



ISO 14001
JQA-EM4057
NITTO KOHKI Co., LTD.
Headquarters/Research Center
Support Office



QC99J1026
SHIRAKAWA NITTO KOHKI Co., LTD.

Cat.NO.Kk107d

NITTO KOHKI AUTO HINGES

▼ ▼ ▼ CENTER HANG A TYPE ▼ ▼ ▼



NITTO KOHKI AUTO HINGE — developed ahead of the world with free use of original closer technology, establishing great confidence in high technological power.

AUTO HINGES (CENTER HANG TYPE)

based on the accumulation of advanced technology:

Used widely for public telephone booths throughout the country

- Designed officially by Nippon Telegraph and Telephone Corp. (NTT), being used in all the public telephone booths throughout the country. The outstanding performance and durability (500,000 or more of closing operations), appreciation among users not only in the country but also in all the countries of the world.

Concealed type (door built-in type)

- Constructed door built-in closer of pivot type, thus being easy to install. In addition, it presents a slim appearance, without affecting the beauty of a door.

Wide range usability

- Designed with a receptive base meeting the requirements for the recent tendency of thinner floor slabs in buildings, thus not causing any damage to floor surfaces in installation; the AUTO HINGE is most suitable to be used in such a place where floor hinges can be hardly installed and the arm of a door closer becomes an obstacle.

Most suitable for fire protection, open smoke ventilation and normally-opened/closed doors and air supply doors.

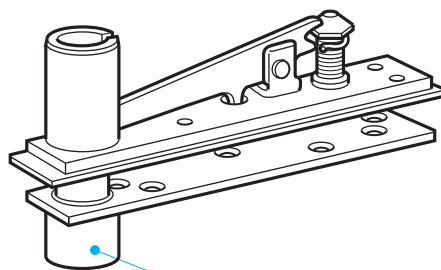
- Keeps closing-up of fire protection doors and opening of smoke ventilation doors & air supply doors reliably, by interlocking of smoke sensors in combined use with an electromagnetic release mechanism.

Decorated rubber plate

- Provided with a decorated rubber plate for screening the cutout windows for speed control and spring winding.

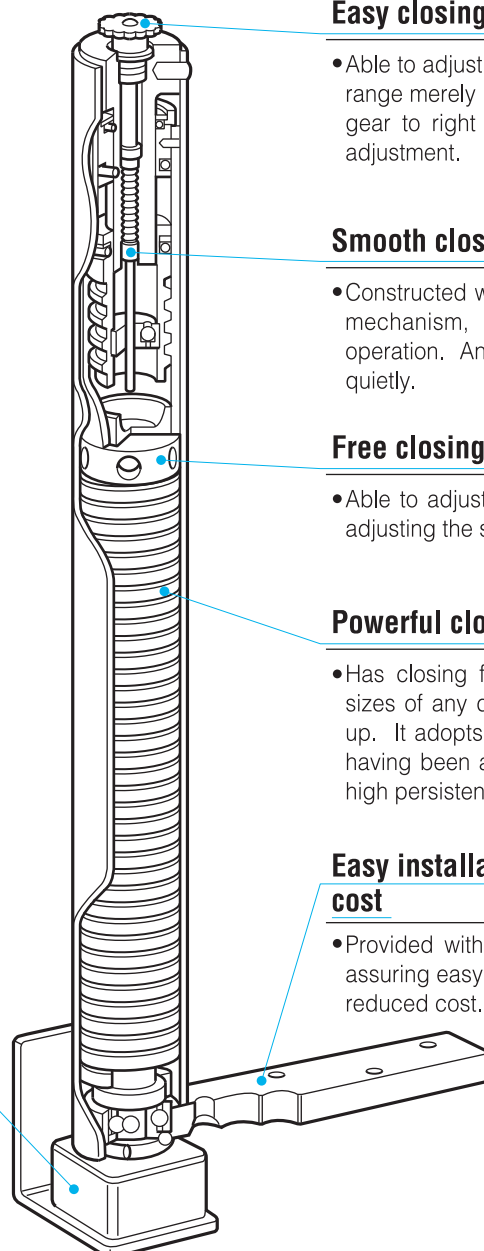
Sliding receptive base

- Minimized embedding depth
- Can be centered on-site because of having a sliding seat, thus assuring easy installation.



Top pivot

- Can be also installed reversely.
- Options — available for special applications.



Easy closing speed adjustment

- Able to adjust the closing speed in a wide range merely by turning the speed control gear to right and left, also allowing fine adjustment.

Smooth closing

- Constructed with unique hydraulic control mechanism, realizing optimum closing operation. Any door closes smoothly and quietly.

Free closing force adjustment

- Able to adjust the closing force freely by adjusting the spring set seat.

Powerful closing force

- Has closing force sufficient to meet the sizes of any door, assuring door closing-up. It adopts special ladder type spring, having been already demonstrated for its high persistence.

Easy installation and reduced cost

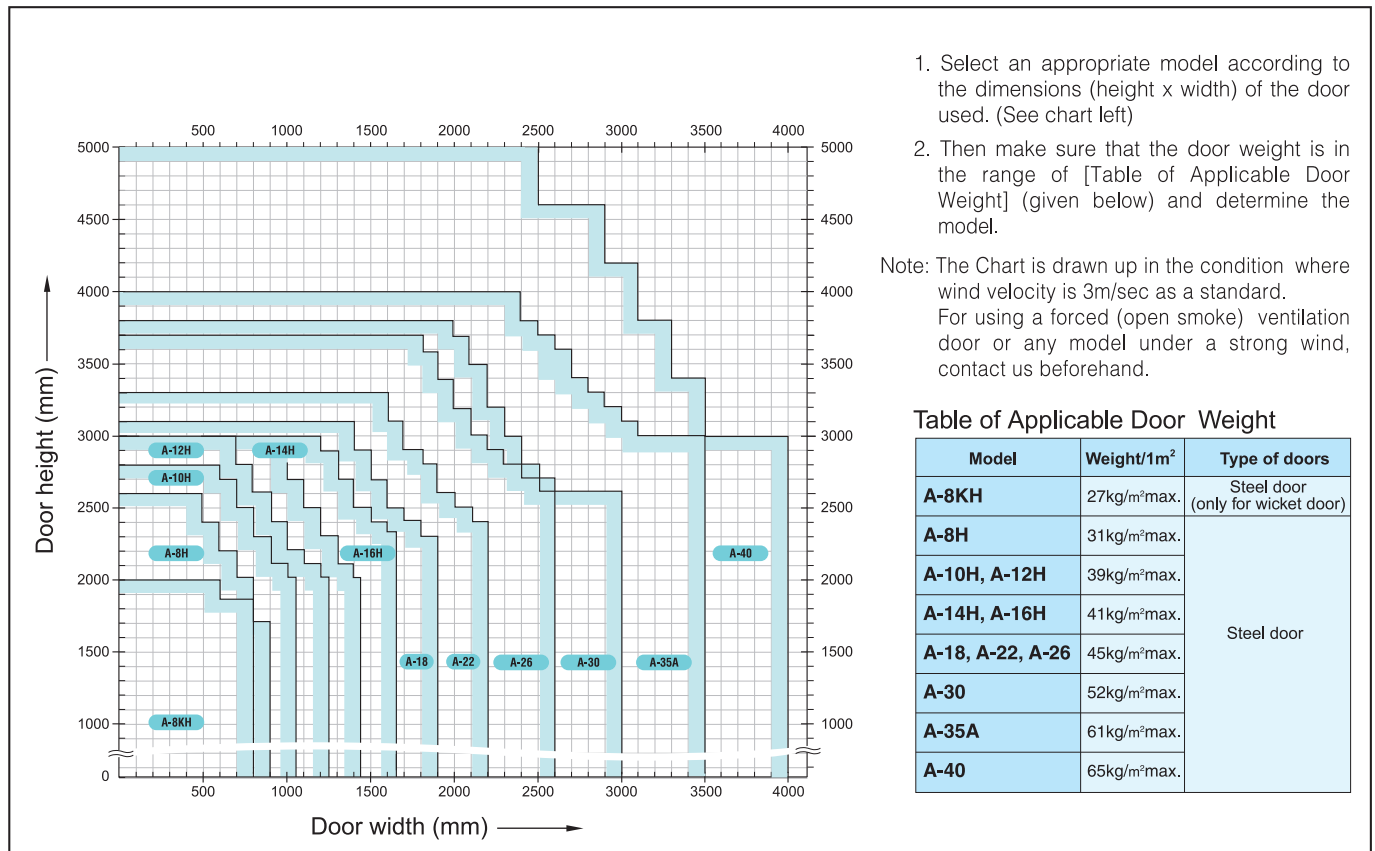
- Provided with a very thin fix base plate, assuring easy installation on any door and reduced cost.

SPECIFICATIONS

Mode No.	Door size applicable(mm)			Door weight (kg)	Standard closing force(N·m)	Spring set system	Top pivot	Max, opening angle	Page	
	W	H	D							
A-8KH	800 (max.)	1,850 (max.)	36 (min)	40 (max.)	6.9	Roll-in system	N-21B	180° right or left one-side opening	3	
A-8H		2,000		50	8.9				4	
A-10H	1,000	2,100	40	85	10.8				5	
A-12H	1,200			100	15.7				6	
A-14H	1,400			130	19.7				7	
A-16H	1,600	2,400	45	160	24.6				N-22B	8
A-18	1,800		50	200	41.2					9
A-22	2,200	2,600	55	240	49.1				N-23B	10
A-26	2,600			310	60.9					11
A-30	3,000			410	68.7					12
A-35A	3,500	3,000	60	650	73.6				N-25A	13
A-40	4,000			800	78.5					14

- Note: 1. Difference in opening directions are shown by the symbols, "R" for right-hand door and "L" for left-hand door, suffixed at the end of model No.
 2. Pre-set type can be used as roll-in system by unwinding the spring.
 3. Each AUTO HINGE (center hang type) consists of a main body, a receptive base, a top pivot, and a decorated rubber plate.
 4. Stop mechanism is not built in.
 5. For selection of a model refer to the [Chart for Applicable Doors] shown below.
 6. Handling of the fixed type (floor type) receptive base
 The fixed type (floor type) receptive base is prepared for a place to which the sliding receptive base is not applicable.
 7. There is a spring winding-window on both sides from A-8KH to A-16H.

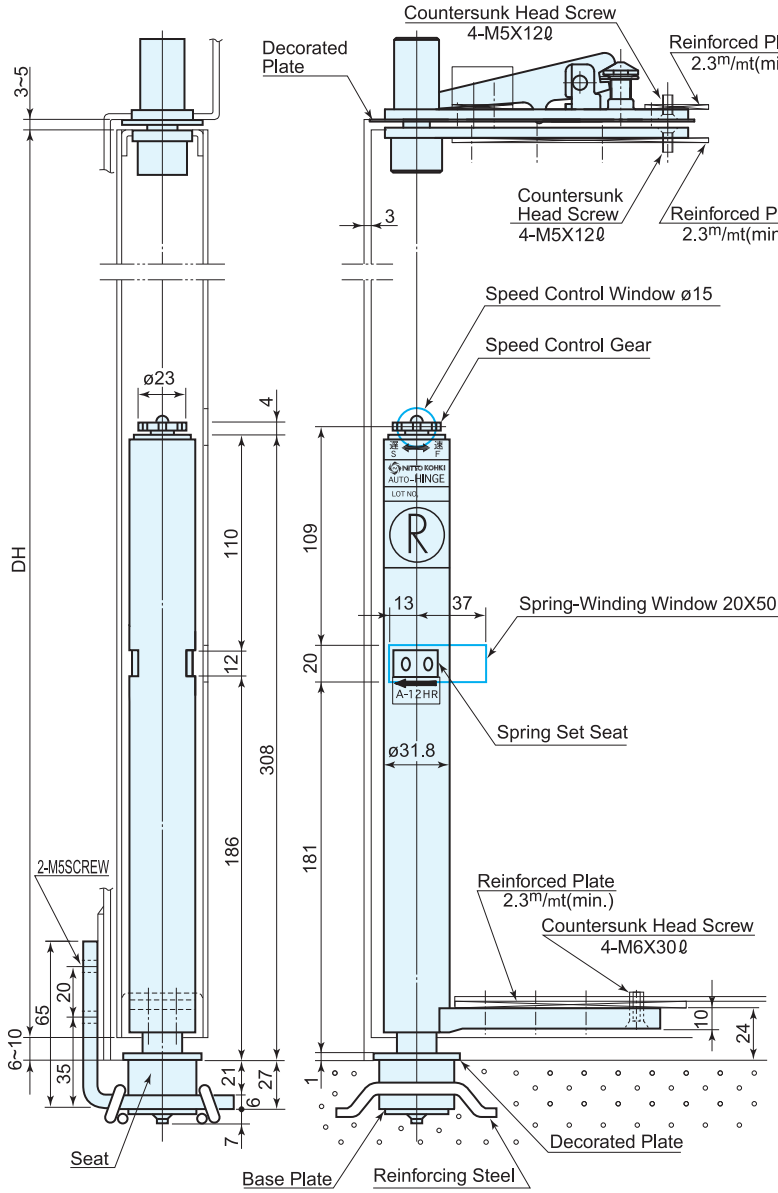
CHART OF APPLICABLE DOORS



A-12H

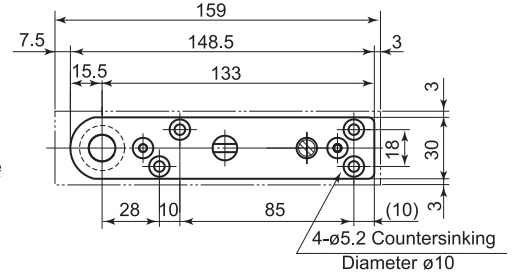
Model		Door size applicable (mm)			Door weight (kg)	Closing force (N·m)	Spring set system	Stop mechanism	Max. opening angle	Indicating label
		W	H	D						
A-12HR	Right opening	1200 max.	2100 max.	40 min.	100 max.	15.7	Roll-in system	None	180° right or left one-side opening	R : Green L : Yellow
A-12HL	Left opening									

EXTERNAL DIMENSIONS AND FITTING DIAGRAMS

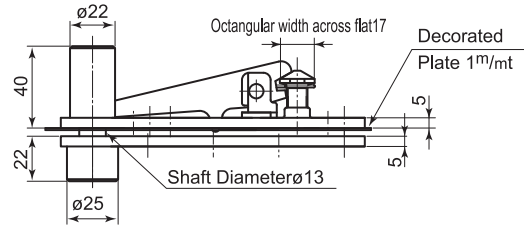


N-21B TOP PIVOT

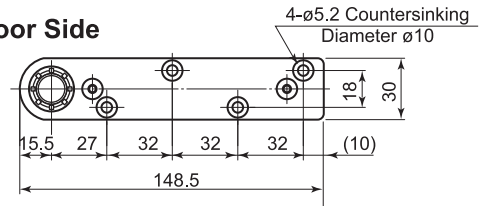
The head shape of the adjusting screw is octagonal width across flat 17.



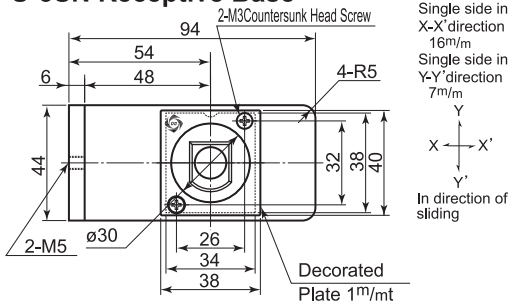
Upper Frame



Door Side



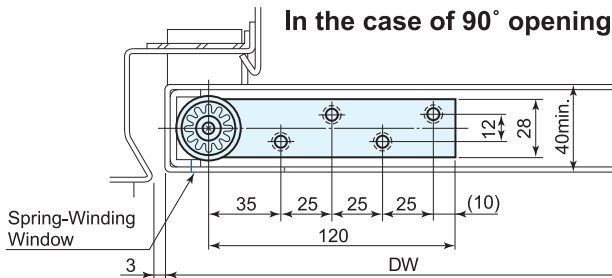
U-3SN Receptive Base



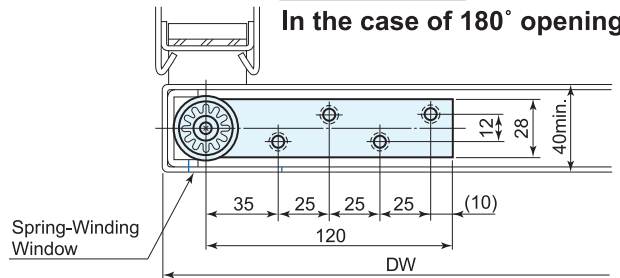
Spring Set Pin: 1 piece



In the case of 90° opening



In the case of 180° opening

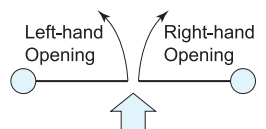


Unit: mm

REMARKS

1. This diagram shows the case of right-hand opening doors. There is a spring winding-window on both sides.
2. This receptive base should be adjusted and centered according to the plumb bob from the top pivot. The seat should be firmly welded on the base plate.
3. For speed control windows and spring-winding windows use the decorated rubber plate. (see page 15)
4. When U-2N receptive base is used, the door can be hanged also by preset system.

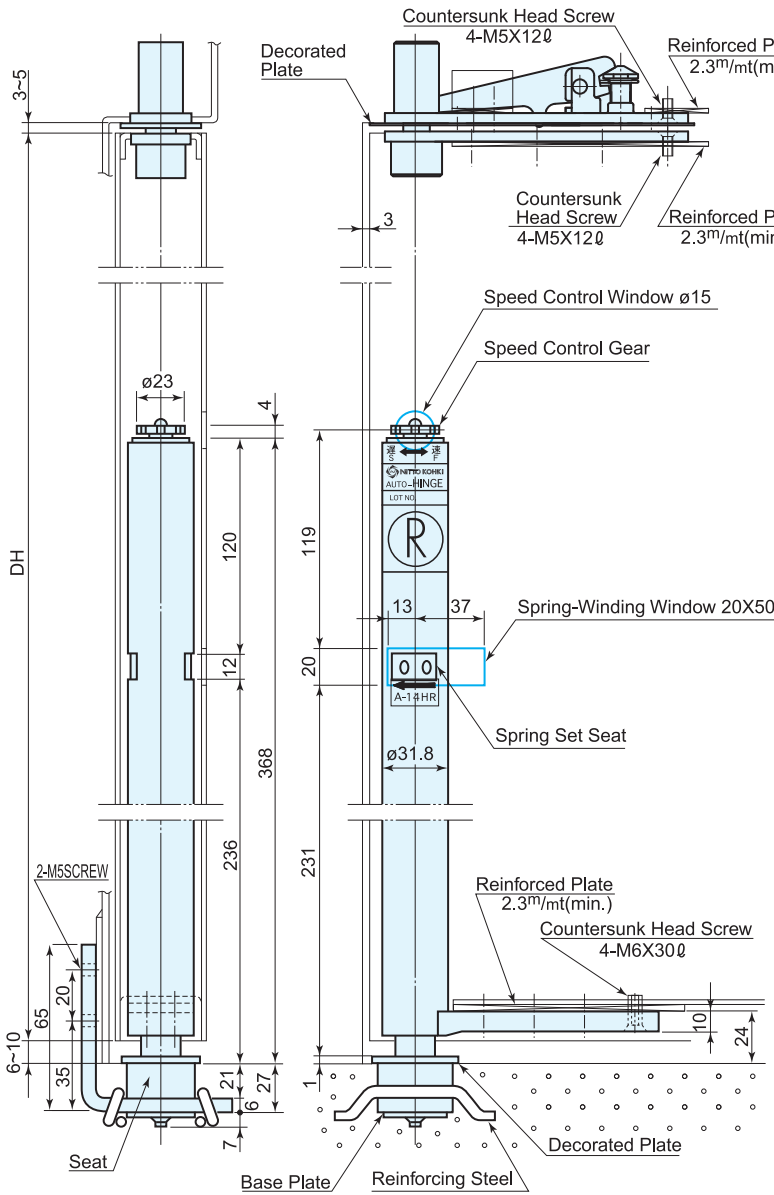
Right and Left Hand Doors



A-14H

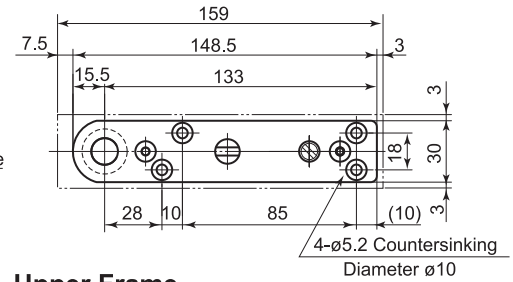
Model		Door size applicable (mm)			Door weight (kg)	Closing force (N·m)	Spring set system	Stop mechanism	Max. opening angle	Indicating label
		W	H	D						
A-14HR	Right opening	1400 max.	2100 max.	40 min.	130 max.	19.7	Roll-in system	None	180° right or left one-side opening	R : Green L : Yellow
A-14HL	Left opening									

EXTERNAL DIMENSIONS AND FITTING DIAGRAMS

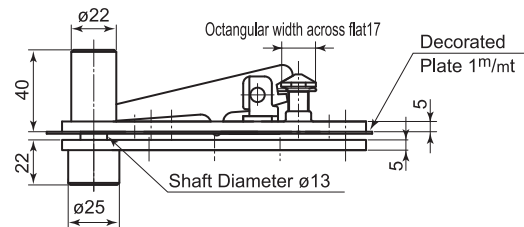


N-21B TOP PIVOT

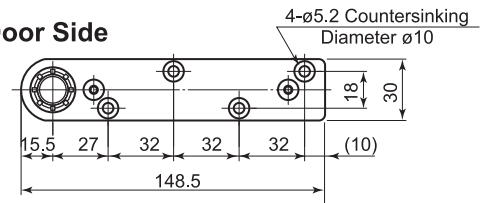
The head shape of the adjusting screw is octagonal width across flat 17.



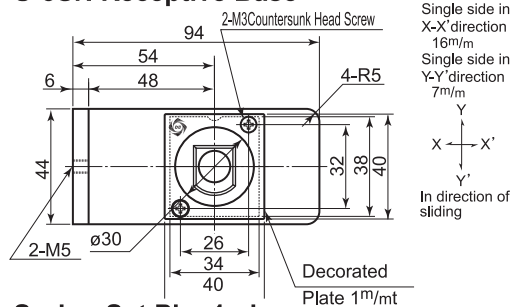
Upper Frame



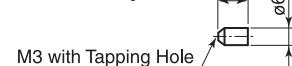
Door Side



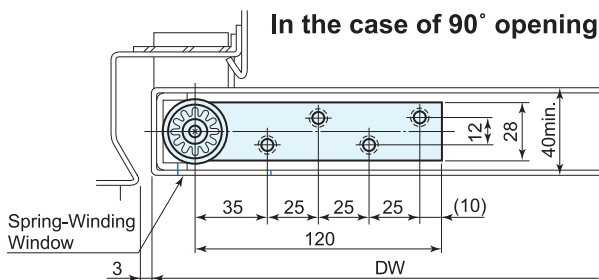
U-3SN Receptive Base



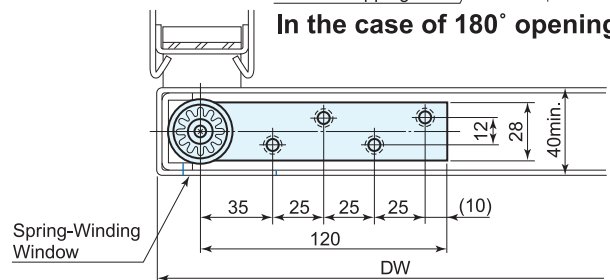
Spring Set Pin: 1 piece



In the case of 90° opening



In the case of 180° opening

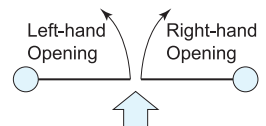


Unit: mm

REMARKS

1. This diagram shows the case of right-hand opening doors. There is a spring winding-window on both sides.
2. This receptive base should be adjusted and centered according to the plumb bob from the top pivot. The seat should be firmly welded on the base plate.
3. For speed control windows and spring-winding windows use the decorated rubber plate. (see page 15)
4. When U-2N receptive base is used, the door can be hanged also by preset system.

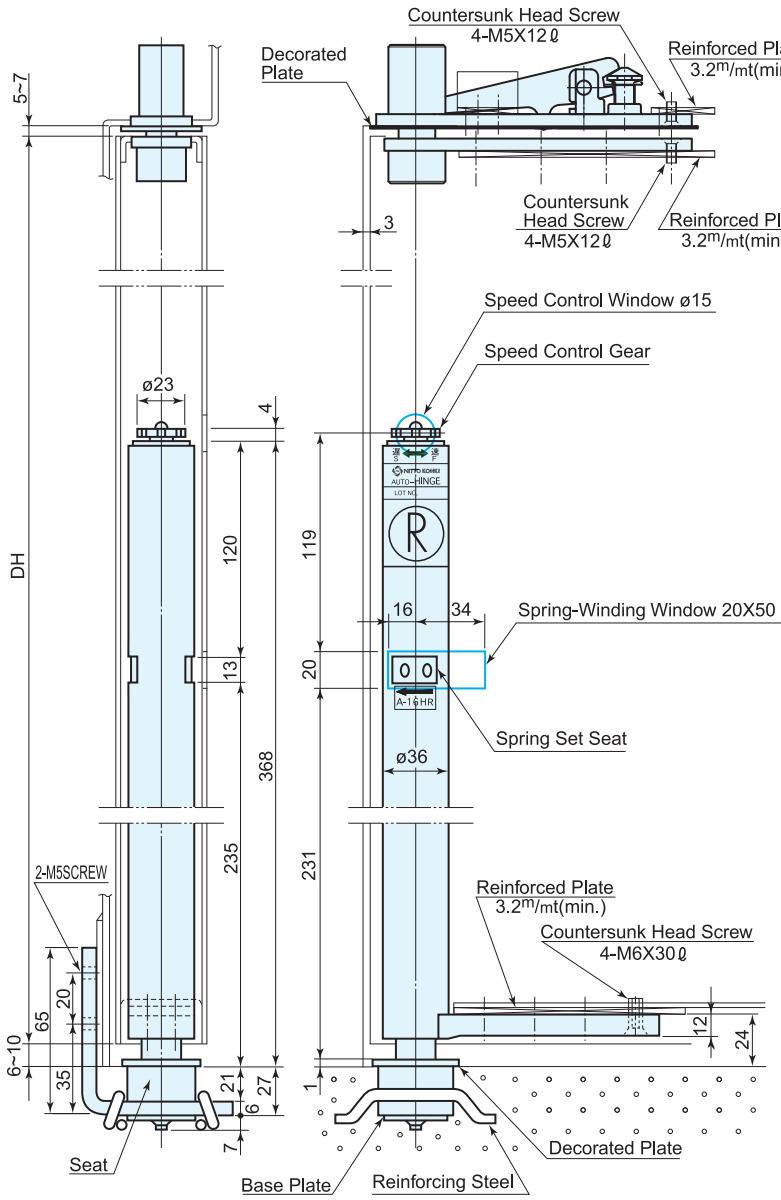
Right and Left Hand Doors



A-16H

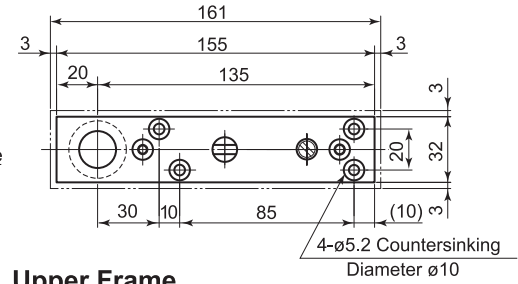
Model		Door size applicable (mm)			Door weight (kg)	Closing force (N·m)	Spring set system	Stop mechanism	Max. opening angle	Indicating label
		W	H	D						
A-16HR	Right opening	1600 max.	2400 max.	45 min.	160 max.	24.6	Roll-in system	None	180° right or left one-side opening	R : Green L : Yellow
A-16HL	Left opening									

EXTERNAL DIMENSIONS AND FITTING DIAGRAMS

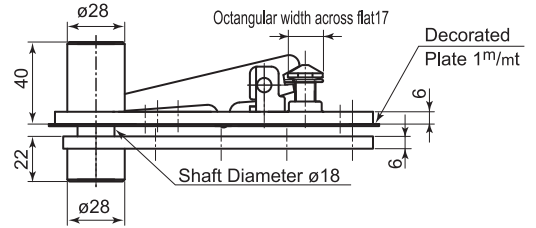


N-22B TOP PIVOT

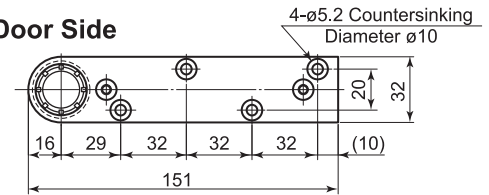
The head shape of the adjusting screw is octagonal width across flat 17.



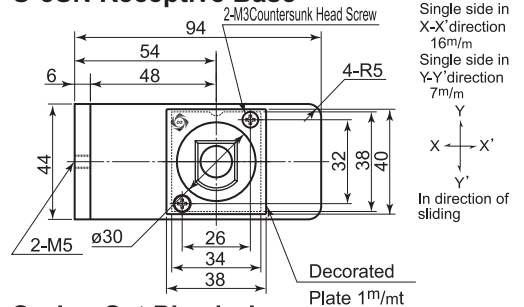
Upper Frame



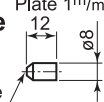
Door Side



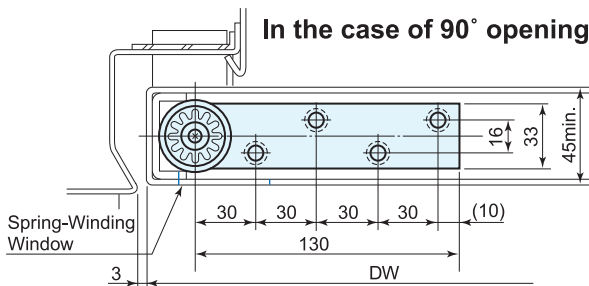
U-3SN Receptive Base



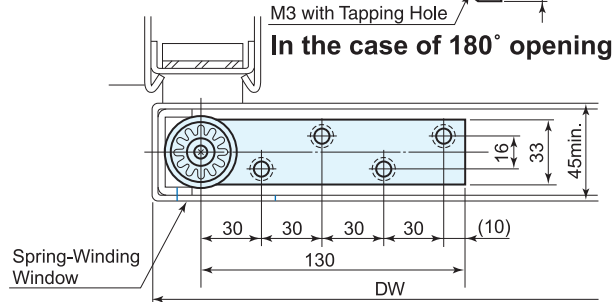
Spring Set Pin: 1 piece



In the case of 90° opening



In the case of 180° opening

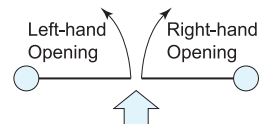


Unit: mm

REMARKS

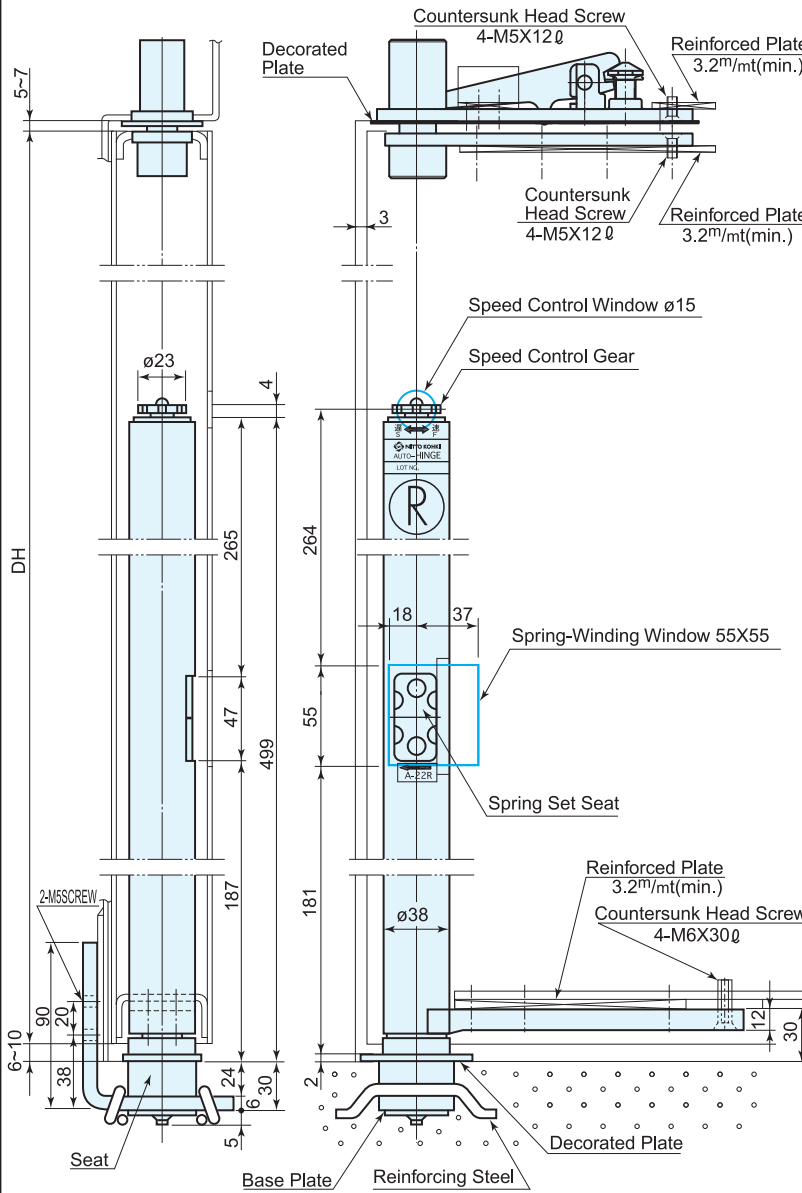
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2. This receptive base should be adjusted and centered according to the plumb bob from the top pivot. The seat should be firmly welded on the base plate.
3. For speed control windows and spring-winding windows use the decorated rubber plate. (see page 15)

Right and Left Hand Doors



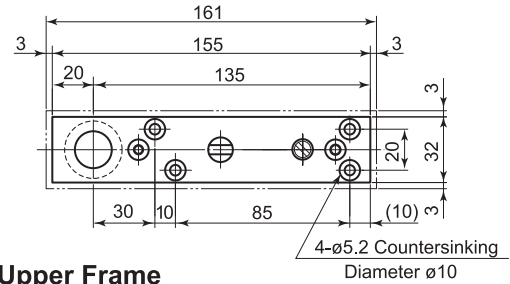
Model		Door size applicable (mm)			Door weight (kg)	Closing force (N·m)	Spring set system	Stop mechanism	Max. opening angle	Indicating label
		W	H	D						
A-22R	Right opening	2200 max.	2400 max.	50 min.	240 max.	49.1	Roll-in system	None	180° right or left one-side opening	R : Green L : Yellow
A-22L	Left opening									

EXTERNAL DIMENSIONS AND FITTING DIAGRAMS

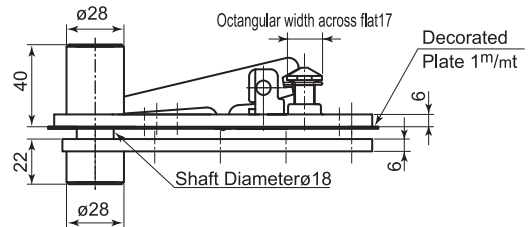


N-22B TOP PIVOT

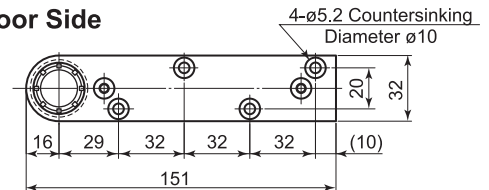
The head shape of the adjusting screw is octagonal width across flat 17.



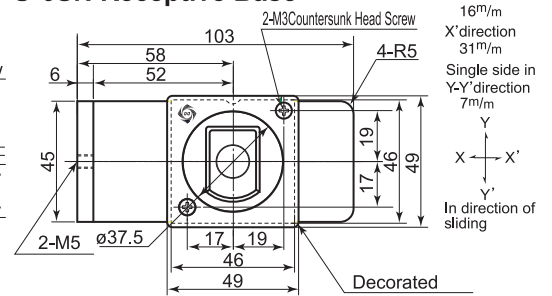
Upper Frame



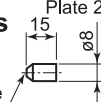
Door Side



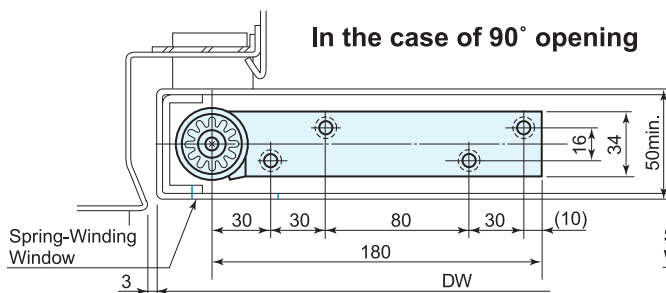
U-6SN Receptive Base



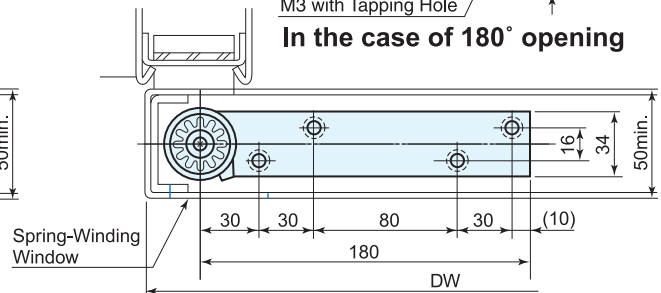
Spring Set Pin: 2 pieces



In the case of 90° opening



In the case of 180° opening

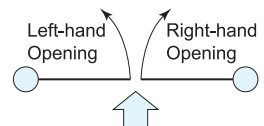


Unit: mm

REMARKS

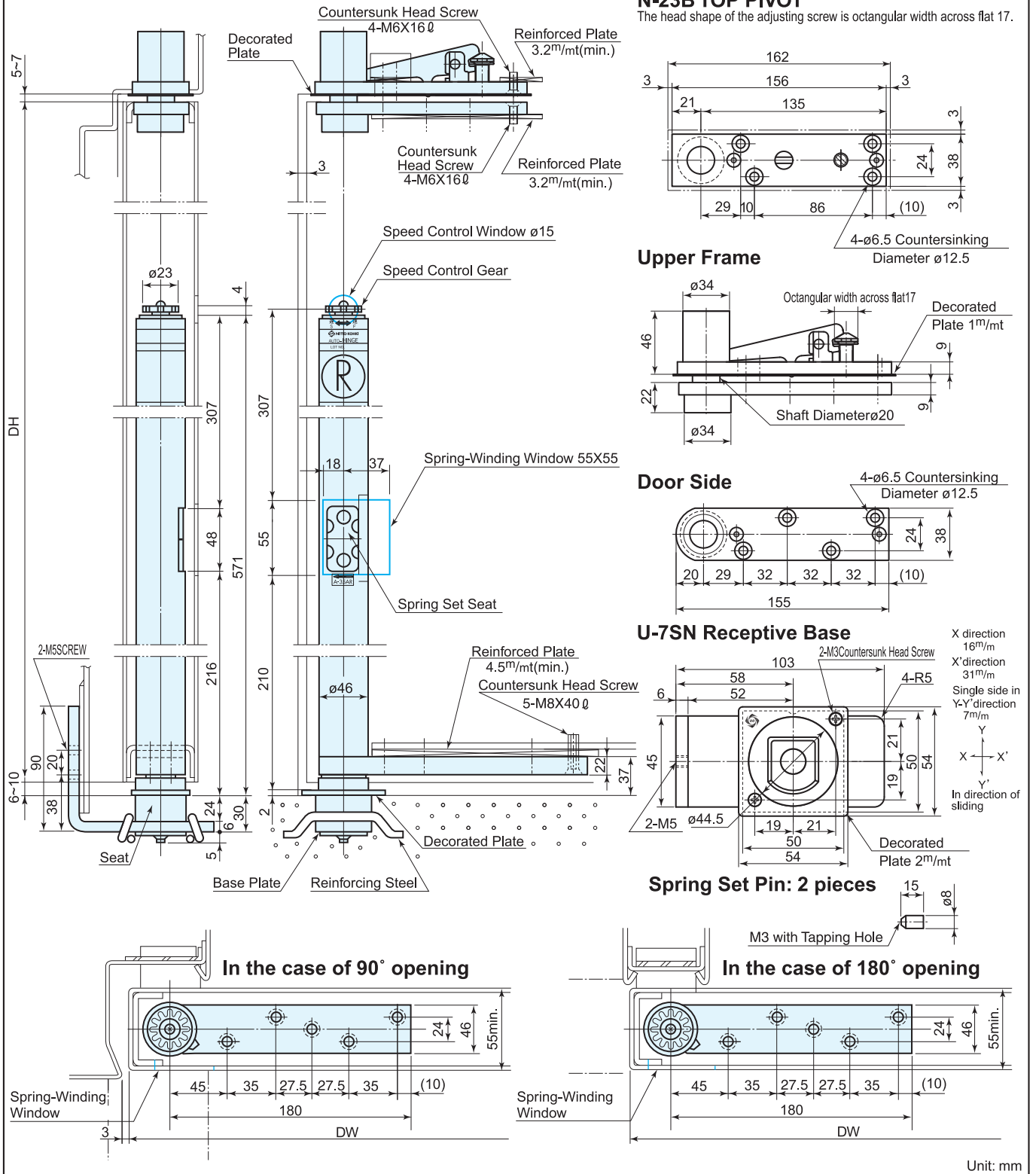
1. This diagram shows the case of right-hand opening doors.
2. This receptive base should be adjusted and centered according to the plumb bob from the top pivot. The seat should be firmly welded on the base plate.
3. For speed control windows and spring-winding windows use the decorated rubber plate. (see page 15)

Right and Left Hand Doors



Model		Door size applicable (mm)			Door weight (kg)	Closing force (N·m)	Spring set system	Stop mechanism	Max. opening angle	Indicating label
		W	H	D						
A-35AR	Right opening	3500 max.	3000 max.	55 min.	650 max.	73.6	Roll-in system	None	180 right or left one-side opening	R : Green L : Yellow
A-35AL	Left opening									

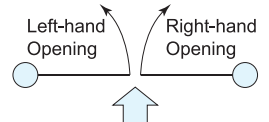
EXTERNAL DIMENSIONS AND FITTING DIAGRAMS



REMARKS

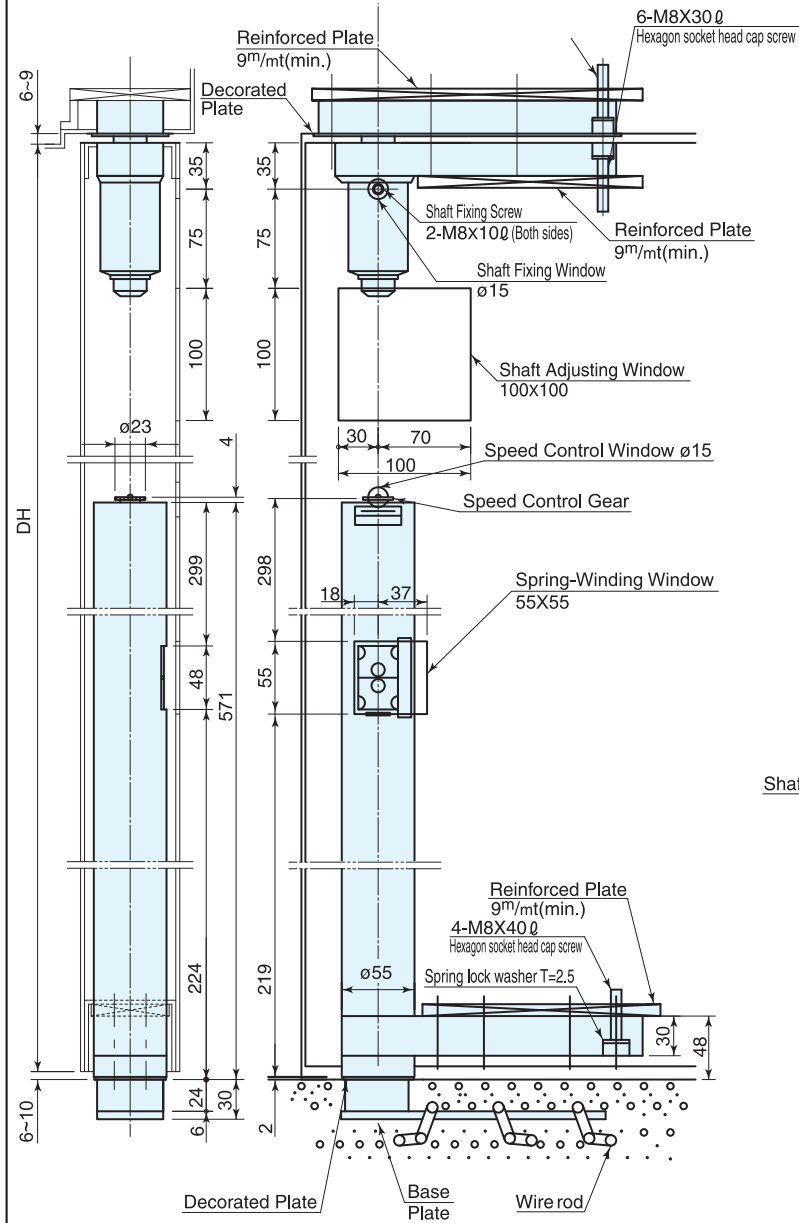
1. This diagram shows the case of right-hand opening doors.
2. This receptive base should be adjusted and centered according to the plumb bob from the top pivot. The seat should be firmly welded on the base plate.
3. For speed control windows and spring-winding windows use the decorated rubber plate. (see page 15)

Right and Left Hand Doors

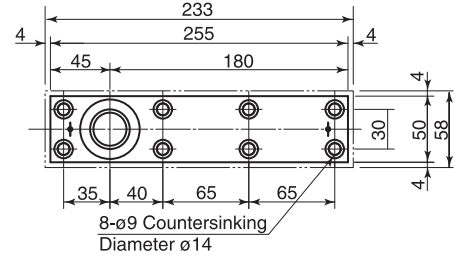


Model		Door size applicable (mm)			Door weight (kg)	Closing force (N·m)	Spring set system	Stop mechanism	Max. opening angle	Indicating label
		W	H	D						
A-40R	Right opening	4000 max.	3000 max.	65 min.	800 max.	78.5	Roll-in system	None	180° right or left one-side opening	R : Green L : Yellow
A-40L	Left opening									

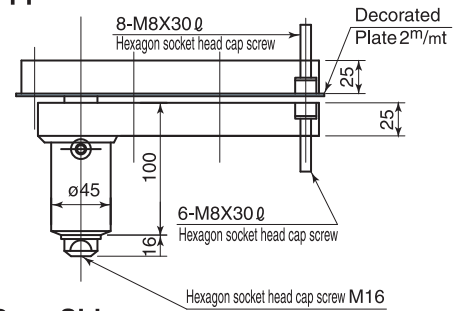
EXTERNAL DIMENSIONS AND FITTING DIAGRAMS



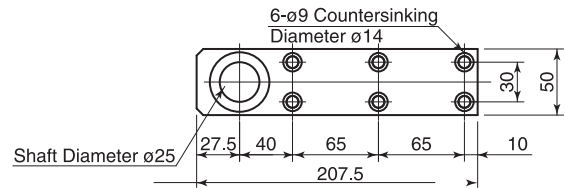
N-25A TOP PIVOT



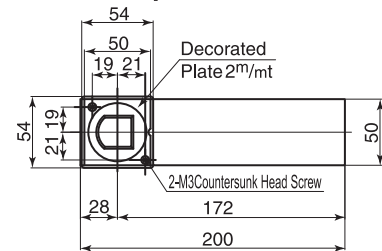
Upper Frame



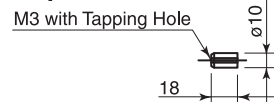
Door Side



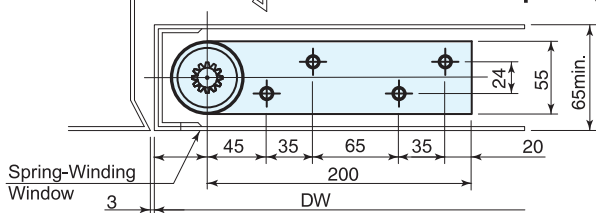
U-7N Receptive Base



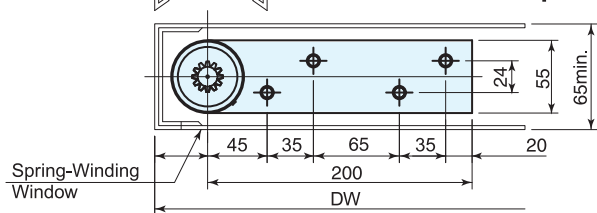
Spring Set Pin: 2 pieces



In the case of 90° opening



In the case of 180° opening

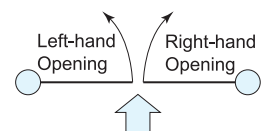


Unit: mm

REMARKS

1. This diagram shows the case of right-hand opening doors.
2. This receptive base should be adjusted and centered according to the plumb bob from the top pivot. The seat should be firmly welded on the base plate.
3. For speed control windows and spring-winding windows use the decorated rubber plate. (see page 15) Prepare the shaft fixing window.
4. A big force is applied to the installation unit. Perform reinforcement with enough strength.
5. Screw in the top pivot securely as turning the shaft upward and then tighten the shaft fixing screw.

Right and Left Hand Doors

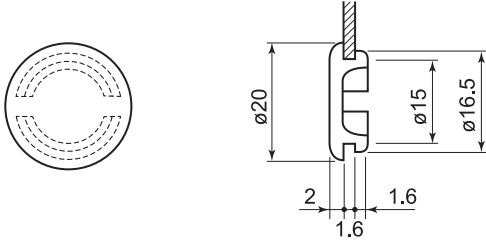


DECORATED RUBBER PLATE

DIMENSIONAL DRAWING

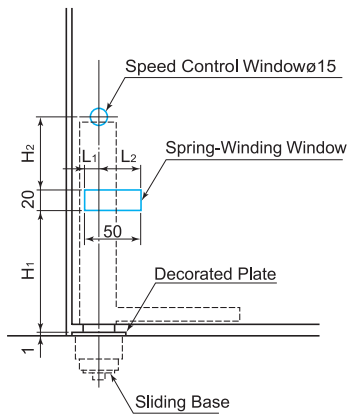
(For Speed Control Window)

- ROUND TYPE (A-8KH~A-40)



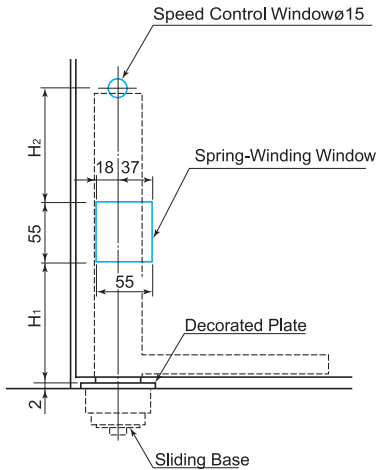
DIMENSIONAL DRAWING OF DOOR CUTOUT

- Applicable Models (A-8KH, A-8H, A-10H, A-12H, A-14H, A-16H)



Model	H1	H2	L1	L2
A-8KH	105	106	12	38
A-8H				
A-10H	181	109	13	37
A-12H				
A-14H	231	119	16	34
A-16H				

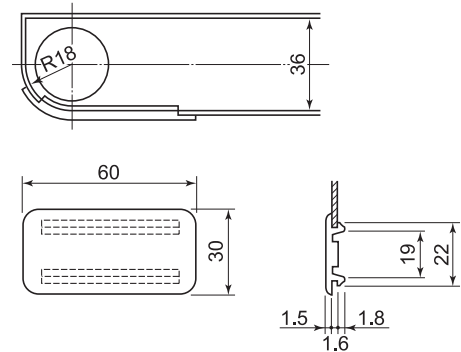
- Applicable Models (A-18, A-22, A-26, A-30, A-35A, A-40)



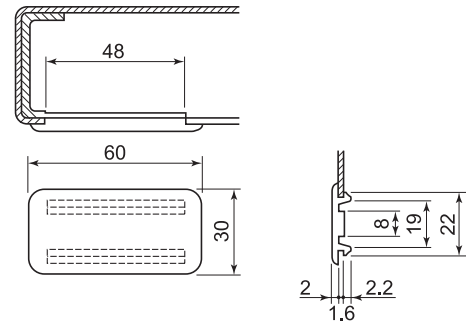
Model	H1	H2
A-18	181	264
A-22		
A-26	210	307
A-30		
A-35A		
A-40	219	298

(For Spring-Winding Window)

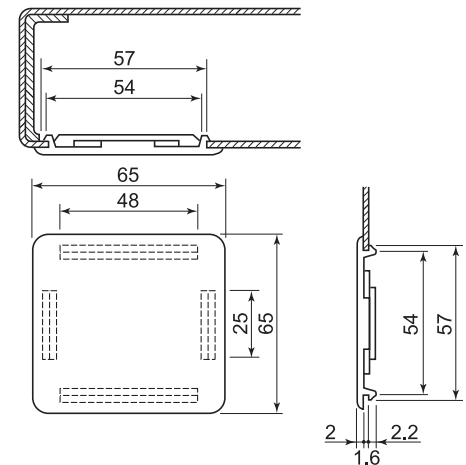
- SQUARE TYPE (With Round) (A-8KH)



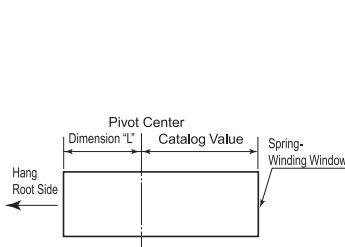
- SQUARE TYPE (Small) (A-8H, A-10H, A-12H, A-14H, A-16H)



- SQUARE TYPE (Large) (A-18, A-22, A-26, A-30, A-35A)



Notch dimension of the spring-winding window for the expected door thickness



Expected door thickness (mm)	40	45	50	55	60	65	70	75	80	85	90	95	100
Model													
A-8KH A-8H	Catalog Value (L=12)						L=13	L=14	L=15				
A-10H A-12H	Catalog Value (L=13)							L=14	L=15	L=16			
A-14H	Catalog Value (L=13)			L=14	L=15	L=16	L=17	L=18	L=19	L=20			
A-16H	Catalog Value (L=16)	L=17	L=18	L=19	L=21	L=22	L=23	L=24	L=25	L=26	L=27	L=29	
A-18 A-22	Catalog Value (L=18)												
A-26, A-30 A-35A, A-40	Catalog Value (L=18)												

※ 1. This table shows the notch dimension of the spring-winding window from the pivot center to the hang root side in the center hang type auto hinge.
 2. When the expected door thickness exceeds the catalog value range, the decorated plate provided as standard equipment cannot be used.

Unit: mm

Precautions for Installation

Opening directions of doors

- Opening directions of doors are identified by the seal and marking on the fix base plate (the symbol mark, R or L, suffixed to the end of model No).
- Make sure that the speed control window and spring-winding window are opened on the door opening side.

	A-8KH, A-8H, A-10H, A-12H, A-14H, A-16H A-18, A-22, A-26, A-30, A-35A, A40
R. opening	Green
L. opening	Yellow

Reinforcing the doors to be used

- Reinforce the doors with reinforced plates and channel plates according to Table given right.

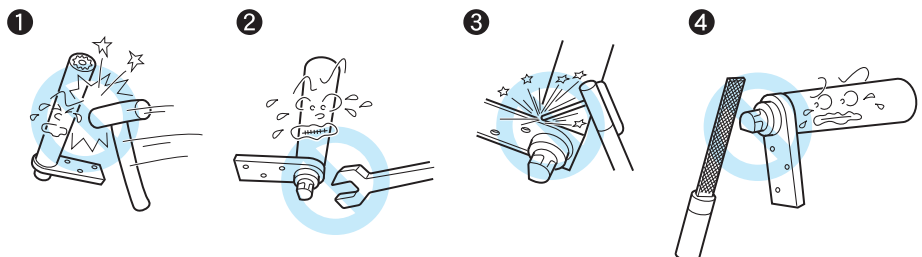
Model	A-8KH, A-8H A-10H, A-12H A-14H	A-16H, A-18 A-22, A-26 A-30	A-35A	A-40
Plate thickness				
Thickness of Reinforced plate, channel plate (mm)	2.3min.	3.2min.	4.5 min.	9.0 min.

Setting the fix base plate

- Be sure to arrange the receptive base so that the Round side of the channel in the seat will come to the AUTO HINGE fixture side when the door is closed.
- Since the seat of the receptive base can slide on the base plate, align it with the top pivot using a plumb bob.
- After the alignment is completed, weld the seat and the base properly.

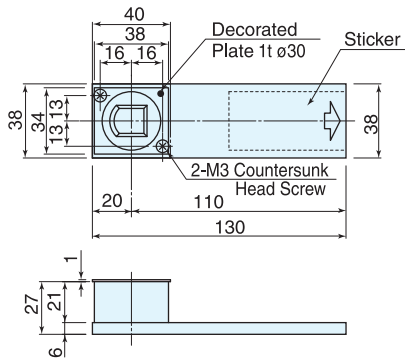
Precautions for Handling

- Do not strike or drop it.
- Do not turn the lower leg.
- Do not joint by welding.
- Do not file the tapered part of the lower leg.

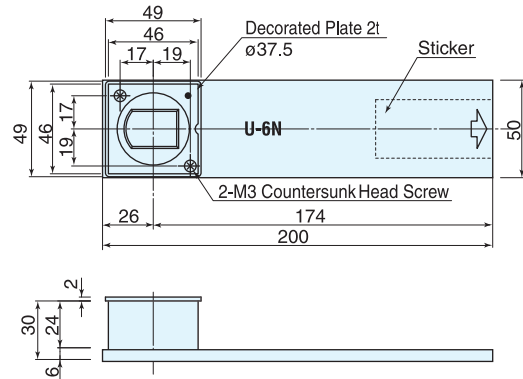


FIXED RECEPTIVE BASE

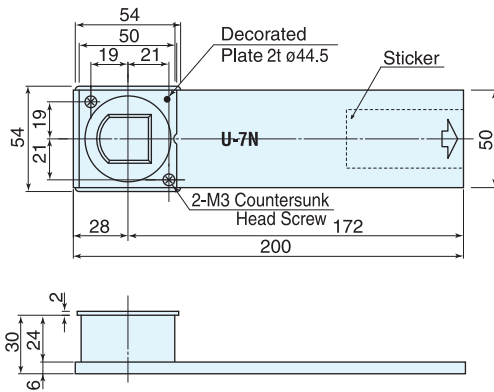
U-3N (A-8KH~A-16H)



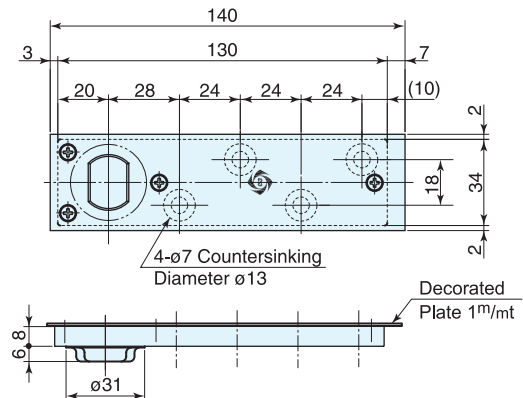
U-6N (A-18•A-22)



U-7N (A-26~A-35A)



U-2NH (A-8KH~A-16H)



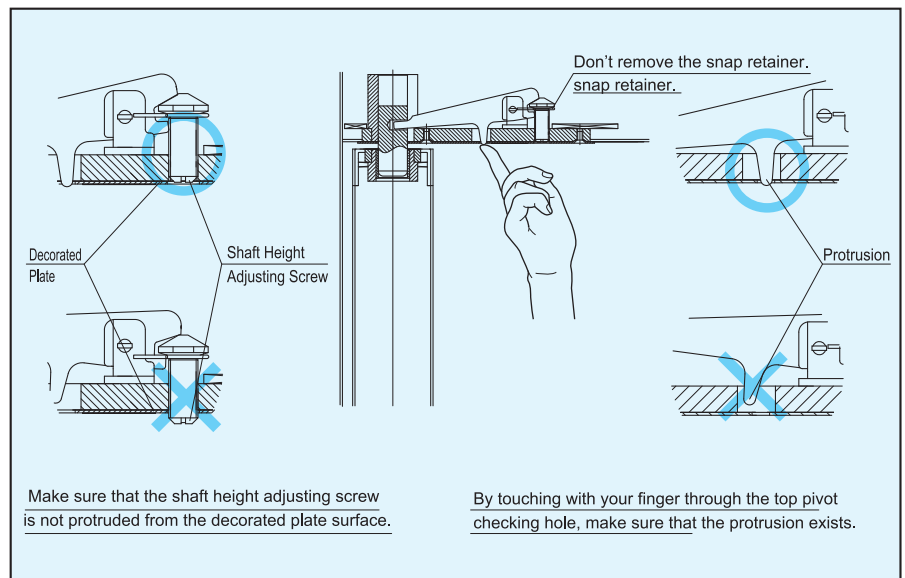
(A-8KH~A-16H)

CAUTION FOR OPERATING THE TOP PIVOT

- After operating the top pivot, perform checking as shown in the right diagram.

※ Operation for top pivot (A-35)

Be sure to screw a shaft into the body and fasten the shaft setscrew(hexagonal screw).



Make sure that the shaft height adjusting screw is not protruded from the decorated plate surface.

By touching with your finger through the top pivot checking hole, make sure that the protrusion exists.

REMARKS : The figures above show the case of right-side opening door.

ROLL-IN SYSTEM (A-8KH~35A) HANGING AND SPRING WINDING METHODS

- ① Make sure that the speed control window and the spring-winding window are opened on the door opening side (door pocket side)
- ② Make sure that both the round positions of the lower leg and receptive base match properly. Only proper positioning makes it to hang the door in place. In case the rounds are out of position, roll in the spring to set the I-mark in position.
- ③ In hanging, insert the lower leg in the receptive base with the door inclined, and then stand the door.
- ④ Make sure that the whole lower leg is in the receptive base,

and then with the door opened 90°, center the top pivot. Use a screwdriver and screw in the shaft height adjusting screw of the top pivot clockwise reliably.

- ⑤ After hanging, roll in the spring with the spring set bar. To wind the spring, roll in the upper spring set seat in the direction of door opening and insert the set pin into the spring set pin hole given in Table ⑤ below. After then, roll in and set also the lower spring set seat in such manner as above. (only the upper spring set seat for A-8H~A-16H).

1

2

3

4

5

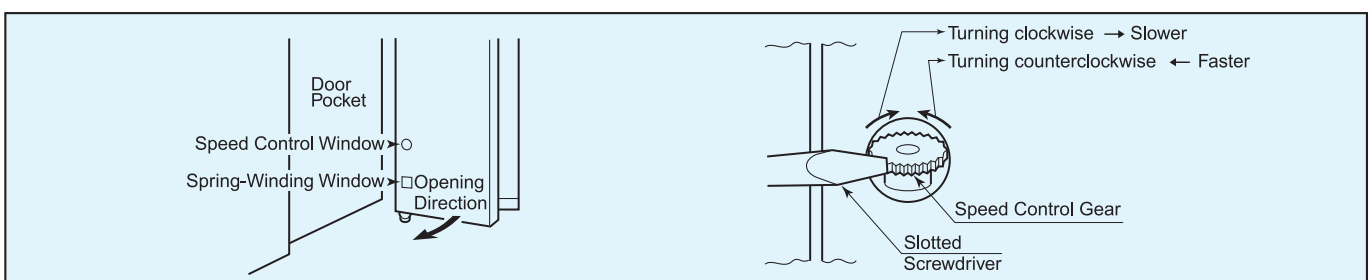
*Be sure to wind the spring in the direction of door opening.

Model	Holes for insertion of spring set pins
A-8KH	4th hole
A-8H	8rd hole
A-10H	3rd hole
A-12H	6th hole
A-14H	9th hole
A-16H	6th hole
A-18	10th hole
A-22	12th hole
A-26	12th hole
A-30	11th hole
A-35A	12th hole
A-40	10th hole

This figures show the case of right-side opening door.

CLOSING SPEED ADJUSTMENT

- After hanging the door and setting the spring, insert a screwdriver through the speed control window and turn the speed control gear. Turning clockwise → Slower Turning counterclockwise ← Faster
- Turning the speed control gear will not allow vertical movement.
- The turning limit of the speed control gear are 18 turns.
- The point where the gear suddenly comes to heavy turn for both right and left turning is the limit of turning.



REMARKS : Further turning beyond such limit may cause damage.

OTHER RELATED PRODUCTS (AUTO HINGE)

FLAG TYPE

- Flag type door closer making a boast of NITTO KOHKI, being easily installed on an arch door, etc.
- Various models according to types and sizes of doors (wooden, aluminum, lightweight steel, steel doors) are available from us.



FLAG DRIPPROOF CONSTRUCTION TYPE

- Dripproof design
- Adopts an actuator with unique temperature sensor, thus assuring constant closing speed all the year round.



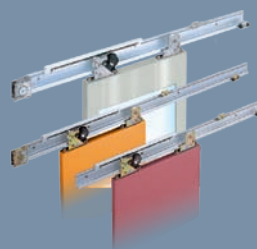
BUTTERFLY TYPE

- Small, slim door closer, being most suitable for lightweight doors (for indoor type).
- Easy to install because of having butterfly shape.
- Usable in common for both right- and left-side opening.



SLIDING CLOSER SYSTEM

- The endless, viscosity resistance system (patent pending) is employed to offer a compact, lightweight, long-life closer.
- The door closing speed can easily be adjusted for a desired level.
- The temperature compensation function (patent pending) is incorporated so that the closing speed remains virtually the same even when the ambient temperature changes. (option)



Horizontal type

NSC Series

Inclined type

DSC Series

For Bath

NSC-B Series



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★ Specifications and designs are subject to change at any time without notice.



● This document is printed with soy-based inks.