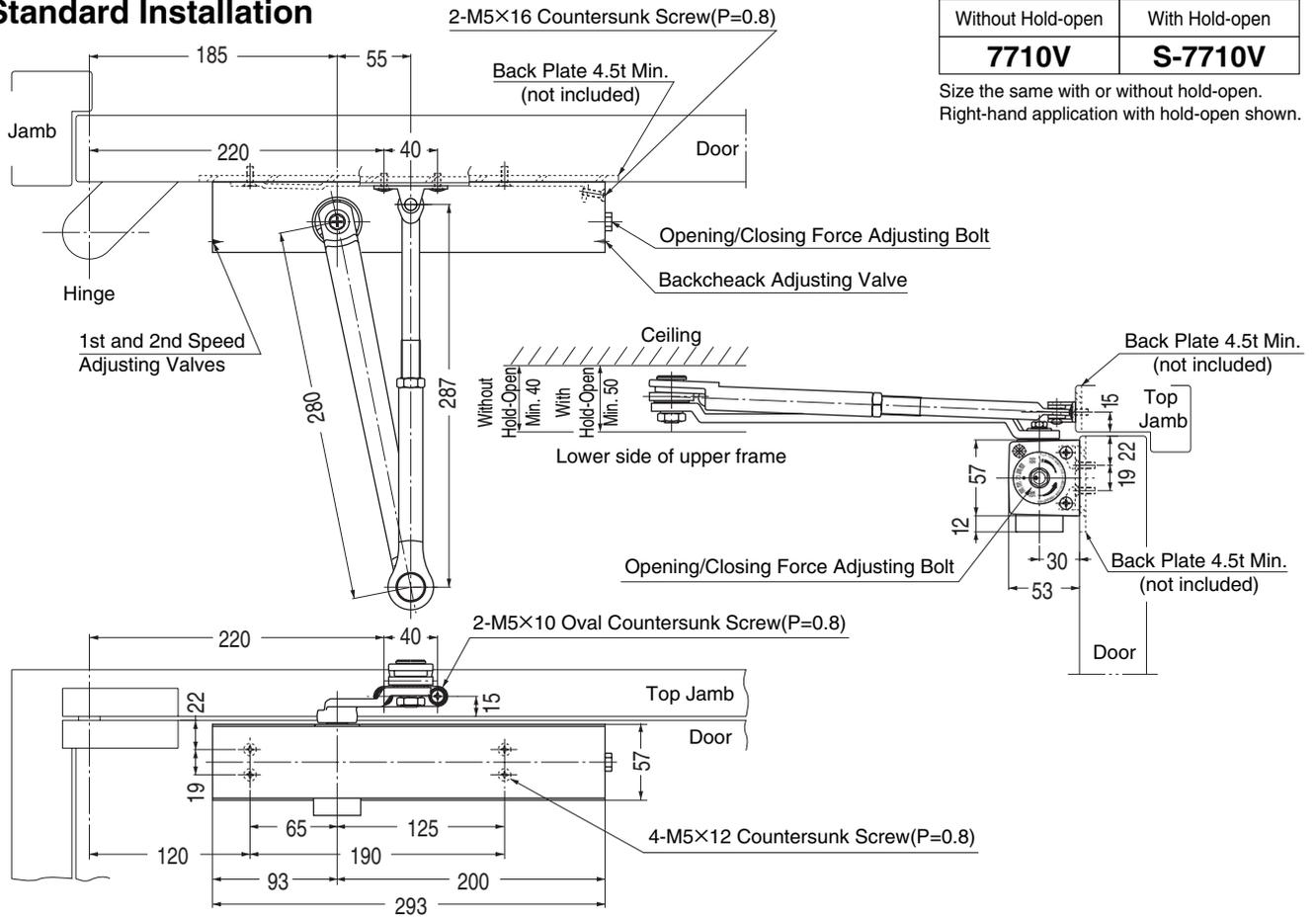
Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg	No. of turns of Opening/Closing Force Adjusting Bolt
900×2100	45	Standard (before shipping) Lowest
950×2100	65	2 turns counterclockwise
1050×2400	85	5 turns counterclockwise
1200×2400	120	9 turns counterclockwise Highest

The Opening/Closing Force is set lowest before shipping. Adjust the Opening/Closing Force according to the size, weight, and operating conditions of the door.

- Ensures improved Opening/Closing efficiency, thus realizing the smooth movement of the door that opens lightly with less force than that required for Grade 2 products and closes firmly.
- Adjustable opening/closing force.
- Three valves for adjusting the closing speed (with latching function).
- Provided with a backcheck function to control quick door opening.
- An optional delayed action function is available.
- An adjustable hold-open range of 70° to 180° is available to parallel installation and that of 70° to 120° is available to standard installation.
- Simple inversion of the main body (turning upside-down) allows installation on both right and left hand doors.

Model Number				Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Standard Installation		Parallel Arm Installation			
Without Hold-open	With Hold-open	Without Hold-open	With Hold-open		
7710V	S-7710V	P-7710V	PS-7710V	900 × 2100 1200 × 2400	45~120

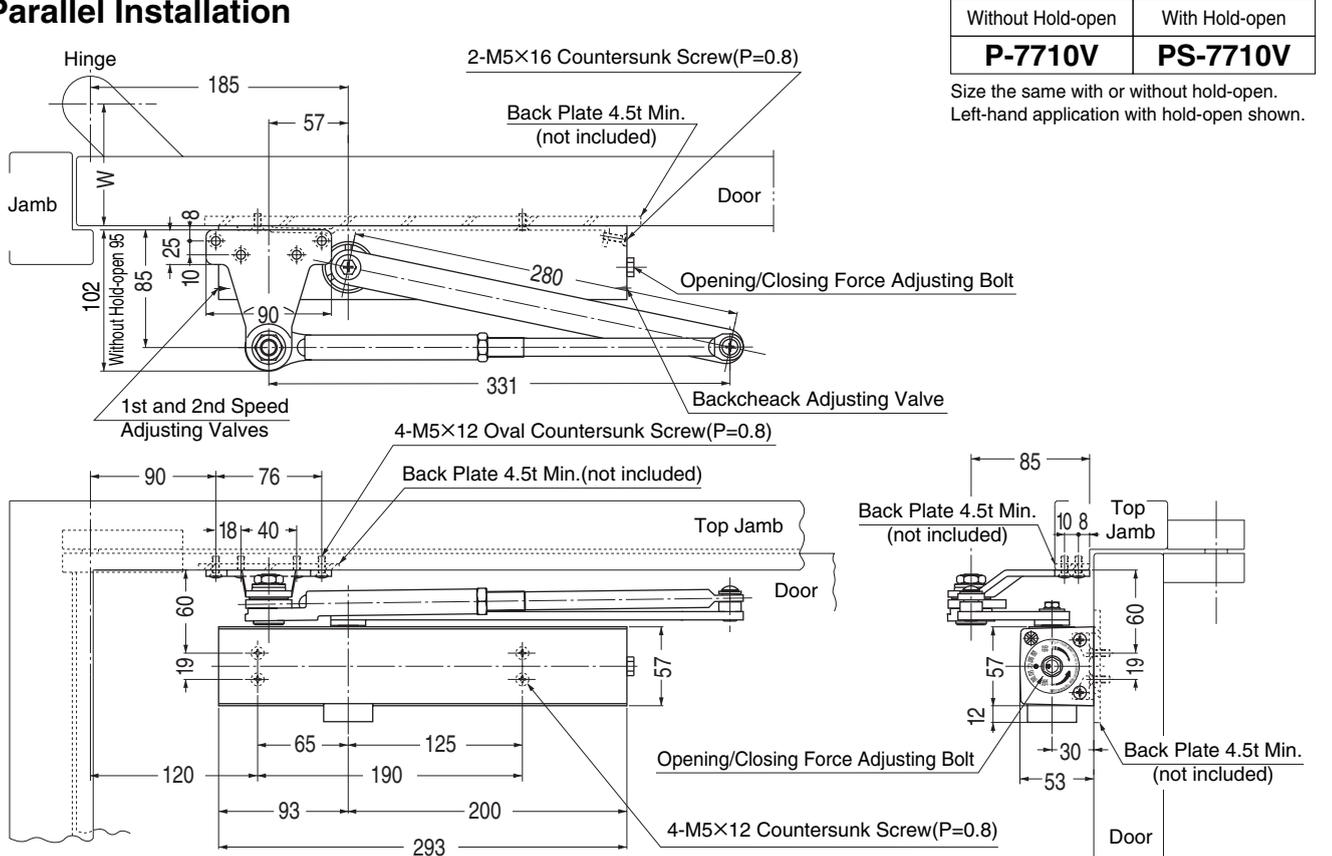
Standard Installation



Without Hold-open	With Hold-open
7710V	S-7710V

Size the same with or without hold-open.
Right-hand application with hold-open shown.

Parallel Installation



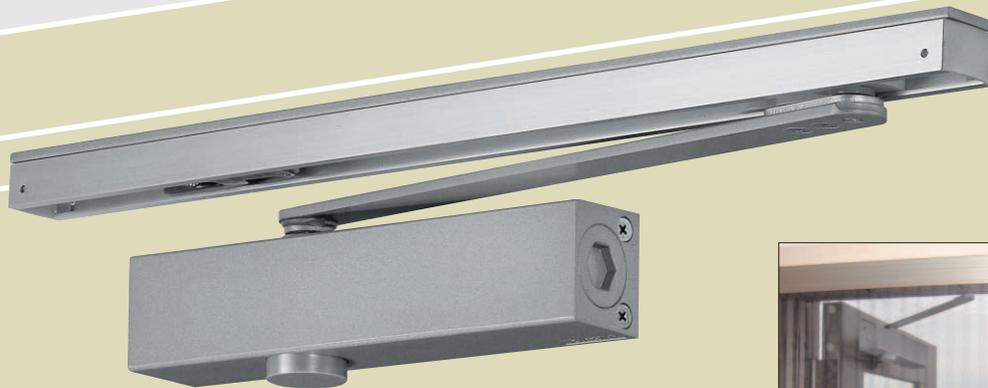
Without Hold-open	With Hold-open
P-7710V	PS-7710V

Size the same with or without hold-open.
Left-hand application with hold-open shown.

Do not exceed 100 for "W" when using 180° opening.

DOOR CLOSERS

Track Rail Type 7000 Series

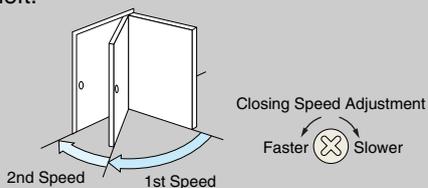


Left-hand application shown.

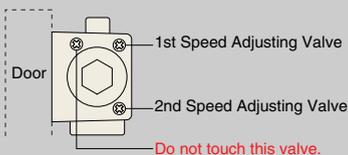
Door Closing Speed Adjustment

Closing Speed Adjusting Valves

Trouble-free adjusting of speeds by simply turning the speed adjusting valves to the right or left.



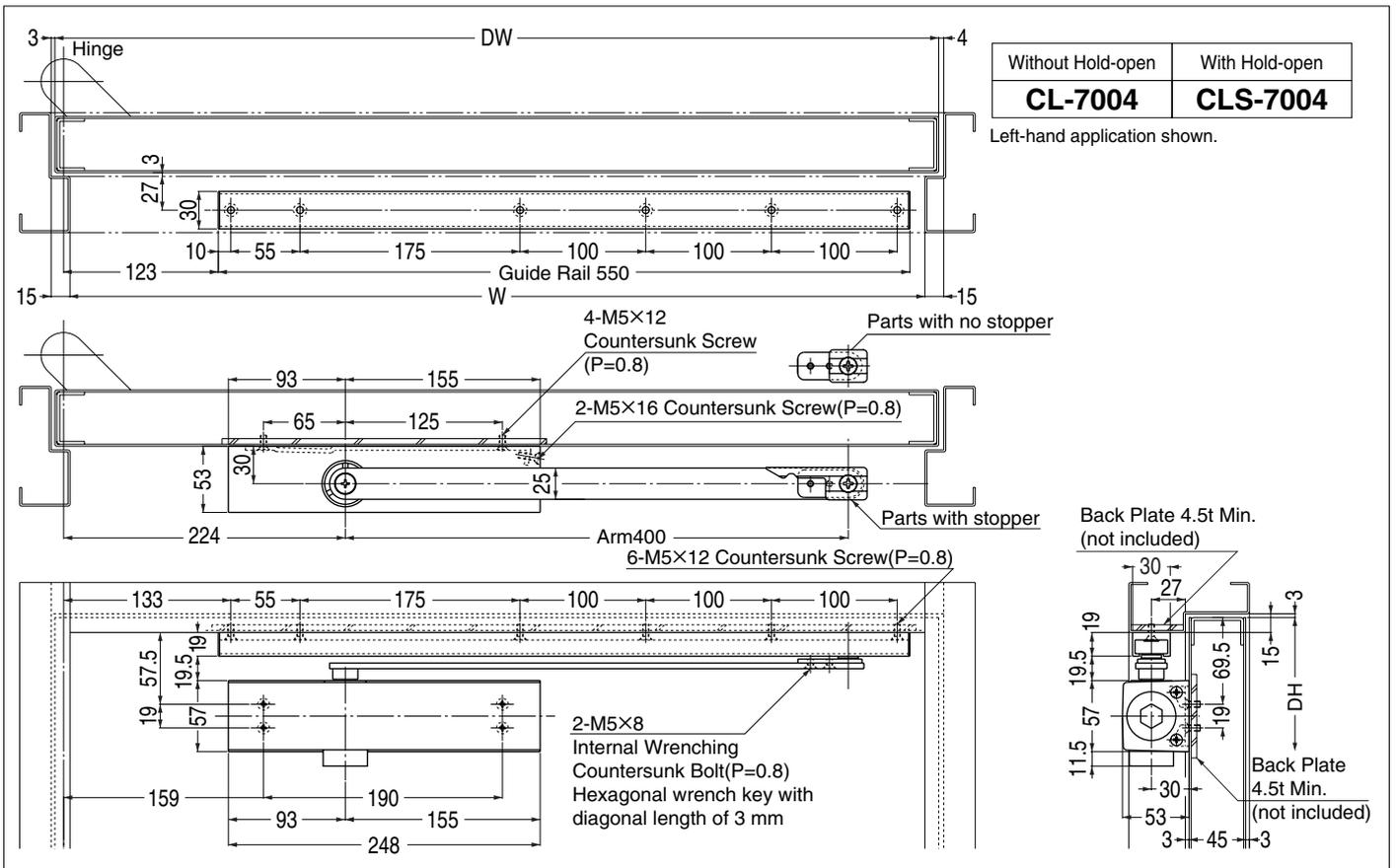
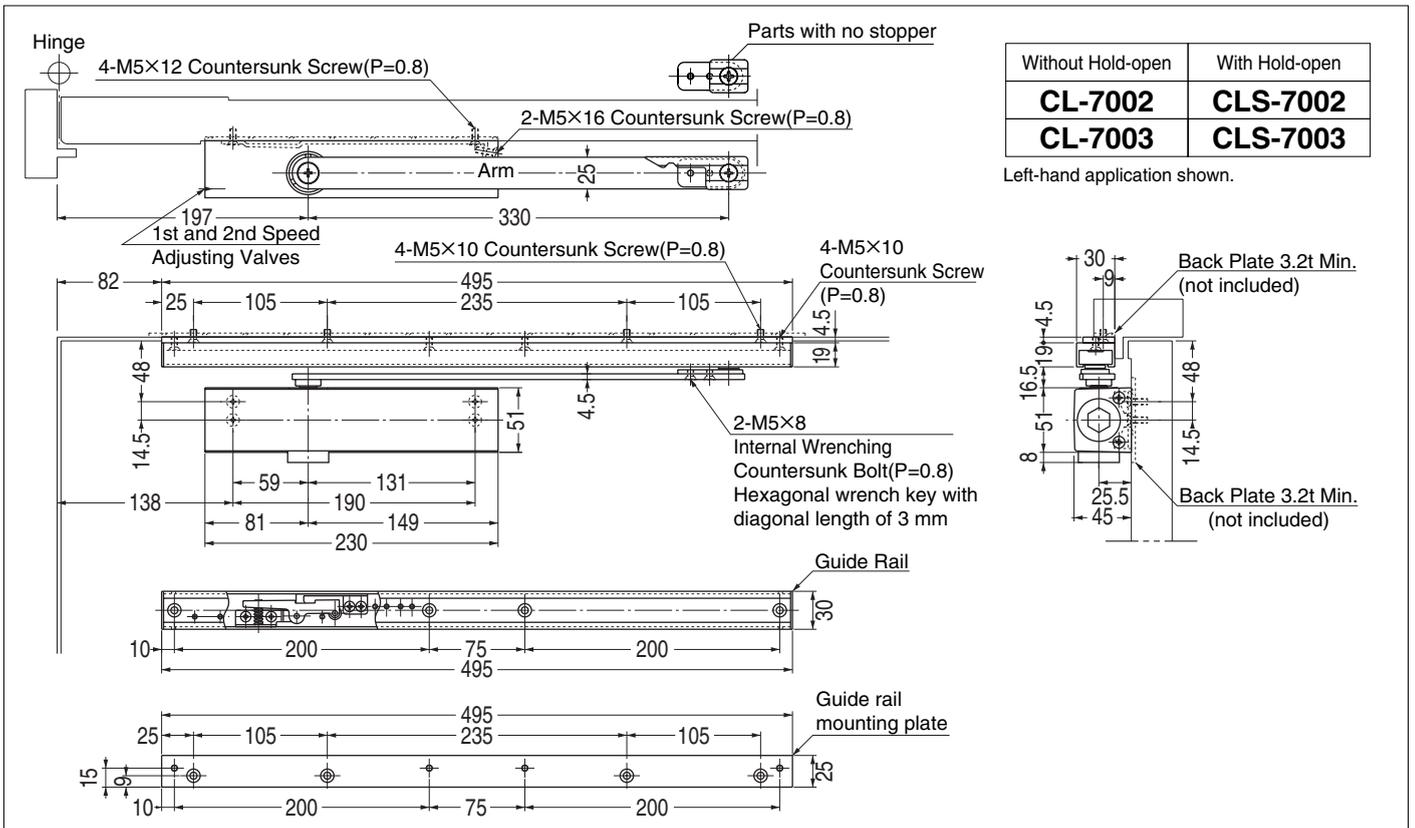
Adjustment of 1st and 2nd Speeds



- Applicable to a wide variety of doors including aluminum and lightweight steel doors.
- Guide rail type.
- An optional backcheck function is available to the control of quick door opening.
- An adjustable hold-open angle range from 85° to 100° (with the mounting position of the hold-open bracket changed).
- Simple inversion of the main body (turning upside-down) allows installation on both right and left hand doors.

Model Number		Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg	Maximum Door opening angle
Without Hold-open	With Hold-open			
CL-7002	CLS-7002	581~800×2100	45	100°
CL-7003	CLS-7003	801~950×2100	65	100°
* CL-7004	* CLS-7004	951~1050×2400	85	100°

(Note) * Export use model



Arm mounting method

The arm is mounted to the square hole at an angle of 22.5° as shown in Fig. 1, which provides the door with a pushing margin. Therefore, turn the arm approximately 23° to the hinge side of door with an adjustable wrench before inserting the arm into the Door Closer.

Hold-open angles: 85°, 90°, 95°, and 100°

Fig. 1

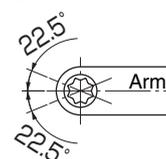
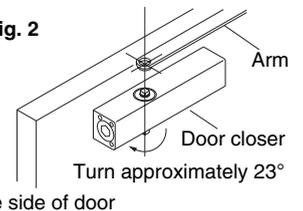


Fig. 2

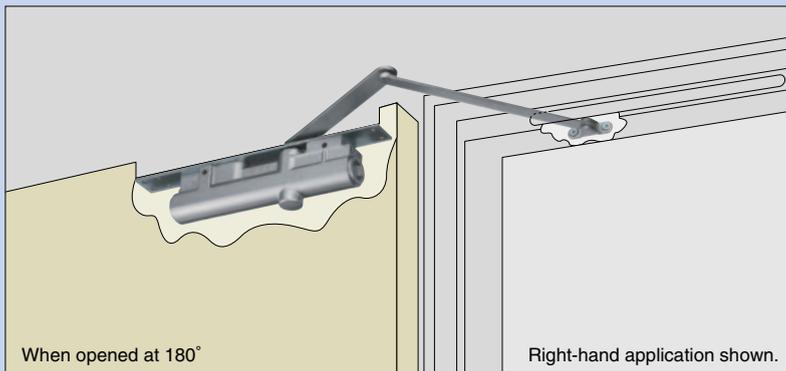
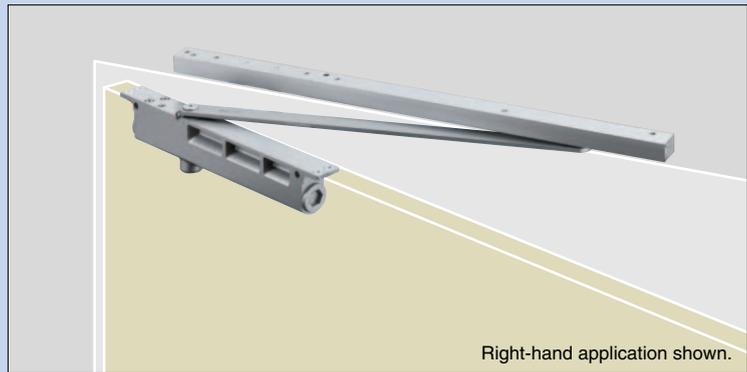


DOOR CLOSERS

Concealed Type

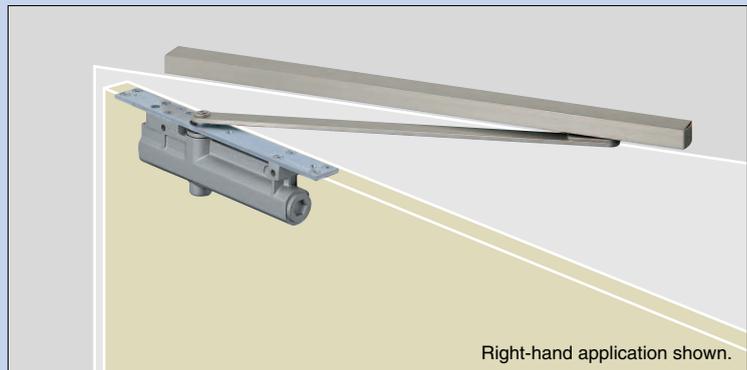
161 Series

(Closer 28 mm in size)



CTA

60 Series



Door Closing Speed Adjustment

Speed Adjusting Valves

Trouble-free adjusting of speeds by simply turning the speed adjusting valves to the right or left.

There is the right and left hand.

Model Number		Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg	Door opening angle	Latching Function	Backcheck Function
Without Hold-open	With Hold-open					
CL-1611	CLS-1611	800×1800	30	105°~180°	×	×
CL-1612	CLS-1612	900×2100	45		×	×
CTA-64	—	1050×2400	85	180°	○	×
* CL-62N	* CL-162N	900×2100	45	85°~95°	○	×
* CL-63N	* CL-163N	950×2100	65		○	×
* CL-64	* CL-164	1050×2400	85		×	×
CL-65	—	1200×2400	120	105°	○	○
CL-66	—	1800×2700	180	90°	○	○

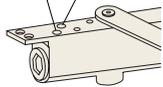
(Note) * Export use model

● When using on an exterior door, use a model for a door size one larger than the actual size of the door.

Adjustment of Closing and Latching Speeds

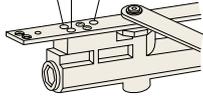
Use the provided tool (hexagonal wrench key) in the case of making adjustments.

1611 2nd Speed Adjusting Valve
1612 1st Speed Adjusting Valve

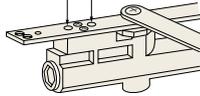


Hexagonal wrench key with diagonal length of 3 mm

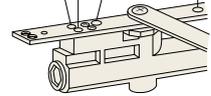
62N 2nd Speed Adjusting Valve
63N Latching Speed Adjusting Valve
 1st Speed Adjusting Valve



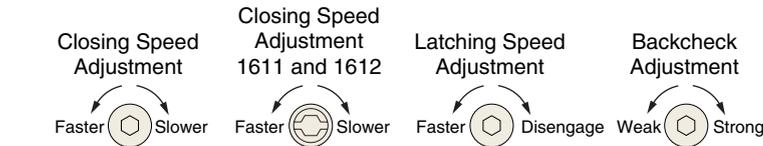
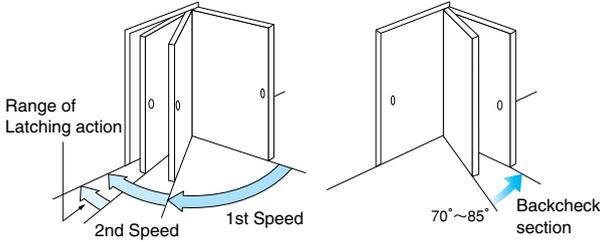
64 2nd Speed Adjusting Valve
 1st Speed Adjusting Valve



CTA-64 2nd Speed Adjusting Valve
 Latching Speed Adjusting Valve
 1st Speed Adjusting Valve
 Backcheck Adjusting Valve

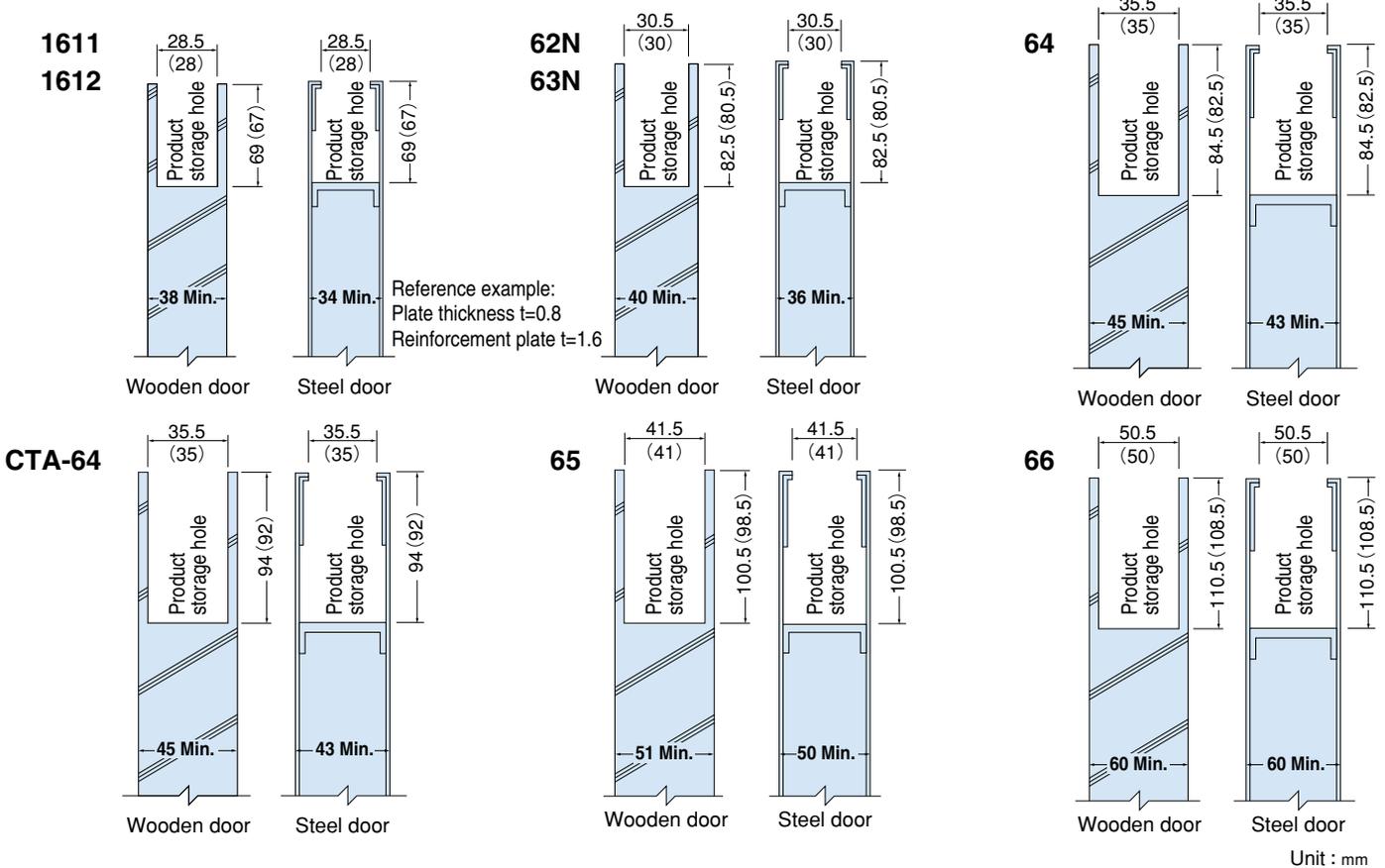


Hexagonal wrench key with diagonal length of 4 mm
 The backcheck of the CTA-64 does not function.



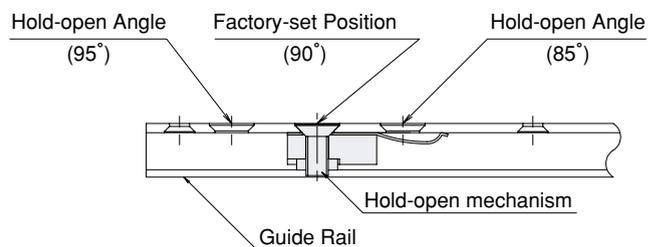
- * Backcheck start angle varies with the hanging hook and thickness of the door.
- A concealed type, the main part of which is inserted into the upper frame of the door.
- No metal parts are exposed when the door is closed, which will not spoil the outlook of the door.

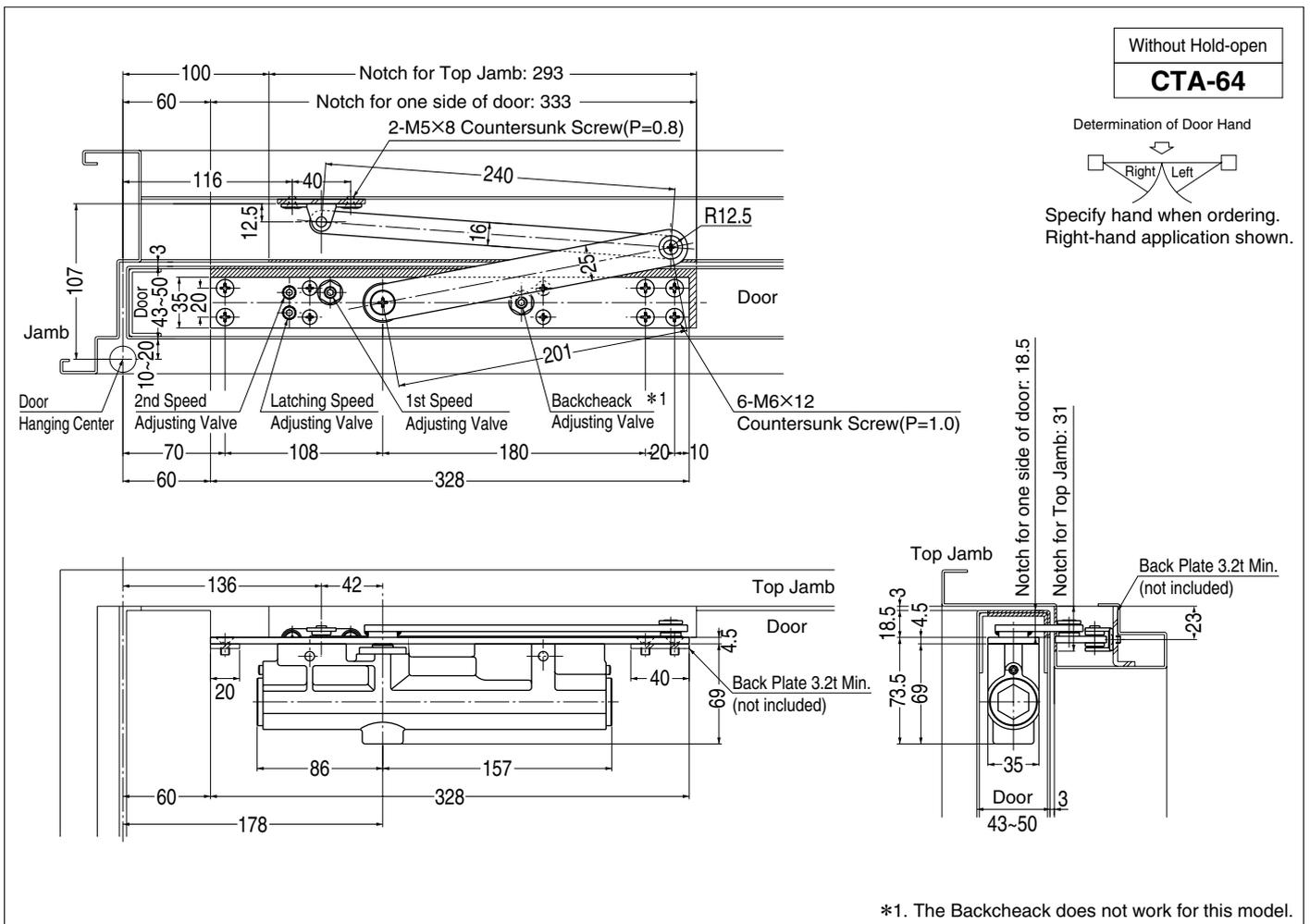
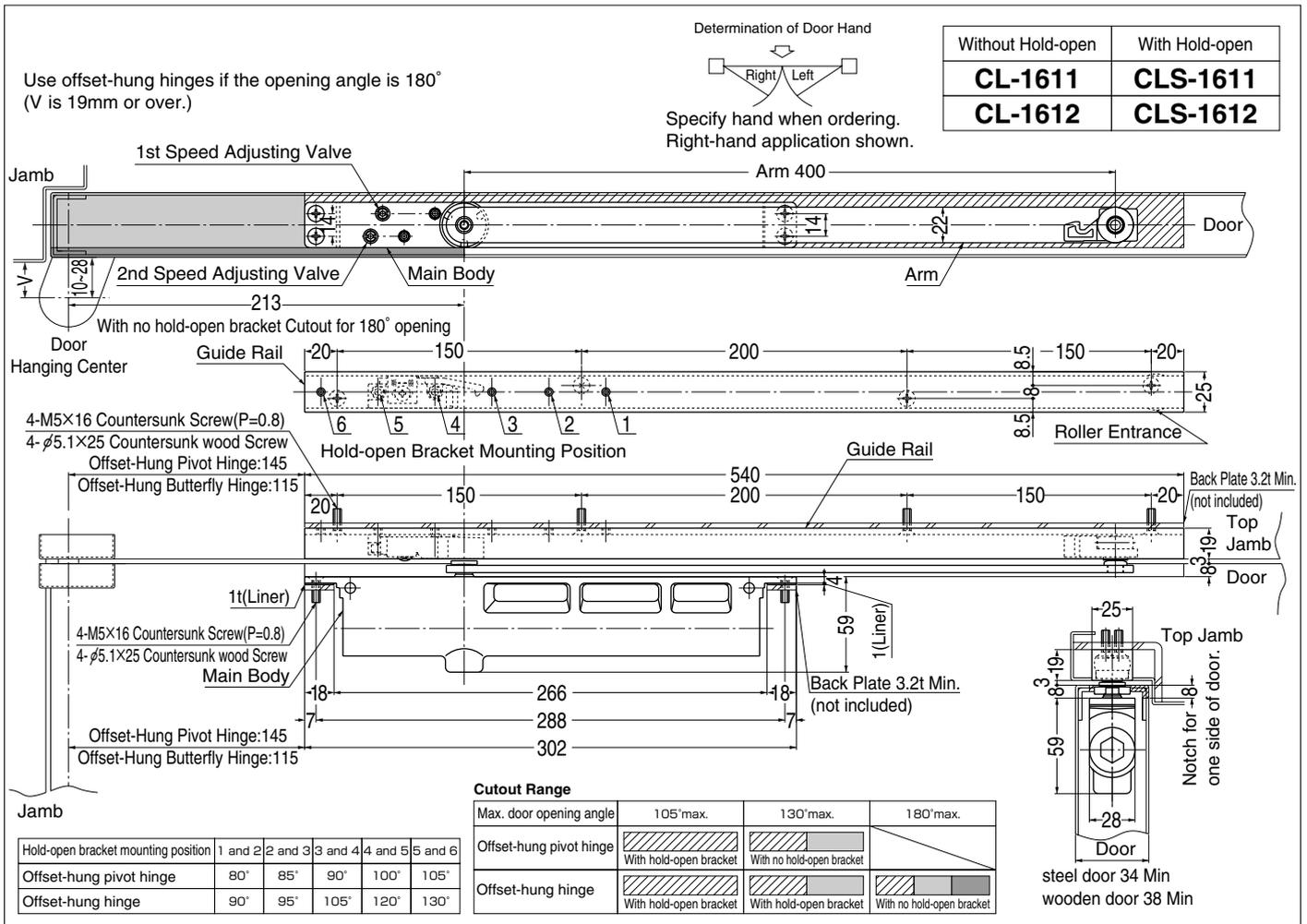
Minimum door thickness Values in parentheses are product dimensions

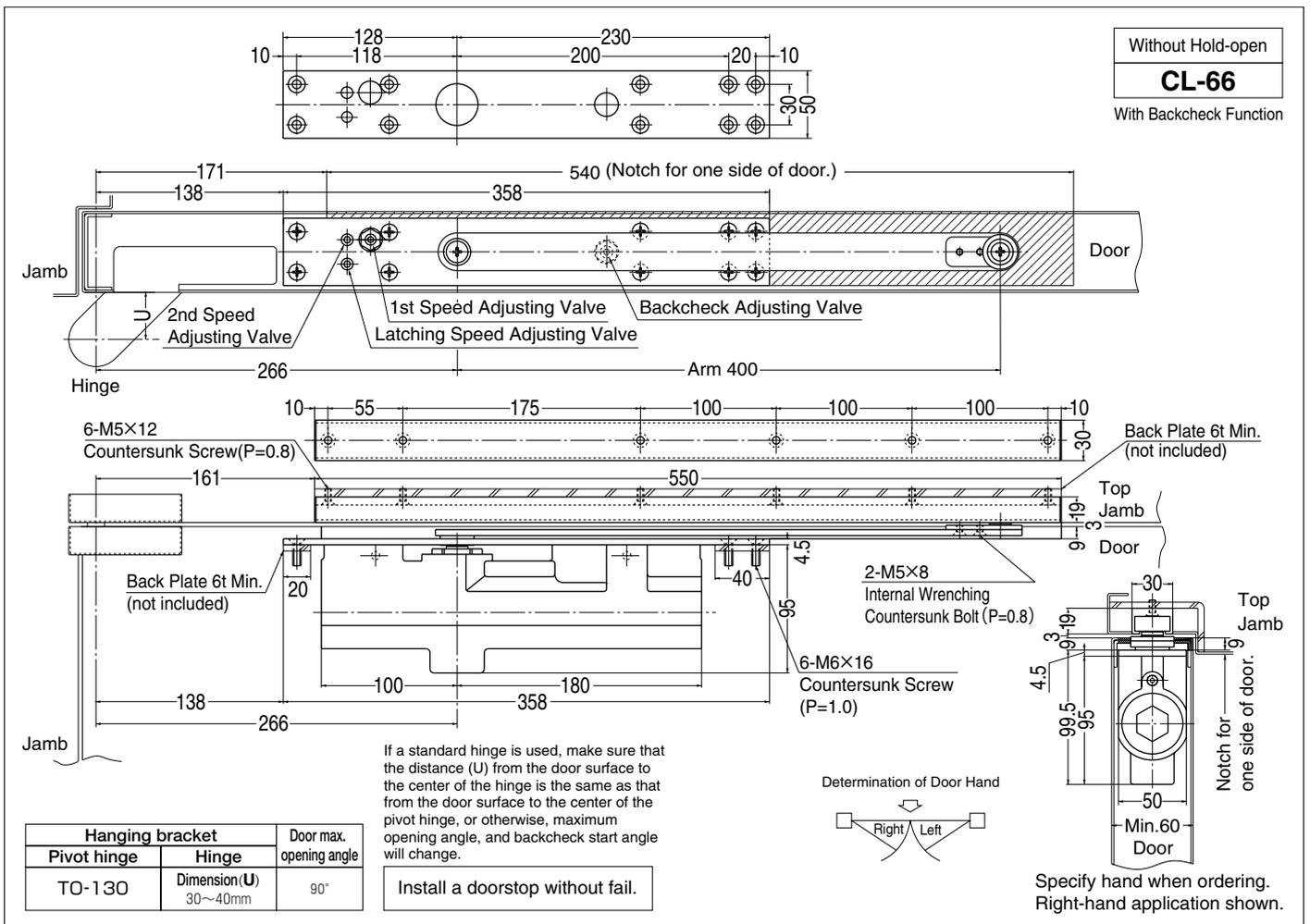
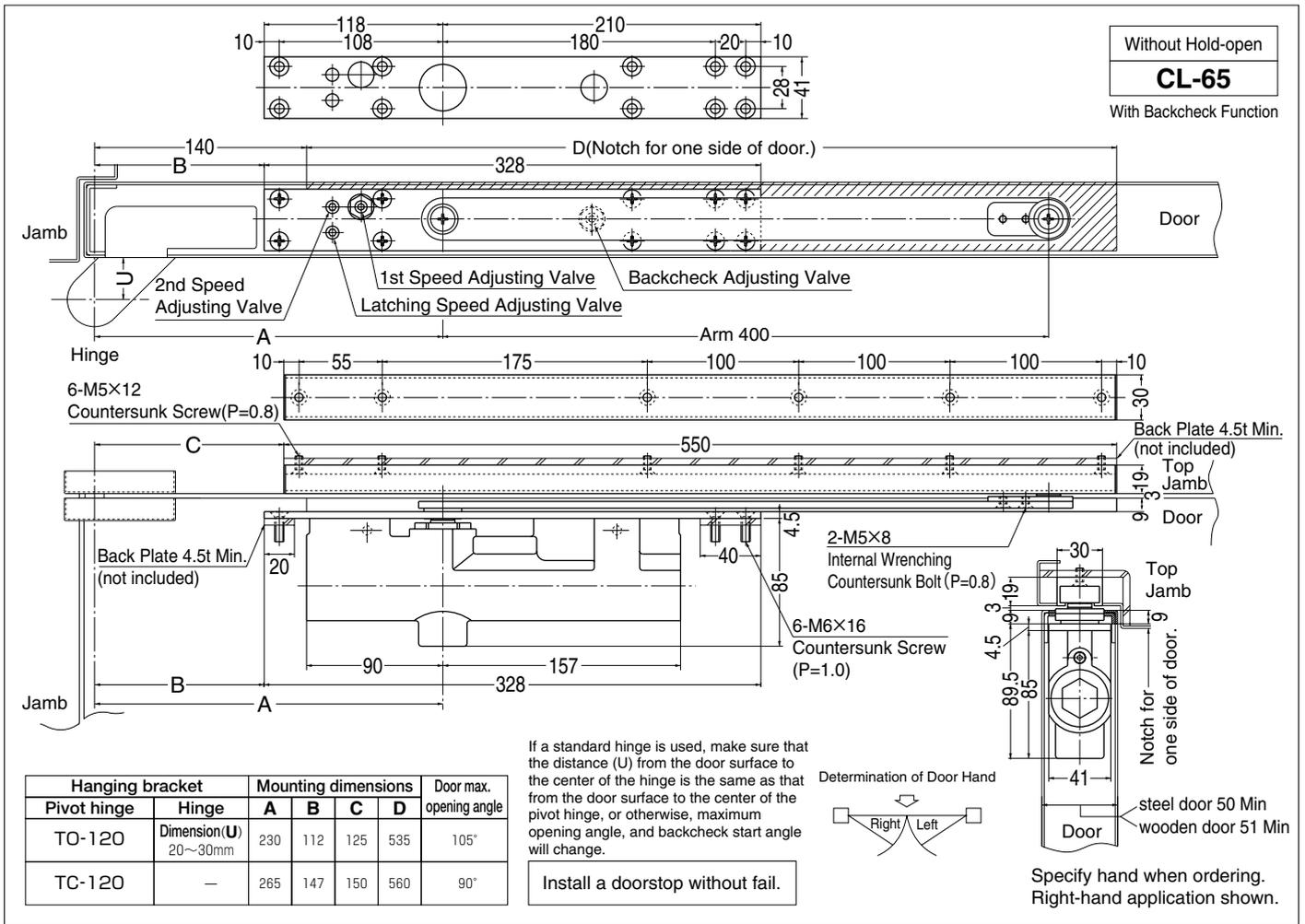


Hold-open Angle Adjustments (CL-162N, CL-163N, and CL-164) (For Export use model only)

Possible to make adjustments by changing the mounting position of the hold-open mechanism (hold-open spring).



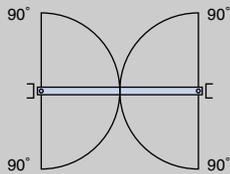
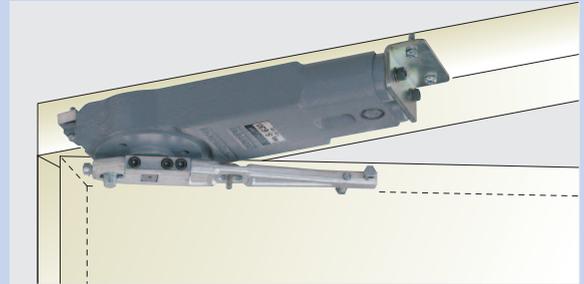
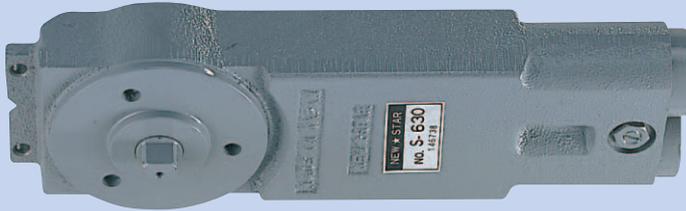




DOOR CLOSERS

600 Series

Concealed Overhead Type

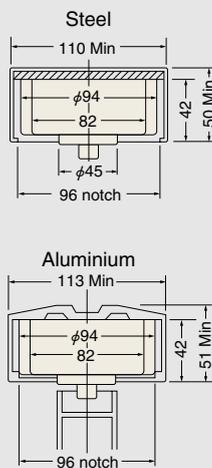


Center-hung
90° inward and outward opening
90° hold-open

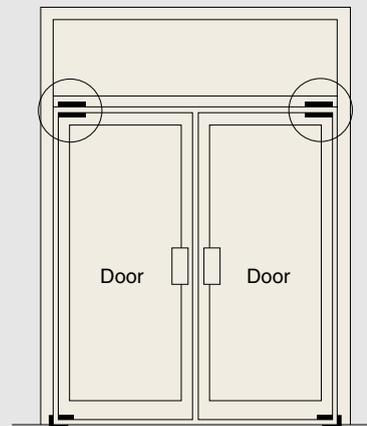
Door Closing Speed Adjustment

To adjust the closing speed, refer to the diagram below.

Closing Speed Adjusting Valve



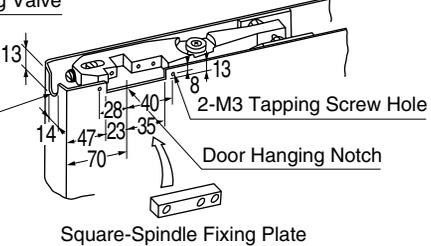
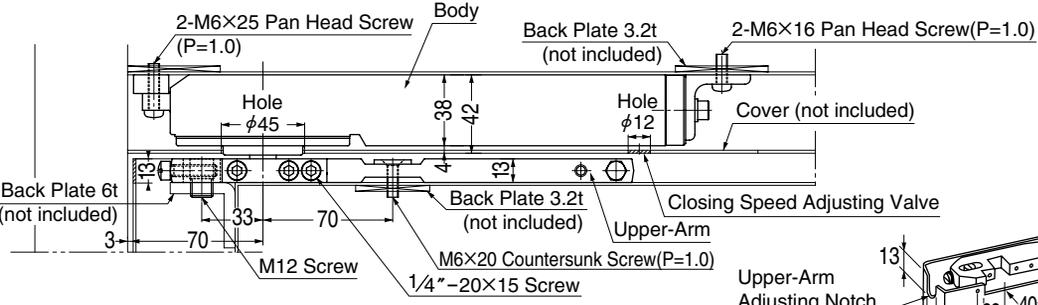
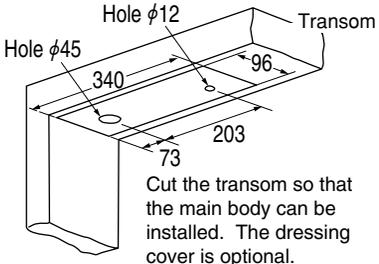
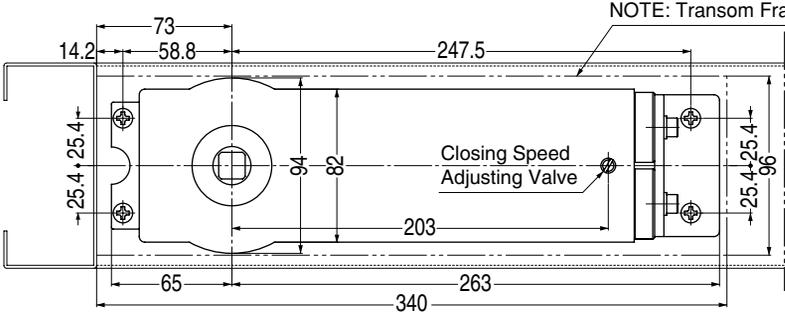
The diagrams on the left-hand side indicate typical measurements for steel and aluminium door frames.



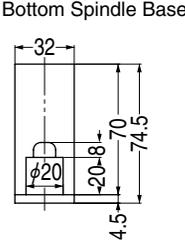
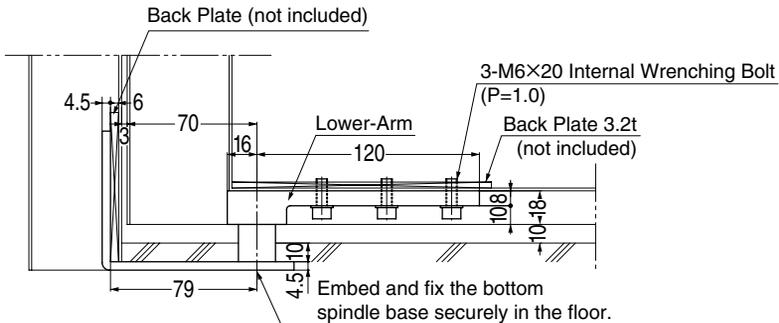
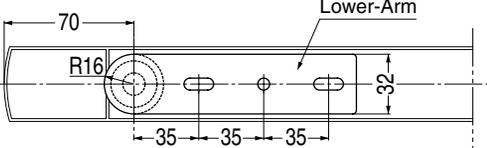
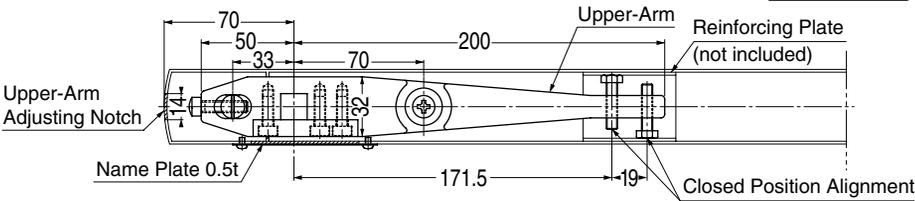
- A door closer mainly designed for aluminium sash fittings. (May also be installed on steel frames.)
- The closer body is installed in the transom and connects with the driving arm for opening and closing of the door.
- A simple bearing is sufficient for anchoring of the door to the floor.
- A check in advance is necessary to determine whether size of the transom is sufficient to accommodate the main body.

Model Number		Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Without Hold-open	With Hold-open		
630	S-630	950×2100	85
640	S-640	1050×2400	120

Without Hold-open	With Hold-open
630	S-630
640	S-640



When hanging the door, fasten the plate in the notch securely, and then cover it with the name plate.



FLOOR HINGES

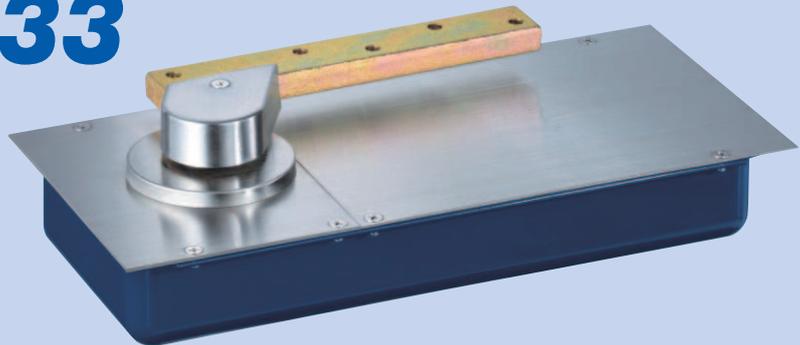
H-211ZI~233ZI

Center-Hung Floor Hinges
for Inward and Outward
Opening
(Export use model)

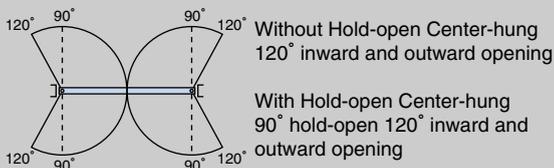


OH-211~233

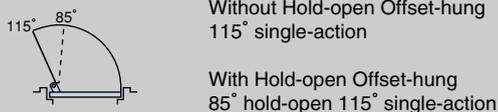
Offset-Hung Floor Hinges
for One-side Opening
(Export use model)



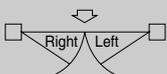
■ H-211ZI,222ZI,233ZI



■ OH-211,222,233



Determination of Door Hand



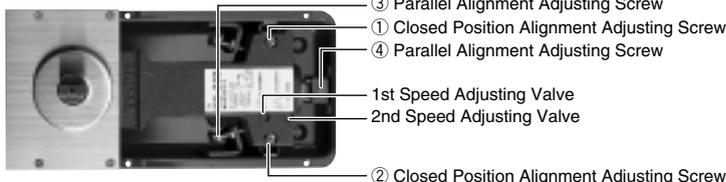
There is the right and left hand.
(for OH(S)-211~OH(S)-233 only)

- The thickness of these floor hinges has been further reduced for installation on a thin slab.
- Two-valve function allows easy closing speed adjustment.
- The inner structure of this hinge has been specially designed to ensure durable operation.

Model Number		Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Without Hold-open	With Hold-open		
H-211 ZI	HS-211 ZI	900×2100	70
H-222 ZI	HS-222 ZI	950×2100	105
H-233 ZI	HS-233 ZI	1050×2400	150
*OH-211	*OHS-211	900×2100	70
*OH-222	*OHS-222	950×2100	105
*OH-233	*OHS-233	1050×2400	150

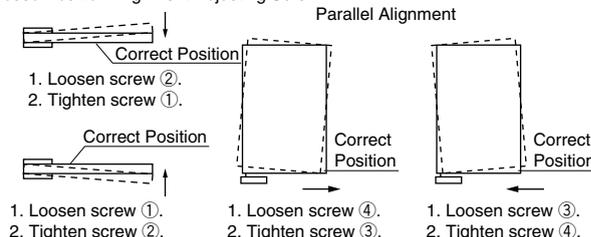
(Note) • Those models marked with asterisk (*) are handed.

Adjustment Procedure



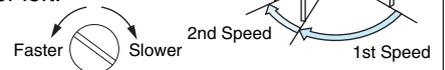
1. Closed Position Alignment

Loosen the parallel alignment adjusting screws ③ and ④. Then, proceed to adjust with closed position alignment adjusting screws ① and ②.



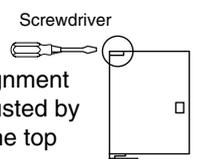
2. Closing Speed Adjustment

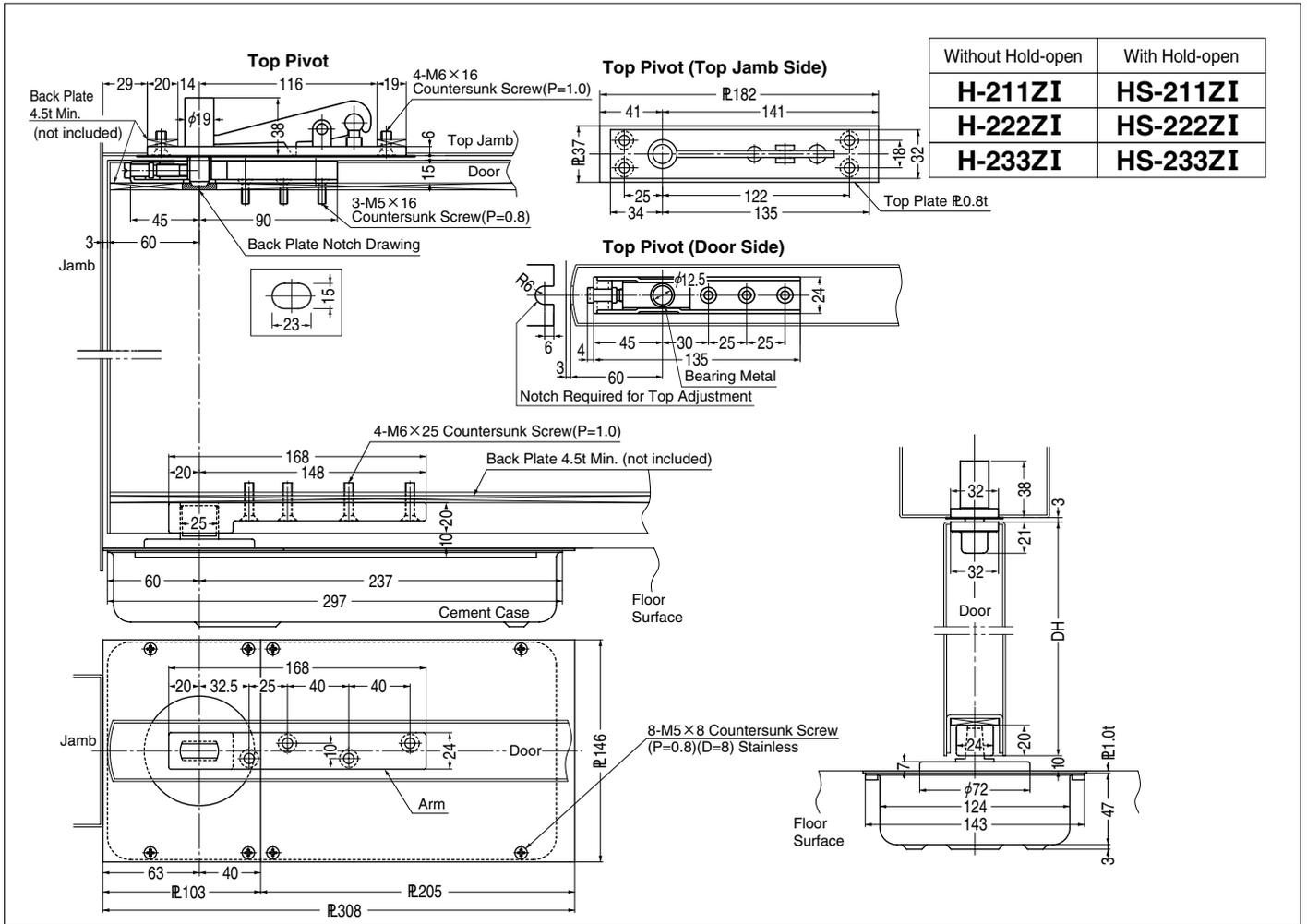
To adjust the closing speed, turn the closing speed adjusting valves to the right or left.



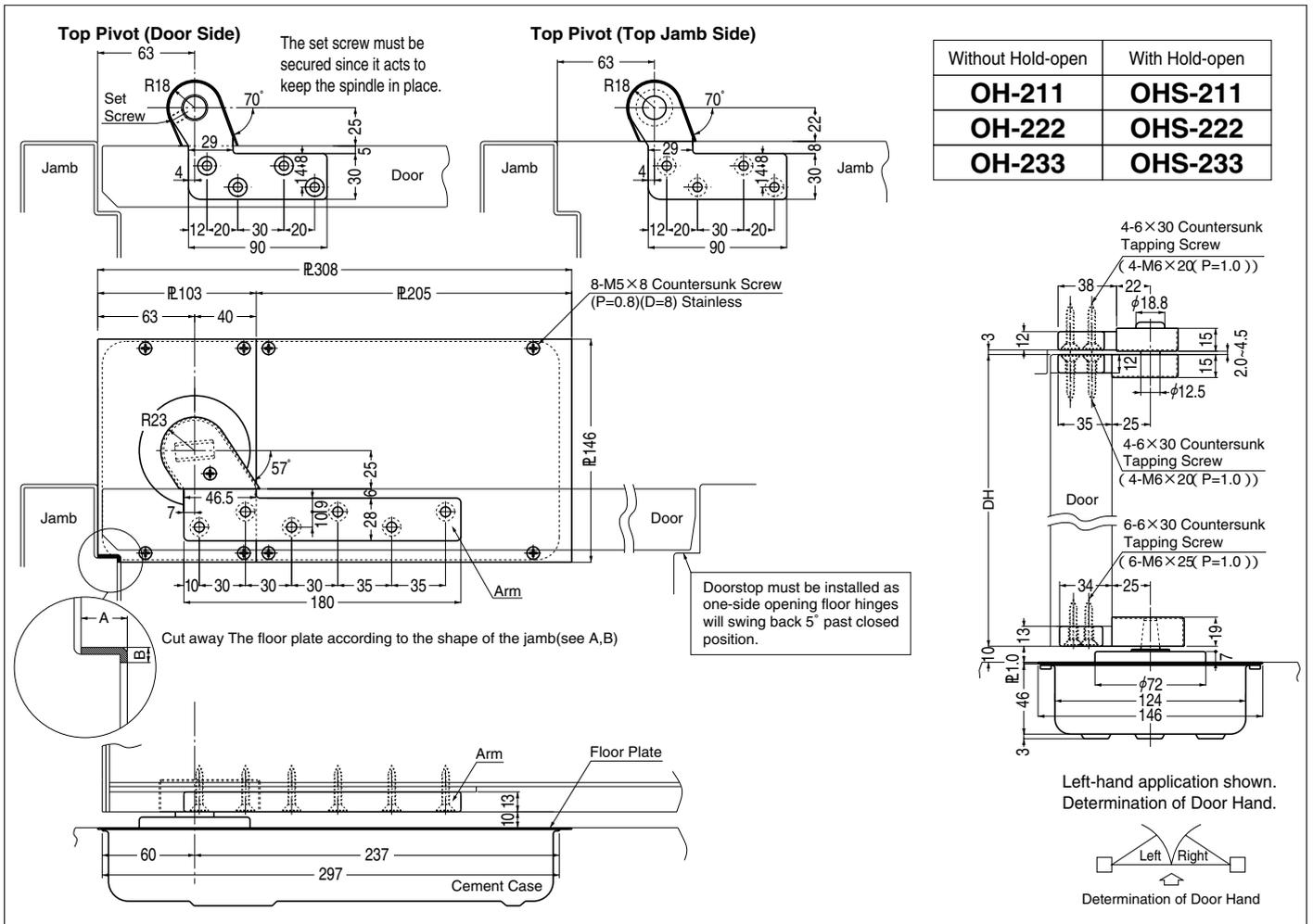
Note

Parallel alignment can be adjusted by means of the top pivot.





Without Hold-open	With Hold-open
H-211ZI	HS-211ZI
H-222ZI	HS-222ZI
H-233ZI	HS-233ZI

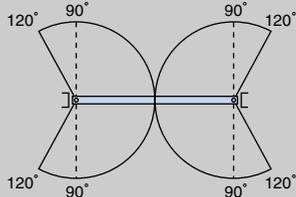
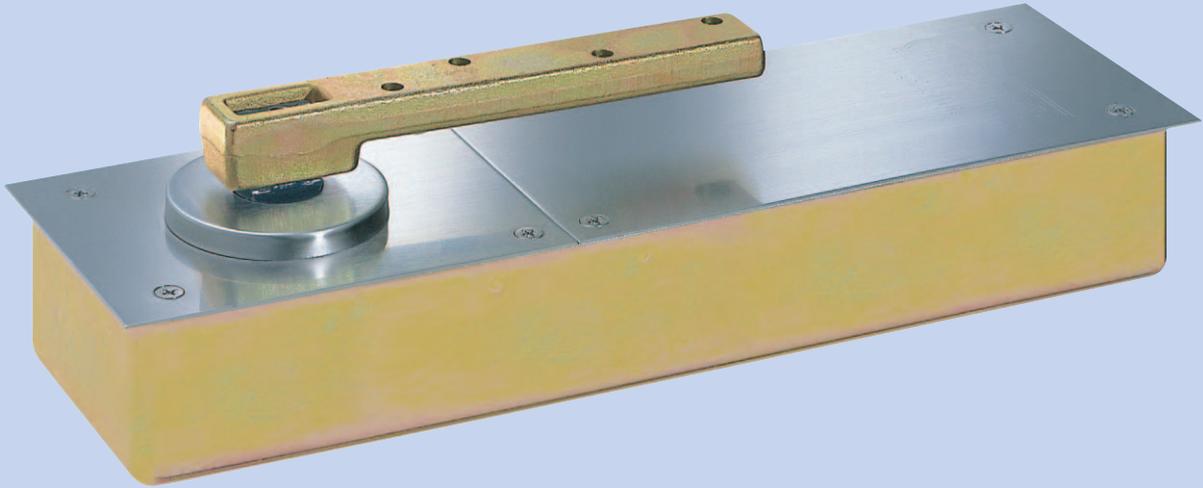


Without Hold-open	With Hold-open
OH-211	OHS-211
OH-222	OHS-222
OH-233	OHS-233

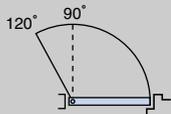
FLOOR HINGES

500 Series

Center-Hung Floor Hinges
for Inward and Outward Opening · One-side Opening

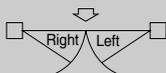


Center-hung
90° hold-open
120° inward and outward opening



Center-hung
90° hold-open 120° single-action
Right or Left hand

Determination of Door Hand



**There is the right and left hand.
(for H(S)-515, H(S)-525, H(S)-535 only)**

- A narrow type with 100mm in width: accommodated to a front narrow frame.
- The thickness of these floor hinges has been further reduced for installation on a thin slab.
- Two-valve function allows easy closing speed adjustment.
- Three-valve system for closing speed adjustment of single-action doors. Latching speed during the last two to three degrees of motion adjustable to assure closure. Ideal for airtight doors with electric locks, etc.
- Closing position of the door is adjustable after hanging by making a simple adjustment to the main body alone.
- Type ZI is also available, with which alignment can be adjusted by means of the top pivot.

Model Number				Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Double-action		Single-action			
Without Hold-open	With Hold-open	Without Hold-open	With Hold-open		
H-511	HS-511	* H-515	* HS-515	900×2100	70
H-522	HS-522	* H-525	* HS-525	950×2100	105
H-533	HS-533	* H-535	* HS-535	1050×2400	150
H-511 ZI	HS-511 ZI	* H-515 ZI	* HS-515 ZI	900×2100	70
H-522 ZI	HS-522 ZI	* H-525 ZI	* HS-525 ZI	950×2100	105
H-533 ZI(*)	HS-533 ZI(*)	* H-535 ZI(*)	* HS-535 ZI(*)	1050×2400	150

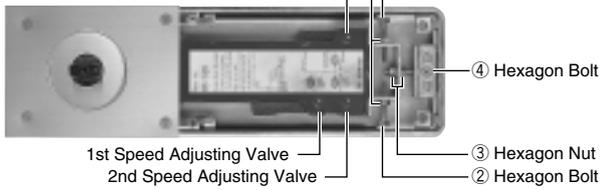
(Note) *Export use model.

• Those models marked with asterisk (*) are handed.

• Floor hinges for stone tile flooring, floor hinges for carpeted flooring, and aqua hinges are available as well.

Adjustment Procedure

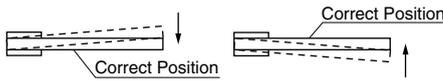
Latching Adjusting Valve (single-action only)



Note: Hexagon bolts and nuts have M5 threading.

1. Closed Position Alignment

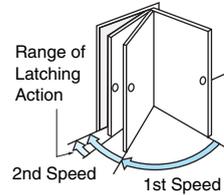
First slightly loosen hexagon bolt ④ then loosen hexagon nut ① and adjust using hexagon bolt ②. Tighten hexagon nuts and hexagon bolts after adjusting.



2. Closing Speed Adjustment

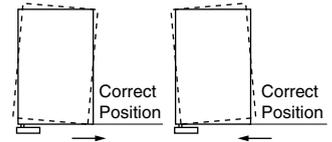


Latching Adjustment



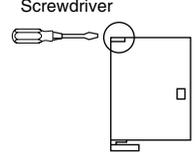
3. Door/Jamb Gap (Parallel Alignment) Adjustment (Door Width Direction Adjustment)

First slightly loosen hexagon nut ① and hexagon bolts ② then adjust using hexagon nut ③. Tighten hexagon nuts and hexagon bolts after adjusting.

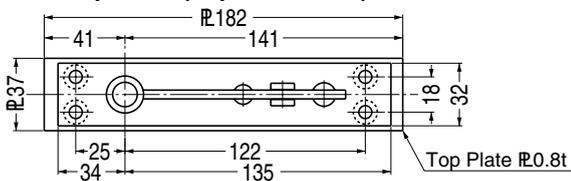


Note

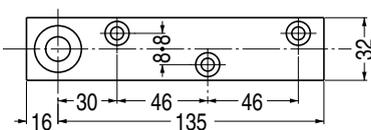
When a Type Z Pivot is used, parallel alignment can be adjusted by means of the top pivot.



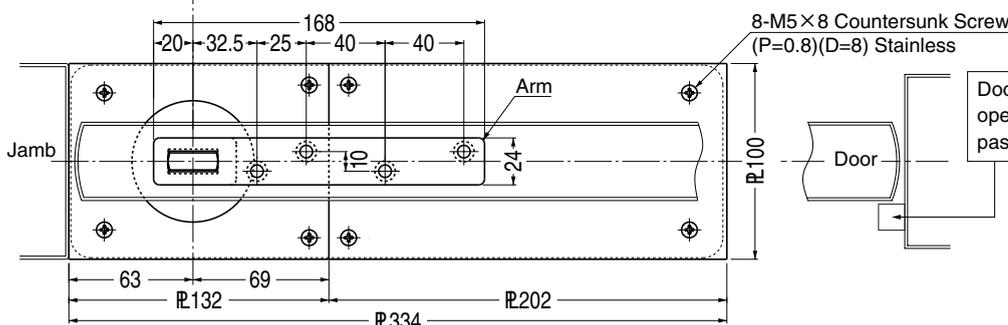
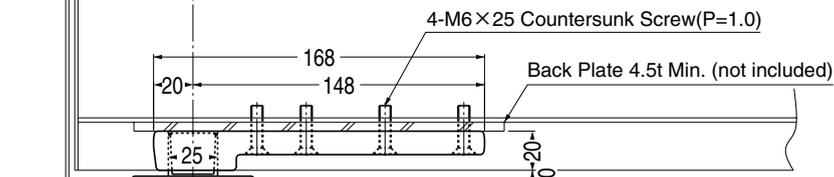
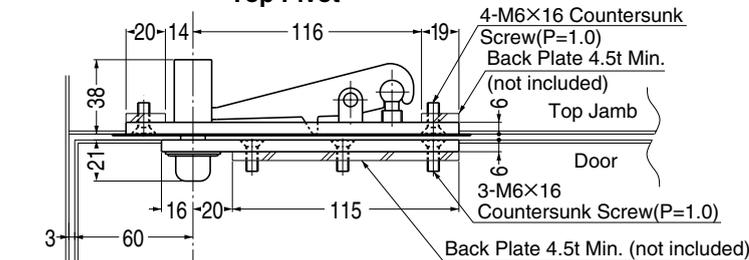
Top Pivot (Top Jamb Side)



Top Pivot (Door Side)

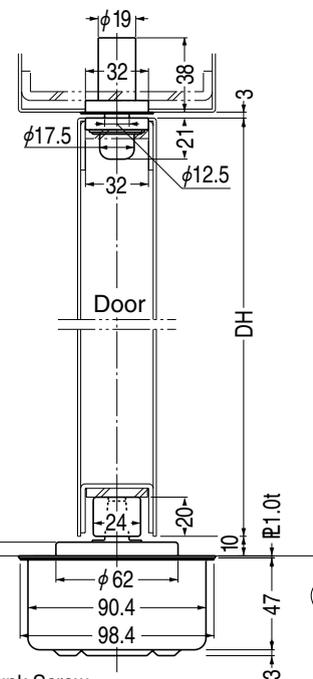


Top Pivot



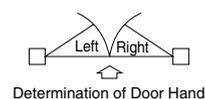
Without Hold-open	With Hold-open
H-511(ZI)	HS-511(ZI)
H-522(ZI)	HS-522(ZI)
H-533(ZI)	HS-533(ZI)
H-515(ZI)	HS-515(ZI)
H-525(ZI)	HS-525(ZI)
H-535(ZI)	HS-535(ZI)

Refer to page 50 for the Type Z Top Pivot.



Doorstop must be installed as one-side opening floor hinges will swing back 5° past closed position.

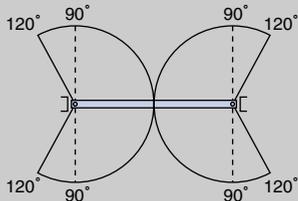
Specify hand when ordering. Left-hand application shown.



FLOOR HINGES

H-1300, 1400

Center-Hung Floor Hinges for Inward and Outward Opening



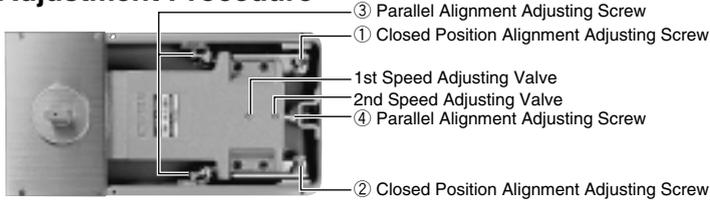
Center-hung
90° hold-open
120° inward and outward opening

- The thickness of this thin model has been further reduced for installation on a thin slab.
- Alignment of the door is adjustable after hanging by making a simple adjustment to the main body alone.
- Two-valve function allows easy closing speed adjustment.
- Type Z is also available, with which alignment can be adjusted by means of the top pivot.

Model Number		Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Without Hold-open	With Hold-open		
H-1300	HS-1300	950×2100	110
H-1400	HS-1400	1050×2400	185
H-1300 Z II	HS-1300 Z II	950×2100	110
H-1400 Z II	HS-1400 Z II	1050×2400	185

(Note) •US type floor hinges, floor hinges for stone tile flooring, floor hinges for carpeted flooring, and aqua hinges are available as well.

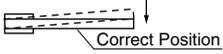
Adjustment Procedure



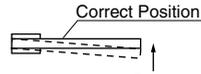
*An M8 each is used for ①, ②, and ④, and an M6 is used for ③.
The H(S)-1300·H(S)-1400 and the A-1300·A-1400 are different in cement casing.

1. Closed Position Alignment

Loosen the parallel alignment adjusting screws ③ and ④. Then, proceed to adjust with closed position alignment adjusting screws ① and ②.

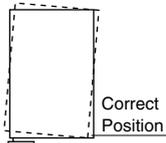


1. Loosen screw ②.
2. Tighten screw ①.

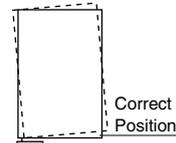


1. Loosen screw ①.
2. Tighten screw ②.

Parallel Alignment



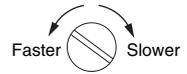
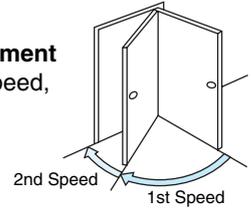
1. Loosen screw ④.
2. Tighten screw ③.



1. Loosen screw ③.
2. Tighten screw ④.

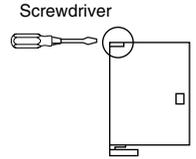
2. Closing Speed Adjustment

To adjust the closing speed, turn the closing speed adjusting valves to the right or left.

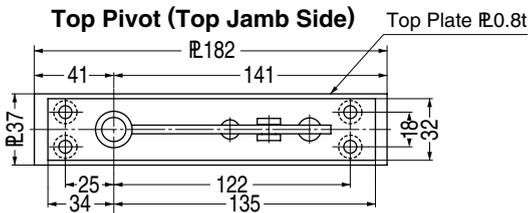


Note

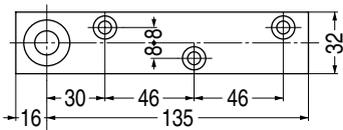
When a Type Z Pivot is used, parallel alignment can be adjusted by means of the top pivot.



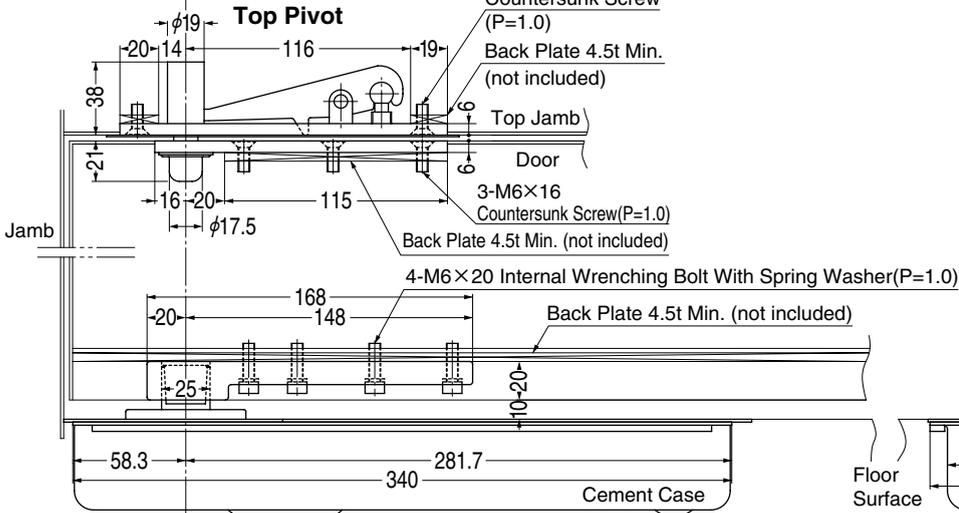
Top Pivot (Top Jamb Side)



Top Pivot (Door Side)

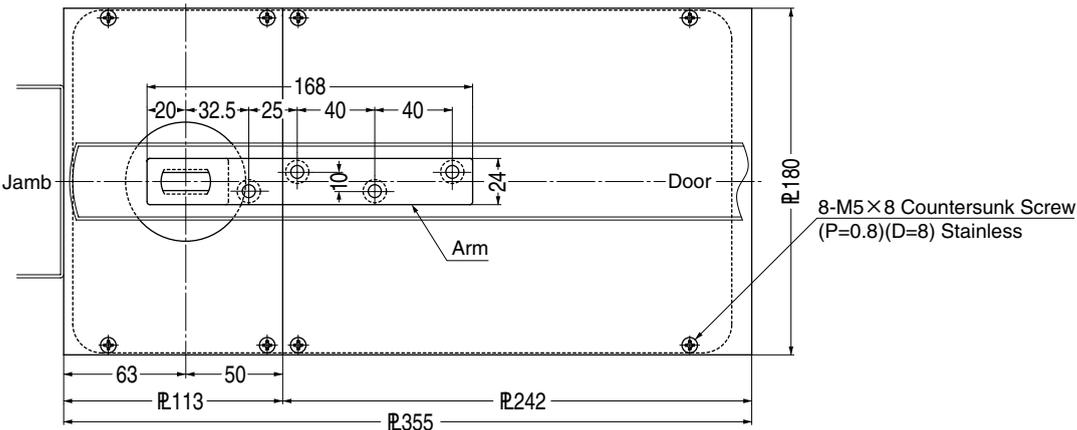
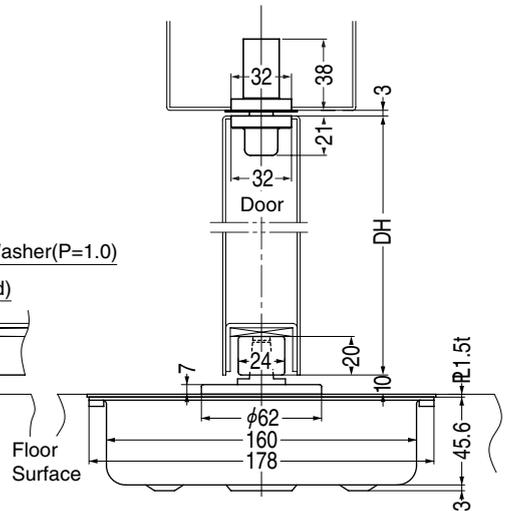


Top Pivot



Without Hold-open	With Hold-open
H-1300(Z II)	HS-1300(Z II)
H-1400(Z II)	HS-1400(Z II)

Refer to page 50 for the Type Z Top Pivot.

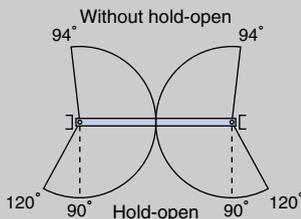
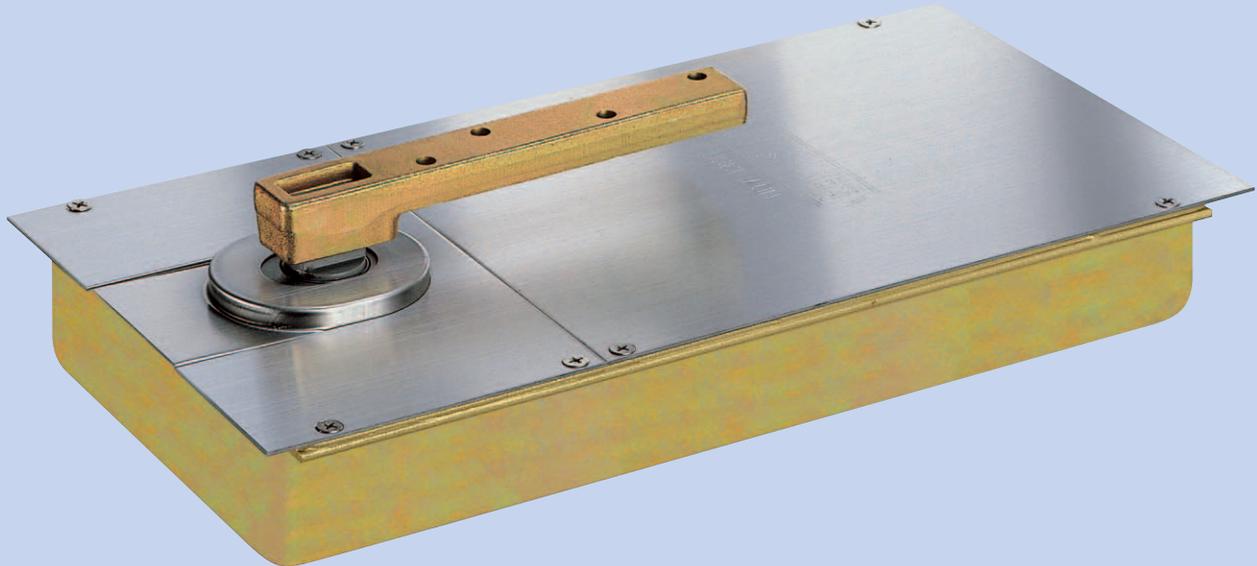


FLOOR HINGES

Patent No. 2695139

A-1300~1600

On/Off Selectable Hold-open
Center-Hung Floor Hinges for Inward and Outward Opening



On/Off Selectable 90° Hold-open
Without hold-open
94° inward and outward opening
Hold-open
90° hold-open
120° inward and outward opening

Note: The door-opening angle varies by selecting or unselecting the stop.

- The thickness of this thin model has been further reduced for installation on a thin slab.
- Alignment of the door is adjustable after hanging by making a simple adjustment to the main body alone.
- Two-valve function allows easy closing speed adjustment.
- On/Off Selectable Hold-open
Even after the door has been hung, exchanging the hold-open device can be made easily using a screwdriver only.
- Shipped with hold-open selected as factory preset.
- Type Z is also available, with which alignment can be adjusted by means of the top pivot.

Model Number		Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Without Hold-open	With Hold-open		
	A-1300	950×2100	110
	A-1400	1050×2400	185
	A-1500	1400×2400	240
	A-1600	1800×2700	280
	A-1300 Z II	950×2100	110
	A-1400 Z II	1050×2400	185
	A-1500 Z III	1400×2400	240

(Note) • Floor hinges for stone tile flooring, floor hinges for carpeted flooring, and aqua hinges are available as well.

Adjustment Procedure

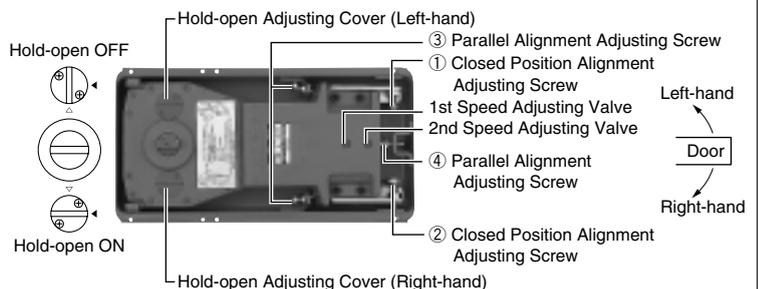
1. Selection of On/Off Selectable Hold-open Settings

Note: Make adjustments with door in closed position.

1. Remove the two Phillips-head screws on the hold-open cover and rotate the cover so that the groove aligns with the mark to activate or the mark to deactivate the hold-open.
2. Retighten the two Phillips-head screws after making the necessary adjustments.

IMPORTANT!

Adjustments made with door in open position will disable switching and may cause damage to the hinge.



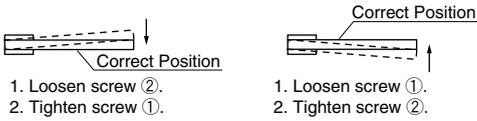
*An M8 each is used for ①, ②, and ④, and an M6 is used for ③.

The H(S)-1300·H(S)-1400 and the A-1300·A-1400 are different in cement casing.

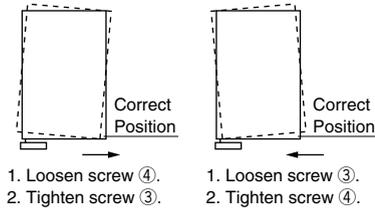
Adjustment Procedure

2. Closed Position Alignment

Loosen the parallel alignment adjusting screws ③ and ④. Then, proceed to adjust with closed position alignment adjusting screws ① and ②.

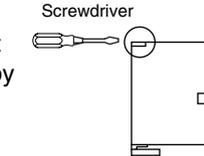


Parallel Alignment



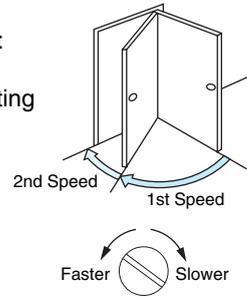
Note

When a Type Z Pivot is used, parallel alignment can be adjusted by means of the top pivot.

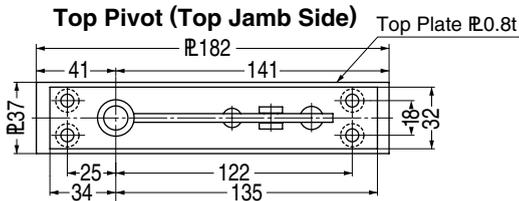


3. Closing Speed Adjustment

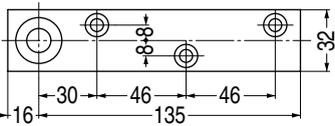
To adjust the closing speed, turn the closing speed adjusting valves to the right or left.



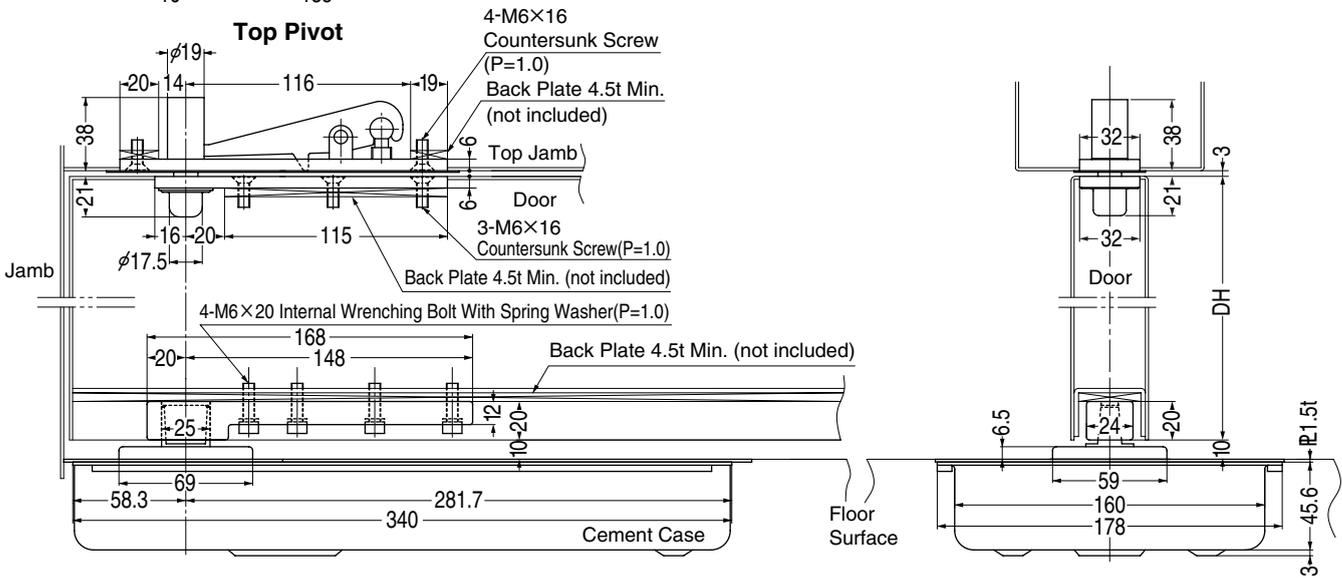
Top Pivot (Top Jamb Side)



Top Pivot (Door Side)



Top Pivot



Without Hold-open	With Hold-open
-------------------	----------------

A-1300(Z II)

A-1400(Z II)

Refer to page 50 for the Type Z Top Pivot.

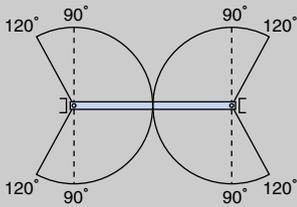
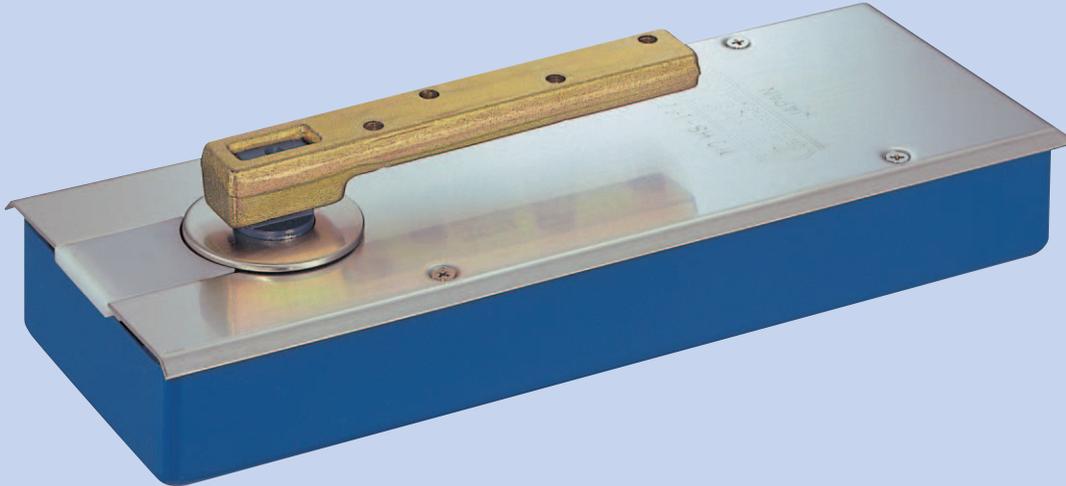
Floor Surface

8-M5x8 Countersunk Screw (P=0.8)(D=8) Stainless

FLOOR HINGES

1600 Series

Center-Hung Floor Hinges for Inward and Outward Opening
(Export use model)

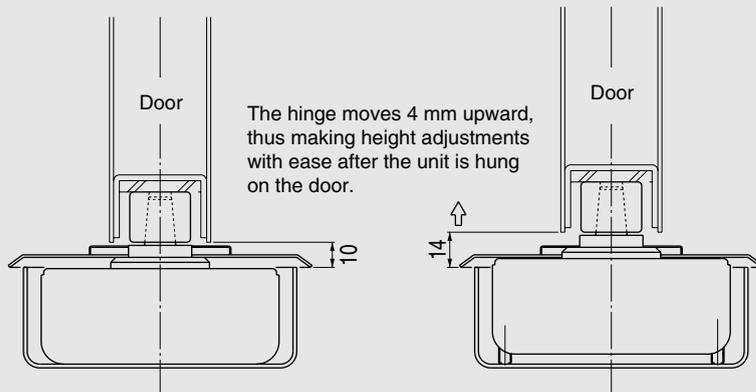


Center-hung
90° hold-open
120° inward and outward opening

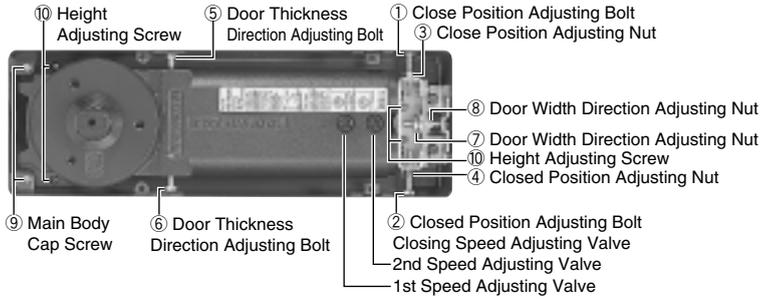
- For steel, aluminum and glass door.
- The thinnest design with 39.5mm in depth.
- Two-valve function allows easy closing speed adjustment.

Model Number		Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Without Hold-open	With Hold-open		
H-1610 ZI	HS-1610 ZI	900×2100	70
H-1620 ZI	HS-1620 ZI	950×2100	105
H-1630 ZI	HS-1630 ZI	1050×2400	150

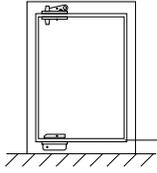
Height Adjustment



Adjustment Procedure



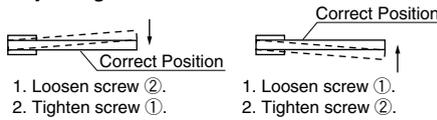
1. Adjustment of Door Height



The range of height adjustment goes to 4mm

2. Closed Position Alignment

Loosen the parallel alignment adjusting nuts ③ and ④. Then, proceed to adjust with closed position alignment adjusting bolts ① and ②.

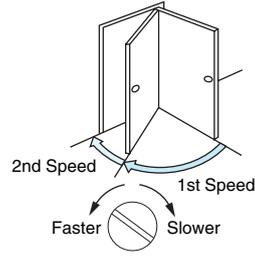


1. Loosen screw ②.
2. Tighten screw ①.

1. Loosen screw ①.
2. Tighten screw ②.

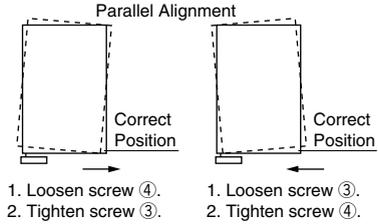
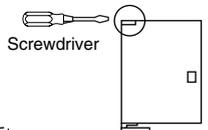
3. Closing Speed Adjustment

To adjust the closing speed, turn the closing speed adjusting valves to the right or left.



Note

Parallel alignment can be adjusted by means of the top pivot.

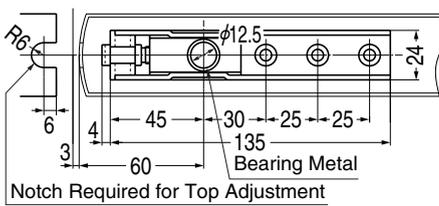


1. Loosen screw ④.
2. Tighten screw ③.

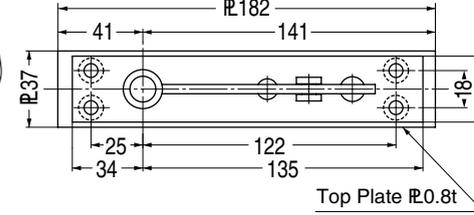
1. Loosen screw ③.
2. Tighten screw ④.

Top Pivot (Top Jamb Side)

Top Pivot (Door Side)



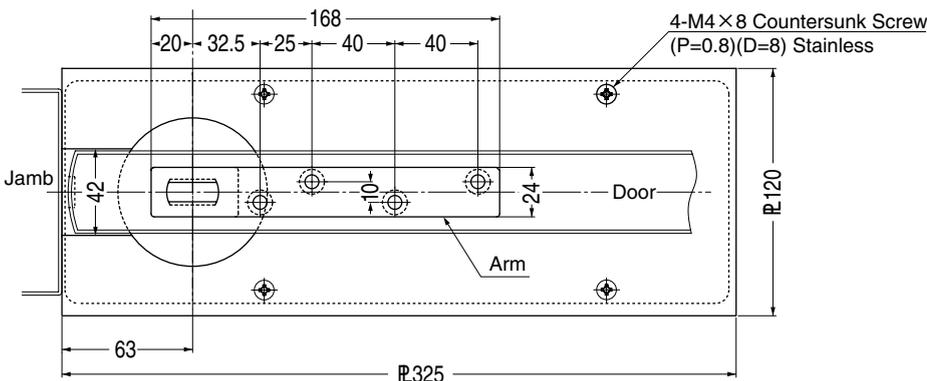
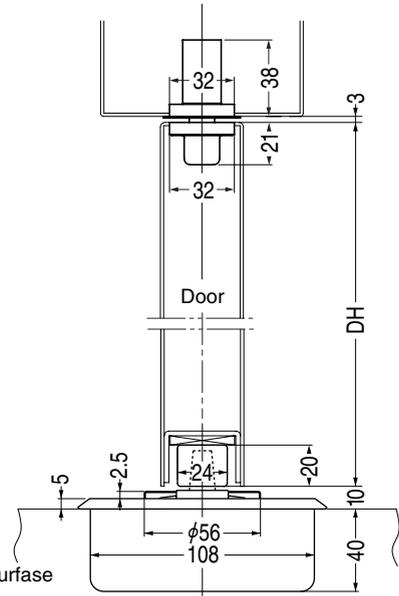
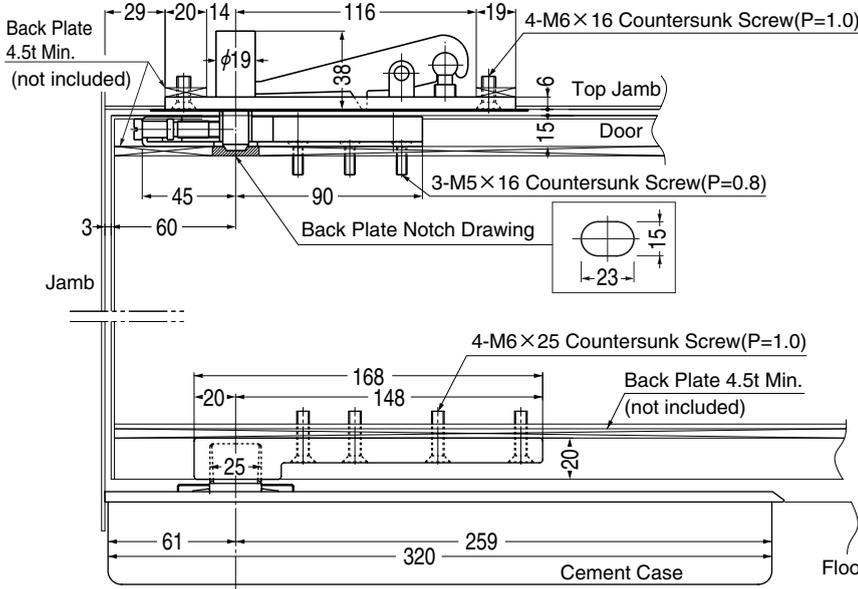
Notch Required for Top Adjustment



Without Hold-open	With Hold-open
H-1610ZI	HS-1610ZI
H-1620ZI	HS-1620ZI
H-1630ZI	HS-1630ZI

Refer to page 50 for the Type Z Top Pivot.

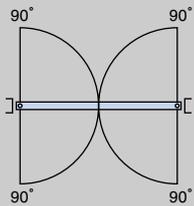
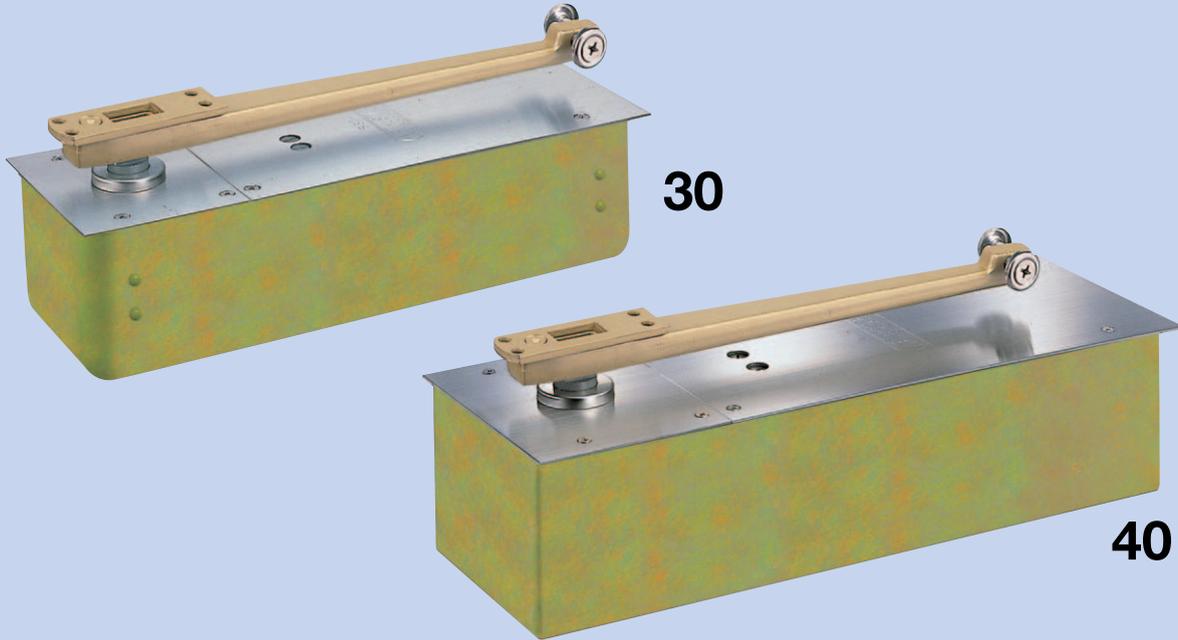
Top Pivot



FLOOR HINGES

30, 40

Center-Hung Floor Hinges for Inward and Outward Opening



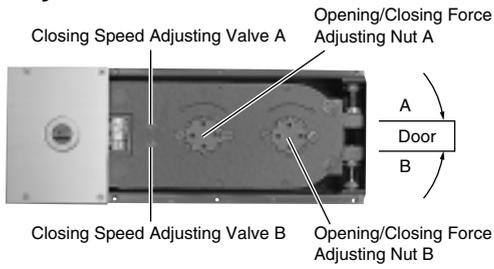
Center-hung
90° hold-open
90° inward and outward opening

- A floor hinge with a large and solid body.
- Mainly for exterior doors.
- Adjustment of the closing speed and opening/closing force against wind pressure can be made separately for inward and outward opening after hanging the door.
- Type Z is also available, with which alignment can be adjusted by means of the top pivot.

Model Number		Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Without Hold-open	With Hold-open		
30	S-30	950×2100	110
40	S-40	1050×2400	185
30 Z II	S-30 Z II	950×2100	110
40 Z II	S-40 Z II	1050×2400	185

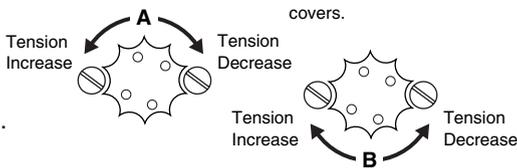
(Note) • Floor hinges for stone tile flooring, and aqua hinges are available as well.

Adjustment Procedure



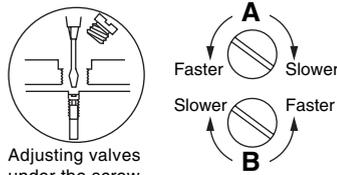
1. Opening/Closing Force Adjustment

To adjust the spring tension, turn the opening/closing force adjusting nuts in the direction of the arrows.



2. Closing Speed Adjustment

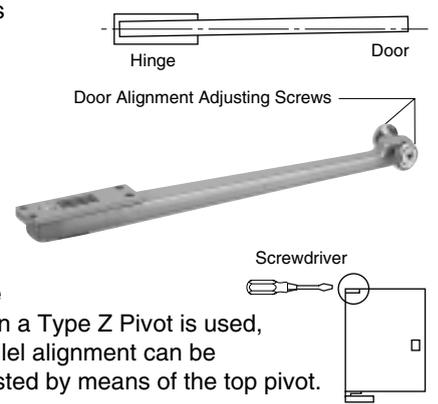
To adjust the closing speed, first remove the screw covers, then turn the closing speed adjusting valves to the right or left.



Adjusting valves under the screw covers.

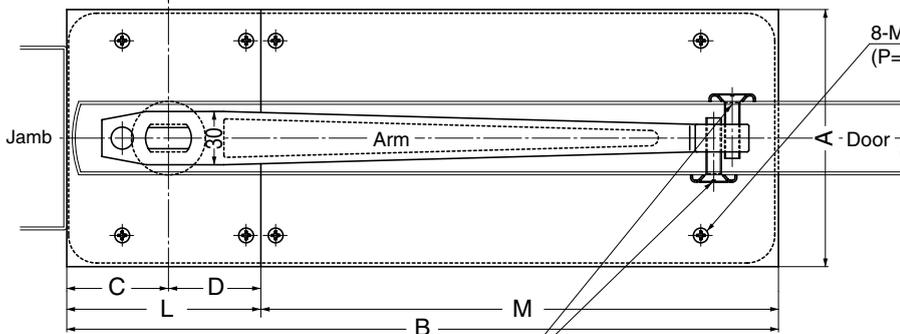
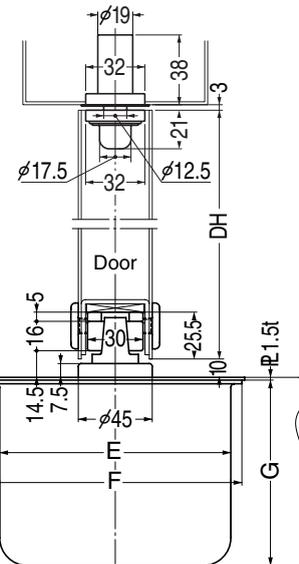
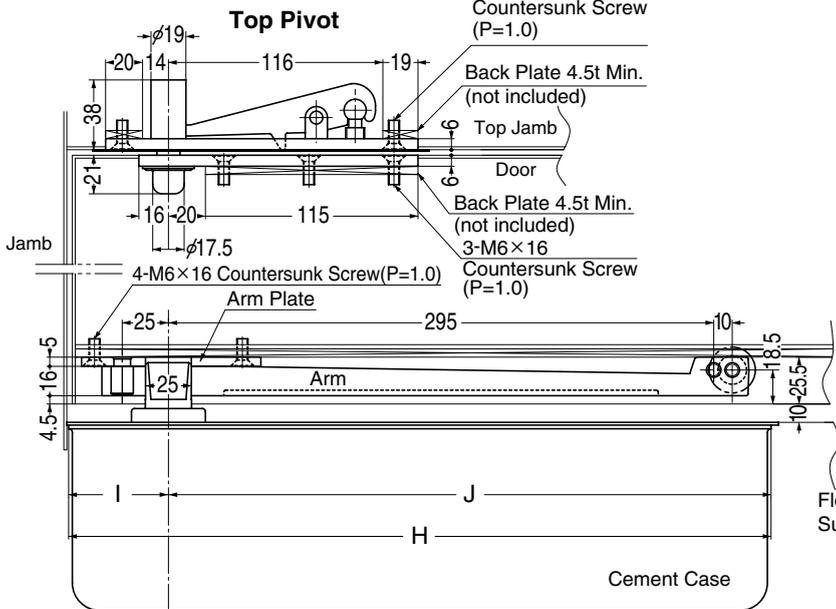
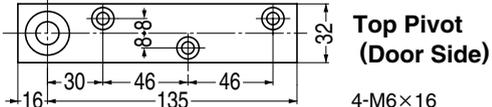
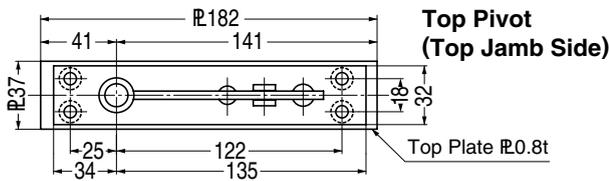
3. Door Alignment Adjustment

To adjust alignment, turn the alignment adjusting screws.



Note

When a Type Z Pivot is used, parallel alignment can be adjusted by means of the top pivot.



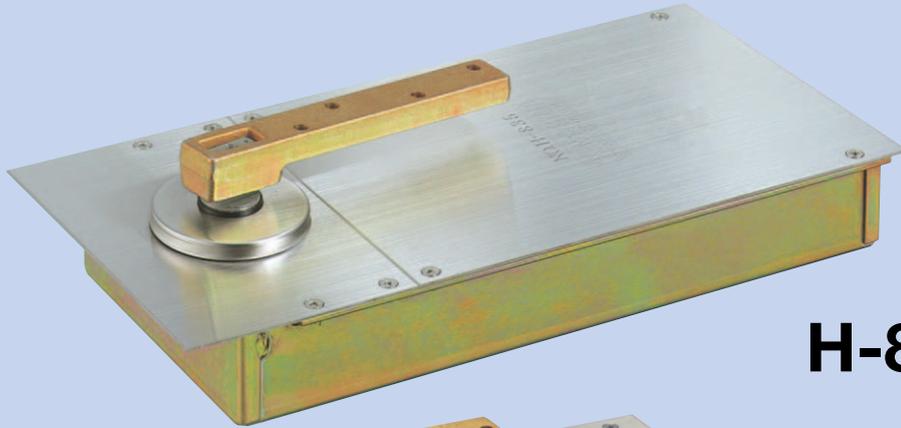
Closed Position Alignment Screws

When the door is over 45mm thick, state actual dimension since longer adjusting screws will be required.

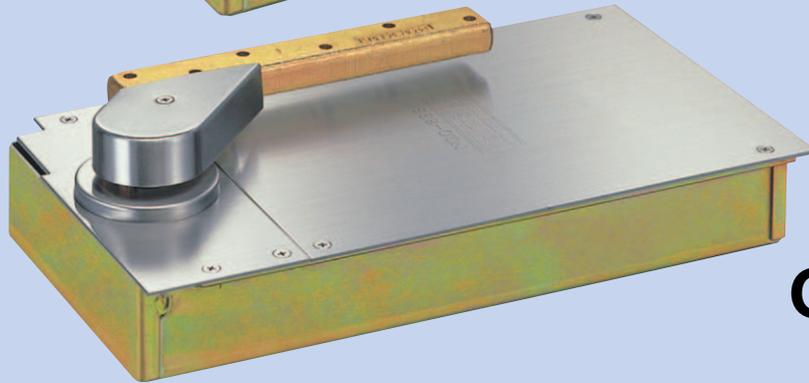
Article	Sign	A	B	C	D	E	F	G	H	I	J	L	M
		30	140	385	55	50	125	137	101	380	54	326	105
S-30													
40		160	435	61	59	145	105	423	60	363	120	315	
S-40													

800 Series

Center-Hung · Offset-Hung Floor Hinges for One-side Opening

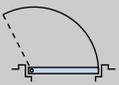


H-835

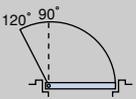


O-835

■ H-835,845,855

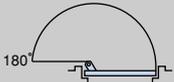


Without Hold-open
Center-hung
180° single-action

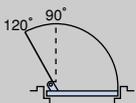


With Hold-open
Center-hung
90° hold-open
120° single-action

■ O-835,845,855



Without Hold-open
Offset-hung
180° single-action



With Hold-open
Offset-hung
90° hold-open
120° single-action

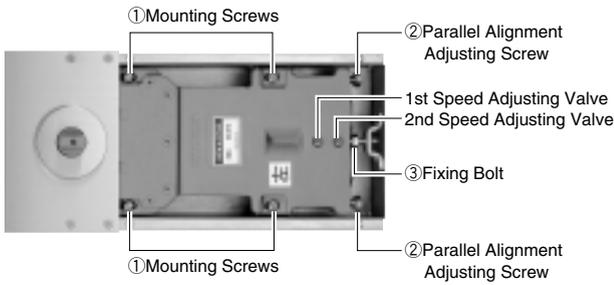
There is the right and left hand.

- The thickness of this thin model has been further reduced for installation on a thin slab.
- Two-valve function allows easy closing speed adjustment.
- Alignment of the door is adjustable after hanging by making a simple adjustment to the main body alone.
- Type Z is also available, with which alignment can be adjusted by means of the top pivot.
- The suffix W is for wooden frames and doors.
- Specify hand when ordering.

Model Number		Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Without Hold-open	With Hold-open		
H-835	HS-835	950×2100	110
H-845	HS-845	1050×2400	185
H-855	HS-855	1200×2400	280
H-835 Z II	HS-835 Z II	950×2100	110
H-845 Z II	HS-845 Z II	1050×2400	185
H-855 Z III	HS-855 Z III	1200×2400	280

O-835	OS-835	950×2100	110
O-845	OS-845	1050×2400	185
O-855	OS-855	1200×2400	280
O-835W	OS-835W	950×2100	80

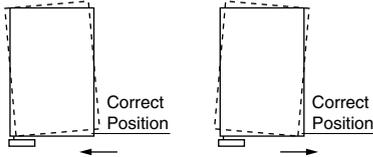
Adjustment Procedure



* Parallel alignment adjusting screws ② are M8 in size.

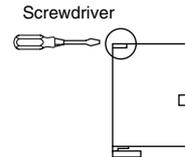
1. Door/Jamb Gap (Position Alignment) Adjustment (Door Width Direction Adjustment)

Loosen ③ and ① in sequence, and make adjustments with ②. Tighten the screws and hexagon bolt after the adjustments are finished.



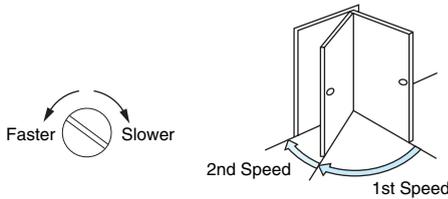
Note

When a Type Z Pivot is used, parallel alignment can be adjusted by means of the top pivot.

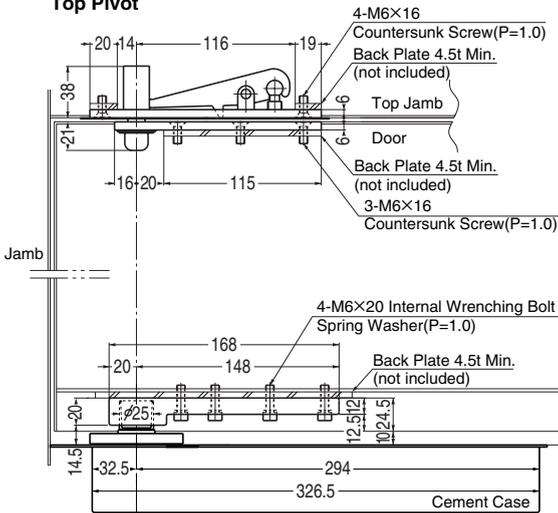


2. Closing Speed Adjustment

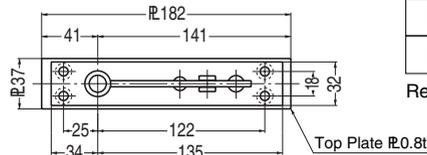
To adjust the closing speed, turn the closing speed adjusting valves to the right or left.



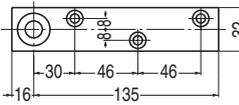
Top Pivot



Top Pivot (Top Jamb Side)

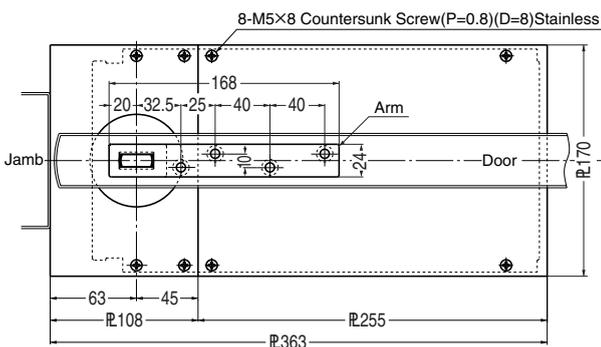


Top Pivot (Door Side)

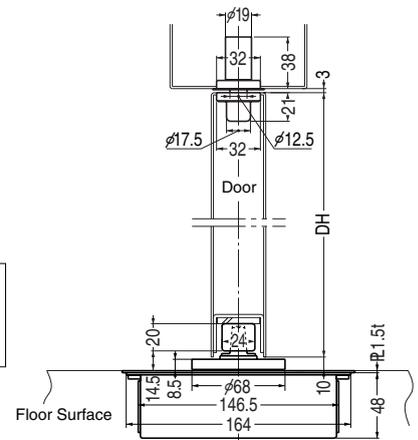


Without Hold-open	With Hold-open
H-835(Z II)	HS-835(Z II)
H-845(Z II)	HS-845(Z II)

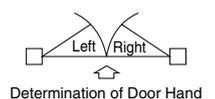
Refer to page 50 for the Type Z Top Pivot.



Doorstop must be installed as one-side opening floor hinges will swing back 7° past closed position.



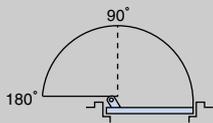
Specify hand when ordering. Left-hand application shown.



FLOOR HINGES

2250~2550 On/Off Selectable Hold-open

Offset Spindle, Offset-Hung Floor Hinges for One-side Opening



180° one-side opening
On/Off Selectable 90° Hold-open
Right or Left hand

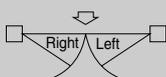
- A floor hinge combining a whole range of innovative functions in pursuit of airtightness and soundproofing.
- On/Off Selectable Hold-open
Even after the door has been hung, exchanging the hold-open device can be made easily using a screwdriver only.
- Closing speed is controlled by a 3-valve function which includes fine regulation of the 5° angle just before the door closes. Thus, complete closing of the door is possible under various conditions, which also ensures a better standard of airtightness and soundproofing.
- Since the hinge body employs an offset spindle, there is no need to cut out a doorsill.
- A slim-line hinge body, just 50mm thick.
- The dimensions of all 4 models are the same and the installation procedure is identical.
- Specify hand when ordering.

Model Number		Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg
Without Hold-open	With Hold-open		
	2250	950×2100	70
	2350	1050×2400	110
	2450	1200×2400	150
	2550	1600×2400	180

(Note) • When using with hold-open, the door will stop at 90°. If the door is pushed further than 90° it will then open to 180°. (There is no hold-open at 180°.)

- When using without hold-open, the door will open to 180°.
- When using on an exterior door, use a model for a door size one larger than the actual size of the door.
- US type floor hinges, floor hinges for stone tile flooring, and floor hinges for carpeted flooring are available as well.

Determination of Door Hand



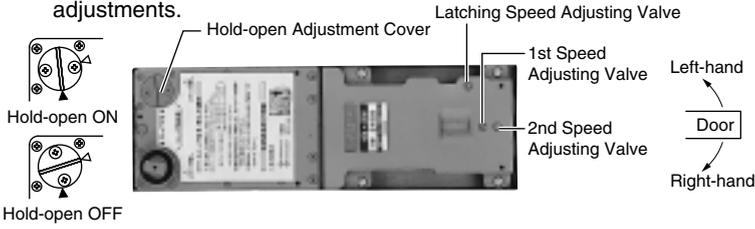
There is the right and left hand.

Adjustment Procedure

1. Selection of On/Off Selectable Hold-open Settings

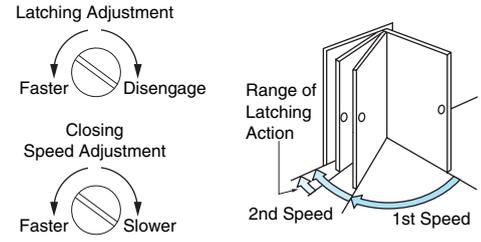
Note: Make adjustments with door in closed position.

1. Remove the two Phillips-head screws on the hold-open cover and rotate the cover so that the groove aligns with the mark to activate or the mark to deactivate the hold-open.
2. Retighten the two Phillips-head screws after making the necessary adjustments.



2. Closing Speed Adjustment

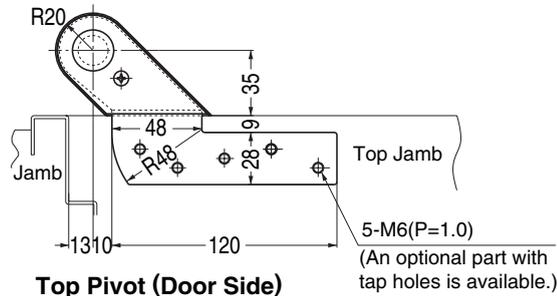
By turning the speed adjusting valves to the right or left, the closing speed can be set at three different levels.



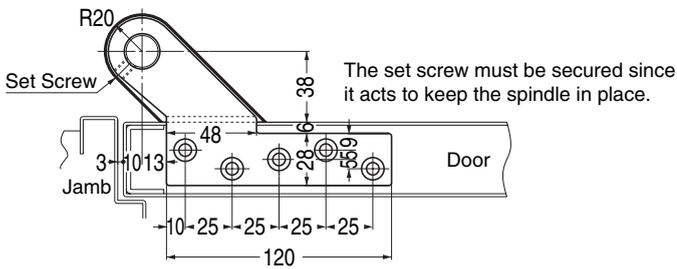
IMPORTANT!

Adjustments made with door in open position will disable switching and may cause damage to the hinge.

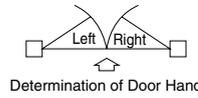
Top Pivot (Top Jamb Side)



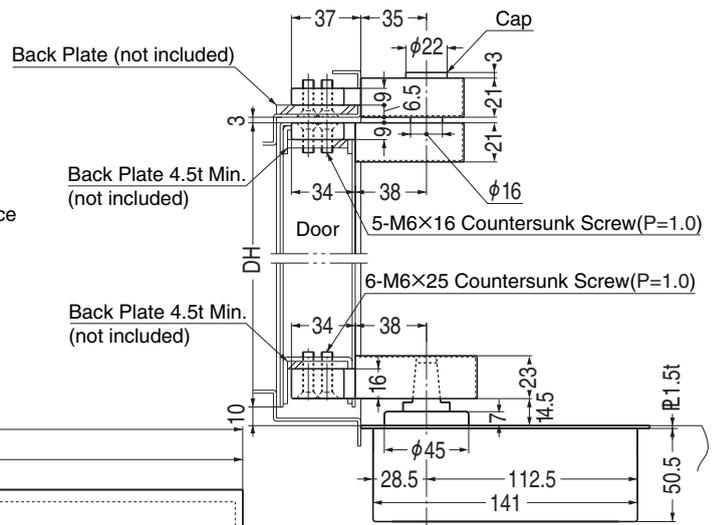
Top Pivot (Door Side)



Specify hand when ordering. Left-hand application shown.



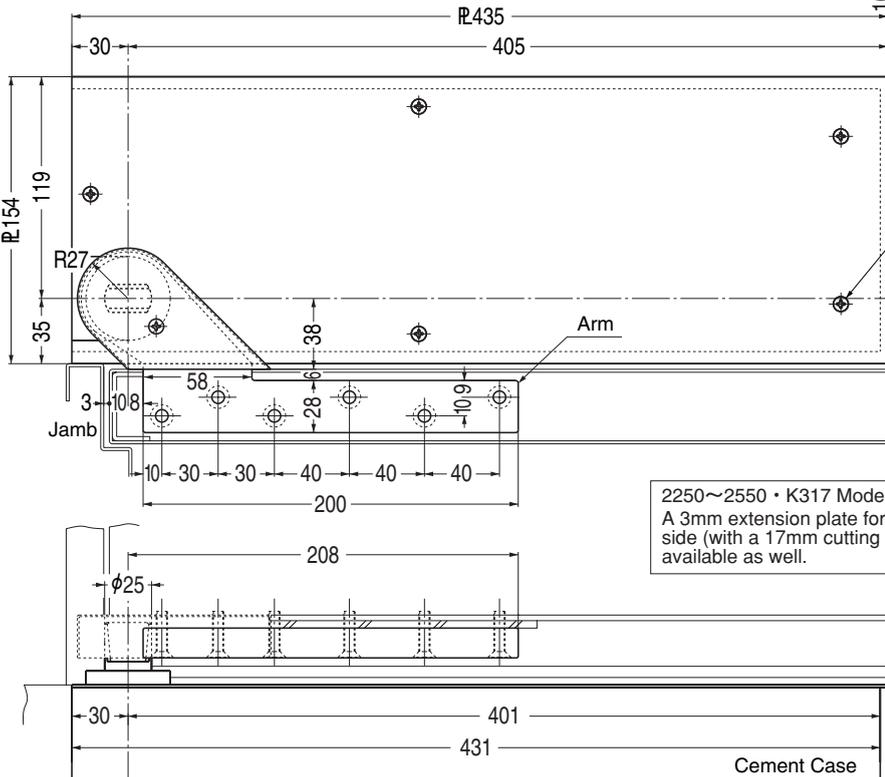
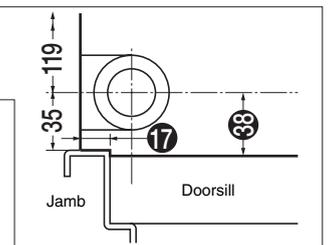
Without Hold-open	With Hold-open
	2250
	2350
	2450
	2550



5-M5x8 Countersunk Screw (P=0.8)(D=8) Stainless

Doorstop must be installed as one-side opening floor hinges will swing back 5° past closed position.

2250~2550 • K317 Model
A 3mm extension plate for the doorsill side (with a 17mm cutting edge) is available as well.

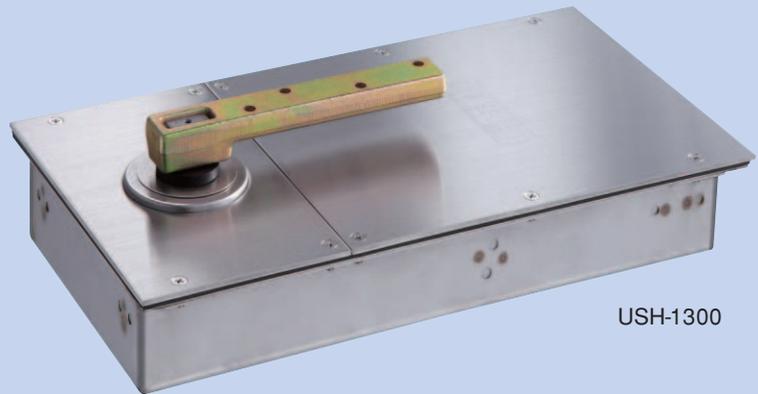


US TYPE FLOOR HINGES

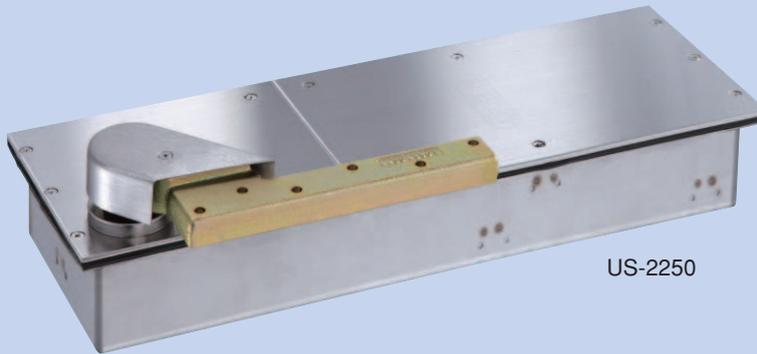
Patent No. 5174614

USH-1300

US-2000



USH-1300

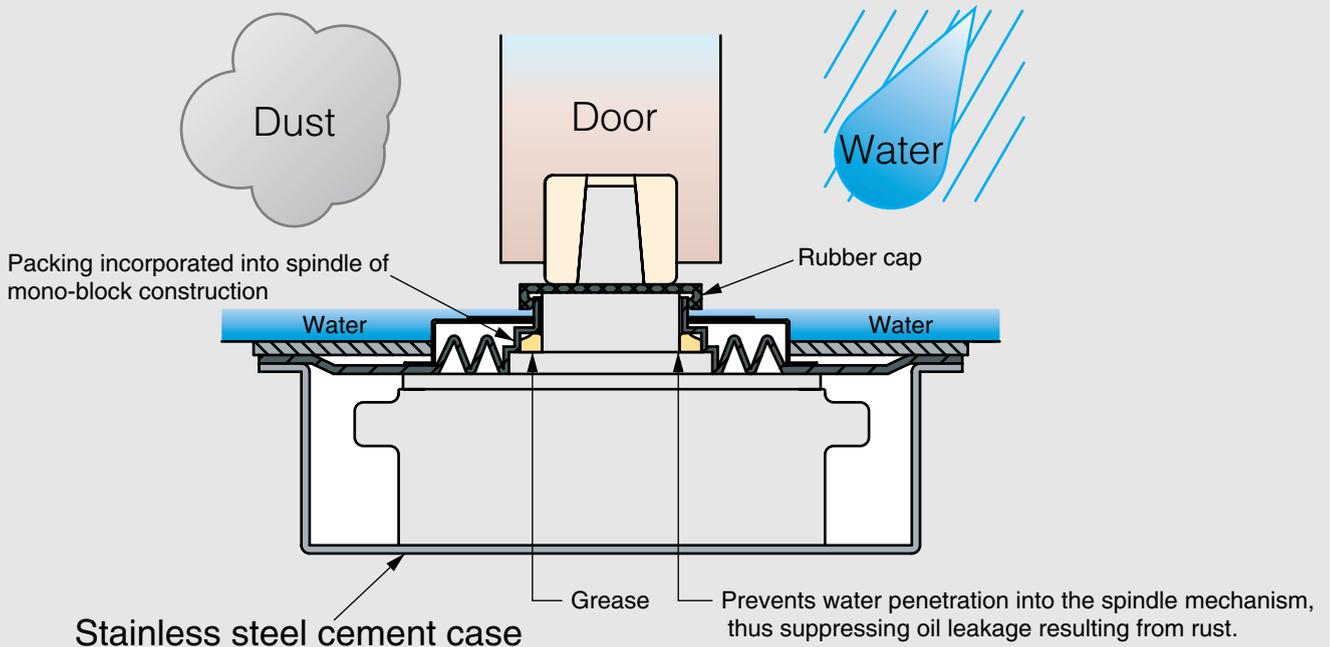


US-2250

- Adopts a stainless steel cement case.
- Incorporates a rubber cap, thus preventing water penetration from the spindle.
- Provided with packing incorporated into a spindle of mono-block construction equipped with a bellows mechanism. The packing will not be deformed with the unit moved or adjusted, which prevents water penetration. (USH-1300 Series)
- Adopts rubber-welding screws, thus preventing water penetration from the screw holes. (US-2000 Series)

No water penetration when the unit is submerged.*
(on the condition that the water surface is 5 mm above the upper surface of the floor plate)

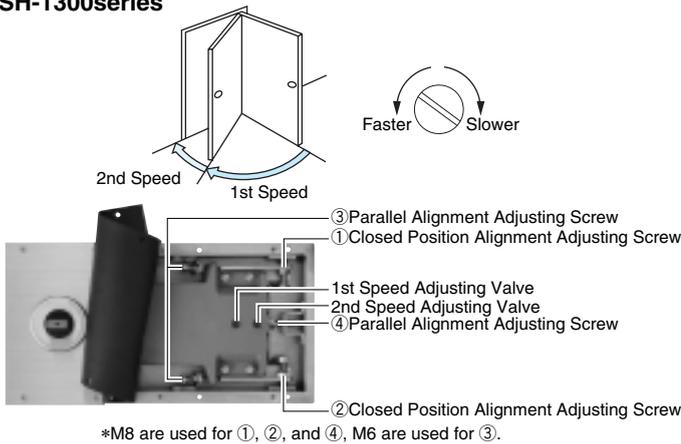
*Tested in-house.



Adjustment Procedure

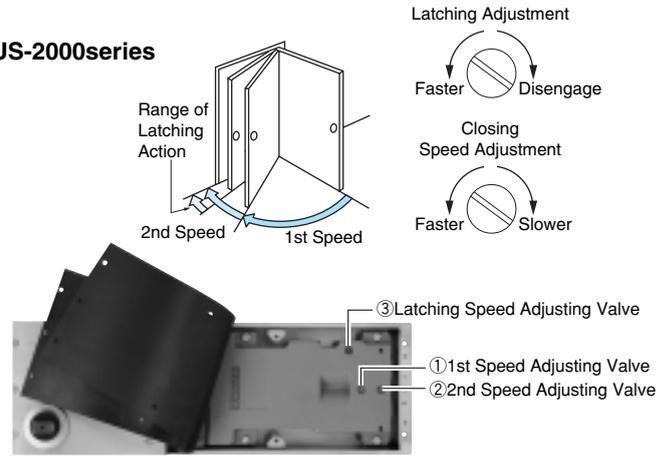
Closing Speed Adjustment

USH-1300series



*M8 are used for ①, ②, and ④, M6 are used for ③.

US-2000series

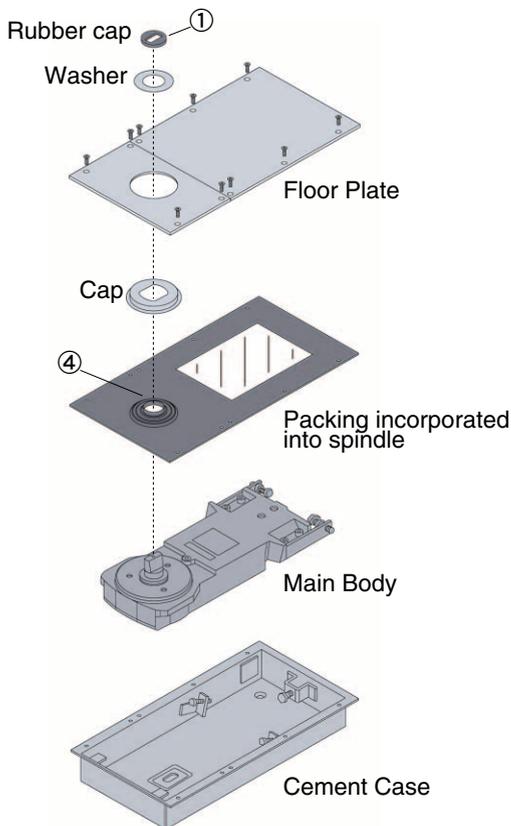


*Unlike the 2000 Series, the US-2000 Series does not allow hold-open switching with the door suspended.
When ordering, specify the product with or without the hold-open function.

Construction

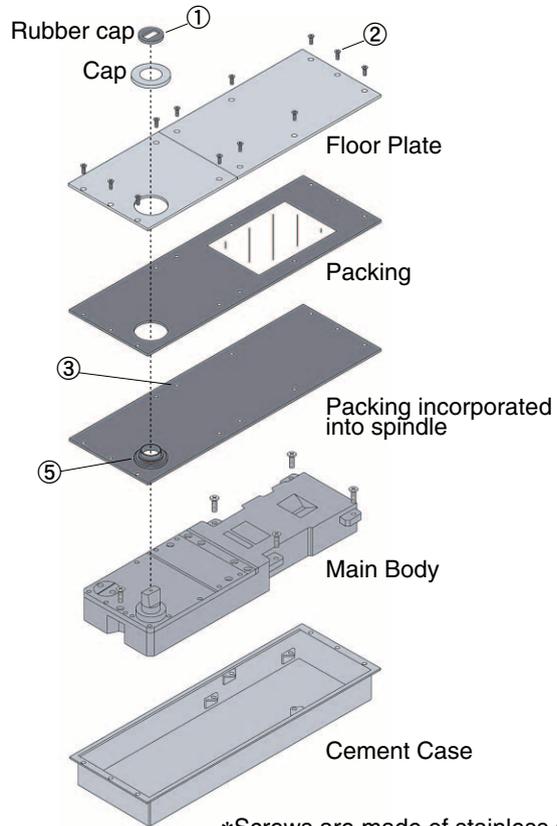
USH-1300

(Center-Hung Inward and Outward Opening)



US-2000

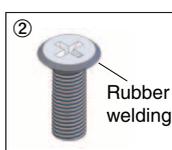
(Offset Spindle, Offset-Hung One-side Opening)



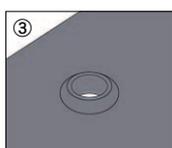
*Screws are made of stainless steel.



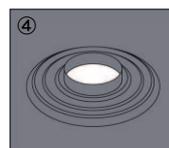
The packing incorporated into the spindle of mono-block construction is covered with the rubber cap to prevent water penetration through the spindle.



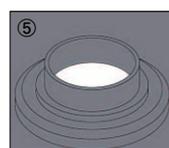
Rubber is welded to the stainless steel screws, thus preventing water penetration through the screw holes.



The packing is provided with a round projection to prevent water penetration.



Provided with packing incorporated into the spindle of mono-block construction equipped with a bellows mechanism. The packing will not be deformed with the unit moved or adjusted, which does not make any clearance, thus preventing water penetration.



The use of the packing incorporated into the spindle of mono-block construction does not make any clearance, thus preventing water penetration.

Specification Comparison

	Standard Type	US Type floor hinge	Standard Type	US Type floor hinge
	H-1300Series	USH-1300Series	2000Series	US-2000Series
Rubber cap	—	NBR	—	NBR
Washer	—	Stainless	—	—
Floor Plate	Stainless	Stainless	Stainless	Stainless
Cap	Stainless	Stainless	Stainless	Stainless
Packing	—	—	—	NBR
Packing incorporated into spindle	—	NBR	—	NBR
Main Body	Steel	Steel	Steel	Steel
Cement Case	Steel	Stainless	Steel	Stainless
Screws	Steel	Stainless	Steel	Stainless

Lineup of US Type Floor Hinge

●Center-Hung, Inward and Outward Opening

Model Number		Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg	Remarks
Without Hold-open	With Hold-open			
USH-1300	USHS-1300	950×2100	110	For Regular Door
USH-1400	USHS-1400	1050×2400	185	
USH-1300 ZII	USHS-1300 ZII	950×2100	110	
USH-1400 ZII	USHS-1400 ZII	1050×2400	185	

(Note) ●Floor hinges for stone-tile flooring are available as well.

●Offset Spindle, Offset-Hung One-side Opening (*Specify hand when ordering)

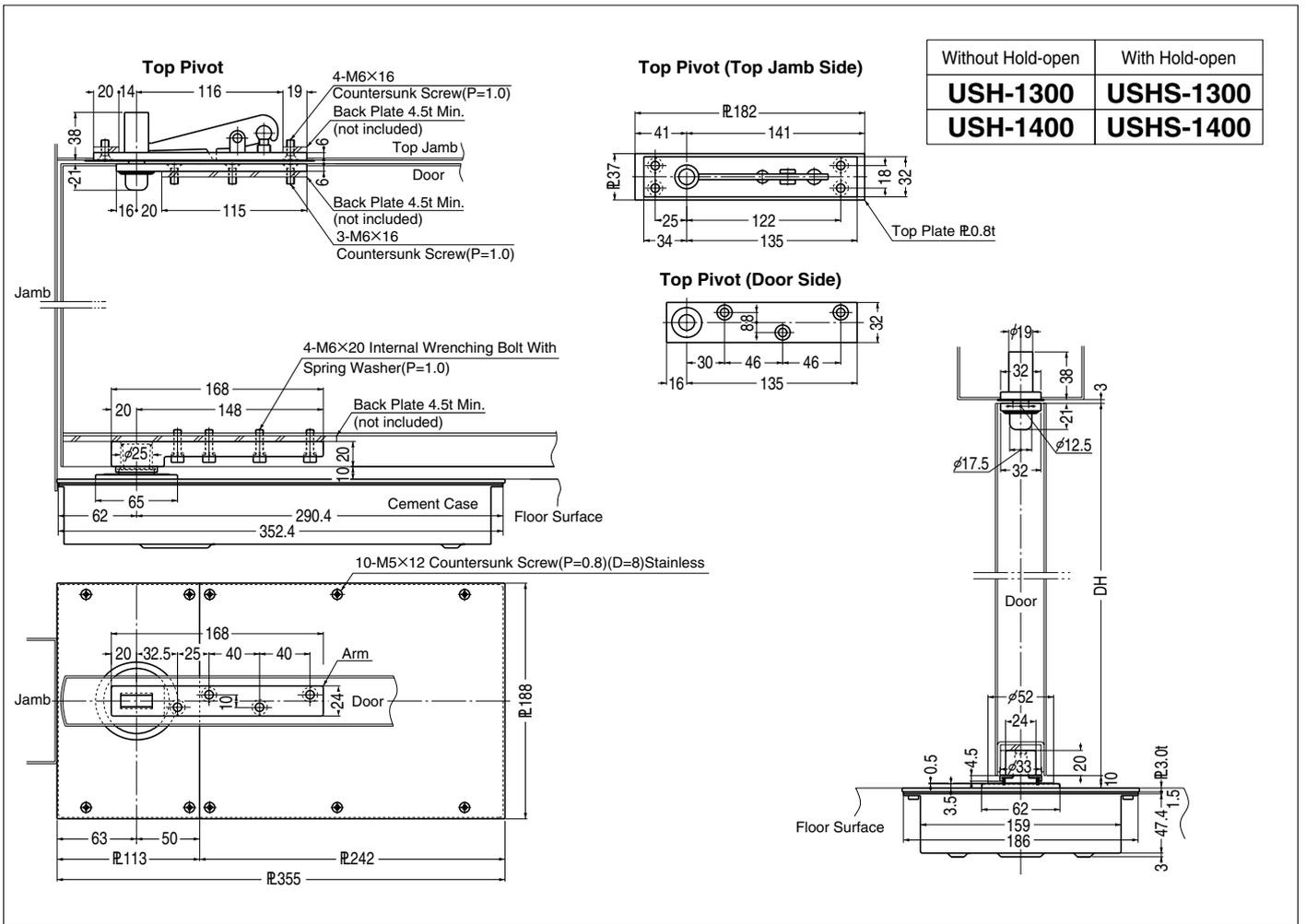
Model Number		Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg	Remarks
Without Hold-open	With Hold-open			
US-2250	USS-2250	950×2100	70	For Regular Door
US-2350	USS-2350	1050×2400	110	
US-2450	USS-2450	1200×2400	150	
US-2550	USS-2550	1600×2400	180	

(Note) ●Floor hinges for stone-tile flooring are available as well.

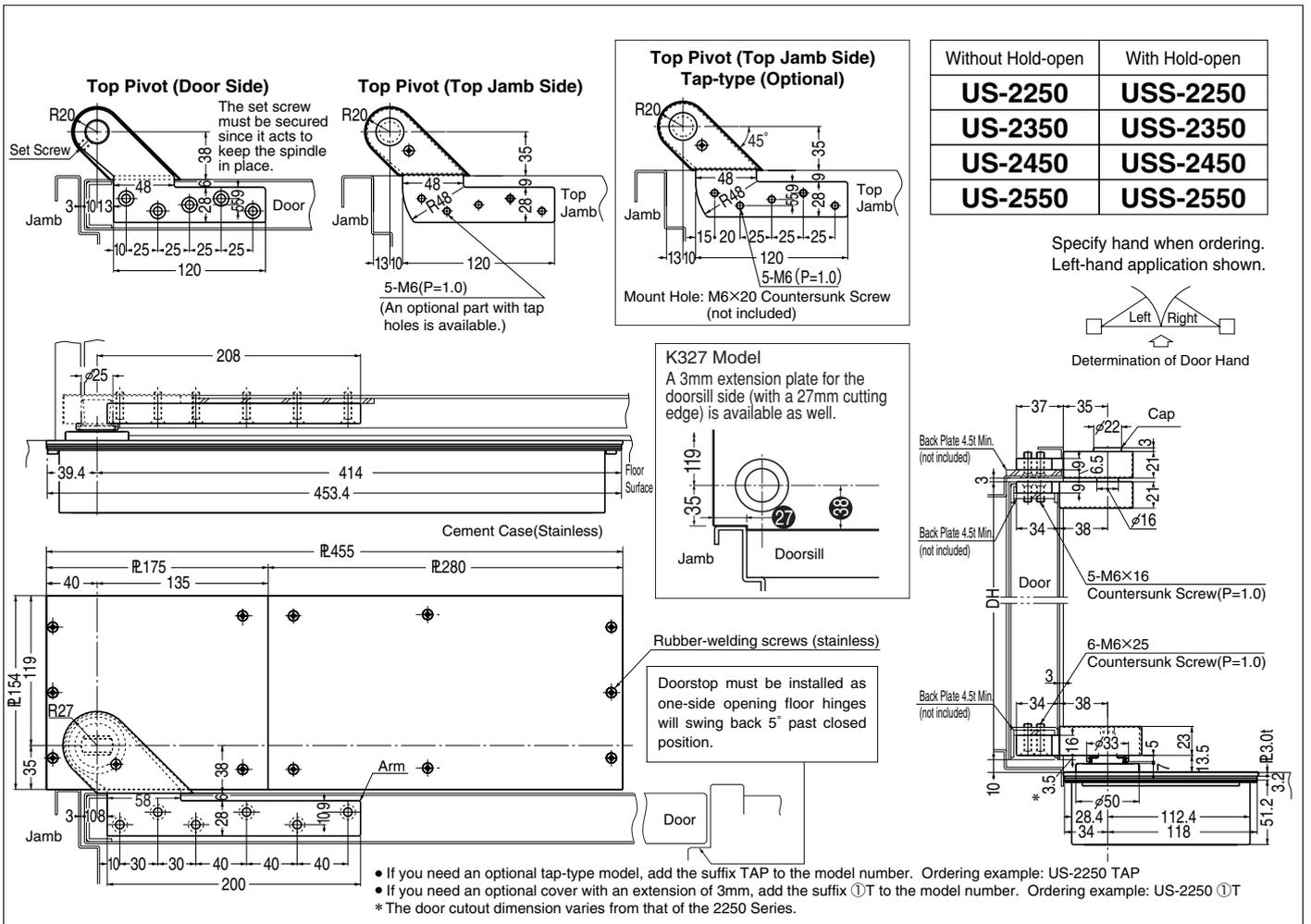
*Unlike the 2000 Series, the stop of US-2000 Series cannot be switched with the door suspended.
When ordering, specify the product with or without hold-open.

Option

Both top pivot and arm made of stainless steel can be manufactured by order.
Applicable products: USH-1300 (except for the Z model) and US-2000 Series

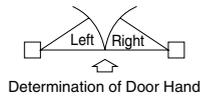


Without Hold-open	With Hold-open
USH-1300	USHS-1300
USH-1400	USHS-1400



Without Hold-open	With Hold-open
US-2250	USS-2250
US-2350	USS-2350
US-2450	USS-2450
US-2550	USS-2550

Specify hand when ordering.
Left-hand application shown.



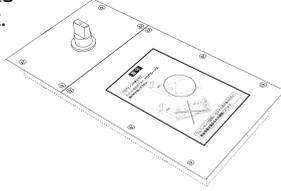
- If you need an optional tap-type model, add the suffix TAP to the model number. Ordering example: US-2250 TAP
- If you need an optional cover with an extension of 3mm, add the suffix ①T to the model number. Ordering example: US-2250 ①T
- * The door cutout dimension varies from that of the 2250 Series.

< Installation Precautions >

Be sure to keep the following precautions in order to demonstrate the waterproof performance of the products.

■ Installation of Floor Hinge

*The following seal is placed onto the floor plate protection sheet.



■ Tightening of Floor Plate Mounting Screws

*The following seal is placed onto the packing incorporated into the spindle of mono-block construction.



USH-1300Series

Precautions

Installation of Floor Hinge

Do not remove the floor plate until the mortar is fixed completely.

The waterproof performance of the product may be adversely affected if mortar or a foreign substance is caught by the clearance between the rubber packing and hinge.

Precautions

Tightening of Floor Plate Mounting Screws

Tighten all the screws lightly first. Then **tighten then evenly and securely in diagonally opposite sequence.** (Tightening torque: 2N·m)

The waterproof performance of the product may be adversely affected unless the rubber packing is in contact evenly with the mating surface.

US-2000Series

Precautions

Installation of Floor Hinge

Do not remove the floor plate until the mortar is fixed completely.

The waterproof performance of the product may be adversely affected if mortar or a foreign substance is caught by the clearance between the rubber packing and hinge.

Precautions

Tightening of Floor Plate Mounting Screws

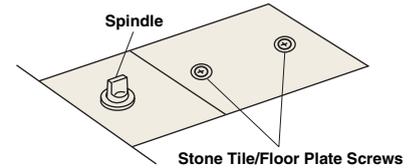
Tighten all the screws lightly first. Then **tighten then evenly and securely in diagonally opposite sequence.** (Tightening torque: 2N·m)

*Be sure to use the dedicated screws provided with rubber packing.

The waterproof performance of the product may be adversely affected unless the rubber packing is in contact evenly with the mating surface.

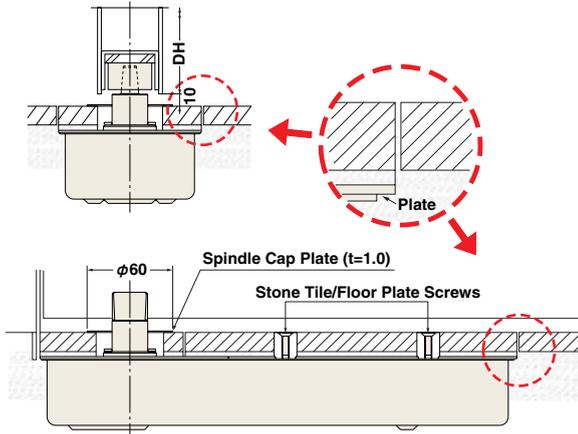
Floor Hinges for Stone Tile Flooring

A range of models available as either Type A or Type B floor hinges in three formats according to a spindle height of 17, 22 or 27mm to accommodate installation under stone-tile thicknesses of 11 to 25mm.



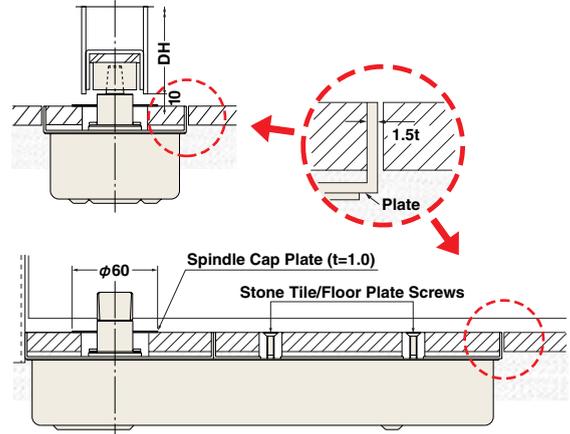
Type A

Installation for finished look without edging between stone tile joints.

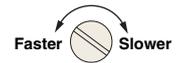


Type B

Installation for finished look using thickness of floor plate as edging between stone tile joints.



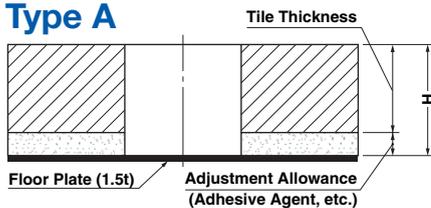
To adjust the closing speed, loosen the two stone tile/floor plate screws, take off the tiles and floor plate, and make minor adjustments using the closing speed adjusting valves.



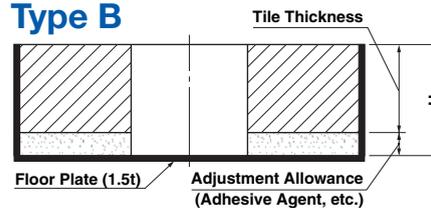
Apply a surfacing preparation agent to the underside of stone tiles overlaying the floor hinge to protect against infiltration by oil in the event of an oil leak.

Mount hinge in floor and apply an appropriate amount adhesive agent, etc., to adjust height to that required by the thickness of tile used so as make even with height of surrounding tiles. Use a model with a spindle height of 27 mm for tile thicknesses of 21–25mm, a model with a 22mm spindle for thicknesses of 16–20mm, or a model with a 17mm spindle for thicknesses of 11–15mm.

Type A



Type B



How to Order

By way of example, when ordering a HS-1300 series model Type A floor hinge for a stone-tile thickness of 25mm, indicate your Ordering example: HS-1300 I-A-27.

HS-1300 **I** — **A** — **27**
 Model Number Stone Tiled Floor Without Edging Height

Tile Thickness (mm)	Adjustment Allowance (mm)	Height (H) (mm)	Floor Plate Type	
			Type A	Type B
25	2	27	I-A-27	I-B-27
24	3			
23	4			
22	5			
21	6			
20	2	22	I-A-22	I-B-22
19	3			
18	4			
17	5			
16	6			
15	2	17	I-A-17	I-B-17
14	3			
13	4			
12	5			
11	6			

Note: Please enquire regarding applications with other thicknesses.

For Regular Door

H(S)-511	H(S)-515	H(S)-1300	A-1300	2250	(S)-30	H(S)-835	O(S)-835	USH(S)-1300	US(S)-2250
H(S)-522	H(S)-525	H(S)-1400	A-1400	2350	(S)-40	H(S)-845	O(S)-845	USH(S)-1400	US(S)-2350
H(S)-533	H(S)-535		A-1500	2450		H(S)-855	O(S)-855		US(S)-2450
			A-1600	2550					US(S)-2550

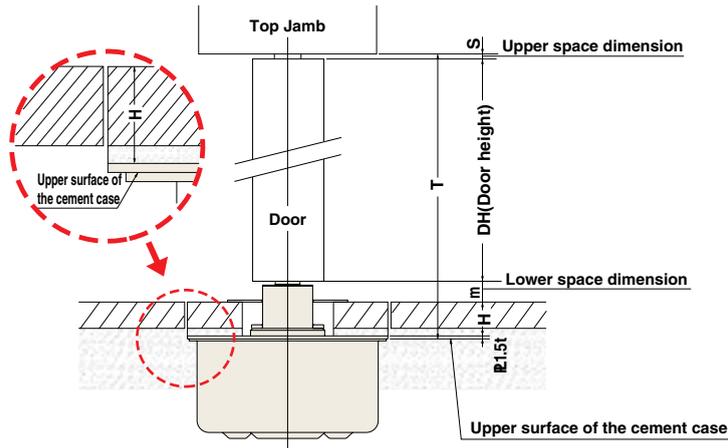
The same dimensions apply for models featuring hold-open (S).

Embedding Dimensions of Floor Hinge

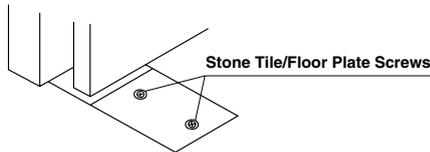
Embed the cement casing so that the distance from the lower surface of the upper frame to the upper surface of the cement casing will become T.

$$T = s + DH + m + H + 1.5 \text{ (mm)}$$

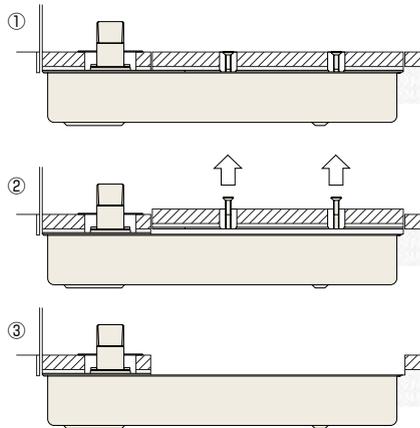
- s : Upper space dimension
- DH : Door height
- m : Lower space dimension
- H : Spindle extension dimension
(indicated on the package)



Removal of Stone-clad Plate



- ① Loosen the Stone Tile/Floor Plate Screws on the large plate side.
- ② Remove the screws upward and dismount the plate.
- ③ Refer to the relevant pages for respective adjustments.



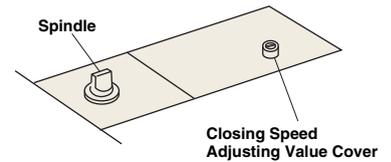
Floor Hinges for Carpeted Flooring

Spindle height is extended to accommodate applications in carpeted floors. Available in five types for use with carpet thicknesses of 5, 7, 10, 17 or 22mm according to the corresponding model number. (Please enquire regarding applications with other thicknesses.)

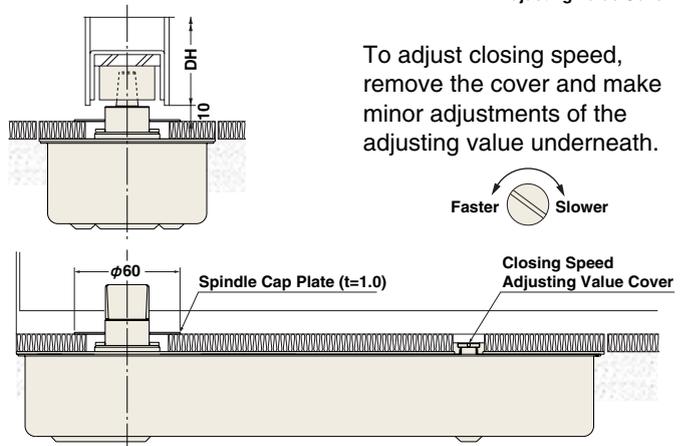
Cut the carpet into the size of the floor hinge plate so that the carpet can be peeled for ease of floor hinge adjustment and replacement.

How to Order

By way of example, when ordering a H-525 series model floor hinge for a carpet thickness of 10mm, indicate your Ordering example: H-525(L) J-10.



To adjust closing speed, remove the cover and make minor adjustments of the adjusting value underneath.



For Regular Door

H(S)-511	H(S)-515	H(S)-1300	A-1300	H(S)-835	O(S)-835	2250
H(S)-522	H(S)-525	H(S)-1400	A-1400	H(S)-845	O(S)-845	2350
H(S)-533	H(S)-535		A-1500	H(S)-855	O(S)-855	2450
			A-1600			2550

Carpet thickness (Spindle Height)	5mm, 7mm, 10mm, 17mm, 22mm
-----------------------------------	----------------------------

The same dimensions apply for models featuring hold-open (S).

Aqua Hinge

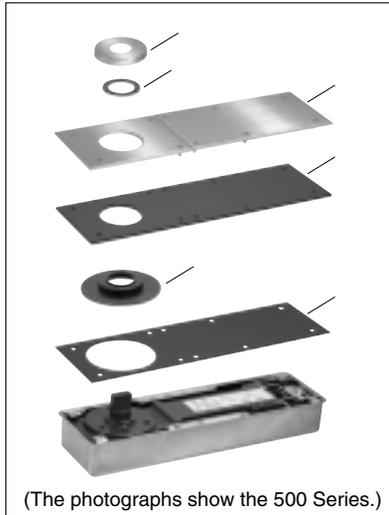
- Employs a sealing material around the pivot and the connecting joints between the cement case and floor plate. Resists water and dust to prevent rust caused by the build-up of moisture within the floor hinge and keeps the floor plates and floor surfaces clean.
- Ideal for building entrances, restaurants, kitchens, underground entranceways or any other site with high exposure to water and humidity.
- Cannot be used for offset-Hung applications.

Utility Design
Registered Patent No. 1931083

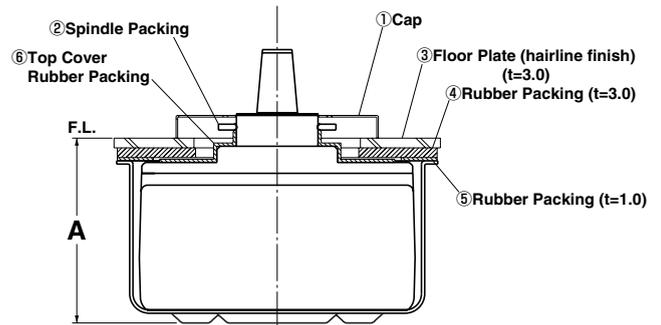


AQ H-522

Note: The Aqua Hinge is not a product that perfectly prevents the ingress of water.



For Regular Door	Depth (A)
AQ H(S)-511	57
AQ H(S)-522	
AQ H(S)-533	
AQ H(S)-515	
AQ H(S)-525	
AQ H(S)-535	55.6
AQ H(S)-1300	
AQ H(S)-1400	
* AQ A-1300	
* AQ A-1400	75.5
* AQ A-1500	
* AQ A-1600	
AQ (S)-30	108
AQ (S)-40	112



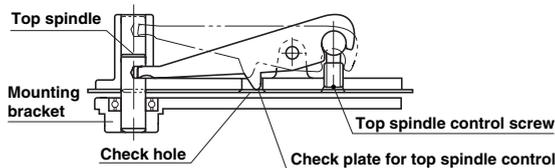
The figure shows the 500 Series.
Floor Plate Screws
M5×12 Countersunk Screw(P=0.8)(D=8) Stainless

(Note) The hold-open operation of the asterisked models is not available after the doors are hung.

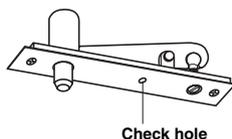
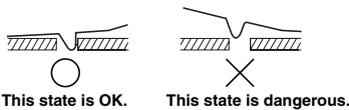
Safety Checks to Prevent Doors from Toppling

Be sure to make the following safety checks to make sure that the doors are hung and securely held with the upper and lower brackets so that the doors will not topple.

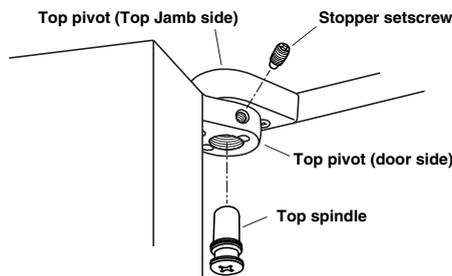
Center hung



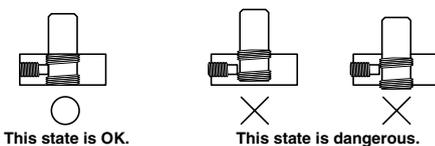
Tighten up the top spindle control screw so that the top spindle will be perfectly inserted into the mounting bracket. Confirm through the check hole that the check plate for top spindle control is lowered.



Offset hung



Tighten the stopper setscrew after the top spindle and the top pivot (on the door side) come to the same level.

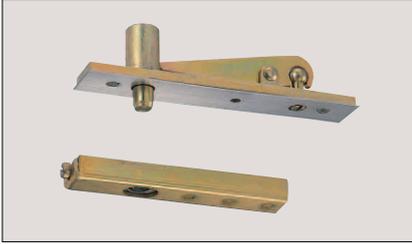


Control the top spindle after perfectly removing the stopper setscrew.

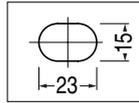
Type Z Top Pivots (Adjustable at the Door Side)

Top pivots allowing adjustment of the clearance between the pivot-side of the door and the jamb.
Types ZII and ZIII feature needle bearings and spring washers.

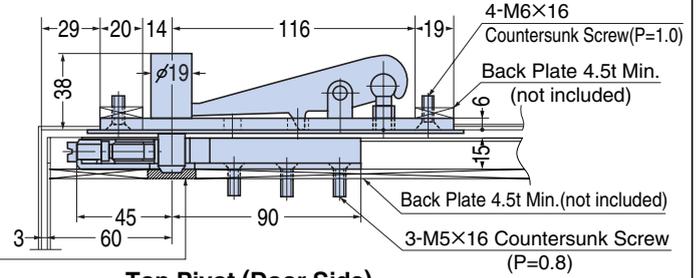
Type ZI (for light doors)



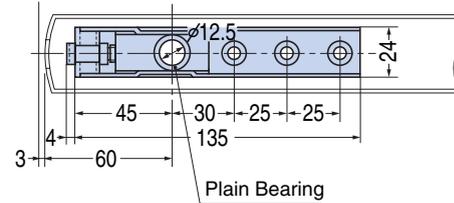
Back Plate
Notch Diagram



Notch Required for
Top Adjustment



Top Pivot (Door Side)



Plain Bearing

Applicable models

H(S)-211 · H(S)-222 · H(S)-233

H(S)-511 · H(S)-522 · H(S)-533

H(S)-515 · H(S)-525 · H(S)-535

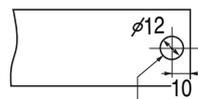
H(S)-1610 · H(S)-1620 · H(S)-1630

Note: Also for use with the C-110·C-1 pivot hinge.

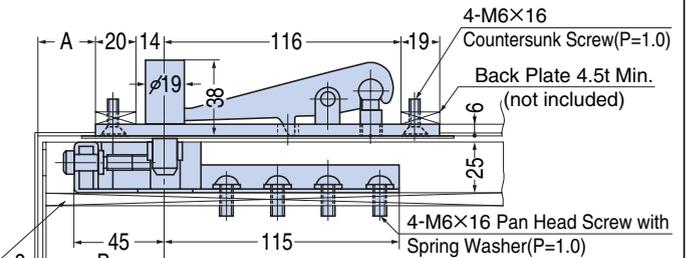
Type ZII (for steel doors)



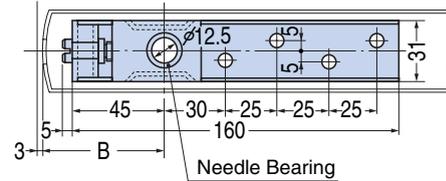
Back Plate 4.5t Min.
(not included)



Drill a $\phi 12$ hole for moving
and adjusting the top pivot.



Top Pivot (Door Side)



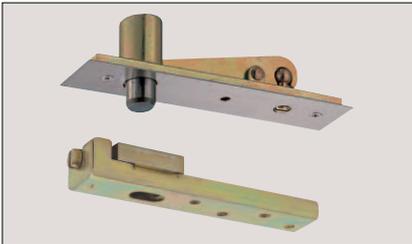
Needle Bearing

Applicable models

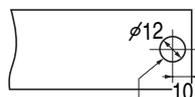
Applicable models	A	B
(S)-30	21	52
(S)-40	27	58
H(S)-1300 · H(S)-1400	29	60
A-1300 · A-1400		
H(S)-835 · H(S)-845		

Note: Also for use with the TC-120·C-2 pivot hinge.

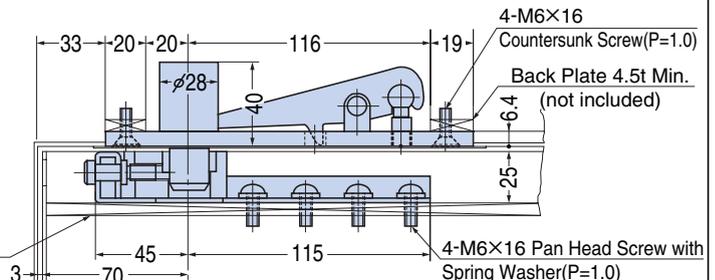
Type ZIII (for heavy doors)



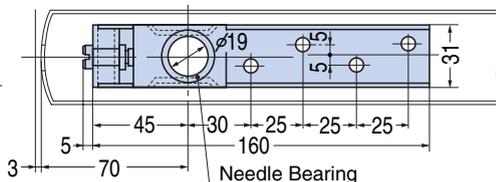
Back Plate 4.5t Min.
(not included)



Drill a $\phi 12$ hole for moving
and adjusting the top pivot.



Top Pivot (Door Side)



Needle Bearing

Applicable models

A-1500

H(S)-855

Note: Also for use with the TC-130·C-3 pivot hinge.

PATCH FITTINGS

(Export use model)

Glass Thickness : 10~12mm



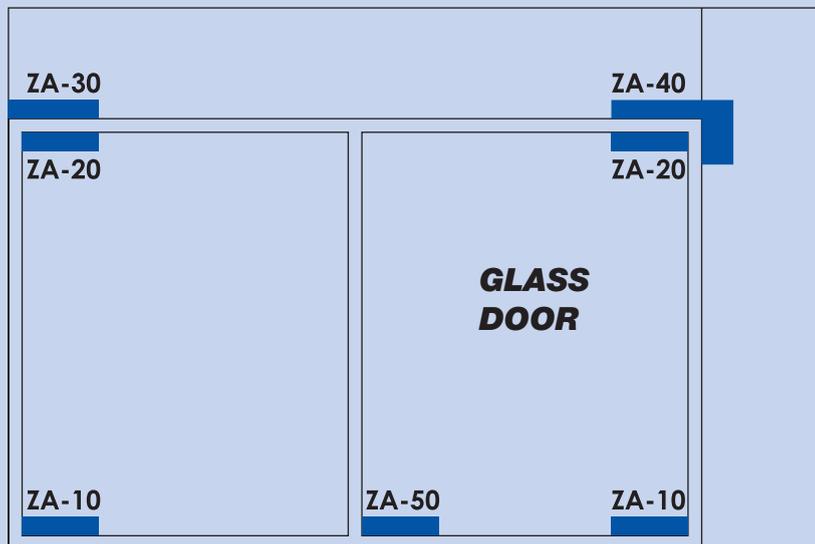
ZA-30
Over Panel Patch



ZA-40
Corner Patch



ZA-20
Top Patch



ZA-10
Bottom Patch



ZA-50
Patch Lock



HS-222
Floor Hinge

Strike

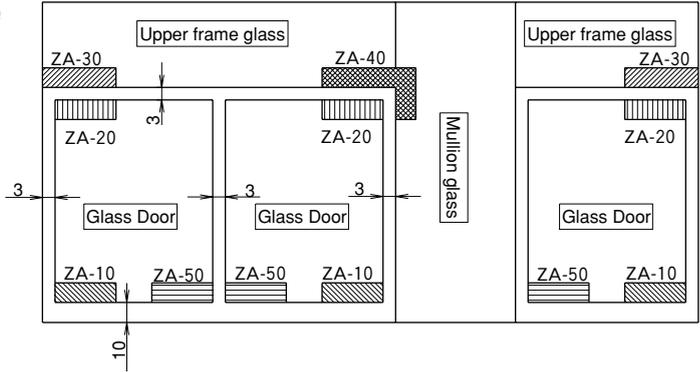


Patch Fittings Instruction Sheet

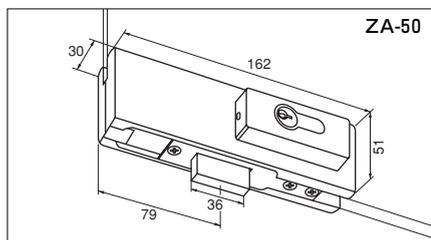
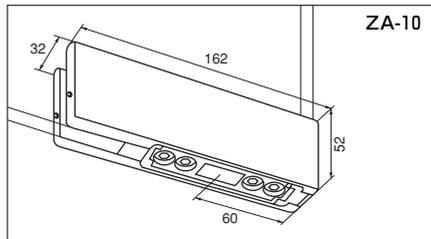
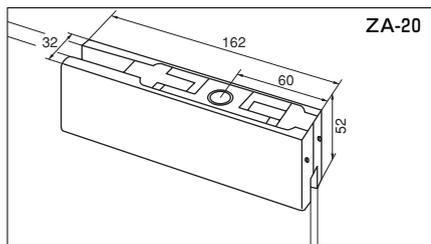
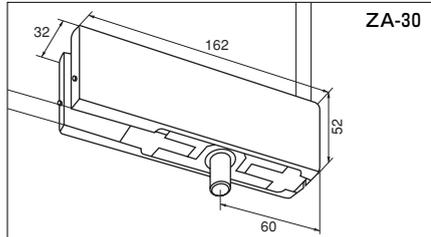
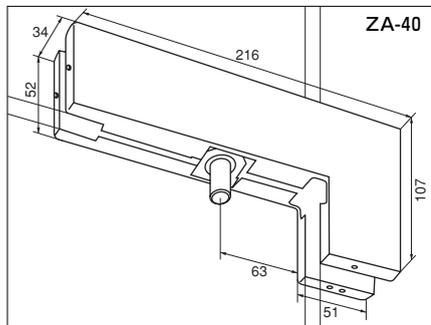
Gap Dimensions between Door and Frame and Mounting Positions

There are five types of Patch Fitting models, i.e., the ZA-10 (Bottom Patch), ZA-20 (Top Patch), ZA-30 (Over Panel Patch), ZA-40 (Corner Patch), and ZA-50 (Patch Lock).

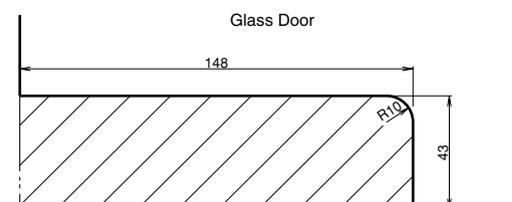
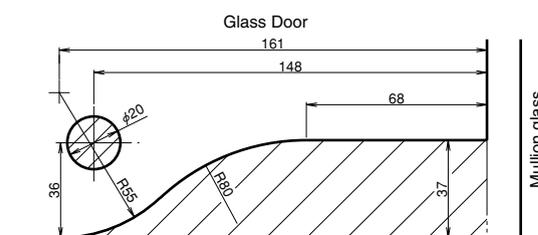
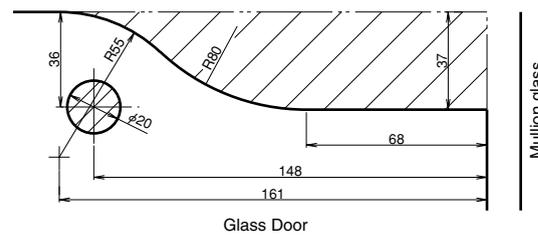
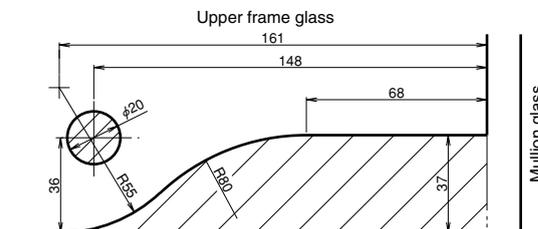
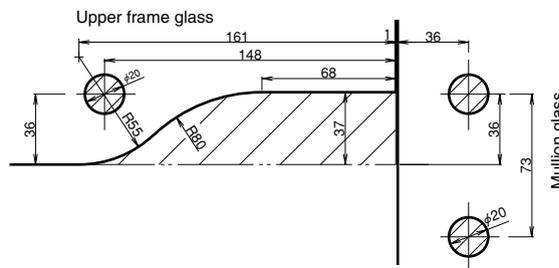
These models can be mounted to glass doors with a thickness range of 10 to 12 mm in the following positions.



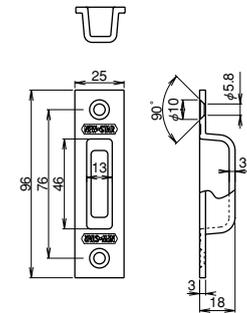
Main Body Size



Dimensions of Patch Fittings for Glass Door and Upper Frame Cutouts

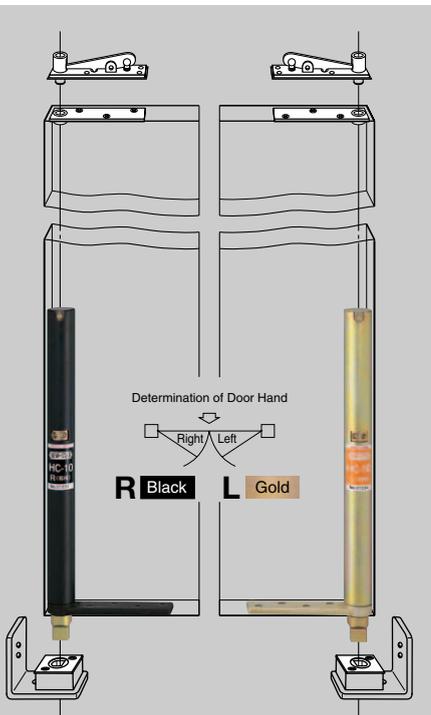
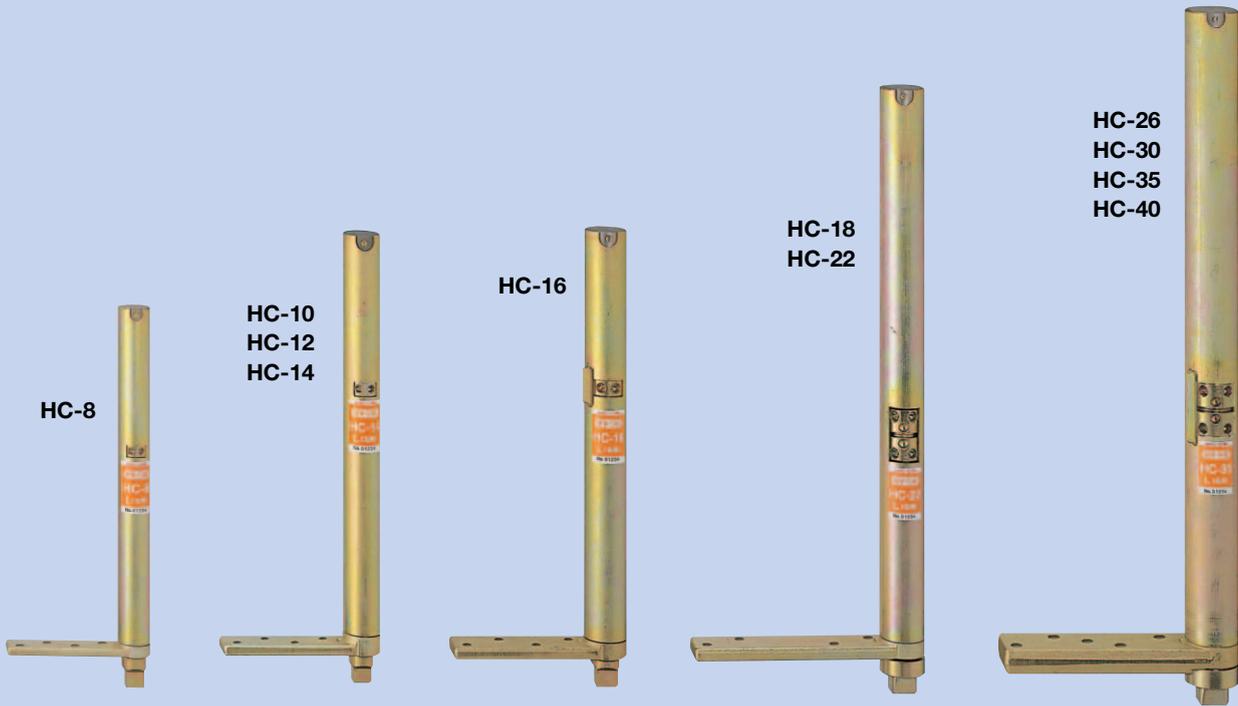


Strike



AUTO POWER HINGES

Concealed Type



Mounting

Directions for Installation

- Confirm whether door hand is on left or right by the color and mark.
- Right hand: black. Left hand: gold.
- A left / right mark (R,L) can be found on the hinge body.

- Freely adjustable power.
- Easy speed adjustment with the turn of a screw.
- Fully concealed within door for a clean, attractive looking door area.
- Available to fire-rated doors and fire vents.*
- Specify hand when ordering.

* Fire vents are roof hatches with doors that open in the event of a fire to allow the escape of smoke, heat and gases.

When selecting a model, give priority to door weight if DH is greater than that in the chart below.

Model Number	Applicable Door Dimensions DW×DH mm	Applicable Door Thickness mm	Maximum Door Weight kg
HC-8T	800×2100	36	50
HC-8K (for wicket door)	800×2100	36	50
HC-10T	1000×2100	40	85
HC-12T	1200×2100	40	100
HC-14T	1400×2100	40	130
HC-16T	1600×2400	45	160
HC-18T	1800×2400	50	200
HC-22T	2200×2400	50	240
HC-26T	2600×2600	55	310
HC-30T	3000×2600	55	410
HC-35T	3500×3000	55	650
HC-40	4000×3000	65	800
N-80	4000×5000	100	1000

Maximum 180° of opening for right-or left-hand single-acting doors. Spring tension setting is performed at the installation site.

(Note)

- The pivot point of the spindle bearing is adjustable.
- The top pivot can be inversely installed on doors with a minimum clearance of 300 mm from the top edge.
- A hold-open mechanism is not built into these hinges.
- Models with a 270° of opening are also available. Ordering example: HC-10T 270°

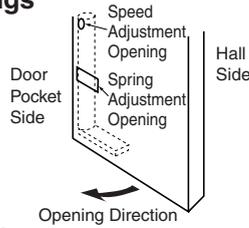
For applications requiring fixed spindle bearings, please remove the "T" at the end of model number when placing an order. Ordering example: HC-12

Installation

1. Confirm Position of Adjustment Openings

Confirm that adjustment openings are on the door pocket side of the door.

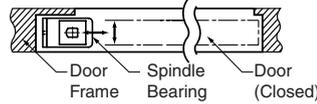
Models can also be made with adjustment openings on the opposite side of the door pocket.
Ordering example: HC-10T opposite-side opening.



2. Attachment of Spindle Bearing Fitting

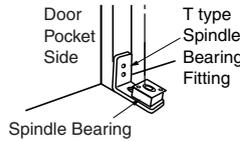
Obtain a vertical axis between the top to bottom pivot points with a plumb line, etc., then position level with the floor and square with the door in the closed position. Finish with mortar after welding to rebar in concrete floor.

T type Adjustable Spindle Bearing

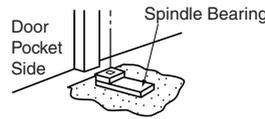
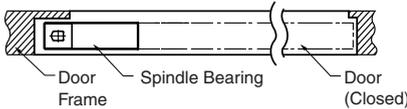


Pivot point position and pivot point hole orientation may be adjusted. Fix into position after making adjustments.

Note: When adjusting the orientation of the spindle bearing, ensure the printing is facing the opening side when the door is closed, and then securely weld the L-shaped dressing plate and block.



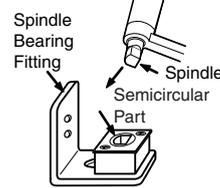
Fixed Spindle Bearing



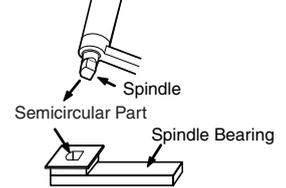
3. Hanging the Door

When shipped from the factory, the spring is pre-tensioned by winding up to the third hole. Use the spring tensioning rod to remove the spring tensioning pin and sequentially return the spring to a tensionless state before hanging the door.

T type Adjustable Spindle Bearing

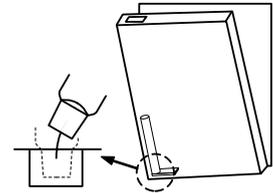


Fixed Spindle Bearing



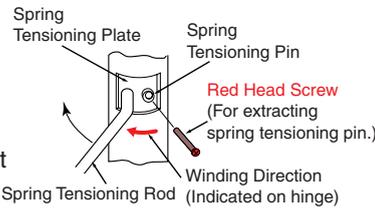
- Check the semicircular shape of the spindle and the spindle bearing. When the position of the semicircular parts does not coincide, adjust by turning the spindle.

- To hang, slant the door, insert the spindle in the spindle bearing and then straighten the door.
- When the spindle has entered the spindle bearing completely, pull out the top pivot shaft and secure the door.



Spring Tensioning

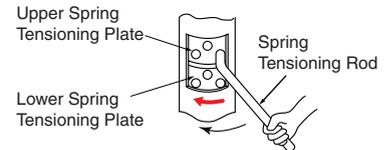
① Insert the spring tensioning rod into the spring winding hole and wind in the direction in which the door opens (as indicated by the arrow (←) on the hinge body).



② Using two spring tensioning rods from the point where tension was applied to the spring, count from the spring winding hole that first comes into view ("1st" hole) and wind to the specified winding amount.

③ Insert the spring tensioning pin into the spring winding hole of the specified winding amount and remove the red head screw.

(Use the spring tensioning pin as a lug when inserting and removing the red head screw.)



- After the tensioning of the upper spring tensioning plate is complete, repeat the same procedure for the lower plate.

Model HC-8, 8K, 10, 12, 14, 16

Model	Spring Tensioning Pin Hole	Spring Tensioning Rod ϕ
HC-8, 8K	Insert in 5th hole	6
HC-10	Insert in 6th hole	
HC-12	Insert in 8th hole	
HC-14	Insert in 9th hole	
HC-16	Insert in 9th hole	

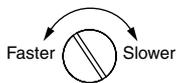
Model HC-18, 22, 26, 30, 35, 40

Model	Spring Tensioning Pin Hole	Spring Tensioning Rod ϕ
HC-18	Insert in 7th hole	8
HC-22	Insert in 8th hole	
HC-26	Insert in 9th hole	
HC-30	Insert in 10th hole	
HC-35	Insert in 11th hole	
HC-40	Insert in 13th hole	

Note:
The Spring Tension Rod is sold separately.
Place an order if required.

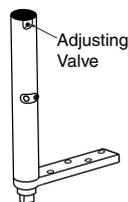
The spring can be wound up to one hole above that indicated for each model in the above chart.
(Caution: Overwinding may result in damage to hinge.)

Door Closing Speed Adjustment



Use a flat-head screwdriver.

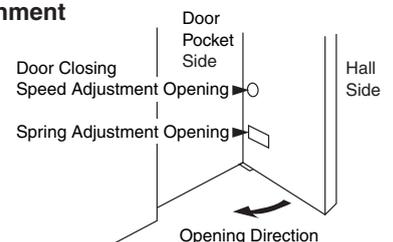
Turning to the right will decrease speed.
Turning to the left will increase speed.



* The adjusting valve can be screwed for adjustments until it stops.
(You can loosen the valve 17 turns from the fully tightened position.)
The valve will not come off if it is fully loosened.

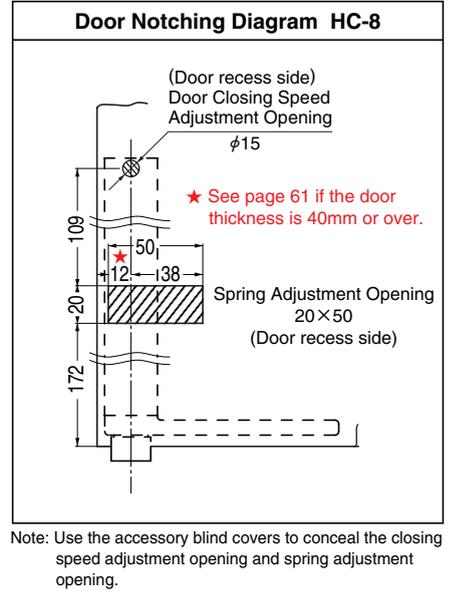
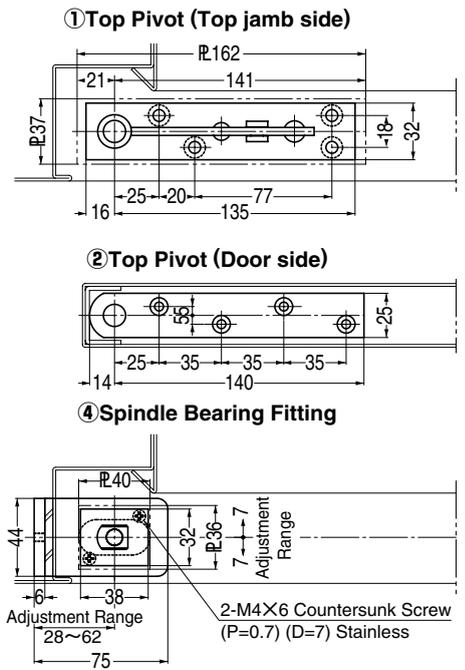
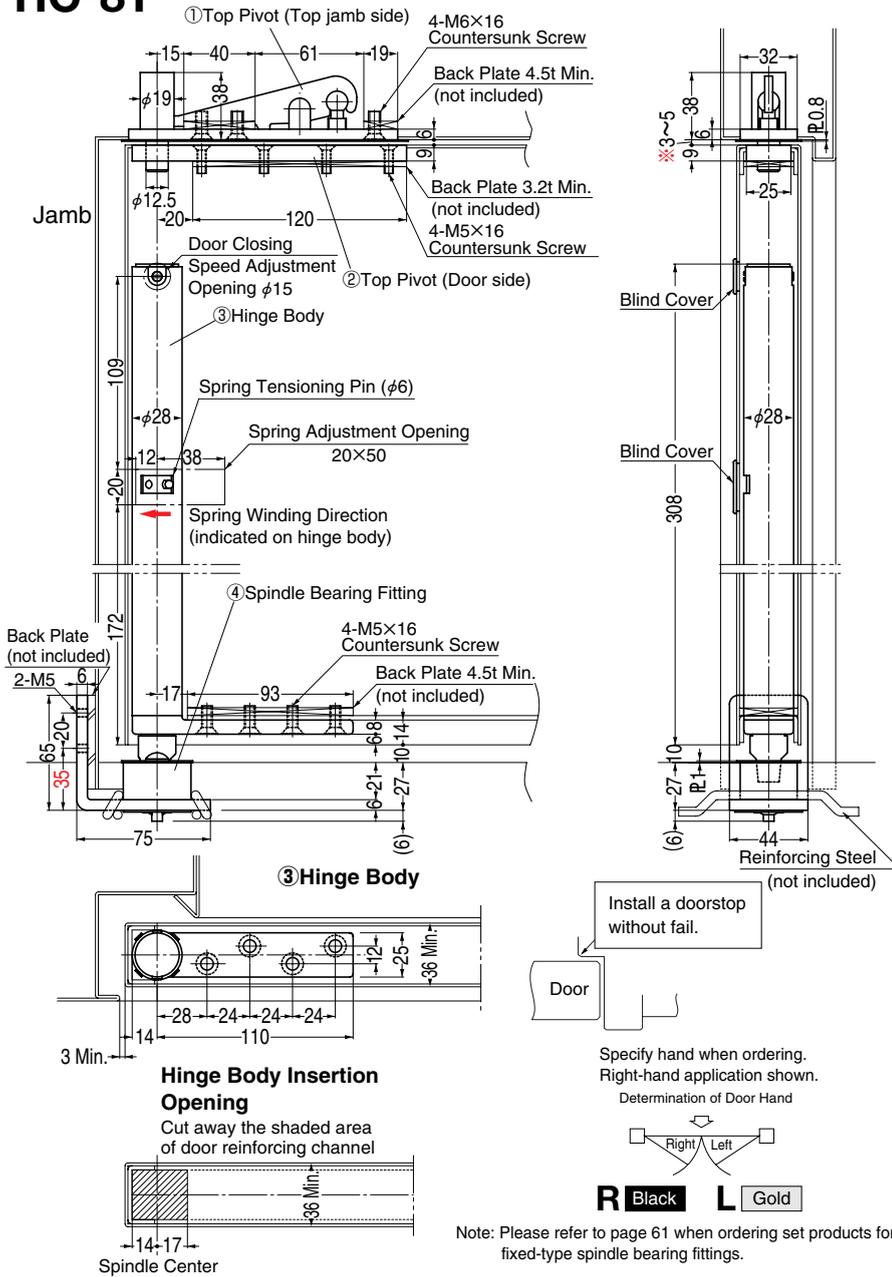
Blind (Rubber) Cover Attachment

Attach the supplied rubber covers to the adjustment openings.

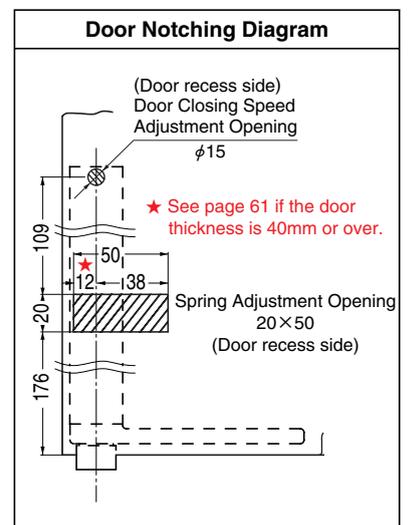
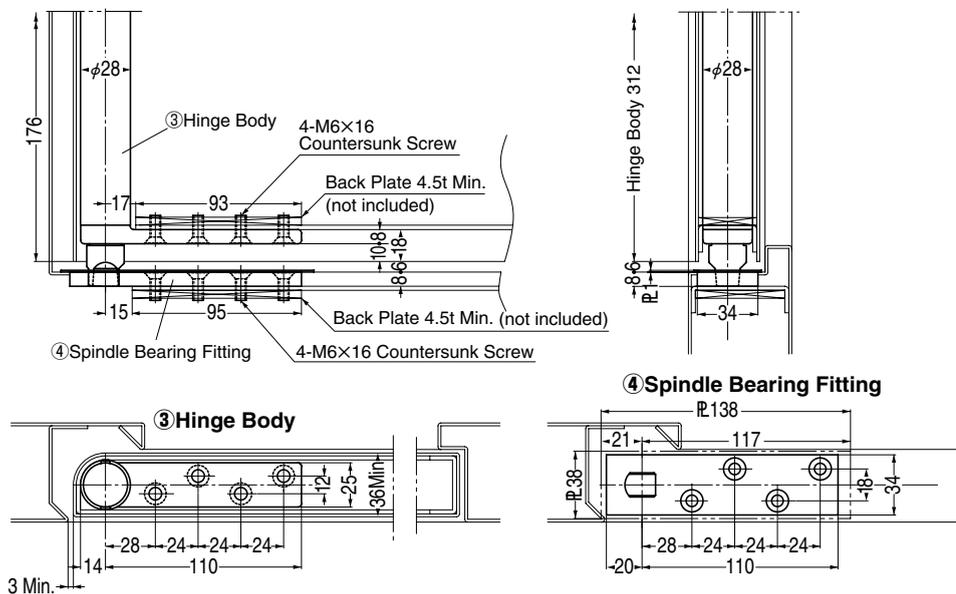


HC-8T

※See page 61 for details of the marked door gap size.

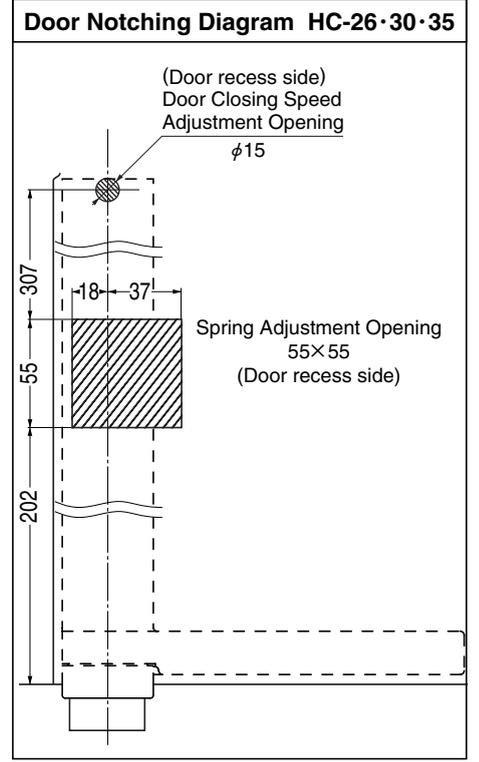
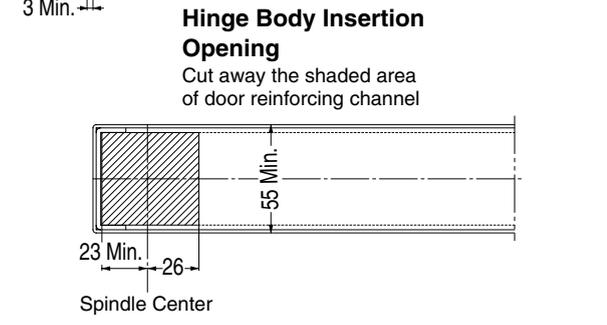
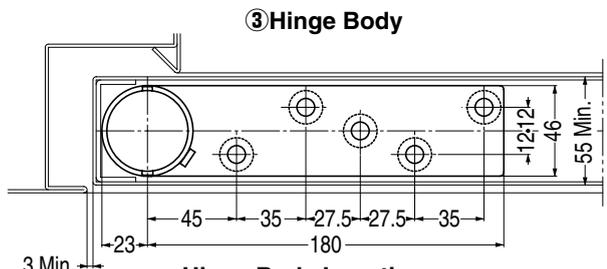
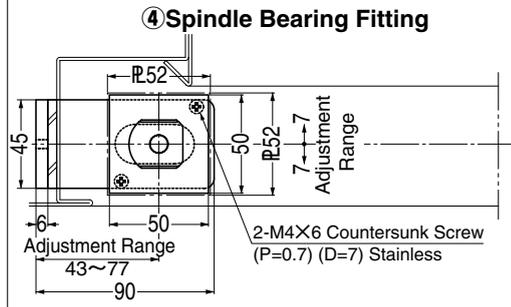
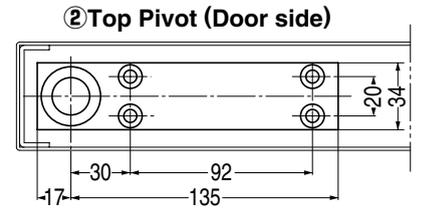
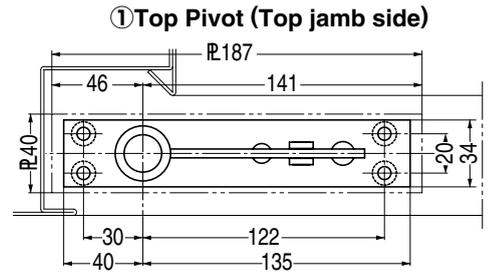
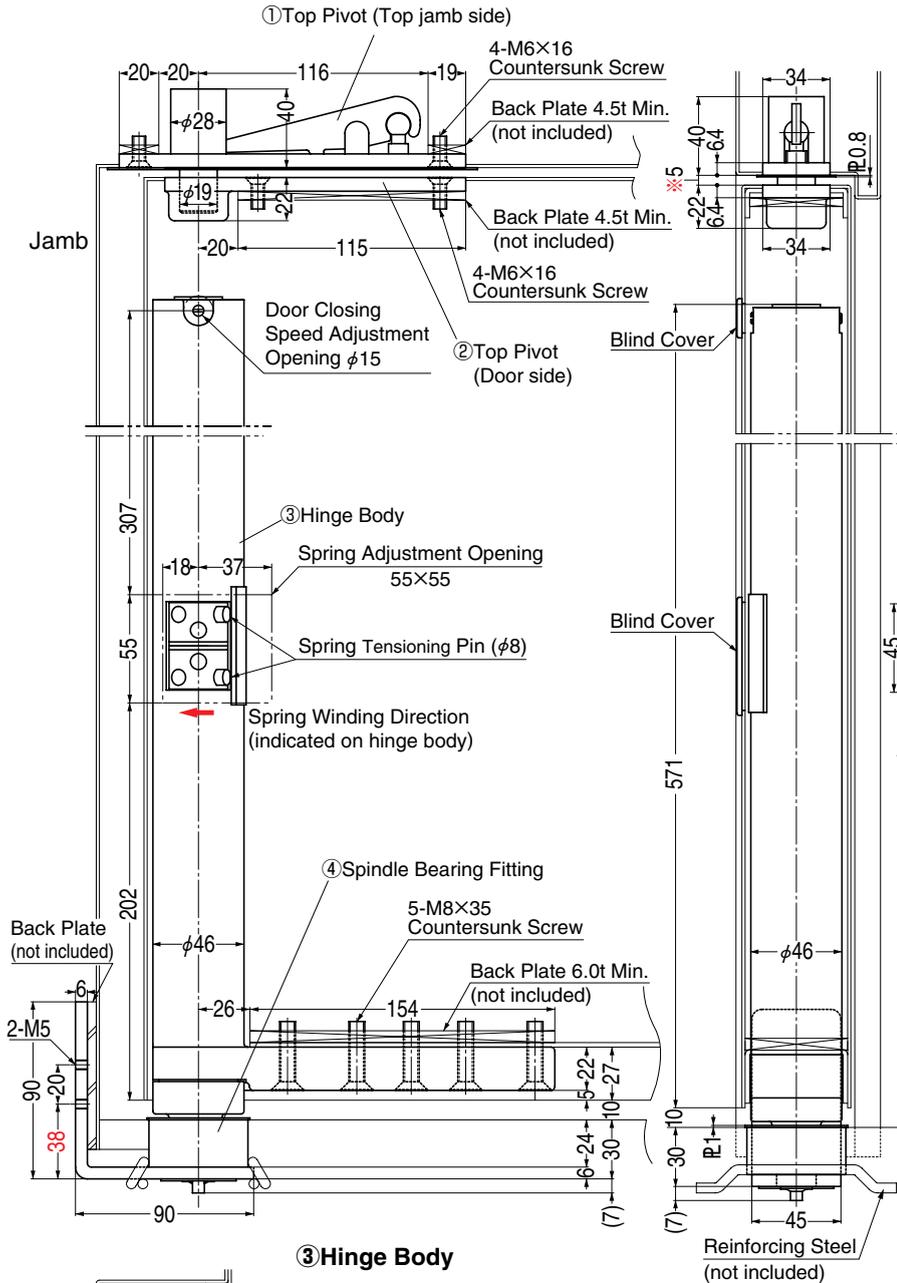


HC-8K FOR WICKET DOOR

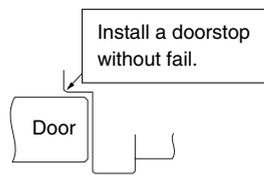


HC-26T·30T·35T

※See page 61 for details of the marked door gap size.



Note: Use the accessory blind covers to conceal the closing speed adjustment opening and spring adjustment opening.



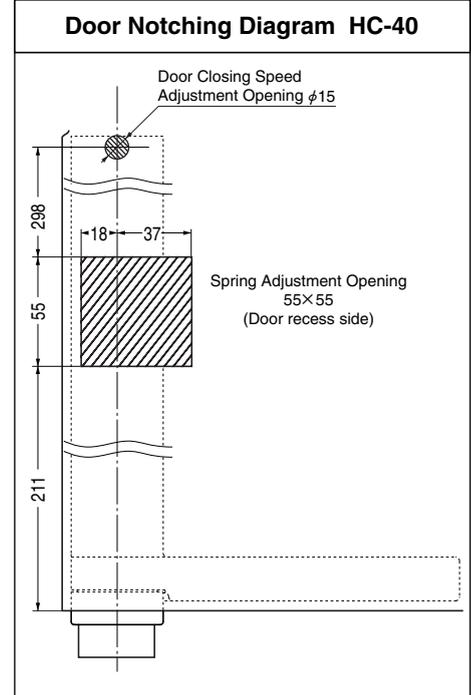
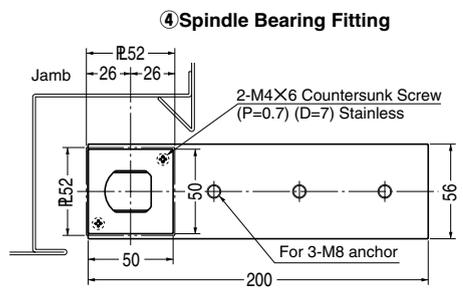
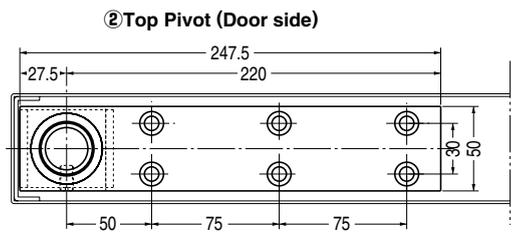
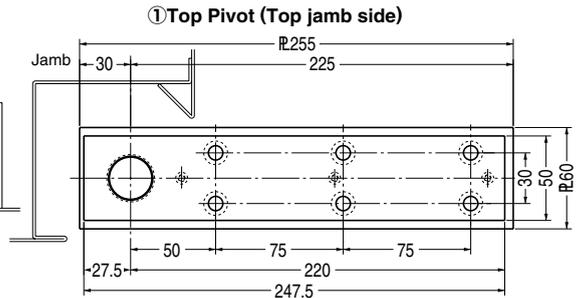
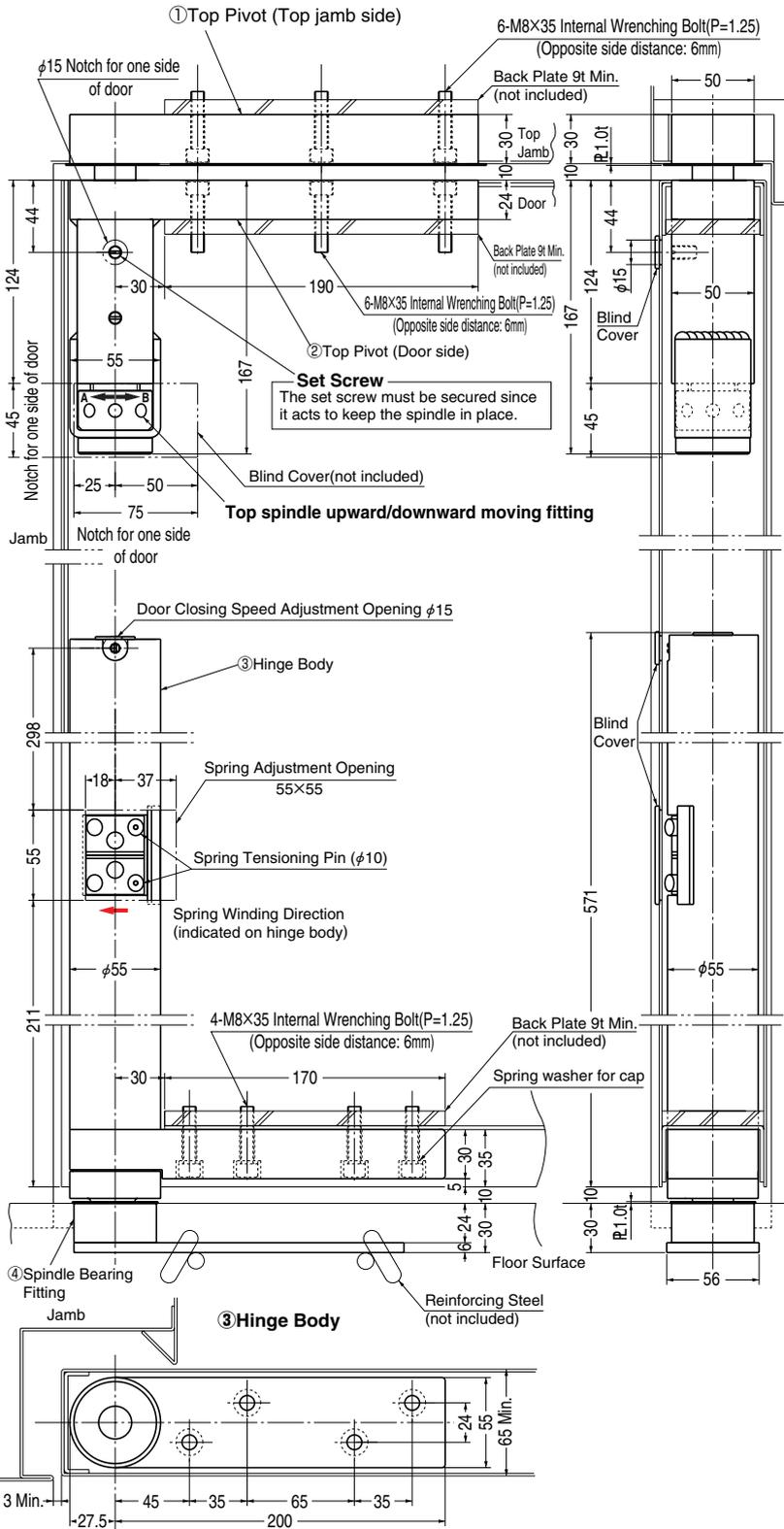
Specify hand when ordering. Right-hand application shown. Determination of Door Hand



R Black **L** Gold

Note: Please refer to page 61 when ordering set products for fixed-type spindle bearing fittings.

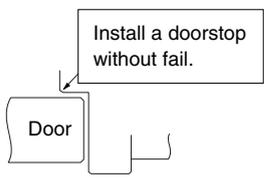
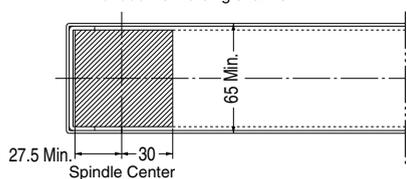
HC-40



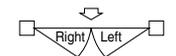
Note: Use the accessory blind covers to conceal the closing speed adjustment opening and spring adjustment opening.

Hinge Body Insertion Opening

Cut away the shaded area of door reinforcing channel



Specify hand when ordering. Right-hand application shown. Determination of Door Hand

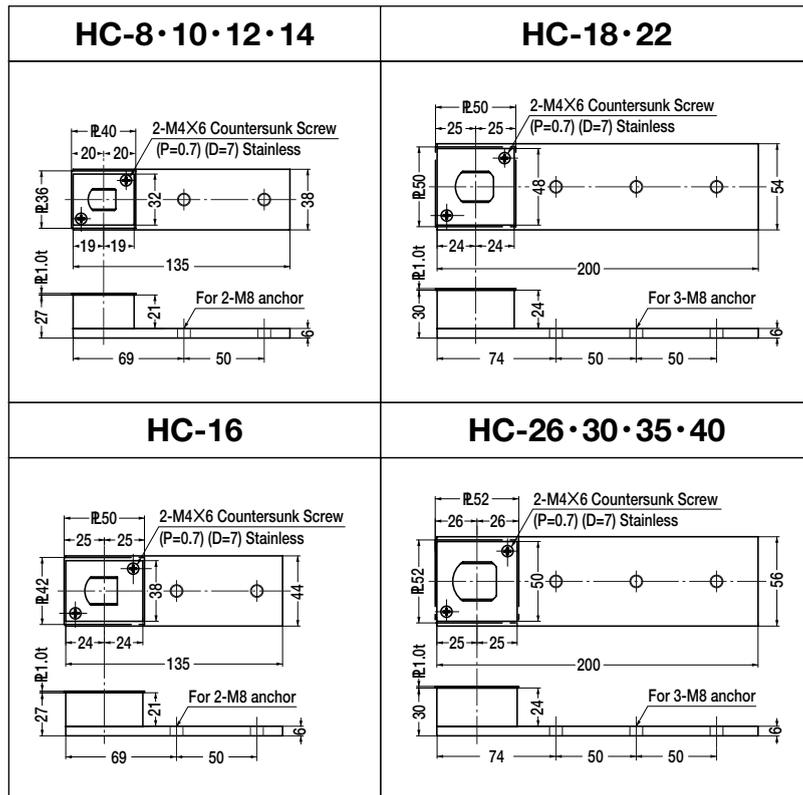


R Black **L** Gold

Semi-Standard Spindle Bearing Fitting

Fixed-Type Spindle Bearing Fitting

Upper Door Gap Sizes of Hanging Doors

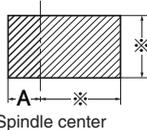


Model	Door gap size mm	Door thickness mm	Door height mm
HC-8	3	36~65	1501~
	5		400~1500
HC-10·12·14	3	40~65	2101~
	5		1000~2100
HC-16	3	45~65	2101~
	5		1000~2100
HC-18·22	5	50~75	2100~
HC-26·30·35	5	55~75	2400~
HC-40	10	65~75	2400~

Note: When ordering set products for fixed-type spindle bearing fittings, please indicate the appropriate Set Product No. Ordering example: HC-12

Door Thickness and Regulating Window Cutout (A) Sizes for Spring Adjustment

Regulating window cutout for spring adjustment



See the door cutout illustration of each model for the marked sizes.

Model	Door thickness mm	30	40	50	60	70	80	100
HC-8			12	14	16	18		
HC-10·12·14			13	15	17	19		
HC-16				16	19	21		
HC-18·22					18			
HC-26·30·35					18			
HC-40					18			

Contact your NIPPON DOOR CHECK representative for door thicknesses other than the above.

Bearing Mounting Plate

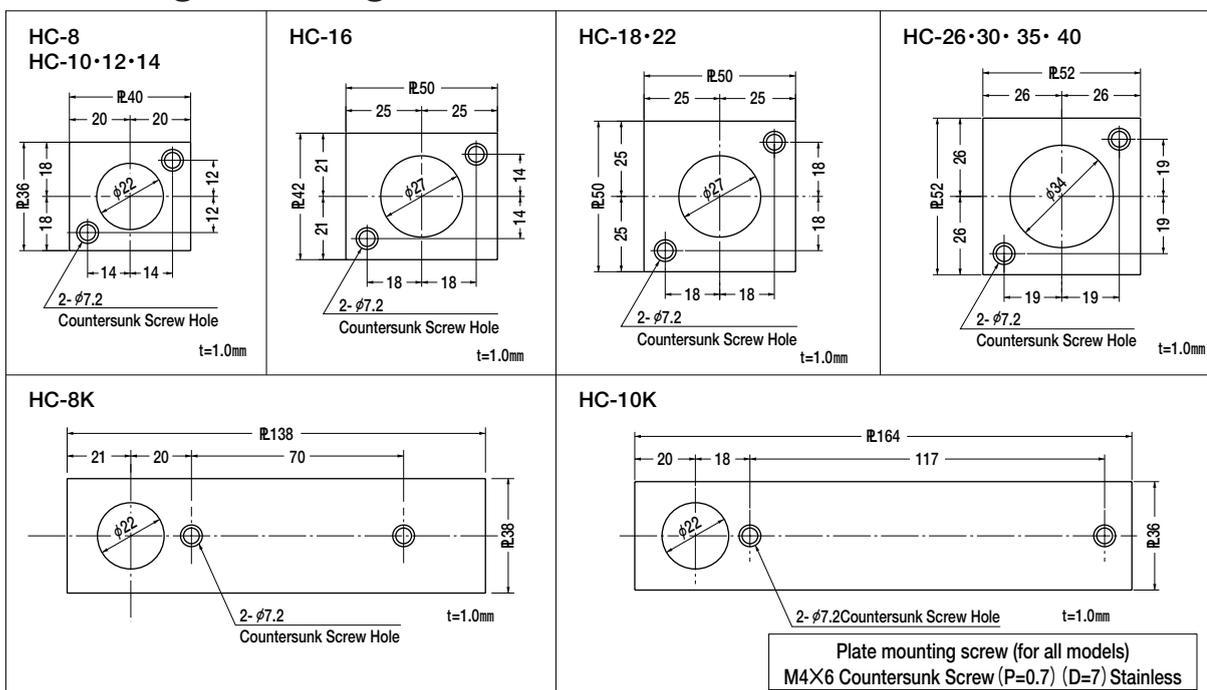
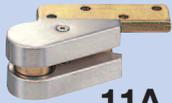


Plate mounting screw (for all models)
M4X6 Countersunk Screw (P=0.7) (D=7) Stainless

PIVOT HINGES

Offset-Hung



11A



11B



11C



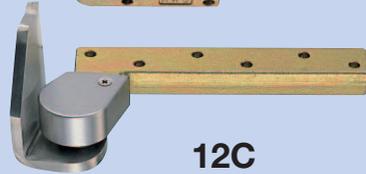
12A



12B



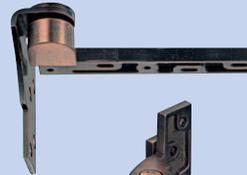
12C



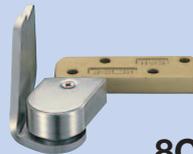
TO-130



8C-5



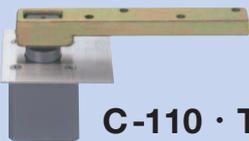
7NT



7N

Bronze

Center-Hung



C-110 · TC-120



TC-130



C-1 · C-2 · C-3

Intermediate Pivot Hinges(Optional)

Left-and-Right Type

Intermediate hanging brackets prevent the warping of doors and the toppling of large-sized or heavy doors.

Offset-Hung



11A
11B
11C



12A
12B



12C
8C-5
8C-7



TO-120
O-120AN



TO-130
O-130AN

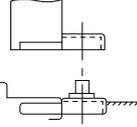
● Material
Stainless
Hairline finish

● Material
Steel(SS400)
Dull chrome plated finish

- A pivot hinge is a fitting for hanging doors which replaces the traditional butterfly hinge.
- Handed and with offset-hung, pivot hinges are suitable for both interior and exterior doors.
- High rotational resistance ensures constantly smooth opening and closing of the door.
- These hinges show excellent tolerance for heavy use with no dislocation of the hinge spindle or sagging of the door.
- **Offset-hung pivot hinges come in right or left handed (except 7N and 7NT).**

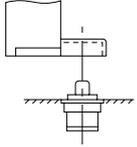
Doorsill Inserting Type A

With steel frames, fitting to the doorsill at the factory ensures trouble-free hanging at the actual site.



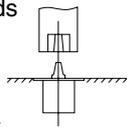
Embedding Type B

A spindle embedded in the floor supports the entire weight of the door, ensuring reliable and durable operation.



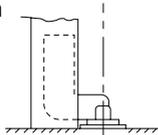
Embedding Body Type B

A large cast-iron body that embeds in the floor makes this model suitable for heavy door applications. May be used with fire-rated doors.



Jamb-Fixing Type C

Fitting of jamb-fixing type can be completed at the factory. Since there is no need for a spindle to be embedded in the floor, this model is especially suitable when floors cannot be cut away due to carpet or other floor coverings.



Door Type / Hanging Method		Model Number	Applicable Door Dimensions DW×DH mm	Maximum Door Weight kg	Material	Finish	
Offset-Hung	Doorsill-Inserting	11A	900×2100	70	Steel	Stainless Cover, Hirline Finish	
		12A	1050×2100	120			
	For Steel Frames / Doors	Embedding	11B	900×2100	70	Steel	Stainless Cover, Hirline Finish
			12B	1050×2100	120		
		Embedding Body	TO-120	1100×2400	185	Steel	Stainless Cover, Hirline Finish
			TO-130	1600×2800	300		
	Jamb-Fixing	11C	900×2100	70	Steel	Stainless Cover, Hirline Finish	
		12C	1050×2100	120			
	For Wooden Frames / Doors	Jamb-Fixing	7N	900×2100	55	Diecast Zinc	Colored Plating
			7NT				
	Embedding Body	TO-120W	1100×2400	110	Steel	Stainless Cover, Hirline Finish	
		TO-130W	1600×2800	300			
Center-Hung	For Steel Frames / Doors	Embedding Body	C-110	900×2100	75	Steel	Stainless Cover, Hirline Finish
			TC-120	1100×2400	185		
			TC-130	1600×2800	300		
		Embedding Body	C-1	900×2100	70	Steel	Stainless Cover, Hirline Finish
			C-2	1050×2100	120		
			C-3	1500×2400	180		

There is the right and left hand for Offset-hung pivot hinges (except 7N and 7NT only)

① Top Pivot (Top Jamb Side)

4-M5×20 Countersunk Screw (P=0.8) (not included)

Jamb

Top Jamb

R18

② Top Pivot (Door Side)

4-M6×20 Countersunk Screw (P=1.0)

Set Screw

R18

The set screw must be secured since it acts to keep the spindle in place.

8C-5 FOR STEEL DOOR (WELDABLE)

Cap

Back Plate (not included)

Top Jamb

Back Plate 3.2t Min. (not included)

Door

Min. 40

Back Plate 3.2t Min. (not included)

Spindle Plate Screw

In order to prevent bottom spindle base deformation or damage, tighten this screw lightly before hanging the door until the screw comes in contact with the floor surface.

③ Arm

4-M6×20 Countersunk Screw (P=1.0)

R18

④ Bottom Spindle Base

Back Plate (not included)

Jamb

4-M5×20 Countersunk Screw (P=0.8) (not included)

R18

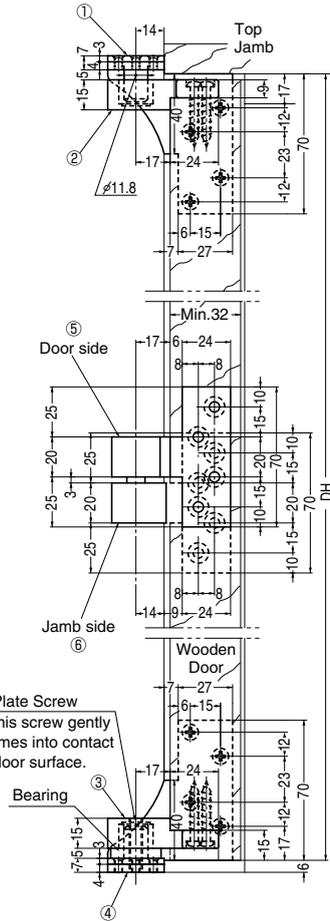
Specify hand when ordering.
Right-hand application shown.
Determination of Door Hand

Add the suffix TAP to the tap-type model (with the ① and ④ tap holes processed). (Optional) Ordering example: 8C-5 TAP
Refer to dimensions in the parentheses for the tap holes.
Add the suffix ①T to the model with an ① cover elongation of 3mm. (Optional) Ordering example: 8C-5 ①T

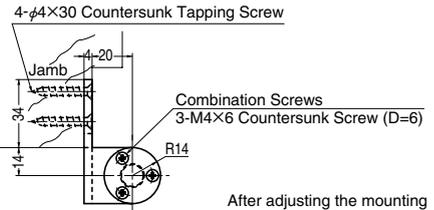
7N·7NT

FOR WOODEN DOOR

Dual handed.
Right-hand application shown.
Determination of Door Hand

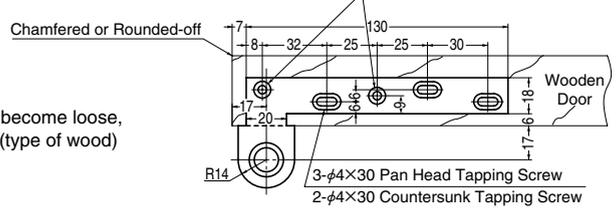


① Top Pivot (Top Jamb Side)



After adjusting the mounting position through the oval holes, tighten these screws firmly.

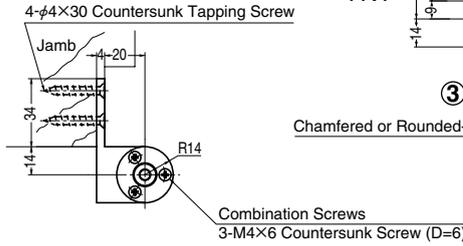
② Top Pivot (Door Side)



Note: The mounting screws may become loose, depending on the material (type of wood) of the door.

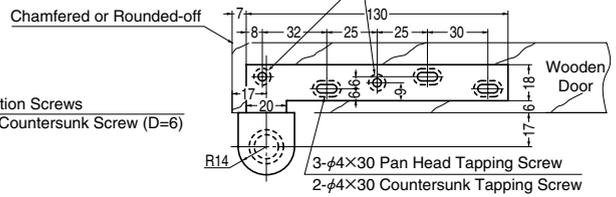
4-φ5.1×25 Countersunk Wooden Screw

④ Bottom Spindle Base



4-φ5.1×25 Countersunk Wooden Screw
Invert for left-handed doors.

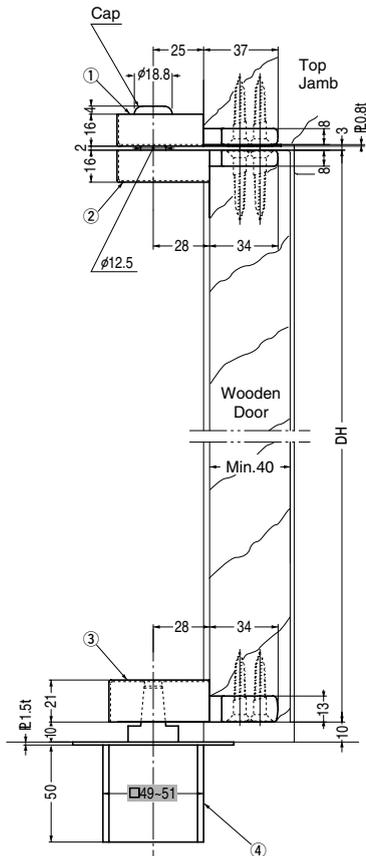
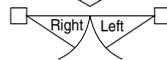
③ Arm



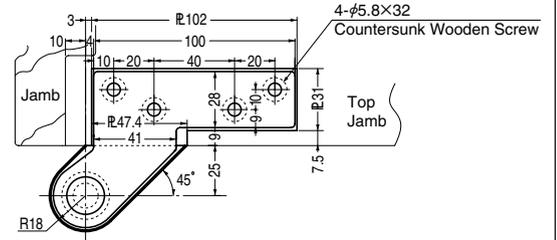
TO-120W

FOR WOODEN DOOR

Specify hand when ordering.
Right-hand application shown.
Determination of Door Hand

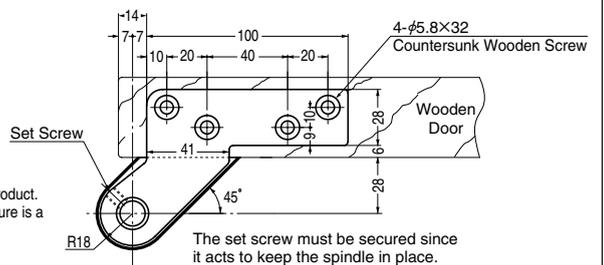


① Top Pivot (Top Jamb Side)



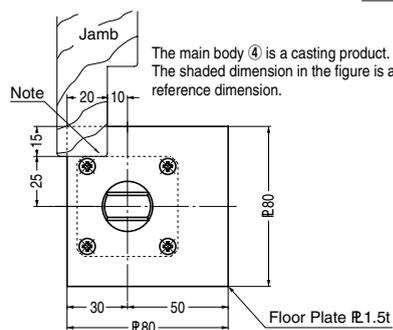
Note: The mounting screws may become loose, depending on the material (type of wood) of the door.

② Top Pivot (Door Side)



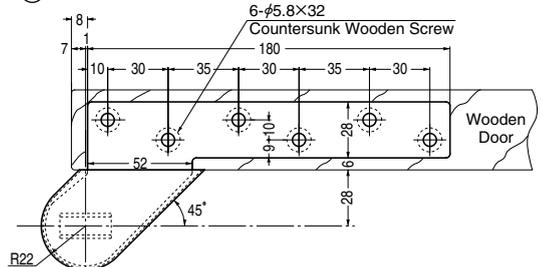
The set screw must be secured since it acts to keep the spindle in place.

④ Main Body



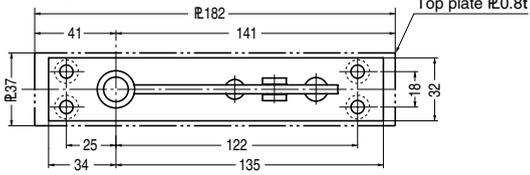
Note: Give instructions when ordering if the floor plate cutout is required.

③ Arm



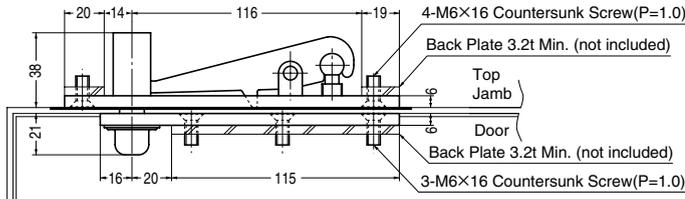
Embed and fix the main body securely with mortar.

① Top Pivot (Top Jamb Side)

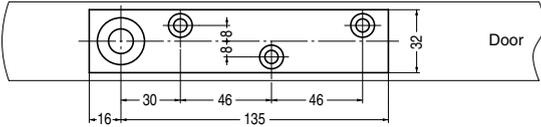


**C-1
FOR STEEL DOOR**

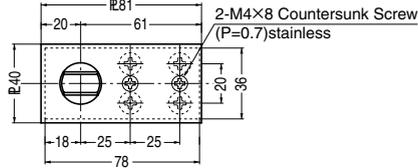
Please add the suffix "ZI" to the article numbers when the Type Z Top pivot is required: e.g. C-1 ZI.



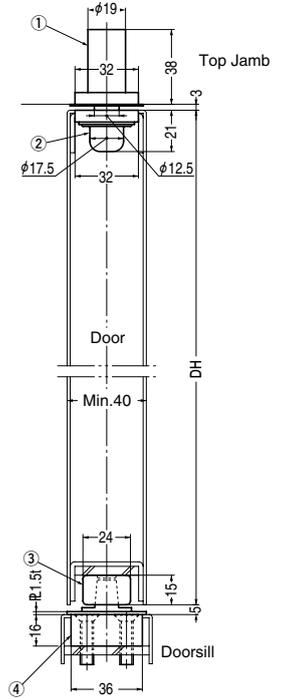
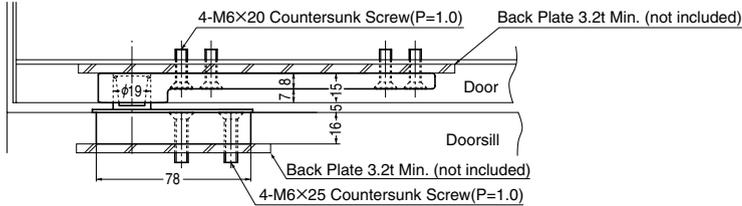
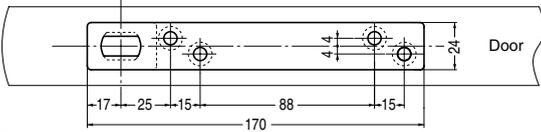
② Top Pivot (Door Side)



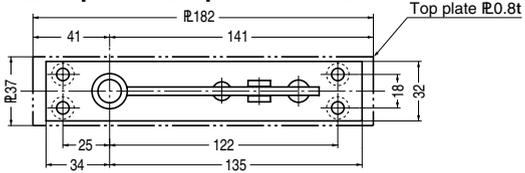
④ Main Body



③ Arm

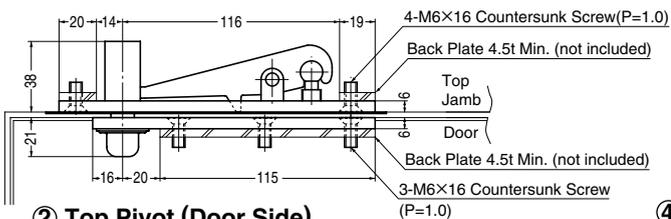


① Top Pivot (Top Jamb Side)

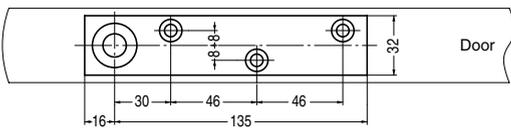


**C-2
FOR STEEL DOOR**

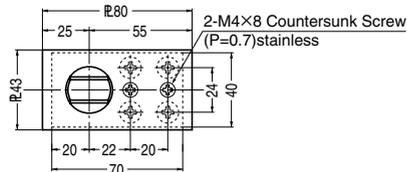
Please add the suffix "ZII" to the article numbers when the Type Z Top pivot is required: e.g. C-2 ZII.



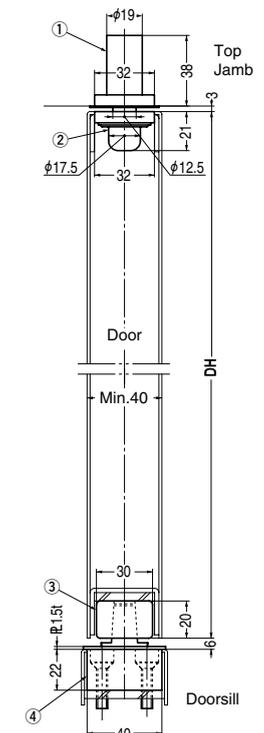
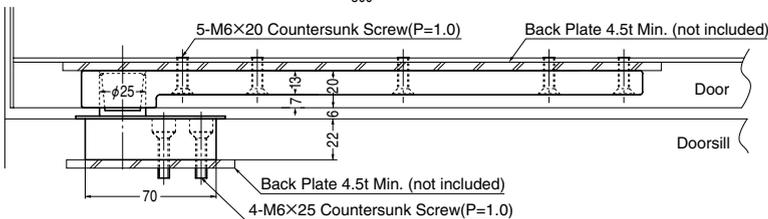
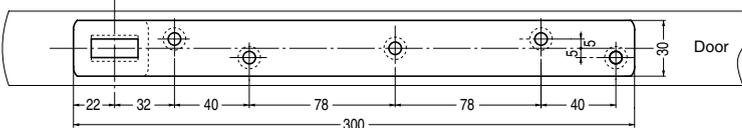
② Top Pivot (Door Side)



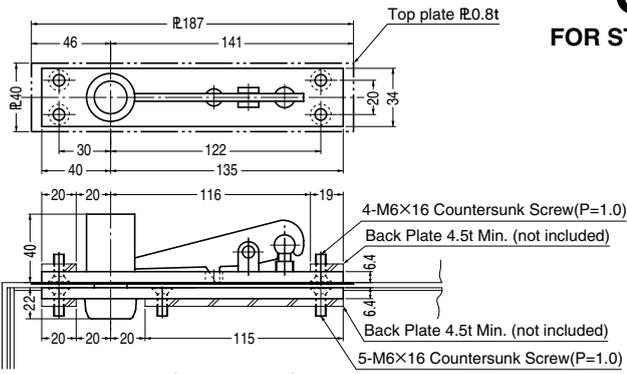
④ Main Body



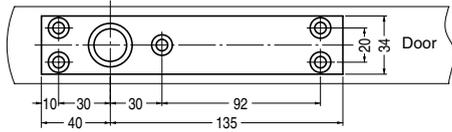
③ Arm



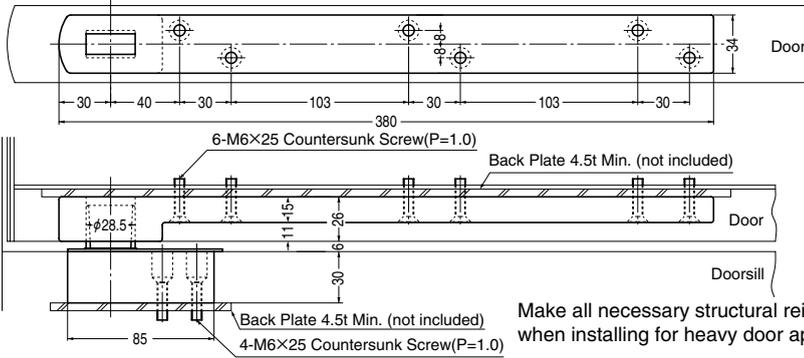
① Top Pivot (Top Jamb Side)



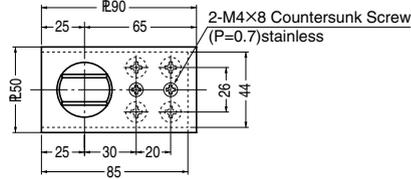
② Top Pivot (Door Side)



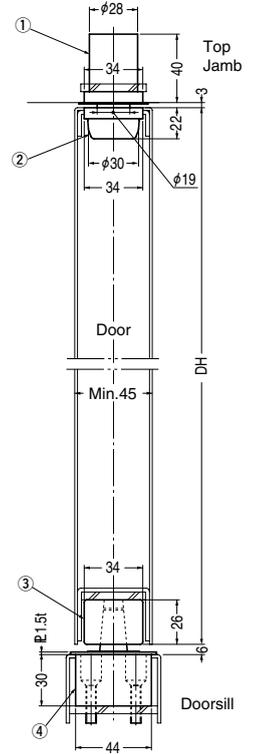
③ Arm



④ Main Body

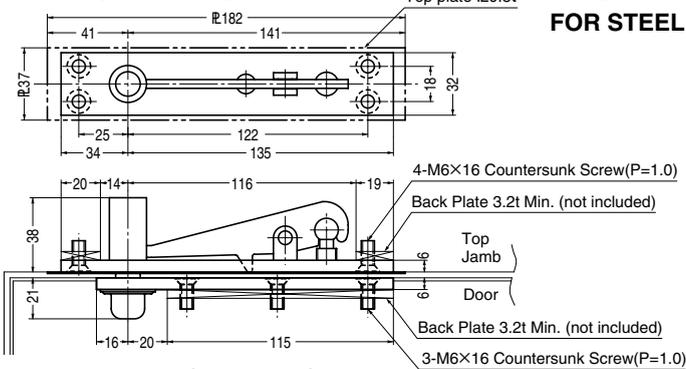


Please add the suffix "ZIII" to the article numbers when the Type Z Top pivot is required: e.g. C-3 ZIII.

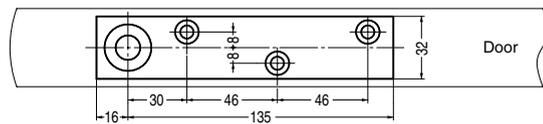


Make all necessary structural reinforcements, etc., when installing for heavy door applications.

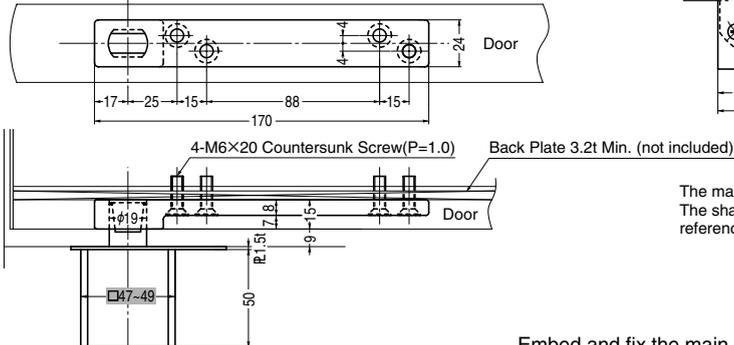
① Top Pivot (Top Jamb Side)



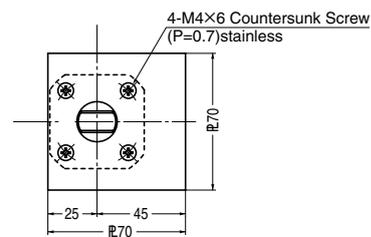
② Top Pivot (Door Side)



③ Arm

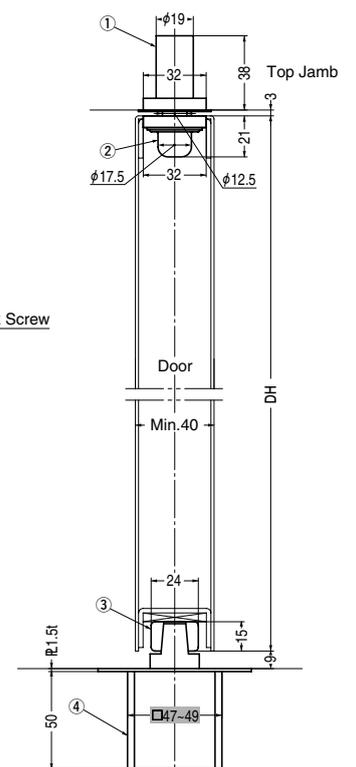


④ Main Body



The main body ④ is a casting product. The shaded dimension in the figure is a reference dimension.

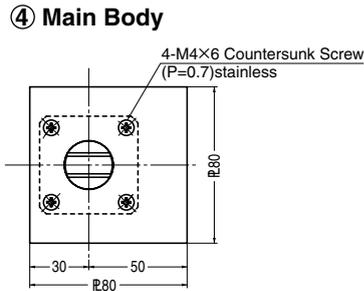
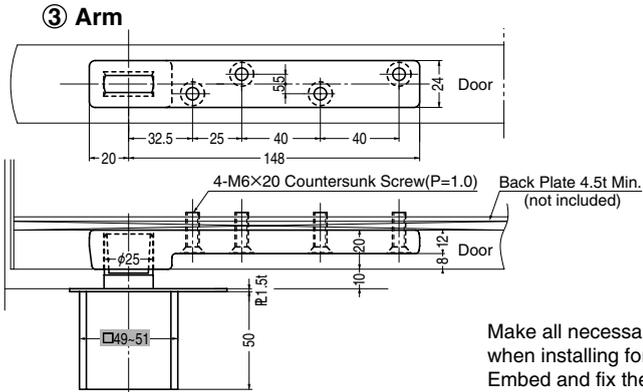
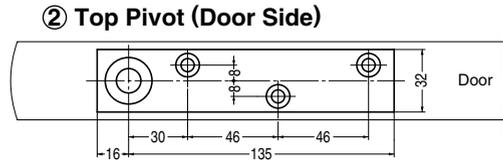
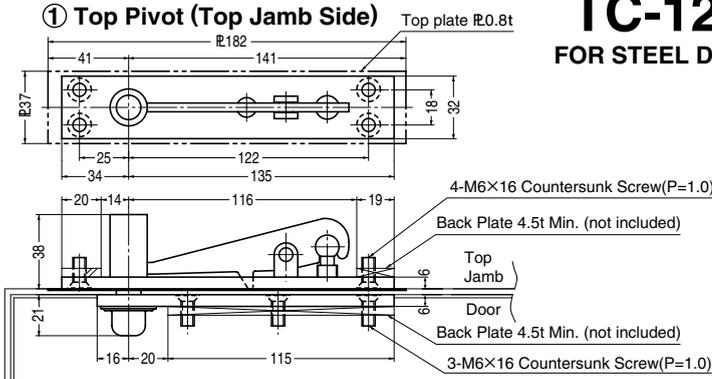
Please add the suffix "ZI" to the article numbers when the Type Z Top pivot is required: e.g. C-110 ZI.



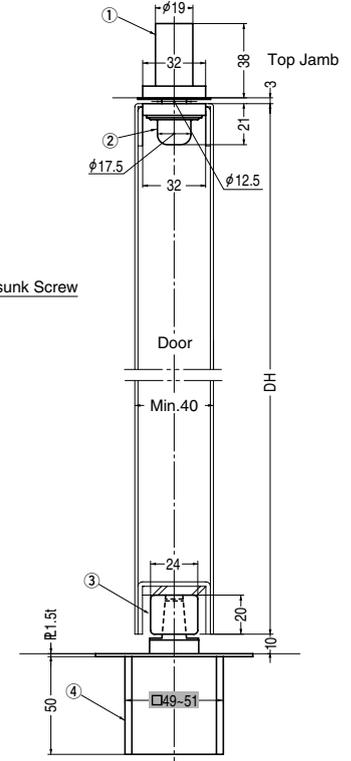
Embed and fix the main body securely with mortar.

TC-120 FOR STEEL DOOR

Please add the suffix "ZII" to the article numbers when the Type Z Top pivot is required: e.g. TC-120 ZII.



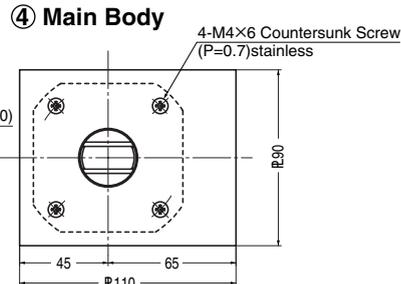
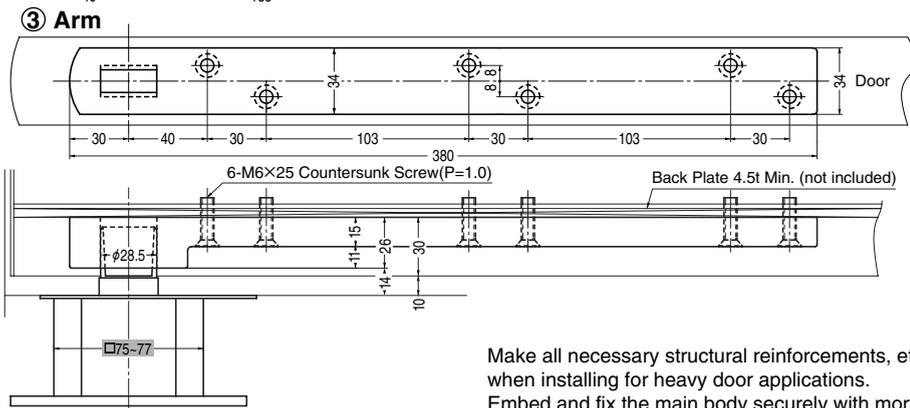
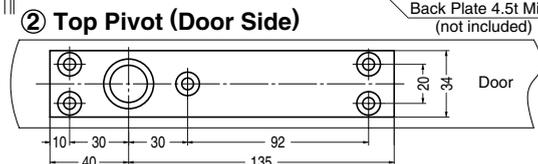
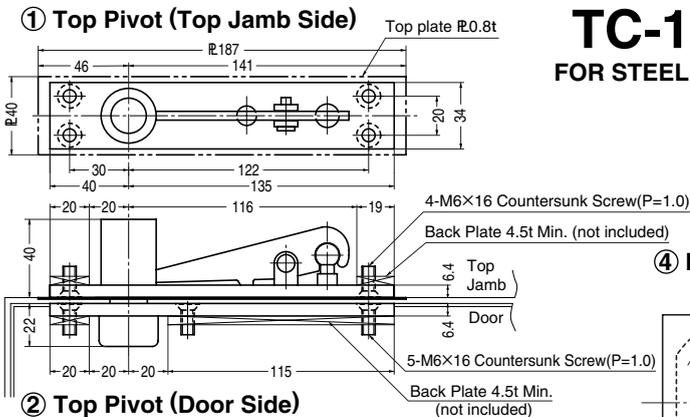
The main body ④ is a casting product. The shaded dimension in the figure is a reference dimension.



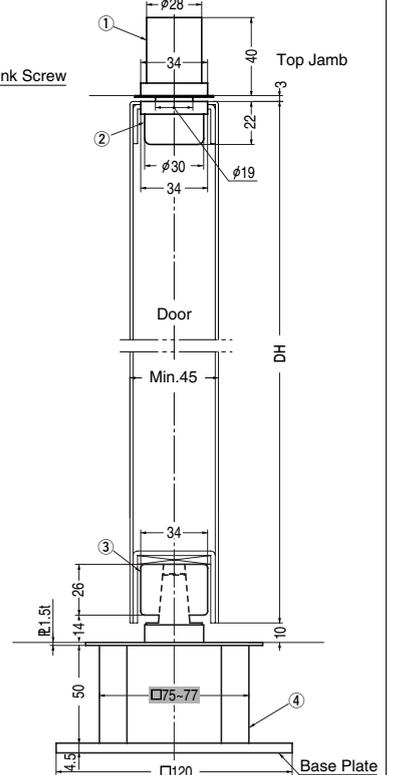
Make all necessary structural reinforcements, etc., when installing for heavy door applications. Embed and fix the main body securely with mortar.

TC-130 FOR STEEL DOOR

Please add the suffix "ZIII" to the article numbers when the Type Z Top pivot is required: e.g. TC-130 ZIII.



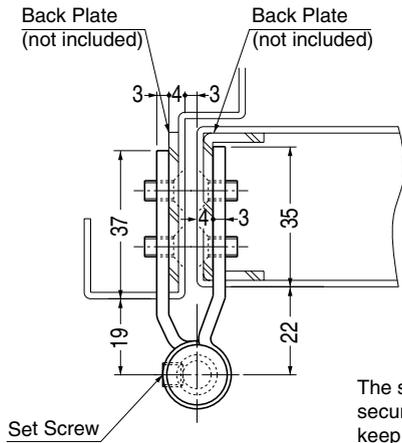
The main body ④ is a casting product. The shaded dimension in the figure is a reference dimension.



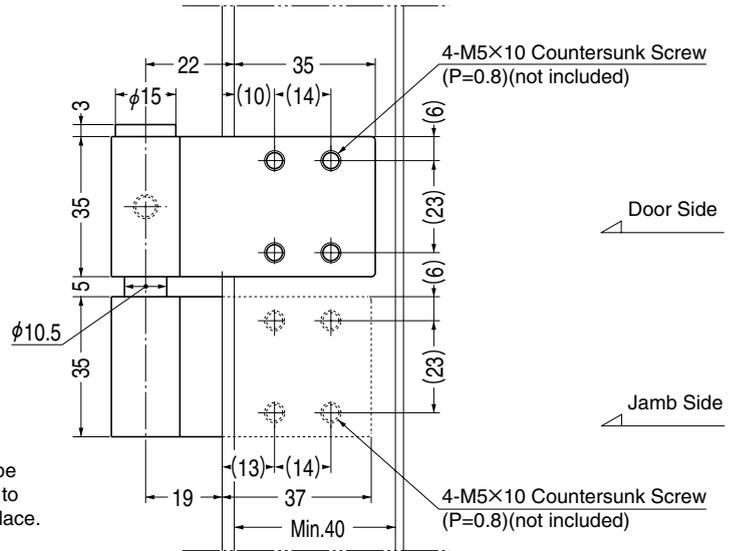
Make all necessary structural reinforcements, etc., when installing for heavy door applications. Embed and fix the main body securely with mortar.

Intermediate Pivot Hinges **Offset-Hung**

11A·11B·11C



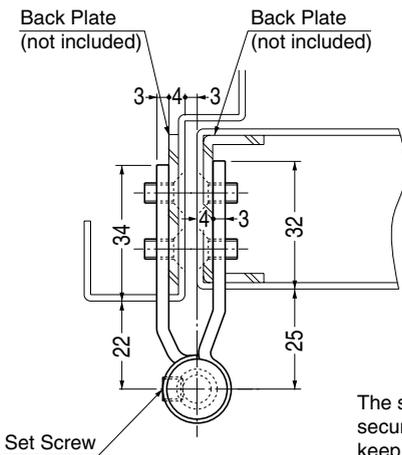
The set screw must be secured since it acts to keep the spindle in place.



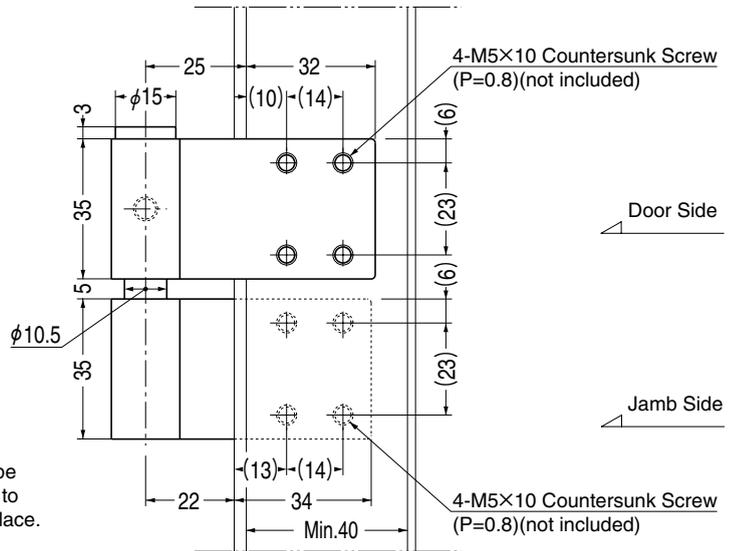
■ Figures in parentheses are for optional for tap models.

Right-hand application shown.

12A·12B



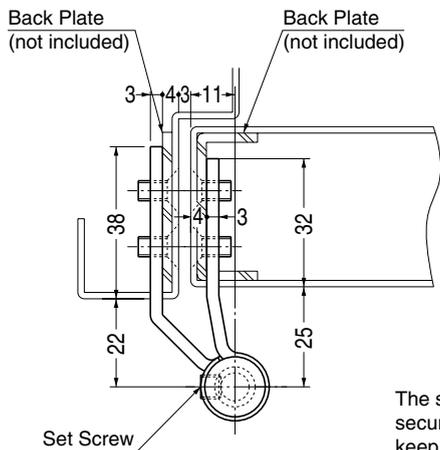
The set screw must be secured since it acts to keep the spindle in place.



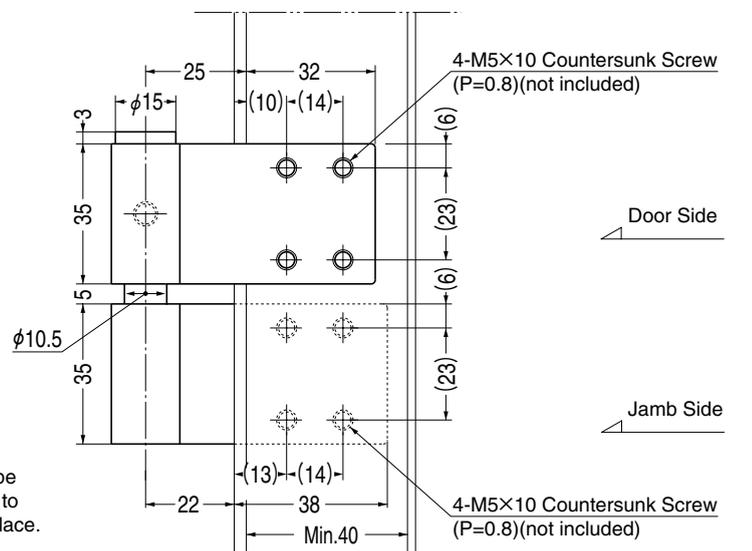
■ Figures in parentheses are for optional for tap models.

Right-hand application shown.

12C·8C-5·8C-7



The set screw must be secured since it acts to keep the spindle in place.

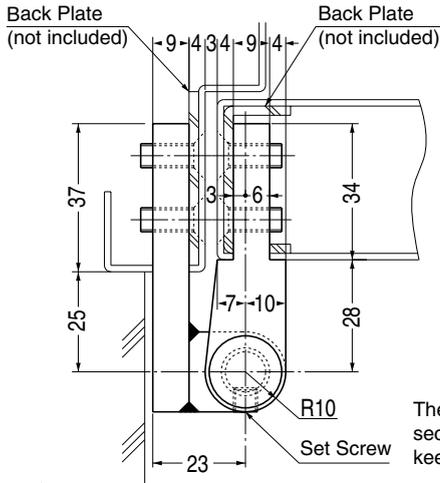


■ Figures in parentheses are for optional for tap models.

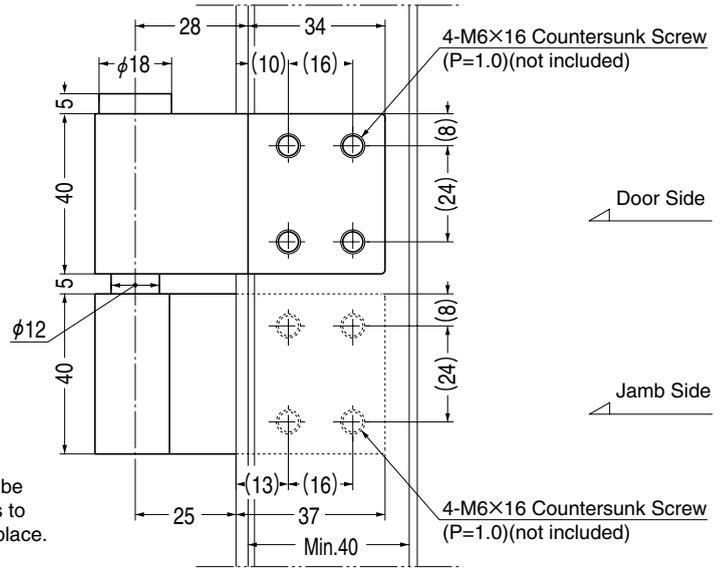
Right-hand application shown.

Intermediate Pivot Hinges **Offset-Hung**

TO-120·O-120AN



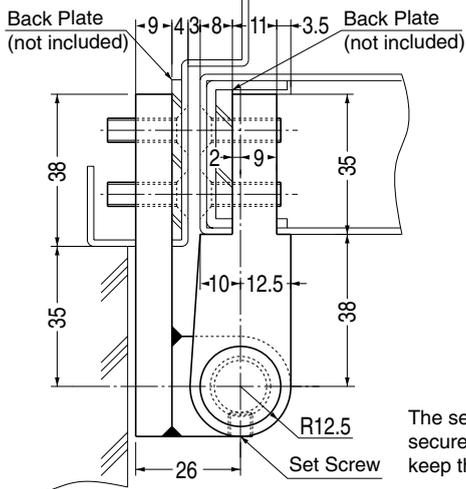
The set screw must be secured since it acts to keep the spindle in place.



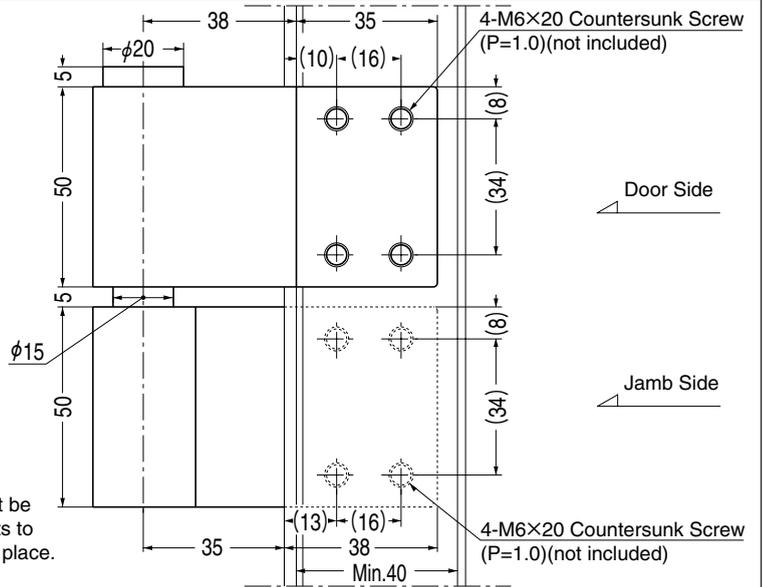
■ Figures in parentheses are for optional for tap models.

Right-hand application shown.

TO-130·O-130AN



The set screw must be secured since it acts to keep the spindle in place.



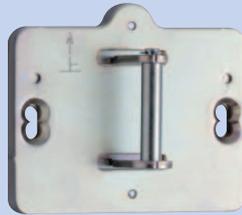
■ Figures in parentheses are for optional for tap models.

Right-hand application shown.

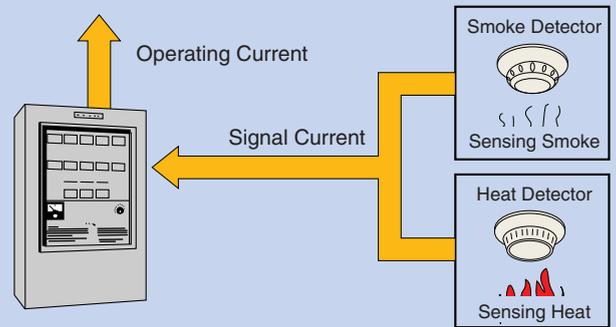
FIRE DOOR CLOSER

RM-2

Wall Concealed Type



■ Self-closing System for Fire and Smoke Protection Doors



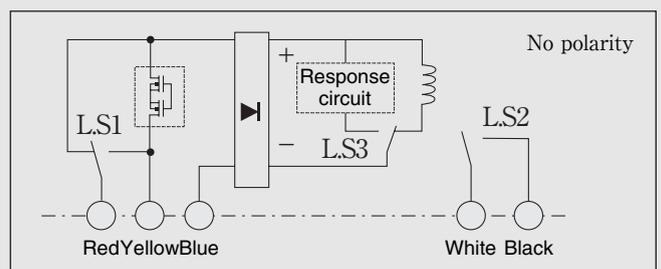
Specifications

Model	RM-2
License number of self-assessment mark	C-12-1
Mechanism Type	Emergency circuit type
Rated Voltage	DC24V
Rated Current	50mA±10%
Applicable Voltage Range	DC16V~DC32V
Door Hold Capacity	245.2N Adjustable range: 98~686.0N
Working Temperature Range	-10°C ~ +40°C
Limit Switch Contact Rating	AC125V, 3A DC30V, 2A
Lead Wire	Heat-resistant vinyl-sheath wire Conductor: 0.5mm ²
Counter-Relock Method	Electrical and mechanical
Projection Adjustment Range	15mm ~ 40mm (Dimensions A of external diagram)
Embedding Box	Large size square outlet box (Shallow or deep)
Cover	Provided with margin for two cover switches
Finish	Main body: SPCC Cover plate; ABS resin
Weight	Approximately 0.75 kg (Including door hold hook)

- Rated current of 50 mA.
- No polarity.
- Embedded into the wall on the door pocket side of a fireproof and smokeproof door.
- Withstands impact resulting from the door bumping into people, and is available to doors ranging from small to large in size.
- Adjustable holding force (98N to 686N)
- Provided with a re-lock prevention mechanism (manually reset).

Model Number	Applicable models	
RM-2	Door Closers	P-83~P-86, P-7003~P-7007
	Floor Hinges	F-835~F-865
	Auto Power Hinges	HC-8T~HC-40

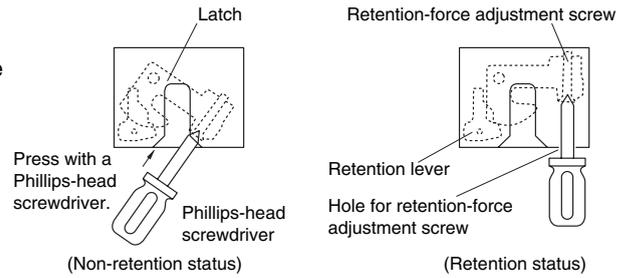
Internal Circuit



Adjustments to Retention Force

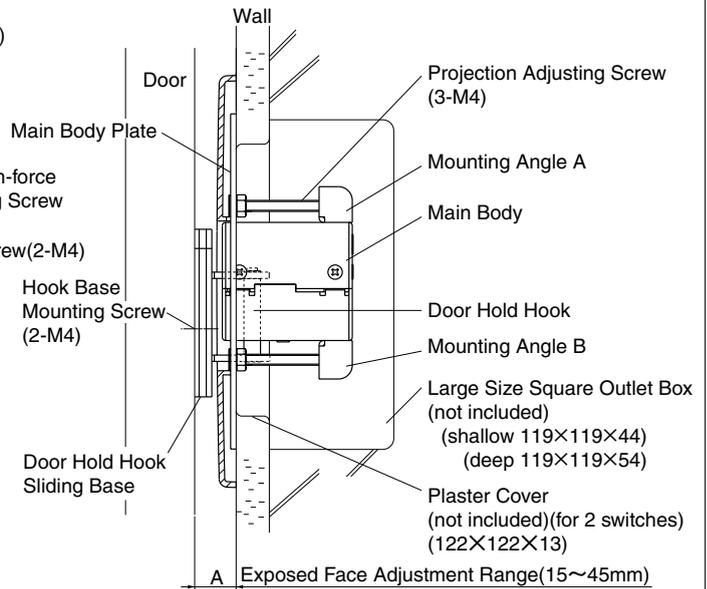
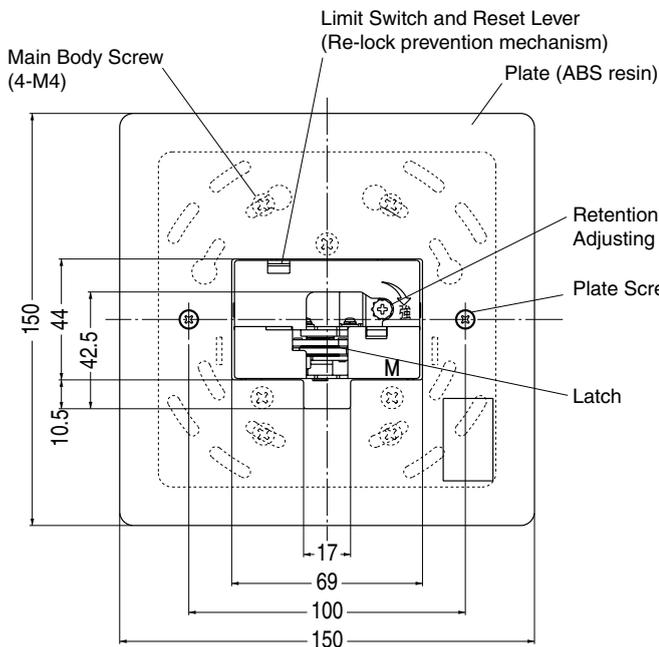
- The retention force is set to 245.2N before shipping.
- If the retention force needs to be adjusted, however, take the following procedure.

- Press the retention-force adjustment screw with a Phillips-head screwdriver to hold the fire-retarding door.
 - Insert the Phillips-head screwdriver into the hole for the retention-force adjustment screw, and turn the screw to adjust the retention force.
 - The retention force will become lower (to a minimum of 98N) with the retention-force adjustment screw rotated counterclockwise and become higher (to a maximum of 686.0N) with the retention-force adjustment screw rotated clockwise.
- Approximately 98.2N with the screw rotated one turn counterclockwise
 - Approximately 441.2N with the screw rotated one turn clockwise

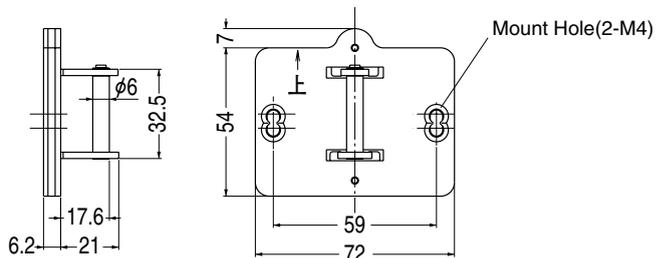


Resetting Method

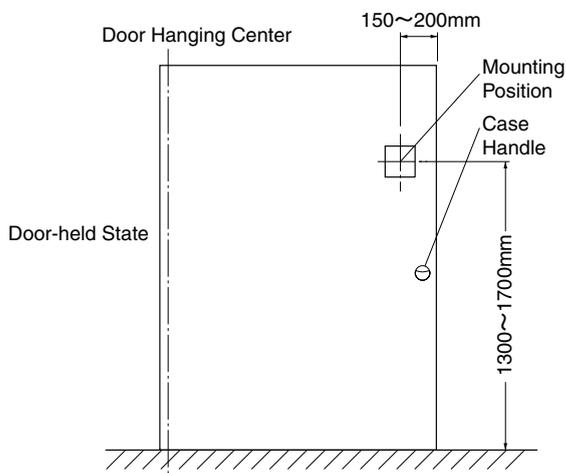
- This product is provided with a function to prevent relocking.
- To hold the fire-retarding door, press the reset lever on the main unit.



Door Hold Hook (attach to door)



Mounting Position



DOOR COORDINATORS

SF-150F SF-250F SF-350F

With fire doors of the double-door type, the overlapping structure of the meeting plane of the two doors means that they must be closed in a certain order to be effective. In the event of a fire, the door is automatically closed through the action of a door closer or a floor hinge operating in combination with a heat- or smoke-sensitive device. But it is the door coordinator which performs the vital task of ensuring the correct closing order.

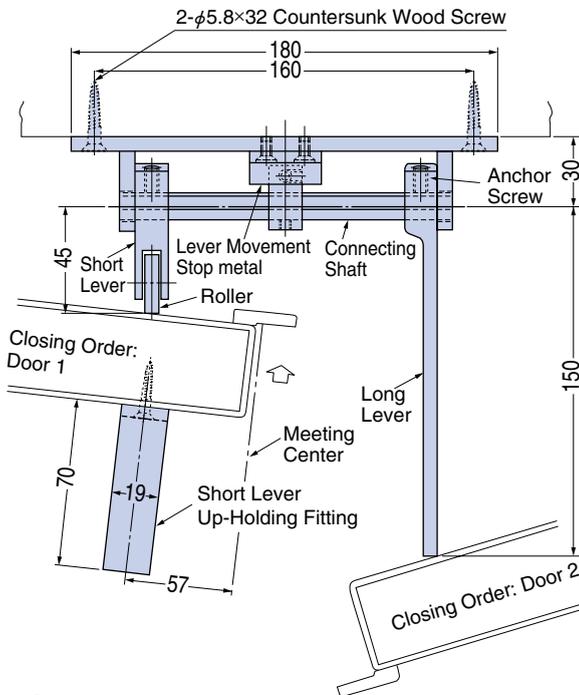


SF-150F



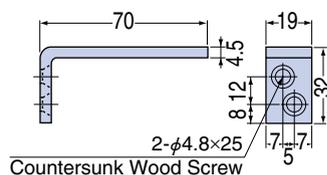
SF-250F
SF-350F

SF-150F

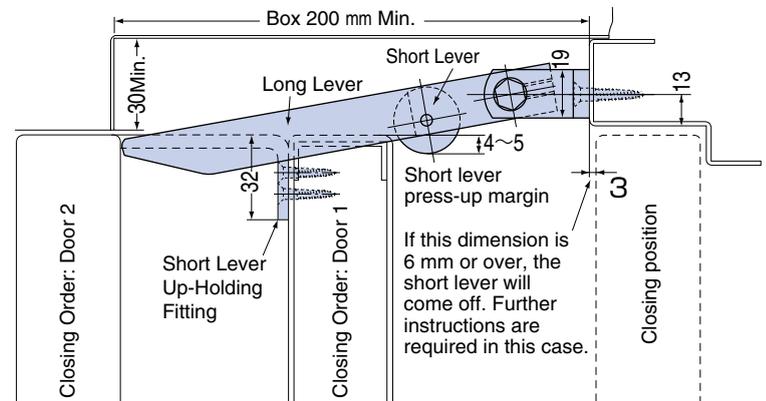
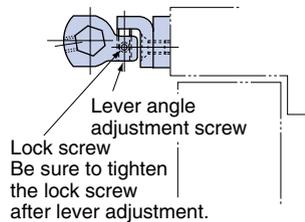


SF-150F Installation Frame Face of Top Jamb

When the ceiling forms the top jamb, cut away part of the ceiling to provide an appropriate top jamb.



Lever movement stop metal (for long and short levers)



Cut out a part of the ceiling and install an extra box if the ceiling surface and the upper frame are the same in level as shown above.

Should overlapping of the doors be in the reversed order, then the two levers (short and long) must be detached and placed in the opposite positions to those shown in the diagram.

SF-250F · SF-350F (Export use model)

How the coordinator works

If the second door in order begins to close first, the lever of the coordinator stalls it in slightly open position. As the other door overtakes, its outer edge brushes against the lever, causing the latter to collapse sideways. The second door can then continue to close, tucking the lever away beneath itself as it does.

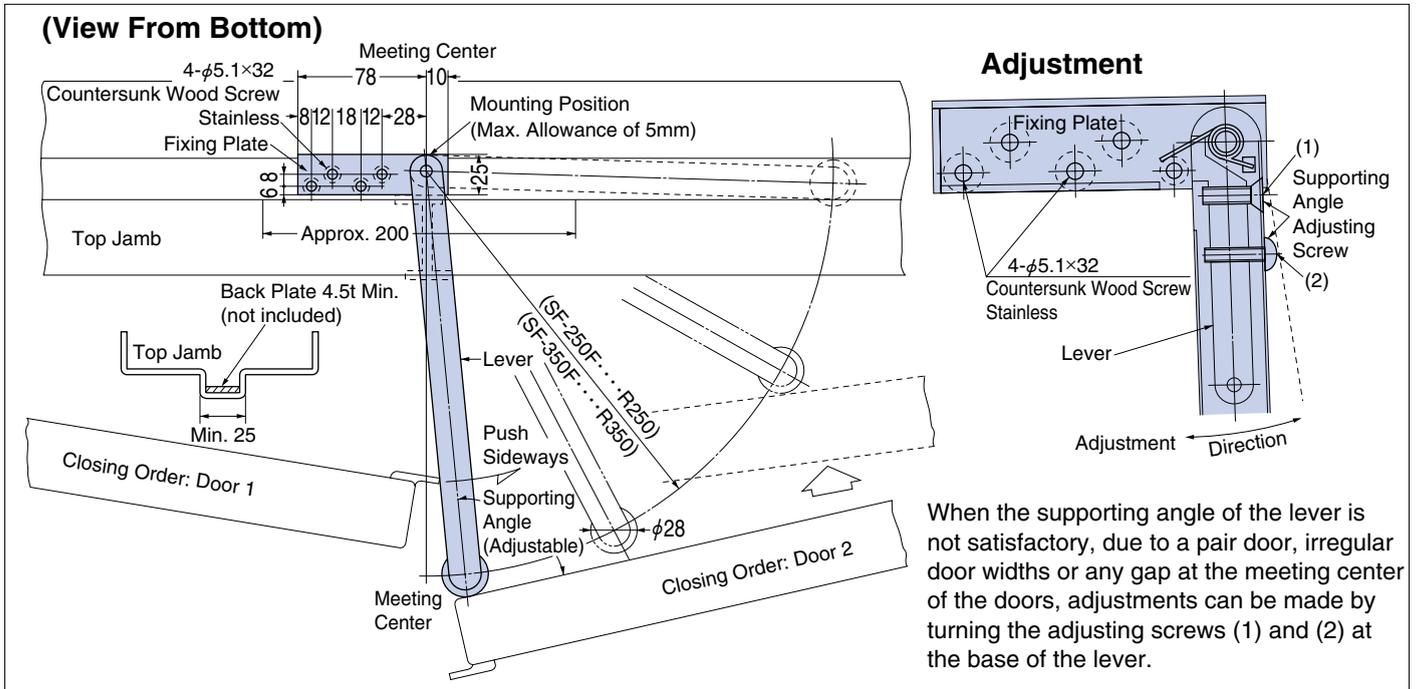
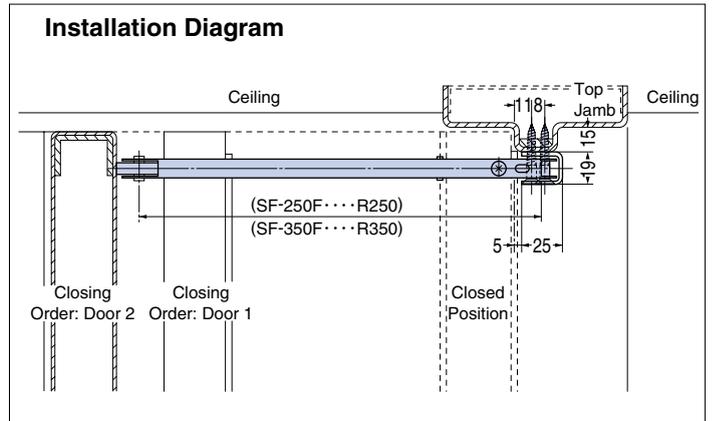
This mechanism ensures that, whichever door begins to close first, the final closing order is the correct one.

Maintenance

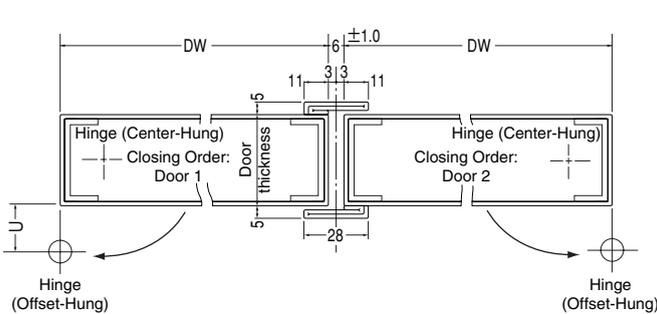
If the angle of the stop lever begins to deviate from the standard setting, it can be readjusted using the angle adjusting screw at the base of the lever.

Mounting instructions

- Align the center of the support shaft the lever with the center of the gap between the closed doors.
- The mounting base is attached to the underside of the ridge projection from the upper crosspiece of the doorway frame. The edge of the mounting base should be flush with the edge of the ridge, and the ridge itself should be at least 25mm in width. A backplate of 200mm length and at least 4.5mm thickness should be attached to the underside of the ridge first.

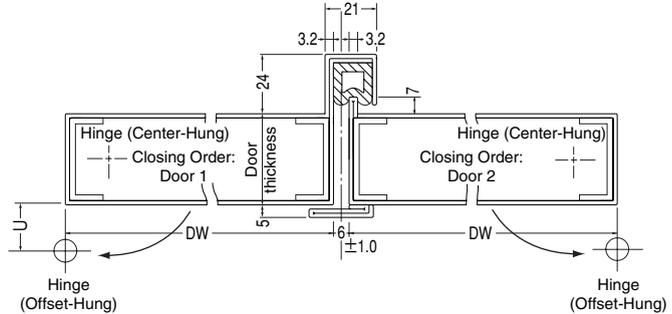


Shape of Meeting Structure Batten and Max. Applicable Door Width(SF-250F·SF-350F)



Door thickness	Offset-Hung										Center-Hung	
	16~19		22~25		28		38					
	SF-250F	SF-350F	SF-250F	SF-350F	SF-250F	SF-350F	SF-250F	SF-350F	SF-250F	SF-350F	SF-250F	SF-350F
40	1180	2000	1080	1920	1030	1880	870	1750	1490	2330		
45	1100		1000		950		800	1720	1520	2360		
50	1020	1970	920	1860	870	1810	730	1630	1540	2390		
55	940	1880	840	1770	800	1720	660	1540	1500	2420		
60	860	1790	770	1680	730	1630	610	1450	1470	2400		

* 1. Consult your NIPPON DOOR CHECK representative for dimensions mm (max.) other than the above.
 2. Closing Order: Door 2 size: 500mm min. for SF-250F
 650mm min. for SF-350F



Door thickness	Offset-Hung										Center-Hung	
	16~19		22~25		28		38					
	SF-250F	SF-350F	SF-250F	SF-350F	SF-250F	SF-350F	SF-250F	SF-350F	SF-250F	SF-350F	SF-250F	SF-350F
40	1000	1900	900	1800	850	1750	690	1590			1200	2100
45	920	1820	820	1720	770	1670	610	1510				
50	840	1740	740	1640	690	1590	530	1430	1430	1150	2050	
55	760	1660	660	1560	610	1510			1350	1100	2000	
60	680	1580	580	1480	530	1430			1270	1050	1950	

* 1. Consult your NIPPON DOOR CHECK representative for dimensions mm (max.) other than the above.
 2. Closing Order: Door 2 size: 500mm min. for SF-250F
 650mm min. for SF-350F

SLIDE CLOSER TYPE III

Automatic Closing Device for Horizontally Sliding Door

Convenient Feature of Sliding Door Closer

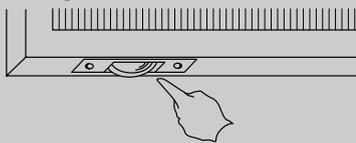
- Can be fitted to installed light-weight doors in homes, etc.
- Applicable for doors with a stroke of 590—880mm and a door weight of 20—40kg.
- Product available in one standard length.
- Same unit can be fitted to right or left hand door panel. Opening/Closing force and speed adjustable.
- Applicable for doors that can be opened freely using 7N of force or less.



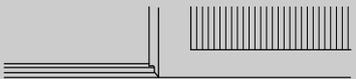
Available in two colors (Silver and Bronze).



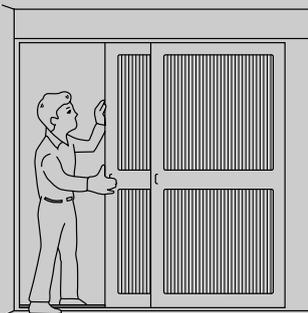
Before mounting doorcloser, check door is in good working order as follows:



- Check door wheels and oil if necessary.



- Check that sliding rail is clear and clean.



- Check alignment of doors with each other and with doorway frame.
- Check sliding action by lightly pushing door. It should close smoothly and rebound slightly.

Never use the product in places with excessive dust or moisture, such as bathrooms, saunas, and swimming pools.

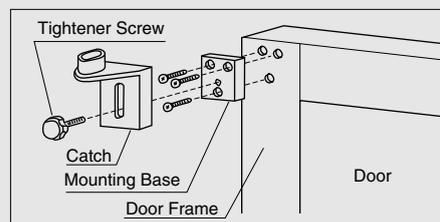
INSTRUCTIONS FOR MOUNTING

STEP 1. Mount closer body and catch.

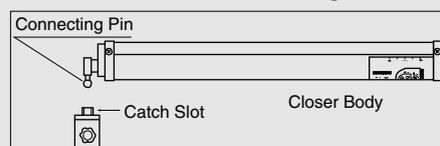
- (a) Attach closer body to upper crosspiece of doorway so that connecting pin overhangs edge of top jamb on side toward which door opens.



- (b) Attach mounting base and catch to upright of door frame on side toward which door opens.

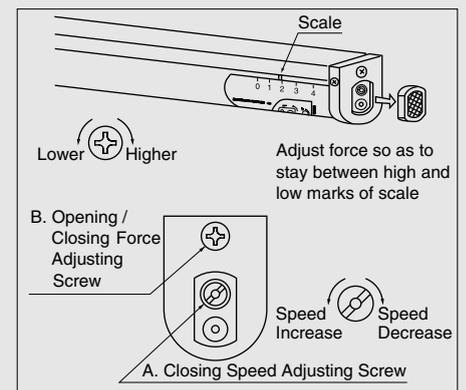


STEP 2. Insert connecting pin of closer body into slot of catch and tighten.

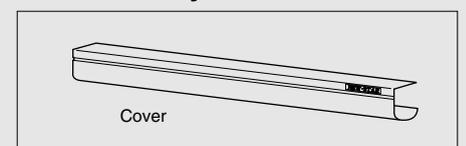


STEP 3. Checking and adjusting of closing action.

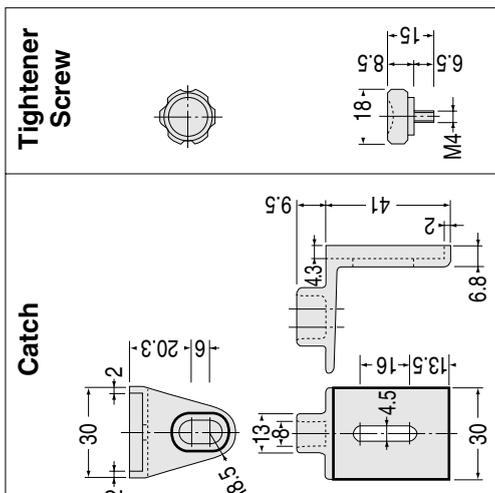
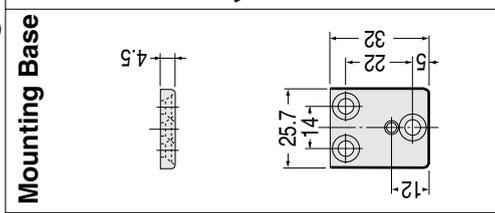
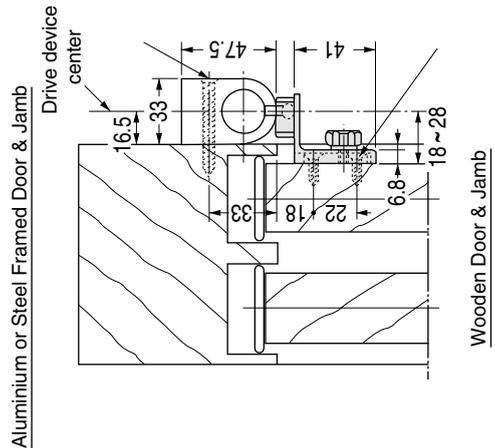
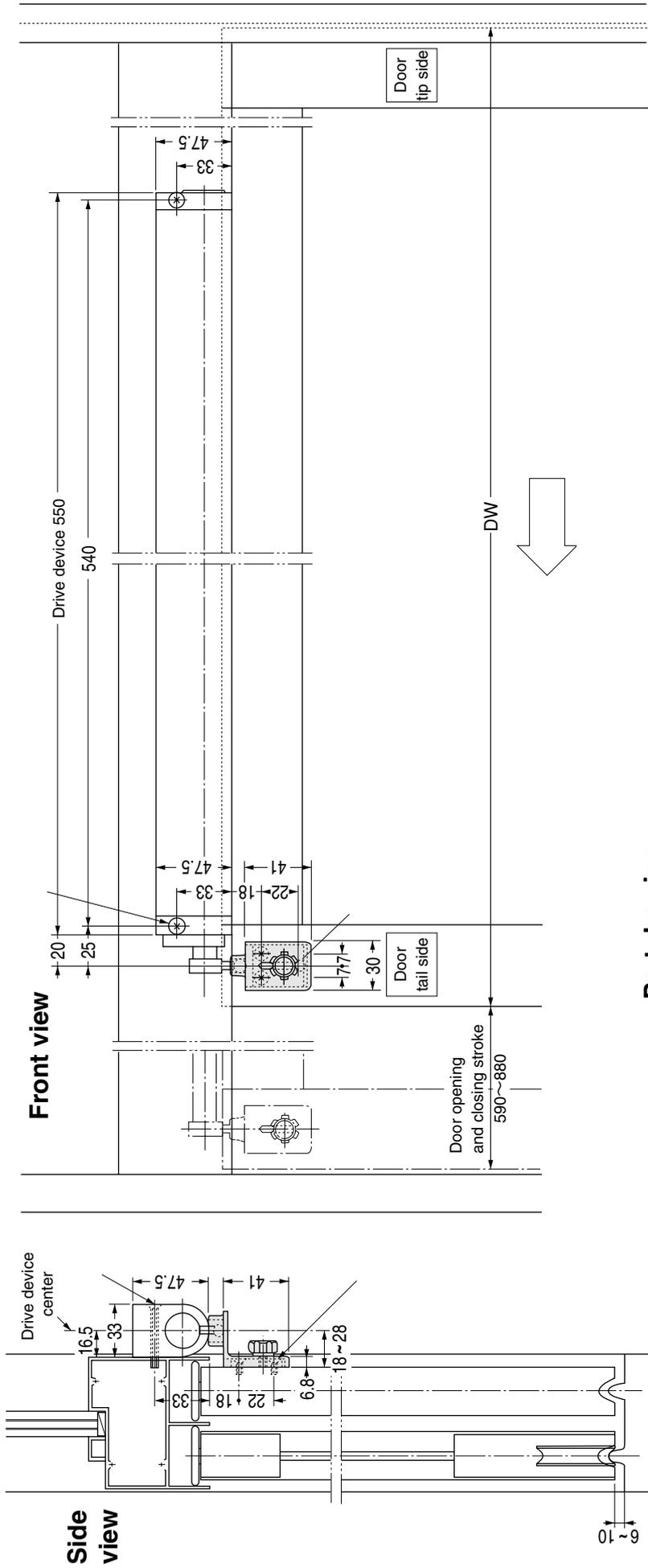
- A. Speed Adjustment
- B. Opening/Closing Force Adjustment
- Make adjustment within a scale range of 0 to 4.
 - Do not loosen the screw excessively, or otherwise the screw will fall off.
 - The scale is set to 2 before shipping.



STEP 4. Attach cover to closer body.



DW×DH mm	Door Weight kg
900×2100	20~40



The above is a left-pull door.

Mounting screws

Aluminum or Steel Framed Door & Jamb	
①	2-M4 (P=0.7) X40 Tapping Screws
②	3-M4 (P=0.7) X10 Tapping Screws
Wooden Door & Jamb	
①	2-4X50 Wood Screw
②	3-4X16 Wood Screw

Disclaimer

All repairs to the product and/or the replacement of any parts will be charged in the following cases even during the warranty period.

Door Closer

- (1) Defects resulting from the installation of the product not based on installation guidelines.
 - (2) Defects resulting from the use or installation of the product beyond the specified performance or scope of application of the product (e.g., the use or installation of the product without considering the weight, size, or number of opening and closing times of the door).
 - (3) Defects resulting from indoor pressure changes induced by the opening and closing of the window.
 - (4) Defects resulting from the deformation of building frames.
 - (5) Defects, such as the generation of rust or mold on the product or the discoloration or corrosion of the product, resulting from condensation or rain.
 - (6) The secular change of the product or parts (e.g., the wear and tear of the product or parts due to the highly frequent use of the product), the aged deterioration of the product or parts (e.g., the deterioration, deformation, and discoloration of rubber and resin parts due to the highly frequent use of the product), or defects resulting from the aforementioned aged deterioration or secular change (e.g., stopper function failures at the time of door opening).
 - (7) Corrosion or other defects resulting from the surrounding natural environment and dwelling environment (e.g., salt erosion, corrosion resulting from dust, smoke, a variety of metal powder, sulfur dioxide, ammonia, car exhaust in the atmosphere, or defects resulting from abnormally high or low temperatures or high humidity and/or under ozone gas atmosphere).
 - (8) Defects resulting from natural disaster or other force majeure (e.g., storms, heavy rain, storm surges, earthquakes, tsunamis, volcanic eruption, floods, subsidence, or fire).
 - (9) Defects resulting from the incorrect operation of the door, insufficient adjustments to the door closer, or improper maintenance of the door.
 - (10) Defects resulting from unauthorized product repairs or modifications.
 - (11) Damage or defects resulting from crime and other illegal activities.
-

Floor Hinge

- (1) Defects resulting from the installation of the product not based on installation guidelines.
 - (2) Defects resulting from the use or installation of the product beyond the specified performance or scope of application of the product (e.g., the use or installation of the product without considering the weight, size, or number of opening and closing times of the door).
 - (3) Defects resulting from indoor pressure changes induced by the opening and closing of the window.
 - (4) Defects resulting from the deformation of building frames.
 - (5) The secular change of the product or parts (e.g., the wear and tear of the product or parts due to the highly frequent use of the product), the aged deterioration of the product or parts (e.g., the deterioration and deformation of rubber parts due to the highly frequent use of the product), or defects resulting from the aforementioned aged deterioration or secular change (e.g., the shifting of the door closing position and stopper function failures at the time of door opening).
 - (6) Corrosion or other defects resulting from the surrounding natural environment and dwelling environment (e.g., salt erosion, corrosion resulting from dust, smoke, a variety of metal powder, sulfur dioxide, ammonia, car exhaust in the atmosphere, or defects resulting from abnormally high or low temperatures or high humidity and/or under ozone gas atmosphere).
 - (7) Defects resulting from natural disaster or other force majeure (e.g., storms, heavy rain, storm surges, earthquakes, tsunamis, volcanic eruption, floods, subsidence, or fire).
 - (8) Defects resulting from the incorrect operation of the door, insufficient adjustments to the floor hinge, or improper maintenance of the door.
 - (9) Defects resulting from unauthorized product repairs or modifications.
 - (10) Defects resulting from the intrusion of detergent, chemicals, and water used for finished floor cleaning and/or the icing of intruding water.
 - (11) Damage or defects resulting from crime and other illegal activities.
-

Auto Power Hinge

- (1) Defects resulting from the installation of the product not based on installation guidelines.
- (2) Defects resulting from the use or installation of the product beyond the specified performance or scope of application of the product (e.g., the use or installation of the product without considering the weight, size, or number of opening and closing times of the door).
- (3) Defects resulting from indoor pressure changes induced by the opening and closing of the window.
- (4) Defects resulting from the deformation of building frames.
- (5) Defects, such as the generation of rust or mold on the product or the discoloration or corrosion of the product, resulting from condensation or rain.
- (6) The secular change of the product or parts (e.g., the wear and tear of the product or parts due to the highly frequent use of the product), the aged deterioration of the product or parts (e.g., the deterioration, deformation, and discoloration of rubber and resin parts due to the highly frequent use of the product), or defects resulting from the aforementioned aged deterioration or secular change (e.g., stopper function failures at the time of door opening).
- (7) Corrosion or other defects resulting from the surrounding natural environment and dwelling environment (e.g., salt erosion, corrosion resulting from dust, smoke, a variety of metal powder, sulfur dioxide, ammonia, car exhaust in the atmosphere, or defects resulting from abnormally high or low temperatures or high humidity and/or under ozone gas atmosphere).
- (8) Defects resulting from natural disaster or other force majeure (e.g., storms, heavy rain, storm surges, earthquakes, tsunamis, volcanic eruption, floods, subsidence, or fire).
- (9) Defects resulting from the incorrect operation of the door, insufficient adjustments to the auto power hinge, or improper maintenance of the door.
- (10) Defects resulting from unauthorized product repairs or modifications.
- (11) Defects resulting from the intrusion of detergent, chemicals, and water used for finished floor cleaning.
- (12) Damage or defects resulting from crime and other illegal activities.

Sliding Door Closer

- (1) Defects resulting from the installation of the product not based on installation guidelines.
- (2) Defects resulting from the use or installation of the product beyond the specified performance or scope of application of the product (e.g., the use or installation of the product without considering the weight, size, or number of opening and closing times of the door).
- (3) Defects resulting from indoor pressure changes induced by the opening and closing of the window.
- (4) Defects resulting from the deformation of building frames.
- (5) Defects, such as the generation of rust or mold on the product or the discoloration or corrosion of the product, resulting from condensation or rain.
- (6) The secular change of the product or parts (e.g., the wear and tear of the product or parts due to the highly frequent use of the product), the aged deterioration of the product or parts (e.g., the deterioration, deformation, and discoloration of rubber and resin parts due to the highly frequent use of the product), or defects resulting from the aforementioned aged deterioration or secular change (e.g., stopper function failures at the time of door opening).
- (7) Corrosion or other defects resulting from the surrounding natural environment and dwelling environment (e.g., salt erosion, corrosion resulting from dust, smoke, a variety of metal powder, sulfur dioxide, ammonia, car exhaust in the atmosphere, or defects resulting from abnormally high or low temperatures or high humidity and/or under ozone gas atmosphere).
- (8) Defects resulting from natural disaster or other force majeure (e.g., storms, heavy rain, storm surges, earthquakes, tsunamis, volcanic eruption, floods, subsidence, or fire).
- (9) Defects resulting from the incorrect operation of the door, insufficient adjustments to the sliding door closer, or improper maintenance of the door.
- (10) Defects resulting from unauthorized product repairs or modifications.
- (11) Damage or defects resulting from crime and other illegal activities.

Read through the following precautions and make sure that you fully understand them in order to extend the life of our products and ensure the safe use of them.

Door Closer

1. The door will close too quickly if oil leaks from the product and may pinch fingers or come in contact with human bodies, thus causing the people to trip, slip, or fall resulting in injury. Promptly repair or replace the product if the door fails to close slowly because of oil bleeding or leakage and causes a hydraulic pressure fall in spite of speed adjustments. Closing or opening the door forcibly may result in oil leakage and product failures. Do not shut the door forcibly while the door is closing automatically.
 2. At the time of speed adjustment, make sure that the adjusting valve will not protrude from the surface of the product. Loosening the adjusting valve in excess will result in oil leakage. Setting an extremely large difference between the 1st and 2nd may result in malfunctioning.
* The proper closing time from 90° is 5 to 8 seconds (provided that the door width is 900 mm).
 3. Do not use the product in places exposed to water (e.g., pools, bathrooms, or outdoors).
 4. Be careful not to open or close the door suddenly if a strong wind is blowing, or otherwise the door may pinch fingers or come in contact with human bodies. Do not open the door in excess of the open limit angle, or otherwise door, wall, and product damage may result. Moreover, product damage may lead to a major accident with the door toppled down. In the case of installing the product in a windy location, select a product model a rank higher from the catalogue and take safety measures, such as the installation of a windbreak space, doorstop, or one-way opening door.
 5. Be sure to use the door closer provided with a thermal fuse for a door of normally open fireproof or smoke-proof type. (Keep in mind that connecting and disconnecting the doorstop repeatedly will result in fuse rupture.) Usually use the door closer of parallel type if the door is provided with a pocket, in which case, however, make sure that the pocket is deep enough because the door requires a return margin as thick as the width of a single door.
 6. Do not let children hang on the door or hardware and play.
 7. The opening and closing force varies with the hanging bracket.
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Floor Hinge

1. The door will close too quickly if oil leaks from the product and may pinch fingers or come in contact with human bodies, thus causing the people to trip, slip, or fall resulting in injury. Repair or replace the product promptly if the product cracks or causes oil bleeding or leakage and results in a hydraulic pressure fall that obstructs the slow closure of the door in spite of speed adjustments.
Closing or opening the door forcibly may result in oil leakage and product failures. Do not shut the door forcibly while the door is closing automatically.
2. At the time of speed adjustment, make sure that the adjustment valve will not protrude from the surface of the product. Loosening the adjustment valve in excess will result in oil leakage.
* The proper closing time from 90° is 5 to 8 seconds (provided that the door width is 900 mm).
3. Make sure that the top spindle is fully inserted into the bracket. If the floor hinge is of offset-hung, be sure to tighten the stopper setscrew securely in the specified place, or otherwise the top spindle may drop out, thus toppling down the door. If door uses tempered glass, take measures to prevent the falling of the top rail. If the measures are insufficient, the door may topple down or the top rail may fall off.
4. Do not hit the product at the time of installation. Do not shave the main spindle, arm, or top bracket. They may be broken if they are shaved.
5. Do not use the product in places exposed to water (e.g., pools, bathrooms, or outdoors).
Be sure not to spray chemicals over to the product at the time of installation or regular cleaning.

6. Be careful not to open or close the door suddenly if a strong wind is blowing, or otherwise the door may pinch fingers or come in contact with human bodies. Do not open the door in excess of the open limit angle, or otherwise door, wall, and product damage may result. Moreover, product damage may lead to a major accident with the door toppled down. In the case of installing the product in a windy location, select a product model a rank higher from the catalogue and take safety measures, such as the installation of a windbreak space, doorstep, or one-way opening door.
 7. Do not let children hang on the door or hardware and play.
 8. Fix the product with mortar securely.
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Auto Power Hinge

1. The door will close too quickly if oil leaks from the product and may pinch fingers or come in contact with human bodies, thus causing the people to trip, slip, or fall resulting in injury. Promptly repair or replace the product if the door fails to close slowly because of oil bleeding or leakage and causes a hydraulic pressure fall in spite of speed adjustments. Closing or opening the door forcibly may result in oil leakage and product failures. Do not shut the door forcibly while the door is closing automatically.
 2. Turn the adjusting valve clockwise or counterclockwise to adjust the door closing speed. Do not attempt to turn the adjusting valve in excess of the stop position.
 3. Do not make mistakes in the installation direction of spindle bearing fitting.
 4. Make sure that the top spindle is fully inserted into the bracket, or otherwise the top spindle may drop out, thus toppling down the door.
 5. Do not shave the main spindle, arm, or top bracket. They may be broken if they are shaved.
 6. Do not use the product in places exposed to water (e.g., pools, bathrooms, or outdoors).
 7. Be careful not to open or close the door suddenly if a strong wind is blowing, or otherwise the door may pinch fingers or come in contact with human bodies. Do not open the door in excess of the open limit angle, or otherwise door, wall, and product damage may result. Moreover, product damage may lead to a major accident with the door toppled down. In the case of installing the product in a windy location, select a product model a rank higher from the catalogue and take safety measures, such as the installation of a windbreak space or doorstep.
 8. Do not let children hang on the door or hardware and play.
 9. Fix the spindle bearing fitting with mortar securely.
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Pivot Hinge

1. Make sure that the top spindle is fully inserted into the bracket. If the pivot hinge is of offset-hung type, be sure to tighten the stopper setscrew securely in the specified place, or otherwise the top spindle may drop out, thus toppling down the door.
 2. Install the intermediate pivot hinges to prevent the warping of the door or the toppling of the door if the door is large or heavy.
 3. Do not use the product in places exposed to water (e.g., pools, bathrooms, or outdoors).
 4. Be careful not to open or close the door suddenly if a strong wind is blowing, or otherwise the door may pinch fingers or come in contact with human bodies. Do not open the door in excess of the open limit angle, or otherwise door, wall, and product damage may result. Moreover, product damage may lead to a major accident with the door toppled down.
 5. Do not let children hang on the door or hardware and play.
 6. Fix the bottom spindle base or main body with mortar securely if the pivot hinge is of embedded type.
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Sliding Door Closer

1. The door will close too quickly if the product malfunctions, and may pinch fingers or come in contact with human bodies, thus causing the people to trip, slip, or fall resulting in injury. Promptly repair or replace the product if the door fails to close slowly in spite of speed adjustments.
 2. Closing or opening the door forcibly may result in product failures. Do not shut the door forcibly while the door is closing automatically.
 3. Do not let children hang on the door or hardware and play.
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Door Coordinators

1. Promptly repair or replace the product if the doors fail to close in proper order as a result of door deformation or frame deformation.
 2. Do not let children hang on the door or hardware and play.
 3. Do not use the product in places exposed to water (e.g., pools, bathrooms, and outdoors).
 4. 5 to 8 seconds are required by each door to close properly from an angle of 90°, provided that the door width is 900 mm.
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Fire Door Closer

1. a. If the product malfunctions, promptly repair or replace the product for the elimination of danger from the viewpoint of disaster prevention.
b. If the holding force of the product for the door of fireproof or smoke-proof type falls, a little shock may dislocate the doorstep and close the door. In that case, promptly repair or replace the product, or otherwise the door may pinch fingers or come in contact with human bodies.
2. Keep the following items in mind for disaster prevention.
Visual inspection: At least once every three months. Check that no screws are loose and that the holding force of the doorstep is normal.
Functional inspection: At least once a year. Conduct a burn-in test and check the normal operation of the product.
3. Do not lean on the door when it is open.
4. Do not let children hang on the door or hardware and play.



SINCE 1919

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