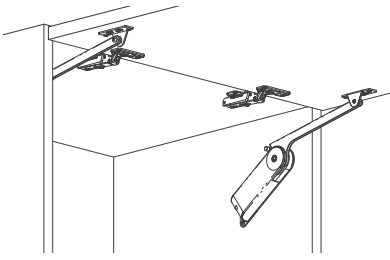


LAMP® HDSN-30 HEAVY - DUTY SOFT - DOWN STAY INSTALLATION MANUAL



Read this manual carefully for proper installation and operation. Incorrect installation and improper use of the product may cause damage to the unit and also cause injury. This manual should be kept by the user after installation.

Sugatsune guarantees the quality of this product as for all its parts. It cannot however guarantee the final assembly as a whole. This product was manufactured and delivered with our utmost care. Should you however find any defect, please contact your dealer immediately. Sugatsune warrants that this product is free from defect for a period of one (1) year from the date of delivery. Sugatsune liability is limited to the replacement of this product by a similar one free of defect. In no case does this extend to the replacement of the installation or the cabinet as a whole.

⚠ CAUTION Any failure to observe the following cautions may result in personal injury and property damage.

Cautions for installation

- Make sure that installation position and specifications are followed. Unsuitable installation position may damage the mechanism when in case two stays are used together.
- Make sure that the arm of the stay is parallel with the side panel of the cabinet.
- The right-hand and left-hand side bodies of this mechanism should be installed in set.
- This is the mechanism exclusively for a flap type door application. Be reminded that we can not take the responsibility for damages and injuries caused by other applications, disassembly, conversion and the application to the door exceeding the standard ranges shown in the item "Type selection method".
- This mechanism must be installed to the cabinet correctly in accordance with the indications of this manual. Notice that the non-observance of the specified dimensions not only does not enable this mechanism to show its full performance, but also may result in damage and also cause injury.
- It is necessary to use the attached screws for installing this mechanism. Otherwise the disconnection of this mechanism may happen causing injury.
- The applicable door must have the construction for which it is difficult to induce bent or torsion.
- Please make sure to check the operation after installation.

Cautions for operation

- Keep a door from forced opening and closing. It is prohibited to open a door over a full open angle or to close a door with excess force.
- The working temperature range of this mechanism is 0~40°C. Opening and closing speed of the door depends on the temperature. This is not the symptom of troubles. It is prohibited to use this mechanism at the temperature exceeding the specified range. It is not permitted to apply this mechanism for the cabinet installing a heat-generating microwave oven or other similar appliances.
- Be careful not to insert a finger into the arm mechanism of the unit. Severe injury may be caused. It is necessary to periodically check the fixing screws for loosening. Tighten the loosed screws as required.

■ Part description

① HDSN-30 body / left-hand side 1pc

② Body mounting plate 1pc

③ Bind tapping screw (3.5x15) 3pcs

① HDSN-30 body / right-hand side 1pc

② Body mounting plate 1pc

③ Bind tapping screw (3.5x15) 3pcs

Parts of separate packing (Select either)

Option Parts for installing to solid wooden door or 45mm width aluminum frame door

④ HDSN-SZ mounting plate 1pc

⑤ Truss screw (M4x6) 1pc

⑥ Bind tapping screw (3.5x15) 4pcs

Option Parts for installing to 20mm width aluminum frame door

⑦ HDSN-AZ mounting plate 1pc

⑧ Truss screw (M4x6) 1pc

※ Screws for fixing mounting plate are NOT included. Prepare 2 pcs of screw separately. (M3.5~4 is recommended.)

Fig. 1. Part description

■ Type selection method

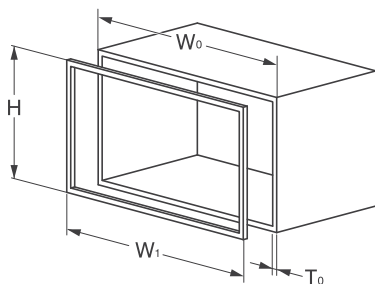


Fig. 2. Cabinet

Calculate the door torque according to the following formula considering the weight and the height of the applicable door. Select the suitable type as per Table 1.

$$\text{Door height } H \text{ (m)} / 2 \times \text{Door weight (kg)} \times 9.8 = \text{Door torque (N} \cdot \text{m)}$$

Table 1. Type and suitable door range

Type	Door torque	
	Opening angle 90°	Opening angle 80°
HDSN-30KL	13.7~17.5 N·m (140~179 kgf·cm) / pair	13.7~19.5 N·m (140~199 kgf·cm) / pair
HDSN-30KR		
HDSN-30ML	17.6~21.5 N·m (180~219 kgf·cm) / pair	19.6~24.4 N·m (200~249 kgf·cm) / pair
HDSN-30MR		
HDSN-30HL	21.6~25.4 N·m (220~259 kgf·cm) / pair	24.5~29.3 N·m (250~299 kgf·cm) / pair
HDSN-30HR		
HDSN-30SL	25.5~29.4 N·m (260~300 kgf·cm) / pair	29.4~34.3 N·m (300~350 kgf·cm) / pair
HDSN-30SR		

※ Contact our sales representatives in case of installing to a cabinet exceeding the indicated ranges.

Use Concealed Hinges (overlay use, without catch) to hang the door.
Recommended Hinges : 230-26/19T (without catch)

MOUNTING DIMENSIONS

The dimensions in case of the 90opening door are shown in the following figures. The dimensions in case of the 80opening door are shown in ().

This drawing shows the case of installation to solid wooden door or 45mm width aluminum frame door (HDSN-SZ) As for the case of installation to 20mm width aluminum frame door (HDSN-AZ), refer to Fig. 4 and 5.

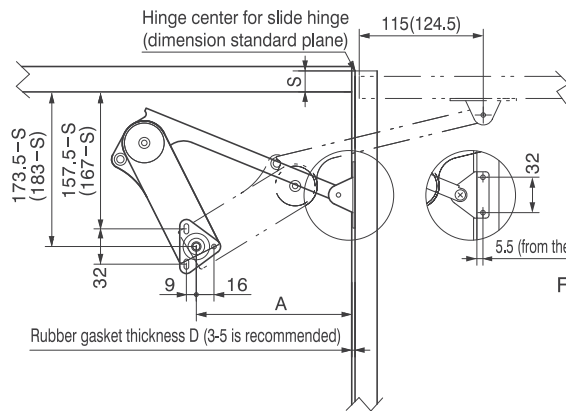


Fig. 3

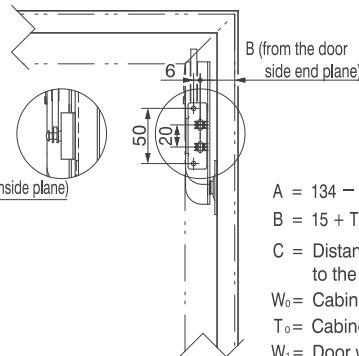


Fig. 4

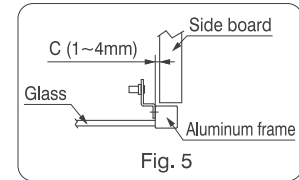


Fig. 5

- $A = 134 - D$
 $B = 15 + T_o - \left(\frac{W_o - W_i}{2}\right)$
 C = Distance from the side board inside surface to the aluminum frame side surface
 W_o = Cabinet overall width
 T_o = Cabinet side board thickness
 W_i = Door width
 S = Overlay

INSTALLATION PROCEDURE

This shows the installation procedure for the application of solid wooden door or 45mm width aluminum frame door (HDSN-SZ).

In case of the installation procedure for the application of 20mm width aluminum frame door (HDSN-AZ), refer to Fig. 9 and 10.

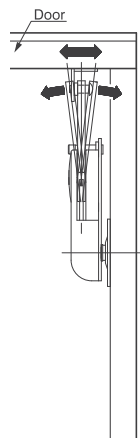


Fig. 6

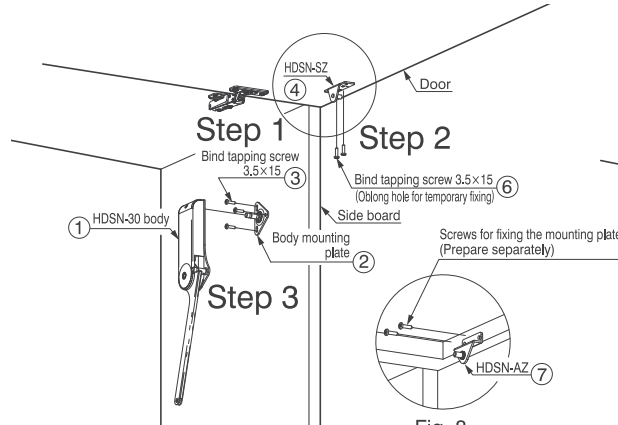


Fig. 7

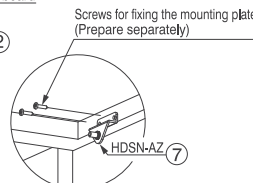


Fig. 8

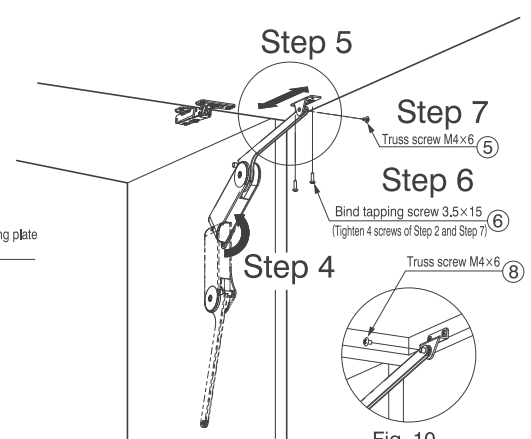


Fig. 9

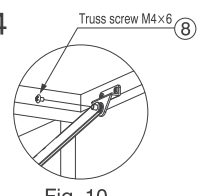


Fig. 10

Before installing the unit, mount the slide hinge to the specified position and adjust it so that the door can be opened and closed smoothly.

⚠ The position adjustment of the slide hinge should be carried out before installing the HDSN-SZ or HDSN-AZ mounting plate. Otherwise the stay arm may be deflected right or left as shown in Fig. 6, which may result in trouble or damage.

Step 1. Place the mounting plate ② to the specified position of the inside surface of a cabinet and fix it with the attached bind tapping screws 3.5×15 ③ firmly.

Step 2.

● In case of HDSN-SZ mounting plate (for solid wooden door or 45mm width aluminum frame door)

Temporarily fix the HDSN-SZ mounting plate ④ through its oblong hole to the specified position of the back of the door with the attached bind tapping screws 3.5×15 ⑥.

● In case the HDSN-AZ mounting plate (for 20mm width aluminum frame door)

The fixing screws are not supplied. Prepare them separately (M3.5-4 is recommended). Fix the HDSN-AZ mounting plate ⑦ with the prepared fixing screws firmly. (Fig. 4)

※ The HDSN-AZ mounting plate ⑦ should be mounted so that the distance (C) between the side board inside surface and the aluminum frame side surface be in the range of 1~4mm. (Fig. 5)

Step 3. Put the hole of the HDSN-30 side body ① to the axis of the body mounting plate ②, insert the unit body up to the root of the plate making click.

⚠ Never use a hammer or others like it in order to insert the mounting plate into the HDSN-30 body ①. Otherwise trouble or damage may happen.

Step 4. Adjusting the axis of the HDSN-SZ mounting plate ④ and the hole in the arm end, insert the truss screw M4×6 ⑤.

Step 5. Check the door opening and closing function and adjust the position of the HDSN-SZ mounting plate ④ through its oblong hole.

Step 6. Remove the arm from the mounting plate. Then, fix the plate firmly with the bind tapping screw ⑥ into its circular hole.

Step 7. Insert the arm into the axis of the mounting plate again and fix the arm firmly with the truss screw M4×6 ⑤. (Fig. 10 HDSN-AZ)

SUGATSUNE KOGYO CO.,LTD
Tokyo, JAPAN
Phone: +81 (0)3 3866 2260 E-mail:export@sugatsune.co.jp

SUGATSUNE KOGYO (UK) LTD
Reading, UK
Phone: +44 118 9272 955 E-mail:sales@sugatsune.co.uk

SUGATSUNE EUROPE GmbH
Düsseldorf, GERMANY
Phone: +49 211 53812900 E-mail:sales@sugatsune.eu
ISO9001(Japan Offices and Sugatsune America) and ISO14001(Chiba Production division and Logistics center), certified.

SUGATSUNE SHANGHAI Co., LTD
Shanghai, CHINA
Phone: +86 21 3632 1858 E-mail:lamp@sugatsune.com.cn

Guangzhou, CHINA
Phone: +86 20 6639 3552 E-mail:lamp@sugatsune.com.cn

SUGATSUNE KOGYO INDIA PRIVATE LIMITED
Mumbai, INDIA
Phone: +91 22 28314490/91 E-mail:sales@sugatsune.in

SUGATSUNE AMERICA, INC
California, USA
Phone: +1 310 329 6373 E-mail:sales@sugatsune.com

Chicago, USA
Phone: +1 312 461 1081 E-mail:chicagoshowroom@sugatsune.com.

SUGATSUNE CANADA, INC.
Phone: +1 514 312 5267 E-mail:support@sugatsune.ca