

No.355

# Motion DesignTec®



Free Stop Motion

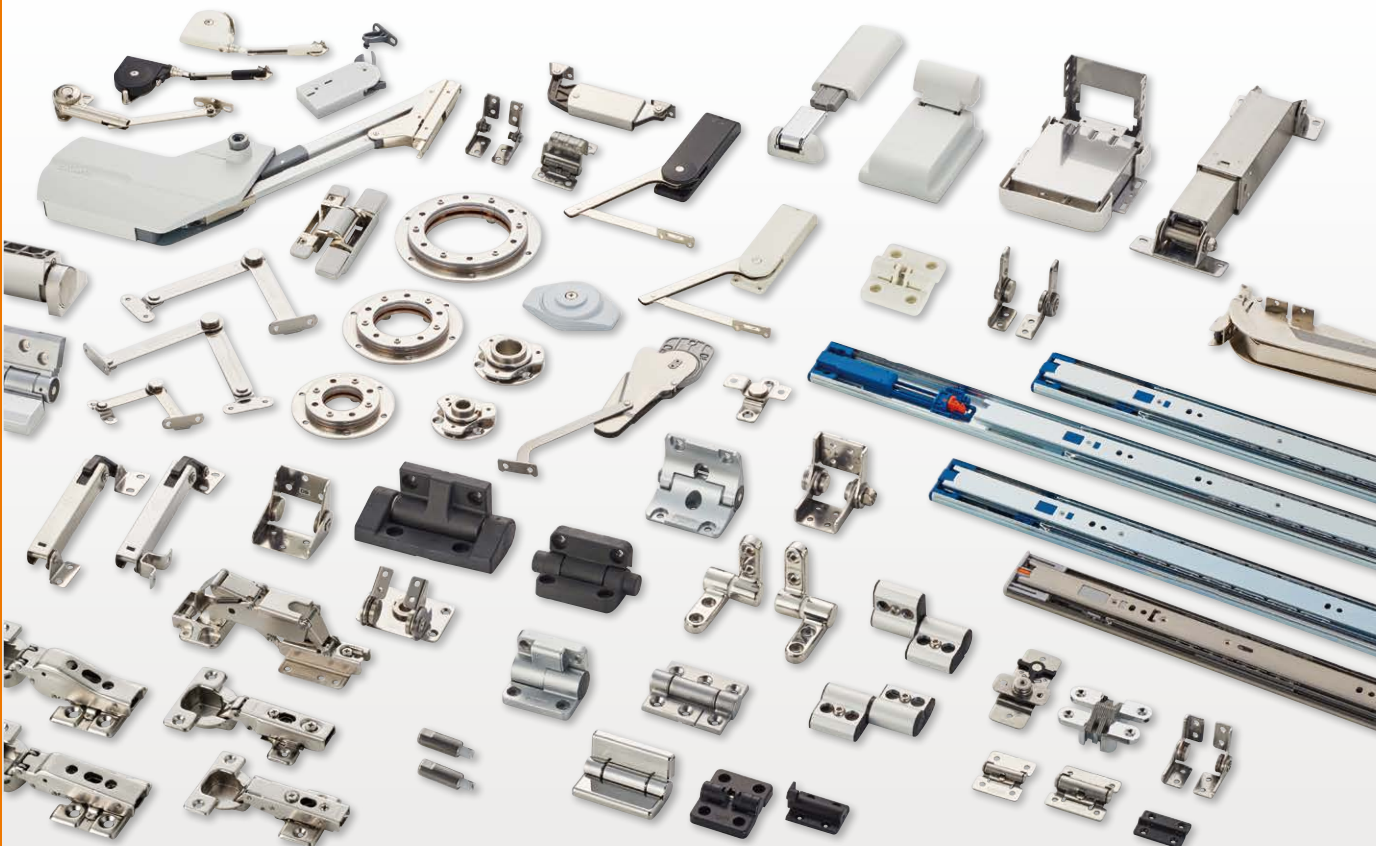
Soft Motion

Power Assist Motion

Click Motion

Unique Motion

Motion Design Tech **improves flap** or door operation



**LAMP®**

# Motion DesignTec®



**For smooth movement**  
Soft motion



**Hold in any position**  
Free-stop motion



**Helps you open**  
Power assist motion

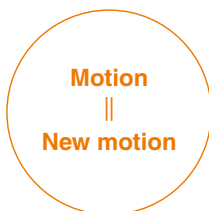


**Snap and stop**  
Click motion



**New openings**  
Unique motion

## What is Sugatsune's "Motion Design Tech"?

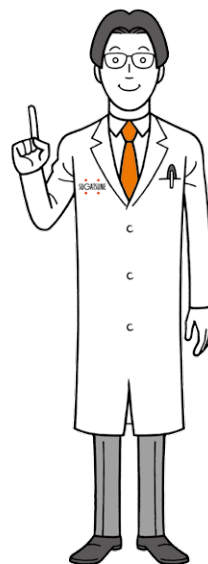


**Motion Design Tech is Sugatsune's unique product concept to provide specialist movement solutions for your flaps and doors.**

The operability of doors or lids can be improved by choosing from the 5 types of motion suitable for work environment.

It can also improve the efficiency of work involving opening and closing movements, increasing the added value of the device and equipment.

So where should they be used separately?  
We will introduce them below one by one.



Motion Design Tech Lab (Development laboratory)  
**Mr. ISHIGAYA**, researcher



Hold in any position

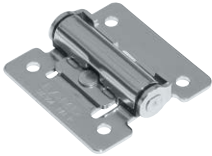
## Free Stop Motion

It can hold the door, lid or cover in any position during opening or closing.

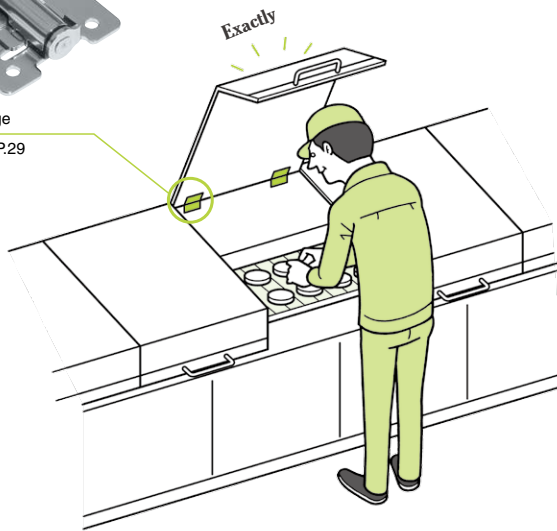
Video



### Applicable Places



Torque Hinge  
HG-TS □P.29



Ideal for top-opening covers in a production line, as it allows for the cover to be held open in any position. Because no stopper is necessary, speedy checks and maintenance is possible.

No stay is needed, clearing additional space inside the machine.

Users don't have to worry about slamming the lid closed, bringing additional safety and ensuring it remains damage-free.

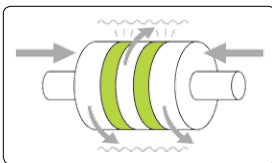
Suitable for displays of airplane seats.  
Enables a monitor to be adjusted to a level of adults or children's eyes.



Torque Hinge  
HG-TB □P.41

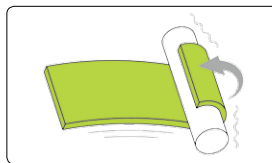


### Stops by means of friction



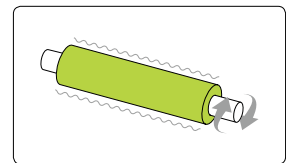
#### Disk Structure

Friction occurs when rotating the movable disks with the fixed disk inserted between them.



#### Curl Structure

Friction occurs when rotating the shaft with the leaf spring twined on it.



#### Pipe structure

A shaft press-fitted into a plastic pipe is rotated.



## For smooth movement

# Soft Motion

Reduces the opening/closing speed of doors, lids or drawers.

### Applicable Places

This is ideal for wall-storage or information terminals in hospitals.

Once used and the flap is lightly pushed up, it will slowly and naturally close.

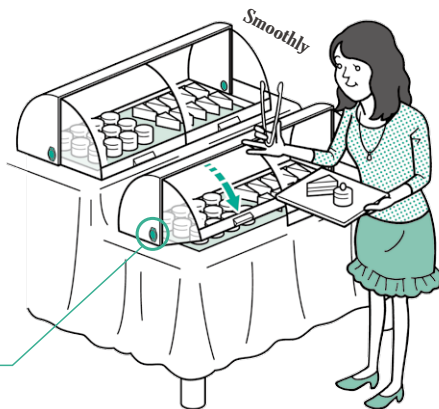
This is a perfect solution for quiet environments.



Self-close Stay  
HDS-10S □□P.99



Video



Disk Damper  
UDD □□P.72

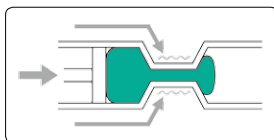
This is suitable for food display cases such as self-serve bakery cases and candy or sweet cases, etc.

If the flap is pushed down slightly, it will close naturally and slowly by itself.

(It isn't necessary to hold the flap until it closes completely)

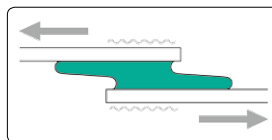


### Reduces speed by means of resistance



#### Orifice Structure

Resistance develops when a viscous medium flows from a thick diameter to a thin diameter.



#### Shear Structure

Resistance develops when moving the two plates with the viscous medium between.



Lapcon

"Lapcon" refers to Sugatsune's patented damper mechanism using left structures.



## Helps you open Power Assist Motion

Assists in opening/closing heavy doors, lids or covers.

### Applicable Places

Video



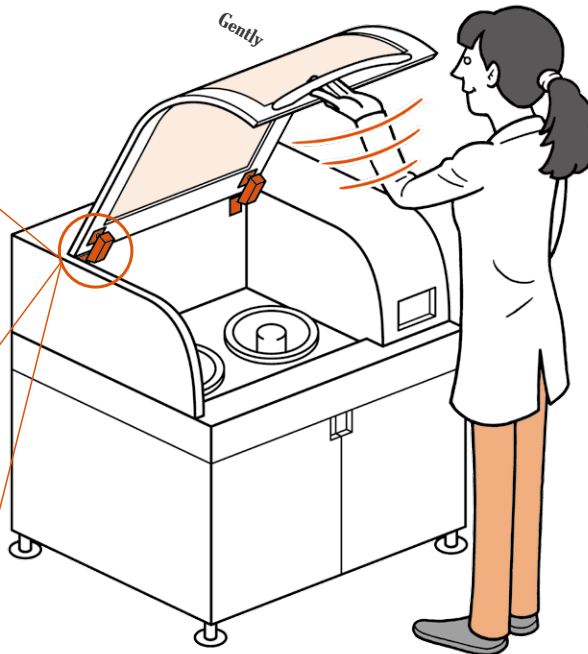
Lift Assist Hinge  
HG-PA230 □□P.150



Heavy Duty Spring Loaded Lid Stay  
S-AT02W □□P.157



Stainless Steel Lift Assist Hinge  
HG-JH210 □□P.152

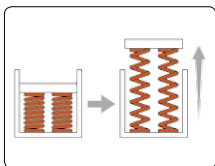


Ideal for a large sized analysing device and enables a heavy flap to be opened using little power.

Anyone can easily handle it with one hand - neither the opening nor closing operation will burden users.

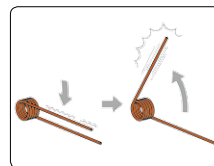
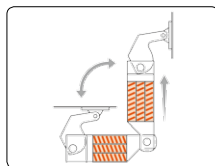


### Lifts by means of reaction force



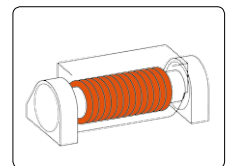
#### Compression Spring

Reaction force is generated when the shrunken spring returns to its original shape.



#### Torsion Spring

Reaction force is generated when the curled spring returns to its original shape.



Easy and fine operation can be achieved by using a spring suitable for the application.



## Snap and stop

# Click Motion

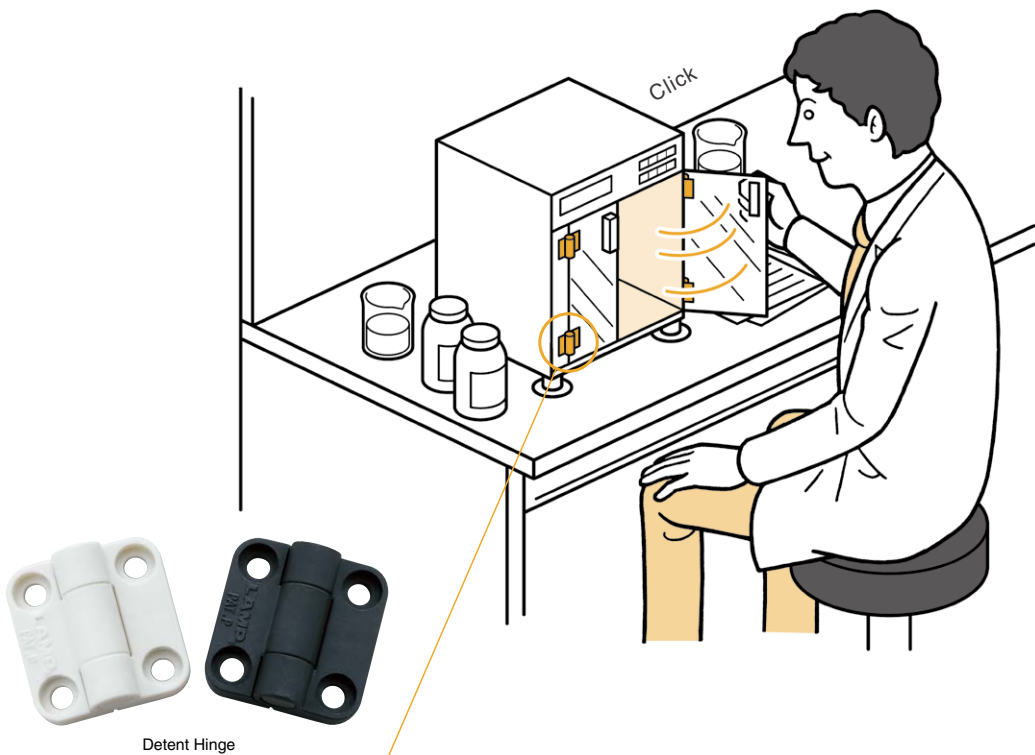
Temporarily holds door, lid or cover during opening/closing at a certain angle with a unique feel.

Video



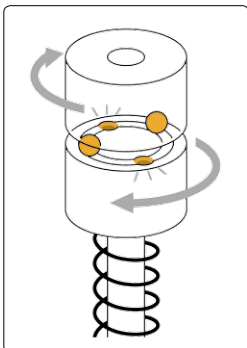
### Applicable Places

Ideal for a measuring device in a laboratory and enables a flap to be held at a certain angle. It also prevents a flap moving freely so users don't have to worry about it knocking down an instrument.



Detent Hinge

HG-MPS2 P.174



## Temporarily holds with detent mechanism

When rotating two grooved parts with balls between them, the moving balls will fall into the grooves, realising temporary holding.





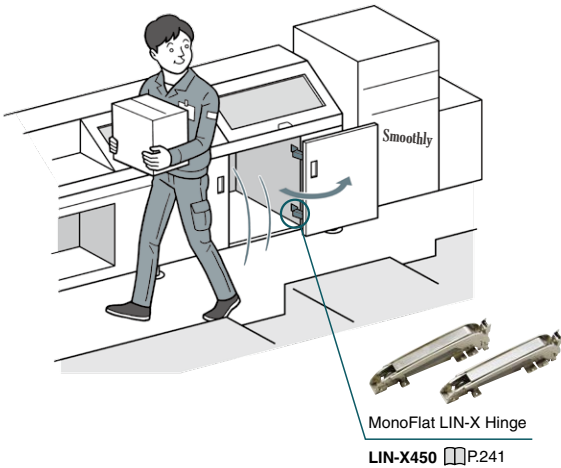
# New openings Unique Motion

Expand variations of opening/closing locus.



## Applicable Places

Ideal for large-size machines such as in food processing or printing. It enables a flap to move parallel to a body and decreases the space needed to open the door. By using this mechanism, an open door will not obstruct narrow corridors in a factory where several machines are operating. The wide opening makes it easier to take something in and out.



### Moves by using link mechanism

Combining multiple shafts and arms creates more versatile locus than moving with one shaft.

**Example 1 Locus of MonoFlat LIN-X hinge**  
Door projection is less than that of common swing doors.

Completely closed → Completely opened

**Example 2 Locus of concealed hinge**  
Even for overlay doors, the door hinge side moves inward and will not hit the door next.

Completely closed → Completely opened

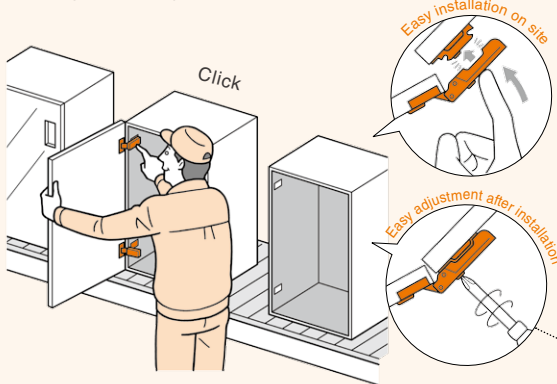
One major advantage of “Motion Design Tech” supporting 5 types of motion

## Easy Installation & Adjustment Function

Proper installation is very important for the functioning of the industrial components. Since “Motion Design Tech” is a technology of motion, to further improve that “motion”, installation support function is incorporated in various products. Easy installation and possible door adjustment after installation realises a comfortable fine opening and closing operation.

Example of applicable products

CONCEALED HINGE FOR SHEET METAL HT160THV2 P.197



Adjustable in various directions.

High durability is also proprietary to Sugatsune. Comfortable movement lasts for a long time.

## Example Of Application

### Hospital

From the equipment of the operation room to the cabinets for the wards. Our products enhance the safety and comfort of both patients and staff.

#### Operation Room

For biological information monitor



Exactly stopping in an easy-to-view direction  
**Torque Hinge (Dual Axis)**  
P.56

For cabinet

Silent & soft closing  
**Soft-close Slide**  
P.134

#### Ward

For information terminal



Slowly closing once lifted a little  
**Self-close Stay**  
P.99

### Logistics Warehouse

Providing better working environment for the staff

For picking cart



Exactly stopping in an easy-to-view direction  
**Torque Hinge (Dual Axis)**  
P.55

### Manufacturing Factory

Functions that support operators relieve the burden and maintain a comfortable working space without stopping the production line.

For swivelling of operation panel



Possible to pass through cables  
**Swivel Torque Hinge**  
P.51

### Research Institute

Suitable for equipment lids and covers of various sizes. Improving operability and work efficiency.

For heavy top cover



Easily opening  
**Lift Assist Hinge**  
P.143

For environmental test equipment



Temporarily holding at a certain angle with a click  
**Detent Hinge**  
P.171

For storage door



Door adjustable after installation  
**Concealed Hinge**  
P.208

For storage door of dispensing table



Not interfere with the traffic even at narrow passage  
**MonoFlat LIN-X Hinge**  
P.241

For desktop analyser



Invisible from outside  
**Concealed Torque Hinge**  
P.48

**Railway Vehicle, Station**

Supporting routine operation and maintenance work.

Vehicle Deck

For maintenance door



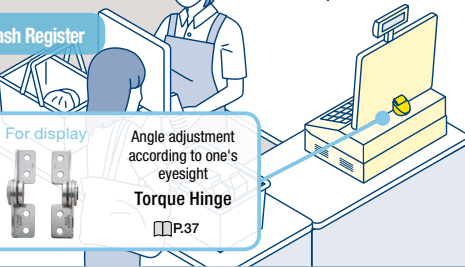
Holding door in closed position  
**One Way Torque Hinge**

□□P.25

**Supermarket**

More efficient money handling work reduces burden on employees.

Cash Register



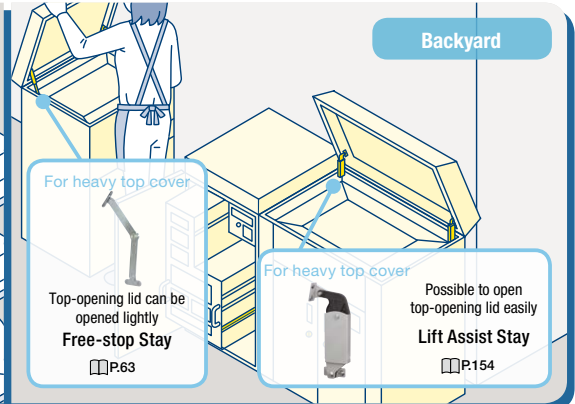
For display

Angle adjustment according to one's eyesight

**Torque Hinge**

□□P.37

Backyard



For heavy top cover

Top-opening lid can be opened lightly  
**Free-stop Stay**

□□P.63

For heavy top cover

Possible to open top-opening lid easily

**Lift Assist Stay**

□□P.154

**Food Factory, Kitchen**

Reducing the risk of foreign matter ingress for the sake of hygiene.

Food Factory

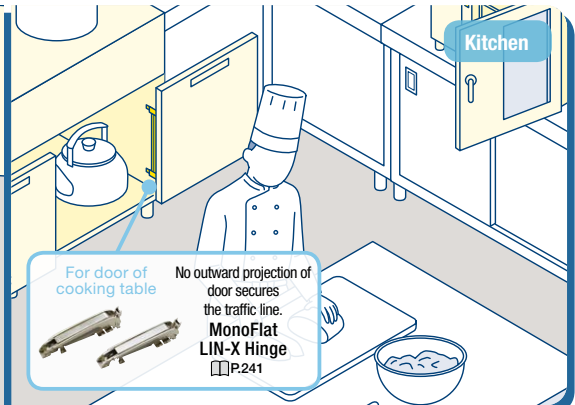
For control board

Stopping door exactly in any position

**Concealed Torque Hinge**

□□P.49

Kitchen



For door of cooking table

No outward projection of door secures the traffic line.  
**MonoFlat LIN-X Hinge**

□□P.241

**Aircraft**

Maximising inside space and creating a comfortable high quality space.

For toilet lid



Silent & soft closing even if you release your hand

**Torque Damper**

□□P.83

For table storage



Detent function prevents spring back in closed position

**Detent Torque Hinge**

□□P.38

For seat monitor



Angle adjustment according to one's eyesight

**Swivel Torque Hinge**

□□P.51

For hook



Slowly and quietly stored with item removed

**Recessed Hook**





























□□P.139


# Motion DesignTec® Product List

See [p.1](#) onward for details of motion types.



Hold in any position  
Free Stop Motion

 P.23 ADJUSTABLE ONE WAY TORQUE HINGE HG-TQ100	 P.28 TORQUE HINGE HG-TP	 P.31 LIFT-OFF TORQUE HINGE HG-KNT	 P.38 DETENT TORQUE HINGE HG-DTA	 P.43 STAINLESS STEEL TORQUE HINGE HG-TBS	 P.48 TORQUE HINGE (CONCEALED) HG-TUWA	 P.56 TORQUE HINGE (DUAL AXIS) HG-T30S15
 P.24 ONE WAY TORQUE HINGE HG-TQW8080	 P.29 TORQUE HINGE HG-TS	 P.32 MINI TORQUE HINGE HG-MF	 P.39 STAINLESS STEEL TORQUE HINGE HG-TAS	 P.44 ADJUSTABLE TORQUE HINGE HG-TBSJ40	 P.49 TORQUE HINGE (CONCEALED) HG-TU	 P.57 MONITOR BRACKET KA-T100S50 With Torque & Auxiliary Lock
 P.25 ONE WAY TORQUE HINGE HG-TQA	 P.29 STAINLESS STEEL TORQUE HINGE SFTH	 P.33 COMBINATION HINGE HG-VH8	 P.40 ADJUSTABLE TORQUE HINGE HG-TASJ40	 P.45 TORQUE HINGE HG-TC45H	 P.50 DETACHABLE TORQUE HINGE HG-RNM30	 P.59 FREE-STOP STAY (ONE WAY) S-TAR
 P.26 ADJUSTABLE TORQUE HINGE HG-ITJ4080	 P.30 TORQUE HINGE HG-ITHP	 P.35 TORQUE HINGE HG-TLS30-50-300	 P.41 TORQUE HINGE HG-TB	 P.46 TORQUE HINGE (CONCEALED) HG-RT	 P.51 SWIVEL TORQUE HINGE HG-S	 P.63 FREE-STOP STAY S-100T30
 P.27 TORQUE HINGE HG-IT	 P.30 TORQUE HINGE HG-TWP Exterior Type	 P.37 TORQUE HINGE HG-TA	 P.42 DETENT TORQUE HINGE HG-DTB	 P.47 DUAL AXIS TORQUE HINGE HG-TMH	 P.55 TORQUE HINGE (DUAL AXIS) HG-T70S30	 P.64 FREE-STOP STAY S-52T15

 For smooth movement  
Soft Motion

 P.67 DAMPER HINGE HG-JHW, HG-JHWG	 P.77 BRACKET FOR HG-JHM14 UNDER MOUNT UKZ14	 P.87 LIFT-ASSIST DAMPER (FOR HEAVY DUTY) LADH	 P.101 HEAVY DUTY SOFT-DOWN STAY HDS-10 For Use in Pairs	 P.115 EASY LIFT-UP STAY SLS-ELAN®	 P.127 DAMPER CATCH DC-200	 P.139 RECESSED HOOK NF-60D With Soft Closing Mechanism
 P.68 DAMPER HINGE HG-JH	 P.78 MINI DAMPER HINGE HG-JHM9-S Side Mount	 P.89 LIFT-ASSIST DAMPER LAD-ST With Stopper	 P.102 ADJUSTABLE SOFT-DOWN STAY NSDX-10 (R/L)	 P.117 LAPCON STAY SLS-ELAN-TV	 P.129 DAMPER CATCH DC	 P.139 RECESSED HOOK NF-60DF
 P.69 DAMPER HINGE HG-JHW16S	 P.79 MINI DAMPER HINGE HG-JHM9-U Under Mount	 P.91 LIFT-ASSIST DAMPER LAD	 P.103 ADJUSTABLE SOFT-DOWN STAY NSD-10	 P.118 MOUNTING PLATE FOR ALUMINIUM FRAME DOOR SLS-ELAN-AZ	 P.131 SOFT-CLOSE STAY YMC For Swing Door	 P.140 BRACKET FOR SHEET METAL NF-50D
 P.70 DAMPER HINGE HG-JH14-50 Stainless Steel Bracket	 P.80 SELF-OPEN MINI DAMPER HINGE HG-JHS9-S Side Mount	 P.92 SPACER LAD-DP	 P.104 SHORT ARM SOFT-DOWN STAY NSDX-10 (R/L) K-TV	 P.119 ADJUSTABLE SOFT-DOWN STAY NSDX-35 (R/L)	 P.132 FOLDING BRACKET EB	
 P.71 DETENT HINGE HG-CSH63 With Damper	 P.81 SELF-OPEN MINI DAMPER HINGE HG-JHS9-U Under Mount	 P.92 BRACKET FOR BACK MOUNT LAD-BKT	 P.105 SOFT-DOWN STAY SDS-100, SDS-C100	 P.120 ADJUSTABLE SOFT-DOWN STAY NSD-35	 P.132 DAMPER FOR EB FOLDING BRACKET EBD	
 P.72 DISK DAMPER UDD®	 P.83 TORQUE DAMPER UDH	 P.93 HEAVY DUTY SOFT-DOWN STAY HDS-20 For Use in Pairs	 P.107 SHORT ARM SOFT-DOWN STAY SDS-100-TV, SDS-C100-TV	 P.121 SOFT-DOWN STAY SDS-C301N	 P.134 FULL EXTENSION SOFT-CLOSE SLIDE 3670	
 P.73 DAMPER HINGE HG-JHM20	 P.84 TORQUE DAMPER UDH-16	 P.95 ADJUSTABLE SOFT-DOWN STAY NSDX-20 (R/L)	 P.109 COMPACT SOFT-DOWN STAY CSD-10-TV	 P.122 SOFT-DOWN STAY SDS-400-W	 P.135 FULL EXTENSION SOFT-CLOSE SLIDE ESR4670 Stainless steel	
 P.74 DAMPER HINGE HG-JHM20T Surface Mount Type	 P.85 TORQUE DAMPER UDH-16N	 P.96 ADJUSTABLE SOFT-DOWN STAY NSD-20	 P.111 HEAVY DUTY SOFT-DOWN STAY HDSN-30 For Use in Pairs	 P.123 DOOR DAMPER LDD-V100	 P.136 FULL EXTENSION SOFT-CLOSE SLIDE 4670	
 P.75 DAMPER HINGE HG-JHM16	 P.85 TORQUE DAMPER UDH-14	 P.97 SOFT-DOWN STAY SDS-200, SDS-201, SDS-210	 P.112 ARM MOUNTING PLATE FOR HDSN HDSN-SZ, HDSN-AZ	 P.125 DOOR DAMPER LDD-S	 P.137 FULL EXTENSION SOFT-CLOSE SLIDE 4670 Black	
 P.76 DAMPER HINGE HG-JHM14	 P.86 ROTARY DAMPER URD8-3	 P.99 SELF-CLOSE STAY HDS-10S For Use in Pairs	 P.113 HEAVY DUTY SOFT-DOWN STAY HDS-30 For Use in Pairs	 P.126 SPACER FOR LDD-S LDD-S-P	 P.138 FULL EXTENSION SOFT-CLOSE SLIDE L52145	



Helps you open  
Power Assist Motion



Snap and stop  
Click Motion

 P.143 LIFT-ASSIST HINGE HG-PA SERIES	 P.150 LIFT-ASSIST HINGE HG-PA230, HG-PA231 Inside Mount	 P.159 LIFT-ASSIST STAY S-AT Side Mount, Back Panel Mount	 P.171 DETENT HINGE HG-FH128	 P.176 CENTRE HINGE CH-75	 P.180 MICRO DETENT HINGE MPH-30 High Torque Type	 P.184 MULTI-STEP TABLE LEG RTL-KUS
 P.145 BALANCE-ADJUSTABLE LIFT-ASSIST HINGE HG-PA300-15 Outside Mount	 P.151 LIFT-ASSIST HINGE HG-PA210-9 Inside Mount	 P.161 BALANCE-ADJUSTABLE LIFT-ASSIST STAY S-ATJ Side Mount	 P.172 ANGLE-ADJUSTABLE DETENT HINGE HG-CHJ70	 P.177 MULTI ANGLE STAY KA-60 With Locking Mechanism	 P.180 MICRO DETENT HINGE MPH-30-5TN High Torque Type	
 P.147 LIFT-ASSIST HINGE HG-PA270 Outside Mount	 P.152 STAINLESS STEEL LIFT-ASSIST HINGE HG-JH210	 P.163 BALANCE-ADJUSTABLE LIFT-ASSIST STAY S-ATJD Back Panel Mount	 P.173 DETENT HINGE HG-YC105	 P.178 CONCEALED HINGE (W/STAY) HG-YS65C	 P.181 MULTI ANGLE LOCKING HINGE HG-MA95A	
 P.148 LIFT-ASSIST HINGE HG-PA200, HG-PA201 Outside Mount	 P.155 LIFT-ASSIST STAY S-ATH	 P.165 BALANCE-ADJUSTABLE LIFT-ASSIST STAY S-ATJS Back Panel Mount	 P.174 DETENT HINGE HG-MPS2	 P.179 MICRO DETENT HINGE MPH-20-5G2	 P.182 MULTI ANGLE LOCKING HINGE HG-MA95B	
 P.149 LIFT-ASSIST HINGE HG-PA 180-9 Outside Mount	 P.157 LIFT-ASSIST STAY S-AT02W Side Mount, Back Panel Mount	 P.168 SELF-OPENING STAY HDS-205 For Use In Pairs	 P.175 DETENT HINGE HG-YJ50	 P.179 MICRO DETENT HINGE MPH-22G	 P.183 RATCHET HINGE WITH FRICTION HG-RCT12-C	



New openings  
Unique Motion

 P.187 CONCEALED HINGE R	 P.190 3-WAY ADJUSTABLE CONCEALED HINGE HES3D-E160 Under Development	 P.194 3-WAY ADJUSTABLE CONCEALED HINGE HES3D-V135LGR	 P.199 CONCEALED HINGE (CLIP-ON) H95TSH	 P.219 CONCEALED HINGE 170	 P.234 SWING DOWN STAY SLD	 P.241 MONOFLAT LIN-X HINGE LIN-X450, LIN-X600
 P.188 CONCEALED HINGE RK-50	 P.191 3-WAY ADJUSTABLE CONCEALED HINGE HES3D-120	 P.196 CONCEALED HINGE (CLIP-ON) HT160THV2	 P.200 HEAVY DUTY CONCEALED HINGE J95	 P.222 CONCEALED HINGE H160 For Thick Door	 P.235 LIFT-ASSIST STAY EZS-ELAN®	 P.249 MONOFLAT LIN-X HINGE LIN-X800
 P.188 CONCEALED HINGE INO-66	 P.192 3-WAY ADJUSTABLE CONCEALED HINGE HES3D-90	 P.197 CONCEALED HINGE FOR SHEET METAL HT160V2 With Mounting Plate	 P.207 OLYMPIA CONCEALED HINGE 360	 P.231 SWING LIFT-UP STAY SLU-ELAN	 P.237 BI-FOLD LIFT-ASSIST STAY HBF-ELAN	 P.251 MONOFLAT LIN-X HINGE LIN-X1000 For Heavy Duty Door
 P.189 3-WAY ADJUSTABLE CONCEALED HINGE HES3D-E190	 P.193 3-WAY ADJUSTABLE CONCEALED HINGE HES3D-70	 P.198 CONCEALED HINGE (CLIP-ON) H95TMH	 P.213 CONCEALED HINGE (STAINLESS STEEL) 100	 P.233 SWING LIFT-UP STAY SLUN-N	 P.239 HORIZONTAL BI-FOLDING UNIT HBFN	

## Icon Definitions

Icons are meant to symbolise the following content. They do not directly indicate the specifications or details.

### Standard Icons



Products compliant with RoHS Directive (2011/65/EU). It is based on in-house analysis and verification. Packing materials are excluded.

Products without this icon may be applicable. In addition, four substances to be added from the end of July 2019 are under investigation. For further details, please contact us.



Products supplied with a hex key.



Products with 3D CAD data.




Products with a video explaining its features and installation method.



E.g.

Products tested under specific conditions.

Refer to  No.280 P.911 for details of the test method and use conditions.

Reference number: In this case, test 1 is shown.



Products usable as both right and left types.




PRODUCTS APPEARING IN THE NSF OFFICIAL LISTING ARE.



Product series equipped with Sugatsune's patented damper mechanism "Lapcon".



Product series (AS series) used for aluminium frame. For the AS series, please refer to  No.280 FRONT P.20.



Products with installation instructions.



Products made of titanium.



Products made of SUS316 stainless steel or equivalent materials.



Products made of stainless steel other than SUS316 or stainless cast steel.



Products for tempered glass.

How to select components such as Lapcon stays and torque hinges?



# Sasuga-kun can address such concerns!!



## Selection Tool "Sasuga-kun"



Easy on the WEB

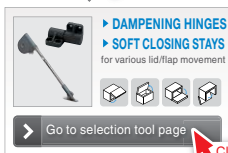
### What is... Sasuga-kun

It's a web-based tool that can automatically calculate the torque required and select (\*) suitable hinges, stays and other products, simply by entering the movement, size, weight and centre of gravity of a door.

\*For some products, there is also a simulation tool that can check the movement of a door by displaying a graph instead of selection. The selection is the result of calculation and for reference only. Be sure to confirm by real equipment or test machine before making a use decision.

It's very simple to use!!

#### 1 Select kind of movement



#### 2 Input conditions

**step1** Select lid/flap movement

Based on lid/flap centre of gravity and weight

Rotation centre  
Centre of gravity

Rotation centre  
Centre of gravity

**step2** Input lid/flap conditions

Based on lid/flap centre of gravity and weight

Input dimensions with lid/flap closed.

X-coordinate 20 mm  
Y-coordinate -225 mm  
Lid/flap weight  $m$  5 kg  
Inside height 410 mm  
Maximum lid/flap moment<sup>※1</sup> 11.08 N · m

※1 Calculated with acceleration of gravity  $g=9.80665 \text{ m/s}^2$

**step3** Select shape and qty

Shape All

Qty<sup>※2</sup> 2 pc(s)/ per door

※2 Stay: 1 pc or 2 pcs recommended  
Hinge: 2 pcs recommended

#### 3 Choose a product!

**Product selection**

Selection result 7 items

Found it! Found it!

Item Name	SDS-C301N-xx
Item Code	180-100-283
Min. torque	7.84 N · m
Max. torque	13.72 N · m
Qty/door	2 pcs
Type	Stay
Minimum required inside height (approx.)	240 mm
Inside height judgment	○

Functions Supplied with catch mechanism that holds the etc.: door in fully opened and closed position.

Note: Three colours (white, grey, and black) with different item names and item codes are available. Refer to the catalogue for details.

Catalogue CAD and Instructions, etc.

Can also select a variety of products such as torque stays and SLS-ELAN, etc.!

More details may also be obtained!



No Registration Required Free

Let's try to use "Sasuga-kun" right now!

**From PC**

Enter by clicking the Sugatsune homepage.

Selection Tool "Sasuga-kun"

**From tablet**

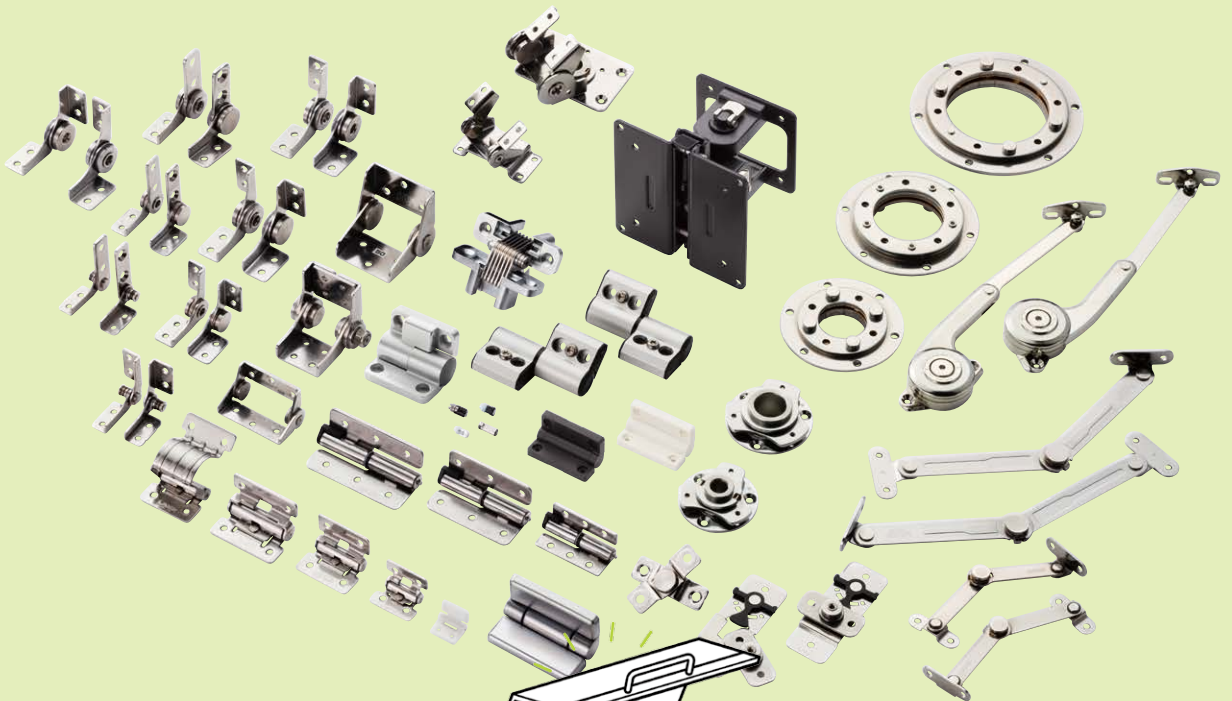
Scan the 2D barcode on the right.





# Hold in any position Free Stop Motion

It can hold the door, lid or cover in any position during opening or closing.



Exactly





Free Stop Motion

Torque Hinges

Monitor Bracket

Torque Stays

## The Basics of Torque Hinges



See the hinge in motion



## What is a torque hinge?

A torque hinge is a hinge that holds a door, flap or cover open or closed in **just the position you want**. The mechanism that holds it at the desired position is called a **free stop mechanism**, and the hinge itself is also called a **free stop hinge**.

Ideal for production lines, as they allow the cover to be held open in any position. Because no stopper is necessary, **speedy maintenance is possible** (making work more efficient). **No stay is needed, clearing additional space inside the machine** (improving the design). **Users don't have to worry about the lid slamming closed** (improving safety).

Torque hinges are also used in areas where user-friendliness is paramount, such as the monitors on seat backs in passenger aircraft, etc., and in light fittings with adjustable angles.



### What holds torque hinges in place?

The structure of the torque hinge shaft makes use of friction. When the door or flap is opened or closed, the motion (the rotational force of the object) generates friction, activating the free stop mechanism.

### How friction is generated



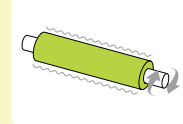
#### Disc structure

Movable discs sandwiching a fixed disc are moved.



#### Curl structure

A shaft inside a rolled spring sheet is rotated.

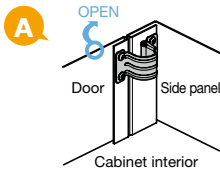


#### Pipe structure

A shaft press-fitted into a plastic pipe is rotated.

## Solutions to Common Issues

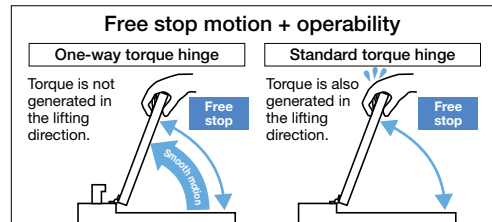
**Q** Hinge shouldn't be visible when the door/flap is closed.



The concealed type (p.48-49) tucks away inside so that it cannot be seen.

**Q** The flap should open smoothly and close with free-stop motion.

**A** The one-way torque type (p.23-25) has friction in only one direction.



Torque is generated (the friction mechanism is activated) in only one direction. In the other, torque is not generated, allowing the door or flap to be moved smoothly and safely.

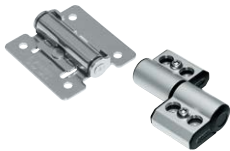
## Wide variety

Torque hinges offer a variety of torque values, shapes, specifications and functions. Choose by **Shape** to select a hinge based on its fit in the door or flap or its mounting method. To activate the free stop mechanism under special conditions, choose the type with the optimal

**Specifications and Functions.** If the torque value (key point for activating the free stop mechanism) is unclear, **Sasuga-kun**, our online selection tool, or the **Torque Distribution Table (p.19-22)** will make it easy to find the ideal product.

## Shapes

### 1 Butt Hinges P.23-35



### 2 Bracket Hinges P.37-45



### 3 Concealed Hinges P.46-49



### 4 Swivel Hinges / Dual Axis Hinges P.50-56



## Specifications and Functions

### One-way ▶ P.23-25

Torque is only generated in one direction. Allowing smooth motion of the door. Select whether torque is generated in the opening direction or the closing direction.

### Detent ▶ P. 38, 42

This type is designed to prevent spring-back at the closing point.

### Vertical ▶ P. 31, 32, 48, 49

This type can be used with the shaft vertical. (\*Standard torque hinges cannot be used vertically.)

### Adjustment function ▶ P. 23, 26, 40, 44

This type enables fine adjustments to the torque with a hex key or similar tool.

### Multi-shaft ▶ P.50-56

This hinge can be held at the desired angle in multiple directions, such as tilt and swivel.

### Quick Guide to Terms

#### Tolerance

Torque value variance occurs based on various conditions such as machining, temperature and materials. The tolerance indicates the range of variance that occurs at product delivery.

#### Spring-back

The phenomenon in which a door or flap lifts slightly (springs back) and does not fully close. This is affected by conditions such as the material and pressure.

#### High durability

This term usually means that a product has passed a test involving opening/closing 20,000 or more times.

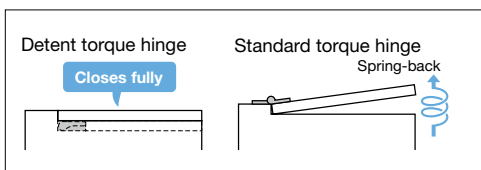
Torque Hinges

Monitor Bracket

Torque Stays

**Q** The door or flap lifts and does not fully close.

**A** We recommend the detent type (p.38, 42), which is designed to prevent spring-back at the closing point. This also clears space inside the machine, as no catch is needed in the design.



**Q** The hinge should fit into frames for monitors, etc.

**A** We recommend the bracket type (p.37-45). We also offer types with cable holes.



**Q** Hinges usable under special conditions (outdoors, kitchen, near water, etc.) are required.

**A** Our outdoor types, heat-resistant types (p.30) or all-stainless steel types (p.39, 40, 43, 44) are ideal.

**Q** Hinges are needed for monitors or tablets.

**A** Our multi-shaft and swivel types (p.51-56) are ideal torque hinges for this purpose. We also recommend our VESA-compliant monitor mounting hinges (p.57, 58).

**Q** There is not enough space to mount a standard hinge.

**A** We have various compact types to choose from (p.32-34, 52).

**Q** Torque needs to be adjusted after the fact.

**A** Choose a hinge with a torque adjustment function (p.23, 26, 40, 44).

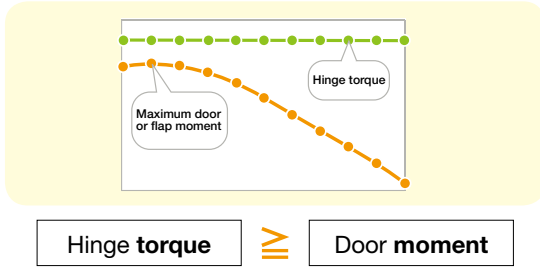
**→ We make hinges to order!**

For a different size or finish, or to add multiple functions or improve workability, we offer order-made hinges. See p.261 for details.

# Selecting Torque Hinges

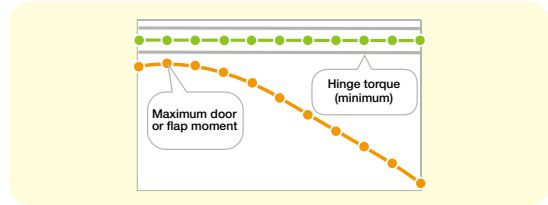
## 1. Key points for selection

The most important factors when choosing a torque hinge are the shape, the functions and the moment of the door, flap or cover being manufactured (below, door moment). The free stop function requires conditions in which the torque of the torque hinge exceeds the maximum door moment.



When multiple torque hinges are used, the torque of the hinges is equal to the torque value of each hinge x the number of hinges. The same principle applies when using a torque stay.

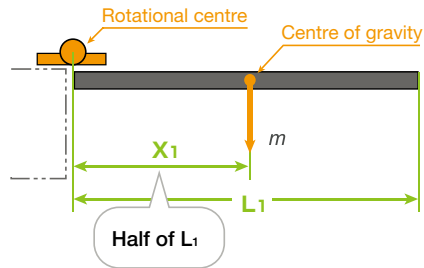
The variance in torque value (tolerance) also needs to be taken into account when selecting a torque hinge. If the tolerance is ±20%, free stop will not occur unless the maximum door or flap moment is lower than the minimum torque value (-20%).



## 2. How to calculate door moment

Moment is the force required to rotate something along an axis. It is calculated from the centre of gravity and mass of the object.

The centre of gravity is the centre of an object's weight. If the weight of a door is evenly distributed, as shown at right, the centre of gravity is at its centre. Therefore,  $X_1=L_1 \div 2$  (if the flap or door is thin).



### Formula for moment

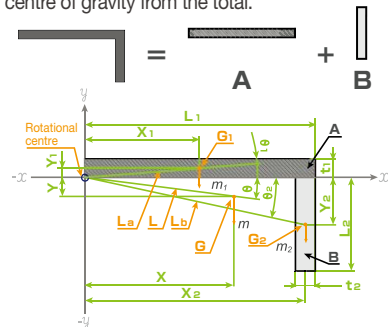
Door or flap moment <b>M</b>	=	Horizontal distance from rotational centre to centre of gravity $X_1$	×	Weight <b>m</b>
------------------------------	---	---	---	-----------------

The door moment is calculated from the horizontal distance to the centre of gravity. Since this value differs depending on the angle at which the door is open, the maximum moment is calculated with the formula below.

Maximum door or flap moment	=	Largest horizontal distance from rotational centre to centre of gravity	×	Weight
-----------------------------	---	---	---	--------

### Formula for maximum door or flap moment when shape is complex

If a door or flap has an uneven shape, like the L-shaped flap in the example below, the centre of gravity is calculated by dividing the shape into simple shapes, calculating the centre of gravity of each of those, and then calculating the overall centre of gravity from the total.



\* If the centre of gravity is lower than the rotational centre, use negative values.

#### Centre of gravity of flap part A (G<sub>1</sub>)

- Length .....  $L_1$  \*
- Thickness .....  $t_1$  \*
- Mass .....  $m_1$
- Distance to centre of gravity G<sub>1</sub> in X direction ..  $X_1 = \frac{L_1}{2}$
- Distance to centre of gravity G<sub>1</sub> in Y direction ..  $Y_1 = \frac{t_1}{2}$
- Distance to centre of gravity G<sub>1</sub> ..  $L_a = \sqrt{X_1^2 + Y_1^2}$
- Angle with centre of gravity G<sub>1</sub> ..  $\theta_1 = \tan^{-1} \frac{Y_1}{X_1}$

#### Moment of part A

- X direction .....  $MX_1 = X_1 \times m_1$
- Y direction .....  $MY_1 = Y_1 \times m_1$

#### Centre of gravity of flap part B (G<sub>2</sub>)

- Length .....  $L_2$  \*
- Thickness .....  $t_2$  \*
- Mass .....  $m_2$
- Distance to centre of gravity G<sub>2</sub> in X direction ..  $X_2 = L_1 - \frac{t_2}{2}$
- Distance to centre of gravity G<sub>2</sub> in Y direction ..  $Y_2 = \frac{L_2}{2}$
- Distance to centre of gravity G<sub>2</sub> ..  $L_b = \sqrt{X_2^2 + Y_2^2}$
- Angle with centre of gravity G<sub>2</sub> ..  $\theta_2 = \tan^{-1} \frac{Y_2}{X_2}$

#### Part B moment

- X direction .....  $MX_2 = X_2 \times m_2$
- Y direction .....  $MY_2 = Y_2 \times m_2$

#### Total centre of gravity (G)

- Total mass .....  $m = m_1 + m_2$
- Centre of gravity in X direction ....  $X = \frac{MX_1 + MX_2}{m}$
- Centre of gravity in Y direction ....  $Y = \frac{MY_1 + MY_2}{m}$

- Distance to total centre of gravity ..  $L = \sqrt{X^2 + Y^2}$
- Angle with total centre of gravity ..  $\theta = \tan^{-1} \frac{Y}{X}$

Maximum door/flap moment =  $L \times m$

### 3. Operating force: Upper flaps and upward-opening doors

The operating force of upper flaps or upward-opening doors can be calculated as follows:

For lifting direction

$$\text{Operating force} = \left( \text{*Torque value} + \text{Door moment} \right) \div \text{Distance to operation point}$$

For lowering

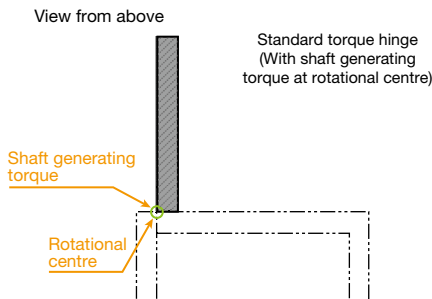
$$\text{Operating force} = \left( \text{*Torque value} - \text{Door moment} \right) \div \text{Distance to operation point}$$

### 4. Operating force: Horizontal direction

A swivel hinge is recommended when using the free stop mechanism in the horizontal (swivel) direction, such as for oscillating monitors. **Horizontal rotation is theoretically unrelated to the mass of the door or flap,** so it is calculated with the following formula.

$$\text{Operating force} = \frac{\text{*Torque value}}{\text{Horizontal distance from rotational centre to operation point}}$$

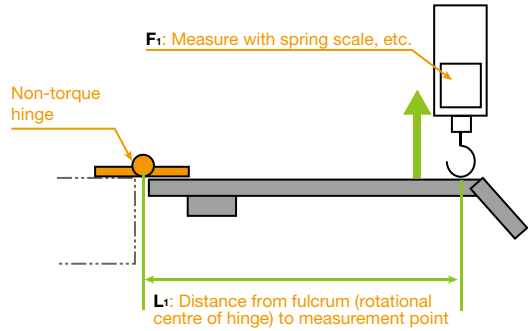
\* Assuming that the shaft generating torque is at the rotational centre. For swivel torque hinges or standard torque hinges, this formula is sufficient for a rough calculation of the operating force.



\* A different formula is used for torque stays, where the shaft generating torque is not at the rotational centre.

### 5. Replacing existing hinges with torque hinges

The door moment also needs to be calculated when switching from a standard hinge to a torque hinge. If the centre of gravity is unclear, lift the door with a spring scale as shown below and measure the **maximum door moment and the distance from the rotation centre to the measurement point.**



Distance from rotational centre to measurement point ..... L<sub>1</sub> mm  
 Measured value obtained with spring scale, etc..... F<sub>1</sub> kgf  
 Door moment = L<sub>1</sub> × F<sub>1</sub> × 9.80665 ÷ 1000 N·m

$$\text{Maximum door moment} = L_1 \times \text{Maximum } F_1 \text{ value}$$



For more details, see our online selection tool, Sasuga-kun. You'll also find details on the mechanisms of other Motion Design Tech products on p.253.

#### Precautions for handling

To avoid injury or damage to property, be aware of the following points when handling these products.

- Two hinges per door or flap are recommended.
- Do not operate these products continuously (repeatedly over a short time).
- Do not place uneven loads on the hinge.
- Do not apply water, oil or lubricant.
- The torque value indicates the torque at delivery. It does not indicate the torque after durability testing.
- Most products cannot be used outdoors or in dusty areas.

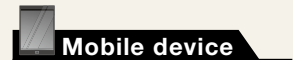
No registration required Free of charge

### Try Sasuga-kun now!

Simply enter details such as the movement, dimensions, mass and centre of gravity of the door to be used, and this online tool will automatically calculate the required torque, allowing selection of the right hinges, stays or other products for your door.



Look for the banner on the Sugatsune website



Scan the QR code on the right





Free Stop Motion

List of Torque Hinges

BUTT HINGES/LIFT-OFF HINGES

Torque Hinges

Monitor Bracket

Torque Stays

0.0784  
0.147  
0.245  
N·m



HG-MF P.32

0.7  
N·m



HG-TS07 P.29

2.0  
N·m



HG-TP20 P.28

0.15  
0.35  
N·m



HG-VH8 P.33

0.88  
N·m



SFTH-03-9 P.29

2.5  
N·m



HG-ITS25 P.27

0.3  
N·m

LIFT-OFF



HG-KNT3 P.31

HEAT RESISTANT



HG-ITHP15 P.30

HEAT RESISTANT



HG-ITHP30 P.30

0.35  
N·m



HG-TS03 P.29

1.5  
N·m



HG-TS15 P.29



HG-TLS30-50-300 P.35

0.49  
N·m



SFTH-02-5 P.29

FOR EXTERIOR USE



HG-TWP15 P.30

3.0  
N·m



HG-TP30 P.28

0.7  
N·m

LIFT-OFF



HG-KNT7 P.31

LIFT-OFF



HG-KNT16 P.31

FOR EXTERIOR USE



HG-TWP30 P.30

HEAT RESISTANT



HG-ITHP07 P.30

1.86  
N·m



SFTH-03-19 P.29


3.43  
N·m



SFTH-05-35 P.29

CONCEALED HINGES

3.5  
N·m



HG-ITS35 P.27


9.0  
N·m

ONEWAY




HG-TQA90 P.25

0.35  
N·m



HG-TU03 P.49


4.5  
N·m



HG-TP45 P.28


10.0  
N·m

ONEWAY  
ADJUSTABLE



HG-TQJ100 P.23

0.7  
N·m




HG-TU07 P.49

5.0  
N·m




HG-ITM50 P.27

Monitor Bracket




HG-TUWA07 P.48

5.68  
N·m



SFTH-05-58 P.29

1.5  
N·m




HG-TUWA15 P.48

7.0  
N·m



HG-ITM70 P.27

3.0  
N·m



HG-RT30 P.46

8.0  
N·m

ONEWAY




HG-TQW8080 P.24

ADJUSTABLE



HG-ITJ4080 P.26

5.0  
N·m



HG-RT50 P.46

Torque Hinges

Monitor Bracket

Torque Stays



Free Stop Motion

BRACKET HINGES

Torque Hinges

Monitor Bracket

Torque Stays

0.4  
0.8  
N·m

DETENT TORQUE



HG-DTA P.38

DETENT TORQUE



HG-DTB P.42

2.5  
N·m

STAINLESS STEEL



HG-TAS25 P.39

STAINLESS STEEL



HG-TBS25 P.43

4.0  
N·m

STAINLESS STEEL



HG-TAS40 P.39

ADJUSTABLE  
STAINLESS STEEL



HG-TASJ40 P.40

0.7  
N·m



HG-TB7 P.41

3.0  
N·m



HG-TA30 P.37



HG-TB30 P.41

STAINLESS STEEL



HG-TBS40 P.43

ADJUSTABLE  
STAINLESS STEEL



HG-TBSJ40 P.44

1.5  
N·m

STAINLESS STEEL



HG-TAS15 P.39

STAINLESS STEEL



HG-TBS15 P.43

2.0  
N·m



HG-TA20 P.37



HG-TB20 P.41

4.5  
N·m



HG-TA45 P.37



HG-TB45 P.41



HG-TC45H P.45



DUAL AXIS HINGES

1.5  
2.0  
N·m



HG-TMH P.47

3.0  
N·m



HG-RNM30 P.50



HG-T30S15 P.56

7.0  
N·m



HG-T70S30 P.55

SWIVEL TORQUE HINGES

0.7  
2.0  
3.0  
5.0  
7.0  
10.0  
N·m



HG-S P.51



# ADJUSTABLE ONE WAY TORQUE HINGE HG-TQJ100

Free Stop Motion

Torque Hinges

Monitor Bracket

Torque Stays



- Friction in one direction only: Allows for frictionless handling of the door in the opposite direction.
- Torque adjustable from 0 to 10N · m.
- High torque type with max. torque up to 10N · m.
- Two types (friction in opening direction and in closing direction) available.
- Torque is stable.
- Cover attached to torque adjustment part for clean appearance.

**[Specifications]**

- Operating temperature: 0°C ~40°C

**[Applications]**

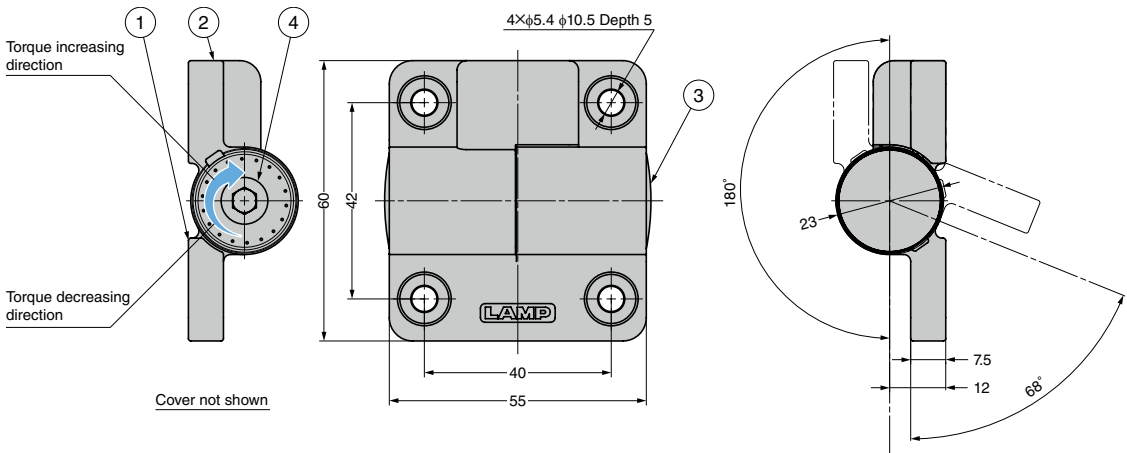
- Impact-free opening and closing of door. Medical equipment, FA equipment, and OA equipment, etc.

**[Remarks]**

- Be sure to read the "Cautions" 1.
- Use all mounting holes.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Do not remove the torque adjustment screw.
- Use a hex key (nominal size 5) for torque adjustment.
- Readjust the torque moment when it lowers.

**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

Video Link



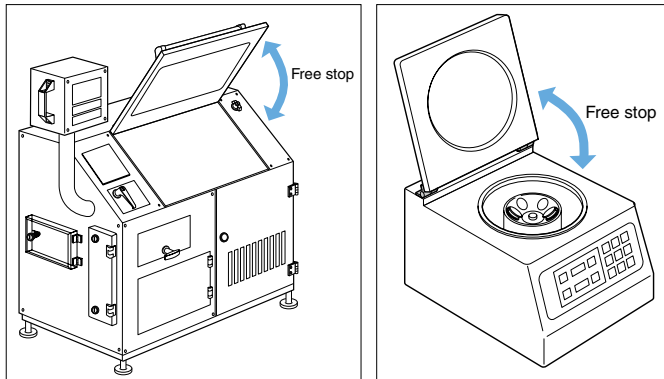
Butt Hinges

Bracket Hinges

Concealed Hinges

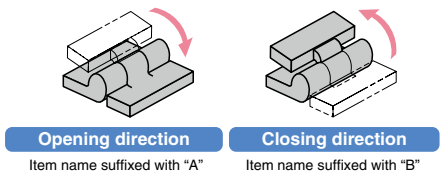
Swivel Hinges  
Dual Axis Hinges

**[Application Example]**



Since torque is adjustable from 0 to 10N · m, applicable to various doors.

**[Torque Working Direction]**



No.	Part Name	Material	Finish / Colour
①	Bracket A	Zinc Alloy	Satin Chrome
②	Bracket B		
③	Cover	PP	Dark Grey
④	Torque Adjustment Nut	Steel	—

RoHS	CAD	Item Code	Item Name	Type	Torque N · m/pc	Torque kgf · cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
		170-032-969	HG-TQJ100-A	Torque Working in Opening Direction	0~10	0~102	242	12	96
		170-032-970	HG-TQJ100-B	Torque Working in Closing Direction				12	96

Refer to 1 : P.253



# ONE WAY TORQUE HINGE HG-TQW8080



- A torque hinge that generates torque in one direction only. It does not generate torque in the reverse direction, enabling smooth operation of the door, etc.
- Torque does not occur in the lifting direction at any point in the open/closed angle range (180°).

**[Specifications]**

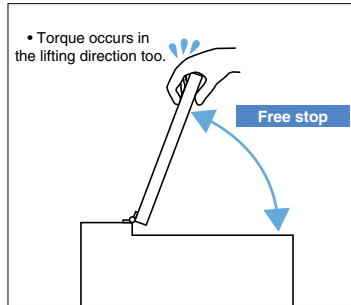
- Operating temperature: 0°C - 40°C

**[Application]**

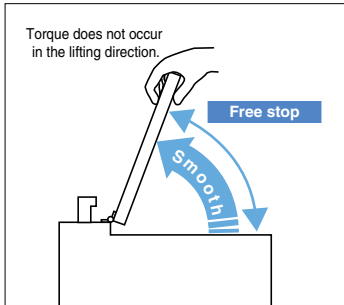
- Doors that should not be subjected to impact when opening and closing.
- Medical equipment, FA equipment, OA equipment, etc.

**[Remarks]**

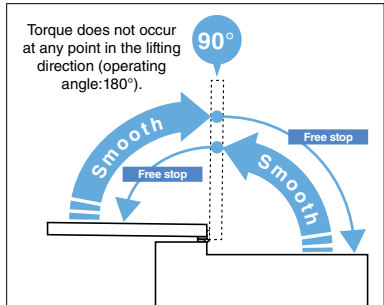
- Use all installation holes.
- Keep the centre of the hinge shafts level to prevent misalignment during installation.



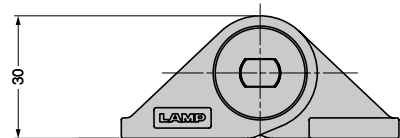
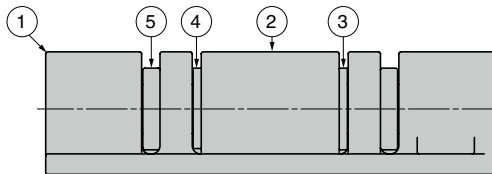
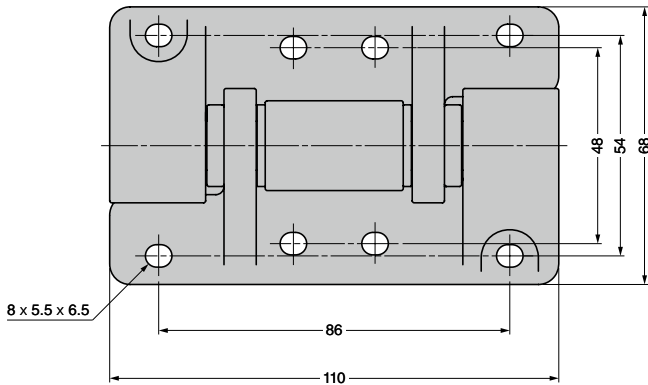
Torque hinge



One-way torque hinge



Uniaxial bidirectional one way torque hinge



No.	Part Name	Material	Finish/Colour
①	Bracket A	Zinc Alloy	Satin
②	Bracket B		Chrome
③	Plug	Polyacetal (POM)	Black
④	Washer		
⑤	Washer		

**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

CAD	Item Code	Item Name	Torque (N· m)	Torque (kgf· cm)	Weight (g)	Box (pcs)	Carton (pcs)
2020	170-041-284	HG-TQW8080	8.0±20%	81.6±20%	625	1	15

Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
 Dual Axis Hinges



# ONE WAY TORQUE HINGE HG-TQA

Free Stop Motion



- Friction in one direction only: Allows for frictionless handling of the door in the opposite direction.
- Torque is stable.

**[Specifications]**

- Operating temperature: 0°C - 50°C

**[Applications]**

- Impact-free opening and closing of door. Medical equipment, FA equipment, and OA equipment, etc.

**[Remarks]**

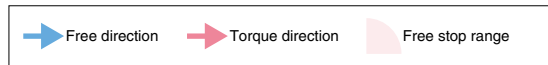
- Be sure to read the "Cautions"
- Use the door at less than 80% of torque (7.2N · m or less).
- Torque will decrease at low temperature.
- Not suited to vibration environment.
- Hexalobular socket head screw (shown below as ) may not be used for torque adjustment. Do not tighten or loosen.
- Install an external stopper to hold the door within the range where torque is not effective (Refer to the lower left diagram for details).
- Install a catch to keep the door closed.
- Before installation, check if the installing position is strong enough.
- Install the torque unit (male) at the fixed side while the clutch unit (female) at the movable side.
- Sold in pairs.
- When installing, ensure that both hinge shafts are levelled and aligned.

Video Link



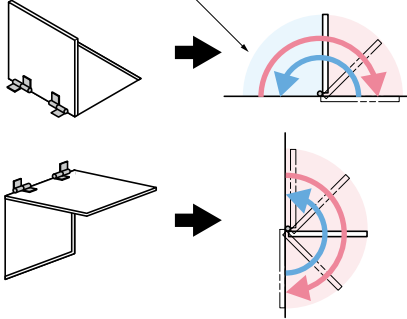
**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**[Torque and Free Stop Range]**



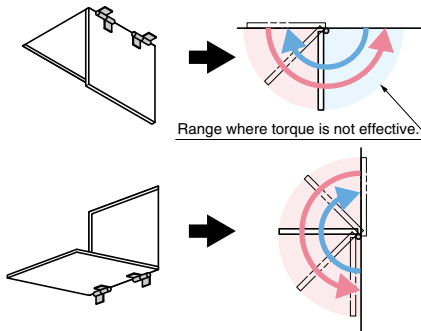
● HG-TQA90-A

Range where torque is not effective, install stopper to hold the door.



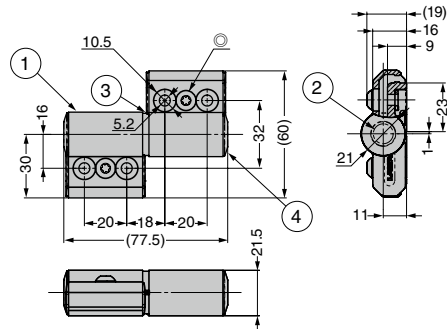
● HG-TQA90-B

Range where torque is not effective.



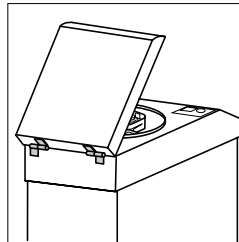
**[Recommended Screws]**

- M5 binding head screws

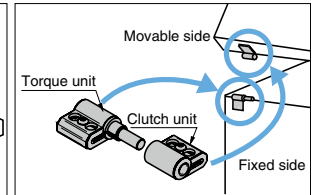


No.	Part Name	Material	Finish
①	Body	Aluminium Alloy	Anodised Silver
②	Shaft	Stainless Steel	Plain
③	Sleeve	POM	Black
④	Cover		

**[Application Example]**



**[Installation]**



RdHS	CAD	Item Code	Item Name	Torque N · m / pair※	Torque kgf · cm / pair※	Weight (g / pair)	Box (pairs)	Carton (pairs)
		170-021-244	HG-TQA90-A	9.0 <sup>+40%</sup> <sub>-20%</sub>	91.8 <sup>+40%</sup> <sub>-20%</sub>	270	1	10
		170-021-245	HG-TQA90-B				1	10

Refer to : P253

※ Since torque will decrease due to long-term use, temperature, humidity and other factors, it is set to a higher level at delivery.

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
 Dual Axis Hinges

# ADJUSTABLE TORQUE HINGE HG-ITJ4080



Free Stop Motion



- Torque adjustable from 4 to 8 N · m.
- To prevent accidental fall of door or lid, minimum torque is set at 4 N · m.
- High torque and space-saving type.

**[Specifications]**

- Operating temperature: 0°C ~ 40°C

**[Remarks]**

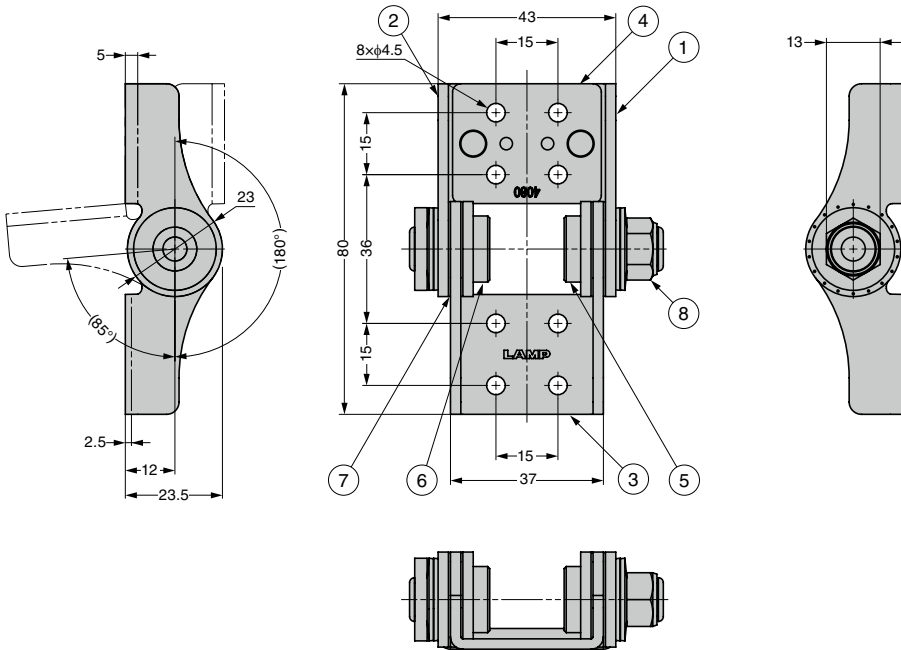
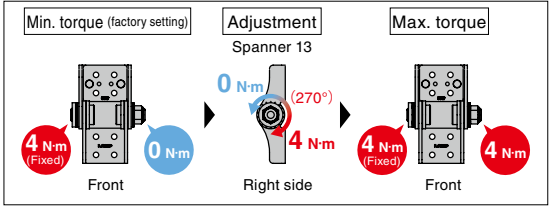
- Be sure to read the "Cautions" 1.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Use a spanner (nominal size 13) for torque adjustment.
- Do not forcibly remove the torque adjustment nut.

Video Link



Selection Tool

**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!



Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges

No.	Part Name	Material	Finish
①	Bracket A	Stainless Steel (SUS430)	Barrel Polished
②	Bracket B		
③	Bracket C		
④	Connecting Plate		
⑤	Shaft A	Stainless Steel	-
⑥	Shaft B		
⑦	Washer	Bronze	Barrel Polished
⑧	Torque Adjustment Nut M8	Stainless Steel (SUSXM7)	-

RoHS	CAD	Item Code	Item Name	Torque N · m/pc	Torque kgf · cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
CE	3D	170-029-802	HG-ITJ4080	4 ±20%~8	41 ±20%~82	163	10	80

Refer to 1 : P.253



# TORQUE HINGE HG-IT

Free Stop Motion

Torque Hinges

Monitor Bracket

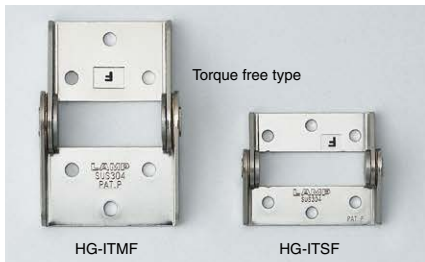
Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges



- Cover of the same colour with body hides mounting holes for clean appearance (sold separately).
- With a label to recognise the torque value.
- Torque free type (HG-ITSF, HG-ITMF) also available. Covers various torque ranges by using "torque type" and "torque free type" as a pair.

**[Specifications]**

- Operating temperature: -10°C~50°C

**[Applications]**

- LCD, monitoring camera, etc.

**[Remarks]**

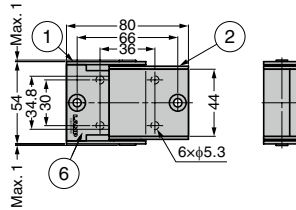
- Be sure to read the "Cautions" 1.
- When installing, ensure that both hinge shafts are levelled and aligned.

**[Sold Separately]**

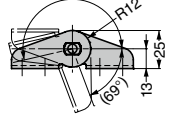
- Cover

**S**election Tool  
**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!

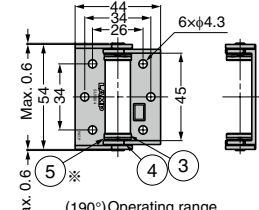
Ylexion DesignTec **Video Free stop**  
QR code



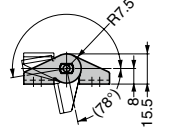
(193°) Operating range



HG-ITM (With cover shown)

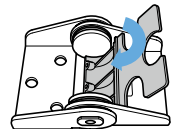


(190°) Operating range

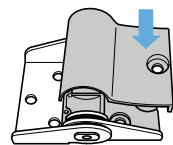


HG-ITS (Without cover shown)

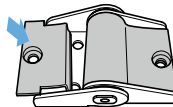
**[How to Install Cover]**



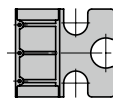
1. Insert the cover A under the hinge shaft.



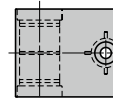
2. Put the cover B on the cover A.



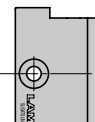
3. Put the cover C.



Cover A



Cover B



Cover C

**[Hinge]**

RoHS	CAD	Item Code	Item Name	Torque N·m/pc	Torque kgf·cm/pc	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
✓	3D	170-090-106	HG-ITS25	2.5±20%	25.49±20%	190°	50	20	160
✓	3D	170-090-115	HG-ITS35	3.5±20%	35.69±20%			20	160
✓	3D	170-090-114	HG-ITM50	5.0±20%	50.98±20%	193°	130	10	80
✓	3D	170-090-113	HG-ITM70	7.0±20%	71.38±20%			10	80
✓	3D	170-090-999	HG-ITSF	-	-	190°	50	20	160
✓	3D	170-090-998	HG-ITMF	-	-	193°	130	10	80

**[Cover] Sold Separately**

RoHS	CAD	Item Code	Item Name	Cover for	Weight (g)	Box (pcs)	Carton (pcs)
✓	3D	170-091-002	HG-ITSC	HG-ITS	10	40	960
✓	3D	170-091-001	HG-ITMC	HG-ITM	18	20	480

※ ⑤: Only for HG-ITS and HG-ITM (Not provided for the torque free type).

Refer to 1 : P.253

# TORQUE HINGE HG-TP



**Free stop**  
**Greaseless**  
 Passed 20,000 open/close private cycle test

\*The picture may differ slightly from the actual product.

- A combination of plastic and metal is used for friction in order to prevent metallic dust caused by metal to metal contact.

**[Specifications]**

- Operating temperature: -10°C~40°C

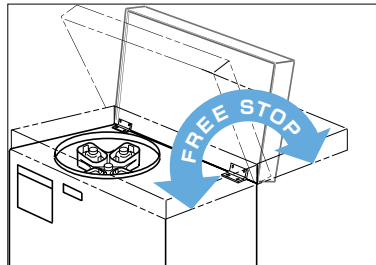
**[Applications]**

- Stereo equipment, FA equipment, and various automatic equipment

**[Remarks]**

- Be sure to read the "Cautions" 1.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Install a lid to the bracket A.

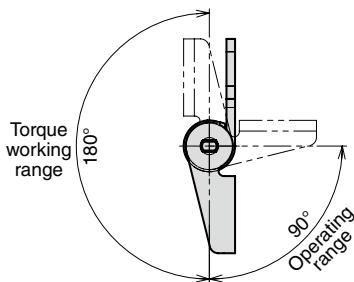
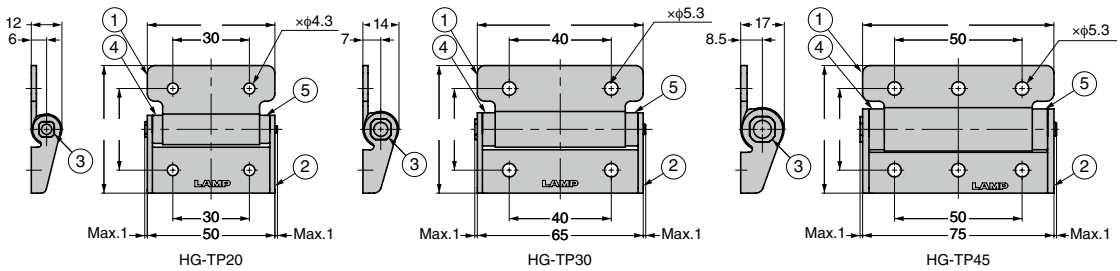
**[Application Example]**



Torque Hinges

Monitor Bracket

Torque Stays



No.	Part Name	Material	Finish / Colour
①	Bracket A	Stainless Steel (SUS304)	Barrel Polished
②	Bracket B		
③	Shaft	Stainless Steel (SUS303)	—
④	Plug	POM	Black
⑤	Washer		

**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
 Dual Axis Hinges

RHS	CAD	Item Code	Item Name	Torque N-m/pc	Torque kgf-cm/pc	Weight (g)	Box (pc)	Carton (pc)
G	3D	170-043-653	HG-TP20	2 <sup>±25%</sup>	20.3 <sup>±25%</sup>	60	50	200
G	3D	170-043-654	HG-TP30	3 <sup>±25%</sup>	30.5 <sup>±25%</sup>	90	25	100
G	3D	170-043-655	HG-TP45	4.5 <sup>±25%</sup>	45.8 <sup>±25%</sup>	150	25	100

Refer to 1 : P.253

# TORQUE HINGE HG-TS



- Sugatsune's patented technology reduces the number of parts for a cost-effective solution.
- Can be installed to aluminium frame.

**[Specifications]**

- Operating temperature: -10°C~50°C
- Operating humidity: 90%RH or less

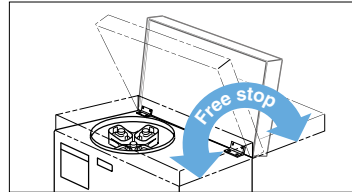
**[Applications]**

- Stereo equipment, FA equipment, and various automatic equipment

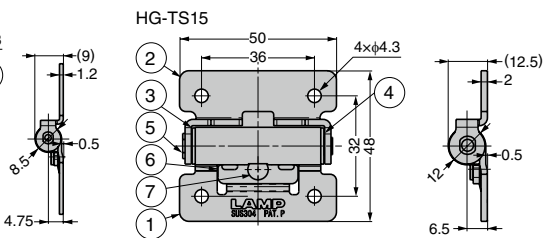
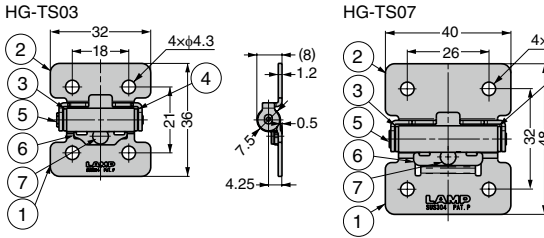
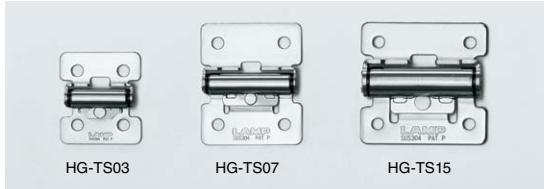
**[Remarks]**

- Be sure to read the "Cautions" 1.
- When installing, ensure that both hinge shafts are levelled and aligned.

**[Application Example]**



**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!



No.	Part Name	Material	Finish / Colour
①	Body	Stainless Steel (SUS304)	Barrel Polished
②	Base		
③	Rotating Tube L	POM	Black
④	Rotating Tube R		

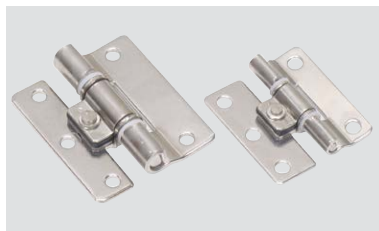
No.	Part Name	Material	Finish / Colour
⑤	Shaft	Stainless Steel (SUS303)	-
⑥	Press Washer	Stainless Steel (SUS304)	Barrel Polished
⑦	Pin	Stainless Steel	-

RefS	CAD	Item Code	Item Name	Torque N·m/pc※	Torque kgf·cm/pc※	Weight (g)	Box (pcs)	Carton (pcs)
GT	3D	170-018-501	HG-TS03	0.35 <sup>+40%</sup> / <sub>-20%</sub>	3.6 <sup>+40%</sup> / <sub>-20%</sub>	15.0	50	500
GT	3D	170-018-502	HG-TS07	0.7 <sup>+40%</sup> / <sub>-20%</sub>	7.1 <sup>+40%</sup> / <sub>-20%</sub>	27.5	50	500
GT	3D	170-018-503	HG-TS15	1.5 <sup>+40%</sup> / <sub>-20%</sub>	15.3 <sup>+40%</sup> / <sub>-20%</sub>	64.1	20	200

Refer to 1 : P.253

※ Since torque will decrease due to long-term use, temperature, humidity and other factors, it is set to a higher level at delivery.

# STAINLESS STEEL TORQUE HINGE SFTH

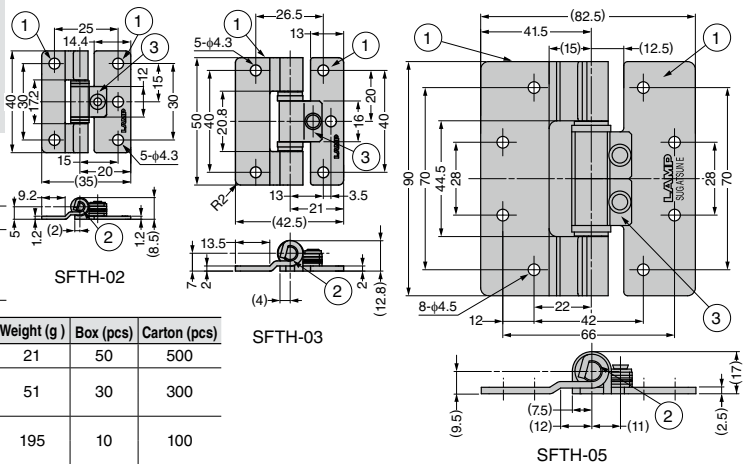


- Hinge with friction torque holds lid/door in desired position.
- Stainless steel material ideal for corrosive environments.

**[Specifications]**

- Operating temperature: -20°C~60°C.

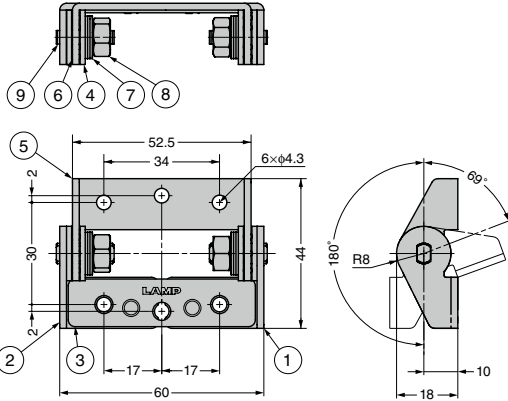
No.	Part Name	Material	Finish
①	Body A	Stainless Steel (SUS304)	Polished
②	Shaft	Stainless Steel (SUS303)	
③	Body B	Stainless Steel (SUS301)	



RefS	CAD	Item Code	Item Name	Torque per piece	Weight (g)	Box (pcs)	Carton (pcs)
GT	3D	170-098-199	SFTH-02-5	5±1kgf·cm	21	50	500
GT	3D	170-098-198	SFTH-03-9	9±2kgf·cm	51	30	300
GT	3D	170-098-197	SFTH-03-19	19±2kgf·cm	195	10	100
GT	3D	170-098-196	SFTH-05-35	35±5kgf·cm			
GT	3D	170-098-200	SFTH-05-58	58±5kgf·cm			



## TORQUE HINGE HG-ITHP



● Suitable for use in heat-generating environment.

**[Specifications]**

● Operating temperature: 0°C - 100°C

For applications beyond the operating temperature range above, please contact local representatives.

**[Applications]**

● Dryer, lighting equipment, temperature chamber

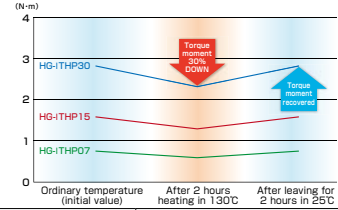
**[Remarks]**

● Be sure to read the "Cautions" 1.

● When installing, ensure that both hinge shafts are levelled and aligned.

● Torque may decrease during and after heating. And it will restore when returning to normal temperature.

**[Torque Transition] (in high temperature)**



No.	Part Name	Material	Finish
①	Base L	Stainless Steel (SUS304)	
②	Base R		
③	Connecting Bracket		
④	Thrust Plate	Carbon Steel	-
⑤	Movable Bracket	Stainless Steel (SUS304)	
⑥	Ball	Steel	
⑦	Spring Washer	Stainless Steel	
⑧	Hexagon Nut	Steel (SWCH)	Zinc Chromate (Trivalent)
⑨	Shaft	Stainless Steel (SUS303)	-

RHS	CAD	Item Code	Item Name	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
-	-	170-037-312	HG-ITHP07	0.7	7.1	70	25	100
-	-	170-037-313	HG-ITHP15	1.5	15.3	70	25	100
-	-	170-037-314	HG-ITHP30	3.0	30.6	72	25	100

Refer to 1 : P.253

## TORQUE HINGE HG-TWP Exterior Type

Under Development **SUS**



● Ideal for exterior application.

● O-rings at the shaft part prevent invasion of water and dust.

**[Specifications]**

● Operating temperature: 0°C - 40°C

**[Remarks]**

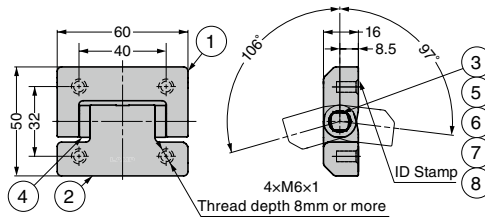
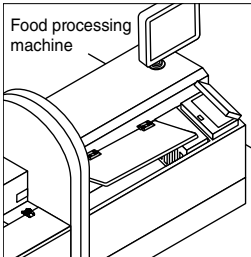
● Be sure to read the "Cautions" 1.

● Use all mounting holes.

● When installing, ensure that both hinge shafts are levelled and aligned.

※ The shape of body is different from actual item. Refer to the drawings for details.

**[Application Example]**



No.	Part Name	Material
①	Bracket	Stainless Steel (SUS316)
②	Base	
③	Shaft	
④	Plug	POM
⑤	O-ring (Outside)	Rubber
⑥	O-ring (Inside)	
⑦	Spring Pin	Stainless Steel
⑧	Hexagon Socket Set Screw	(SUS304)

RHS	CAD	Item Code	Item Name	ID Stamp	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
-	-	170-037-310	HG-TWP15	15	1.5	15.3	-	-	-
-	-	170-037-311	HG-TWP30	30	3.0	30.6	-	-	-

Refer to 1 : P.253



# LIFT-OFF TORQUE HINGE HG-KNT

Free Stop Motion

Torque Hinges

Monitor Bracket

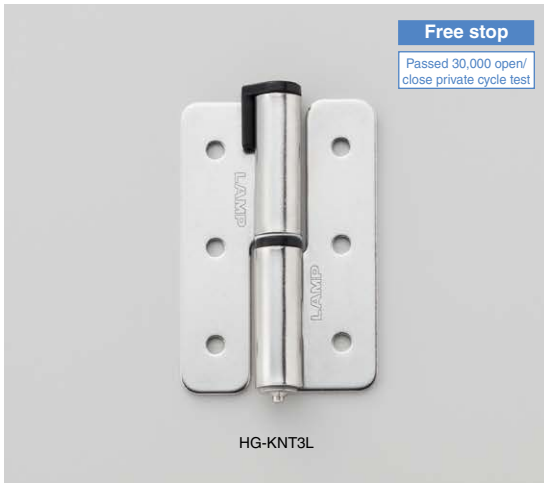
Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges



Free stop

Passed 30,000 open/close private cycle test

HG-KNT3L



Video Link

- Can be used vertically and horizontally.
- Lift-off type, easy to detach doors.

**[Applications]**

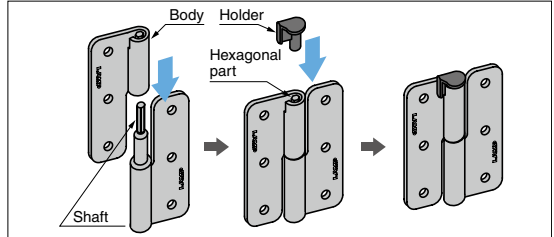
- Laboratory equipment, OA equipment, FA equipment, and various automatic equipment.

**[Remarks]**

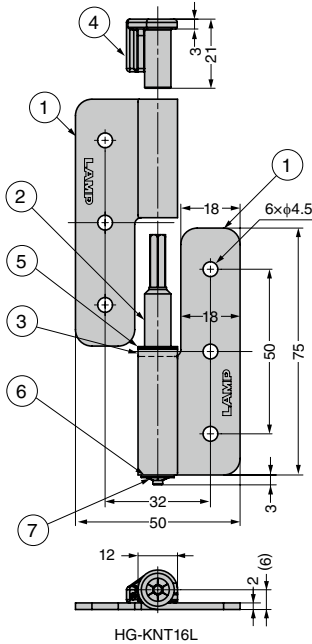
- Be sure to read the "Cautions" 1.
- When installing, ensure that both hinge shafts are aligned.
- Insert into holder following installation of the door. Infirm insertion may cause damage.
- When using the hinges horizontally, set the holders opposite each other to prevent them being inserted or removed.

**S**election Tool  
**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!

**[Assembly]**

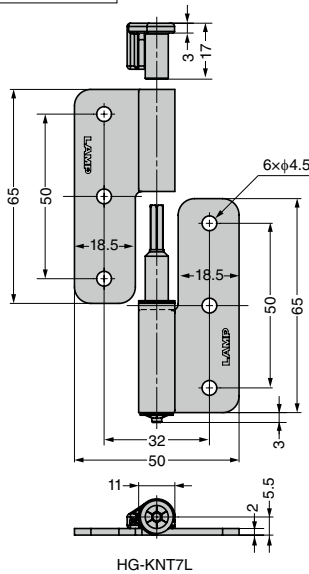


Insert the body into shaft, and then insert the holder into the hexagonal part of shaft to generate torque. To detach, use a tool to push the holder out.

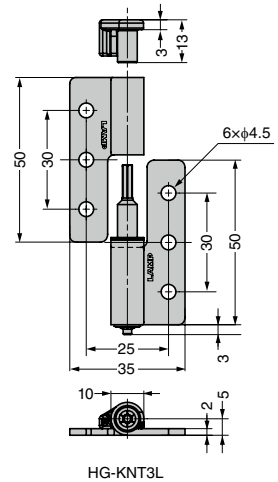


HG-KNT16L

Left-handed type shown. Right-handed type is symmetrical.



HG-KNT7L



HG-KNT3L

No.	Part Name	Material	Finish / Colour
①	Body	Stainless Steel (SUS304)	Barrel Polished
②	Shaft		-
③	Plug	POM	Black
④	Holder	PA	
⑤	Washer	PTFE	Natural
⑥	Washer	POM	
⑦	Push Nut	Stainless Steel	-

RHS	CAD	Item Code	Item Name	Type	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
☑	-	170-035-380	HG-KNT3L	Left-handed	0.3±0.2	3.1±2.0	42	50	200
☑	-	170-035-381	HG-KNT3R	Right-handed				50	200
☑	-	170-035-382	HG-KNT7L	Left-handed	0.7±0.25	7.1±2.6	76	50	200
☑	-	170-035-383	HG-KNT7R	Right-handed				50	200
☑	-	170-035-384	HG-KNT16L	Left-handed	1.6±0.3	16.3±3.1	96	30	120
☑	-	170-035-385	HG-KNT16R	Right-handed				30	120

Refer to 1 : P.253

# MINI TORQUE HINGE HG-MF



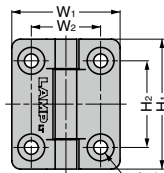
● Small plastic torque hinge.

**[Applications]**

● Small and lightweight doors such as office equipment and shop furniture

**[Remarks]**

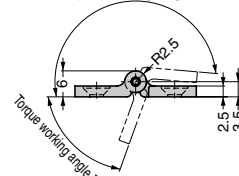
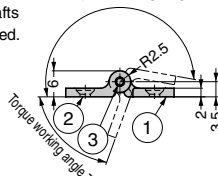
- Be sure to read the "Cautions" 1.
- When installing, ensure that both hinge shafts are levelled and aligned.



**S** Selection Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

Torque working angle 190°

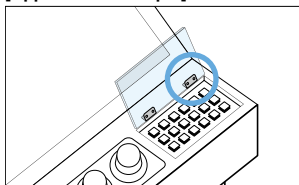
Torque working angle 185°



HG-MF08, HG-MF15

HG-MF25

**[Application Example]**



No.	Part Name	Material	Colour
①	Body A	POM	Black, White
②	Body B		
③	Shaft	Stainless Steel (SUS304)	-

RevS	CAD	Item Code	Item Name	Colour	W <sub>1</sub>	W <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	t	d φ	Torque N · m/pc	Torque kgf · cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
G	SD	170-023-854	HG-MF08-BL	Black	25	16	20	10	2	φ 2.4,	0.0784±25%	0.8±25%	2	300	1800
G	SD	170-023-855	HG-MF08-WT	White						φ 4.2					
G	SD	170-023-856	HG-MF15-BL	Black	28	18	40	25	2.5	φ 3.2,	0.147±33%	1.5±33%	3	200	1200
G	SD	170-023-857	HG-MF15-WT	White						φ 6.2					
G	SD	170-023-858	HG-MF25-BL	Black	28	18	40	25	2.5	φ 6.2	0.245±33%	2.5±33%	5	100	600
G	SD	170-023-859	HG-MF25-WT	White						φ 6.2					

Refer to 1 : P.253



## Product Selection Tool Sasuga-kun

Just inputting the dimensions and weight of the flap/door, you can select suitable Motion Design Tech products or simulate (graphically display) moment and operating force.



We offer calculation and selection for you.

Sasuga-kun



Access from here

<https://contents.sugatsune.co.jp/en/motion/selection/>

Free Stop Motion

Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges

# COMBINATION HINGE HG-VH8



INSTRUCTION

VIDEO

Free Stop Motion

Passed 50,000 open/close private cycle test



Black



White

- Hinges with built-in damper, spring or torque unit, etc.
- Various motions by using hinges with different built-in parts in combination.
- For hinges with built-in springs, the spring tension can be adjusted with a hex key.

**[Specifications]**

- Operating temperature: 0°C~40°C

**[Applications]**

- Lightweight lids of small equipment, etc.

**[Remarks]**

- Be sure to read the "Cautions" 1.
- When installing, ensure that both hinge shafts are aligned.

**Selection Tool**

**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!

**Video Link**



\*The applicable products are only limited to hinges with built-in "damper" or "torque unit".

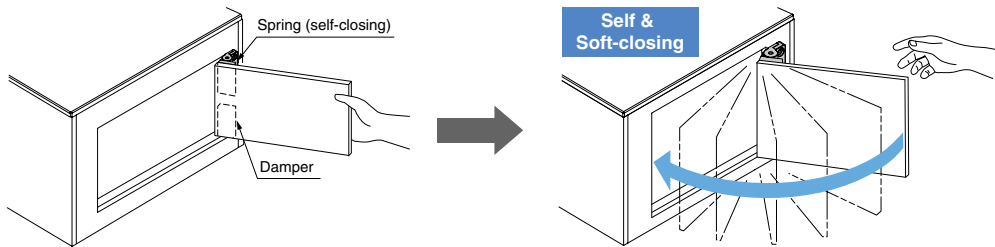
**[Hinge Motions]** For top-opening lid

Part Built-in	Without Part Built-in	Damper	Spring (self-opening)	Spring (self-closing)	Torque
		<b>Soft-close</b>	<b>Self-opening</b>	<b>Self-closing</b>	<b>Free stop</b>
Motions					
	Freely opens and closes as normal hinges.	Slowly closes.	Always tries to open.	Always tries to close.	Stops at any position.
Possible Combinations (Built-in unit)	Without Part Built-in	Yes	Yes	Yes	Yes
	Damper	Yes	Yes	Yes	No
	Spring (self-opening)	Yes	Yes	No	It depends
	Spring (self-closing)	Yes	Yes	No	Yes
	Torque	Yes	No	It depends	It depends

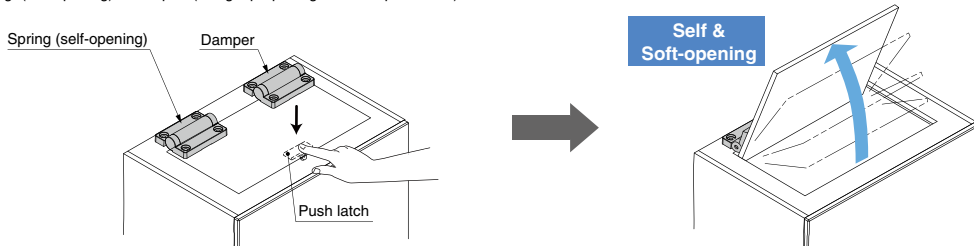
(It depends) Please carry out thorough tests before using since performance with these combinations might vary depending on door size and weight.

**[Combination Example]**

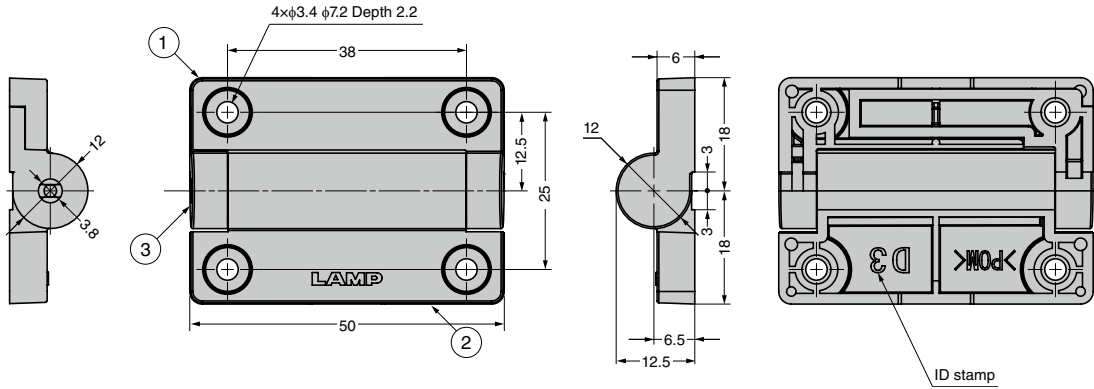
- Spring (self-closing) + Damper (lateral-opening)



- Spring (self-opening) + Damper (using top-opening lid with a push latch)



Refer to 1 : P.253



No.	Part Name	Material	Colour
①	Bracket A	POM	Black, White
②	Bracket B		
③	Bracket C		
-	Damper URD8-3	POM, etc.	-
-	Spring Unit URS8	-	-
-	Torque Unit URT8	-	-

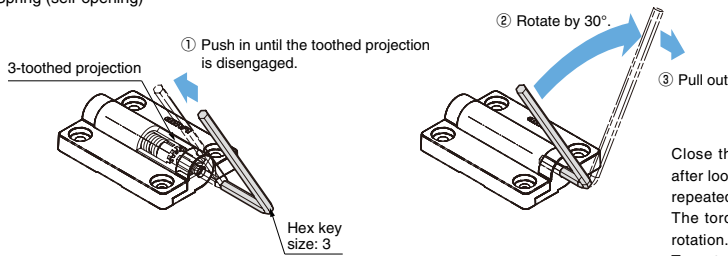
Lateral-opening door weight: Max. 810g  
 Reference door size: W300×H450×t 5 mm  
 Acrylic plate, Density 1.2 g/cm<sup>3</sup>

RoHS	CAD	Item Code	Item Name	Part Built-in	ID Stamp	Colour	Torque N·m/pc	Torque kgf·cm/pc	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
✔	3D	170-032-616	HG-VH8-N-BL	-	N	Black	-	-	270°	11	40	640
✔	3D	170-032-617	HG-VH8-N-WT	-	N	White	-	-			40	640
✔	3D	170-032-618	HG-VH8-D3-BL	Damper	D3	Black	0.022~0.038	0.22~0.39		14	40	640
✔	3D	170-032-619	HG-VH8-D3-WT			White					40	640
✔	3D	170-032-620	HG-VH8-OP-BL	Spring (self-opening)	OP	Black	※	※		18	40	640
✔	3D	170-032-621	HG-VH8-OP-WT			White	40	640				
✔	3D	170-032-622	HG-VH8-CL-BL	Spring (self-closing)	CL	Black	※	※		19	40	640
✔	3D	170-032-623	HG-VH8-CL-WT			White	40	640				
✔	3D	170-032-624	HG-VH8-T15-BL	Torque	T1	Black	0.15±0.05	1.53±0.51		19	40	640
✔	3D	170-032-625	HG-VH8-T15-WT			White					40	640
✔	3D	170-032-626	HG-VH8-T35-BL			T3	Black	0.35±0.1			3.57±1.02	40
✔	3D	170-032-627	HG-VH8-T35-WT	White	40					640		

※ Increased by 0.0153N·m (0.16kgf·cm) by adjusting the spring tension. The initial value of the spring tension is 0N·m.

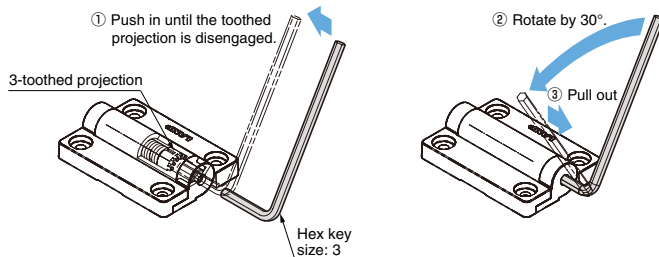
[How to Adjust Spring Tension]

● Spring (self-opening)



Close the lid, and check if the lid can be opened smoothly after loosening your hand(s). If the spring tension is not enough, repeated steps ① ~ ③. The torque will be increased by 0.0153N·m at each 30° of rotation. Generally no more than 4 times (120°) are required. To restore to the initial state, rotate in the direction opposite to above.

● Spring (Self-closing)



Open the lid and check if the lid can be closed smoothly after loosening your hand(s). If the spring tension is not enough, repeated steps ① ~ ③. The torque will be increased by 0.0153N·m at each 30° of rotation. Generally no more than 4 times (120°) are required. To restore to the initial state, rotate in the direction opposite to above.

Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges

# TORQUE PIANO HINGE HG-TLS30-50-300

Under Development

Free Stop Motion

Free stop  
Greaseless

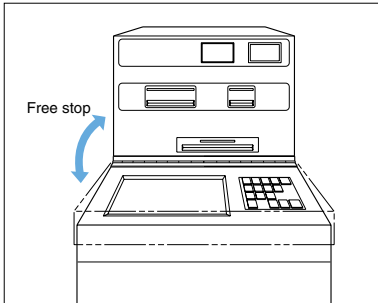


- Long type torque hinge.
- Other lengths also available on order.

**[Remarks]**

- Be sure to read the "Cautions" **1**.
- When using multiple hinges, ensure that both hinge shafts are levelled and aligned.
- Can not be used by cutting the length.

**[Application Example]**



For opening/closing of cash machine maintenance door.

Torque Hinges

Monitor Bracket

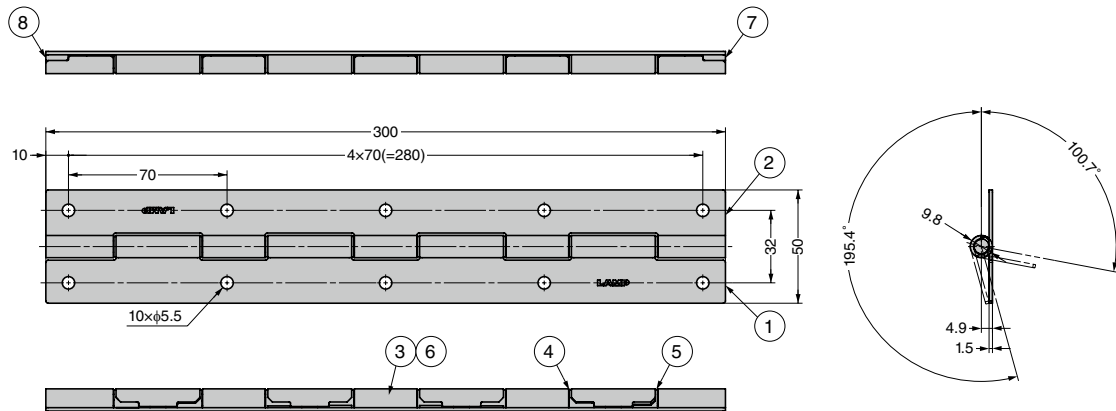
Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges



No.	Part Name	Material
①	Hinge A	Stainless Steel (SUS304)
②	Hinge B	
③	Shaft	POM
④	Plug L	
⑤	Plug R	
⑥	Collar	PA
⑦	Holder L	
⑧	Holder R	

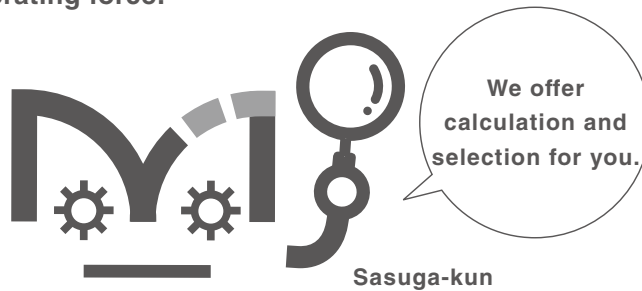
RtHS	CAD	Item Code	Item Name	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
-	-	170-037-315	HG-TLS30-50-300	3	29	-	-	-

Refer to **1** : P.253



## Product Selection Tool Sasuga-kun

Just inputting the dimensions and weight of the flap/door, you can select suitable Motion Design Tech products or simulate (graphically display) moment and operating force.



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Sasuga-kun

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<https://contents.sugatsune.co.jp/en/motion/selection/>



Torque Hinges

Monitor Bracket

Torque Stays



# TORQUE HINGE HG-TA

Free Stop Motion

Torque Hinges

Monitor Bracket

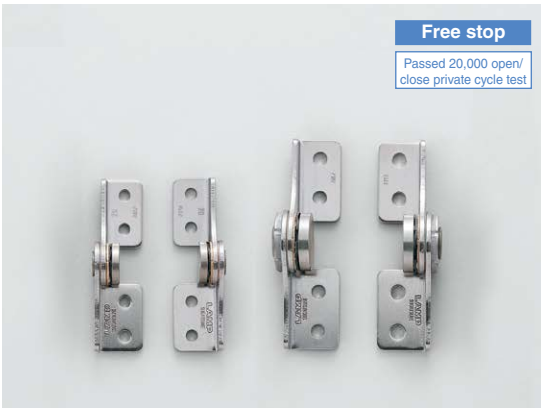
Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges



● Highly durable HG-TA45H with wire hole is newly launched.

**[Specifications]**

● Operating temperature: 0°C ~40°C

**[Applications]**

● LCD, monitoring camera, etc.

**[Remarks]**

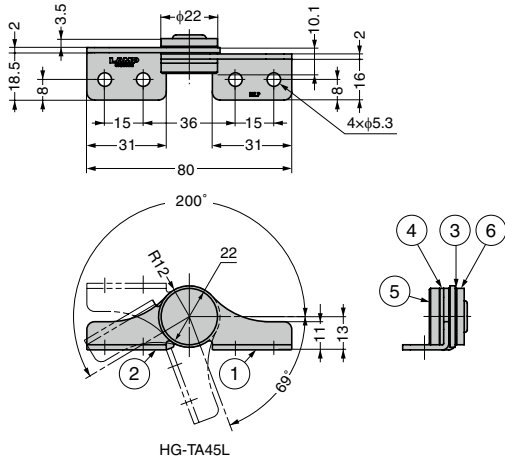
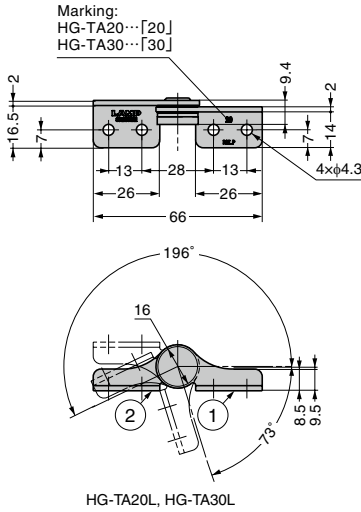
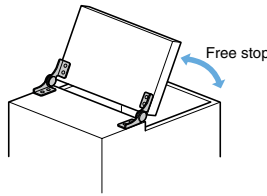
- Be sure to read the "Cautions" 1
- For pair using: Please use the same torque in both hinges.
- When installing, ensure that both hinge shafts are levelled and aligned.

**S**election Tool  
**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!

Video Link



**[Application Example]**



No.	Part Name	Material	Finish
①	Bracket	Stainless Steel (SUS430)	Barrel Polished
②	Base		
③	F Plate	Bronze	-
④	Spring Washer	Steel	
⑤	Shaft	Stainless Steel (SUS303)	
⑥	Washer	Stainless Steel (SUS430)	Barrel Polished

RW/S	CAD	Item Code	Item Name	Description	Type	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)	
G	3D	170-012-403	HG-TA20R	Without wire hole	Right-handed	2.0±20%	20.4±20%	30	40	320	
G	3D	170-012-404	HG-TA20L		Left-handed						
G	3D	170-012-405	HG-TA30R		Right-handed	3.0±20%	30.6±20%		40	320	
G	3D	170-012-406	HG-TA30L		Left-handed						
G	3D	170-012-407	HG-TA45R		Right-handed	4.5±20%	45.9±20%		65	20	160
G	3D	170-012-408	HG-TA45L		Left-handed						

Refer to 1 : P.253

# DETENT TORQUE HINGE HG-DTA



Free Stop Motion



● Detent function prevents spring-back in closed position.

**[Specifications]**

● Operating temperature: 0°C~40°C

**[Applications]**

● Small device with cover, folding machine, etc.

**[Remarks]**

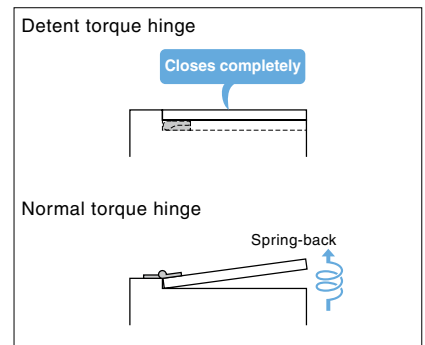
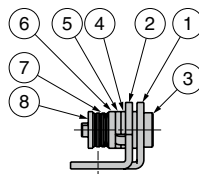
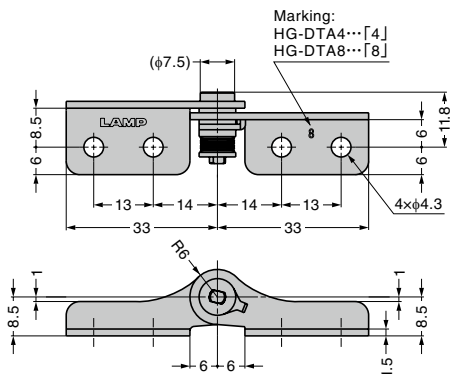
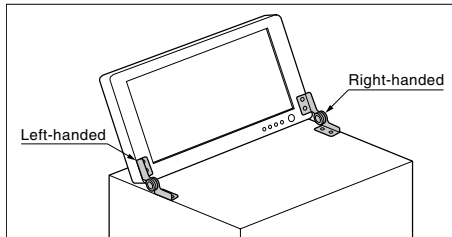
- Be sure to read the "Cautions" 1.
- For pair using: Please use the same torque in both hinges.
- When installing, ensure that both hinge shafts are levelled and aligned.

Video Link

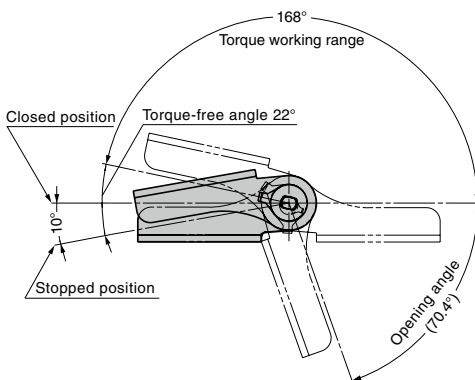


**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**[Application Example]**



● Detent function prevents spring-back in closed position.



Left-handed type shown. Right-handed type is symmetrical.

No.	Part Name	Material	Finish
①	Base	Stainless Steel (SUS304)	Barrel Polished
②	Bracket		
③	Shaft	Stainless Steel (SUS303)	-
④	Washer	Stainless Steel	
⑤	Cam A		
⑥	Cam B		
⑦	Spring Washer	Stainless Steel (SUS304)	
⑧	Plate		

RoHS	CAD	Item Code	Item Name	Type	Torque		Release Torque※		Weight (g)	Box (pcs)	Carton (pcs)
					N·m/pc	kgf·cm/pc	N·m/pc	kgf·cm/pc			
☑	☑	170-026-457	HG-DTA4-R	Right-handed	0.4±20%	4.08±20%	0.7±20%	7.14±20%	19	50	500
☑	☑	170-026-458	HG-DTA4-L	Left-handed						50	500
☑	☑	170-026-459	HG-DTA8-R	Right-handed	0.8±20%	8.16±20%	1.5±20%	15.31±20%		50	500
☑	☑	170-026-460	HG-DTA8-L	Left-handed						50	500

Refer to 1 : P.253

※Torque required to release detent.

Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges

# STAINLESS STEEL TORQUE HINGE HG-TAS



Free Stop Motion



- Stainless steel construction suitable for corrosive environments.

**[Specifications]**

- Operating temperature: 0°C ~ 40°C

**[Applications]**

- LCD, monitoring camera, etc.

**[Remarks]**

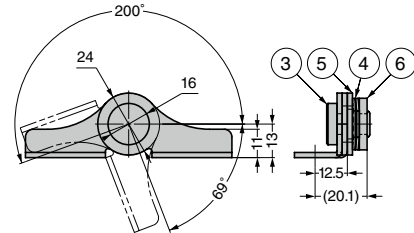
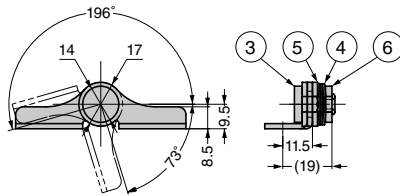
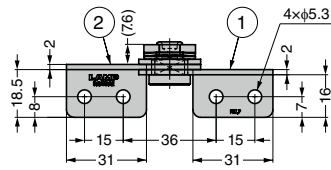
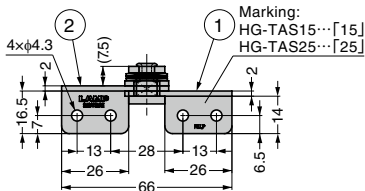
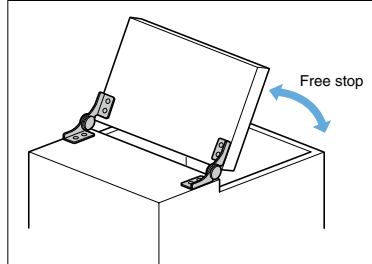
- Be sure to read the "Cautions"
- For pair using: Please use the same torque in both hinges.
- When installing, ensure that both hinge shafts are levelled and aligned.

Selection Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

Video Link



**[Application Example]**



HG-TAS15L, 25L

HG-TAS40L

Left-handed type shown. Right-handed type is symmetrical.

No.	Part Name	Material	Finish
①	Body	Stainless Steel (SUS304)	Barrel Polished
②	Base		
③	Shaft	Stainless Steel (SUS303)	-
④	Spring Washer	Stainless Steel (SUS304)	Barrel Polished
⑤	Plate		
⑥	Washer		

RHS	CAD	Item Code	Item Name	Type	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
		170-037-294	HG-TAS15R	Right	1.5 ± 20%	15.3 ± 20%	37	40	320
		170-037-295	HG-TAS15L	Left			37	40	320
		170-037-296	HG-TAS25R	Right	2.5 ± 20%	25.5 ± 20%	38	40	320
		170-037-297	HG-TAS25L	Left			38	40	320
		170-037-298	HG-TAS40R	Right	4.0 ± 20%	40.8 ± 20%	64	20	160
		170-037-299	HG-TAS40L	Left			64	20	160

Refer to : P.253

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges

Torque Hinges

Monitor Bracket

Torque Stays



# ADJUSTABLE TORQUE HINGE HG-TASJ40



- Torque adjustable from 0 to 4 N · m.
- Stainless steel construction suitable for corrosive environments.

**[Specifications]**

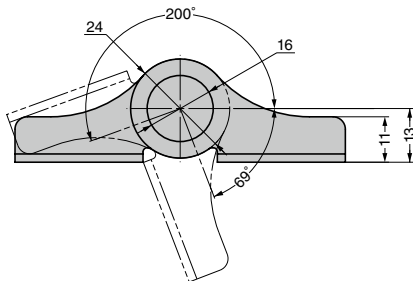
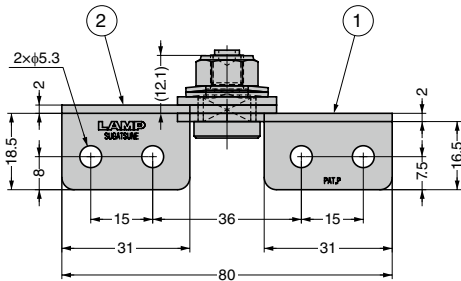
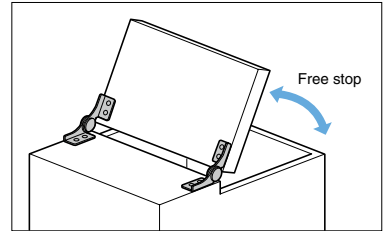
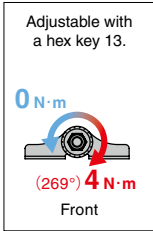
- Operating temperature: 0°C - 40°C

**[Remarks]**

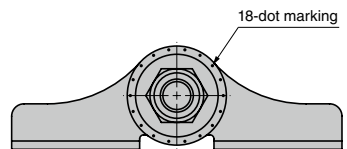
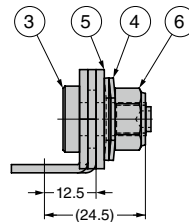
- Be sure to read the "Cautions" **1**.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Use a spanner (nominal size 13) for torque adjustment.
- Do not forcibly remove the torque adjustment nut.
- The factory setting of torque is 4.0N · m. Adjust if necessary.

**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**[Application Example]**



Left-handed type shown. Right-handed type is symmetrical.



Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges

No.	Part Name	Material	Finish
①	Body	Stainless Steel (SUS304)	Barrel Polished
②	Base		
③	Shaft	Stainless Steel (SUS303)	-
④	Spring Washer	Stainless Steel (SUS304)	Barrel Polished
⑤	Plate		
⑥	Lock Nut	Stainless Steel	-

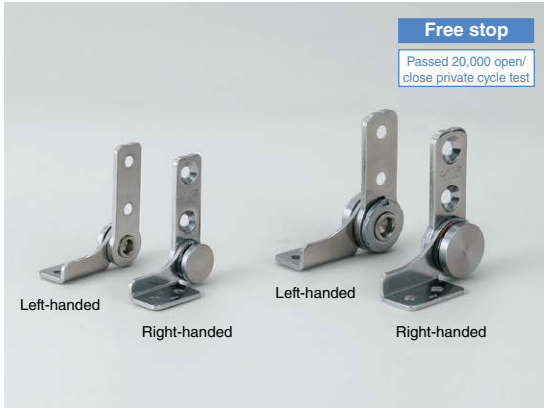
RoHS	CAD	Item Code	Item Name	Type	Torque N · m/pc	Torque kgf · cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
		170-037-306	HG-TASJ40R	Right	0~4.0	0~40.8	64	20	160
		170-037-307	HG-TASJ40L	Left			64	20	160

Refer to **1** : P.253



# TORQUE HINGE HG-TB

Free Stop Motion



- Provides torque stability in both directions.

**[Specifications]**

- Operating temperature: 0°C~40°C

**[Applications]**

- LCD, monitoring camera, etc.

**[Remarks]**

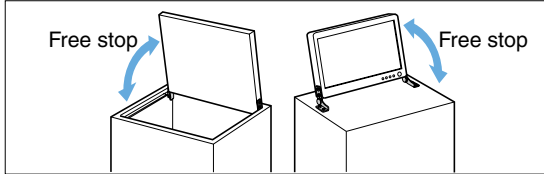
- Be sure to read the "Cautions" **1**.
- For pair using: Please use the same torque in both hinges.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Can not be used around water because not all parts are made of stainless steel.

Video Link

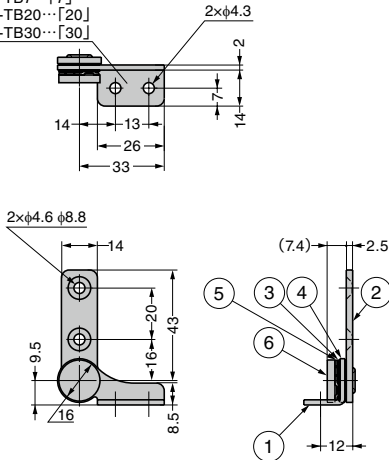


**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**[Application Example]**



Marking:  
 HG-TB7...[7]  
 HG-TB20...[20]  
 HG-TB30...[30]



HG-TB7L, HG-TB20L, HG-TB30L

HG-TB45L

Left-handed type shown. Right-handed type is symmetrical.

No.	Part Name	Material	Finish	
①	Bracket	Stainless Steel (SUS430)	Barrel Polished	
②	Base			
③	F Plate A	Bronze	-	
④	F Plate B			
⑤	Spring Washer	Steel		
⑥	Shaft	Stainless Steel (SUS303)		
⑦	Washer	Stainless Steel (SUS430)		Barrel Polished

RHS	CAD	Item Code	Item Name	Type	Torque N·m/pc	Torque kgf·cm/pc	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
☑	☑	170-022-142	HG-TB7R	Right-handed	0.7±20%	7.1±20%	360°	31	40	320
☑	☑	170-022-143	HG-TB7L	Left-handed					40	320
☑	☑	170-012-413	HG-TB20R	Right-handed	2.0±20%	20.4±20%			40	320
☑	☑	170-012-414	HG-TB20L	Left-handed					40	320
☑	☑	170-012-415	HG-TB30R	Right-handed	3.0±20%	30.6±20%		40	320	
☑	☑	170-012-416	HG-TB30L	Left-handed				40	320	
☑	☑	170-012-417	HG-TB45R	Right-handed	4.5±20%	45.9±20%		20	160	
☑	☑	170-012-418	HG-TB45L	Left-handed				20	160	

Refer to **1** : P.253

Butt Hinges  
Bracket Hinges  
Concealed Hinges  
Swivel Hinges  
Dual Axis Hinges

# DETENT TORQUE HINGE HG-DTB



Free Stop Motion



● Detent function prevents spring-back in closed position.

**[Specifications]**

● Operating temperature: 0°C ~40°C

**[Applications]**

● Small device with cover, folding machine, etc.

**[Remarks]**

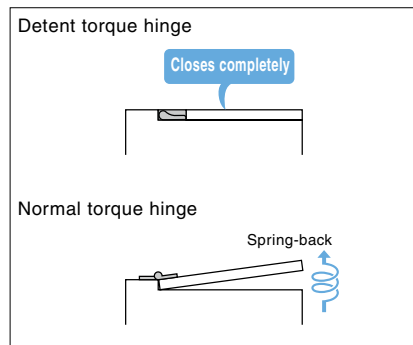
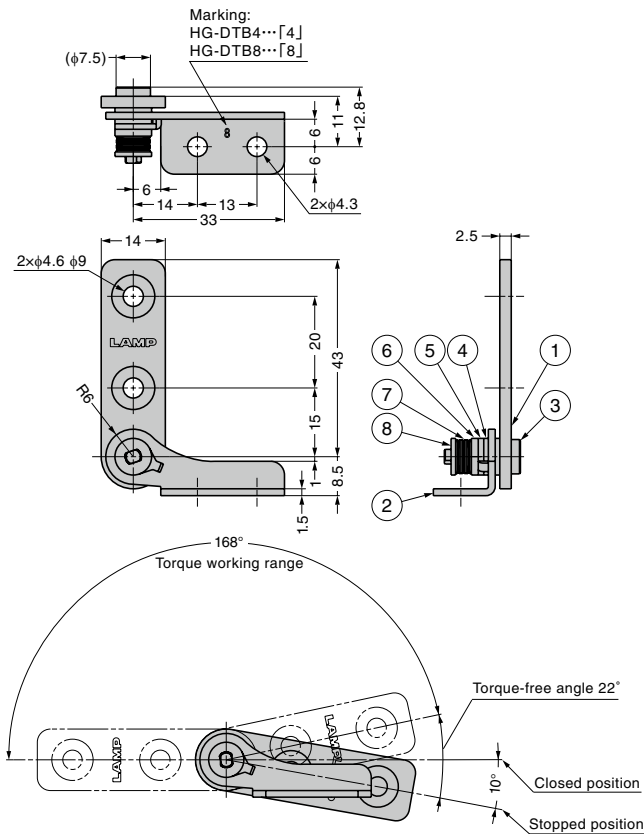
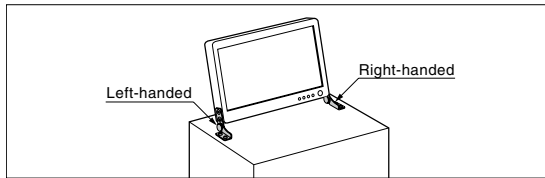
- Be sure to read the "Cautions" 1.
- For pair using: Please use the same torque in both hinges.
- When installing, ensure that both hinge shafts are levelled and aligned.

Video Link



**Selection Tool**  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**[Application Example]**



● Detent function prevents spring-back in closed position.

Left-handed type shown. Right-handed type is symmetrical.

No.	Part Name	Material	Finish
①	Base	Stainless Steel (SUS304)	Barrel Polished
②	Bracket		
③	Shaft	Stainless Steel (SUS303)	-
④	Washer		
⑤	Cam A		
⑥	Cam B	Stainless Steel	-
⑦	Spring Washer		
⑧	Plate	Stainless Steel (SUS304)	

RoHS	CAD	Item Code	Item Name	Type	Torque		Release Torque※		Weight (g)	Box (pcs)	Carton (pcs)
					N·m/pc	kgf·cm/pc	N·m/pc	kgf·cm/pc			
☑	☑	170-026-461	HG-DTB4-R	Right-handed	0.4±20%	4.08±20%	0.7±20%	7.14±20%	22	50	500
☑	☑	170-026-462	HG-DTB4-L	Left-handed						50	500
☑	☑	170-026-463	HG-DTB8-R	Right-handed	0.8±20%	8.16±20%	1.5±20%	15.31±20%	23	50	400
☑	☑	170-026-464	HG-DTB8-L	Left-handed						50	400

Refer to 1 : P.253

※Torque required to release detent.

Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
 Dual Axis Hinges



# STAINLESS STEEL TORQUE HINGE HG-TBS

Free Stop Motion



● Stainless steel construction suitable for corrosive environments.

**[Specifications]**

● Operating temperature: 0°C~40°C

**[Applications]**

● LCD, monitoring camera, etc.

**[Remarks]**

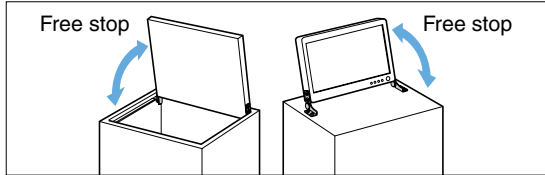
- Be sure to read the "Cautions" 1.
- For pair using: Please use the same torque in both hinges.
- When installing, ensure that both hinge shafts are levelled and aligned.

Video Link



**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**[Application Example]**



Torque Hinges

Monitor Bracket

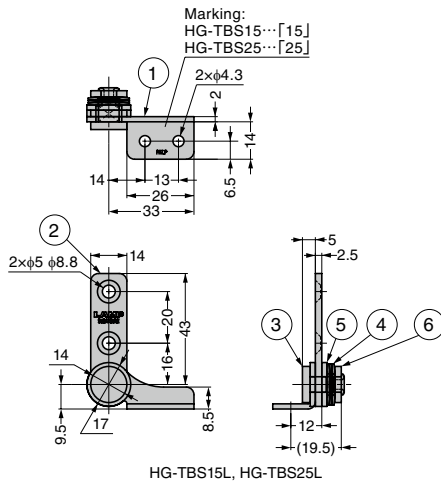
Torque Stays

Butt Hinges

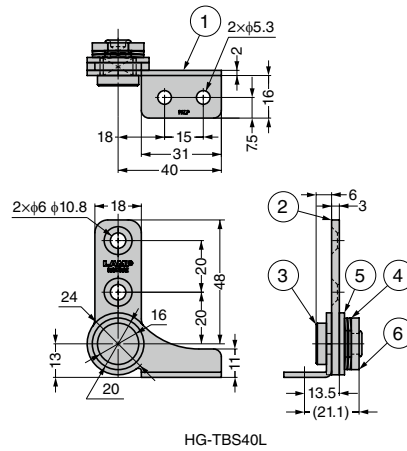
Bracket Hinges

Concealed Hinges

Swivel Hinges  
 Dual Axis Hinges



HG-TBS15L, HG-TBS25L



HG-TBS40L

Left-handed type shown. Right-handed type is symmetrical.

No.	Part Name	Material	Finish
①	Body	Stainless Steel (SUS304)	Barrel Polished
②	Base		
③	Shaft	Stainless Steel (SUS303)	-
④	Spring Washer	Stainless Steel (SUS304)	Barrel Polished
⑤	Plate		
⑥	Washer		

RHS	CAD	Item Code	Item Name	Type	Torque N·m/pc	Torque kgf·cm/pc	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
☑	☑	170-037-300	HG-TBS15R	Right	1.5 ±20%	15.3 ±20%	360°	37	40	320
☑	☑	170-037-301	HG-TBS15L	Left				37	40	320
☑	☑	170-037-302	HG-TBS25R	Right	2.5 ±20%	25.5 ±20%		38	40	320
☑	☑	170-037-303	HG-TBS25L	Left				38	40	320
☑	☑	170-037-304	HG-TBS40R	Right	4.0 ±20%	40.8 ±20%		67	20	160
☑	☑	170-037-305	HG-TBS40L	Left				67	20	160

Refer to 1 : P.253



# ADJUSTABLE TORQUE HINGE HG-TBSJ40



Free stop

- Torque adjustable from 0 to 4 N · m.
- Stainless steel construction suitable for corrosive environments.

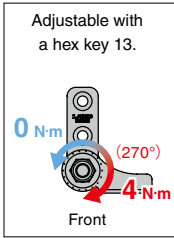
**[Specifications]**

- Operating temperature: 0°C - 40°C

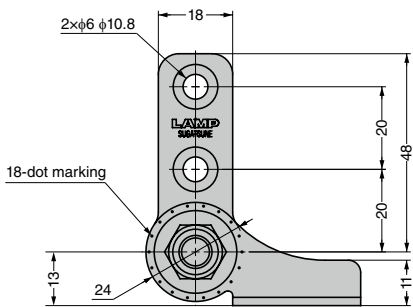
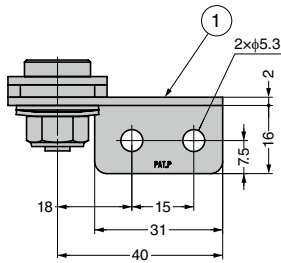
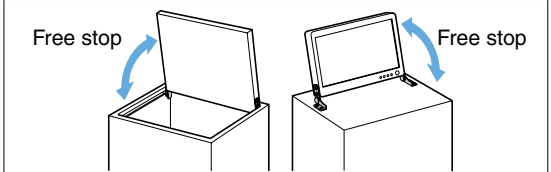
**[Remarks]**

- Be sure to read the "Cautions" 1.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Use a spanner (nominal size 13) for torque adjustment.
- Do not forcibly remove the torque adjustment nut.
- The factory setting of torque is 4.0N · m. Adjust if necessary.

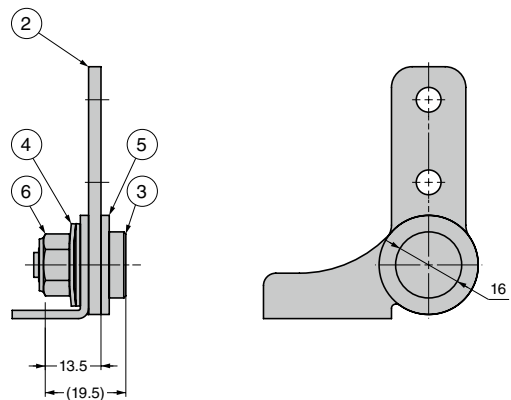
**S** Selection Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!



**[Application Example]**



Left-handed type shown. Right-handed type is symmetrical.



No.	Part Name	Material	Finish
①	Body	Stainless Steel (SUS304)	Barrel Polished
②	Base		
③	Shaft	Stainless Steel (SUS303)	-
④	Spring Washer	Stainless Steel (SUS304)	Barrel Polished
⑤	Plate		
⑥	Lock Nut	Stainless Steel	-

PartS	CAD	Item Code	Item Name	Type	Torque N · m/pc	Torque kgf · cm/pc	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
		170-037-308	HG-TBSJ40R	Right	0-4.0	0-40.8	360°	67	20	160
		170-037-309	HG-TBSJ40L	Left				67	20	160

Refer to 1 : P.253

Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
 Dual Axis Hinges

# TORQUE HINGE HG-TC45H

Free Stop Motion

Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges



- With wire hole.
- Excellent durability.

**[Specifications]**

- Operating temperature: 0°C~40°C

**[Applications]**

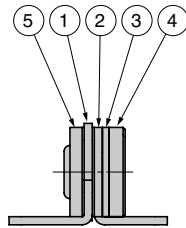
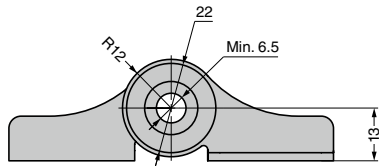
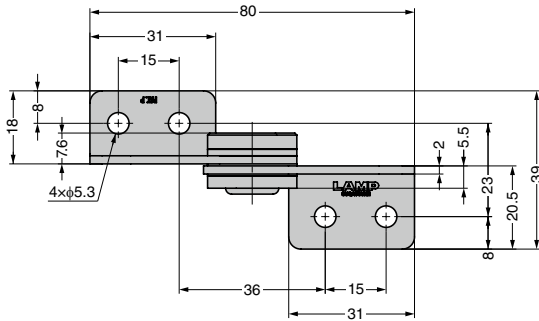
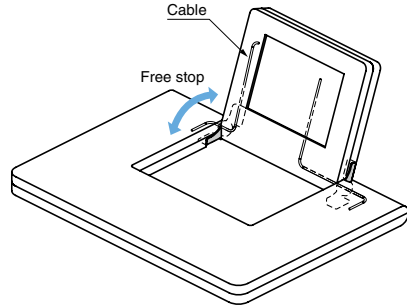
- LCD, monitoring camera, etc.

**[Remarks]**

- Be sure to read the "Cautions" 1.
- For pair using: Please use the same torque in both hinges.
- When installing, ensure that both hinge shafts are levelled and aligned.

**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**[Application Example]**



Left-handed type shown. Right-handed type is symmetrical.

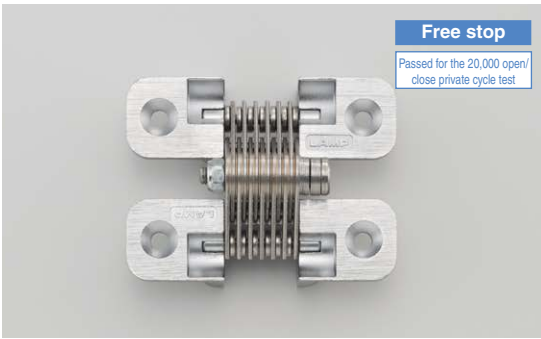
No.	Part Name	Material	Finish / Colour
①	Bracket	Stainless Steel (SUS430)	Barrel Polished
②	Base		
③	Spring Washer	Steel	-
④	Shaft	Stainless Steel (SUS303)	-
⑤	Washer	Stainless Steel (SUS430)	Barrel Polished

RoHS	CAD	Item Code	Item Name	Description	Type	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
		170-034-217	HG-TC45HR	With wire hole	Right-handed	4.5±20%	45.9±20%	60	20	160
		170-034-218	HG-TC45HL		Left-handed				20	160

Refer to 1 : P.253



# TORQUE HINGE (CONCEALED) HG-RT



- Hinge is completely hidden when the door is closed.
- Torque decreases as the opening angle increases, making easier to open the lid (refer to "Torque Curve" at the lower left).
- Use with top-opening lids (opening angle 0°~100°) (free stop range).
- Non-friction torque type also available **1**.

**[Specifications]**

- Operating temperature: 0°C~40°C

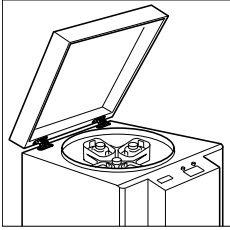
**[Remarks]**

- Be sure to read the "Cautions" **2**.
- Torque changes with the opening angle (refer to "Torque Curve" at the lower left).
- When selecting, ensure that the maximum torque of lid (door) is less than half of the torque at the hinge closed position (see the table below).
- Set a stopper in the Range where torque is not effective (refer to "Free Stop Range" at the left)
- When installing, ensure that both hinge shafts are levelled and aligned.

**[Recommended Screws]**

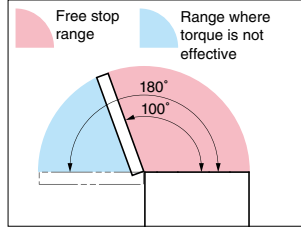
- Countersunk head tapping screw 4 or Countersunk head screw M4

**[Application Example]**



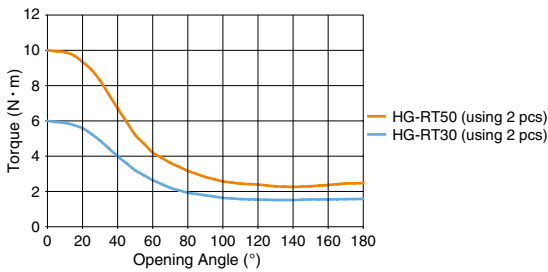
Use with top-opening lids (opening angle 0°~100°).

**[Free Stop Range]**

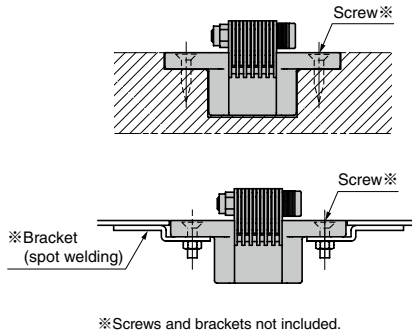


Install stopper to hold the door within the range where torque is not effective.

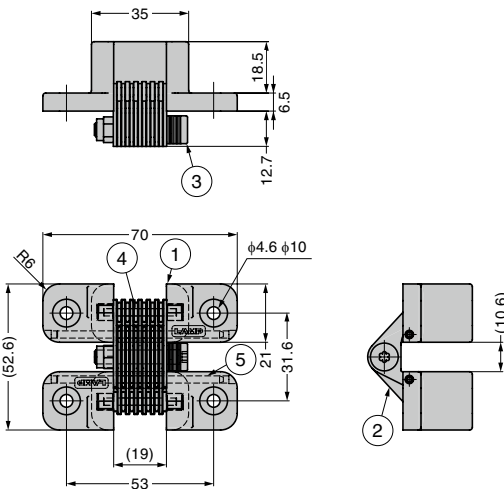
**[Torque Curve]**



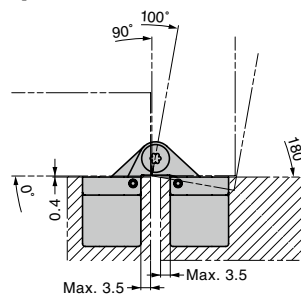
**[Installation]**



※Screws and brackets not included.



**[Locus Chart]**



RoHS	CAD	Item Code	Item Name	Max. Lid (Door) Moment		Torque N·m/2pcs (Closed Position)	Torque kgf·cm/2pcs (Closed Position)	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
				Max. N·m/2 pcs	Max. kgf·cm/2 pcs						
		170-026-478	HG-RT30	3	31	3±20%	31±20%	180°	160	12	72
		170-021-889	HG-RT50	5	51	5±20%	51±20%			12	72

Refer to **1** : P.187, **2** : P.253

Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges



# DUAL AXIS TORQUE HINGE HG-TMH

Free Stop Motion



- Can be opened 180°.
- Shafts do not protrude when the hinge is fully open or closed.
- Different torque of two shafts provides easy operation.

**[Applications]**

- Folding tables in shops, trains, caravans, etc.

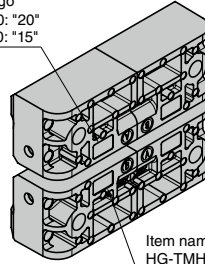
**[Remarks]**

- Swivel use only. Ensure that both hinge shafts are aligned when installing.
- Use hard wood or similar strong material and make sure to tighten the screw.

**[Recommended Screws]**

- Countersunk head screw M4 (for sheet metal)
- Countersunk head tapping screw 4 (for wood)

Item name logo  
 HG-TMH2030: "20"  
 HG-TMH1530: "15"

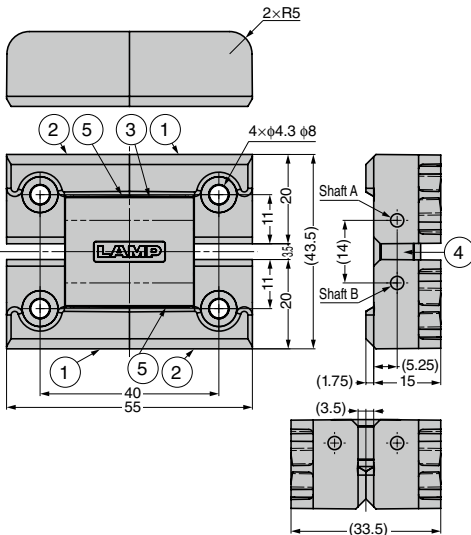


Item name logo  
 HG-TMH2030: "30"  
 HG-TMH1530: "30"

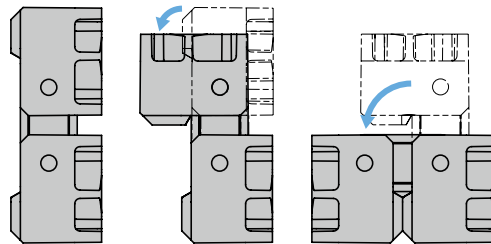
Torque Hinges

Monitor Bracket

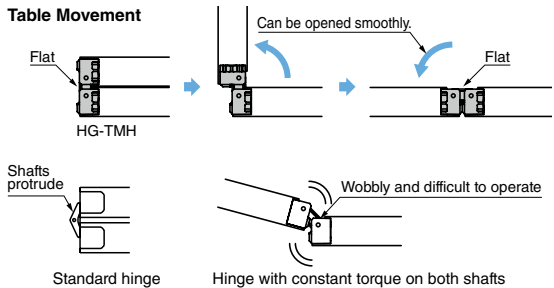
Torque Stays



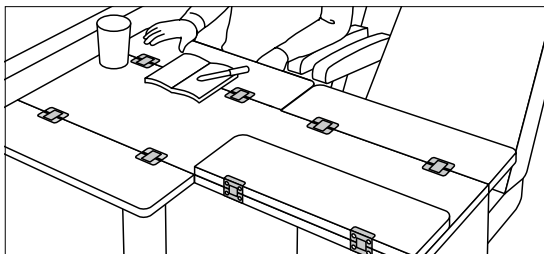
**Hinge Motions**



**Table Movement**



**Application Example**



Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
 Dual Axis Hinges

No.	Part name	Material
①	Body A	Zinc Alloy (ZDC)
②	Body B	
③	Intermediate Body	
④	Sleeve	PBT
⑤	Bumper	

Video Link



RHS	CAD	Item Code	Item Name	Finish	Shaft A		Shaft B		Weight (g)	Box (pcs)	Carton (pcs)
					Torque (N-m)	Torque (kgf-cm)	Torque (N-m)	Torque (kgf-cm)			
✓	3D	170-034-907	HG-TMH1530	Chrome	1.5 <sup>+20%</sup>	15.3 <sup>+20%</sup>	3.0 <sup>+20%</sup>	30.6 <sup>+20%</sup>	165	10	50
✓	3D	170-034-908	HG-TMH2030		2.0 <sup>+20%</sup>	20.4 <sup>+20%</sup>					
✓	3D	170-045-006	HG-TMH1530-SN	Satin Nickel	1.5 <sup>+20%</sup>	15.3 <sup>+20%</sup>					
✓	3D	170-045-007	HG-TMH2030-SN		2.0 <sup>+20%</sup>	20.4 <sup>+20%</sup>					
✓	3D	170-045-008	HG-TMH1530-BL	Black	1.5 <sup>+20%</sup>	15.3 <sup>+20%</sup>					
✓	3D	170-045-009	HG-TMH2030-BL		2.0 <sup>+20%</sup>	20.4 <sup>+20%</sup>					



# TORQUE HINGE (CONCEALED) HG-TUWA



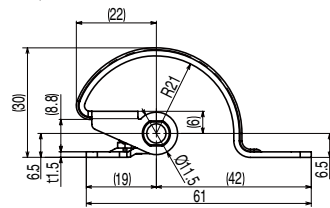
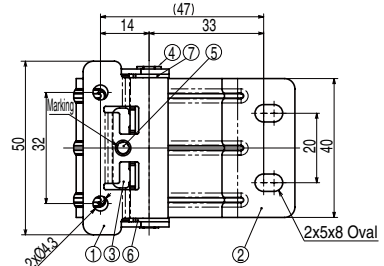
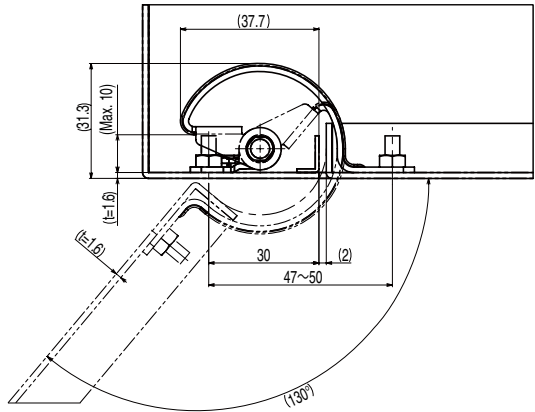
- High torque and wide opening angle (130°) type of HG-TU **1**.
- Installation on the back side of the door for clean appearance.
- Can be used horizontally or vertically.

**[Remarks]**

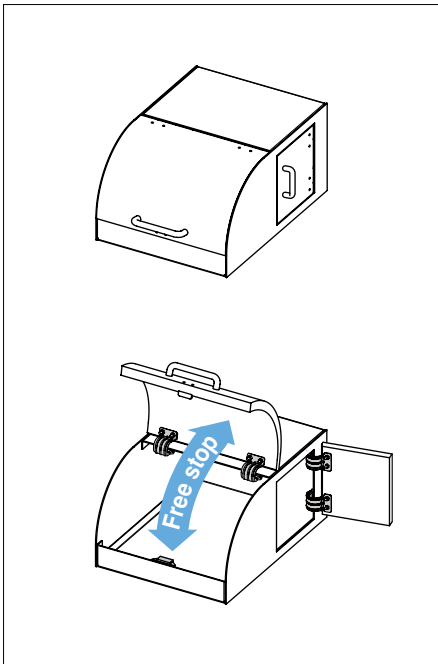
- Be sure to read the "Cautions" **2**.
- When installing, ensure that both hinge shafts are aligned.

**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

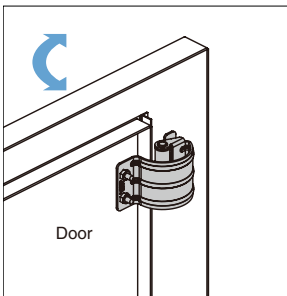
**[Dimensions]**



**[Application Example]**



**[Installation]**



Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
 Dual Axis Hinges

No.	Part Name	Material	Finish/Colour
①	Body	Stainless Steel (SUS304)	Barrel Polished
②	Base		
③	Press Washer	Stainless Steel (SUS303)	-
④	Shaft		
⑤	Pin	Stainless Steel	Black
⑥	Fixing Tube L	POM	
⑦	Fixing Tube R		

RoHS	CAD	Item Code	Item Name	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
GD	3D	170-034-313	HG-TUWA07	0.7 +40% -20%	7.1 +40% -20%	88	20	100
GD	3D	170-034-314	HG-TUWA15	1.5 +40% -20%	15.3 +40% -20%			

Refer to **1** : P.49, **2** : P.253



Free Stop Motion

# TORQUE HINGE (CONCEALED) HG-TU



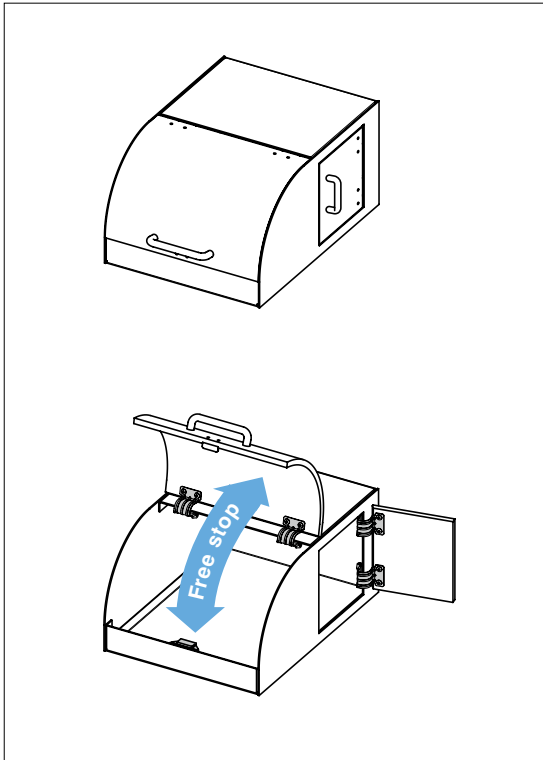
- Installation on the back side of the door for clean appearance.
- Can be used horizontally or vertically.

**[Remarks]**

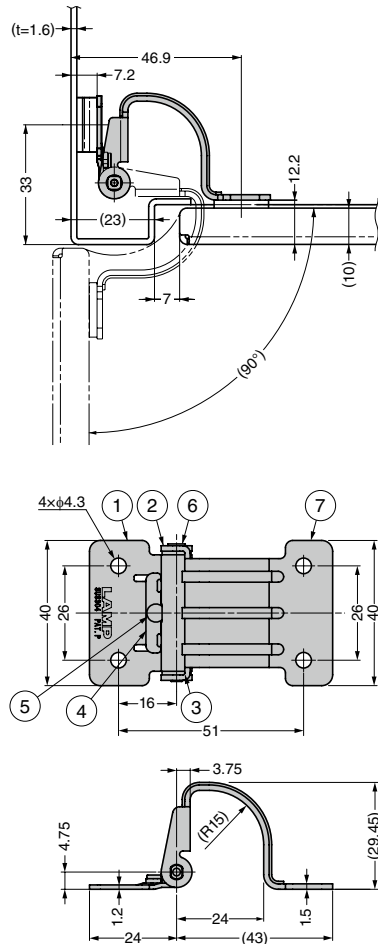
- Be sure to read the "Cautions" 1.
- When installing, ensure that both hinge shafts are aligned.

**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**[Application Example]**

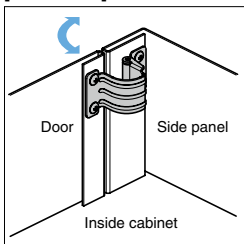


**[Dimensions]**



No.	Part Name	Material	Finish / Colour
①	Body	Stainless Steel (SUS304)	Barrel Polished
②	Fixing Tube L	POM	Black
③	Fixing Tube R		
④	Press Washer	Stainless Steel (SUS304)	Barrel Polished
⑤	Pin	Stainless Steel	-
⑥	Shaft	Stainless Steel (SUS303)	-
⑦	Base	Stainless Steel (SUS304)	Barrel Polished

**[Installation]**



RoHS	CAD	Item Code	Item Name	Torque N·m/pc※	Torque kgf·cm /pc※	Weight (g)	Box (pcs)	Carton (pcs)
		170-022-304	HG-TU03	0.35 <sup>+40%</sup> / <sub>-20%</sub>	3.6 <sup>+40%</sup> / <sub>-20%</sub>	50	20	200
		170-022-305	HG-TU07	0.7 <sup>+40%</sup> / <sub>-20%</sub>	7.1 <sup>+40%</sup> / <sub>-20%</sub>		20	200

Refer to 1 : P.253

※ Since torque will decrease due to long-term use, temperature, humidity and other factors, it is set to a higher level at delivery.

# DETACHABLE TORQUE HINGE HG-RNM30



Free Stop Motion



- Window attachment and detachment without tools, easy to maintain.
- Lock mechanism prevents the window from falling off.

**[Remarks]**

- Be sure to read the "Cautions" 1.
- Sold in set (hinge and strike each 2 pcs).
- When installing, ensure that both hinge shafts are levelled and aligned.
- Force for operating window varies depending on use environment (air temperature, wind).
- Do not use with window enduring strong wind pressure.
- Use mohair separately if air tightness is required.



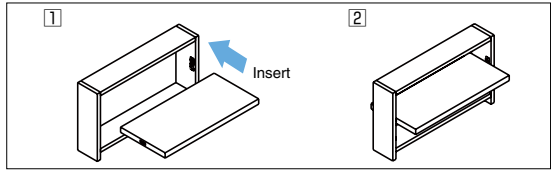
**[Parts Included]**

- Only for HG-RNM30-SET
- Pan head tapping screw 4×20 (strike side)
  - Countersunk head tapping screw 4×20 (hinge side)

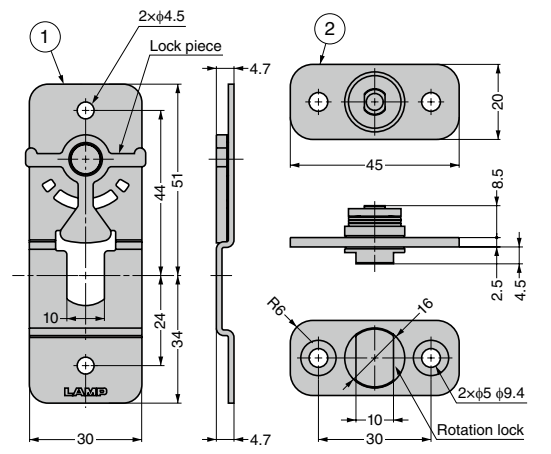
**[Recommended Screws]**

- Pan head screw M4 (strike side)
- Countersunk head screw M4 (hinge side)

**[Installation]**

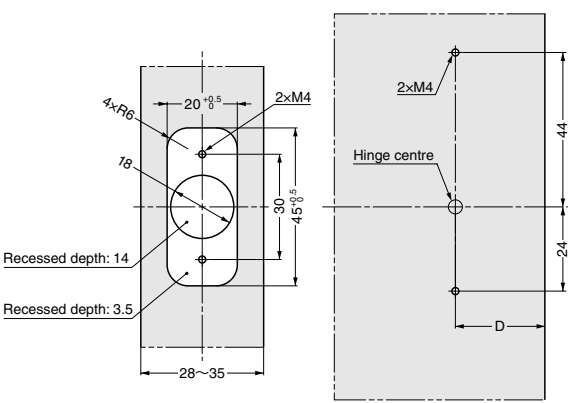


**[Cut Out Dimensions]**



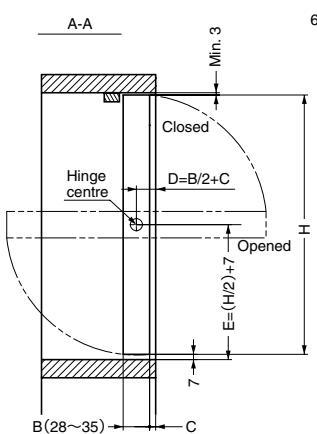
**Transom window (For both sides)**

**Side of frame (For both sides)**

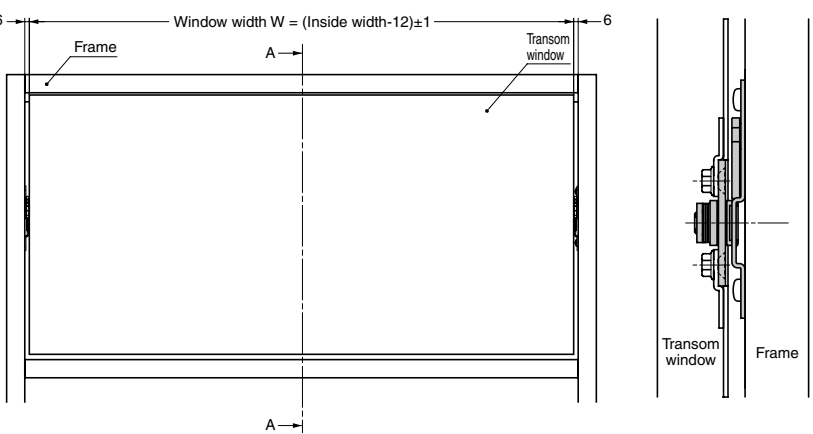


No.	Part Name	Material	Finish
①	Strike	Stainless Steel, POM	-
②	Hinge	Stainless Steel, etc.	-

**[Cut Out Dimensions]**



**[Installation Reference]**



Rolls	CAD	Item Code	Item Name	Screw	Torque N·m/set	Torque kgf·cm/set	Weight (g)	Box (sets)	Carton (sets)
GT	BD	170-029-733	HG-RNM30	w/o	3.0 <sup>±20%</sup>	30.6 <sup>±20%</sup>	112	15	120
GT	BD	170-033-319	HG-RNM30-SET	w/				15	120

Refer to 1 : P.253

Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

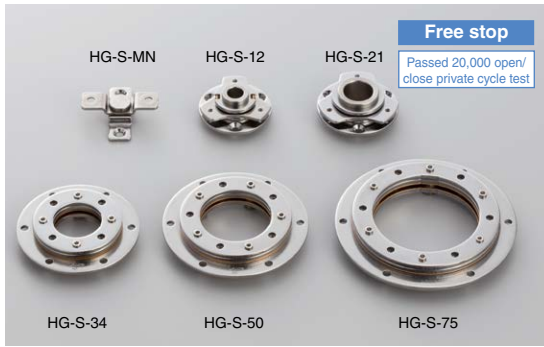
Concealed Hinges

Swivel Hinges  
Dual Axis Hinges



# SWIVEL TORQUE HINGE HG-S

Free Stop Motion



- HG-S-MN, HG-S-21 and HG-S-75 are newly launched.
- Rotation angle: 360°
- Centre hole for easy cable management (except for HG-S-MN). Five types of hole diameters (φ12, φ21.5, φ34, φ50, and φ75) are available.

**[Applications]**

- Operation panel of machine tools and LCD, etc.

**[Remarks]**

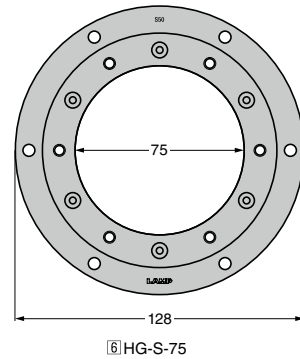
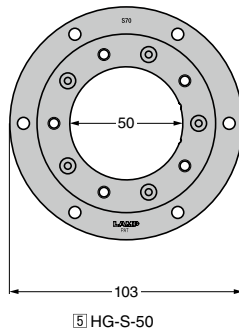
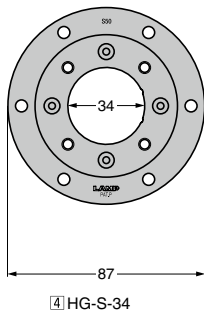
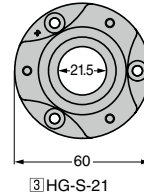
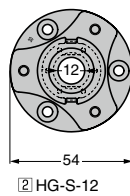
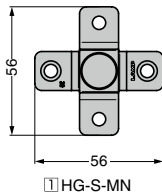
- Be sure to read the "Cautions" 1
- Hinges can be used upside down. However, fix the screws from the mounting surface (refer to the "Installation" in relevant pages). Otherwise, the products will not function.
- \* is horizontal use only.

Video Link

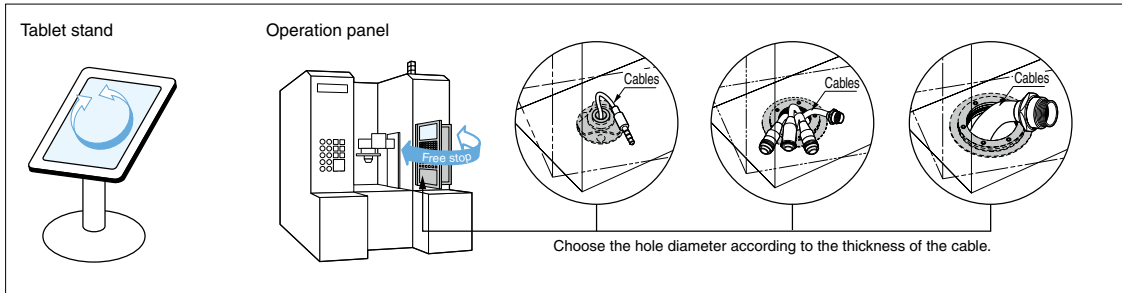


**[Selection Guide]**

RoHS	CAD	Item Code	Item Name	No.	Size	Hole Diameter	Torque N·m/pc	Torque kgf·cm/pc	Page
CE	3D	170-029-726	HG-S7-MN	1	56	-	0.7 ±20%	7.1 ±20%	2
CE	3D	170-029-727	HG-S20-MN				2.0 ±20%	20.4 ±20%	
CE	3D	170-021-976	HG-S30-12				3.0 ±20%	30.6 ±20%	
CE	3D	170-021-975	HG-S50-12	2	φ54	12	5.0 ±20%	51.0 ±20%	3
CE	3D	170-029-728	HG-S30-21				3.0 ±20%	30.6 ±20%	
CE	3D	170-029-729	HG-S50-21	3	φ60	21.5	5.0 ±20%	51.0 ±20%	4
CE	3D	170-023-959	HG-S50-34				5.0 ±20%	51.0 ±20%	
CE	3D	170-023-960	HG-S70-34				7.0 ±20%	71.4 ±20%	
CE	3D	170-023-961	HG-S70-50	4	φ87	34	7.0 ±20%	71.4 ±20%	5
CE	3D	170-023-962	HG-S100-50				10.0 ±20%	102.0 ±20%	
CE	3D	170-029-730	HG-S50-75	5	φ103	50	7.0 ±20%	71.4 ±20%	6
CE	3D	170-029-731	HG-S70-75				10.0 ±20%	102.0 ±20%	
CE	3D	170-029-730	HG-S50-75	6	φ128	75	5.0 ±20%	51.0 ±20%	7
CE	3D	170-029-731	HG-S70-75				7.0 ±20%	71.4 ±20%	

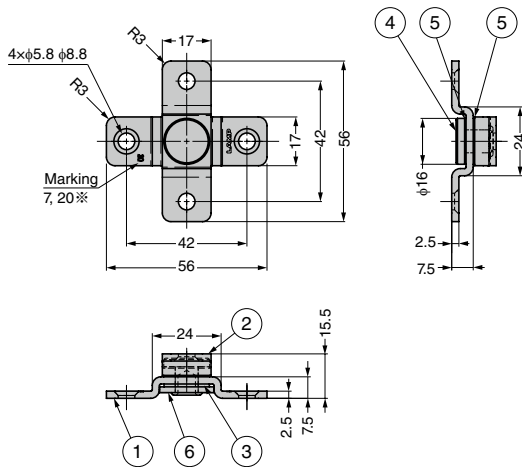


**[Application Example]**



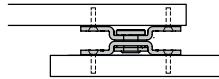
Refer to 1 : P.253, 2 : P.52, 3 : P.53, 4 : P.54

# SWIVEL TORQUE HINGE HG-S-MN Small Type



※7: HG-S7-MN, 20: HG-S20-MN.

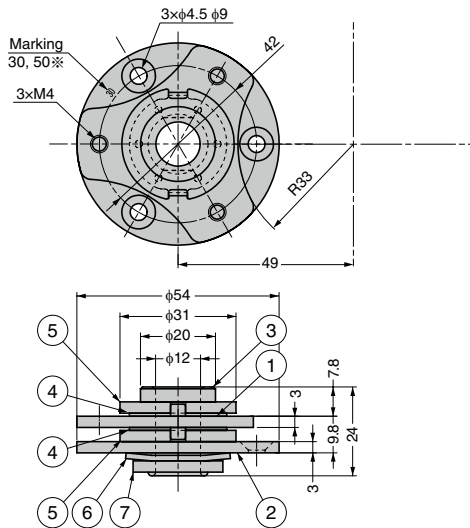
### [Installation]



No.	Part Name	Material	Finish
①	Bracket B	Stainless Steel (SUS430)	Barrel Polished
②	Bracket A		
③	F Plate	Bronze	-
④	Shaft	Stainless Steel (SUS303)	
⑤	Spring Washer	Stainless Steel	
⑥	Washer	Stainless Steel (SUS430)	Barrel Polished

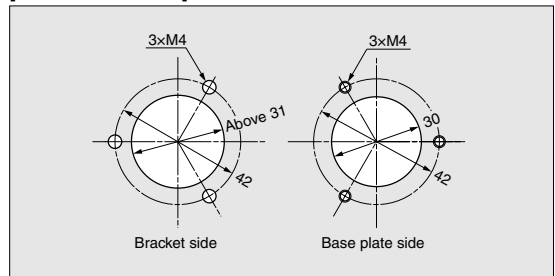
RoHS	CAD	Item Code	Item Name	Size	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
GD	SD	170-029-726	HG-S7-MN	56	0.7±20%	7.1±20%	48	25	200
GD	SD	170-029-727	HG-S20-MN		2.0±20%	20.4±20%	49	25	200

# SWIVEL TORQUE HINGE HG-S-12 Hole Dia. φ 12

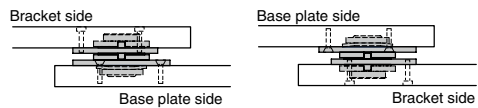


※30: HG-S30-12, 50: HG-S50-12.

### [Cut Out Dimensions]



### [Installation]



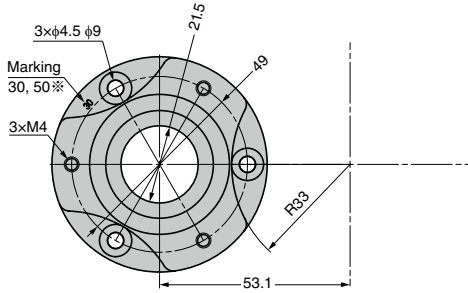
No.	Part Name	Material	Finish
①	Bracket	Stainless Steel (SUS430)	Barrel Polished
②	Base plate		
③	Sleeve	Stainless Steel (SUS303)	-
④	F Plate	Bronze	-
⑤	Washer	Stainless Steel (SUS430)	
⑥	Spring Washer	Steel	
⑦	Washer	Stainless Steel (SUS430)	-

Max. load capacity : 200N (20.4kgf)/pc

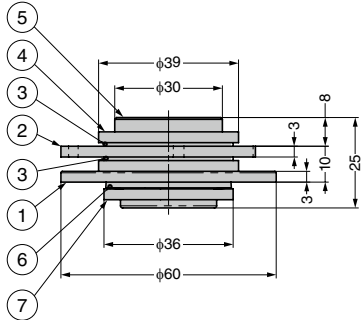
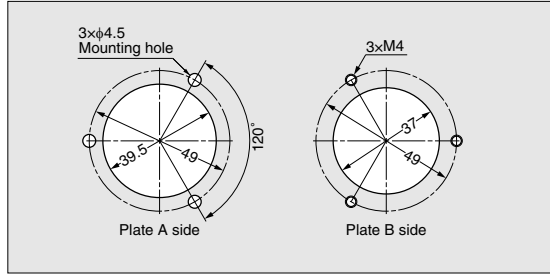
RoHS	CAD	Item Code	Item Name	Size	Hole Diameter	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
GD	SD	170-021-976	HG-S30-12	54	12	3.0±20%	30.6±20%	129	100	10
GD	SD	170-021-975	HG-S50-12			5.0±20%	51.0±20%	132	100	10



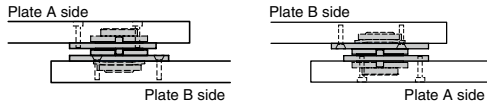
## SWIVEL TORQUE HINGE HG-S-21 Hole Dia. $\phi$ 21.5



### [Cut Out Dimensions]



### [Installation]



※ 30: HG-S30-21, 50: HG-S50-21.

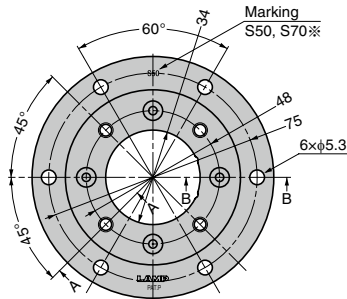
Max. load capacity : 200N (20.4kgf)/pc

No.	Part Name	Material	Finish
①	Plate B	Stainless Steel (SUS430)	Barrel Polished
②	Plate A		
③	F Plate	Bronze	Barrel Polished
④	Washer	Stainless Steel (SUS430)	Barrel Polished
⑤	Sleeve	Stainless Steel (SUS303)	Plain
⑥	Spring Washer	Stainless Steel	-
⑦	Washer	Stainless Steel (SUS430)	-

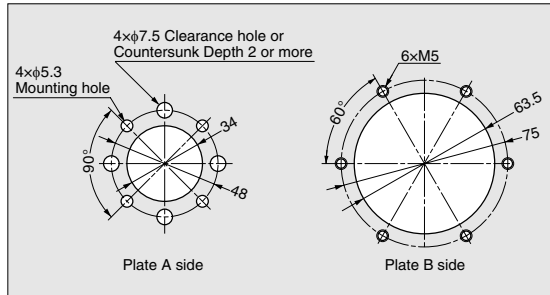
RHS	CAD	Item Code	Item Name	Size	Hole Diameter	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
		170-029-728	HG-S30-21	60	21.5	3.0 $\pm$ 20%	30.6 $\pm$ 20%	175	10	80
		170-029-729	HG-S50-21			5.0 $\pm$ 20%	51.0 $\pm$ 20%	174	10	80



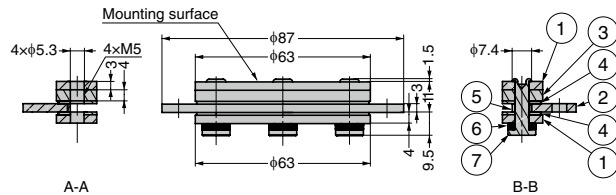
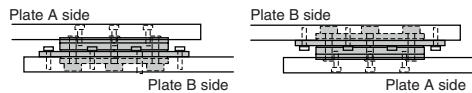
## SWIVEL TORQUE HINGE HG-S-34 Hole Dia. $\phi$ 34



### [Cut Out Dimensions]



### [Installation]



※ S50: HG-S50-34, S70: HG-S70-34.

Max. load capacity : 400N (40.8kgf)/pc

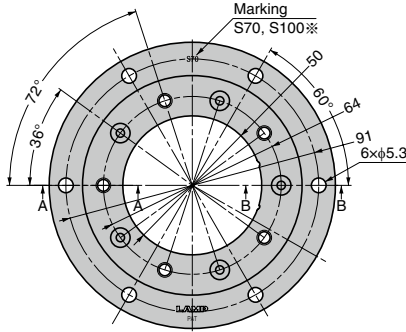
No.	Part Name	Material	Finish
①	Plate A	Stainless Steel (SUS430)	Barrel Polished
②	Plate B		
③	Plate C		
④	F Plate	Bronze	-
⑤	Bush	POM	-
⑥	Spring Washer	Stainless Steel	-
⑦	Shaft	Stainless Steel (SUS303)	-

RHS	CAD	Item Code	Item Name	Size	Hole Diameter	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
		170-023-959	HG-S50-34	87	34	5.0 $\pm$ 20%	51.0 $\pm$ 20%	280	5	40
		170-023-960	HG-S70-34			7.0 $\pm$ 20%	71.4 $\pm$ 20%	282	5	40

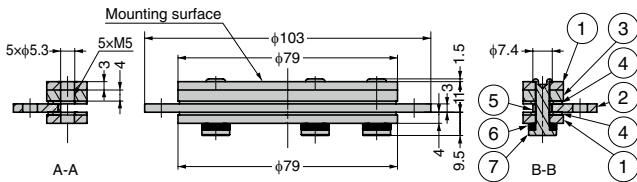
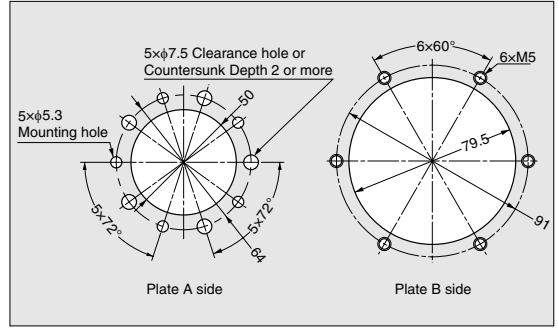


Free Stop Motion

## SWIVEL TORQUE HINGE HG-S-50 Hole Dia. $\phi$ 50



### [Cut Out Dimensions]

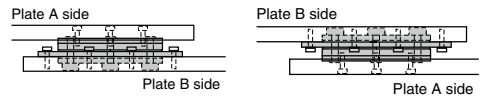


※ S70: HG-S70-50, S100: HG-S100-50.

Max. load capacity : 400N (40.8kgf)/pc

RevS	CAD	Item Code	Item Name	Size	Hole Diameter	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
G	SD	170-023-961	HG-S70-50	103	50	7.0 $\pm$ 20%	71.4 $\pm$ 20%	365	5	40
G	SD	170-023-962	HG-S100-50			10.0 $\pm$ 20%	102.0 $\pm$ 20%	371	5	40

### [Installation]



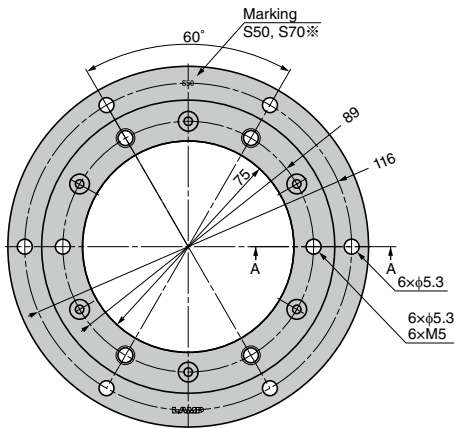
No.	Part Name	Material	Finish
①	Plate A	Stainless Steel (SUS430)	Barrel Polished
②	Plate B		
③	Plate C		
④	F Plate	Bronze	
⑤	Bush	POM	
⑥	Spring Washer	Stainless Steel	
⑦	Shaft	Stainless Steel (SUS303)	

Torque Hinges

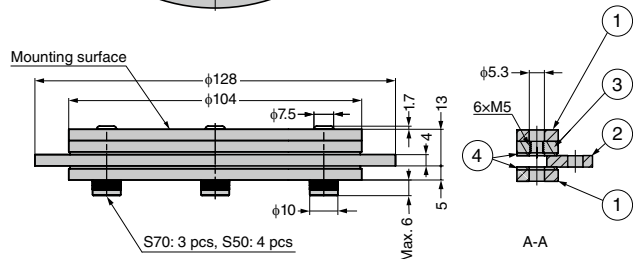
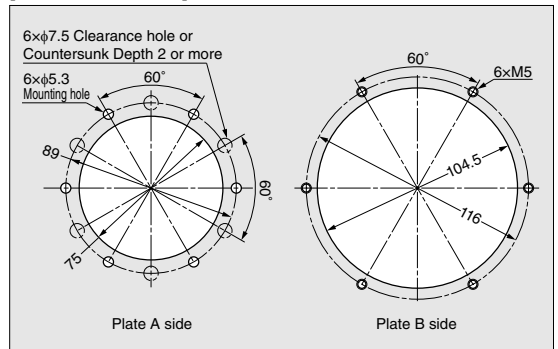
Monitor Bracket

Torque Stays

## SWIVEL TORQUE HINGE HG-S-75 Hole Dia. $\phi$ 75



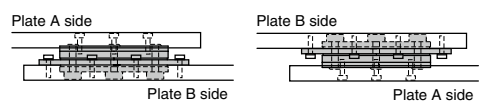
### [Cut Out Dimensions]



※ S50: HG-S50-75, S70: HG-S70-75.

RevS	CAD	Item Code	Item Name	Size	Hole Diameter	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
G	SD	170-029-730	HG-S50-75	128	75	5.0 $\pm$ 20%	51.0 $\pm$ 20%	545	5	40
G	SD	170-029-731	HG-S70-75			7.0 $\pm$ 20%	71.4 $\pm$ 20%	575	5	40

### [Installation]



No.	Part Name	Material	Finish
①	Plate A	Stainless Steel (SUS430)	Barrel Polished
②	Plate B		
③	Plate C		
④	F Plate	Bronze	

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges



# TORQUE HINGE (DUAL AXIS) HG-T70S30

Free Stop Motion



- Dual Axis: Can hold at any angle in tilt & swivel.
- Swivels 360°.
- Able to limit swivel angle and tilt angle by inserting a screw in ※1 hole and a pin in ※2 hole shown in the figure below, respectively. (The screw and pin not included)
- Limited opening and closing angle
  - : Tilting ... 0°-120°
  - : Swivelling ... ±30°, ±90°
- Provides torque stability in both directions.

**[Specifications]**

- Operating temperature: 0°C-40°C

**[Applications]**

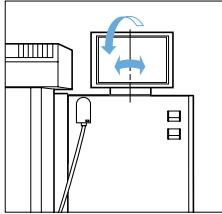
- LCD, monitoring camera, etc.

**[Remarks]**

- Be sure to read the "Cautions" 1.
- Tilt angle and swivel angle may decrease depending on the size, shape and installation method of the monitor used.
- Do not use in water splash environment.



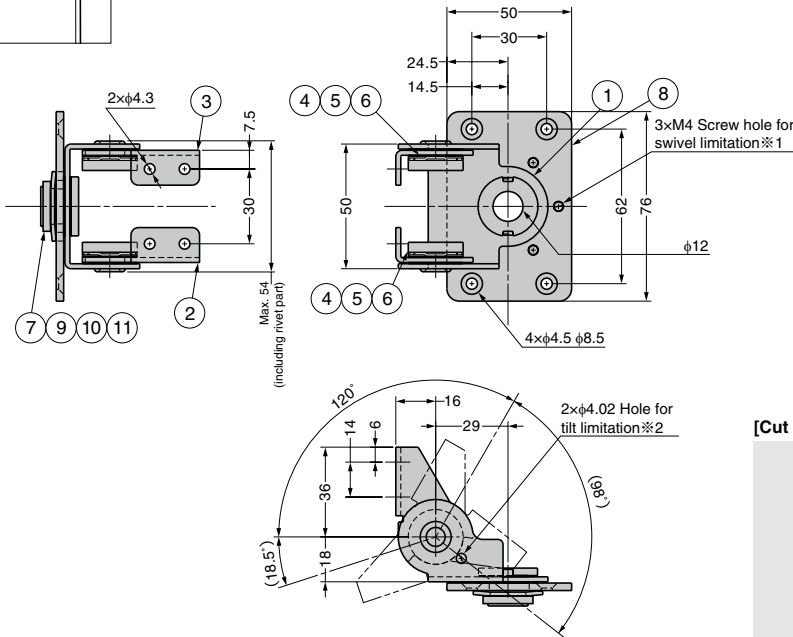
**[Application Example]**



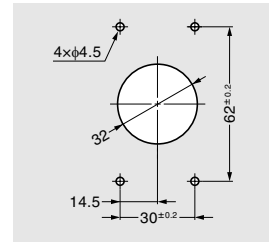
Torque Hinges

Monitor Bracket

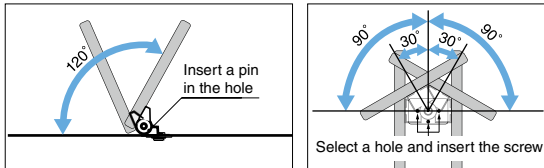
Torque Stays



**[Cut Out Dimensions]**



**[Angle Limitation]**



No.	Part Name	Material	Finish
①	Base		
②	Bracket L	Stainless Steel (SUS430)	Barrel Polished
③	Bracket R		
④	Spring Washer	Steel (SK85)	
⑤	F Plate B	Bronze	-
⑥	Shaft		
⑦	Sleeve	Stainless Steel (SUS303)	
⑧	Base plate	Stainless Steel (SUS430)	Barrel Polished
⑨	F Plate	Bronze	-
⑩	Washer	Stainless Steel (SUS430)	Barrel Polished
⑪	Spring Washer	Steel	-

RohS	CAD	Item Code	Item Name	Torque N·m/pc (Tilting)	Torque kgf·cm/pc (Tilting)	Torque N·m/pc (Swivelling)	Torque kgf·cm/pc (Swivelling)	Weight (g)	Box (pcs)	Carton (pcs)
☑	☑	170-012-419	HG-T70S30	7.0±20%	71.4±20%	3.0±20%	30.6±20%	229	5	40

Refer to 1 : P.253



Free Stop Motion

# TORQUE HINGE (DUAL AXIS) HG-T30S15



- Dual Axis: Can hold at any angle in tilt & swivel.
- Swivels 360°.
- Surface mount base provides easy installation on cabinets.
- Provides torque stability in both directions.

**[Specifications]**

- Operating temperature: 0°C~40°C

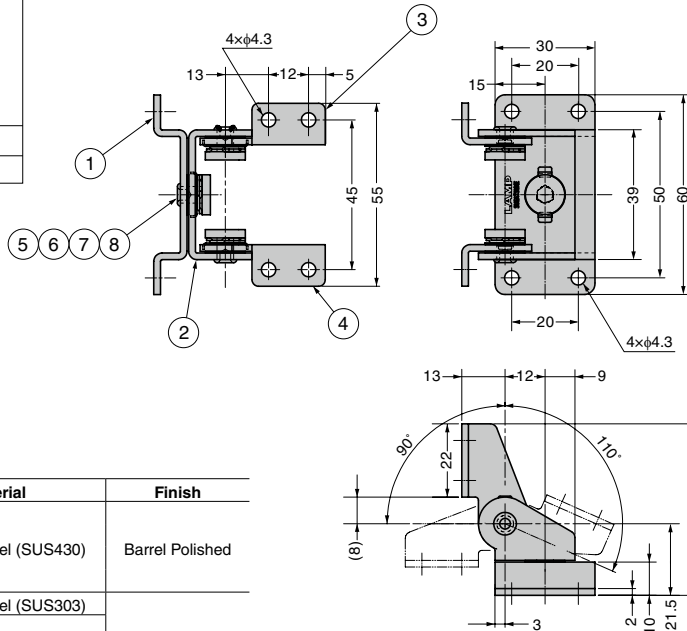
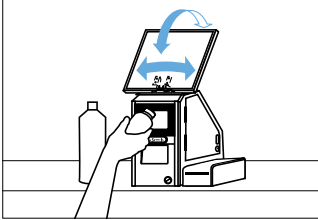
**[Applications]**

- Self-checkout machine and small monitor, etc.

**[Remarks]**

- Be sure to read the "Cautions" 1.
- Tilt angle and swivel angle may decrease depending on the size, shape and installation method of the monitor used.
- Do not use in water splash environment.

**[Application Example] Self-checkout machine**



No.	Part Name	Material	Finish
①	Base plate	Stainless Steel (SUS430)	Barrel Polished
②	Base		
③	Bracket L		
④	Bracket R		
⑤	Shaft	Stainless Steel (SUS303)	-
⑥	F Plate A	Bronze	-
⑦	F Plate B		
⑧	Spring Washer	Steel (SK)	-

RHS	CAD	Item Code	Item Name	Torque N·m/pc (Tilting)	Torque kgf·cm/pc (Tilting)	Torque N·m/pc (Swivelling)	Torque kgf·cm/pc (Swivelling)	Weight (g)	Box (pcs)	Carton (pcs)
GD	SD	170-020-826	HG-T30S15	3.0±20%	30.6±20%	1.5±20%	15.3±20%	87	12	96

Refer to 1 : P.253

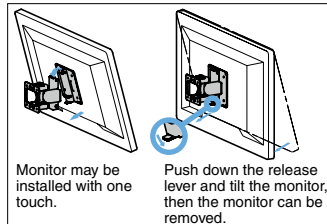
## MONITOR BRACKET DIGEST



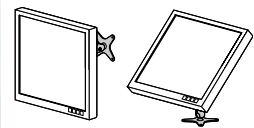
MONITOR BRACKET KA-T100S50 WITH TORQUE & AUXILIARY LOCK 1

Refer to 1 : P.57, 2 : No.280 P.198

**[How to Install and Remove Monitor]**



MONITOR BRACKET KA-150 2



KA-150

Torque Hinges

Monitor Bracket

Torque Stays

Butt Hinges

Bracket Hinges

Concealed Hinges

Swivel Hinges  
Dual Axis Hinges

# MONITOR BRACKET KA-T100S50 With Torque & Auxiliary Lock

INSTRUCTION

Free Stop Motion

Torque Hinges

Monitor Bracket

Torque Stays



- Can be quickly installed and removed.
- Free stops in a range of 180° (swivel) and 40° (tilt).
- Auxiliary lock prevents monitor from sagging due to minute vibration. Also suitable for touch screen.
- Auxiliary lock temporarily releases if a heavy load is applied when locked.
- Bracket holes based on VESA standard (75×75mm, 100×100mm).
- Applicable monitor size: 12–22.9 inch (Up to about 10.0kg)

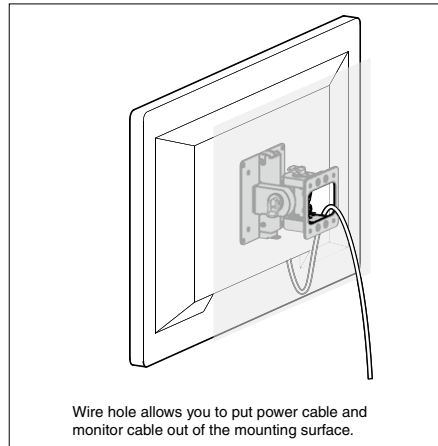
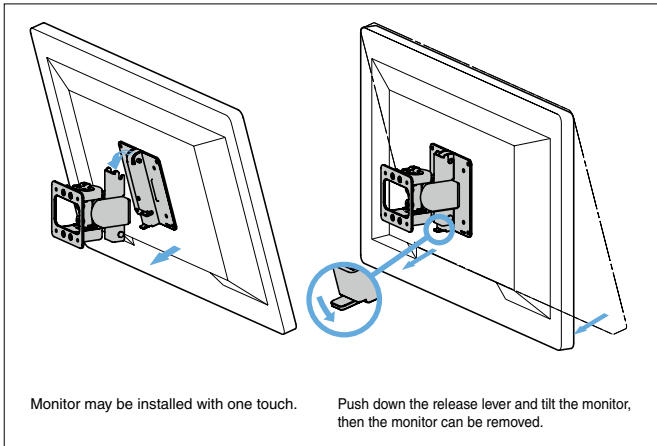
**[Applications]**

- Liquid crystal monitors for machine tools, OA equipment and medical equipment, etc.

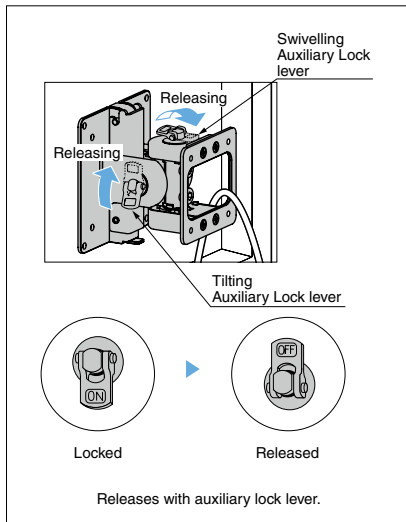
**[Remarks]**

- Do not forcibly move the monitor after applying the auxiliary lock.
- After installing the monitor, make sure that the release lever is locked.
- Do not operate continuously (repeatedly in a short time).

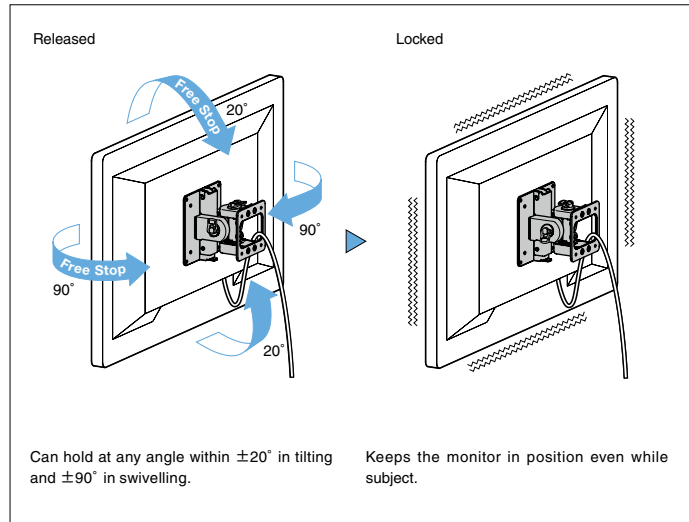
**[How to Install and Remove Monitor]**

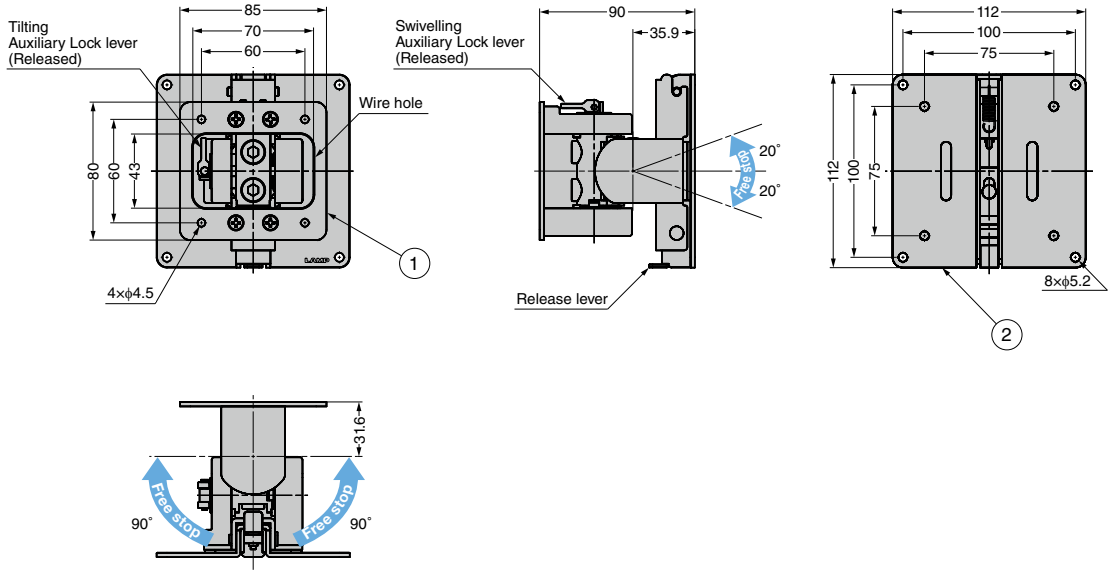


**[Auxiliary Lock Operation]**



**[How to Adjust Angle]**





No.	Part Name	Material	Finish / Colour
①	Body (Wall Side)	Steel (SPCC)/ ABS	Black
②	Base (Monitor Side)		

Torque Hinges

Monitor Bracket

Torque Stays

RoHS	CAD	Item Code	Item Name	Mounting	Torque (Tilting) N·m/pc	Torque (Tilting) kgf·cm/pc	Torque (Swivelling) N·m/pc	Torque (Swivelling) kgf·cm/pc	Weight (kg)	Box (pcs)	Carton (pcs)
CE	3D	210-033-587	KA-T100S50	Wall Mount	10.0±20%	102.0±20%	5.0±20%	51.0±20%	1	1	-

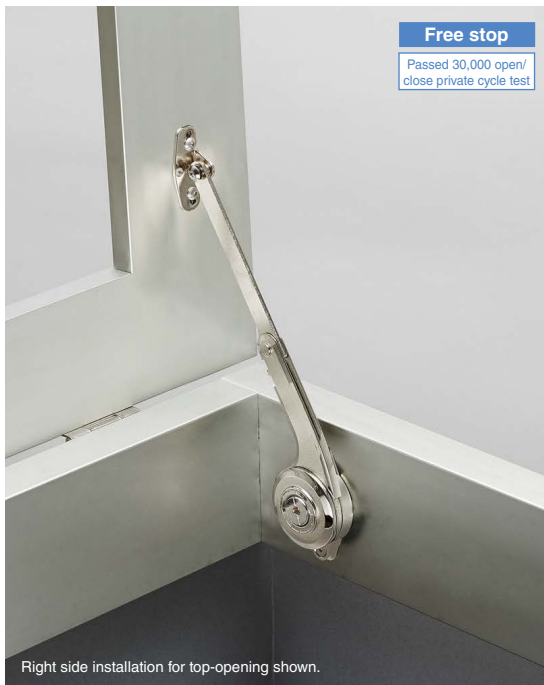


## FREE-STOP STAY (ONE WAY) S-TAR

INSTRUCTION



VIDEO



Opening Direction	Description	Torque
<p>Top-opening Downward-opening Upward-opening</p>	Free stop	0-7 N · m (0-71 kgf · cm)

- Torque stay for upward-opening, downward-opening and top-opening.
- Free stop in any position when lifting up the door.
- Friction in one direction only, provides smooth opening.
- Optional mounting plates available. (Mounting plate, mounting plate for aluminium frame, and mounting plate for glass door)
- Torque adjustable with a hex key (included).

### [Remarks]

- Be sure to read the "Cautions" **1**.
- Refer to the graph **2** for applicable doors.
- Handed: Specific left and right-handed.
- Use S-TAR-2030 for upward-opening/top-opening and S-TAR-10 for downward-opening.
- For downward-opening, when placing objects or working on the surface of opened door, install a brace or reinforcement material to support the door in addition to the stay.
- When using 2 pcs, adjust free stop mechanisms evenly. Over loosening may cause free stop function failure.
- Without soft-close function.
- Install a catch (sold separately) to keep the door closed.
- Operating temperature : 0°C~40°C
- The torque may vary depending on the temperature of the operating environment. Torque adjustment should be done at room temperature.
- If there is a reduction in the torque, please readjust it.

### Video Link



**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

### [Parts Included]

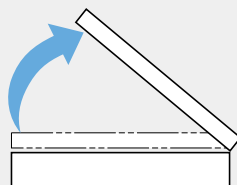
- Countersunk head tapping screw 4×20
- Binding head tapping screw 3.5×15
- Hex key 4
- Mounting plate

### [Sold Separately]

- Mounting plate **3**
- Face plate and spacer **4** for SDS glass door

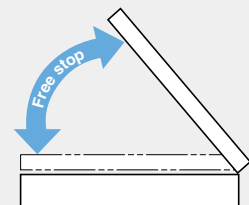
### ●One way torque

Door can be opened lightly by reducing unnecessary torque.



### ●Free stop

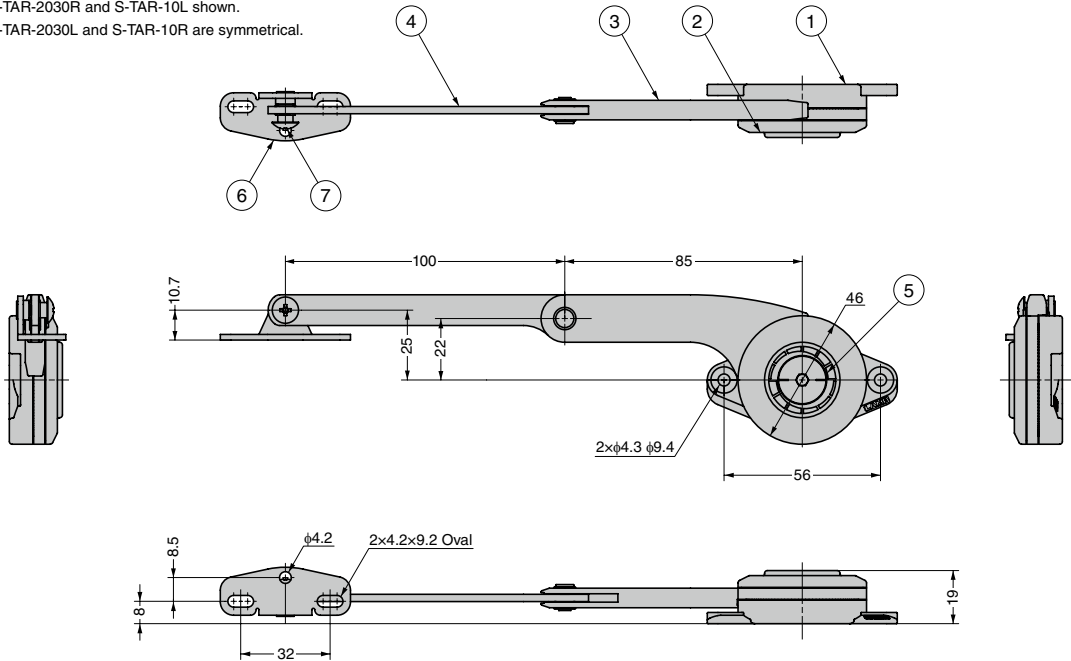
Door can be stopped in any position.



Refer to **1** : P.253 **2** : P.61-62, **3** **4** : No.280 P.267



S-TAR-2030R and S-TAR-10L shown.  
S-TAR-2030L and S-TAR-10R are symmetrical.



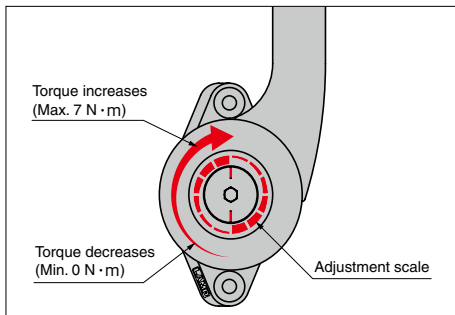
Torque Hinges

Monitor Bracket

Torque Slays

No.	Part Name	Material	Finish
①	Body	Zinc Alloy (ZDC)	Nickel
②	Cover		
③	Root Arm		
④	Tip Arm	Steel (SPCC)	
⑤	Torque Adjustment Screw	Steel	
⑥	Mounting Plate	Steel (SPCC)	
⑦	Truss Head Screw	Steel	

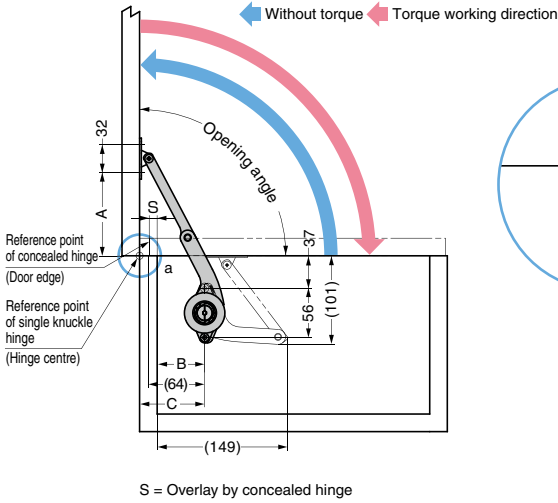
[How to Adjust Torque]



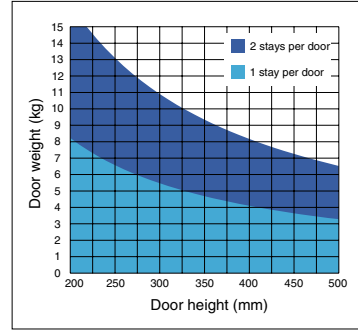
Adjustable with the supplied hex key.  
By using adjustment scale, you can easily match the left torque with the right one when using 2 pcs.



[Installation (Top-opening)] For right side board



[Door Size Ranges (Top-opening)]



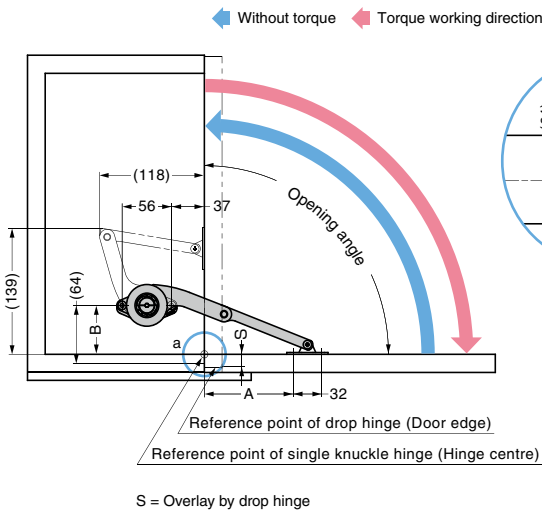
Hinge	Opening Angle	A	B	C
Concealed Hinge	70°	114	73-S	—
Concealed Hinge	90°	98	—	—
Single Knuckle Hinge	70°	115	—	77
Single Knuckle Hinge	90°	93	—	—

[Maximum Door Moment]

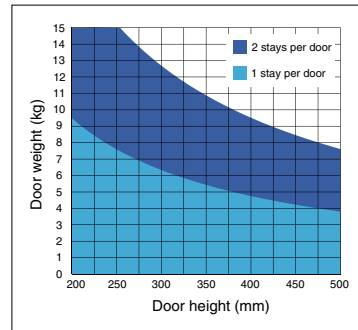
- With 1 stay  
Maximum door moment = Max. 8.1 N · m
- With 2 stays, the maximum door moment will be doubled.

Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

[Installation (Downward-opening)] For right side board



[Door Size Ranges (Downward-opening)]



Hinge	Opening angle	A	B
Drop Hinge	90°	99	70-S
Single Knuckle Hinge		100	51

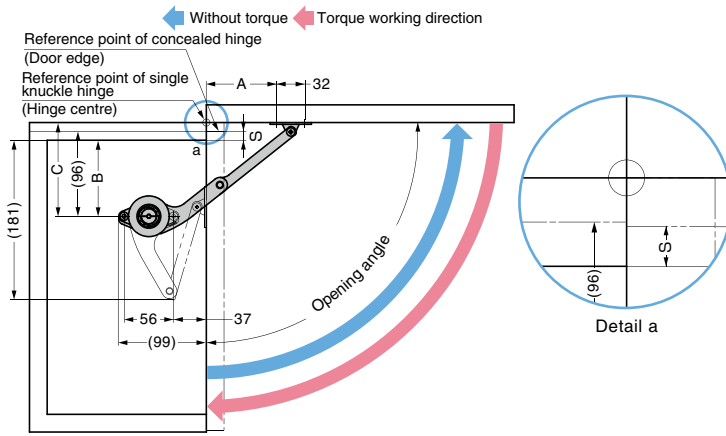
[Maximum Door Moment]

- With 1 stay  
Maximum door moment = Max. 9.3 N · m
- With 2 stays, the maximum door moment will be doubled.

Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

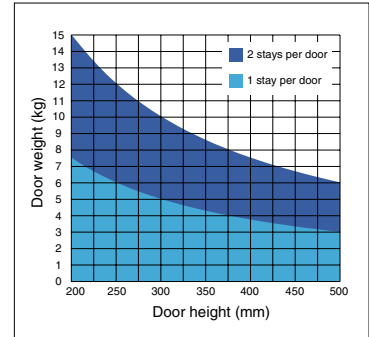


[Installation (Upward-opening)] For right side board



S = Overlay by concealed hinge

[Door Size Ranges (Upward-opening)]



Hinge	Opening Angle	A	B	C
Concealed Hinge	80°	98	105-S	-
Concealed Hinge	90°	88		
Concealed Hinge	100°	80		
Single Knuckle Hinge	80°	90	-	109
Single Knuckle Hinge	90°	77		
Single Knuckle Hinge	100°	66		

[Maximum Door Moment]

- With 1 stay  
Maximum door moment = Max. 7.4 N · m
- With 2 stays, the maximum door moment will be doubled.

Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

[Body]

RoHS	CAD	Item Code	Item Name	Torque N · m/pc	Torque kgf · cm/pc	Type	Opening Direction	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	RoHS	180-028-991	S-TAR-2030R	0-7	0-71	Right-handed	Upward-opening,	234	20	40
RoHS	RoHS	180-028-990	S-TAR-2030L			Left-handed	Top-opening			
RoHS	RoHS	180-028-993	S-TAR-10R			Right-handed	Downward-opening			
RoHS	RoHS	180-028-992	S-TAR-10L			Left-handed				

[Mounting Plate] Sold Separately 2

RoHS	CAD	Item Code	Item Name	Type	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	RoHS	180-109-460	NSDX-CZ	Clip-on	13	160	640
RoHS	RoHS	180-109-019	NSDX-AZ	Clip-on for 20 mm Aluminium Frame Door	11	320	1280
RoHS	RoHS	180-109-459	NSDX-GZ	Clip-on for Glass Door	14	160	640

[SDS Face Plate and Spacer for Glass Door] Sold Separately 1 (Please use with mounting plate NSDX-GZ.)

RoHS	CAD	Item Code	Item Name	Material	Finish/Colour	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	RoHS	180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	26	50	200
RoHS	RoHS	180-928-046	SDS-50G-BL		Black Enamel Finish	25	50	200

Refer to 1 2 : No.280 P.267

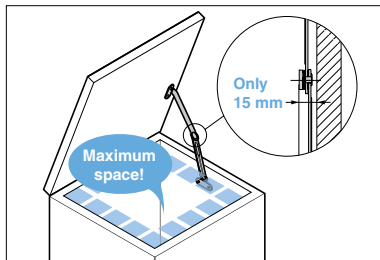
## FREE-STOP STAY S-100T30



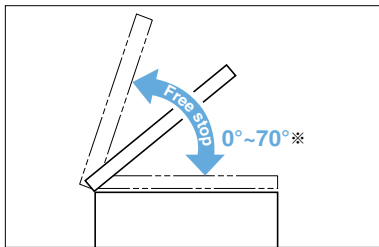
Picture above shows top-opening installation of S-100T30R (right-handed).



Picture above shows swing door installation of S-100T30R (right-handed).



Distance from the mounting surface to the disk surface of stay is only 15mm, maximising space inside of the cabinet.



※ Opening angle changes depending on installation position.  
(70° is for installation as per Fig. 1)

Opening Direction	Torque
 Top-opening Upward-opening Swing Door	$3 \pm 20\% \text{ N} \cdot \text{m/pc}$ $(30.6 \pm 20\% \text{ kgf} \cdot \text{cm/pc})$

- Disk structure that generates torque by the friction of metal plates is thin and space-saving, maximising space inside of the cabinet.

**[Remarks]**

- Do not operate continuously (repeatedly in a short time).
- Do not contact with water, oil and lubricant, etc.

**[Example Chart for the Below Installation]**

- Relations between door height and door weight for free stop are listed in the table below.
- The following table shows the values for installation as per Fig.1 and Fig. 2. For reference only.

Door height (door width for swing door)	Door Weight kg/pc	Door Weight kg/pair
200	Max. 3.9	Max. 7.8
250	Max. 3.1	Max. 6.2
300	Max. 2.6	Max. 5.2
350	Max. 2.2	Max. 4.4
400	Max. 1.9	Max. 3.8
450	Max. 1.7	Max. 3.4
500	Max. 1.5	Max. 3.0

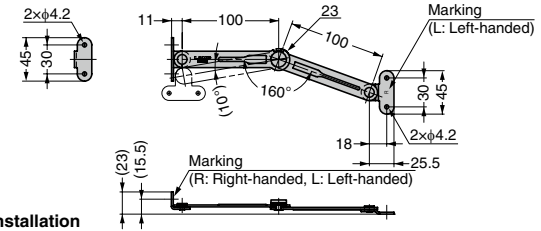
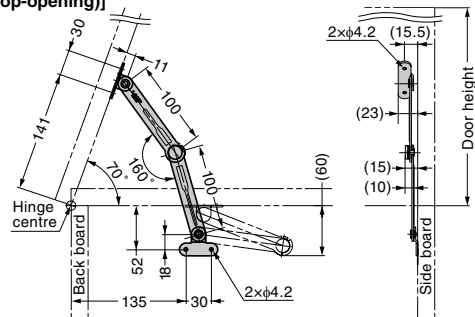
**[Right Side Installation (For Top-opening)]**

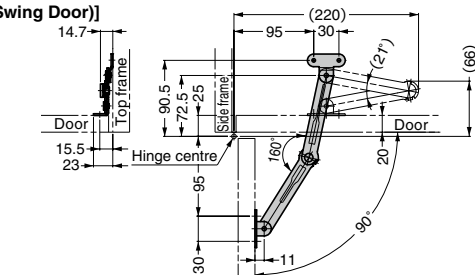
Fig. 1

**Video Link****Selection Tool**

**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!

**[Right Side Installation (For Swing Door)]**

Fig. 2



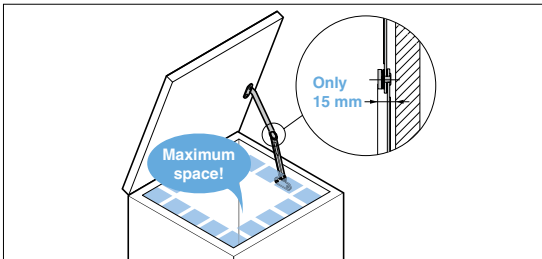
RHS	CAD	Item Code	Item Name	Type	Material	Finish	Torque N · m/pc	Torque kgf · cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
		180-011-966	S-100T30R	Right-handed	Stainless Steel	Barrel	$3 \pm 20\%$	$30.6 \pm 20\%$	100	30	120
		180-011-967	S-100T30L	Left-handed	(SUS430)	Polished				30	120



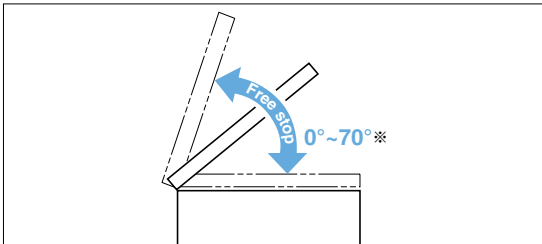
# FREE-STOP STAY S-52T15



Picture above shows top-opening installation of S-52T15R (right-handed).



Distance from the mounting surface to the disk surface of stay is only 15mm, maximising space inside of the cabinet.



※Opening angle changes depending on installation position. (70° is for installation as per Right)

Opening Direction				Torque
				$1.5 \pm 20\%$ N · m/pc $(15.3 \pm 20\%$ kgf · cm/pc)
Top-opening	Downward-opening	Upward-opening	Swing Door	

- Disk structure that generates torque by the friction of metal plates is thin and space-saving, maximising space inside of the cabinet.

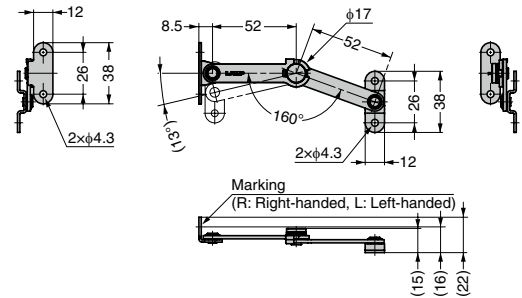
**[Remarks]**

- Do not operate continuously (repeatedly in a short time).
- Do not contact with water, oil and lubricant, etc.

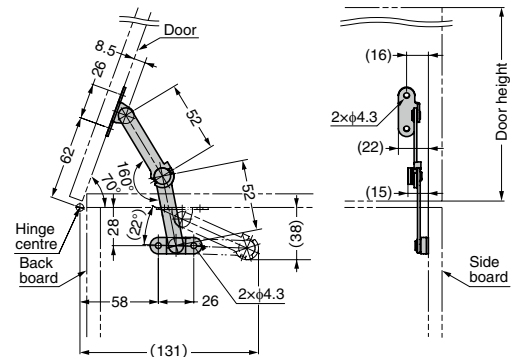
**[Example Chart for the Below Installation]**

- Relations between door height and door weight for free stop are listed in the table below.
- The following table shows the values for installation below. For reference only.

Door Height	Door Weight kg/pc	Door Weight kg/pair
200	Max. 1.8	Max. 3.6
250	Max. 1.4	Max. 2.8
300	Max. 1.2	Max. 2.4
350	Max. 1.0	Max. 2.0
400	Max. 0.9	Max. 1.8



**[Right Side Installation (For Top-opening)]**



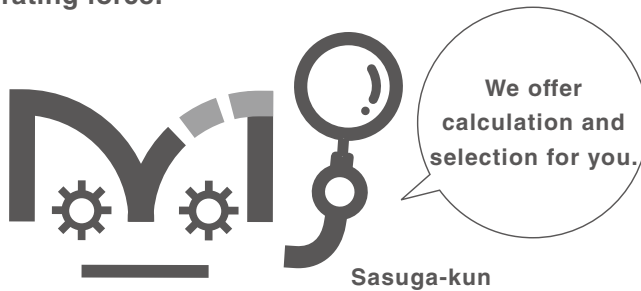
**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

RevS	CAD	Item Code	Item Name	Type	Material	Finish	Torque N · m/pc	Torque kgf · cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
G	SD	180-023-579	S-52T15R	Right-handed	Stainless Steel	Barrel	1.5 ± 20%	15.3 ± 20%	40	25	200
G	SD	180-023-580	S-52T15L	Left-handed	(SUS430)	Polished				25	200

Torque  
HingesMonitor  
BracketTorque  
Stays

## Product Selection Tool Sasuga-kun

Just inputting the dimensions and weight of the flap/door, you can select suitable Motion Design Tech products or simulate (graphically display) moment and operating force.



Sasuga-kun

Access from here

Sasuga-kun

Search

<https://contents.sugatsune.co.jp/en/motion/selection/>

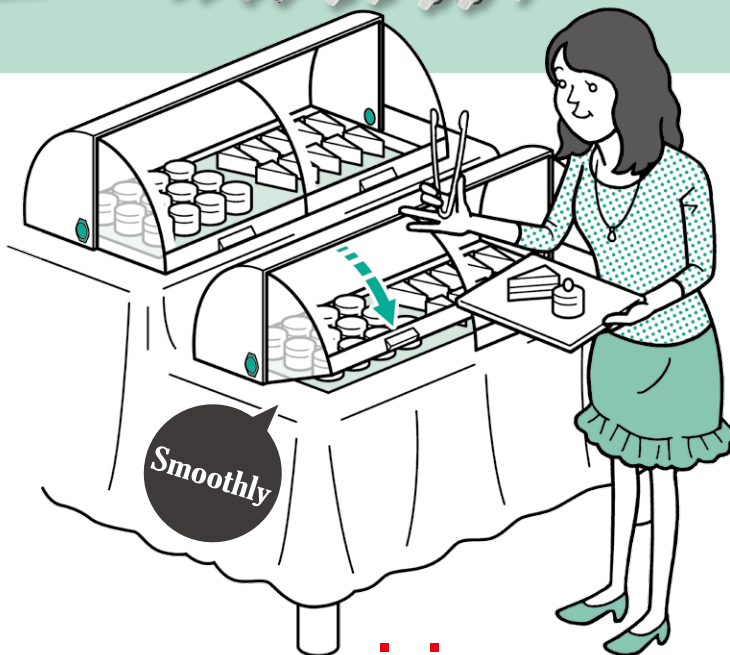
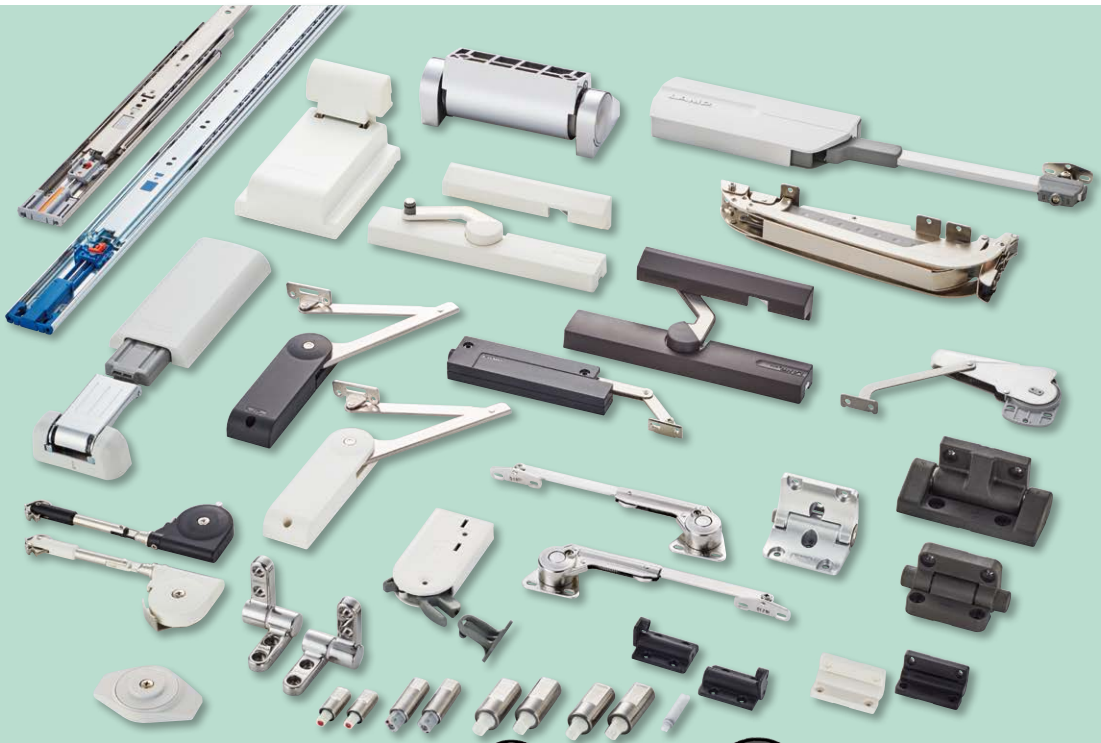




For smooth movement

# Soft Motion

Reduces the opening/closing speed of doors, lids or drawers.



# DAMPER HINGE HG-JHW, HG-JHWG



HG-JHW



HG-JHWG

- Hinge with built-in dampers UDH 1.
- AS parts set for installing to aluminium frame also available. 2

**[Applications]**

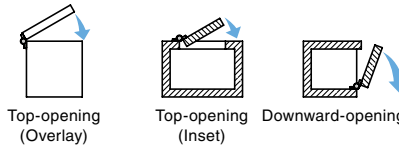
- Top-opening lids and upper covers of various cabinets.

**[Remarks]**

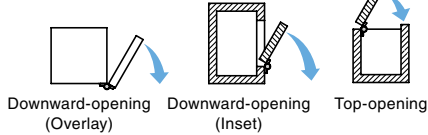
- Be sure to read the "Cautions" 3.
- Install a stopper such as a stay at the lid opening/closing position (0-115 degree or less) for not exceeding the specified swivelling range.
- When installing, ensure that both hinge shafts are levelled and aligned.

**[Damper Working Direction]**

HG-JHW



HG-JHWG



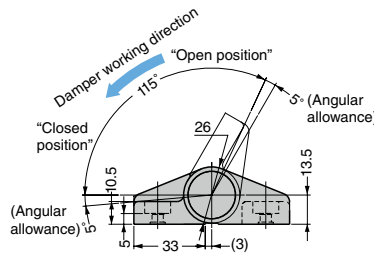
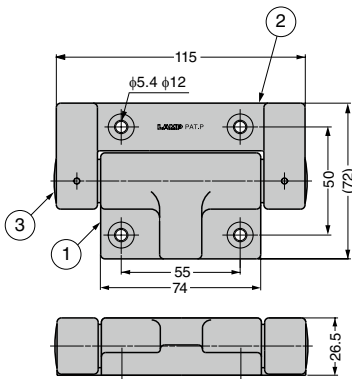
Video Link



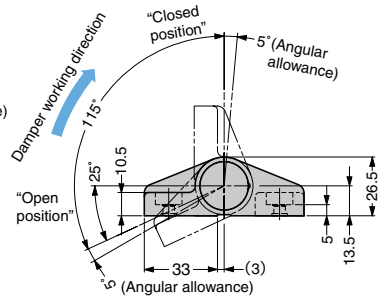
Selection Tool

Sasuga-kun  
Applicable Products

Used for Product Selection & Simulation.  
Available on Web!



HG-JHW



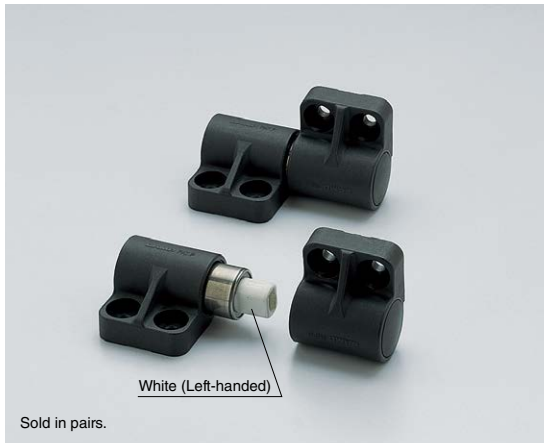
HG-JHWG

No.	Part Name	Material	Finish / Colour
①	Bracket	PBT	Emboss/Dark Grey
②	Damper		
③	Cover	PP	

RHS	CAD	Item Code	Item Name	Damper Working Direction	Torque N·m/pc	Torque kgf·cm/pc	Marking Colour	Weight (g)	Box (pcs)	Carton (pcs)
		170-092-212	HG-JHW50	For Closing	3-5	30.6-51	White	184	4	64
		170-092-211	HG-JHW70		5-7	51-71.4	w/o	182	4	64
		170-092-215	HG-JHW50G	For Opening	3-5	30.6-51	White, Red	216	4	64
		170-092-216	HG-JHW70G		5-7	51-71.4	Red	180	4	64

Refer to 1 : P.83, 2 : No.280 P.51, 3 : P.253

# DAMPER HINGE HG-JH



- Hinge with built-in dampers hinge UDH 1.
- Smooth movement in the opening direction.
- Left-handed...Damper works when rotating counterclockwise.
- Right-handed...Damper works when rotating clockwise.
- AS parts set for installing to aluminium frame also available. 2

**[Applications]**

- Top-opening lids and upper covers of various cabinets.

**[Remarks]**

- Be sure to read the "Cautions" 3.
- Torque range is the value when using two hinges for one door.
- Install a stopper such as a stay at the lid opening/closing position (0-115 degree or less) for not exceeding the specified rotation range.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Sold in pairs.

**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

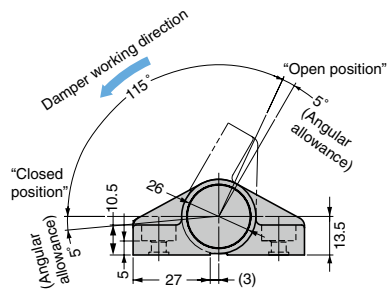
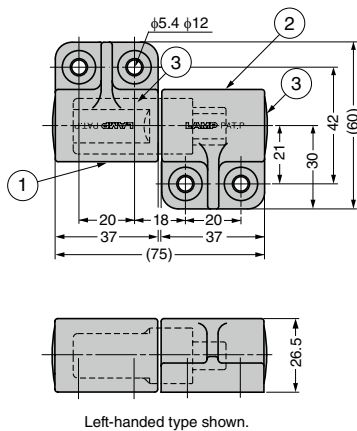
Soft Close Slides

Recessed Hooks

**[Installation]**



When viewing door from lower side as shown above, install the left-handed type damper (white) on the left side and the right-handed type (grey) on the right side.



No.	Part Name	Material	Finish / Colour
①	Bracket	PBT	Emboss/Dark Grey
②	Damper		
③	Cap	PP	

RoHS	CAD	Item Code	Item Name	Torque N·m/pair	Torque kgf·cm/pair	Marking Colour (Base Side)	Weight (g)	Box (pairs)	Carton (pairs)
		170-092-209	HG-JH25	3-5	30.6-51	Blue	200	4	64
		170-092-210	HG-JH35	5-7	51-71.4	Red	193	4	64

Refer to 1 : P.83, 2 : No.280 P.53, 3 : P.253

# DAMPER HINGE HG-JHW16S



- Surface mount type with built-in damper UDH-16S 1.
- Covers various torque ranges by using "with damper" and "without damper" as a pair.

**[Specifications]**

- Operating temperature: 0°C~40°C

**[Applications]**

- Top-opening lids and upper covers of various cabinets

**[Remarks]**

- Be sure to read the "Cautions" 2.
- Torque range is the value when using one hinge (when two hinges with identical torque is used for one lid, the value is doubled).
- Install a stopper such as a stay at the lid opening/closing position (0~120 degree or less) for not exceeding the specified swivelling range.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Do not disassemble or modify the product.

**[Recommended Screws]**

- M5 hexagon socket head cap screws (4 pcs)
- Washers 5 (4 pcs)

**Video Link**



**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

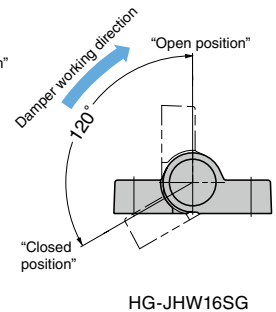
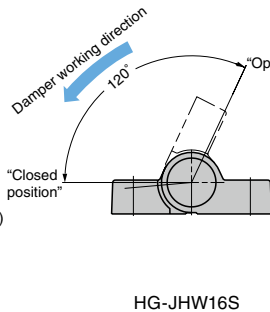
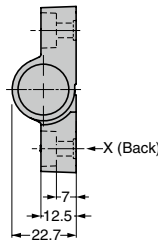
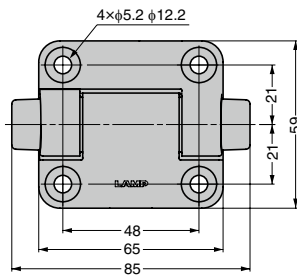
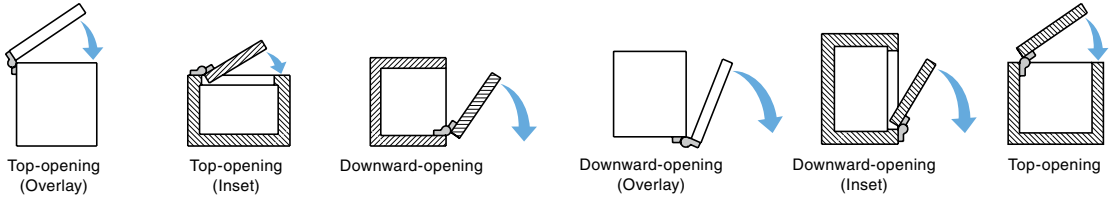
Soft Close Slides

Recessed Hooks

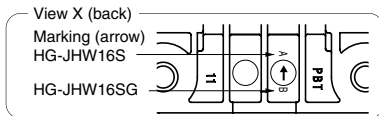
**[Damper Working Direction]**

HG-JHW16S

HG-JHW16SG



※"Opening" and "Closing" directions shown above are for the case of external installation.



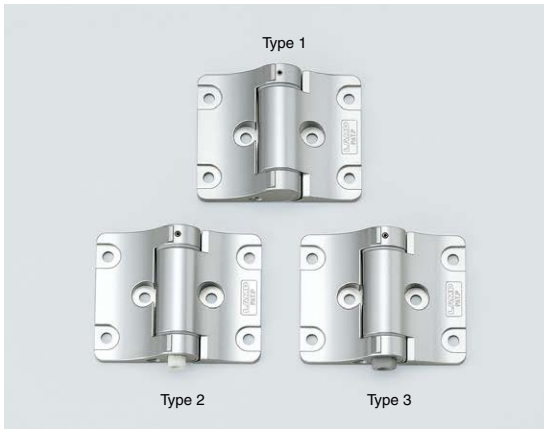
Material	Finish / Colour
PBT	Emboss/Dark Grey

R#HS	CAD	Item Code	Item Name	Damper Working Direction (When External Installation)	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)
G	BD	170-027-420	HG-JHW16S-34	For Closing	2.0~3.4	20.4~34.7	83	30
G	BD	170-027-421	HG-JHW16S-50		3.4~5.0	34.7~51.0		30
G	BD	170-027-422	HG-JHW16S-34G	For Opening	2.0~3.4	20.4~34.7		30
G	BD	170-027-423	HG-JHW16S-50G		3.4~5.0	34.7~51.0		30
G	BD	170-027-419	HG-JHW16S-00	Without Damper	—	—	52	30

Refer to 1 : P.84, 2 : P.253



# DETENT HINGE HG-CSH63 With Damper



- Detent at both 0° and 100°.
- Also available without damper type.
- Damper works clockwise or counterclockwise.

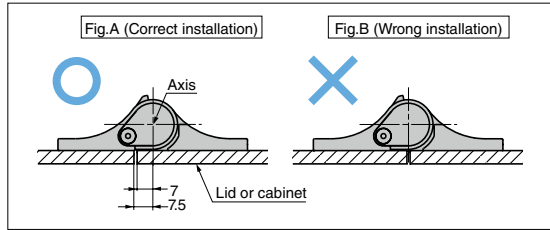
**[Applications]**

- Carrying box of motorcycle courier, etc.

**[Remarks]**

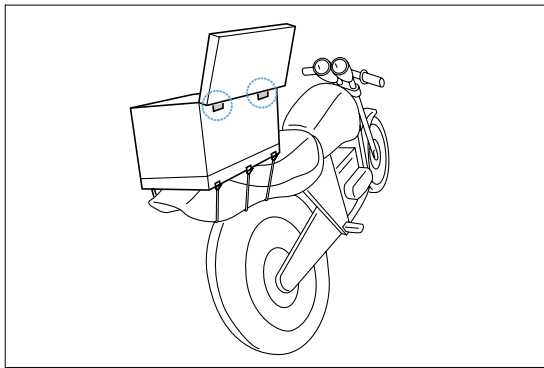
- Be sure to read the "Cautions" 1.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Torque not adjustable.

**[Installation]**



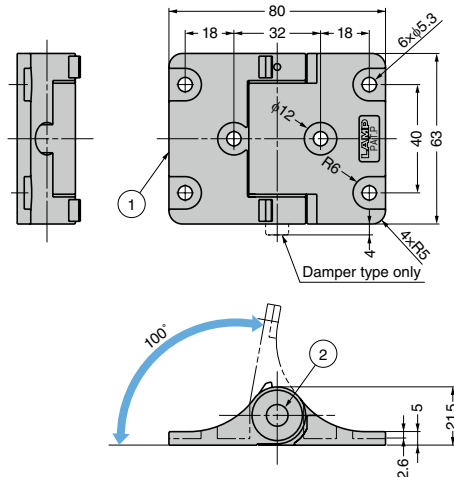
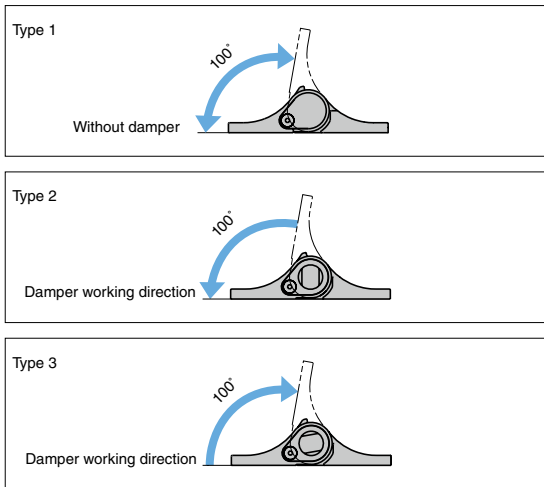
As shown in Fig. A, shift the axis of hinge and the edge of lid or cabinet.

**[Installation]**



**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**[Types]**



No.	Part Name	Material	Finish / Colour
①	Body	Aluminium Alloy	Silver Enamel Finish
②	Shaft · Spring	Stainless Steel (SUS304)	-

RohS	CAD	Item Code	Item Name	Type	Torque N·m/pc	Torque kgf·cm/pc	Retaining Torque N·m/pc	Retaining Torque kgf·cm/pc	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
☑	☑	170-090-044	HG-CSH63	1 (Without Damper)	-	-				98.7	10	120
☑	☑	170-090-109	HG-CSH63AM	2	1~1.7	10.2~17.3	0.98	10	100°	114.3	10	120
☑	☑	170-090-108	HG-CSH63AH		1.7~2.5	17.3~25.5						
☑	☑	170-090-111	HG-CSH63BM	3	1~1.7	10.2~17.3	0.98	10	100°	114.3	10	120
☑	☑	170-090-110	HG-CSH63BH		1.7~2.5	17.3~25.5						

Refer to 1 : P.253

**DISK DAMPER UDD®**



Soft Motion



- Keeps lids/doors from slamming shut.
- Simple design does not affect cabinet appearance.
- Choose from 3 torques according to door size.
- Ideal for food showcase, etc.

**[Specifications]**

- Operating temperature: 5°C~35°C

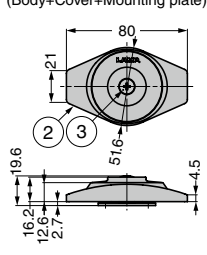
**[Remarks]**

- Spacer or L-shaped bracket may be required depending on the shape of display.
- Customer should provide spacer according to board thickness in the application below.
- Use types (S, M, H) with identical torque on the left and right sides.
- Use indoors.
- Do not use impact screwdriver for mounting.
- Do not use in water splash environment.
- Use 2 pcs in one set.

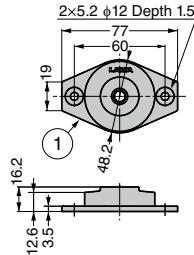
**Video Link**

**Selection Tool**  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

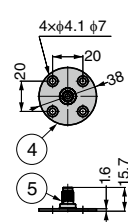
**[Assembled State]**  
(Body+Cover+Mounting plate)



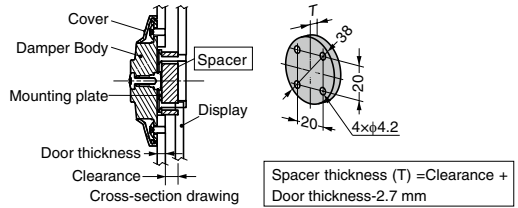
**[Damper Body]**



**[Mounting Plate]**

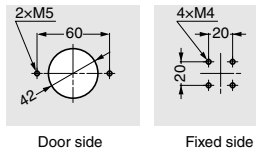


**[Spacer]**

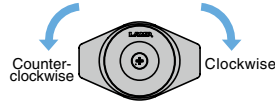


No.	Part Name	Material	Finish / Colour
①	Damper Body	-	-
②	Cover	ABS	Emboss/Light Grey
③	Screw	Steel	Nickel
④	Mounting Plate		Zinc Chromate
⑤	Shaft		

**[Cut Out Dimensions]**

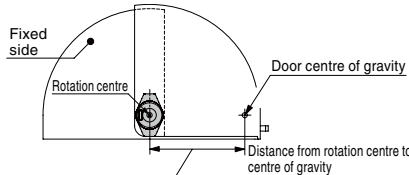


**[Damper Working Direction]**



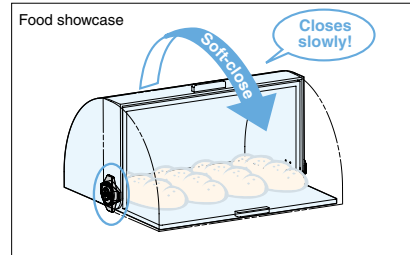
**[Selection of Damper]**

Choose from 3 types according to door moment.  
 Max. door moment = Door weight kg × 9.80665 × Distance from rotation centre to centre of gravity (m)

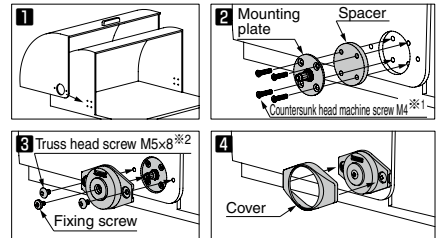


Door Moment	Type	Qty
1.0~2.0 N·m	S	2 pcs
2.0~4.0 N·m	M	2 pcs
4.0~6.0 N·m	H	2 pcs

**[Application Example]**



**[How to Install]**



※1, ※2 screws not included.  
 In case of wooden display, please prepare countersunk head tapping screw 3.5 for ※1, and truss head tapping screw 5x12 for ※2.

RoHS	CAD	Item Code	Item Name	Damper Working Direction	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	3D	180-022-306	UDD-S-L	Counterclockwise	0.5~1.0	5.1~10.2	90	20	20
RoHS	3D	180-022-307	UDD-S-R	Clockwise				20	20
RoHS	3D	180-022-308	UDD-M-L	Counterclockwise	1.0~2.0	10.2~20.4		20	20
RoHS	3D	180-022-309	UDD-M-R	Clockwise				20	20
RoHS	3D	180-022-310	UDD-H-L	Counterclockwise	2.0~3.0	20.4~30.6		20	20
RoHS	3D	180-022-311	UDD-H-R	Clockwise				20	20

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

# DAMPER HINGE HG-JHM20



INSTRUCTION



Sold in pairs.

W/ black cover



Sold in pairs.

W/ white cover

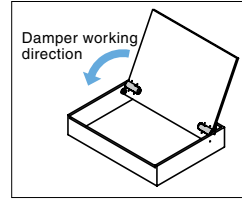
- Hinge with built-in dampers UDH 1.
- Smooth movement in the opening direction.
- Mortise mount type.
- Easy to cut out with a router.
- Cover hides mounting screws for clean appearance.

**[Remarks]**

- Be sure to read the "Cautions" 2.
- Sold in pairs.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Damper mechanism works when opening the lid by about 60° or more.

**[Parts Included]**

- Countersunk head tapping screw 4×20 (For wooden door)



Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

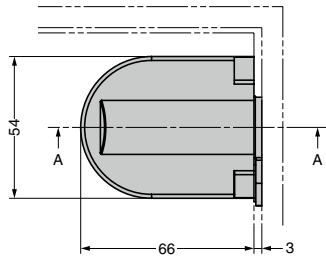
Soft Close Slides

Recessed Hooks

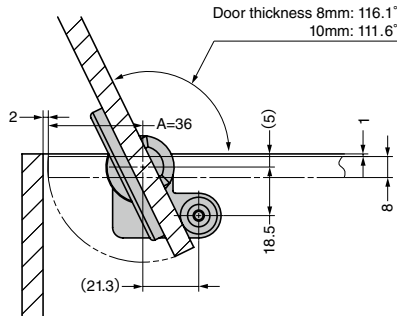
**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**Video Link**

**[Top View]**



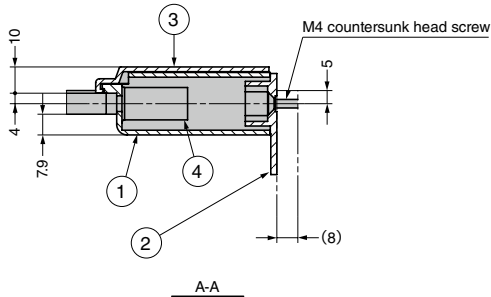
**[Installation]**



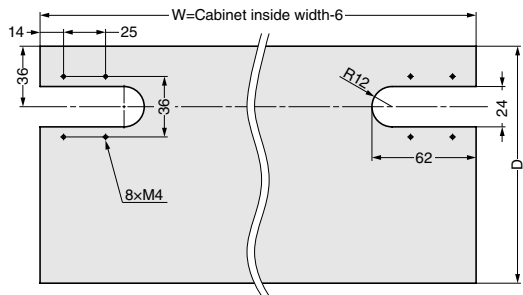
※ If the distance from the screw hole to the edge is 5mm, a level difference of 1mm is generated.

※ Min. door thickness 8mm

**[Cross-section Drawing]**



**[Cut Out Dimensions]**



No.	Part Name	Material	Finish / Colour
①	Body	POM	Black
②	Bracket	Aluminium Alloy (ADC)	Black Enamel Finish
③	Cover	ABS	Black/White
④	Damper	-	-

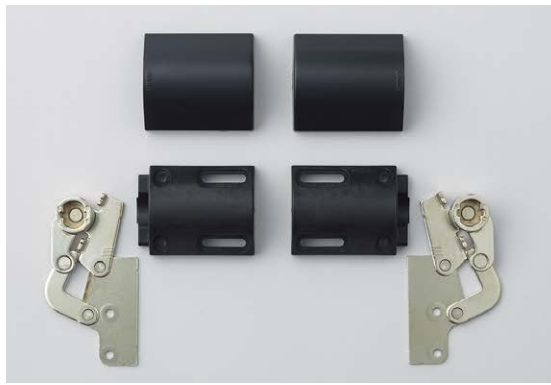
RoHS	CAD	Item Code	Item Name	Colour	Torque N·m/pair	Torque kgf·cm/pair	Marking Colour (Base Side)	Weight (g)	Box (pairs)	Carton (pairs)
GD	BD	170-012-854	HG-JHM20-80BL	Black	6-8	61.2-81.6	Yellow	206	-	-
GD	BD	170-012-855	HG-JHM20-80WT	White				206	-	-

Refer to 1 : P.83, 2 : P.253

# DAMPER HINGE HG-JHM20T Surface Mount Type



Soft Motion



W/ black cover

Sold in pairs.



W/ white cover



Assembly example

- Newly-added surface mount type: Easy to install without the need of recessing.
- Hinge with built-in damper UDH 1.
- Soft-close and smooth-open features.
- For Inset Lid.
- Cover hides mounting screws.

**[Remarks]**

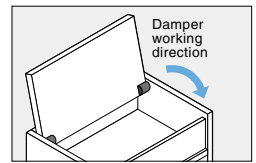
- Sold in pairs.
- Below torque range is the value when using a pair of hinges (left and right) per lid.
- Be sure to read the "Cautions" 2.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Damper mechanism works when opening the top-opening lid by about 60° or more. Otherwise, the damper may not work.

**[Parts Included]**

- Hinge plate mounting screws: binding head tapping screw 3.5 x 14 (nickel) 4 pcs
- Bracket mounting screws: binding head tapping screw 3.5 x 20 (nickel) 8 pcs

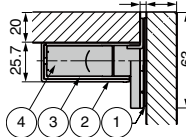
Chrome finished cover

No.	Part Name	Material	Finish/Colour
①	Hinge Plate	Steel (SPCC)/Zinc Alloy (ZDC)	Nickel
②	Bracket	POM	Black
③	Cover	ABS	Black/White/Chrome
④	Damper	-	Bearing: Right-handed: Grey, Left-handed: Natural

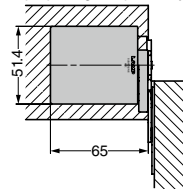


**[Front View]**

Top-opening lid closed



Top-opening lid opened by 90°

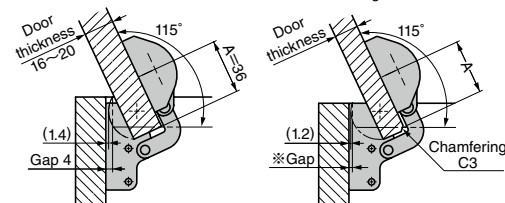


※ Right-handed type shown. Left-handed type is symmetrical.

**[Installation]**

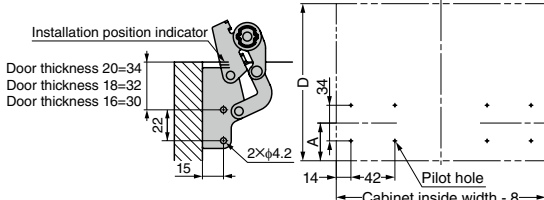
Standard

Chamfered lid edge



※ Gap is decreased compared with standard when chamfered.

**[Hinge Plate Installation Position] [Cut Out Dimensions]**



**■ Calculation of maximum door moment (for homogeneous material)**

$$T = m \times 9.80665 \times L \times \frac{1}{1000}$$

$T$ : Max. door torque (N · m)  
 $m$ : Door weight (kg)  
 $L$ : Distance from rotation centre to door centre of gravity (mm)  
 $L = \frac{D}{2} - A + 20$  ※  
 $D$ : Door length (mm)  
 $A$ : Bracket installation dimension (mm) (The range of A is about 36mm ~38mm)  
 ※ (Formula for assuming that the centre of gravity is in the centre of door)

※ For heterogeneous door (e.g., attached with a mirror), please refer to our website > Selection Tool Sasuga-kun > "What is the centre of gravity? What is moment?" page.

Door thickness	Standard		Chamfered Lid Edge	
	Size A	Gap	Size A	Gap
16	36	4	38	2
18			37	3
20			-	-

**[Door Weight Selection]**

Door Length (D)	Door Weight (m)
250	5.61~7.48 kg
300	4.57~6.09 kg
350	3.85~5.13 kg
400	3.33~4.43 kg
450	2.93~3.90 kg

**Selection Tool**  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**Video Link**

RHS	CAD	Item Code	Item Name	Finish/Colour	Torque N·m/pair	Torque kgf·cm/pair	Marking Colour (Base Side)	Weight (g)	Box (pairs)	Carton (pairs)
		170-036-328	HG-JHM20T-80BL	Black	6~8	61.2~81.6	Yellow	-	-	-
		170-036-329	HG-JHM20T-80WT	White				-	-	-
		170-036-839	HG-JHM20T-80CR	Chrome				-	-	-

Refer to 1 : P83, 2 : P253

Damper Hinges

Soft Closing Stays

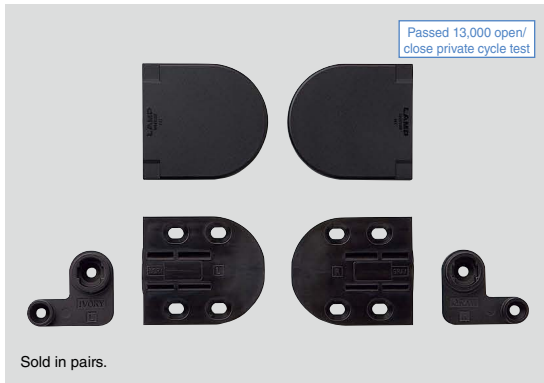
Door Dampers

Brackets & Shelving Systems

Soft Close Slides

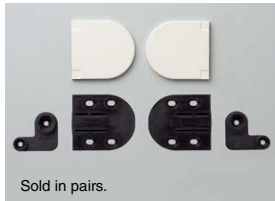
Recessed Hooks

# DAMPER HINGE HG-JHM16



Sold in pairs.

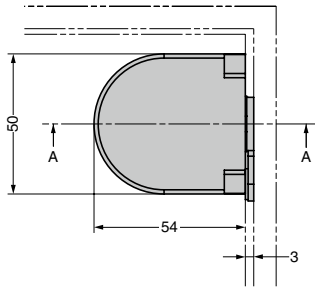
W/ black cover



Sold in pairs.

W/ white cover

[Top View]



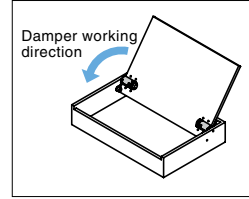
- Hinge with built-in damper UDH-16 1
- Smooth movement in the opening direction.
- Mortise mount type.
- Easy to cut out with a router.
- Cover hides mounting screws for clean appearance.

[Remarks]

- Be sure to read the "Cautions" 2
- Sold in pairs.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Damper mechanism works when opening the lid by about 60° or more.

[Parts Included]

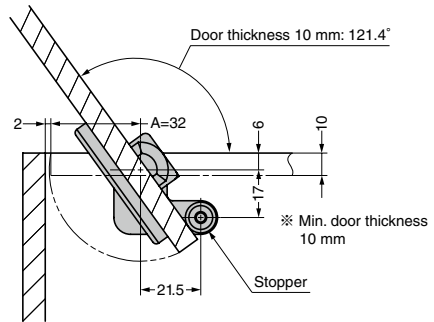
- Countersunk head tapping screw 4×20 (For wooden door)



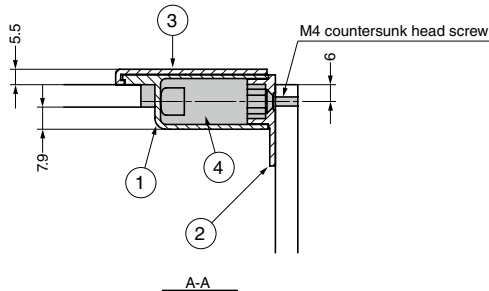
**S**election Tool  
**Sasuga-kun**  
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Video Link

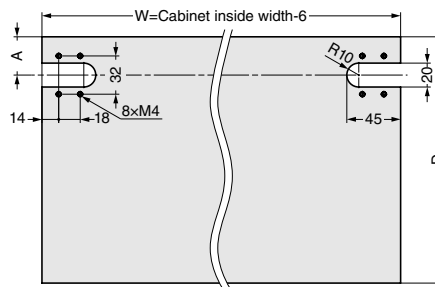
[Installation]



[Cross-section Drawing]



[Cut Out Dimensions]



No.	Part Name	Material	Finish / Colour
①	Body	POM	Black
②	Bracket	Aluminium Alloy (ADC)	Black Enamel Finish
③	Cover	ABS	Black/White
④	Damper	-	-

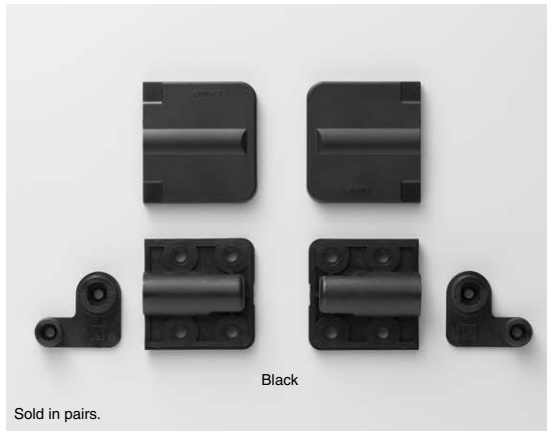
RdHS	CAD	Item Code	Item Name	Colour	Torque N·m/pair	Torque kgf·cm/pair	Marking Colour (Base Side)	Weight (g)	Box (pairs)	Carton (pairs)
		170-092-221	HG-JHM16-34BL	Black	2~3.4	20.4~34.7	Green	126	-	-
		170-092-222	HG-JHM16-34WT	White				126	-	-
		170-092-223	HG-JHM16-50BL	Black	3.4~5	34.7~51	Black	126	-	-
		170-092-224	HG-JHM16-50WT	White				126	-	-

Refer to 1 : P84, 2 : P253

# DAMPER HINGE HG-JHM14



Soft Motion



- Hinge with built-in damper UDH-14 1.
- Smooth movement in the opening direction.
- Cover hides mounting screws for clean appearance.
- Easy to cut out with a router.

**[Specification]**

- Operating temperature: 0°C~40°C

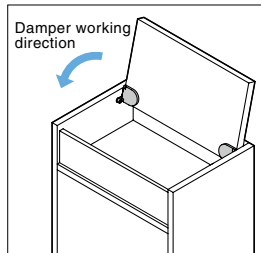
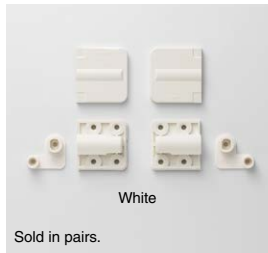
**[Remarks]**

- Be sure to read the "Cautions" 2.
- The installation example in the Manual Instruction is for wooden lid.
- Sold in pairs.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Damper mechanism works when opening the lid by about 60° or more.

**[Sold Separately]**

- Bracket for under mount (UKZ14) also available 3.

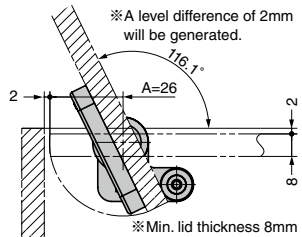
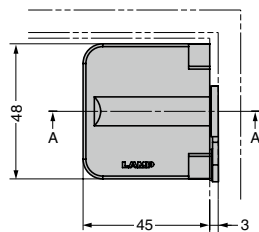
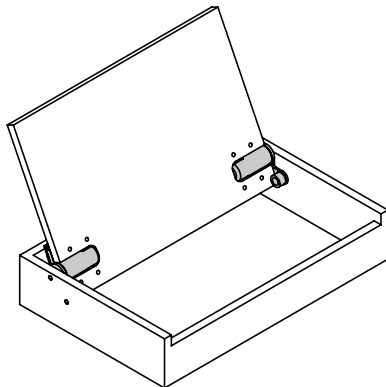
**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!



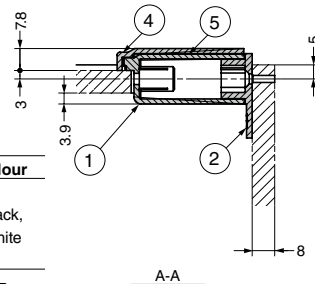
## Side Mount Type

**[Top View]**

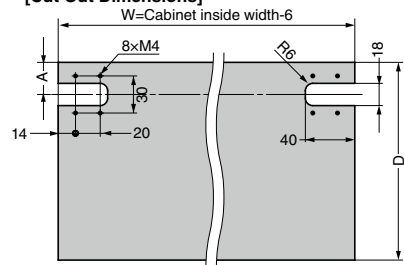
**[Installation]**



**[Cross-section Drawing]**



**[Cut Out Dimensions]**



No.	Part Name	Material	Colour
①	Body	POM	Black, White
②	Bracket for side mount R	Reinforced PBT	
③	Bracket for side mount L	PBT	
④	Cover	ABS	
⑤	Damper	-	-

RHS	CAD	Item Code	Item Name	Colour	Torque N·m/pair	Torque kgf·cm/pair	Marking Colour	Opening Angle	Weight (g)	Box (pairs)	Carton (pairs)
		170-031-930	HG-JHM14-S-8BL	Black	0.5~0.8	5.1~8.2	Purple	105°	51.4	20	220
		170-031-931	HG-JHM14-S-8WT	White					51.4	20	220
		170-031-932	HG-JHM14-S-15BL	Black	0.8~1.5	8.2~15.3	Blue		51.4	20	220
		170-031-933	HG-JHM14-S-15WT	White					51.4	20	220
		170-031-934	HG-JHM14-S-20BL	Black	1.5~2	15.3~20.4	Green		51.4	20	220
		170-031-935	HG-JHM14-S-20WT	White					51.4	20	220

Refer to 1 : P.85, 2 : P.253, 3 : P.77

Damper Hinges

Soft Closing Stays

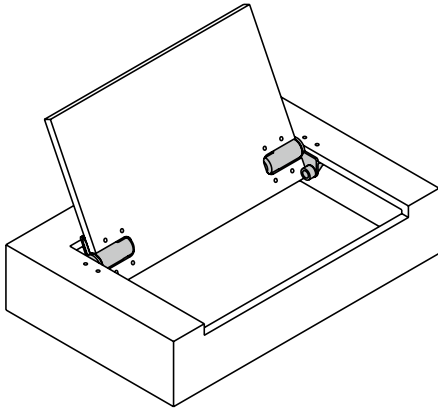
Door Dampers

Brackets & Shelving Systems

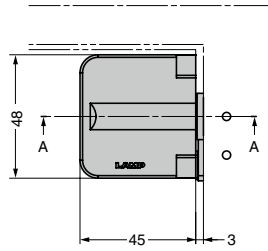
Soft Close Slides

Recessed Hooks

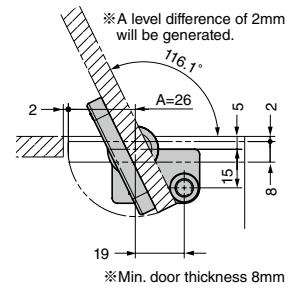
■ Under Mount Type (optional bracket 1 for under mount is required)



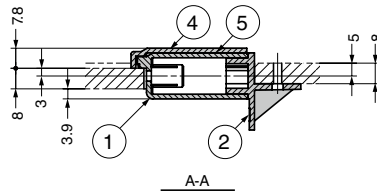
[Top View]



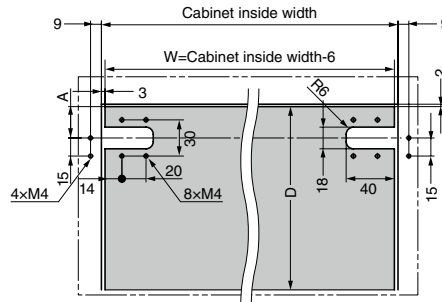
[Installation]



[Cross-section Drawing]



[Cut Out Dimensions]

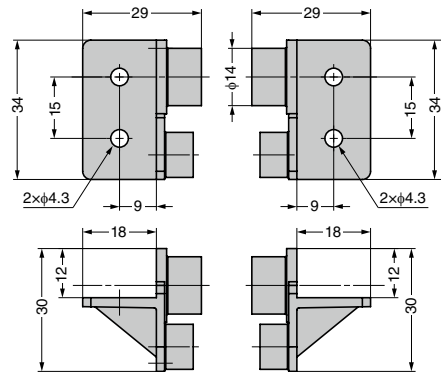


No.	Part Name	Material	Colour
①	Body	POM	Black, White
②	Bracket for Side Mount R	Reinforced	
③	Bracket for Side Mount L	PBT	
④	Cover	ABS	
⑤	Damper	-	-

Refer to 1 : P.77

BRACKET FOR HG-JHM14 UNDER MOUNT UKZ14

INSTRUCTION



Bracket for under mount L    Bracket for under mount R

[Bracket for Under Mount]

RHS	CAD	Item Code	Item Name	Material	Colour	Weight (g)	Box (pairs)	Carton (pairs)
		170-031-936	UKZ14-BL	Reinforced PBT	Black	13	40	440
		170-031-937	UKZ14-WT		White	14	40	440

# MINI DAMPER HINGE HG-JHM9-S Side Mount



HG-JHM9-S-BL

- Hinge with built-in damper.
- Can be used for top-opening, upward-opening, downward-opening and bottom-opening.
- Under mount type **1** also available.

**[Specifications]**

- Operating temperature: 0°C~40°C

**[Applications]**

- Small lid for conference table, small cover of mechanical equipment, etc.

**[Remarks]**

- Be sure to read the "Cautions" **2**.
- Sold in pairs.
- When installing, ensure that both hinge shafts are levelled and aligned.

**[Recommended Screws]**

- Countersunk head screw M3, Binding head screw M3, Countersunk head tapping screw 3, Binding head tapping screw 3, etc.

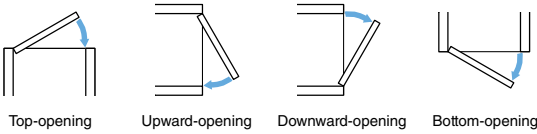


**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
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 Available on Web!

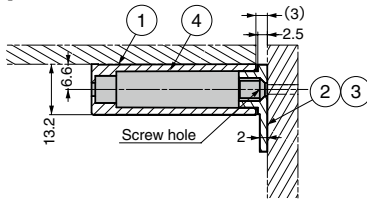
**[Application Example]**



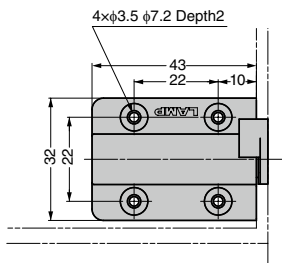
**[Damper Working Direction]**



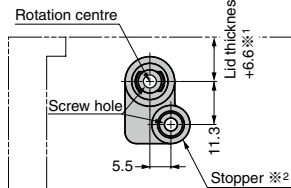
**[Front View] Cross-section**



**[Bottom View]**

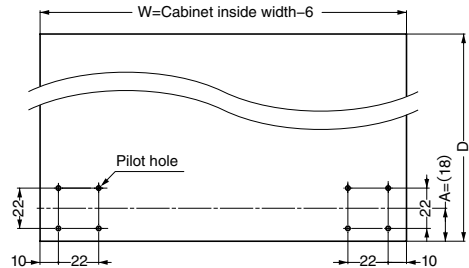


**[Installation] Bracket**



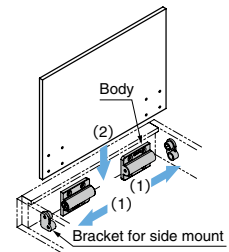
※1 Dimension when side board is flush with top surface of lid.  
 ※2 To increase the opening angle of lid, rotate the stopper then fix it.

**[Cut Out Dimensions]**



**[How to Install Body and Lid]**

- (1) Insert the body into fixed bracket.
- (2) Align mounting holes of lid with the body, and then fix with screws.



No.	Part Name	Material	Colour
①	Body	POM	Black, White
②	Bracket R	PBT	
③	Bracket L		
④	Damper	POM	-

RHS	CAD	Item Code	Item Name	Colour	Torque N·m/pair	Torque kgf·cm/pair	Opening Angle	Weight (g)	Box (pairs)	Carton (pairs)
		170-025-895	HG-JHM9-S-BL	Black	0.054~0.086	0.55~0.88	105°	29	40	440
		170-025-896	HG-JHM9-S-WT	White				28	40	440
		170-037-326	HG-JHM9-S4-BL	Black	-	-		-		
		170-037-327	HG-JHM9-S4-WT	White	-	-		-		

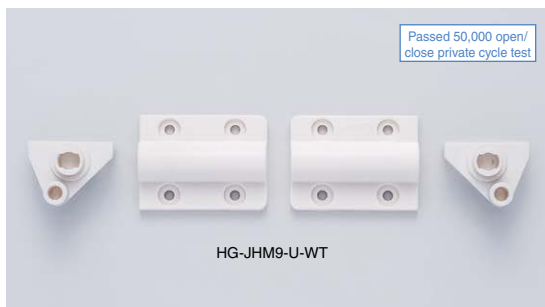
Refer to **1** : P.79, **2** : P.253



## MINI DAMPER HINGE HG-JHM9-U Under Mount

INSTRUCTION

VIDEO



- Hinge with built-in damper.
- Can be used for top-opening, upward-opening, downward-opening and bottom-opening.
- Side mount type **1** also available.

### [Specifications]

- Operating temperature: 0°C~40°C

### [Applications]

- Small lid for conference table, small cover of mechanical equipment, etc.

### [Remarks]

- Be sure to read the "Cautions" **2**.
- Sold in pairs.
- When installing, ensure that both hinge shafts are levelled and aligned.

### [Recommended Screws]

- Binding head screw M3, Binding head tapping screw 3, etc.

[Application Example] Shown below is HG-JHM9-S **1**



Damper Hinges

Soft Closing Stays

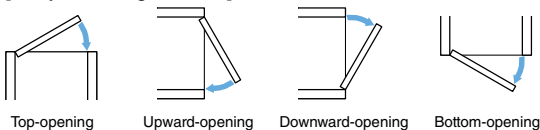
Door Dampers

Brackets &amp; Shelving Systems

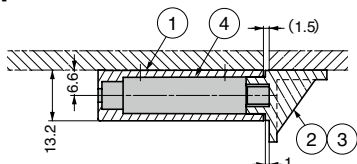
Soft Close Slides

Recessed Hooks

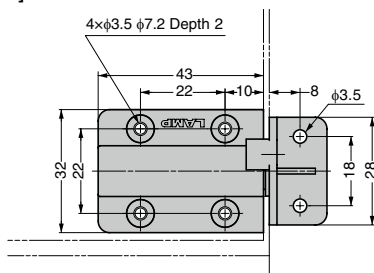
### [Damper Working Direction]



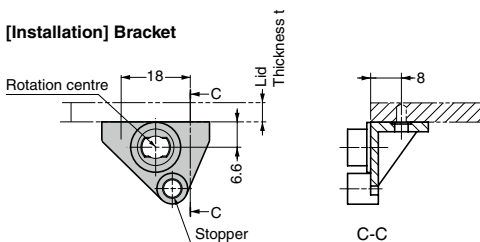
### [Front View] Cross-section



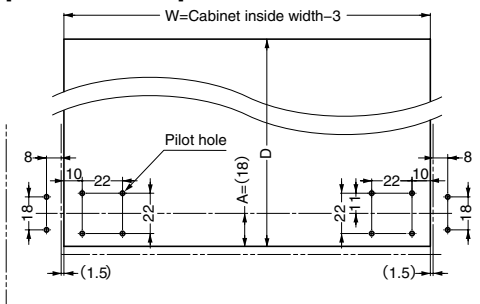
### [Bottom View]



### [Installation] Bracket

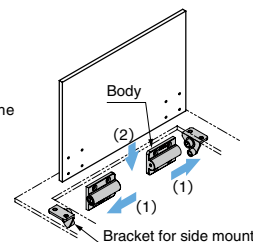


### [Cut Out Dimensions]



### [How to Install Body and Lid]

- (1) Insert the body into fixed bracket.
- (2) Align mounting holes of lid with the body, and then fix with screws.

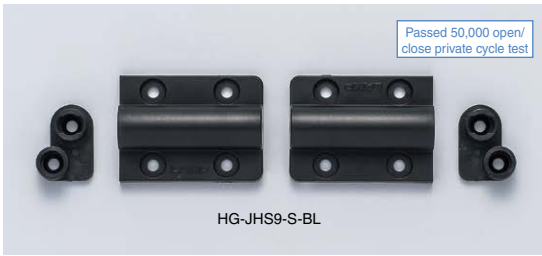


No.	Part Name	Material	Colour
①	Body	POM	Black, White
②	Bracket R	PBT	
③	Bracket L		
④	Damper	POM	-

RdHS	CAD	Item Code	Item Name	Colour	Torque N·m/pair	Torque kgf·cm/pair	Opening Angle	Weight (g)	Box (pairs)	Carton (pairs)
		170-025-897	HG-JHM9-U-BL	Black	0.054~0.086	0.55~0.88	105°	31	35	385
		170-025-898	HG-JHM9-U-WT	White				31	35	385
		170-037-328	HG-JHM9-U4-BL	Black	0.027~0.043	0.275~0.44		-	-	-
		170-037-329	HG-JHM9-U4-WT	White				-	-	-

Refer to **1** : P.78, **2** : P.253

# SELF-OPEN MINI DAMPER HINGE HG-JHS9-S Side Mount



- Small damper hinge with self-opening function for top-opening lids. Using with a push latch **1** enables pop-up function of the lid.
- Inset type.
- Opening speed is adjustable with a hex key.
- Under mount type **2** also available.

**[Specifications]**

- Operating temperature: 0°C~40°C

**[Applications]**

- Small lid for conference table, small cover of mechanical equipment, etc.

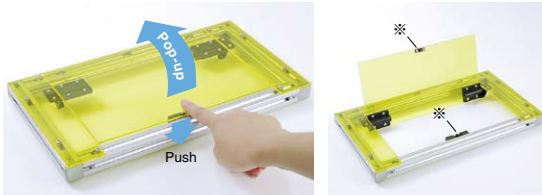
**[Remarks]**

- Be sure to read the "Cautions" **3**.
- Sold in pairs.
- Make sure to mount spring unit at L side of the body. Check if damper is mounted at R side.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Install a push latch (sold separately) to keep the lid at closed position.

**[Recommended Screws]**

- Countersunk head screw M3, Binding head screw M3, Countersunk head tapping screw 3, Binding head tapping screw 3, etc.

Video Link



※: Optional push latch ESN-195/BLK **1** (Picture above is HG-JHS9-U **2**).

Damper Hinges

Soft Closing Stays

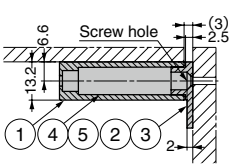
Door Dampers

Brackets & Shelving Systems

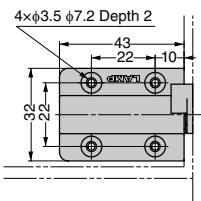
Soft Close Slides

Recessed Hooks

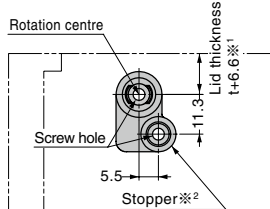
**[Front View] Cross-section**



**[Bottom View]**

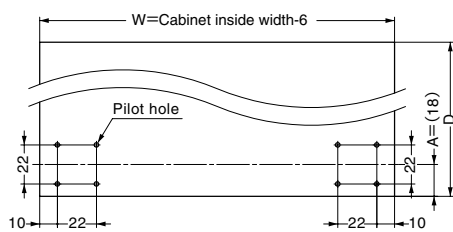


**[Installation] Bracket**



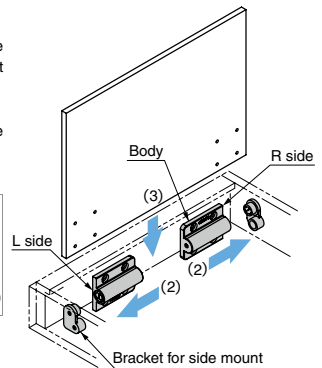
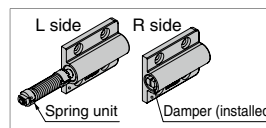
- ※1 Dimension when side board is flush with top surface of lid.
- ※2 To increase the opening angle of lid, rotate the stopper then fix it.

**[Cut Out Dimensions]**



**[How to Install Body and Lid]**

- (1) Mount spring unit at L side of the body. Check if damper is mounted at R side.
- (2) Insert the body into fixed bracket.
- (3) Align mounting holes of lid with the body, and then fix with screws.



No.	Part Name	Material	Colour
①	Body	POM	Black, White
②	Bracket R	PBT	
③	Bracket L		
④	Damper (R side)	POM	-
⑤	Spring Unit (L side)	Zinc Alloy (ZDC)/Stainless Steel	Chromate/-

**[Adjustment of Lid Opening Speed]**

**When increasing lid opening speed**

**1**

Insert a hex key (size 2.5) into the hole of spring unit (L side)

**2**

Partial cut view  
Toothed projection  
Slow  
Fast

Push in the hex key until toothed projection is disengaged, while rotating counterclockwise by 30°, and then pull it out.

**3**

Close the lid, and check if the lid can be opened smoothly. Repeat steps **1**~**3** (maximum 1~2 times) if lid opening speed is still slow.

※Make sure to rotate counterclockwise following pushing in the hex key and disengaging the projection. Forced rotation may cause damage.

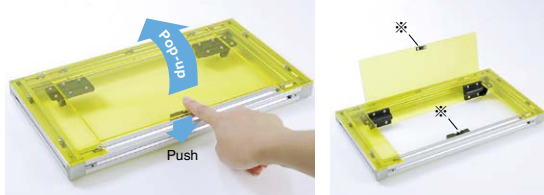
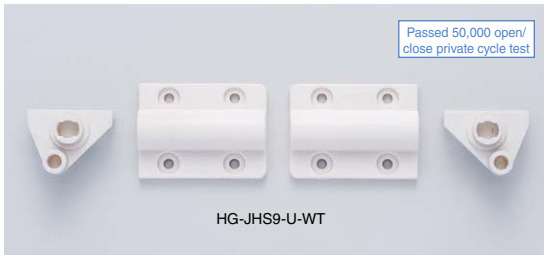
**When decreasing lid opening speed (returning to the speed before adjustment)**

Loosen the force following the hex key rotating clockwise.

RHS	CAD	Item Code	Item Name	Colour	Torque N·m/pair	Torque kgf·cm/pair	Opening Angle	Weight (g/pair)	Box (pairs)	Carton (pairs)
		170-028-293	HG-JHS9-S-BL	Black	0.027~0.043	0.28~0.44	105°	38	40	440
		170-028-294	HG-JHS9-S-WT	White					40	440

Refer to **1** : No.280 P.652, **2** : P.81, **3** : P.253

# SELF-OPEN MINI DAMPER HINGE HG-JHS9-U Under Mount



※: Optional push latch ESN-195/BLK 1 .

- Small damper hinge with self-opening function for top-opening lids. Using with a push latch 1 enables pop-up function of the lid.
- Inset type.
- Opening speed is adjustable with a hex key.
- Side mount type 2 also available.

**[Specifications]**

- Operating temperature: 0°C~40°C

**[Applications]**

- Small lid for conference table, small cover of mechanical equipment, etc.

**[Remarks]**

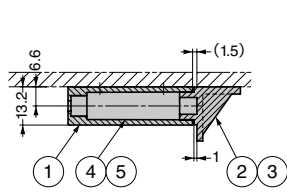
- Be sure to read the "Cautions" 3 .
- Sold in pairs.
- Make sure to mount spring unit at L side of the body. Check if damper is mounted at R side.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Install a push latch (sold separately) to keep the lid at closed position.

**[Recommended Screws]**

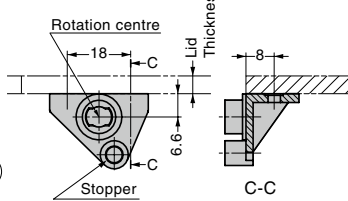
- Binding head screw M3, Binding head tapping screw 3, etc.



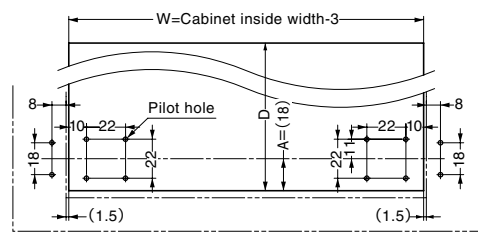
**[Front View] Cross-section**



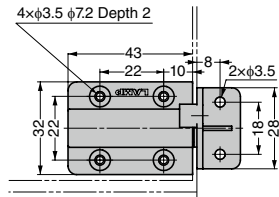
**[Installation] Bracket**



**[Cut Out Dimensions]**



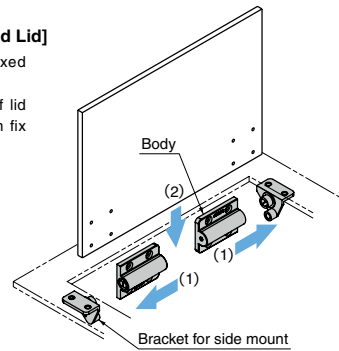
**[Bottom View]**



No.	Part Name	Material	Colour
①	Body	POM	Black, White
②	Bracket R	PBT	
③	Bracket L		
④	Damper (R side)	POM	-
⑤	Spring Unit (L side)	Zinc Alloy (ZDC) /Stainless Steel	Chromate/-

**[How to Install Body and Lid]**

- (1) Insert the body into fixed bracket.
- (2) Align mounting holes of lid with the body, and then fix with screws.



**[Adjustment of Lid Opening Speed]**

**When increasing lid opening speed**

**1**

Insert a hex key (size 2.5) into the hole of spring unit (L side)

**2**

Partial cut view  
Toothed projection  
Slow  
Fast

Push in the hex key※ until toothed projection is disengaged, while rotating counterclockwise by 30°, and then pull it out.

**3**

Close the lid, and check if the lid can be opened smoothly. Repeat steps 1~3 (maximum 1~2 times) if lid opening speed is still slow.

**When decreasing lid opening speed (returning to the speed before adjustment)**

Loosen the force following the hex key rotating clockwise.

※Make sure to rotate counterclockwise following pushing in the hex key and disengaging the projection. Forced rotation may cause damage.

RHS	CAD	Item Code	Item Name	Colour	Torque N·m/pair	Torque kgf·cm/pair	Opening Angle	Weight (g/pair)	Box (pairs)	Carton (pairs)
☑	☑	170-028-295	HG-JHS9-U-BL	Black	0.027~0.043	0.28~0.44	105°	38	35	385
☑	☑	170-028-296	HG-JHS9-U-WT	White					35	385

Refer to 1 : No.280 P.652, 2 : P.80, 3 : P.253

## HG-JHM Damper hinges series - Supported lid digest

- This table gives a general guideline of the different lid weight and measurements that can be used with HG-JHM series.
- Lid measurements have been calculated using the maximum torque available for the product model. (for example, for HG-JHM16 series we used HG-JHM16-50)
- The lid measurements are just an example of the various possible combinations of length, width and thickness.
- The torque value is calculated using one pair of HG-JHM installed on one lid.

Model	Torque force	Lid size (example)
<b>HG-JHM9-S4(U4)</b> <span style="color:blue">1</span> 	0.027 ~ 0.043 N · m (0.275 ~ 0.44 kgf · cm)	Weight : 0.13kg (reference)
<b>HG-JHM9-S(U)</b> <span style="color:blue">2</span> 	0.054 ~ 0.086 N · m (0.55 ~ 0.88 kgf · cm)	Weight : 0.18kg (reference)
<b>HG-JHM11</b> <span style="color:blue">3</span> 	0.05 ~ 0.4 N · m (0.51 ~ 4.08 kgf · cm)	Weight : 0.65kg (reference)
<b>HG-JHM14</b> <span style="color:blue">4</span> 	0.5 ~ 2 N · m (5.1 ~ 20.4 kgf · cm)	Weight : 1.62kg (reference)
<b>HG-JHM16</b> <span style="color:blue">5</span> 	2 ~ 5 N · m (20.4 ~ 51 kgf · cm)	Weight : 2.77kg (reference)
<b>HG-JHM20</b> <span style="color:blue">6</span> 	6 ~ 8 N · m (61.2 ~ 81.6 kgf · cm)	Weight : 3.6kg (reference)
<b>HG-JHM20T</b> <span style="color:blue">7</span> Surface mount		

Refer to 1 2 : P.78-79, 3 : No.328 P.8, 4 : P.76, 5 : P.75, 6 : P.73, 7 : P.74

### [How to calculate the maximum torque moment]

$$T = m \times 9.80665 \times L \times \frac{1}{1000}$$

T = Maximum moment of the lid

m = Lid weight [kg]

L = Distance from the rotation point to the centre of gravity of the lid (mm)  
(In case the centre of gravity is situated in the middle of the lid)

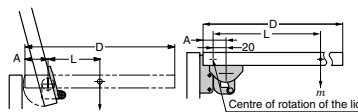
$$L = \frac{D}{2} - A \quad (\text{For HG-JHM20T, } L = \frac{D}{2} - A + 20)$$

D = Lid length [mm]

A = Distance from the rotation point to the back edge of the lid [mm]  
(For HG-JHM20T, A : Installation measurements of the bracket)

#### Calculation example (for HG-JHM14)

$$\text{If } D = 180\text{mm, } A = 28\text{mm, } m = 0.96\text{kg} \dots T = 0.96 \times 9.80665 \times (\frac{180}{2} - 28) \times \frac{1}{1000} = 0.6 \text{ [N}\cdot\text{m]}$$



Material	Specific gravity
Acrylic	1.2

Model	A	Model	A
HG-JHM9	18	HG-JHM20T	36~38
HG-JHM11	26		
HG-JHM14	26		
HG-JHM16	32		
HG-JHM20	36		

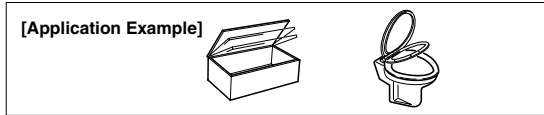
# TORQUE DAMPER UDH



Video Link



- Patented technology allows compact design.
- Can be used as a single unit.
- Keeps lids / doors from slamming shut.
- With marking colour at the body to recognise the torque moment. Refer to the following for details.
- Ideal for applications requiring flap slow down. Helps prevent noise and impact.
- Standard and progressive models available.



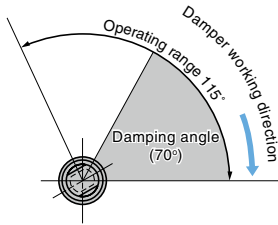
**[Applications]**

- Toilet seat / lid, cover for maintenance, etc.

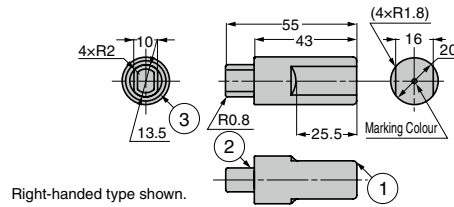
**[Remarks]**

- When mounting on sheet metal, ensure the edge of the plate is rounded to prevent damage to the damper.
- Do not apply and vertical load on the shaft.

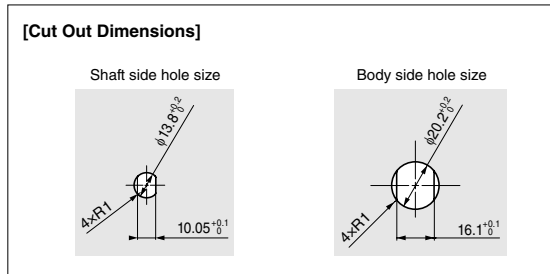
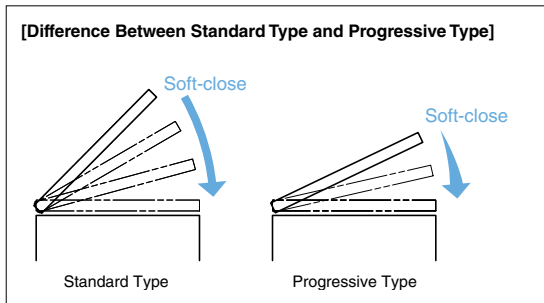
**Damper Operating Angle**



Right-handed: damper works when the shaft is turned clockwise (this figure)  
 Left-handed: damper works when the shaft is turned counterclockwise (symmetrical to this figure)



Right-handed type shown.



No.	Part Name	Material	Colour
①	Body	Stainless Steel	-
②	Shaft	PBT	Left-handed: Natural, Right-handed: Grey
③	Cover Ring	Black	-

**[Standard Type]**

RHS	CAD	Item Code	Item Name	Type	Damper Working Direction	Marking Colour	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Carton (pcs)
☑	3D	170-090-820	UDH-AMS-G	Left-handed	Counterclockwise	Blue	1.5~2.5	15.3~25.5	38	200
☑	3D	170-090-822	UDH-BMS-G	Right-handed	Clockwise					200
☑	3D	170-090-821	UDH-AHS-G	Left-handed	Counterclockwise	Red	2.5~3.5	25.5~35.7		200
☑	3D	170-090-823	UDH-BHS-G	Right-handed	Clockwise					200
☑	3D	170-090-824	UDH-AGS-G	Left-handed	Counterclockwise	Yellow	3.0~4.0	30.6~40.8		200
☑	3D	170-097-955	UDH-BGS-G	Right-handed	Clockwise					200

**[Progressive Type]**

RHS	CAD	Item Code	Item Name	Type	Damper Working Direction	Marking Colour	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Carton (pcs)
☑	3D	170-090-825	UDH-AMP-G	Left-handed	Counterclockwise	Green	1.5~1.8	15.3~18.4	38	200
☑	3D	170-090-827	UDH-BMP-G	Right-handed	Clockwise					200
☑	3D	170-090-826	UDH-AHP-G	Left-handed	Counterclockwise	Black	1.8~3.5	18.4~35.7		200
☑	3D	170-090-828	UDH-BHP-G	Right-handed	Clockwise					200

# TORQUE DAMPER UDH-16



Video Link



Soft Motion

- Patented technology allows compact design.
- Can be used as a single unit.
- Keeps lids / doors from slamming shut.
- Left-handed and right-handed can be distinguished according to the colour of shaft. In addition, slow rotation type changed the shape of shaft.
- With marking colour at the body to recognise the torque moment. Refer to the following for details.
- Ideal for applications requiring flap slow down. Helps prevent noise and impact.
- Standard and progressive models available.

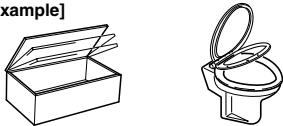
**[Applications]**

- Toilet seat / lid, cover for maintenance, etc.

**[Remarks]**

- When mounting on sheet metal, ensure the edge of the plate is rounded to prevent damage to the damper.
- Do not apply any vertical load on the shaft.

**[Application Example]**



Damper Hinges

Soft Closing Stays

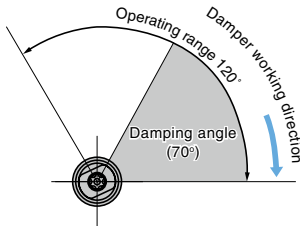
Door Dampers

Brackets & Shelving Systems

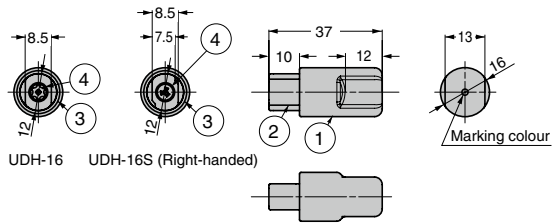
Soft Close Slides

Recessed Hooks

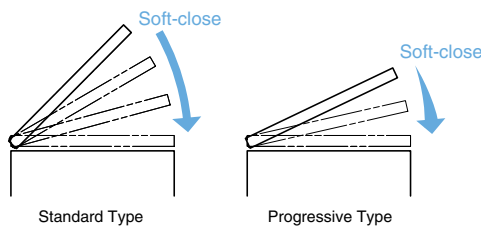
**Damper Operating Angle**



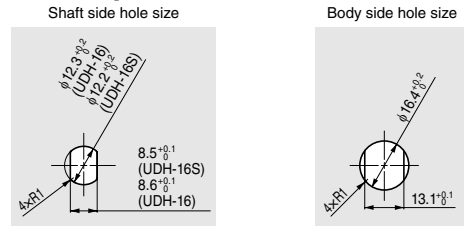
Right-handed: damper works when the shaft is turned clockwise (this figure)  
 Left-handed: damper works when the shaft is turned counterclockwise (symmetrical to this figure)



**[Difference Between Standard Type and Progressive Type]**



**[Cut Out Dimensions]**



No.	Part Name	Material	Finish / Colour
①	Body	Stainless Steel	-
②	Shaft	PBT	Left-handed: Natural, Right-handed: Grey
③	Cover Ring		Black
④	Screw	Stainless Steel	-

**[Standard Type]**

RHS	CAD	Item Code	Item Name	Type	Damper Working Direction	Marking Colour	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Carton (pcs)
		170-011-717	UDH-16SAMS	Left-handed	Counterclockwise	Blue	1~1.7	10.2~17.3	16	200
		170-011-719	UDH-16SBMS	Right-handed	Clockwise					200
		170-011-718	UDH-16SAHS	Left-handed	Counterclockwise	Red	1.7~2.5	17.3~25.5		200
		170-011-720	UDH-16SBHS	Right-handed	Clockwise					200

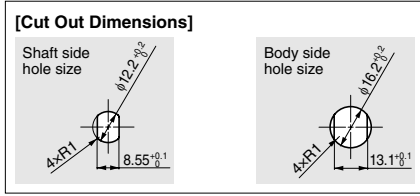
**[Progressive Type]**

RHS	CAD	Item Code	Item Name	Type	Damper Working Direction	Marking Colour	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Carton (pcs)
		170-090-829	UDH-16AMS-G	Left-handed	Counterclockwise	Green	1~1.7	10.2~17.3	16	200
		170-090-831	UDH-16BMS-G	Right-handed	Clockwise					200
		170-090-830	UDH-16AHS-G	Left-handed	Counterclockwise	Black	1.7~2.5	17.3~25.5		200
		170-090-832	UDH-16BHS-G	Right-handed	Clockwise					200

# TORQUE DAMPER UDH-16N



Video Link



- Patented technology allows compact design.
- Can be used as a single unit.
- Keeps lids / doors from slamming shut.
- Left-handed and right-handed can be distinguished according to the colour and shape of shaft.
- With marking colour at shaft to recognise the torque moment.
- Ideal for applications requiring flap slow down. Helps prevent noise and impact.

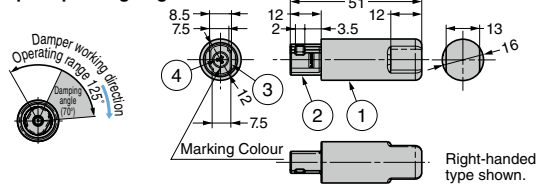
**[Applications]**

- Toilet seat / lid, cover for maintenance, etc.

**[Remarks]**

- When mounting on sheet metal, ensure the edge of the plate is rounded to prevent damage to the damper.
- Do not apply any vertical load on the shaft.

**Damper Operating Angle**

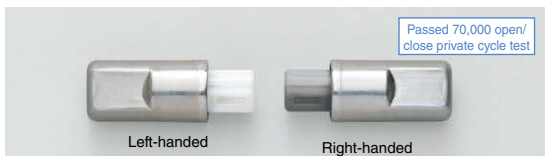


Right-handed: damper works when the shaft is turned clockwise (this figure)  
 Left-handed: damper works when the shaft is turned counterclockwise (symmetrical to this figure)

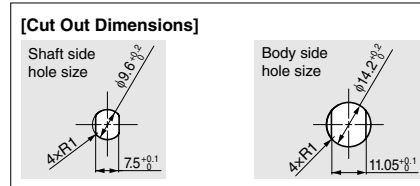
No.	Part Name	Material	Finish / Colour
①	Body	Stainless Steel	-
②	Shaft	PBT	Left-handed: Natural, Right-handed: Grey
③	Cover Ring	PPS	Black
④	Screw	Stainless Steel	-

RHS	CAD	Item Code	Item Name	Type	Damper Working Direction	Marking Colour	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Carton (pcs)
G	3D	170-090-833	UDH-16NAMs	Left-handed	Counterclockwise	Blue	1.7~2.4	17.3~24.5	25	200
G	3D	170-090-834	UDH-16NBMS	Right-handed	Clockwise					200
G	3D	170-090-835	UDH-16NAHS	Left-handed	Counterclockwise	Red	2.2~3	22.4~30.6		200
G	3D	170-090-836	UDH-16NBHS	Right-handed	Clockwise					200

# TORQUE DAMPER UDH-14



Video Link



- Patented technology allows compact design.
- Can be used as a single unit.
- Keeps lids / doors from slamming shut.
- Left-handed and right-handed can be distinguished according to the colour and shape of shaft.
- With marking colour at shaft to recognise the torque moment.
- Excellent in corrosion resistance and rigidity due to stainless steel body.
- Ideal for applications requiring flap slow down. Helps prevent noise and impact.

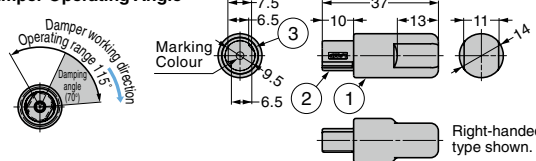
**[Applications]**

- Toilet seat / lid, cover for maintenance, etc.

**[Remarks]**

- When mounting on sheet metal, ensure the edge of the plate is rounded to prevent damage to the damper.
- Do not apply any vertical load on the shaft.

**Damper Operating Angle**



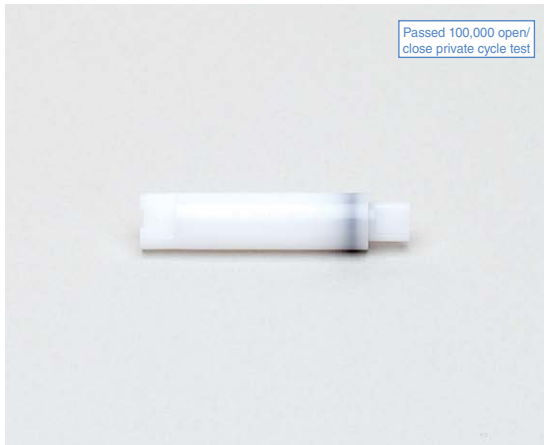
Right-handed: damper works when the shaft is turned clockwise (this figure)  
 Left-handed: damper works when the shaft is turned counterclockwise (symmetrical to this figure)

No.	Part Name	Material	Finish / Colour
①	Body	Stainless Steel	-
②	Shaft	PBT	Left-handed: Natural, Right-handed: Grey
③	Cover Ring	POM	Black

RHS	CAD	Item Code	Item Name	Type	Damper Working Direction	Marking Colour	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)
G	3D	170-028-472	UDH-14ALS	Left-handed	Counterclockwise	Purple	0.5~0.8	5.1~8.2	10	400
G	3D	170-028-473	UDH-14BLS	Right-handed	Clockwise					400
G	3D	170-017-538	UDH-14AMS	Left-handed	Counterclockwise	Blue	0.8~1.5	8.2~15.3		400
G	3D	170-017-539	UDH-14BMS	Right-handed	Clockwise					400
G	3D	170-024-697	UDH-14ATS	Left-handed	Counterclockwise	Green	1.5~2.0	15.3~20.4		400
G	3D	170-025-678	UDH-14BTS	Right-handed	Clockwise					400



# ROTARY DAMPER URD8-3



- Insert type rotary damper.
- Unlimited rotation angle and rotation direction, suitable for various opening modes. In addition, combining with springs further expands application.
- Small outer diameter realises space-saving and downsizing of equipment.

**[Specifications]**

- Operating temperature: 0°C~50°C

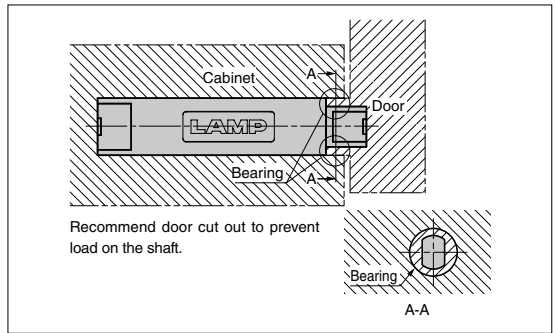
**[Applications]**

- Switch cover of equipment
- Wire hole cover of table

**[Remarks]**

- Be sure to read the "Cautions" 1.
- Measurement conditions of torque value: ambient temperature 23°C, rotation speed 20rpm.
- For use beyond the operating temperature range above, please contact local representatives.

**[Installation]**



Damper Hinges

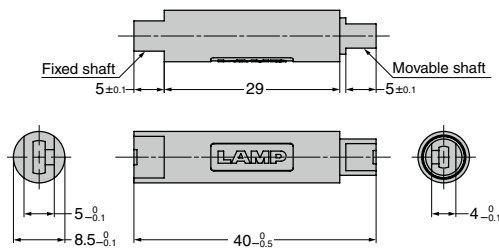
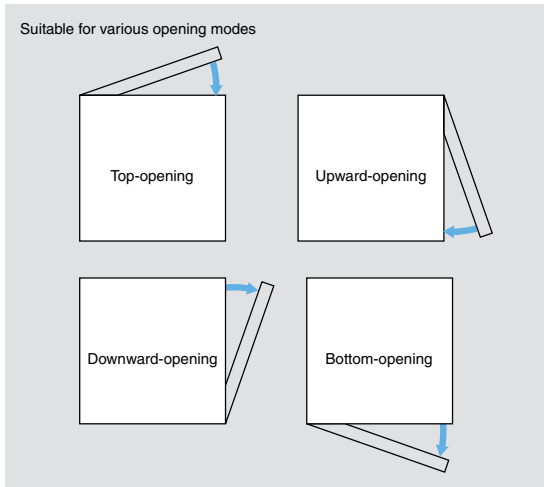
Soft Closing Stays

Door Dampers

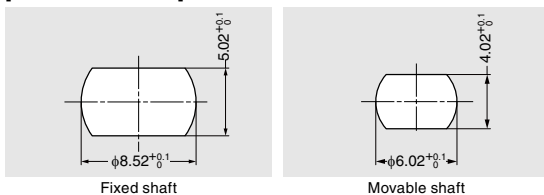
Brackets & Shelving Systems

Soft Close Slides

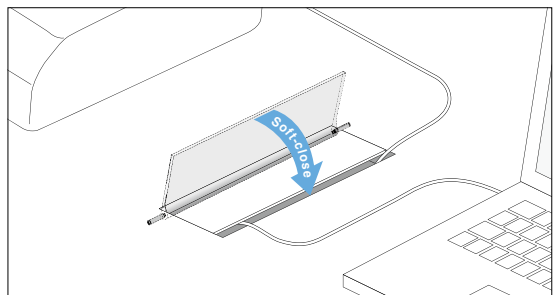
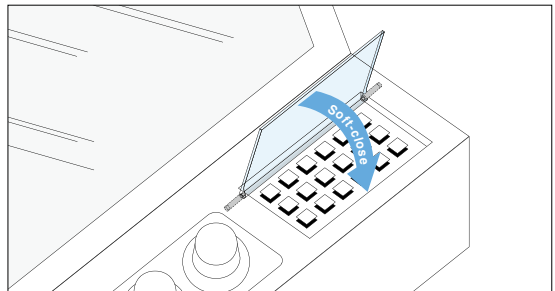
Recessed Hooks



**[Cut Out Dimensions]**



**[Application Example]**



RoHS	CAD	Item Code	Item Name	Material	Colour	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	CAD	170-026-907	URD8-3	POM	Natural	0.022~0.038	0.22~0.39	2.5	100	2000

Refer to 1 : P.253



Soft Motion

## LIFT-ASSIST DAMPER (FOR HEAVY DUTY) LADH



INSTRUCTION

VIDEO



Damper Hinges

Soft Closing Stays

Door Dampers

Brackets &amp; Shelving Systems

Soft Close Slides

Recessed Hooks

### [Application Example]



Opening Direction	Item Name	Description	Non-handed	Maximum Door Moment
 Top-opening	LADH-35	Lift-assist	Yes	25-35 N · m/pc (255-357 kgf · cm/pc)
	LADH-50	Soft-close		35-50 N · m/pc (357-510 kgf · cm/pc)

- Ideal for counter flaps at bars, restaurants, and receptions.
- Smooth and soft close movement at the end, preventing flaps from slamming shut. Damper works even at a slight opening angle.
- Suitable for door moment 25-50N · m.
- Lift-assist mechanism with light opening.
- Stops flap at 95° opening with stopper.
- Installation position can be easily determined with the supplied template.
- Can be post-installed to existing counters without processing.

### [Applications]

- Counter flaps, etc.

### [Remarks]

- Simply holds rather than fixes flap in opened position.
- Make sure to have sufficient hinge strength and installation strength at damper mounting surface and door hanging side.
- Do not use concealed hinge.
- Closed flap cannot be held with only this product. Please install a catch at the front end of flap.

### [Parts Included]

- Binding head tapping screw 5.1×25
- Paper template

Video Link



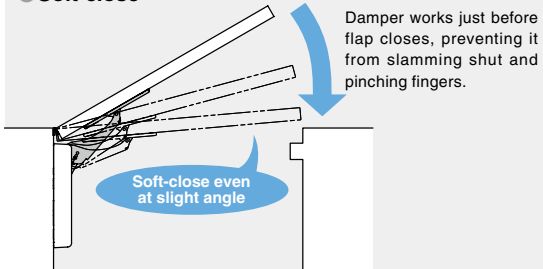
Top-Opening

Downward-Opening

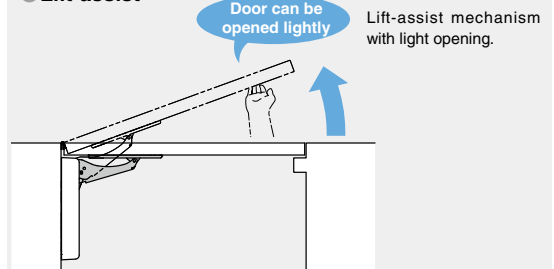
Upward-Opening

Bottom-Opening

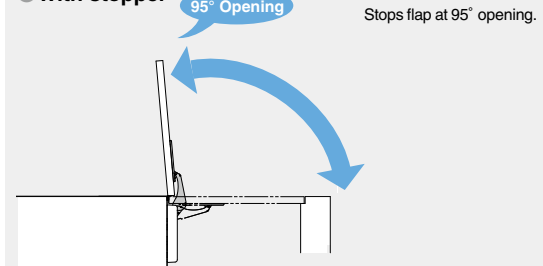
### ● Soft-close



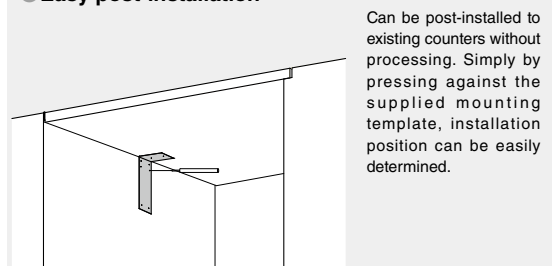
### ● Lift-assist

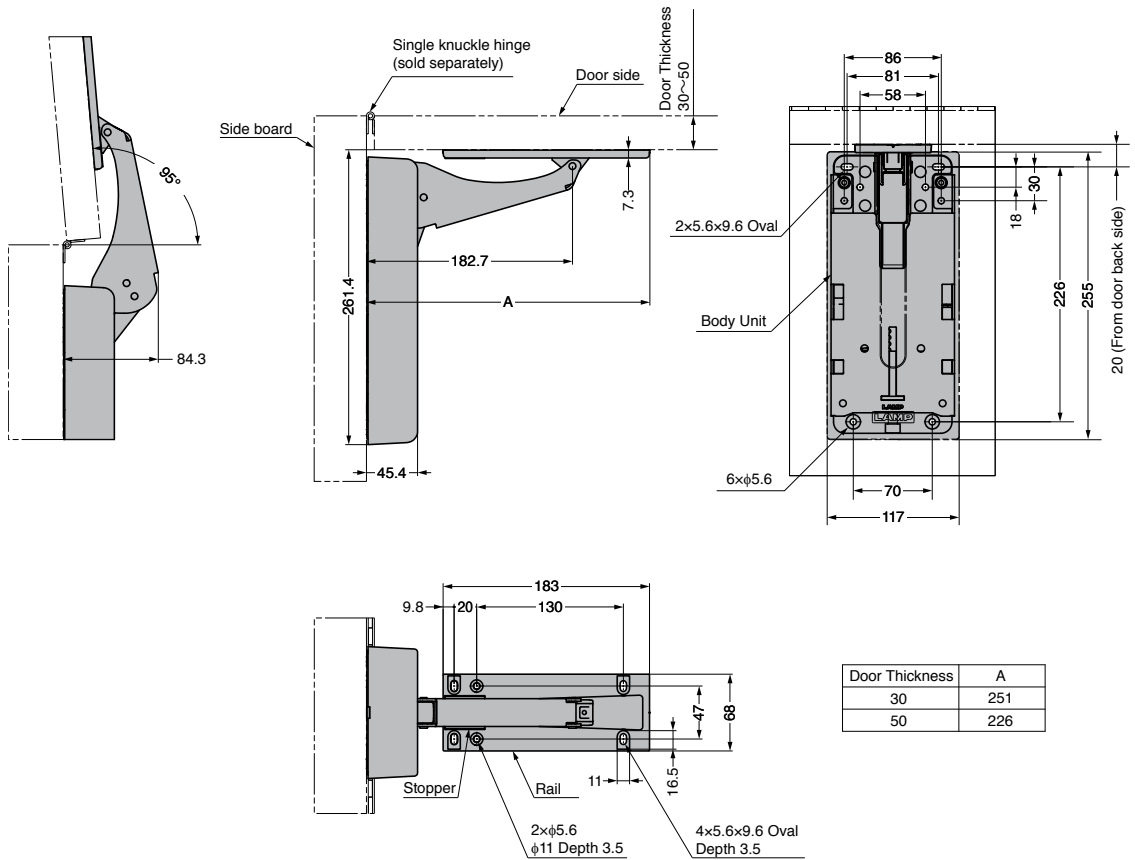


### ● With stopper



### ● Easy post-installation





Damper Hinges

Soft Closing Stays

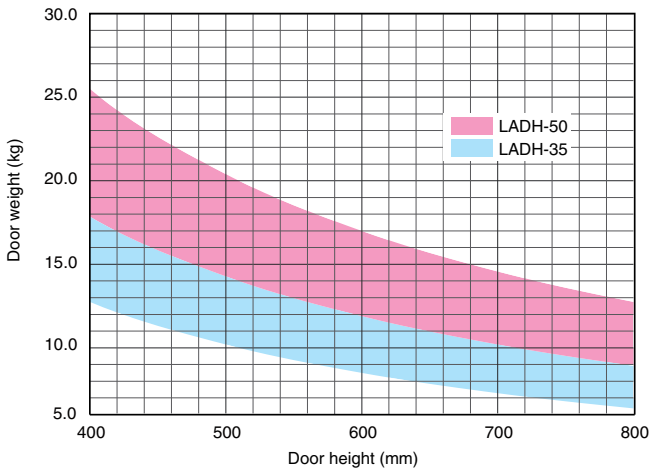
Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

[Door Size Ranges]



Refer to the left graph as a guide for model selection. When using a door with size not given here, calculate the door moment as follows. Door weight includes attached decorations.

Maximum Door Moment (N · m)  
 = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening

RHS	CAD	Item Code	Item Name	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Recommended Thickness	Weight (kg)	Box (pcs)	Carton (pcs)
		170-034-868	LADH-35	Steel (SPCC)	Nickel Plating/Nickel	25-35	255-357	30-50	2	1	4
		170-034-869	LADH-50	Polyacetal (POM)/ABS	Chrome/Dark Brown	35-50	357-510			1	4

LIFT-ASSIST DAMPER LAD-ST With Stopper



**Lift-assist**  
**Soft-close**  
Passed 100,000 open/close private cycle test

Damper Hinges

Soft Closing Stays

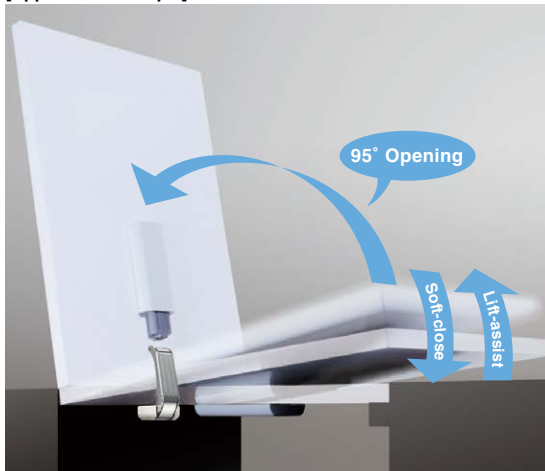
Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

[Application Example]



Opening Direction	Item Name	Description	Non-handed	Maximum Door Moment
Top-opening	LAD-ST-L	Lift-assist	Yes	8.0-10.5 N · m/pc (81.6-107.1 kgf · cm/pc)
	LAD-ST-M			10.5-13.5 N · m/pc (107.1-137.7 kgf · cm/pc)
	LAD-ST-H	Soft-close		13.5-16.0 N · m/pc (137.7-163.2 kgf · cm/pc)

- Ideal for counter flaps at bars, restaurants, and receptions.
- Smooth and soft close movement at the end, preventing flaps from slamming shut. Damper works even at a slight opening angle.
- Lift-assist mechanism with light opening.
- Stops flap at 95° opening with stopper.
- Suitable for door thickness 15-40mm.
- Can be post-installed to existing counters without processing.
- Installation position can be easily determined with the supplied template.

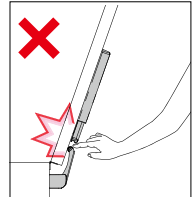
[Specifications]

- Operating temperature: 0°C-40°C

[Remarks]

- Simply holds rather than fixes flap in opened position.
- Make sure to have sufficient hinge strength and installation strength at door hanging side.
- Do not use concealed hinge.
- Closed flap cannot be held with only this product. Please install a catch at the front end of flap.
- Do not forcibly open and close flap more than necessary.
- Ensure that the distance from mounting surface of damper unit and stopper to flap surface is 15-40mm (see drawing).
- Be careful not to pinch fingers between arm unit and damper unit.
- Do not use with spacer LAD-DP 1 (for thick door) and bracket for back mount LAD-BKT 2 (for horizontal installation).

**S**election Tool  
**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!



[Parts Included]

- Binding head tapping screw 4×16
- Template for positioning

[Recommended Hinge]

- Concealed hinge R 3

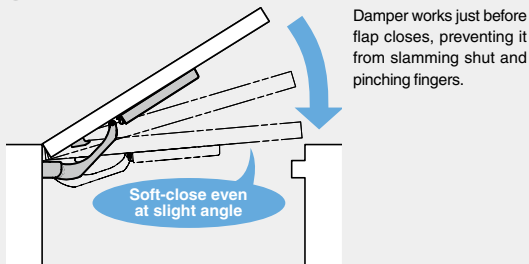
Top-Opening

Downward-Opening

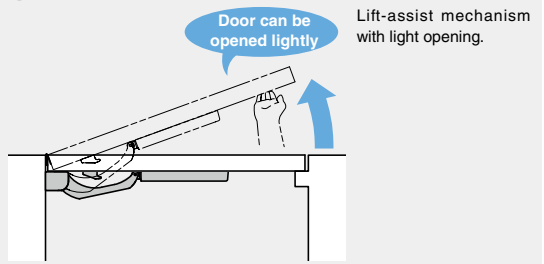
Upward-Opening

Bottom-Opening

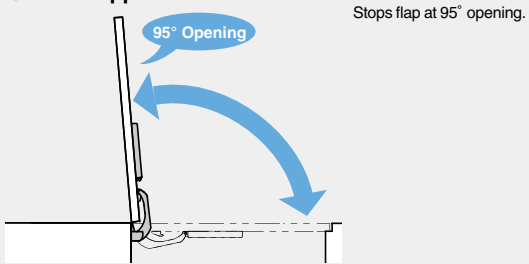
● Soft-close



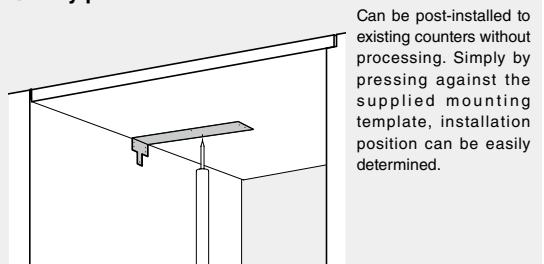
● Lift-assist



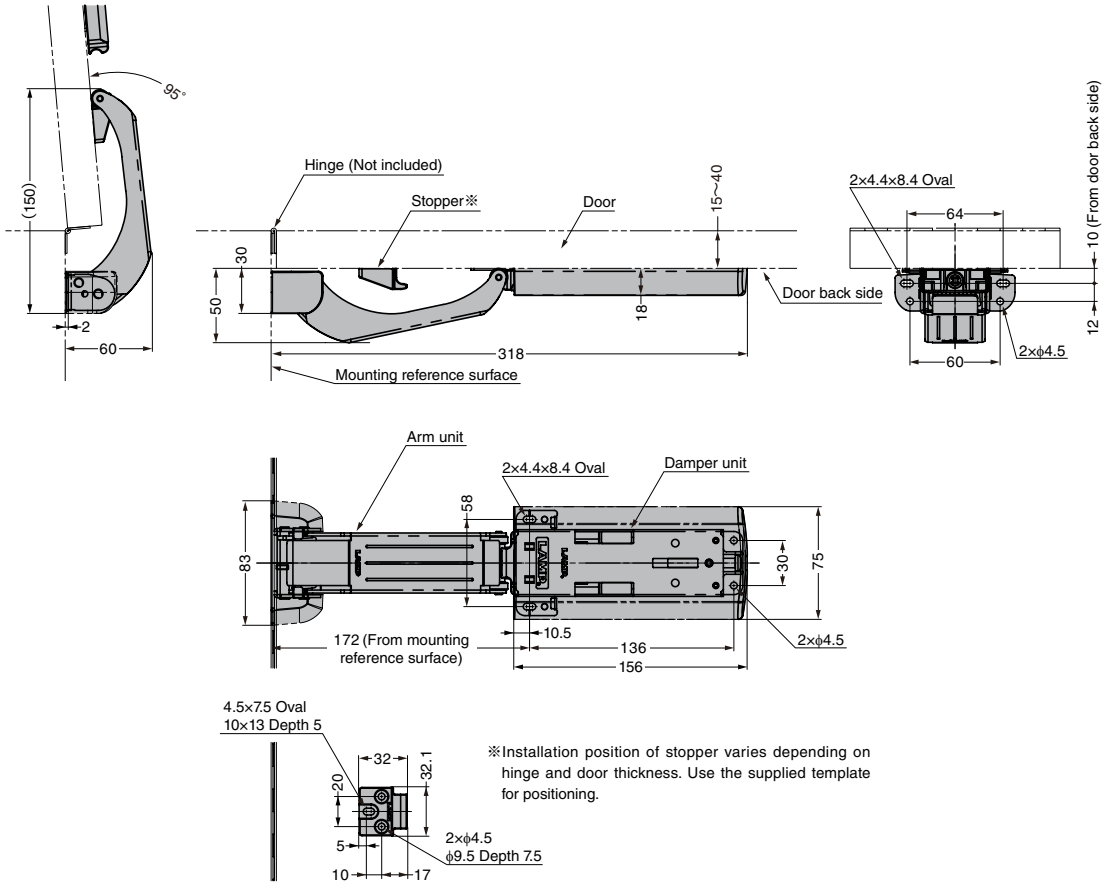
● With stopper



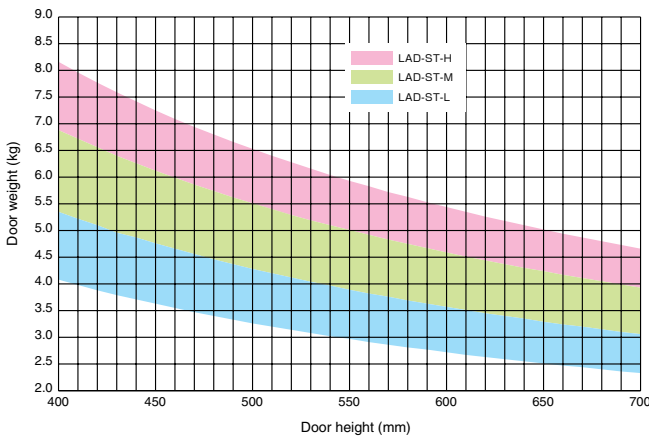
● Easy post-installation



Refer to 1 2 : P.92, 3 : P.187



[Door Size Ranges] 1pc use only



Refer to the left graph as a guide for model selection.  
When using a door with size not given here, calculate the door moment as follows.  
Door weight includes attached decorations.

Maximum Door Moment (N · m)  
= Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

RtHS	CAD	Item Code	Item Name	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Recommended Thickness	Weight (g)	Box (pcs)	Carton (pcs)
6	3D	170-033-213	LAD-ST-L	ABS/POM/Steel/ Zinc Alloy (ZDC)	Zinc Chromate/	8.0~10.5	81.6~107.1	15~40	750	1	10
6	3D	170-033-214	LAD-ST-M		Nickel Chrome/	10.5~13.5	107.1~137.7				
6	3D	170-033-215	LAD-ST-H		Nickel	13.5~16.0	137.7~163.2				

# LIFT-ASSIST DAMPER LAD



Opening Direction	Item Name	Description	Non-handed	Maximum Door Moment
Top-opening	LAD-L	Lift-assist	Yes	8.0-10.5 N · m/pc (81.6-107.1 kgf · cm/pc)
	LAD-M			10.5-13.5 N · m/pc (107.1-137.7 kgf · cm/pc)
	LAD-H	Soft-close		13.5-16.0 N · m/pc (137.7-163.2 kgf · cm/pc)

- Ideal for counter flaps at bars, restaurants, and receptions.
- Smooth and soft close movement at the end, preventing flaps from slamming shut. Damper works even at a slight opening angle.
- Lift-assist mechanism with light opening.
- Can be installed to existing counters without additional processing.
- Installation position can be easily determined with the supplied template.
- Slim arm unit does not disturb the doorway. Projection is only 35mm when opened.
- 2 pairs use possible. Torque becomes double. 3 pairs or more not allowed.

Damper Hinges

## [Application Example]



Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

## [Specifications]

- Operating temperature: 0°C-40°C

## [Remarks]

- Use with single knuckle hinges or concealed hinges (sold separately).
- Do not use with slide hinges. Otherwise, hinges may deform and flap may not close.
- No functions to hold flap in opened position and stop in opening direction. Install a safety device separately.
- Please prepare separate holder to support the flap in closed position. (see below※).
- Do not forcibly open and close flap more than necessary.
- Since load is applied to flap, side board and hinge, ensure that the frame structure has sufficient strength.
- Be careful not to pinch fingers between arm unit and damper unit.

## Video Link



**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

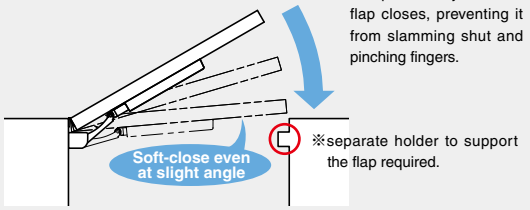
## [Parts Included]

- Binding head tapping screw 4×16
- Template for positioning

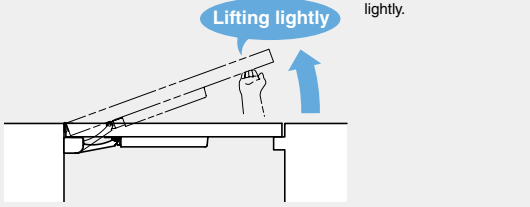
## [Recommended Hinge]

- Concealed hinge R **2**

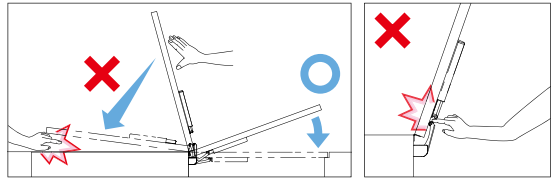
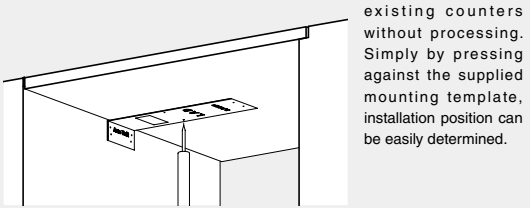
### ●Soft-Close



### ●Lift-assist

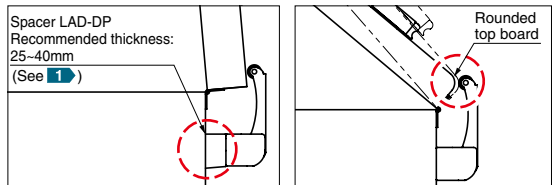


### ●Easy post-installation



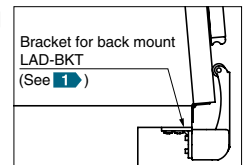
## [For Door Thickness More Than 25 mm]

When door thickness exceeds 25mm, you may be able to use this product by using with spacer (sold separately) **1** or rounding the flap (figure below).

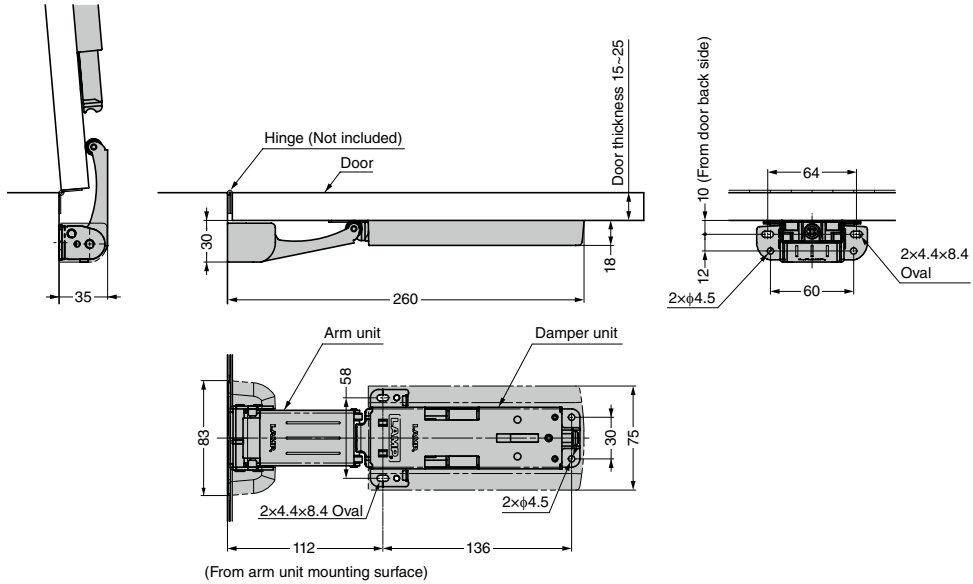


## [For Installing on Horizontal Surface]

When installing on a horizontal surface, please use bracket for back mount (sold separately) **1**.



Refer to **1** : P.92 . **2** :P.187



Damper Hinges

Soft Closing Stays

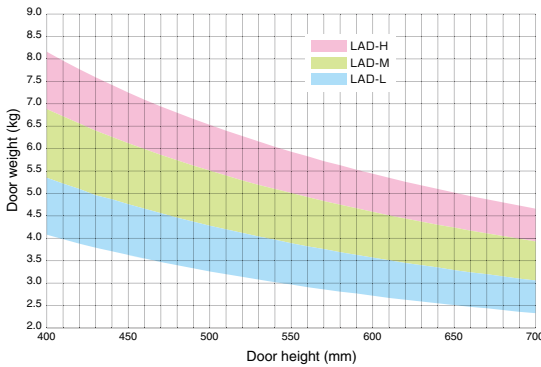
Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

[Door Size Ranges] 1pc use (※2pcs use possible. Torque moment doubles)



Refer to the left graph as a guide for model selection.

When using a door with size not given here, calculate the door moment as follows.

Maximum Door Moment (N · m)

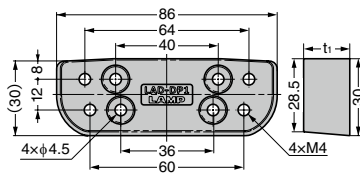
= Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

RefS	CAD	Item Code	Item Name	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Door Thickness	Weight (g)	Box (pcs)	Carton (pcs)
6	3D	170-025-804	LAD-L	ABS/POM/Steel	Zinc Chromate/ Nickel Chrome	8.0~10.5	81.6~107.1	15~25	545	1	20
6	3D	170-025-805	LAD-M			10.5~13.5	107.1~137.7		568	1	20
6	3D	170-025-806	LAD-H			13.5~16.0	137.7~163.2		571	1	20

Top-Opening

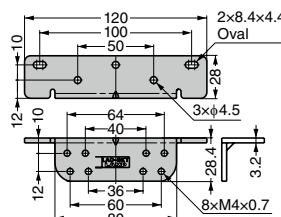
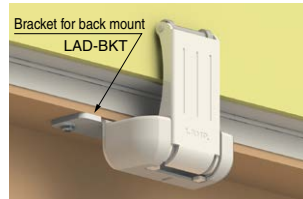
SPACER LAD-DP

For over 25mm thickness door.



RefS	CAD	Item Code	Item Name	t1	Door Thickness (t)	Material	Colour	Weight (g)	Box (pcs)
6	3D	170-028-234	LAD-DP1	18	25~35	POM	Grey	58	50
6	3D	170-028-235	LAD-DP2	25	30~40			67	50

BRACKET FOR BACK MOUNT LAD-BKT



RefS	CAD	Item Code	Item Name	Material	Colour	Weight (g)	Box (pcs)	Carton (pcs)
6	3D	170-028-236	LAD-BKT	Steel (SPCC)	Nickel	129	20	100

Downward-Opening

Upward-Opening

Bottom-Opening

HEAVY DUTY SOFT-DOWN STAY HDS-20 For Use in Pairs



Soft Motion



Opening Direction	Description	Non-handed	Model	Maximum door moment
 Top-opening	With Catch For Use in Pairs	-	K	13.7~19.5 N·m/2 pcs (140~199 kgf·cm/2 pcs)
			M	19.6~24.4 N·m/2 pcs (200~249 kgf·cm/2 pcs)
			H	24.5~29.4 N·m/2 pcs (250~300 kgf·cm/2 pcs)

- For top-opening doors.
- Designed to hold the door in fully opened position.
- For door hinge, piano/butt hinge or concealed hinge is suitable.
- AS parts set 1 for installing to aluminium frame also available.

[Specifications]

- Operating temperature: 0°C~40°C

[Remarks]

- Be sure to read the "Cautions" 2.
- Used in pairs.
- Do not push the door up more than opening angle 70°. And do not roughly open and close the door.

[Parts Included]

- Mounting plate
- Binding head tapping screw 3.5×15

[Applicable Range]

- Choose from 3 types according to maximum door moment.  
Maximum door moment (N·m) = Door weight (kg)×9.80665× Distance from rotation centre to door centre of gravity (m)

Maximum door moment N·m	Model	Qty
13.7~19.5	K	2 pcs
19.6~24.4	M	
24.5~29.4	H	

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Video Link



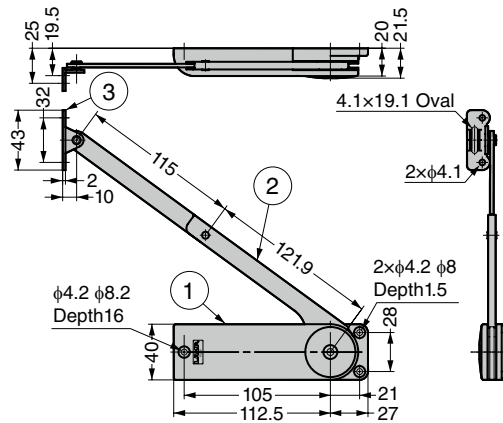
**S**election Tool  
**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening

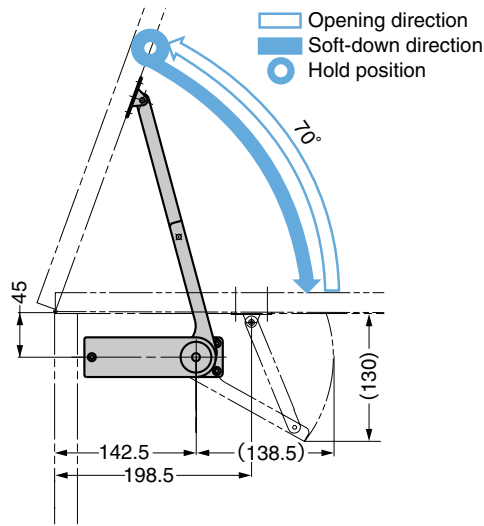


No.	Part Name	Material	Finish/Colour
①	Body	ABS	Black, White
②	Arm	Steel (SPCC)	Nickel
③	Mounting Plate		

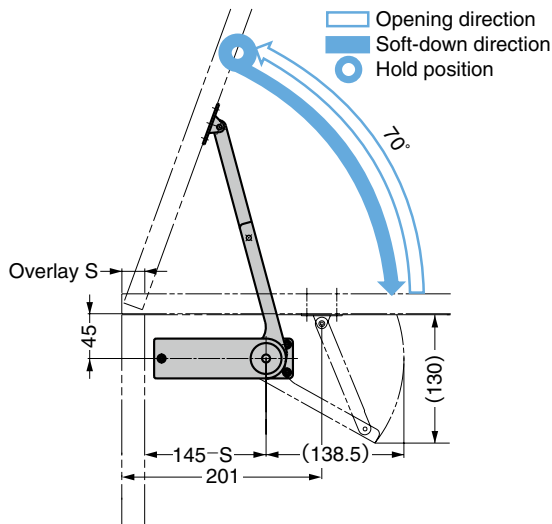
[Installation] Top-opening 70° and right side installation. Left side installation is symmetrical.

Refer to 1 : No.280 P.223, 2 : P.253

With piano/butt hinge



With concealed hinge



RoHS	CAD	Item Code	Item Name	Type	Material	Finish/Colour	Model	Maximum Door Moment N·m/2 pcs	Maximum Door Moment kgf·cm/2 pcs	Weight (g)	Box (pcs)	Carton (pcs)
CE	3D	180-109-237	HDS-20KL-BL	Left-handed	ABS/ Steel	Nickel/Black	K	13.7-19.5	140-199	284	40	40
CE	3D	180-109-236	HDS-20KR-BL	Right-handed		Nickel/Black				282	40	40
CE	3D	180-109-243	HDS-20KL-WT	Left-handed		Nickel/White				310	40	40
CE	3D	180-109-242	HDS-20KR-WT	Right-handed		Nickel/White				283	40	40
CE	3D	180-109-239	HDS-20ML-BL	Left-handed		M	Nickel/Black	19.6-24.4	200-249	288	40	40
CE	3D	180-109-238	HDS-20MR-BL	Right-handed			Nickel/Black			289	40	40
CE	3D	180-109-245	HDS-20ML-WT	Left-handed			Nickel/White			288	40	40
CE	3D	180-109-244	HDS-20MR-WT	Right-handed			Nickel/White			288	40	40
CE	3D	180-109-241	HDS-20HL-BL	Left-handed		H	Nickel/Black	24.5-29.4	250-300	297	40	40
CE	3D	180-109-240	HDS-20HR-BL	Right-handed			Nickel/Black			297	40	40
CE	3D	180-109-247	HDS-20HL-WT	Left-handed			Nickel/White			299	40	40
CE	3D	180-109-246	HDS-20HR-WT	Right-handed			Nickel/White			299	40	40

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening

# ADJUSTABLE SOFT-DOWN STAY NSDX-20 (R/L)



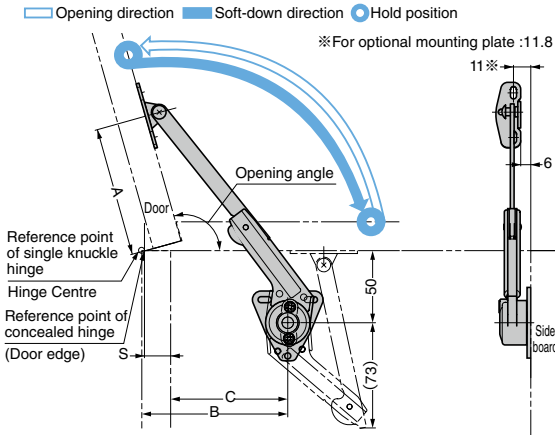
Right side installation shown.

### [Maximum Door Moment]

- With 1 stay  
Maximum door moment = 1.96-6.86 N · m
- With 2 stays, the maximum door moment will be doubled.  
Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

### [Installation] Right side installation for top-opening 105°. Left side installation is symmetrical.

Comes down slowly and softly in closing direction. Installation with piano/butt hinge or concealed hinge shown below.



Opening	Hinge Type	Installation dimensions vary depending on hinge type and opening angle.		
		A	B	C
70°	Concealed Hinge	126	-	101-S
	Single Knuckle Hinge	125	100	-
105°	Concealed Hinge	103	-	78-S
	Single Knuckle Hinge	97	72	-

Installation dimensions vary depending on hinge type and opening angle.

### [Body]

R/H/S	CAD	Item Code	Item Name	Type	Material	Finish	Maximum Door Moment N · m/pc	Maximum Door Moment kgf · cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
G	SD	180-109-481	NSDX-20R	Right-handed	Zinc Alloy (ZDC)/Steel	Nickel	1.96-6.86	20-70	170	20	80
G	SD	180-109-480	NSDX-20L	Left-handed	Steel	Nickel				20	80

### [Mounting Plate] Sold separately 3

R/H/S	CAD	Item Code	Item Name	Type	Weight (g)	Box (pcs)	Carton (pcs)
G	SD	180-109-032	NSDX-SZ	Screw on	14	160	640
G	SD	180-109-460	NSDX-CZ	Clip on	13	160	640
G	SD	180-109-019	NSDX-AZ	Clip on for 20 mm width Aluminium Frame	11	320	1280
G	SD	180-109-459	NSDX-GZ	Clip on Mounting Plate for Glass Door	14	160	640

Refer to 1 : No.280 P.227, 2 : P.253, 3 : No.280 P.267

Opening Direction	Description	Non-handed	Maximum Door Moment
Top-opening	With Catch	-	1.96-6.86 N · m/pc (20-70 kgf · cm/pc)

- For top-opening doors.
- Designed to hold the door in fully opened position.
- Opening angle 70° or 105°.
- Closing speed adjustable with adjustment screw.
- AS parts set 1 for installing to aluminium frame also available.

### [Specifications]

- Operating temperature: 0°C-40°C

### [Remarks]

- Be sure to read the "Cautions" 2.
- Handed: Specific left and right-handed.
- Door closing speed varies depending on product difference and conditions.
- Do not push the door up over the max. opening angle. Also do not forcibly press the door down when closing.

### [Sold Separately]

- Mounting plate 3
- SDS face plate and spacer for glass door (please order when using 3 mounting plate NSDX-GZ.)

### Video Link

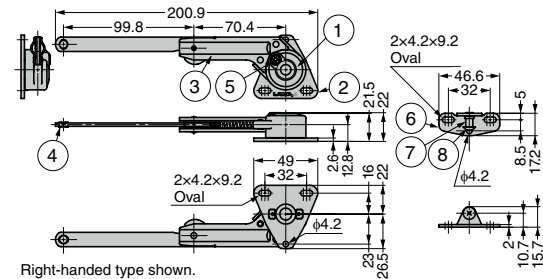


### Selection Tool

### Sasuga-kun

Applicable Products

Used for Product Selection & Simulation. Available on Web!



Right-handed type shown.

No.	Part Name	Material	Finish/Colour
①	Body	Zinc Alloy (ZDC)	Nickel
②	Mounting Plate	Steel (SPCC)	
③	Arm	Steel (SPCC)	Black
④	Sleeve	POM	
⑤	Adjustment Screw	Steel (SWCH)	Nickel
⑥	Arm Mounting Plate	Steel (SPCC)	
⑦	Shaft	Steel (SWCH)	
⑧	Truss Head Screw (M4×5)	Steel (SWCH)	

- S is overlay at hinge side. For concealed hinge, use our recommended hinge 230-26/19T.
- Reference point for each dimension: hinge centre for single knuckle hinge, while door edge for concealed hinge.

### [SDS Face Plate and Spacer for Glass Door] Sold Separately 3

(Please use with mounting plate NSDX-GZ.)

R/H/S	CAD	Item Code	Item Name	Material	Finish/Colour	Weight (g)	Box (pcs)	Carton (pcs)
G	SD	180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	25	50	200
G	SD	180-928-046	SDS-50G-BL		Black Enamel Finish/Black			

# ADJUSTABLE SOFT-DOWN STAY NSD-20



Soft Motion

Passed 30,000 open/close private cycle test



- For Top-opening flap door with piano, butt or concealed hinges.
  - Opening angle adjustable from 70° to 105°
  - Designed to hold door in fully opened position.
- Torque Calculation :  
 Torque = Door Height x 1/2 x Door Weight.  
 Per Piece : 20~70 kg-cm.

Material	Finish
Zinc Alloy, Steel	Nickel



Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

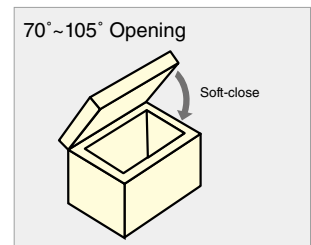
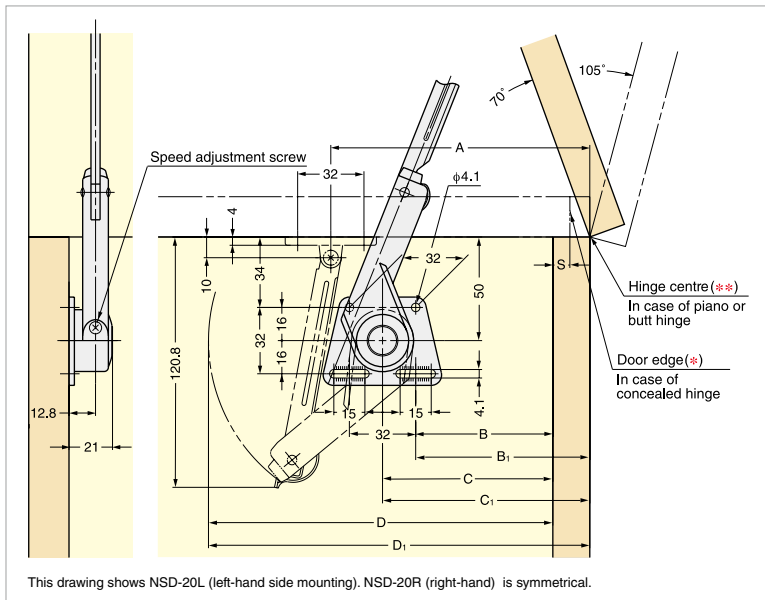
Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening



Opening Angle	Hinge Type	A	B	C	D	B <sub>1</sub>	C <sub>1</sub>	D <sub>1</sub>
70°	Concealed Hinge	126	85-S	101-S	185-S	-	-	-
	Piano / Butt Hinge	125	-	-	-	84	100	184
105°	Concealed Hinge	103	62-S	78-S	162-S	-	-	-
	Piano / Butt Hinge	97	-	-	-	56	72	156

Note: "S" dimension is the overlay distance for concealed hinge(s).

RdHS	CAD	Item Code	Item Name	Weight (g)	Box (pcs)	Carton (pcs)
-	SD	180-104-103	NSD-20R	210	20	80
-	SD	180-104-102	NSD-20L	210	20	80

SOFT-DOWN STAY SDS-200, SDS-201, SDS-210



Right side installation shown. (SDS-200-W)



Right side installation shown. (SDS-210-G)



Mounting plate SDS-A for SDS-210



Mounting plate SDS-B for SDS-200 and SDS-201

Opening Direction	Item Name	Description	Non-handed	Maximum Door Moment
 Top-opening	SDS-200	With Catch	Yes	3.43~4.9 N · m/pc (35~50 kgf · cm/pc)
	SDS-201			
	SDS-210	-		

- For top-opening doors.
- Non-handed: Can be installed either on left or right side.
- Designed to hold the door in fully opened position.
- Three types are available, depending on opening angle and type of hinge (sold separately).  
 SDS-200: Opening angle 70° ※, piano/butt hinge  
 SDS-201: Opening angle 70° ※, concealed hinge  
 SDS-210 (wide angle opening): Opening angle 105° ※, piano/butt hinge or concealed hinge  
 ※Fully opened angle of door at the installation position in the installation drawing next page.
- For opening angle or hinge type other than specified, please contact local representatives.

[Specifications]

- Operating temperature: 0°C~40°C

[Remarks]

- Be sure to read the "Cautions" 1.
- Do not push the door up over the max. opening angle. Also do not forcibly press the door down when closing.

[Parts Included]

- Mounting plate
- Countersunk head tapping screw 3.5×14

[Sold Separately]

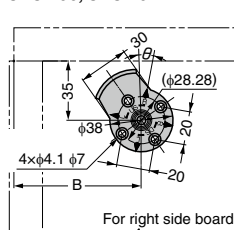
- SDS face plate and spacer for glass door 2

[Maximum Door Moment]

- With 1 stay  
 Maximum door moment = 3.43~4.9 N · m
- With 2 stays, the maximum door moment will be doubled.  
 Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

[Installation for Mounting Plate]

SDS-200, SDS-201

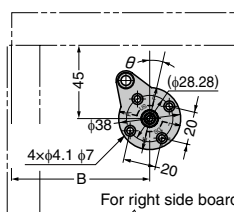


[Full Overlay]

Item Name	Hinge Type	Opening Angle	B	θ
SDS-200	Single Knuckle Hinge	70°	75	( 0' )
SDS-201	Concealed Hinge 230-26/19T		74	
SDS-210	Single Knuckle Hinge	105°	81	( 5' )
	Concealed Hinge 230-26/19T		87	(12' )

For right side board, install with the "→" mark of R at US side upwards.  
 For left side board, install with the "→" mark of L at US side upwards.

SDS-210



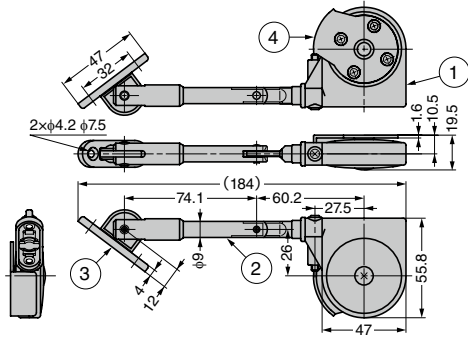
[Inset (Door Thickness 20mm)]

Item Name	Hinge Type	Opening Angle	B	θ
SDS-200	Single Knuckle Hinge	70°	63.5	(10' )
SDS-201	Concealed Hinge 230-26/0T		79	( 0' )
SDS-210	Single Knuckle Hinge	105°	70	(15' )

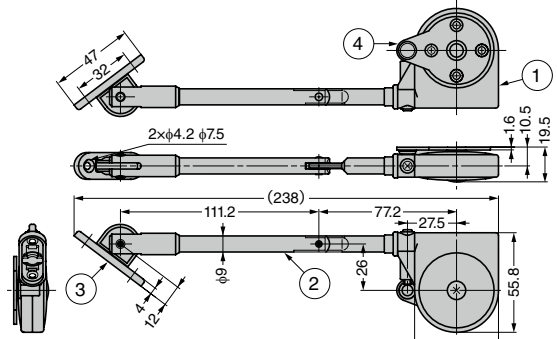
For right side board, install with the "→" mark of R at US side upwards.  
 For left side board, install with the "→" mark of L at US side upwards.

Refer to 1 : P.253, 2 : No.280 P.267

- Damper Hinges
- Soft Closing Stays
- Door Dampers
- Brackets & Shelving Systems
- Soft Close Slides
- Recessed Hooks
- Top-Opening
- Downward-Opening
- Upward-Opening
- Bottom-Opening



SDS-200, SDS-201



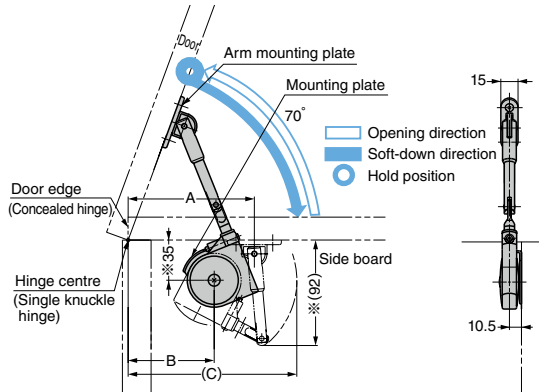
SDS-210

No.	Part Name	Material	Finish/Colour
①	Body	ABS	White, Grey, Umber
②	Arm	Steel (SPCC)	Nickel
③	Arm Mounting Plate		
④	Mounting Plate		

[Installation SDS-200 and SDS-201]

Right side installation for top-opening 70°. Left side installation is symmetrical.

Comes down slowly and softly in closing direction. Installation with piano/butt hinge or concealed hinge shown below.

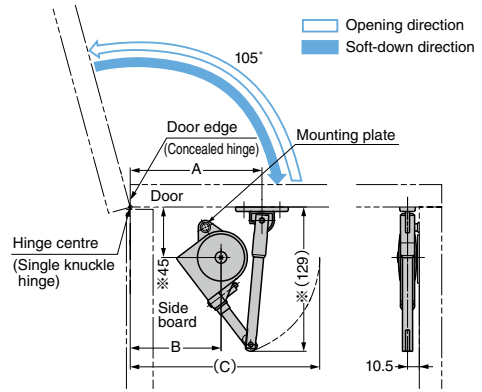


- Installation dimensions vary depending on hinge type. Reference point of installation dimension (A, B, C) : hinge centre for piano/butt hinge, while door edge for concealed hinge.
- Reference point of ※ marked dimensions is the back side of door.

[Installation SDS-210]

Right side installation for top-opening 105°. Left side installation is symmetrical.

Comes down slowly and softly in closing direction. Installation with piano/butt hinge or concealed hinge shown below.



[Full Overlay]

Item Name	Hinge Type	Opening Angle	A	B	C
SDS-200	Single knuckle hinge	70°	110	75	147
SDS-201	Concealed Hinge 230-26/19T		109	74	146
SDS-210	Single knuckle hinge	105°	117.5	81	169
	Concealed Hinge 230-26/19T		123.5	87	175

[Inset (Door Thickness 20mm)]

Item Name	Hinge Type	Opening Angle	A	B	C
SDS-200	Single knuckle hinge	70°	98.5	63.5	135
SDS-201	Concealed Hinge 230-26/OT		114	79	151
SDS-210	Single knuckle hinge	105°	108.3	70	157.3

[Body]

RHS	CAD	Item Code	Item Name	Material	Finish/Colour	Maximum Door Moment (N·m/pc)	Maximum Door Moment (kgf·cm/pc)	Weight (g)	Box (pcs)	Carton (pcs)
✔	☒	180-100-268	SDS-200-W	ABS/Steel	Nickel/Grey	3.43-4.9	35-50	153	20	100
✔	☒	180-100-269	SDS-200-G		Nickel/Umber				20	100
✔	☒	180-100-270	SDS-200-U		Nickel/White				20	100
✔	☒	180-100-271	SDS-201-W		Nickel/Grey				20	100
✔	☒	180-100-272	SDS-201-G		Nickel/Umber				20	100
✔	☒	180-100-273	SDS-201-U		Nickel/White				20	100
✔	☒	180-100-274	SDS-210-W		Nickel/Grey			159	20	100
✔	☒	180-100-275	SDS-210-G		Nickel/Umber				20	100
✔	☒	180-100-276	SDS-210-U		Nickel/White				20	100

[SDS Face Plate and Spacer for Glass Door] Sold Separately

RHS	CAD	Item Code	Item Name	Material	Finish/Colour	Weight (g)	Box (pcs)	Carton (pcs)
✔	☒	180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	25	50	200
✔	☒	180-928-046	SDS-50G-BL		Black Enamel Finish/Black		50	200

Refer to 1 : No.280 P.267

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening

SELF-CLOSE STAY HDS-10S For Use in Pairs



INSTRUCTION

VIDEO



Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks



[Applicable Range]

- Choose from 4 types according to maximum door moment.
- Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

Maximum door moment N · m	Model	Qty
5.9~ 9.3	K	2 pcs
9.3~12.7	M	
10.8~15.7	H	
13.7~17.6	S	

Top-Opening

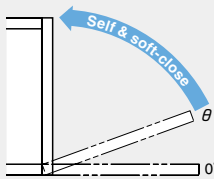
Downward-Opening

Upward-Opening

Bottom-Opening

● Self & Soft-close

Self-closes after a small impulse.



Model	Self & Soft-close Starting Angle θ
K	5° ~35°
M	5° ~20°
H	5° ~20°
S	5° ~15°

Opening Direction	Description	Non-handed	Model	Maximum Door Moment
 Downward-opening	Self-close With Catch For Use in Pairs	-	K	5.9-9.3 N·m/2 pcs (60-95 kgf·cm/2 pcs)
			M	9.3-12.7 N·m/2 pcs (95-130 kgf·cm/2 pcs)
			H	10.8-15.7 N·m/2 pcs (110-160 kgf·cm/2 pcs)
			S	13.7-17.6 N·m/2 pcs (140-180 kgf·cm/2 pcs)

- For downward opening flaps.
- Self-closes after a small impulse.
- Holds door in fully closed or fully opened position.
- For door hinge, piano/butt hinge or 3-way adjustable drop hinge SDH-001 is suitable.

[Specifications]

- Operating temperature: 0°C-40°C

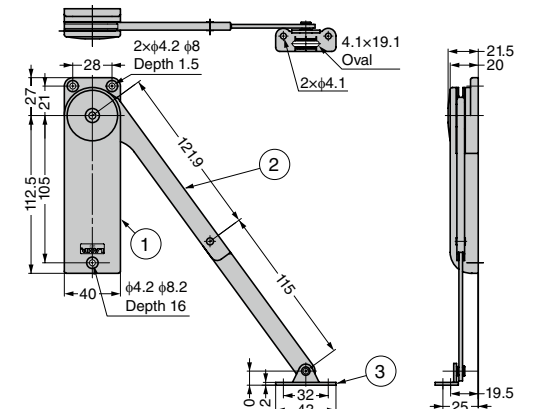
[Remarks]

- Be sure to read the "Cautions" 1.
- Used in pairs.
- When placing objects or working on the surface of opened door, install a brace or reinforcement material to support the door in addition to the stay.
- Do not roughly open and close the door.

[Parts Included]

- Mounting plate
- Binding head tapping screw 3.5×15

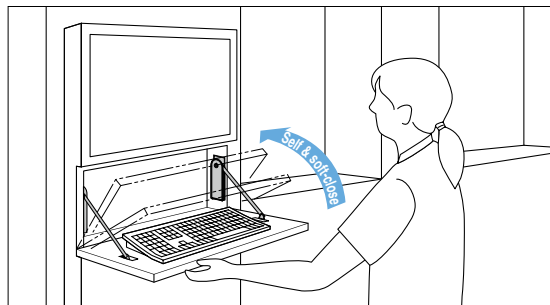
Video Link



Right-handed type shown.

No.	Part Name	Material	Finish
①	Body	ABS	Black, White
②	Arm	Steel (SPCC)	Nickel
③	Mounting Plate		

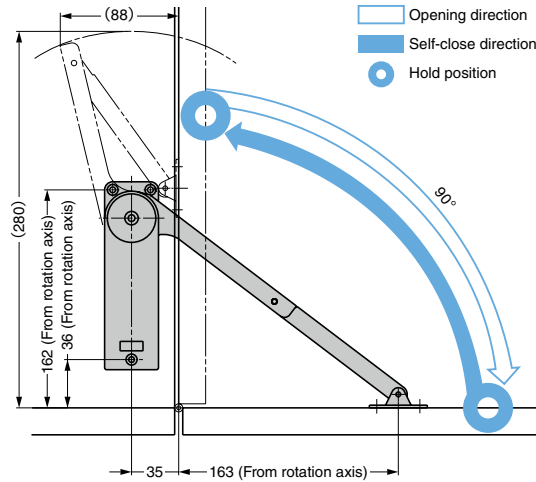
[Application Example]



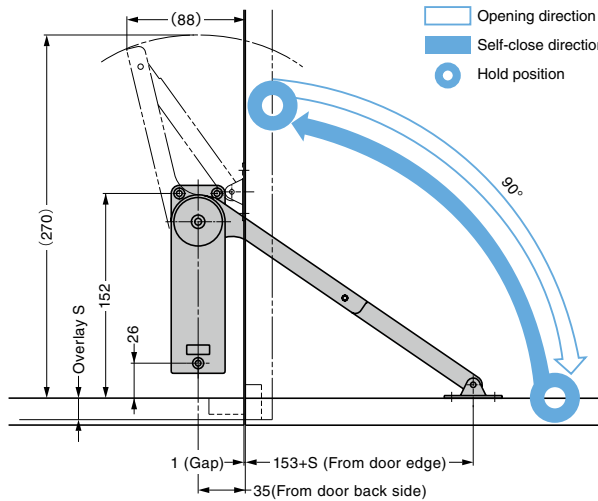
Refer to 1 : P.253, 2 : No.280 P.178

[Installation] Right side installation for downward-opening 90°. Left side installation is symmetrical.

With single knuckle hinge



With drop hinge



Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

Downward-Opening


Upward-Opening

Bottom-Opening

RHS	CAD	Item Code	Item Name	Type	Material	Finish/Colour	Model	Maximum Door Moment N·m/2 pcs	Maximum Door Moment kgf·cm/2 pcs	Weight (g)	Box (pcs)
☑	3D	180-025-872	HDS-10S-KL-BL	Left-handed	ABS/Steel	Nickel/Black	K	5.9-9.3	60-95	292	40
☑	3D	180-026-723	HDS-10S-KL-WT	Left-handed		Nickel/White				292	40
☑	3D	180-025-873	HDS-10S-KR-BL	Right-handed		Nickel/Black				292	40
☑	3D	180-026-724	HDS-10S-KR-WT	Right-handed		Nickel/White				292	40
☑	3D	180-025-874	HDS-10S-ML-BL	Left-handed		Nickel/Black	M	9.3-12.7	95-130	301	40
☑	3D	180-026-725	HDS-10S-ML-WT	Left-handed		Nickel/White				301	40
☑	3D	180-025-875	HDS-10S-MR-BL	Right-handed		Nickel/Black				301	40
☑	3D	180-026-726	HDS-10S-MR-WT	Right-handed		Nickel/White				301	40
☑	3D	180-025-876	HDS-10S-HL-BL	Left-handed		Nickel/Black	H	10.8-15.7	110-160	309	40
☑	3D	180-026-727	HDS-10S-HL-WT	Left-handed		Nickel/White				309	40
☑	3D	180-025-877	HDS-10S-HR-BL	Right-handed		Nickel/Black				309	40
☑	3D	180-026-728	HDS-10S-HR-WT	Right-handed		Nickel/White				309	40
☑	3D	180-025-902	HDS-10S-SL-BL	Left-handed		Nickel/Black	S	13.7-17.6	140-180	312	40
☑	3D	180-026-729	HDS-10S-SL-WT	Left-handed		Nickel/White				312	40
☑	3D	180-025-903	HDS-10S-SR-BL	Right-handed		Nickel/Black				312	40
☑	3D	180-026-730	HDS-10S-SR-WT	Right-handed		Nickel/White				312	40

# HEAVY DUTY SOFT-DOWN STAY HDS-10 For Use in Pairs



Opening Direction	Description	Non-handed	Model	Maximum Door Moment
 Downward-opening	With Catch	-	K	13.7~19.5 N·m/2 pcs (140~199 kgf·cm/2 pcs)
	For Use in Pairs		M	19.6~24.4 N·m/2 pcs (200~249 kgf·cm/2 pcs)
			H	24.5~29.4 N·m/2 pcs (250~300 kgf·cm/2 pcs)

- For downward-opening doors.
- Designed to hold the door in fully closed position.
- For door hinge, piano/butt hinge or 3-way adjustable drop hinge SDH-001 **1** is suitable.
- AS parts set **2** for installing to aluminium frame also available.

**[Specifications]**

- Operating temperature: 0°C~40°C

**[Remarks]**

- Be sure to read the "Cautions" **3**.
- Handed: Specific left and right-handed.
- Used in pairs.
- When placing objects or working on the surface of opened door, install a brace or reinforcement material to support the door in addition to the stay.
- Do not roughly open and close the door.

**[Parts Included]**

- Mounting plate
- Binding head tapping screw 3.5×15

**[Applicable Range]**

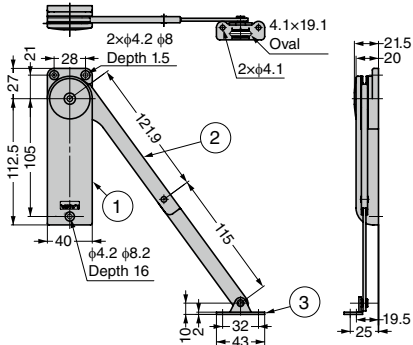
- Choose from 3 types according to maximum door moment.  
Maximum door moment (N·m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

Maximum door moment N·m	Model	Qty
13.7~19.5	K	2 pcs
19.6~24.4	M	
24.5~29.4	H	

**Video Link**



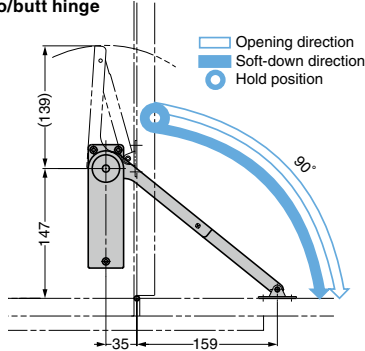
**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!



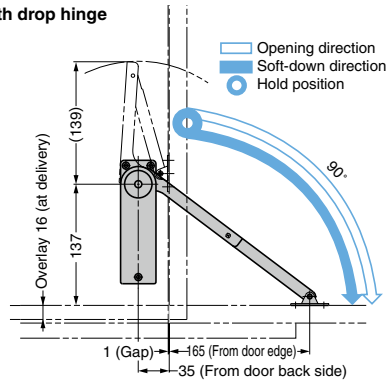
No.	Part Name	Material	Finish
①	Body	ABS	Black, White
②	Arm	Steel (SPCC)	Nickel
③	Mounting Plate		

**[Installation]** Right side installation for downward-opening 90°. Left side installation is symmetrical.

With piano/butt hinge



With drop hinge



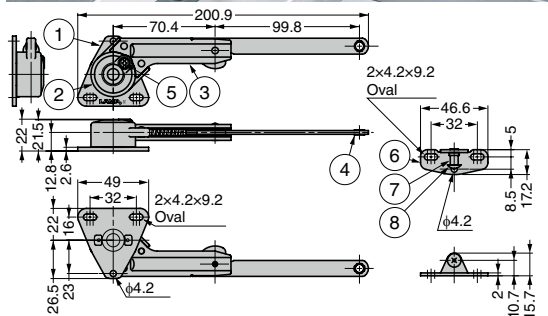
RoHS	CAD	Item Code	Item Name	Type	Material	Finish/Colour	Model	Maximum Door Moment N·m/2 pcs	Maximum Door Moment kgf·cm/2 pcs	Weight (g)	Box (pcs)
✓	3D	180-104-067	HDS-10KL-BL	Left-handed	ABS/Steel	Nickel/Black	K	13.7~19.5	140~199	292	40
✓	3D	180-104-066	HDS-10KR-BL	Right-handed		Nickel/Black				292	40
✓	3D	180-104-073	HDS-10KL-WT	Left-handed		Nickel/White				292	40
✓	3D	180-104-072	HDS-10KR-WT	Right-handed		Nickel/White	M	19.6~24.4	200~249	302	40
✓	3D	180-104-069	HDS-10ML-BL	Left-handed		Nickel/Black				302	40
✓	3D	180-104-068	HDS-10MR-BL	Right-handed		Nickel/Black				302	40
✓	3D	180-104-075	HDS-10ML-WT	Left-handed		Nickel/White	H	24.5~29.4	250~300	302	40
✓	3D	180-104-074	HDS-10MR-WT	Right-handed		Nickel/White				302	40
✓	3D	180-104-071	HDS-10HL-BL	Left-handed		Nickel/Black				308	40
✓	3D	180-104-070	HDS-10HR-BL	Right-handed		Nickel/Black	H	24.5~29.4	250~300	308	40
✓	3D	180-104-077	HDS-10HL-WT	Left-handed		Nickel/White				308	40
✓	3D	180-104-076	HDS-10HR-WT	Right-handed		Nickel/White				308	40

Refer to **1** : No.280 P.178, **2** : No.280 P.239, **3** : P.253

# ADJUSTABLE SOFT-DOWN STAY NSDX-10 (R/L)



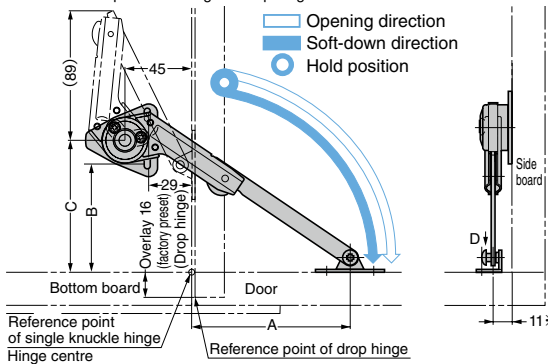
Soft Motion



No.	Part Name	Material	Finish/Colour
①	Body	Zinc Alloy (ZDC)	Nickel
②	Mounting plate	Steel (SPCC)	
③	Arm		POM
④	Sleeve		
⑤	Adjustment Screw	Steel (SWCH)	Nickel
⑥	Arm Mounting Plate	Steel (SPCC)	
⑦	Shaft	Steel (SWCH)	
⑧	Truss head screw (M4×5)	Steel (SWCH)	

**[Installation] Right side installation for downward-opening 90°. Left side installation is symmetrical.**

Comes down slowly and softly in opening direction. Installation with piano/butt hinge or drop hinge shown below.



Reference point of single knuckle hinge: Hinge centre. Reference point of drop hinge: Hinge centre.

RoHS	CAD	Item Code	Item Name	Type	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	SD	180-109-008	NSDX-10R	Right-handed	Zinc Alloy (ZDC)/Steel	Nickel	1.96-6.86	20-70	170	20	80
RoHS	SD	180-109-009	NSDX-10L	Left-handed	Steel	Nickel	1.96-6.86	20-70	170	20	80

**[Mounting Plate] Sold Separately 3**

RoHS	CAD	Item Code	Item Name	Type	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	SD	180-109-032	NSDX-SZ	Screw on	14	160	640
RoHS	SD	180-109-460	NSDX-CZ	Clip on	13	160	640
RoHS	SD	180-109-019	NSDX-AZ	Clip on for 20 mm width Aluminium Frame	11	320	1280
RoHS	SD	180-109-459	NSDX-GZ	Clip on Mounting Plate for Glass Door	14	160	640

Refer to 1: No.280 P.243, 2: P.253, 3: 4: No.280 P.267, 5: No.280 P.178, 6: No.280 P.177

Opening Direction	Description	Non-handed	Maximum Door Moment
Downward-opening	With Catch	-	1.96-6.86 N·m/pc (20-70 kgf·cm/pc)

- For downward-opening doors.
- Designed to hold the door in fully closed position.
- Door opening speed can be adjusted with adjustment screw.
- AS parts set 1 for installing to aluminium frame also available.

**[Specifications]**

● Operating temperature: 0°C-40°C

**[Remarks]**

- Be sure to read the "Cautions" 2.
- Handed: Specific left and right-handed.
- Door opening speed varies depending on product and conditions.
- When placing objects or working on the surface of opened door, install a brace or reinforcement material to support the door in addition to the stay.

**[Sold Separately]**

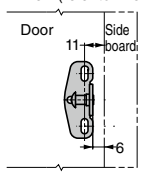
- Mounting plate 3
- SDS face plate and spacer for glass door 4

**[Maximum Door Moment]**

- With 1 stay  
Maximum door moment = 1.96-6.86 N·m
- With 2 stays, the maximum door moment will be doubled.  
Maximum door moment (N·m) = Door weight (kg)×9.80665×Distance from rotation centre to door centre of gravity (m)

**[Installation for Mounting Plate]**

D-view (refer to "Installation")



Hinge Type	A	B	C
Drop Hinge (SDH-001)	97※2	91	107
Drop Hinge (SDH-P)	98※3	88	104
Piano/Butt Hinge	90	99	115

Installation dimensions vary depending on hinge type.

- ※1: 11.8 for optional mounting plate.
- ※2: In case of overlay 16 mm (factory preset). For drop hinge, use our 3-way adjustable type SDH-001 5.
- ※3: In case of overlay 19mm (factory preset). Use SDH-P 6.
- Reference point for each dimension: hinge centre for single knuckle hinge, while door edge for drop hinge.

**[SDS Face Plate and Spacer for Glass Door] Sold Separately 4 (Please use with mounting plate NSDX-GZ.)**

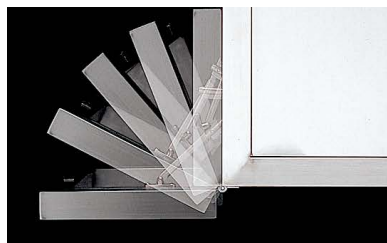
RoHS	CAD	Item Code	Item Name	Material	Finish/Colour	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	SD	180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)	Chrome/Black	25	50	200
RoHS	SD	180-928-046	SDS-50G-BL	ABS	Black Enamel Finish/Black			

# ADJUSTABLE SOFT-DOWN STAY NSD-10



- For downward-opening flap door with piano, butt or drop Hinges.
- NSD-10 is designed to hold door in closed position.
- Torque Calculation :  
Torque = Door Height x 1/2 x Door Weight.  
Per Piece : 20~70 kg-cm.  
Per Pair : 40~140 kg-cm.

Material	Finish
Zinc Alloy, Steel	Bright Nickel



Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

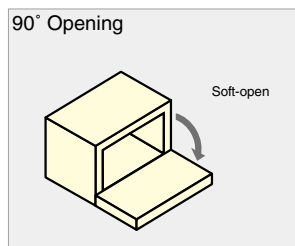
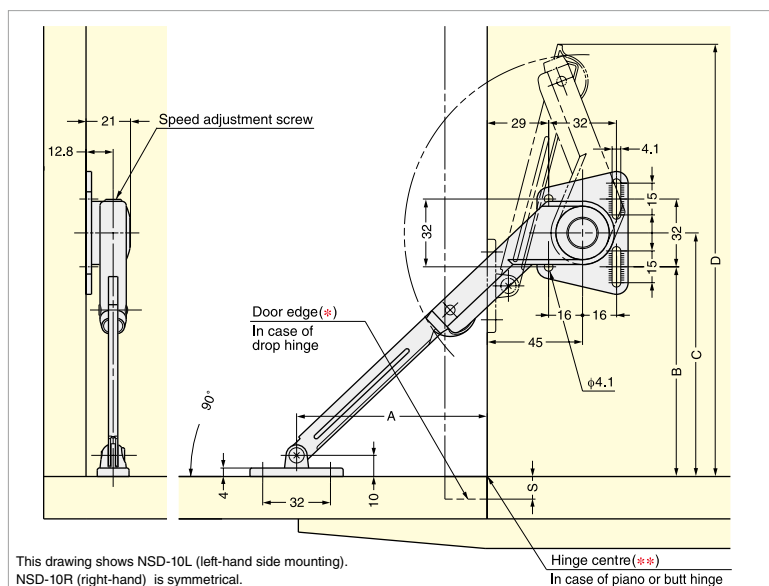
Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening



The distance for A, B, C is measured from "door edge (\*)" and "top surface of bottom board" when drop hinges are used, and from "hinge centre (\*\*)" and "top surface of bottom board" when piano or butt hinges are used.

Hinge Type	A	B	C	D
Drop Hinge	97	106-S	122-S	211-S
Piano / Butt Hinge	90	99	115	204

Note: "S" dimension is the overlay distance for drop hinge(s).

RdHS	CAD	Item Code	Item Name	Weight (g)	Box (pcs)	Carton (pcs)
-	3D	180-109-376	NSD-10R	210	20	80
-	3D	180-109-381	NSD-10L	210	20	80

# SHORT ARM SOFT-DOWN STAY NSDX-10 (R/L) K-TV



Soft Motion



Opening Direction	Description	Non-handed	Maximum Door Moment
Downward-opening	With Catch	-	0.98~1.96 N·m/pc (10~20 kgf·cm/pc)

- For downward-opening doors.
- Designed to hold the door in fully closed position.
- Opening speed can be adjusted with adjustment screw.

### [Specifications]

- Operating temperature: 0°C~40°C

### [Remarks]

- Be sure to read the "Cautions" **1**.
- Handed: Specific left and right-handed.
- Door opening speed varies depending on product and conditions.
- When placing objects or working on the surface of opened door, install a brace or reinforcement material to support the door in addition to the stay.

### [Parts Included]

- Mounting plate NSDX-SZ
- Binding head tapping screw 3.5×15

### [Sold Separately]

- Mounting plate **2**
- SDS face plate and spacer for glass door **2**

### [Maximum Door Moment]

- With 1 stay  
Maximum door moment = 0.98 N~1.96 N·m
- With 2 stays, the maximum door moment will be doubled.  
Maximum door moment (N·m) = Door weight (kg)×9.80665×Distance from rotation centre to door centre of gravity (m)

### Video Link



**S**election Tool

**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

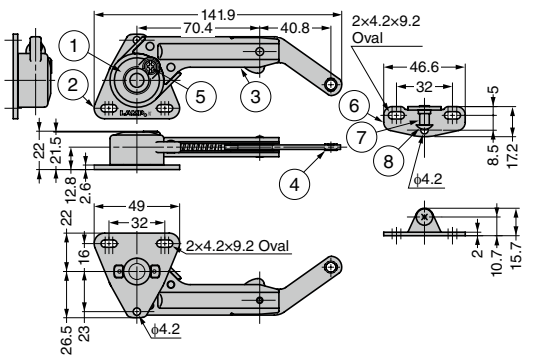
Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

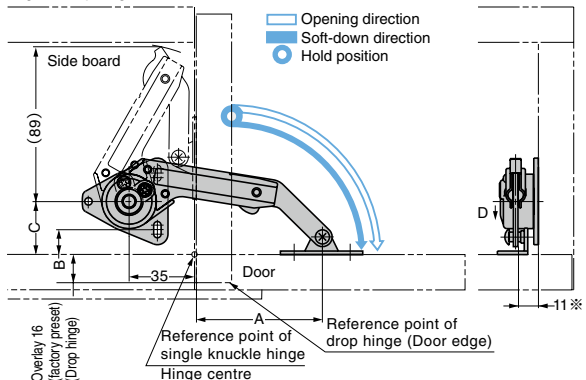
Bottom-Opening



No.	Part Name	Material	Finish/Colour
1	Body	Zinc Alloy (ZDC)	Nickel
2	Mounting plate	Steel (SPCC)	
3	Arm	Steel (SPCC)	Black
4	Sleeve	POM	
5	Adjustment Screw	Steel (SWCH)	Nickel
6	Arm Mounting Plate	Steel (SPCC)	
7	Shaft	Steel (SWCH)	
8	Truss Head Screw (M4×5)		

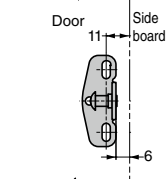
### [Installation] Right side installation for downward-opening 90°. Left side installation is symmetrical.

Comes down slowly and softly in opening direction. Installation with piano/butt hinge or drop hinge shown below.



### [Installation for Mounting Plate]

D-view (refer to "Installation")



Hinge Type	A	B	C
Drop Hinge (SDH-001)	74※ <sub>2</sub>	14	30
Drop Hinge (SDH-P)	75※ <sub>3</sub>	12	28
Piano/Butt Hinge	71	27	43

Installation dimensions vary depending on hinge type.

- ※<sub>1</sub> : 11.8 for optional mounting plate.
- ※<sub>2</sub> : In case of overlay 16 mm (factory preset).
- For drop hinge, use our 3-way adjustable type SDH-001 **3**.
- ※<sub>3</sub> : In case of overlay 19mm (factory preset). Use SDH-P **4**.
- Reference point for each dimension: hinge centre for single knuckle hinge, while door edge for drop hinge.

### [Body]

RoHS	CAD	Item Code	Item Name	Type	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	SD	180-016-425	NSDX-10RK-TV	Right-handed	Zinc Alloy (ZDC)/Steel	Nickel	0.98~1.96	10~20	143	20	80
RoHS	SD	180-016-424	NSDX-10LK-TV	Left-handed						20	80

### [Mounting Plate] Sold Separately **2**

RoHS	CAD	Item Code	Item Name	Type	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	SD	180-109-460	NSDX-CZ	Clip on	13	160	640
RoHS	SD	180-109-019	NSDX-AZ	Clip on for 20 mm width Aluminium Frame	11	320	1280
RoHS	SD	180-109-459	NSDX-GZ	Clip on for Glass Door	14	160	640

### [SDS Face Plate and Spacer for Glass Door] Sold Separately **2**

(Please use with mounting plate NSDX-GZ.)

RoHS	CAD	Item Code	Item Name	Material	Finish/Colour	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	SD	180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	25	50	200
RoHS	SD	180-928-046	SDS-50G-BL		Black Enamel Finish/Black		50	200

Refer to **1** : P.253, **2** : No.280 P.267, **3** : No.280 P.178, **4** : No.280 P.177

SOFT-DOWN STAY SDS-100, SDS-C100



Opening Direction	Item Name	Description	Non-handed	Maximum Door Moment
Downward-opening	SDS-100	-	Yes	3.43~4.9 N · m/pc (35~50 kgf · cm/pc)
	SDS-C100	With Catch		

- For downward-opening doors.
- Non-handed: Can be installed either on left or right side.
- SDS-C100 (with catch) is designed to hold the door in fully closed position. Catch is necessary when using SDS-100 (without catch).
- For door hinge, piano/butt hinge or 3-way adjustable drop hinge SDH-001 1 is suitable.

[Specifications]

- Operating temperature: 0°C~40°C

[Remarks]

- Be sure to read the "Cautions" 2 .
- When placing objects or working on the surface of opened door, install a brace or reinforcement material to support the door in addition to the stay.

[Parts Included]

- Mounting plate SDS-A
- Countersunk head tapping screw 3.5×14

[Sold Separately]

- SDS face plate and spacer for glass door 3

Video Link



Selection Tool

Sasuga-kun  
Applicable Products

Used for Product Selection & Simulation.  
Available on Web!

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks



[Maximum Door Moment]

- With 1 stay  
Maximum door moment = 3.43~4.9 N · m
- With 2 stays, the maximum door moment will be doubled.  
Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

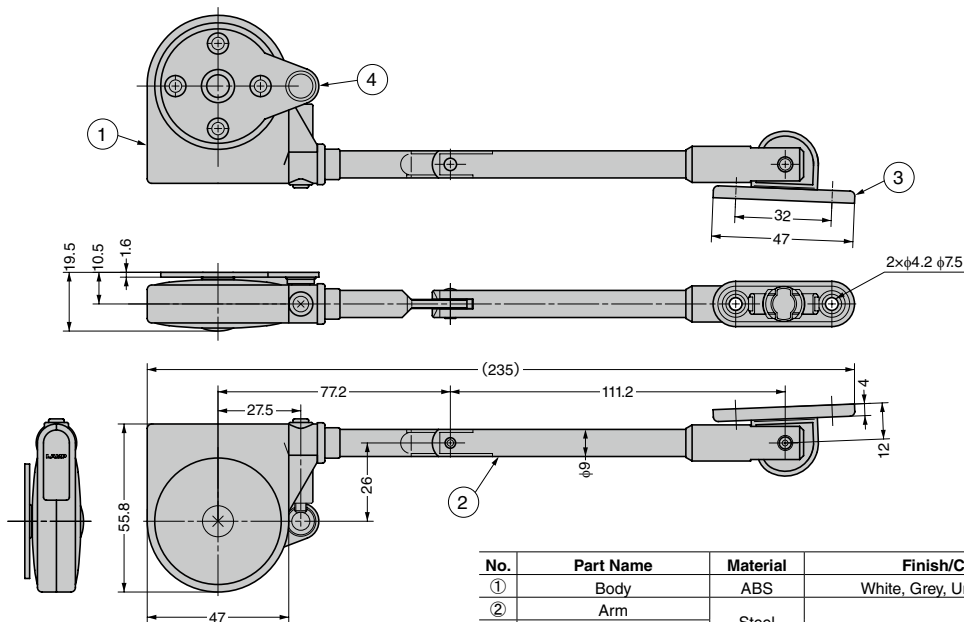


Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening

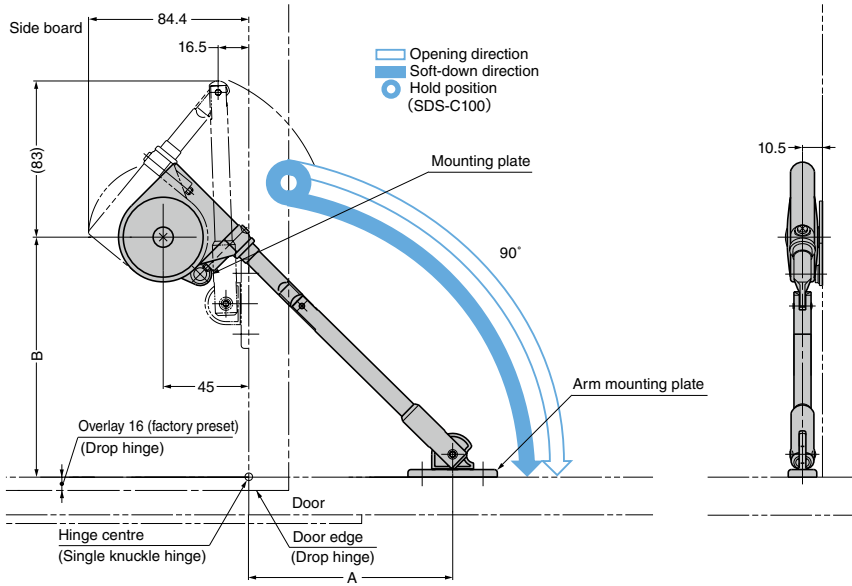


No.	Part Name	Material	Finish/Colour
①	Body	ABS	White, Grey, Umber, Black
②	Arm	Steel (SPCC)	Nickel
③	Arm Mounting Plate		
④	Mounting Plate		

Refer to 1 : No.280 P.178, 2 : P.253, 3 : No.280 P.267

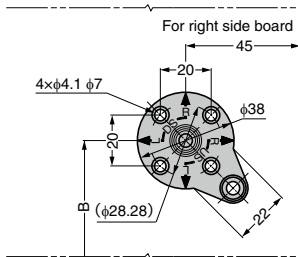
**[Installation] Right side installation for downward-opening 90° . Left side installation is symmetrical.**

Comes down slowly and softly in opening direction. Installation with piano/butt hinge or drop hinge shown below.



Installation dimensions vary depending on hinge type. Reference point of installation dimension: hinge centre for piano/butt hinge or two-piece piano hinge, while door edge for drop hinge **1**.

**[Installation for Mounting Plate]**



For right side board, install with the "→" mark of R at DS side directly upwards.  
For left side board, install with the "→" mark of L at DS side directly upwards.

Hinge Type	Arm Mounting Plate Position	Mounting Plate Position
	A	B
Single Knuckle Hinge	100	135
Drop Hinge (SDH-001)	107※ <sub>1</sub>	126
Drop Hinge (SDH-P)	108.5※ <sub>2</sub>	124.5

※<sub>1</sub> In case of overlay 16mm (factory preset)  
※<sub>2</sub> In case of overlay 19mm (factory preset)

**[Body]**

RoHS	CAD	Item Code	Item Name	Type	Material	Finish/Colour	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
CE	SD	180-100-261	SDS-100W	Without Catch	ABS/Steel	Nickel/White	3.43-4.9	35-50	167	20	100
CE	SD	180-014-892	SDS-C100-W	With Catch		Nickel/White				20	100
CE	SD	180-100-262	SDS-100G	Without Catch		Nickel/Grey				20	100
CE	SD	180-100-266	SDS-C100-G	With Catch		Nickel/Grey				20	100
CE	SD	180-100-263	SDS-100U	Without Catch		Nickel/Umber				20	100
CE	SD	180-100-267	SDS-C100-U	With Catch		Nickel/Umber				20	100
CE	SD	180-027-278	SDS-100-B	Without Catch		Nickel/Black				20	100
CE	SD	180-014-891	SDS-C100-B	With Catch		Nickel/Black				20	100

**[SDS Face Plate and Spacer for Glass Door] Sold Separately **2****

RoHS	CAD	Item Code	Item Name	Material	Finish/Colour	Weight (g)	Box (pcs)	Carton (pcs)
CE	SD	180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	25	50	200
CE	SD	180-928-046	SDS-50G-BL		Black Enamel Finish/Black		50	200

Refer to **1** : No.280 P.178, **2** : No.280 P.267

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening



Soft Motion

## SHORT ARM SOFT-DOWN STAY SDS-100-TV, SDS-C100-TV



Damper Hinges

Soft Closing Stays

Door Dampers

Brackets &amp; Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

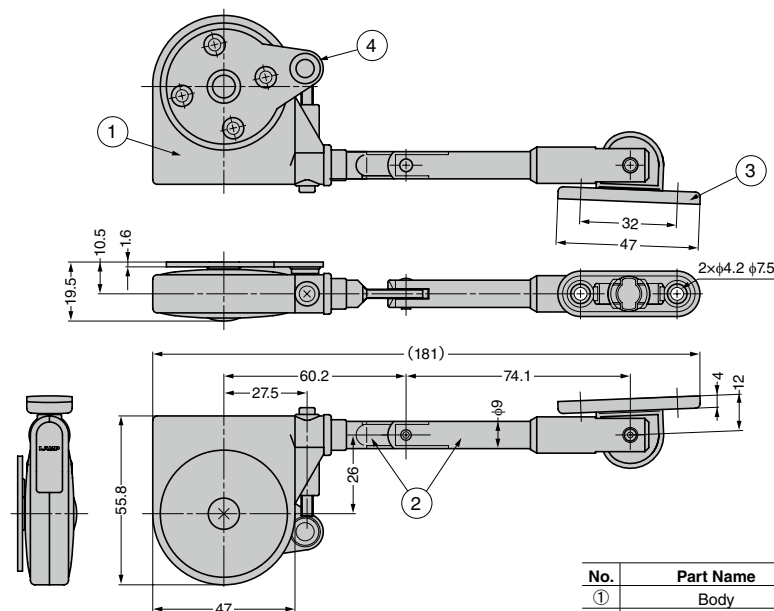
Bottom-Opening

## [Applicable Range]

- Choose from 2 types according to maximum door moment.  
Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

Maximum door moment N · m	Item Name Suffix	Qty
0.49~1.18	TV	1 pc
1.62~3.68	TVZ	

- With 2 stays, the maximum door moment will be doubled.



Opening Direction	Item Name	Description	Non-handed	Maximum Door Moment
 Downward-opening	SDS-100W(B)-TV	-	Yes	0.49~1.18 N · m/pc (5~12 kgf · cm/pc)
	SDS-100W(B)-TVZ			1.62~3.68 N · m/pc (16.5~37.6 kgf · cm/pc)
	SDS-C100W(B)-TV	With Catch		0.49~1.18 N · m/pc (5~12 kgf · cm/pc)
	SDS-C100W(B)-TVZ			1.62~3.68 N · m/pc (16.5~37.6 kgf · cm/pc)

- For downward-opening doors.
- Non-handed: Can be installed either on left or right side.
- SDS-C100-TV (with catch) is designed to hold the door in fully closed position. Catch is necessary when using SDS-100-TV (without catch).
- 3-way adjustable drop hinge SDH-001 1 is suitable.

## [Specifications]

- Operating temperature: 0°C~40°C

## [Remarks]

- Be sure to read the "Cautions" 2.
- When placing objects or working on the surface of opened door, install a brace or reinforcement material to support the door in addition to the stay.

## [Parts Included]

- Mounting plate SDS-A
- Countersunk head tapping screw 3.5×14

## [Sold Separately]

- SDS face plate and spacer for glass door 3

## Video Link



## Selection Tool

Sasuga-kun

Applicable Products

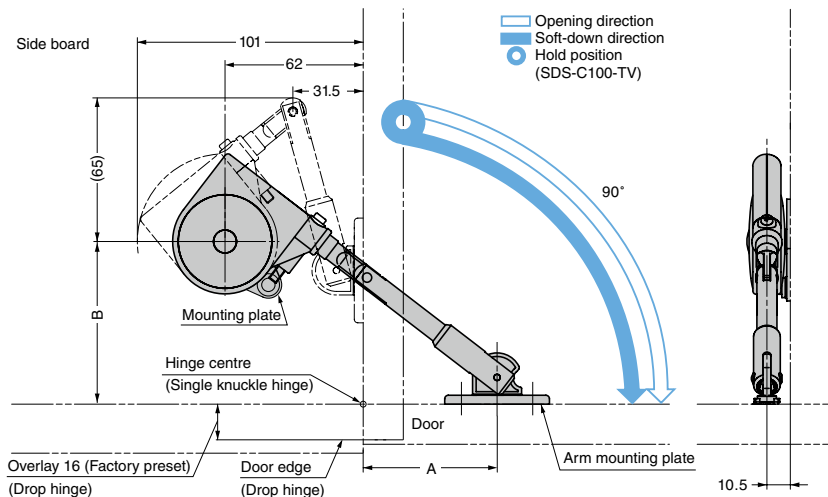
Used for Product Selection & Simulation.  
Available on Web!

No.	Part Name	Material	Finish/Colour
①	Body	ABS	White, Black
②	Arm	Steel (SPCC)	Nickel
③	Arm Mounting Plate		
④	Mounting plate		

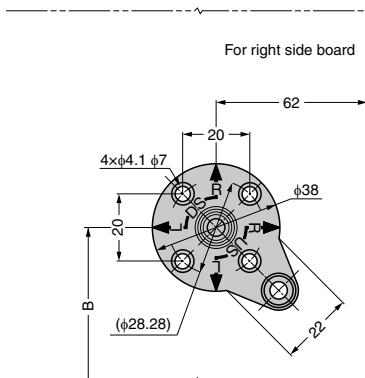
Refer to 1 : No.280 P.178, 2 : P.253, 3 : No.280 P.267

[Installation] Right side installation for downward-opening 90° .

Comes down slowly and softly in opening direction. Installation with piano/butt hinge or drop hinge shown below.



[Installation for Mounting Plate]



For right side board, install with the "→" mark of R at DS side directly upwards.  
For left side board, install with the "→" mark of L at DS side directly upwards.

Hinge Type	A	B
Single Knuckle Hinge	60	73
Drop Hinge (SDH-001)	65※ <sub>1</sub>	62
Drop Hinge (SDH-P)	66※ <sub>2</sub>	60

● ※<sub>1</sub> In case of overlay 16 mm (factory preset).  
● ※<sub>2</sub> In case of overlay 19mm (factory preset).  
※ Install according to the dimensions in the above figure and table after making door overlay, clearance and horizontal adjustment.

[Body]

RHS	CAD	Item Code	Item Name	Type	Colour	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
☑	SD	180-100-258	SDS-100W-TV	Without Catch	White	0.49~1.18	5~12	144	20	100
☑	SD	180-100-259	SDS-100B-TV		Black			144	20	100
☑	SD	180-100-006	SDS-C100W-TV	With Catch	White	1.62~3.68	16.5~37.6	154	20	100
☑	SD	180-109-263	SDS-C100B-TV		Black			152	20	100
☑	SD	180-014-181	SDS-100W-TVZ	Without Catch	White	1.62~3.68	16.5~37.6	147	20	100
☑	SD	180-014-182	SDS-100B-TVZ		Black			147	20	100
☑	SD	180-014-183	SDS-C100W-TVZ	With Catch	White	1.62~3.68	16.5~37.6	154	20	100
☑	SD	180-014-184	SDS-C100B-TVZ		Black			158	20	100

[SDS Face Plate and Spacer for Glass Door] Sold Separately 1

RHS	CAD	Item Code	Item Name	Material	Finish/Colour	Weight (g)	Box (pcs)	Carton (pcs)
☑	SD	180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	25	50	200
☑	SD	180-928-046	SDS-50G-BL		Black Enamel Finish/Black		50	200

Refer to 1 : No.280 P.267

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

Downward-Opening

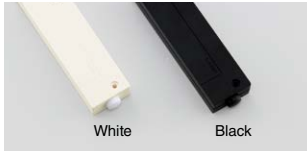
Upward-Opening

Bottom-Opening

COMPACT SOFT-DOWN STAY CSD-10-TV



Soft Motion



Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides


Recessed Hooks

[Applicable Range]

- Choose from 3 types according to maximum door moment.
- Maximum door moment (N·m) = Door weight (kg)×9.80665×Distance from rotation centre to door centre of gravity (m)

Maximum door moment N · m	Model	Qty
1.0 ~ 2.0	L	1 pc
2.0 ~ 3.0	M	
3.0 ~ 4.0	H	

- With 2 stays, the maximum door moment will be doubled.

Opening Direction	Description	Non-handed	Model	Maximum Door Moment
 Downward-opening	-	Yes	L	1.0 ~2.0 N · m/pc (10.2~20.4 kgf · cm/pc)
			M	2.0~3.0 N · m/pc (20.4~30.6 kgf · cm/pc)
			H	3.0~4.0 N · m/pc (30.6~40.8 kgf · cm/pc)

- For downward-opening doors.
- Easy-installed just by aligning the main body to the inside cabinet corner and then fixing with screws.
- Mounting plate can be positioned easily with a template.
- Non-handed.
- Installed on the bottom board of cabinet for maximum space inside the cabinet.
- Cover for mounting plate may be of the same colour as the main body.

[Specifications]

- Operating temperature: 0°C~40°C

[Remarks]

- CSD-10-TV does not have catch feature. Please install a catch separately.
- When placing objects or working on the surface of opened door, install a brace or reinforcement material to support the door in addition to the stay.
- Do not use concealed hinge.

[Parts Included]

- Mounting plate
- Cover for mounting plate
- Binding head screw M4×4 (for connecting main body and mounting plate)
- Binding head tapping screw 3.5×30 (for main body)
- Binding head tapping screw 3.5×15 (for mounting plate)

[Sold Separately]

- Butt hinge
- Drop hinge SDH-P, SDH-001
- Drop hinge for glass door SDH-G
- Face plate for glass door SDH-FP, SDS-50G
- Mounting plate for glass door NSDX-GZ

**Selection Tool**  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

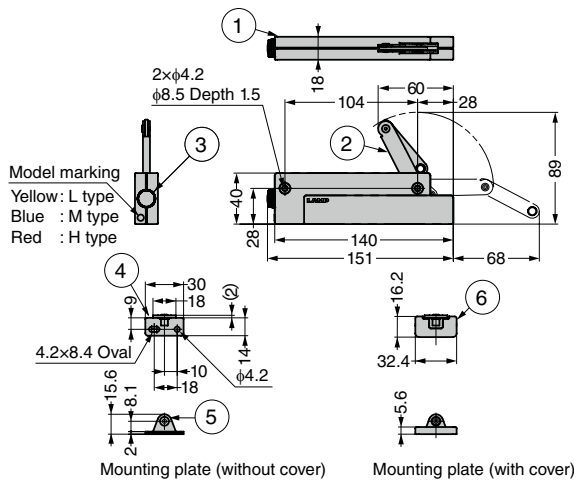
**Video Link**

Top-Opening

Downward-Opening

Upward-Opening

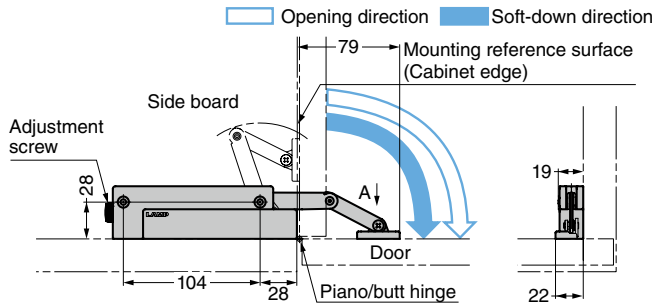
Bottom-Opening



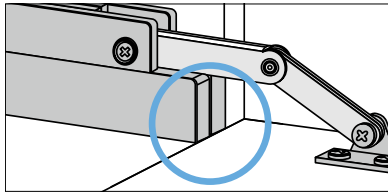
No.	Part Name	Material	Finish/Colour
①	Body	PC/ABS	White, Black
②	Arm	Steel (SPCC)	Nickel
③	Adjustment Screw	Steel + Resin	White, Black
④	Mounting Plate	Steel (SPCC)	Nickel
⑤	Shaft	Stainless Steel	Plain
⑥	Cover	ABS	White, Black

**[Installation] Right side installation for downward-opening 90°. Left side installation is symmetrical.**

Comes down slowly and softly in opening direction. Installation with piano/butt hinge or drop hinge shown below.

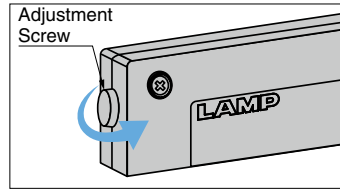


**[Easy to Position]**



● Installation position is determined simply by pressing the main body against bottom and aligning to cabinet edge.

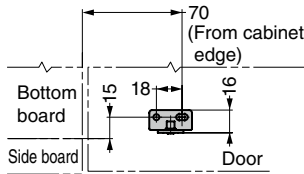
**[Speed adjustment]**



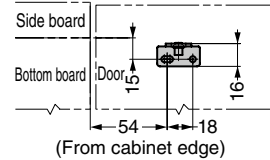
● Opening speed may be slightly changed.

**[Installation Position of Mounting Plate (Included)] A-view (refer to "Installation" )**

Can easily position with the supplied template.  
For left side board



For right side board



Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening

RHS	CAD	Item Code	Item Name	Colour	Model	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
GD	BD	180-033-207	CSD-10-TV-L-WT	White	L	1.0~2.0	10.2~20.4	130	10	100
GD	BD	180-033-208	CSD-10-TV-L-BL	Black					10	100
GD	BD	180-033-209	CSD-10-TV-M-WT	White	M	2.0~3.0	20.4~30.6		10	100
GD	BD	180-033-210	CSD-10-TV-M-BL	Black					10	100
GD	BD	180-033-211	CSD-10-TV-H-WT	White	H	3.0~4.0	30.6~40.8		10	100
GD	BD	180-033-212	CSD-10-TV-H-BL	Black					10	100



Soft Motion

# HEAVY DUTY SOFT-DOWN STAY HDSN-30 For Use in Pairs



INSTRUCTION

VIDEO



Right side installation shown.

Opening Direction	Description	Non-handed	Model	Maximum Door Moment
 Upward-opening	With Catch For Use in Pairs	-	K	13.7~19.5 N · m/2 pcs (140~199 kgf · cm/2 pcs)
			M	19.6~24.4 N · m/2 pcs (200~249 kgf · cm/2 pcs)
			H	24.5~29.3 N · m/2 pcs (250~299 kgf · cm/2 pcs)
			S	29.4~34.3 N · m/2 pcs (300~350 kgf · cm/2 pcs)

- For upward-opening doors.
- Designed to hold the door in closed and opened position and close the door softly.
- Secures enough space for shelf board.
- Can be easily and quickly installed on mounting plate.
- Maximum moment of HDSN is 34.3N · m (for opening angle 80° only), while conventional HDS is only 29.4N · m.
- Mounting plate (sold separately) suitable for 20mm aluminium frame available.

### [Applicable Range]

- Choose from 4 types according to maximum door moment.
- Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

Maximum door moment N · m		Model	Qty
Opening angle 90°	Opening angle 80°		
13.7~17.5	13.7~19.5	K	2 pcs
17.6~21.5	19.6~24.4		
21.6~25.4	24.5~29.3	H	
25.5~29.4	29.4~34.3	S	

### [Specifications]

- Operating temperature: 0°C~40°C

### [Remarks]

- Be sure to read the "Cautions" [1](#).
- Handed: Specific left and right-handed.
- Hinges not included. Customer should provide concealed hinges (without catch) or single knuckle hinges.
- 1 mounting plate (sold separately) is necessary for 1 stay body.
- Used in pairs.

### [Parts Included]

- Mounting plate
- Binding head tapping screw 3.5×15

### [Sold Separately]

- Mounting Plate HDSN-SZ, HDSN-AZ [2](#)

Video Link

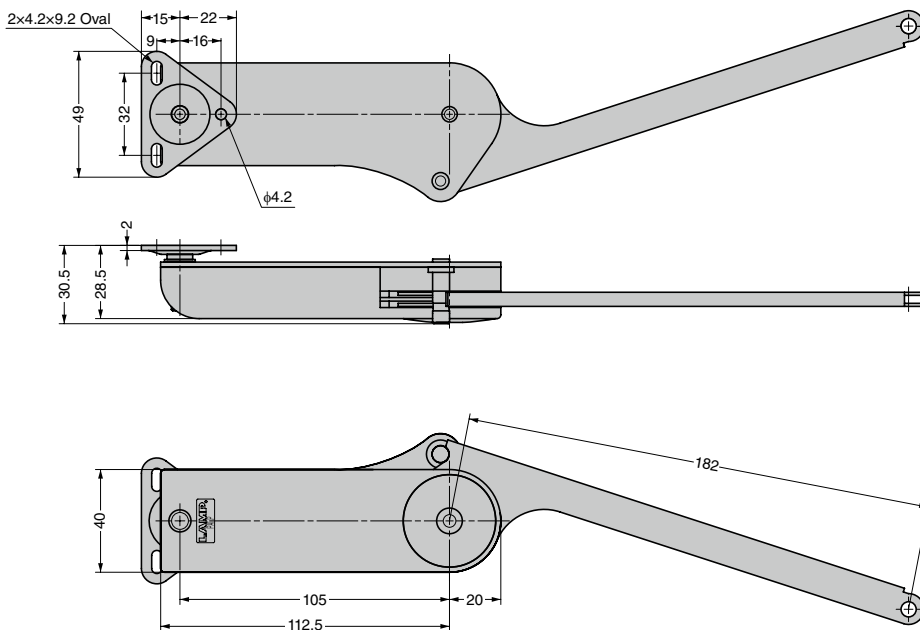


Selection Tool

Sasuga-kun

Applicable Products

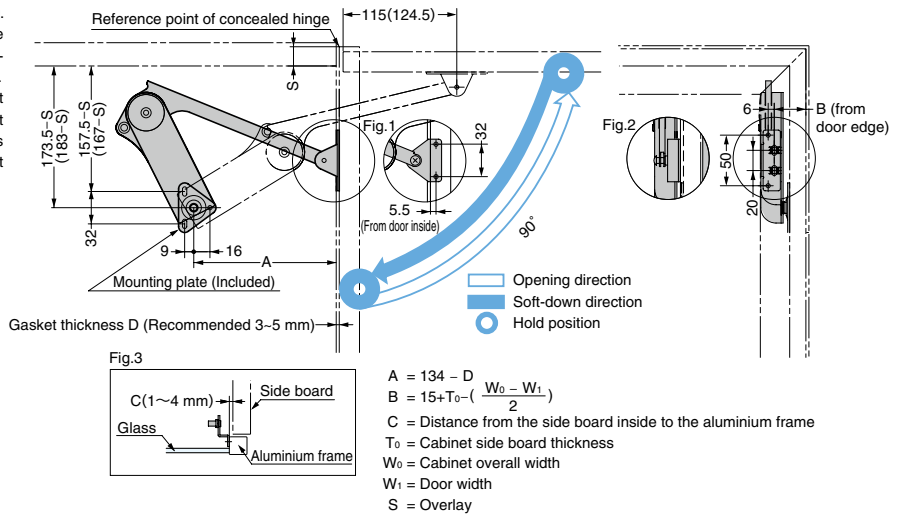
Used for Product Selection & Simulation.  
Available on Web!



Refer to [1](#) : P.253, [2](#) : P.112

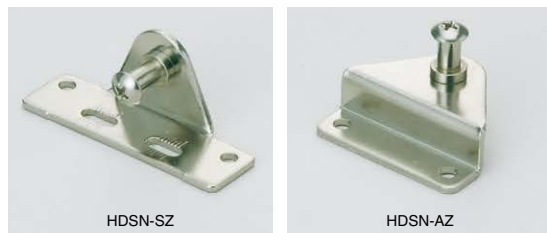
[Installation] 45mm or more aluminium frame door or wooden door (HDSN-SZ) and opening angle 90°

- ( ) Dimensions for 80° opening. Figures 1, 2 and 3 are in case of using mounting plate (HDSN-AZ) for 20mm aluminium frame.
- Dimensions for door with gasket shown. Without gasket, shift stay installation position towards back panel side by gasket thickness D.



RoHS	CAD	Item Code	Item Name	Type	Material	Finish/Colour	Model	Maximum Door Moment/2 pcs				Weight (g)	Box (pcs)	Carton (pcs)
								Opening angle 90° (N·m)	Opening angle 90° (kgf·cm)	Opening angle 80° (N·m)	Opening angle 80° (kgf·cm)			
✓	SD	180-109-601	HDSN-30KL	Left-handed	ABS/Steel	Nickel/Light Grey	K	13.7~17.5	140~179	13.7~19.5	140~199	366	40	—
✓	SD	180-109-602	HDSN-30KR	Right-handed				283	40	—				
✓	SD	180-109-603	HDSN-30ML	Left-handed			M	17.6~21.5	180~219	19.6~24.4	200~249	415	40	—
✓	SD	180-109-604	HDSN-30MR	Right-handed				415	40	—				
✓	SD	180-109-605	HDSN-30HL	Left-handed			H	21.6~25.4	220~259	24.5~29.3	250~299	415	40	—
✓	SD	180-109-606	HDSN-30HR	Right-handed				415	40	—				
✓	SD	180-109-607	HDSN-30SL	Left-handed			S	25.5~29.4	260~300	29.4~34.3	300~350	415	40	—
✓	SD	180-109-608	HDSN-30SR	Right-handed				393	40	—				

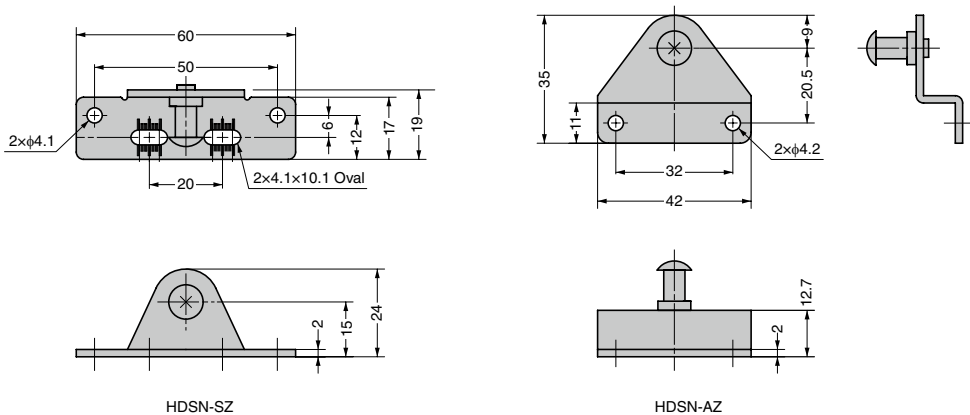
ARM MOUNTING PLATE FOR HDSN HDSN-SZ, HDSN-AZ



- For aluminium frame door.
- Two types are available.

[Recommended Screw]

- Binding head tapping screw 3.5×15



RoHS	CAD	Item Code	Item Name	Application	Material	Finish	Weight (g)	Box (pcs)	Carton (pcs)
✓	SD	180-109-609	HDSN-SZ	For 45 mm or more Aluminium Frame Door / Wooden Door	Steel	Nickel	24	120	—
✓	SD	180-109-610	HDSN-AZ	For 20 mm Aluminium Frame Door	Steel	Nickel	25	120	—

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening

# HEAVY DUTY SOFT-DOWN STAY HDS-30 For Use in Pairs



Right side installation shown.

Opening Direction	Description	Non-handed	Model	Maximum Door Moment
Upward-opening	With Catch For Use in Pairs	-	K	13.7~19.5 N·m/2 pcs (140~199 kgf·cm/2 pcs)
			M	19.6~24.4 N·m/2 pcs (200~249 kgf·cm/2 pcs)
			H	24.5~29.4 N·m/2 pcs (250~300 kgf·cm/2 pcs)

- For upward-opening doors.
- Designed to hold the door in fully opened and closed positions.
- For door hinge, piano/butt hinge or concealed hinge is suitable.
- AS parts set **1** for installing to aluminium frame also available.

**[Specifications]**

- Operating temperature: 0°C~40°C

**[Remarks]**

- Be sure to read the "Cautions" **2**.
- Used in pairs.
- Do not push the door further over 80°. And do not roughly open and close the door.

**[Parts Included]**

- Mounting plate
- Binding head tapping screw 3.5×15

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening

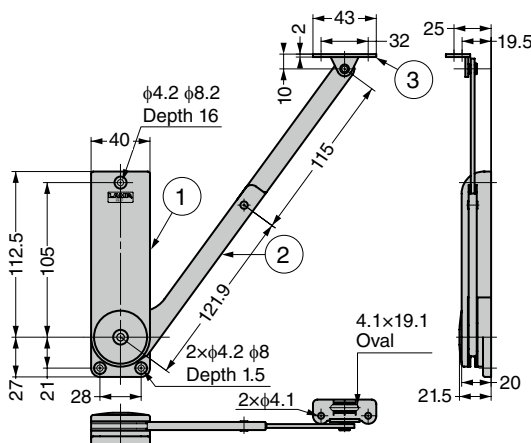


**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**[Applicable Range]**

- Choose from 3 types according to maximum door moment.  
 Maximum door moment (N·m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

Maximum door moment N·m	Model	Qty
13.7~19.5	K	2 pcs
19.6~24.4	M	
24.5~29.4	H	

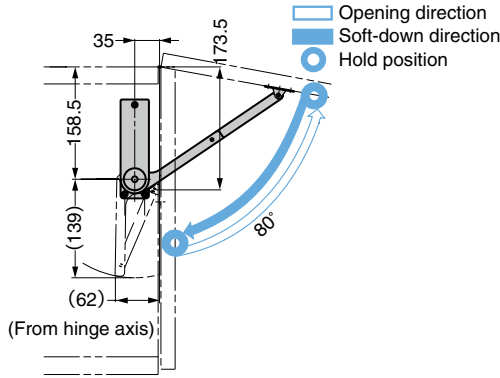


No.	Part Name	Material	Finish/Colour
①	Body	ABS	Black, White
②	Arm	Steel (SPCC)	Nickel
③	Mounting Plate		

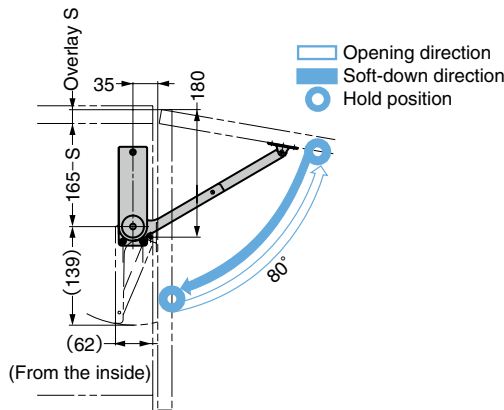
Refer to **1** : No.280 P.255, **2** : P.253

[Installation] Right side installation for upward-opening 80°. Left side installation is symmetrical.

With piano/butt hinge

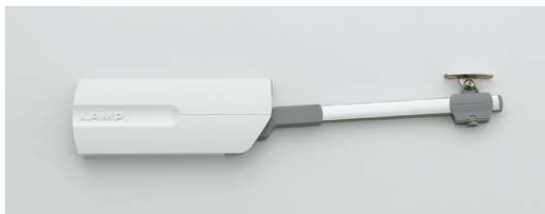


With concealed hinge



RohS	CAD	Item Code	Item Name	Type	Material	Finish/Colour	Model	Maximum Door Moment N·m/2 pcs	Maximum Door Moment kgf·cm/2 pcs	Weight (g)	Box (pcs)	Carton (pcs)			
CE	SD	180-104-078	HDS-30KR-BL	Right-handed	ABS/Steel	Nickel/ Black	K	13.7~19.5	140~199	276	40	—			
CE	SD	180-104-079	HDS-30KL-BL	Left-handed		Nickel/ White				276	40	—			
CE	SD	180-109-270	HDS-30KR-WT	Right-handed		Nickel/ Black				M	19.6~24.4	200~249	276	40	—
CE	SD	180-109-271	HDS-30KL-WT	Left-handed		Nickel/ White							276	40	—
CE	SD	180-104-080	HDS-30MR-BL	Right-handed		Nickel/ Black	H	24.5~29.4	250~300				294	40	—
CE	SD	180-104-081	HDS-30ML-BL	Left-handed		Nickel/ Black							294	40	—
CE	SD	180-109-272	HDS-30MR-WT	Right-handed		Nickel/ White				294	40	—			
CE	SD	180-109-273	HDS-30ML-WT	Left-handed		Nickel/ White				294	40	—			
CE	SD	180-104-082	HDS-30HR-BL	Right-handed		Nickel/ Black	H	24.5~29.4	250~300	300	40	—			
CE	SD	180-104-083	HDS-30HL-BL	Left-handed		Nickel/ Black				300	40	—			
CE	SD	180-109-274	HDS-30HR-WT	Right-handed		Nickel/ White				300	40	—			
CE	SD	180-109-275	HDS-30HL-WT	Left-handed		Nickel/ White	300	40	—						

EASY LIFT-UP STAY SLS-ELAN®



Compact body saves space, not even affecting the shelf mounting.

Opening Direction	Description	Non-handed	Model	Maximum Door Moment
Upward-opening	Lift-assist Free stop Soft-down	-	M	4.90~7.35 N·m/pc (50~75 kgf·cm/pc)
			H	7.35~9.80 N·m/pc (75~100 kgf·cm/pc)

- Patented Lapcon mechanism controls door opening and closing softly and smoothly.
- Door can be opened with a slight force (see Fig.1).
- Door can be stopped in any position in the range of about 30° to fully opened position (see Fig.2).
- Door closes slowly in the range of about 0° to 30° (see Fig. 3)
- Easy installation from the front for both left and right.

[Specifications]

- Operating temperature: 0°C~40°C

[Remarks]

- Be sure to read the "Cautions" 1.
- Handed: Specific left and right-handed.
- Never push down the arm of stay before door installation.
- Do not open the door further in fully opened position.
- Do not roughly open and close the door.

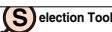
[Parts Included]

- Countersunk head tapping screw 3.5×35
- Binding head tapping screw 3.5×15
- Truss head screw M4×5 (for mounting plate)

[Sold Separately]

- Mounting plate SLS-ELAN-AZ 2
- Slider (for maintenance)

Video Link



**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening

[3 Functions in 1 Stay]

● Lift-assist

Door can be opened with a slight force.

Fig.1



● Free stop

Door can be stopped in any position in the range of about 30° to fully opened position.

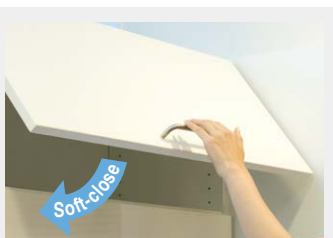
Fig.2



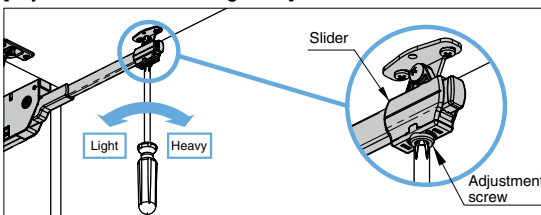
● Soft-close

Door closes slowly in the range of about 0° to 30° even if you release your hands from the door.

Fig.3



[Adjustment of Lift-assisting Force]

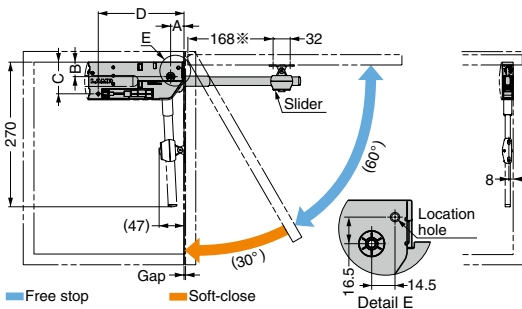


- If the door opens and closes improperly, turn the adjustment screw at the bottom of the slider to adjust door movement.

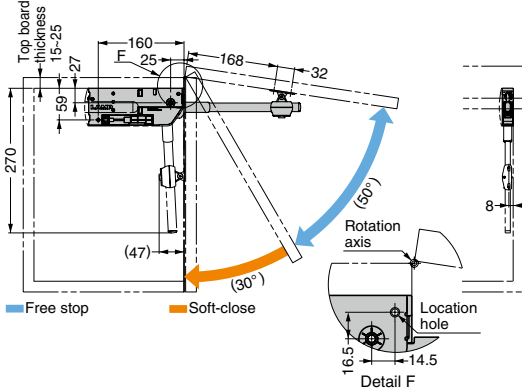
Refer to 1 : P.253, 2 : P.118

[Installation] Right side installation for upward-opening 90°. Left side installation is symmetrical.

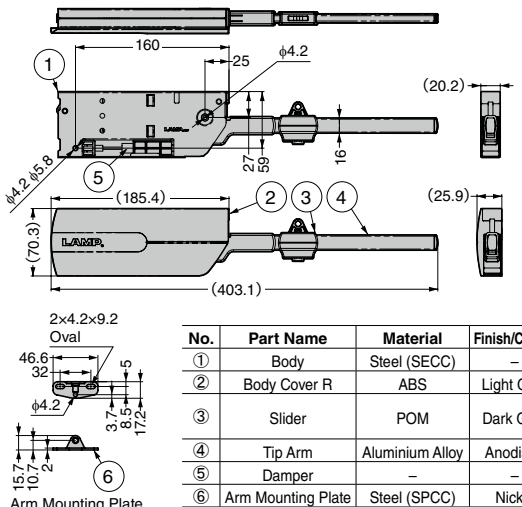
With concealed hinge



With single knuckle hinge



- If axis position of single knuckle hinge different from the figure above, please contact local representatives.
- Top board thickness is 15-25mm. For other thicknesses, please contact local representatives.



No.	Part Name	Material	Finish/Colour
①	Body	Steel (SECC)	-
②	Body Cover R	ABS	Light Grey
③	Slider	POM	Dark Grey
④	Tip Arm	Aluminium Alloy	Anodised
⑤	Damper	-	-
⑥	Arm Mounting Plate	Steel (SPCC)	Nickel

[Body]

RHS	CAD	Item Code	Item Name	Type	Material	Finish/Colour	Model	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)
G	SD	180-015-491	SLS-ELAN-MRS	Right-handed	Aluminium Alloy/ABS	Anodised/Light Grey	M	4.90~7.35	50~75	600	20
G	SD	180-015-490	SLS-ELAN-MLS	Left-handed							20
G	SD	180-015-493	SLS-ELAN-HRS	Right-handed	H	7.35~9.80	75~100	20			
G	SD	180-015-492	SLS-ELAN-HLS	Left-handed				20			

[Mounting Plate for Aluminium Frame Door] Sold Separately 1

RHS	CAD	Item Code	Item Name	Part Name	Weight (g)	Box (pcs)	Carton (pcs)
G	SD	180-017-647	SLS-ELAN-AZ	Body	11	320	1280
G	-	180-018-555	SLS-ELAN-AZS	Screw Set	4	-	800

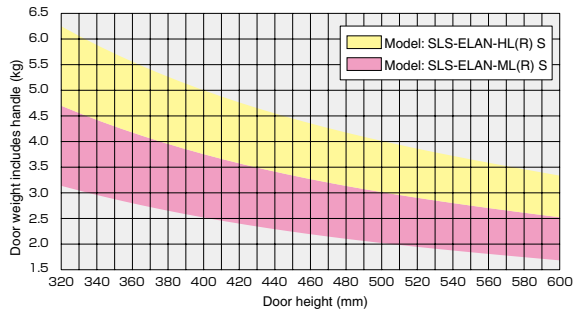
Refer to 1 : P.118

Hinge Type	Bore Distance	A	B	C	D
230-(C)26/19T (19 mm Overlay)	5	25	27	59	160
H230-(C)26/19T (26 mm Overlay)	7				
230-(C)26/9T (9 mm Overlay)	5				
H230-(C)26/16T (16 mm Overlay)	7		37	69	
230-(C)26/0T (Inset)	5	Door Thickness + 27	47	79	A+135
H230-(C)26/0T (Inset)	7		53	85	

Table above is the combination with mounting plate 230-P4W-30T or 230-P4W-32T.

If the clearance between cabinet and door is 4mm or more, install the mounting plate according to a dimension obtained by subtracting the clearance from\* marked dimension (Installation position of the body unit is unchanged). (Example) When the gap between cabinet and door is 5mm: 168 - 5 (Gap) = 163 If the connection between the body and cabinet is weak due to cabinet material etc., tighten a screw additionally in the location hole shown left. (Additional screws are sold separately)

[Door Size Ranges]



Refer to the above graph as a guide for model selection.

For a door with size not given here, calculate as follows.

Door weight includes handle.

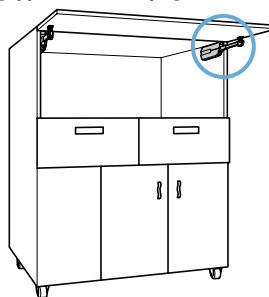
● Choose from 2 types according to maximum door moment.

Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

Maximum door moment N · m	Model	Qty
4.90~7.35	M	1 pc
7.35~9.80	H	

- With 2 stays, the maximum door moment will be doubled.
- ※ Confirm the movement with actual item.

[Application Example]



[Installation]



# LAPCON STAY SLS-ELAN-TV



- Lift-assist
- Free stop
- Soft-down
- Passed 30,000 open/close private cycle test



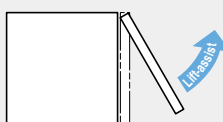
Compact body saves space, not even affecting the shelf mounting.

### [3 Functions in 1 Stay]

#### ● Lift-assist

Door can be opened with a slight force.

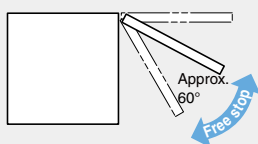
Fig.1



#### ● Free stop

Door can be stopped in any position in the range of about 30° to fully opened position.

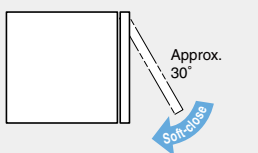
Fig.2



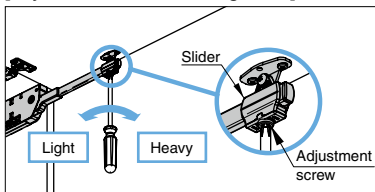
#### ● Soft-close

Door closes slowly in the range of about 0° to 30° even if you release your hands from the door.

Fig.3



### [Adjustment of Lift-assisting Force]



● If the door opens and closes improperly, turn the adjustment screw at the bottom of the slider to adjust door movement.

Opening Direction	Description	Non-handed	Maximum Door Moment
Upward-opening	Lift-assist Free stop Soft-down	-	4.60~6.17 N·m/pc (47~63 kgf·cm/pc)

- Short-arm type of easy lift-up stay SLS-ELAN 1.
- Patented Lapcon mechanism controls door opening and closing softly and smoothly.
- Door can be opened with a slight force. (see Fig. 1)
- Door can be stopped in any position in the range of about 30° to fully opened position. (see Fig. 2)
- Door closes slowly in the range of about 0° to 30°. (see Fig. 3)
- Easy installation from the front for both left and right.

### [Specifications]

- Operating temperature: 0°C~40°C

### [Remarks]

- Be sure to read the "Cautions" 2.
- Handed: Specific left and right-handed.
- Never push down the arm of stay before door installation.
- Do not open the door further in fully opened position.
- Do not roughly open and close the door.

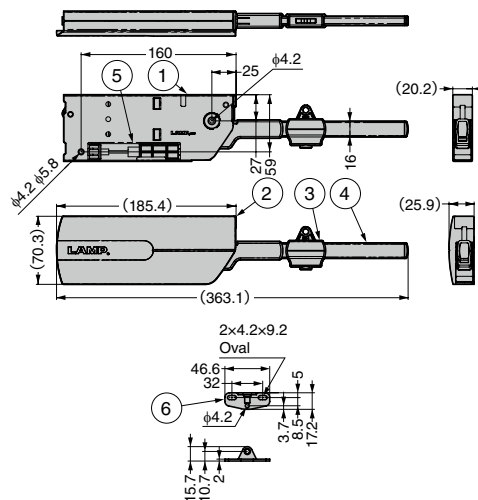
### [Parts Included]

- Countersunk head tapping screw 3.5×35
- Binding head tapping screw 3.5×15
- Truss head screw M4×5 (for mounting plate)

### [Sold Separately]

- Mounting plate SLS-ELAN-AZ 3
- Slider (for maintenance)

**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

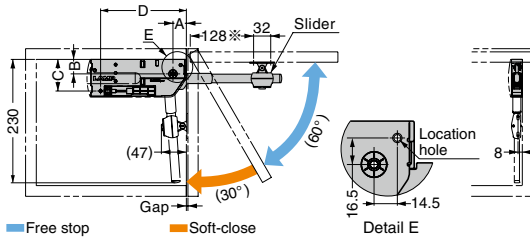


No.	Part Name	Material	Finish/Colour
①	Body	Steel (SECC)	-
②	Body Cover	ABS	Light Grey
③	Adjustment Slider	POM	Dark Grey
④	Tip Arm	Aluminium Alloy	Anodised
⑤	Damper	-	-
⑥	Mounting Plate	Steel (SPCC)	Nickel

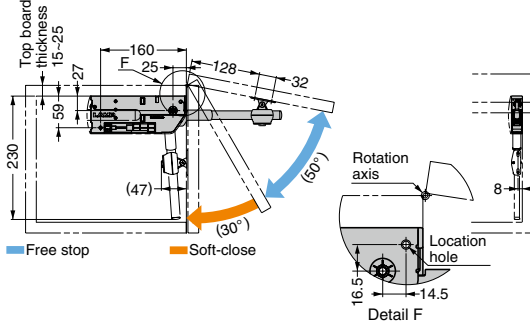
Refer to 1 : P.115, 2 : P.253, 3 : P.118

[Installation] Right side installation for upward-opening. Left side installation is symmetrical.

With concealed hinge



With single knuckle hinge



- If axis position of single knuckle hinge different from the figure above, please contact local representatives.
- Top board thickness is 15 ~ 25mm. For other thicknesses, please contact local representatives.

[Application Example]



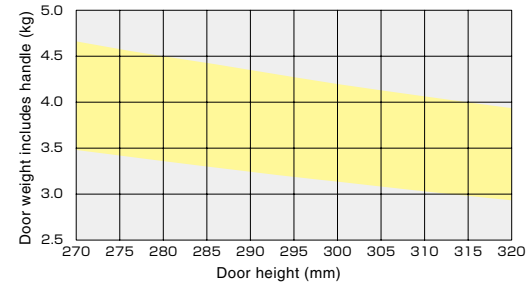
Hinge Type	Bore Distance	A	B	C	D
230-(C)26/19T (19 mm Overlay)	5	25	27	59	160
H230-(C)26/26T (26 mm Overlay)	7				
230-(C)26/9T (9 mm Overlay)	5	25	37	69	160
H230-(C)26/16T (16 mm Overlay)	7				
230-(C)26/0T (Inset)	5	Door Thickness	47	79	A+135
H230-(C)26/0T (Inset)	7	+ 27	53	85	

Table above is the combination with mounting plate 230-P4W-30T or 230-P4W-32T.

If the clearance between cabinet and door is 4mm or more, install the mounting plate according to a dimension obtained by subtracting the clearance from ※ marked dimension (Installation position of the body unit is unchanged.) (Example) When the gap between cabinet and door is 5 mm: 128 - 5 (Gap) =123

If the connection between the body and cabinet is weak due to cabinet material etc., tighten a screw additionally in the location hole shown left. (Additional screws are sold separately)

[Door Size Ranges]



Refer to the above graph as a guide for model selection. For a door with size not given here, calculate as follows. Door weight includes handle.

- With 1 stay  
Maximum door moment = 4.6-6.17 N · m
  - With 2 stays, the maximum door moment will be doubled.  
Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)
- ※Confirm the movement with actual item.

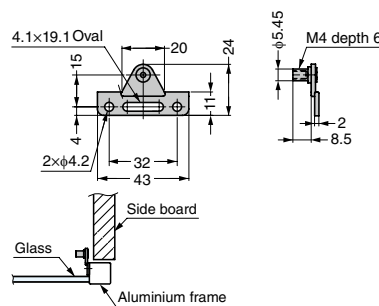
[Body]

RoHS	CAD	Item Code	Item Name	Type	Material	Finish/ Colour	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	3D	180-018-057	SLS-ELAN-HR-TV-S	Right-handed	Aluminium	Anodised/	4.6-6.17	47-63	590	20	20
RoHS	3D	180-018-056	SLS-ELAN-HL-TV-S	Left-handed	Alloy/ABS	Light Grey				20	20

MOUNTING PLATE FOR ALUMINIUM FRAME DOOR SLS-ELAN-AZ



Refer to 1 : P.115, 2 : P.117



- Used for installing SLS-ELAN 1, SLS-ELAN-TV 2 to aluminium frame.

[Sold Separately]

- Screw set  
Binding head tapping screw 3.5×12 (2 pcs)  
Truss head screw M4×5 (1 pc)

[Body]

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	3D	180-017-647	SLS-ELAN-AZ	Steel	Nickel	9.5	320	1280

[Screw Set] Sold Separately

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	-	180-018-555	SLS-ELAN-AZS	Steel	Nickel	50	-	800

# ADJUSTABLE SOFT-DOWN STAY NSDX-35 (R/L)

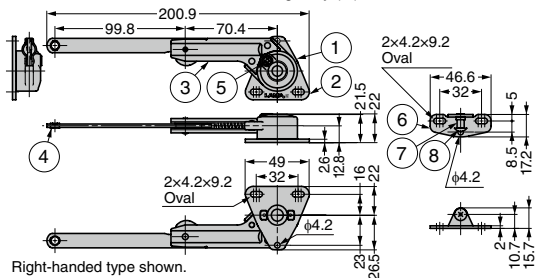


Passed 30,000 open/close private cycle test

Right side installation shown.

### [Maximum Door Moment]

- With 1 stay  
Maximum door moment = 1.96-6.86 N · m
- With 2 stays, the maximum door moment will be doubled.  
Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

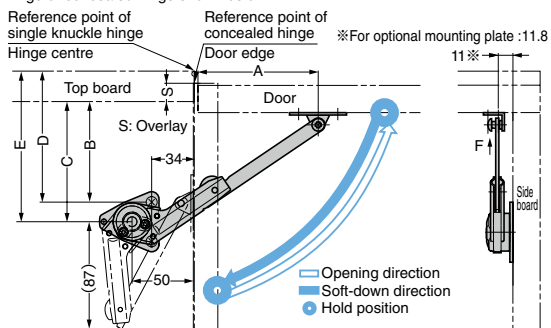


Right-handed type shown.

No.	Part Name	Material	Finish/Colour
①	Body	Zinc Alloy (ZDC)	Nickel
②	Mounting Plate	Steel (SPCC)	
③	Arm		POM
④	Sleeve	Steel (SWCH)	
⑤	Adjustment Screw		Steel (SPCC)
⑥	Arm Mounting Plate	Nickel	
⑦	Shaft		Steel (SWCH)
⑧	Truss Head Screw (M4×5)		

### [Installation] Right side installation for upward-opening 90°. Left side installation is symmetrical.

Comes down slowly and softly in closing direction. Installation with piano/butt hinge or concealed hinge shown below.



### [Body]

RefS	CAD	Item Code	Item Name	Type	Material	Finish	Maximum Door Moment N · m/pc	Maximum Door Moment kgf · cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
☑	☑	180-109-028	NSDX-35R	Right-handed	Zinc Alloy (ZDC)/Steel	Nickel	1.96-6.86	20-70	170	20	80
☑	☑	180-109-029	NSDX-35L	Left-handed						20	80

### [Mounting Plate] Sold Separately 3

RefS	CAD	Item Code	Item Name	Type	Weight (g)	Box (pcs)	Carton (pcs)
☑	☑	180-109-032	NSDX-SZ	Screw on	14	160	640
☑	☑	180-109-460	NSDX-CZ	Clip on	13	160	640
☑	☑	180-109-019	NSDX-AZ	Clip on for 20 mm Aluminium Frame	11	320	1280
☑	☑	180-109-459	NSDX-GZ	Clip on for Glass Door	14	160	640

Refer to 1 : No.280 P.261, 2 : P.253, 3 4 5 : No.280 P.267

Opening Direction	Description	Non-handed	Maximum Door Moment
Upward-opening	With Catch	-	1.96-6.86 N · m/pc (20-70 kgf · cm/pc)

- For upward-opening doors.
- Designed to hold the door in fully opened and closed position.
- Opening angle 80°, 90° or 100°.
- Closing speed adjustable with adjustment screw.
- AS parts set 1 for installing to aluminium frame also available.

### [Specifications]

- Operating temperature: 0°C-40°C

### [Remarks]

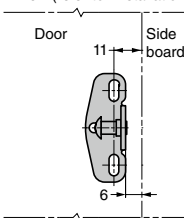
- Be sure to read the "Cautions" 2.
- Handed: Specific left and right-handed.
- Door closing speed varies depending on product difference and use conditions.
- Do not push the door up more than opening angle. Also do not forcibly press the door down when closing.

### [Sold Separately]

- Mounting plate 3
- SDS face plate and spacer for glass door 4 (Please order when using 5 mounting plate NSDX-GZ.)

### [Installation for Mounting Plate]

F-view (refer to "Installation")



Hinge Type		A	B	C	D	E
80°	Concealed Hinge	106	105-S	121-S	-	-
	Single Knuckle Hinge	100	-	-	99	115
90°	Concealed Hinge	98	97-S	113-S	-	-
	Single Knuckle Hinge	91.5	-	-	90.5	106.5
100°	Concealed Hinge	92.5	91.5-S	107.5-S	-	-
	Single Knuckle Hinge	85	-	-	84	100

Installation dimensions vary depending on hinge type and opening angle.

- S is overlay at hinge side.
- Reference point for each dimension: hinge centre for single knuckle hinge, while door edge for concealed hinge.

### Video Link



### Selection Tool

#### Sasuga-kun

Applicable Products

Used for Product Selection & Simulation.

Available on Web!

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

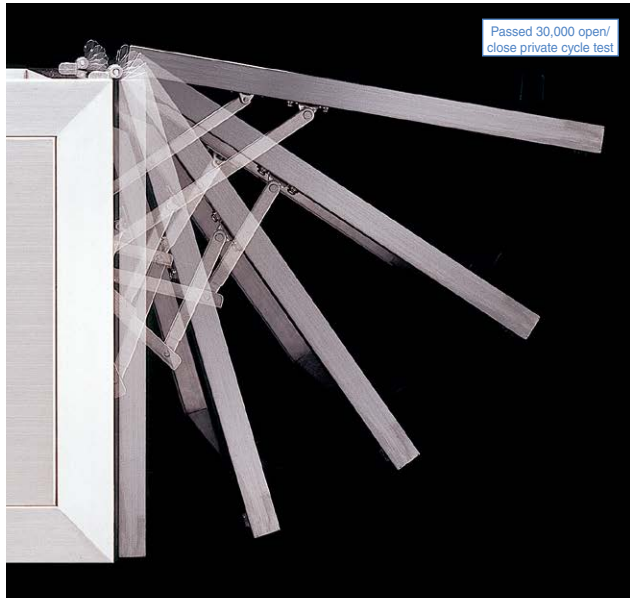
Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening

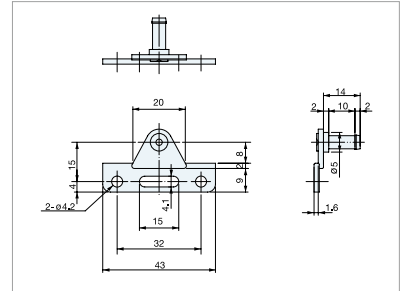
# ADJUSTABLE SOFT-DOWN STAY NSD-35



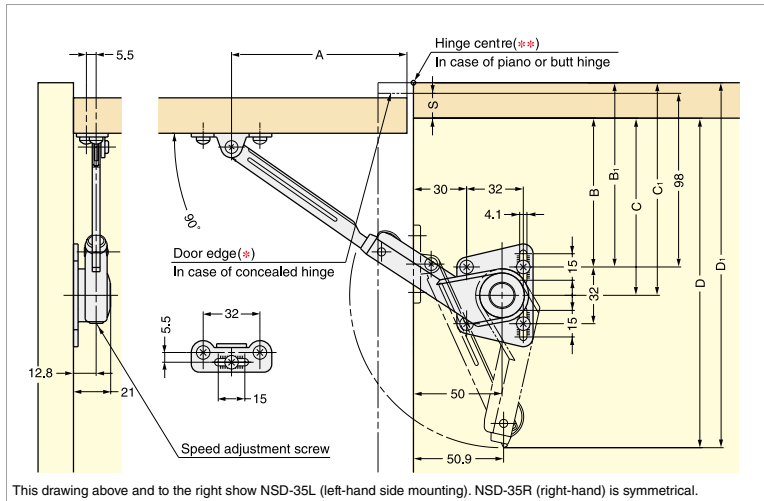
- For Forward-opening flap door with piano, butt or concealed hinges.
- Opening angle adjustable from 80° to 100° .
- Designed to hold door in fully opened position.
- Two stop version (holds door at 65° and 90° ) is also available.
- Torque Calculation :  
 Torque = Door Height x 1/2 x Door Weight.  
 Per Piece : 20~70 kg-cm.  
 Per Pair : 40~140 kg-cm.

Material	Finish
Zinc Alloy, Steel	Bright Nickel

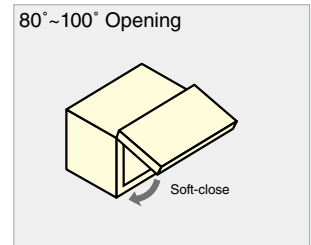
### NSDX-AZ Angle Bracket



NSDX-AZ (angle bracket) for aluminium frame application available upon request.



This drawing above and to the right show NSD-35L (left-hand side mounting). NSD-35R (right-hand) is symmetrical.



Opening Angle	80°		90°		100°	
	Down		Middle		Up	
Position of Plates	Mounting Plate	Arm Bracket	Mounting Plate	Arm Bracket	Mounting Plate	Arm Bracket
For Hinge Centre (Up) ↓ (Down)						

Hinge Type	A	B	C	D	B <sub>1</sub>	C <sub>1</sub>	D <sub>1</sub>	RcHS	CAD	Item Code	Item Name	Weight (g)	Box (pcs)	Carton (pcs)
Concealed Hinge	99	98-S	114-S	200-S	-	-	-	-	3D	108-109-280	NSD-35R	210	20	80
Piano / Butt Hinge	93	-	-	-	92	108	194	-	3D	108-109-279	NSD-35L	210	20	80

Soft Motion

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening



Soft Motion

# SOFT-DOWN STAY SDS-C301N



Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

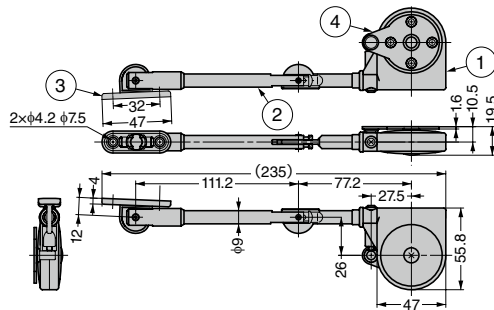
Downward-Opening

Upward-Opening

Bottom-Opening

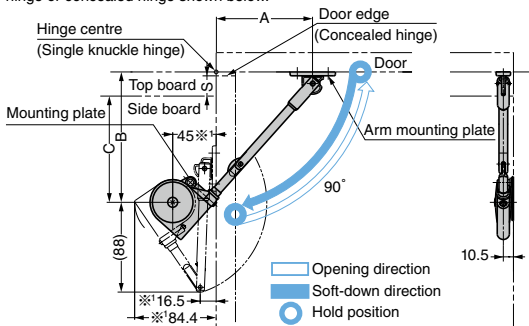
### [Maximum Door Moment]

- With 1 stay  
Maximum door moment = 3.92-6.86 N · m
- With 2 stays, the maximum door moment will be doubled.  
Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)
- Custom-made products (small door moment type) also available.



### [Installation] Right side installation for upward-opening 90°. Left side installation is symmetrical.

Comes down slowly and softly in closing direction. Installation with piano/butt hinge or concealed hinge shown below.



### [Body]

RHS	CAD	Item Code	Item Name	Material	Finish/Colour	Maximum Door Moment N · m/pc	Maximum Door Moment kgf · cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
		180-012-151	SDS-C301NW	ABS/Steel	Nickel/White	3.92-6.86	40-70	165	20	100
		180-100-284	SDS-C301NG	ABS/Steel	Nickel/Grey				20	100
		180-100-285	SDS-C301NBL	ABS/Steel	Nickel/Black				20	100

### [SDS Face Plate and Spacer for Glass Door] Sold Separately 2

RHS	CAD	Item Code	Item Name	Material	Finish/Colour	Weight (g)	Box (pcs)	Carton (pcs)
		180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	25	50	200
		180-928-046	SDS-50G-BL		Black Enamel Finish/Black		50	200

Refer to 1 : P.253, 2 : No.280 P.267

Opening Direction	Description	Non-handed	Maximum Door Moment
	With Catch	Yes	3.92-6.86 N · m/pc (40-70 kgf · cm/pc)

- For upward-opening doors.
- Non-handed: Can be installed either on left or right side.
- Designed to hold the door in fully opened and closed position.
- Use butt hinge or concealed hinge for door hinge. (In case of wooden door or metal door)

### [Specifications]

- Operating temperature: 0°C-40°C

### [Remarks]

- Be sure to read the "Cautions" 1.
- Do not push the door up more than opening angle. Also do not forcibly press the door down when closing.

### [Parts Included]

- Mounting plate SDS-A
- Countersunk head tapping screw 3.5×14

### [Sold Separately]

- SDS face plate and spacer for glass door 2

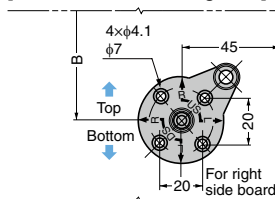
### Video Link



**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

No.	Part Name	Material	Finish/Colour
①	Body	ABS	White, Grey, Black
②	Arm	Steel (SPCC)	Nickel
③	Arm Mounting Plate		
④	Mounting plate		

### [Installation for Mounting Plate]



For right side board, install with the "→" mark of R at US side directly upwards. For left side board, install with the "→" mark of L at US side directly upwards.

Overlay	Hinge Type	A	B	C
Full Overlay	Single Knuckle Hinge	100	135	-
Full Overlay	Concealed Hinge	108	-	143-S
Inset	Single Knuckle Hinge	97※ <sup>2</sup>	132※ <sup>2</sup>	-

※<sup>2</sup> In case the door thickness is 20 mm.

- S is overlay at hinge side.
- Installation dimensions vary depending on hinge type. Reference point of installation dimensions (A, B, C): hinge centre for piano/butt hinge, while door edge for concealed hinge.
- ※<sup>1</sup> Reference point of ※<sup>1</sup> marked dimensions is the back side of door.

# SOFT-DOWN STAY SDS-400-W

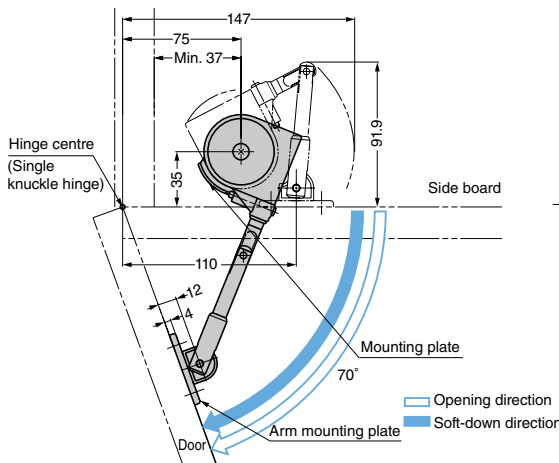


### [Maximum Door Moment]

- With 1 stay  
Maximum door moment = 3.43-4.9 N · m
- With 2 stays, the maximum door moment will be doubled.  
Maximum door moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

**[Installation] Right side installation for bottom-opening 70°.**  
Left side installation is symmetrical.

Comes down slowly and softly in opening direction. Installation with piano/butt hinge shown below.



Opening Direction	Description	Non-handed	Maximum Door Moment
	-	Yes	3.43-4.9 N · m/pc (35-50 kgf · cm/pc)
Bottom-opening			

- For bottom-opening doors.
- Suitable for glove box, etc.
- Non-handed: Can be installed either on left or right side.
- Piano/butt hinge is suitable.
- When using hinges other than specified, please contact local representatives.

### [Specifications]

- Operating temperature: 0°C-40°C

### [Remarks]

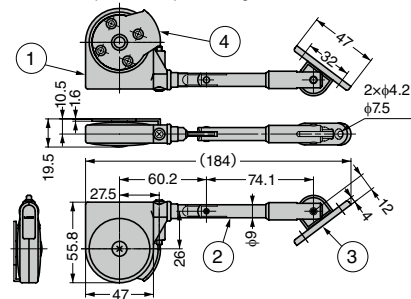
- Be sure to read the "Cautions" 1.
- Customer should provide a catch to hold the door in fully closed position.
- Do not push the door down more than opening angle 70°. Also do not forcibly push the door up when closing.

### [Parts Included]

- Mounting plate SDS-B
- Countersunk head tapping screw 3.5×14

### [Sold Separately]

- SDS face plate and spacer for glass door 2



### Video Link



**S**election Tool

**Sasuga-kun**

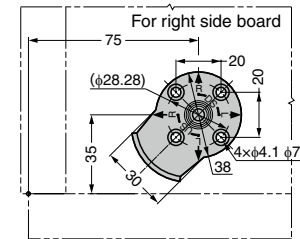
Applicable Products

Used for Product Selection & Simulation.

Available on Web!

No.	Part Name	Material	Finish/Colour
①	Body	ABS	White
②	Arm	Steel (SPCC)	Nickel
③	Arm Mounting Plate		
④	Mounting plate		

### [Installation for Mounting Plate]



(SDS-400 is marked with DS.)  
For right side board, install with the "→" mark of R at DS side directly upwards.  
For left side board, install with the "→" mark of L at DS side directly upwards.

### [Body]

RoHS	CAD	Item Code	Item Name	Material	Finish/Colour	Maximum Door Moment N · m/pc	Maximum Door Moment kgf · cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	SD	180-100-286	SDS-400-W	ABS/Steel	Nickel/White	3.43-4.9	35-50	146	20	100

### [Mounting Plate] Sold Separately 2

RoHS	CAD	Item Code	Item Name	Material	Finish/Colour	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	SD	180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	25	50	200
RoHS	SD	180-928-046	SDS-50G-BL		Black Enamel Finish			

Refer to 1 : P.253, 2 : No.280 P.267

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

Top-Opening

Downward-Opening

Upward-Opening

Bottom-Opening

# DOOR DAMPER LDD-V100



INSTRUCTION

VIDEO

Soft Motion



LDD-V100-NI-L shown.

- Unique door damper applicable to door weight up to 100 kg.
- Suitable for door weight 40~100 kg.
- Damper body is completely hidden when the door is closed.
- Damper and door pull-in functions work just before the door fully closes, preventing the door from slamming shut.
- Door can be opened more easily as compared with door closer.
- Damper force is adjustable.
- Counter plate is 3-way adjustable.
- iF Design Award winner 2019.
- Reddot Product Design winner 2019.
- Can be used with the following hinges.
  - HES3D-E190 **1**
  - HES3D-160 **2**

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks



Counter plate cover (Nickel/Dark brown)



reddot award 2019 winner



Video Link

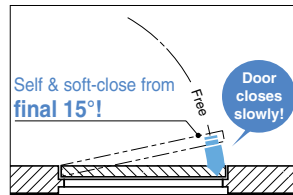
**[Applications]**

- Heavy duty interior door (shop, housing)

**[Parts Included]**

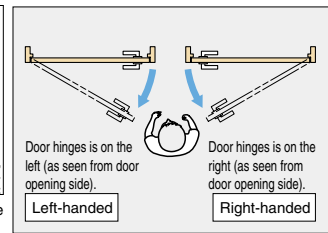
- Tapping screw 3.5×20
- Attachment Jig
- Cutout template

**[Door Movement]**

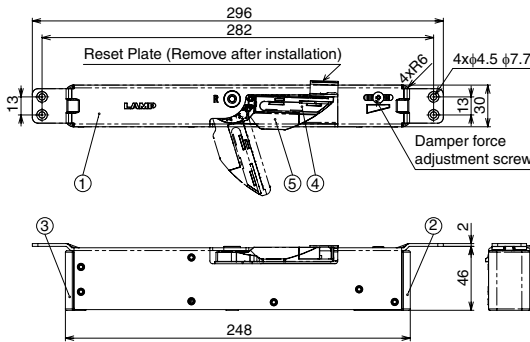


Right-handed type shown. Left-handed type is symmetrical.

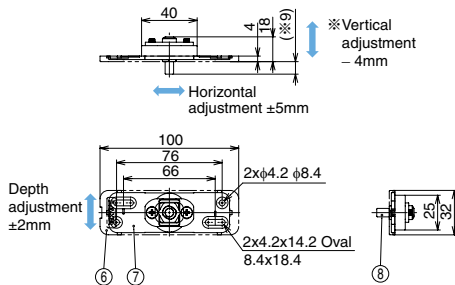
**[Door Hinge Side]**



**[Body]**

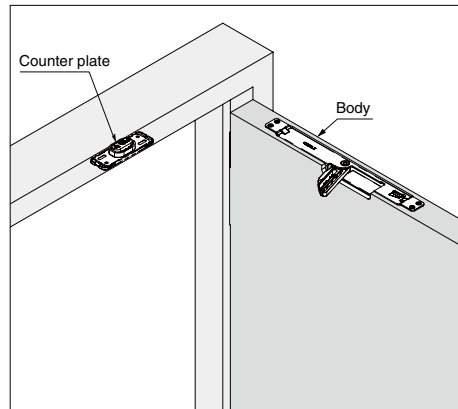


**[Counter Plate]**



※Below drawing shows right-handed type. Left-handed type is symmetrica

**● Installation**



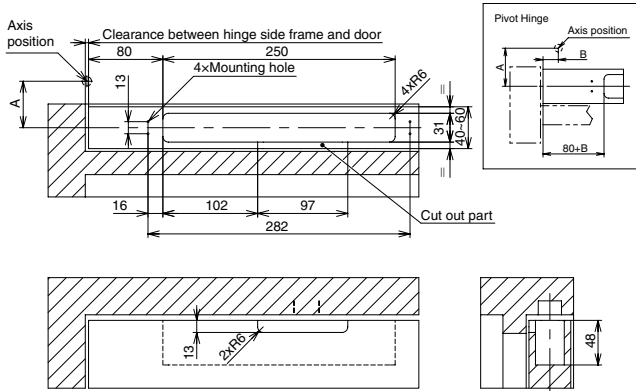
No.	Part Name	Material	Finish / Colour
①	Case	Steel (SPCC)	Nickel
②	Damper Base	POM	Grey
③	Spring Base	POM	Grey
④	Arm Cover	POM	Grey
⑤	Arm	Zinc Alloy (ZDC)	Nickel
⑥	Counter Plate Cover	ABS	Dark Brown/Nickel
⑦	Counter Plate Base	Zinc Alloy (ZDC)	-
⑧	Counter Plate Shaft	Steel (SUM)	Nickel

Rt/LS	CAD	Item Code	Item Name	Type	Counter Plate Cover	Door Width	Door Thickness	Door Weight (kg)	Weight (g)	Box (pcs)	Carton (pcs)
G	3D	270-034-821	LDD-V100-DBR-R	Right-handed	Dark Brown	Max. 900	40-60	40-100	920	1	10
G	3D	270-034-822	LDD-V100-DBR-L	Left-handed					920	1	10
G	3D	270-034-823	LDD-V100-NI-R	Right-handed	Nickel				920	1	10
G	3D	270-034-824	LDD-V100-NI-L	Left-handed					920	1	10

Refer to **1** : P.189, **2** : No.280 P.93

[Cut Out Dimensions for Door]

LDD-V100-R (right-handed) shown. LDD-V100-L (left-handed) is symmetrical.



Dimension from frame to bore position of counter plate (mm)

Door Hinge	Clearance Between Hinge Side Frame and Door (mm)					
	1	2	3	4	5	
HES3D-160, E190	217	218	219	220	221	
Butt Hinge	A=20-35	220	221	222	223	224
Pivot Hinge	A=20-35	220+B	221+B	222+B	223+B	224+B
	A=35-50	223+B	224+B	225+B	226+B	227+B

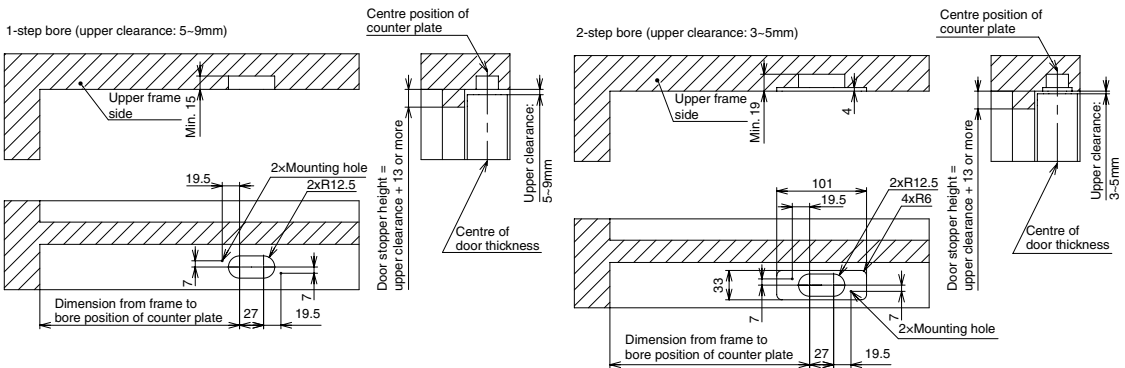
※If clearance between hinge side frame and door is beyond the range in the table above, calculate as per the table below.

Door Hinge	Dimension from Frame to Bore Position of Counter Plate (mm)	
HES3D-160, E190	216 + Clearance Between Hinge Side Frame and Door	
Butt Hinge	A=20-35	219 + Clearance Between Hinge Side Frame and Door
	A=35-50	222 + Clearance Between Hinge Side Frame and Door
Pivot Hinge	A=20-35	219 + B + Clearance Between Hinge Side Frame and Door
	A=35-50	222 + B + Clearance Between Hinge Side Frame and Door

※ Refer to 1 for 3-way adjustable concealed hinge HES3D.

[Cut Out Dimensions for Frame]

LDD-V100-R (right-handed) shown. LDD-V100-L (left-handed) is symmetrical.



⚠ Safety Cautions

◆ Do not drop or give strong impact to this product.

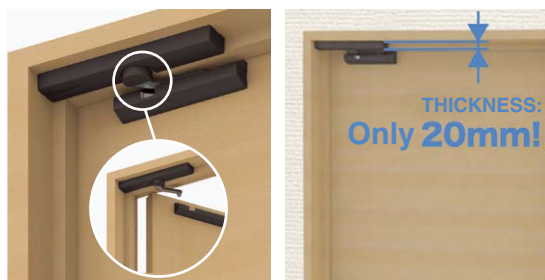
- This product can not resist strong wind. Do not use it under strong wind, or the damper effect will decrease.
- If you close the door with excessive force, the damper effect may decrease.
- The door may not close enough depending on the case lock used.
- This product is designed for interior use. Do not use it outdoors.
- Do not use it at places subject to moisture and water.
- At the entrance of highly airtight room, the door closing speed and damper force may change, and the door may not close enough.
- The closing speed varies depending on the use environment (temperature, wind and hinges used on the door, etc.). Operating temperature: 0°C ~ 40°C
- Do not apply a load in the vertical direction or excessive force to pull-in arm. Otherwise, it may be damaged.
- Please install and adjust this product after adjusting the door hinges.
- Please use the door hinges within the adaptive door weight range of this product.
- Please install this product horizontally. Otherwise, it may not operate properly.
- After vertical adjustment of counter plate, tighten the fixing nut firmly.
- This product is supplied with installation instruction. Be sure to read before installation or use.
- Regularly check for looseness or dropout of screws during use.

Refer to 1 : No.280 P.90

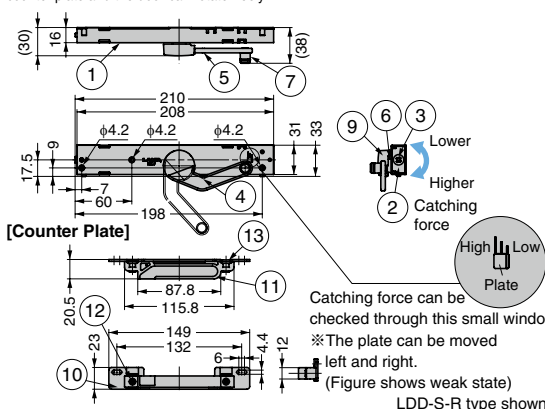
# DOOR DAMPER LDD-S



LDD-S-R DBR (right-handed)



When opening, the arm comes off from the counter plate and the door can rotate freely!



No.	Part Name	Material	Finish / Colour
①	Case	Steel (SGCC)	Chromate
②	Block	POM	Natural
③	Catching Force Adjustment Screw	Steel	Chromate
④	Arm	Stainless Steel (SUS304)	Plain
⑤	Arm Spacer	POM	See Below
⑥	Arm Axis	Zinc Alloy (ZDC)	Chromate
⑦	Roller	POM	Grey
⑧	Body Cover	ABS	See Below
⑨	Arm Cover		
⑩	Counter Plate	Steel (SPCC)	Chromate
⑪	Guide	Zinc Alloy (ZDC)	
⑫	Screw	Steel (SWCH)	Nickel
⑬	Nut	Steel (SPCC)	
⑭	Counter Plate Cover	ABS	See Below

RHS	CAD	Item Code	Item Name	Colour	Type	Door Width	Door Weight kg	Weight (g)	Box (pcs)	Carton (pcs)
☑	☑	270-018-984	LDD-S-RWT	White	Right-handed	Max. 900	15-40	550	1	20
☑	☑	270-018-985	LDD-S-LWT		Left-handed			550	1	20
☑	☑	270-018-986	LDD-S-RLGR	Light Grey	Right-handed			550	1	20
☑	☑	270-018-987	LDD-S-LLGR		Left-handed			550	1	20
☑	☑	270-018-988	LDD-S-RLBR	Light Brow	Right-handed			550	1	20
☑	☑	270-018-989	LDD-S-LLBR		Left-handed			550	1	20
☑	☑	270-018-990	LDD-S-RDBR	Dark Brown	Right-handed			550	1	20
☑	☑	270-018-991	LDD-S-LDBR		Left-handed			550	1	20

Refer to 1 : No.280 P.90, 2 : P.192, 3 4 : No.280 P.167, 5 : No.280 P.166, 6 : No.280 P.710, 7 : P.126

- Surface mount type.
- Easy to determine installation position.
- Counter plate position and pull-in force (catching force) adjustable after installation.
- Unobtrusive design: damper unit is only 20mm high, easily fits most door frames.
- Self & soft-close from final 15°. Door starts to close slowly from an earlier position compared with conventional products, reducing the load applied on the hinges.
- Door can be opened more easily as compared with door closer.
- Suitable for maximum door weight 40kg.
- Self & soft-close function can be turned off when the arm is pulled in with door opened. (When the arm is pulled out, self & soft-close function can be turned on again.)
- Can be used with the following hinges.
  - 3-way adjustable concealed hinge HES3D 1
  - ※ Can not be used with HES3D-90 2
  - Spring hinge ST150-6314-05 3
  - Aluminium spring lift-off hinge PM120 4
  - Spring hinge SA 5
- Concealed type door damper LDD-V 6 also available.

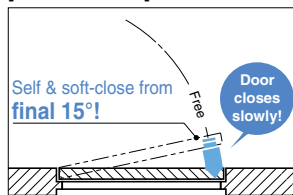
### [Specifications]

● Passed 100,000 open/close private cycle test.

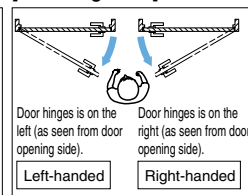
### [Parts Included]

- Countersunk head tapping screw 3.5×30
- Binding head tapping screw 4×16

### [Door Movement]

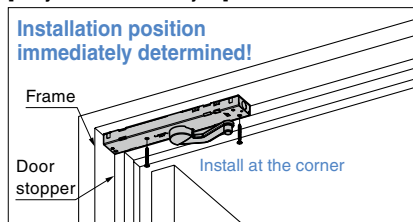


### [Door Hinge Side]



Right-handed type shown. Left-handed type is symmetrical.

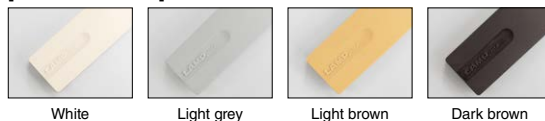
### [Easy to Install and Adjust]



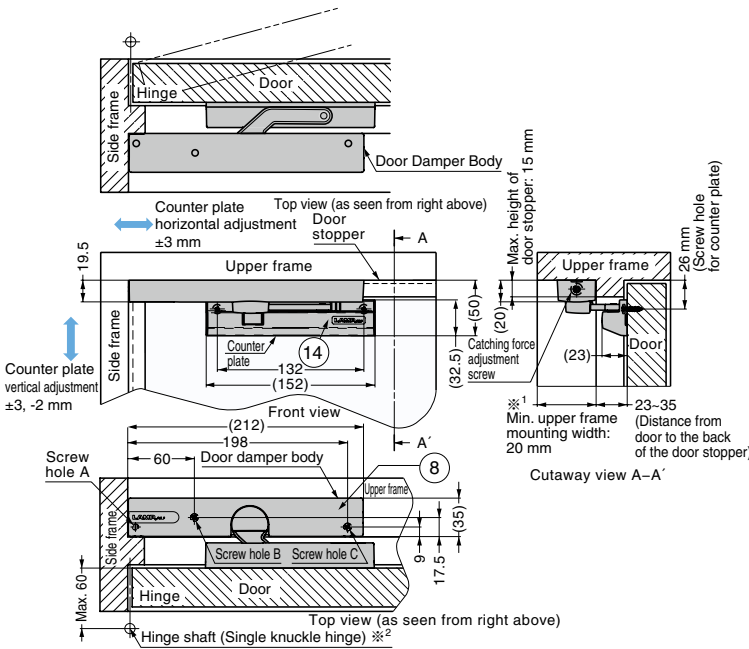
Video Link



### [Available Colours]



[Installation]



※<sup>1</sup> Top view above is for the upper frame mounting width above 25mm. When the distance from door to the back of the door stopper is 20mm~25mm, please use the screw hole A and C.

※<sup>2</sup> Refer to 1 for 3-way adjustable concealed hinge HES3D. ※ Can not be used with HES3D-90 2.

Refer to 1 : No.280 P.90, 2 : P.192

⚠ Safety Cautions

- ◆ Do not drop or give strong impact to this product.
- This product can not resist strong wind. Do not use under strong wind, or the damper effect will decrease.
- If you close the door with excessive force, the damper effect may decrease.
- The door may not close enough depending on the case lock used.
- This product is designed for interior use. Do not use it outdoors.
- Do not use it at places subject to moisture and water.
- At the entrance of highly airtight room, the door closing speed and damper force may change, and the door may not close enough.
- The closing speed varies depending on the use environment (temperature, wind and hinges used on the door, etc.). Operating temperature: 0°C ~ 40°C.
- Do not apply a load in the vertical direction or excessive force to pull-in arm. Otherwise, it may be damaged.
- Please install and adjust this product after adjusting the door hinges.
- Please use the door hinges within the adaptive door weight range of this product.
- This product is supplied with installation instruction.
- Be sure to read before installation or use.
- Regularly check for looseness or dropout of screws during use.

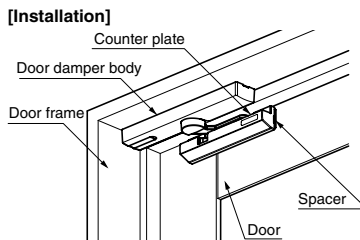
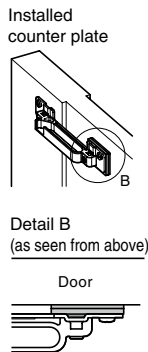
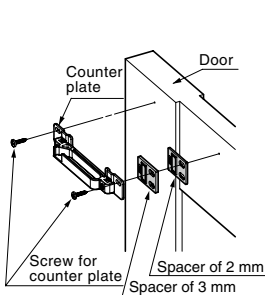
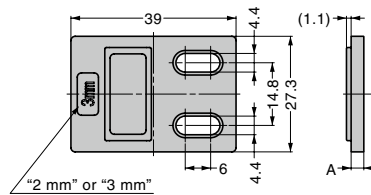
SPACER FOR LDD-S LDD-S-P



- For Lapcon door damper LDD-S 1.
- Used when installing LDD-S to a door with gap.
- Two types available: 2mm thickness and 3mm thickness.
- Two spacers can be used in combination for gaps of 4, 5, 6mm.
- Counter plate of LDD-S adjustable vertically and horizontally with the spacer installed.

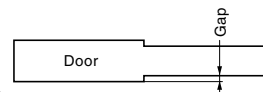
[Installation] In case of 5mm thickness gap

- Place the counter plate spacer on the gap part of the door and pinch it with the counter plate.



[Remarks Before Installation]

- Check the gap of the door surface and choose the suitable spacer (combination of spacers).



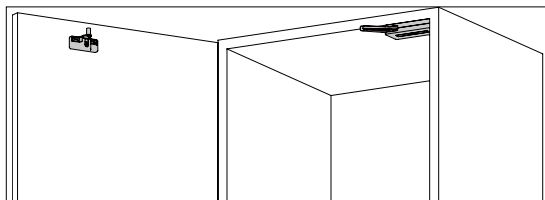
Refer to 1 : P.125

RoHS	CAD	Item Code	Item Name	Material	Colour	A	Weight (g)	Box (pcs)	Carton (pcs)
✓	3D	270-021-019	LDD-S-P2BL	ABS	Black	2	1.8	100	1000
✓	3D	270-021-020	LDD-S-P3BL			3	2.8	100	1000

## DAMPER CATCH DC-200

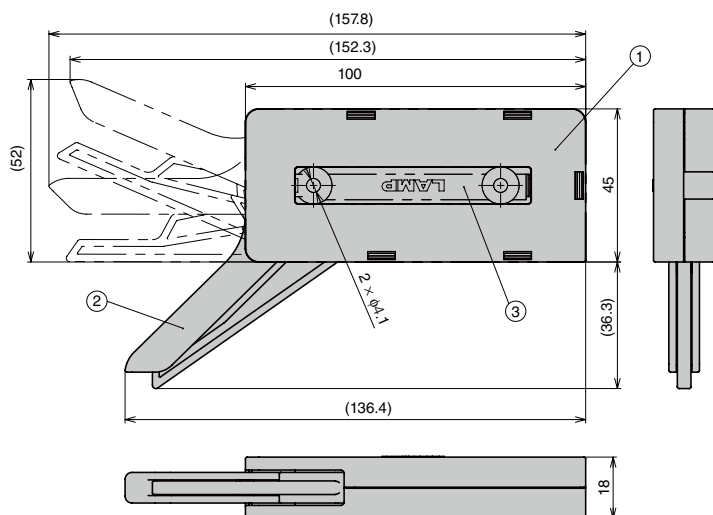


Installation Example

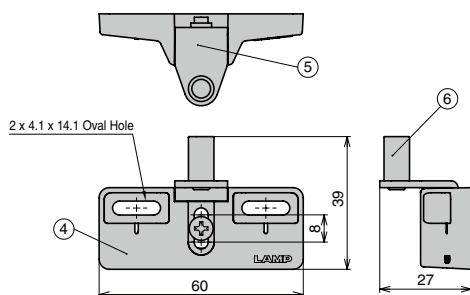


Attach to the interior of the cabinet.

## [Body]



## [Counter Plate]



- Damper and catch combination for sideways opening doors.
- Prevents doors from slamming.
- Holds doors in closed position.
- Easy to install by simply aligning body with the interior wall.
- Non-handed.
- Can handle doors up to 40 kg. (When using DC-200 - 40).
- Strike can be adjusted post-installation: horizontally  $\pm 5$  mm, vertically  $\pm 4$  mm.
- Passed 50,000 open/close cycles in a private test.

## [Recommended hinges]

- Heavy Duty Concealed Hinge J95 (With catch type)
- 3way Adjustable Concealed Hinge HES3D-90
- Single axis furniture hinges

## [Caution]

- The screws for installing on sheet metal are not included. We recommend the following screws:  
Recommended screws for body: Cross binding head M4 x 30  
Recommended screws for counter plate: Cross binding head M4 x 15
- Do not install to body or strike to hollow surfaces.
- If there is a large resistant force during closing, the door may not close fully.

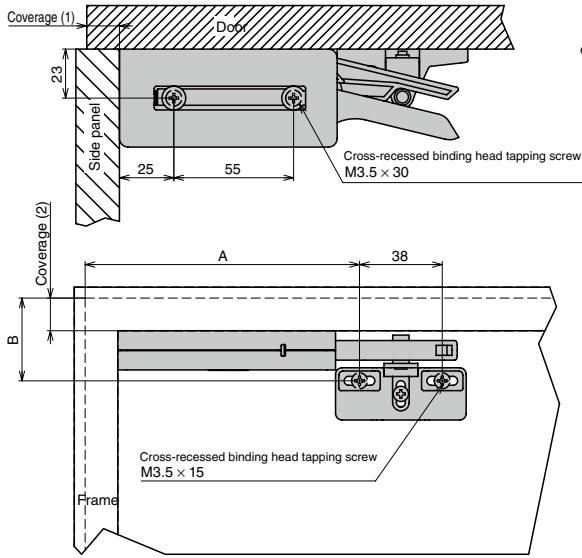
## [Parts included]

- Body Cover
- Counter
- Screws to attach body: 3.5 x 30
- Screws to attach counter: 3.5 x 15

No.	Item Name	Materials	Finish/Colour
①	Body	PC/ABS	White / Black
②	Arm	PA	White / Black
③	Body Cover	ABS	White / Black
④	Counter	PC/ABS	White / Black
⑤	Counter Plate	Steel (SPCC)	Nickel Plating
⑥	Bumper	Elastomer	Gray

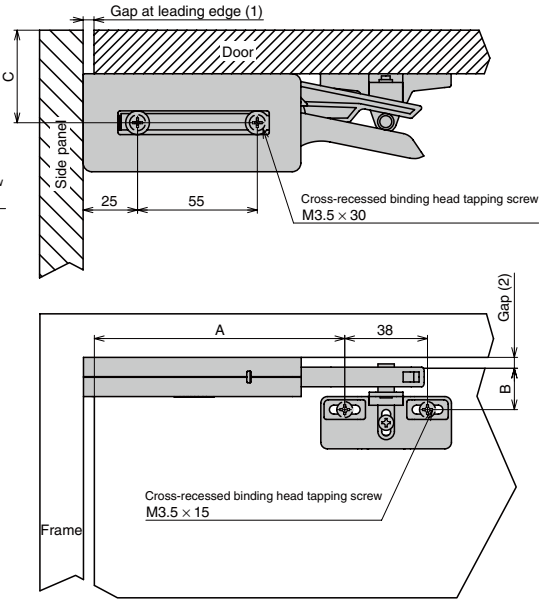
RoHS	CAD	Item Code	Item Name	Colour	Door Width	Door Height	Load Capacity (kg)	Weight (g)
RoHS	3D	140-043-604	DC-200-25WT	White	450 - 900	Under 2400	7 - 25	105
RoHS	3D	140-043-605	DC-200-25BL	Black				
RoHS	3D	140-043-606	DC-200-40WT	White			25 - 40	
RoHS	3D	140-043-607	DC-200-40BL	Black				

For lapped (outset) doors



For inset doors

Install a door stopper in addition to this product.



	A	B	C
Outset Doors	114 + Coverage (1)	24 + Coverage (2)	
Inset Doors	114 - gap at leading edge (1)	24 - gap (2)	23+Door Thickness

Damper Hinges

Soft Closing Stays

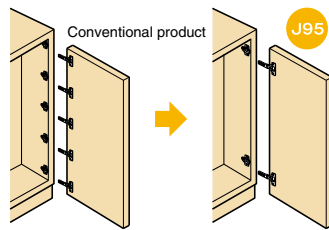
Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

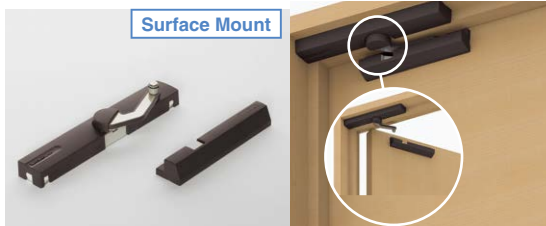
## ONE-TOUCH SLIDING HINGE FOR HEAVY DOORS J95 DIGEST



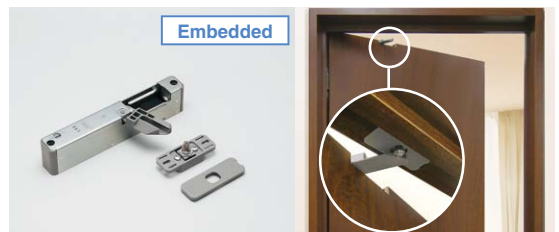
Two pieces will do the job of five conventional hinges!

- A sliding hinge for heavy doors that can be used together with the DC-200 damper catch.
  - Use the type with a catch if using together with the DC-200 damper catch.
  - Supports large doors weighing up to 25 kg with 2 hinges or up to 40 kg with 3 hinges.
  - Enables one-touch installation and removal of the door.
  - Enables three-dimensional adjustment of the door. (+1.5 mm/-2.5 mm forward/back, ±3 mm up/down, +0 mm/-4 mm coverage adjustment [left/right])
  - Streamlined design free of protrusions such as adjustment screws on the body top.
- To ensure safety, the lock lever does not protrude from the back of the body.

## LAPCON DOOR DAMPER LDD-S, LDD-V DIGEST



LDD-S



LDD-V

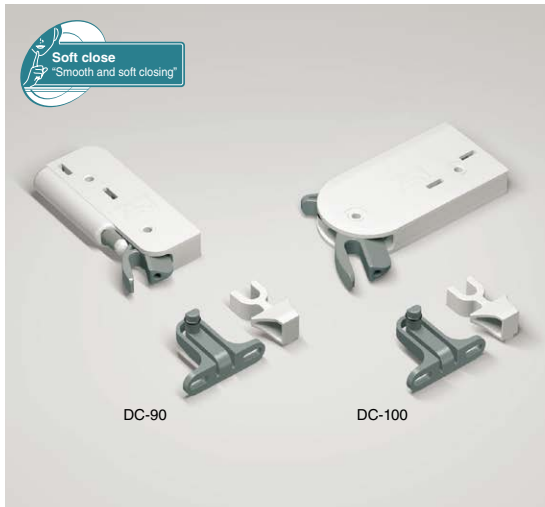
### [Features]

- A damper for doors (fixtures).
- Enables the door to be opened with less force than with door closers.
- Supports doors weighing up to 40 kg.
- Contact us if your door is wider than 900 mm.

# DAMPER CATCH DC



Video Link



- For swing doors.
- Suitable for both right and left opening.
- Four models available depending on door specification, installation method, weight and size.
- DC-90 is installed vertically to the front of cabinet, not interfering with storage.
- DC-100 can be positioned simply by pressing the body against the top board bottom and aligning it with the cabinet edge.

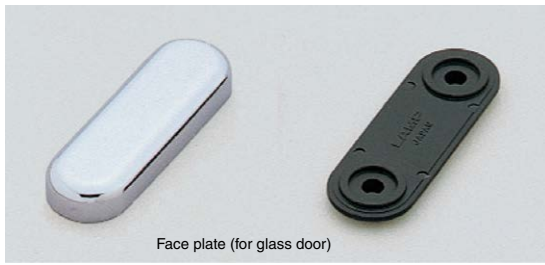
**[Remarks]**

- Screws are not included for installing to sheet metal (recommended screw: truss head screw M4).

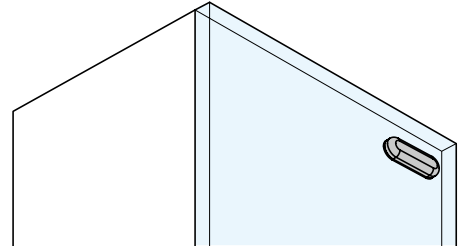
**[Parts Included]**

- Truss head tapping screw 4 X 30
- Truss head tapping screw 4 X 16
- Truss head screw 4 X 12 (Only included in DC-90G, DC-100G)
- Counter plate Jig
- Face plate (Only included in DC-90G, DC-100G)

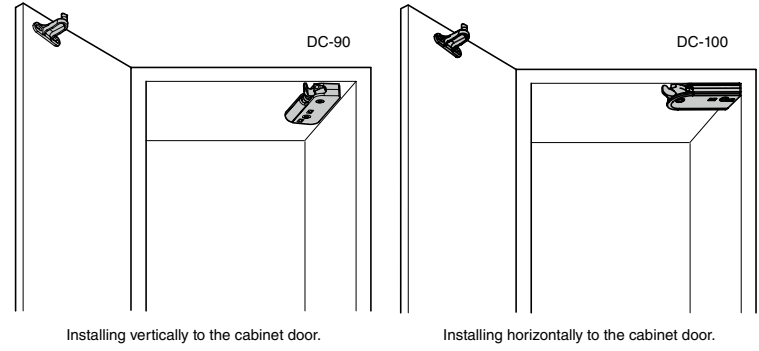
※Face plate (below) is included for glass door



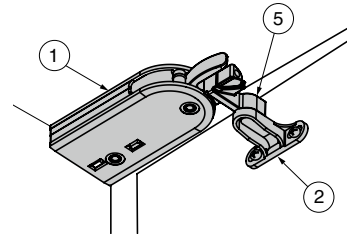
**[Face Plate Installation]**



**[Installation]**



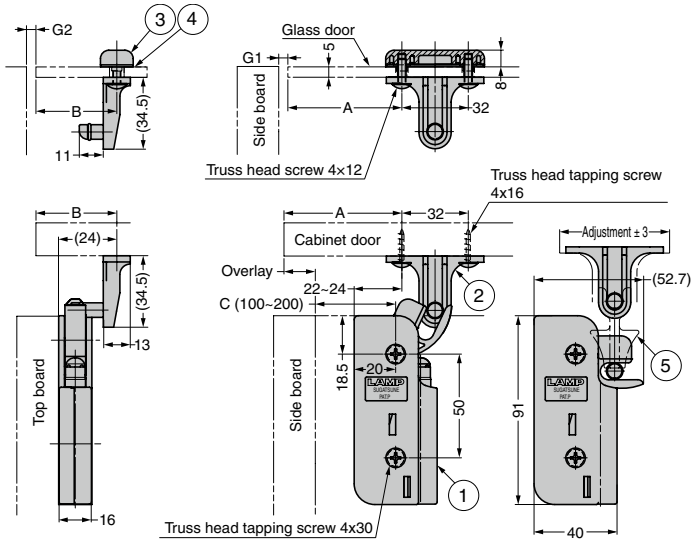
**[Counter Plate Installation]**



If installing jig ⑤ to body ① as shown in the figure, the installation position of counter plate ② on the door is determined. (View from the inside of door)

RoHS	CAD	Item Code	Item Name	Type	Door Width	Door height	Glass Thickness	Door Weight kg	Weight (g)	Box (pcs)	Carton (pcs)
GD	BD	140-021-697	DC-90	-	Max. 450	Max. 600	-	Max. 4	46	25	200
GD	BD	140-021-698	DC-90G	For Glass Door			5		71	25	200
GD	BD	140-021-699	DC-100	-	Max. 600	Max. 800	-	Max. 7	66	25	200
GD	BD	140-021-700	DC-100G	For Glass Door			5		91	25	200

[DC-90]

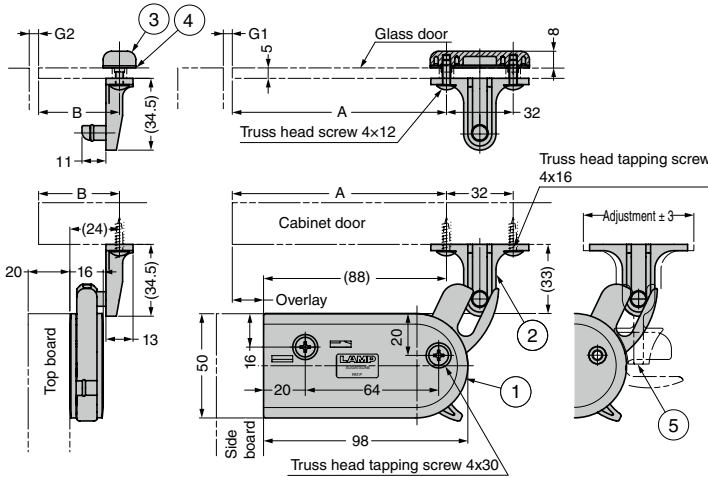


[Counter Plate Installation Position for DC-90]

	A	B
Inset Door	C-G1+3	24-G2
Overlay Door	C+Overlay+3	Overlay+24

※For inset door, please shift the installation position of body away from cabinet edge to the inside by the door thickness.

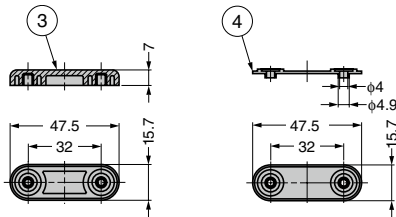
[DC-100]



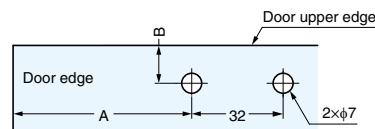
[Counter Plate Installation Position for DC-100]

	A	B
Inset Door	88-G1	24-G2
Overlay Door	Overlay+88	Overlay+24

※For inset door, please shift the installation position of body away from cabinet edge to the inside by the door thickness.



[Cut Out Dimensions for Glass Door]




No.	Product Name	Material	Finish / Colour
①	Body	POM /PBT	Dark Grey/Light Grey
②	Counter Plate	POM	Dark Grey
③	Face Plate	Zinc Alloy (ZDC)	Chrome
④	Spacer	ABS	Black
⑤	Jig	PBT	Light Grey

# SOFT-CLOSE STAY YMC For Swing Door

Soft Motion



Right-handed

Opening Direction	Description	Door Width	Door Weight
 Swing Door	Soft-close	Max. 300	0.3~0.7 kg

- Suitable for small cabinets such as mailbox.
- Built-in damper realises gentle door closing.
- Slim design and top board mount type maximises space inside of the cabinet.

**[Remarks]**

- Handed: Specific left and right-handed.
- Mounting bracket (※ part in the picture, thickness 5mm) and screws not included.

Please prepare separately.

**[Recommended Screws]**

- Tapping screw nominal 4

Damper Hinges

Soft Closing Stays

Door Dampers

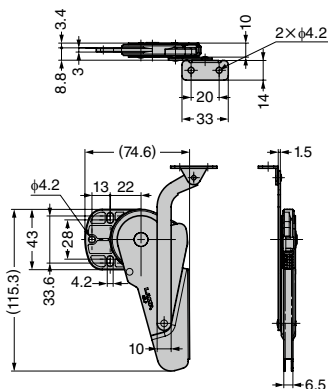
Brackets & Shelving Systems

Soft Close Slides

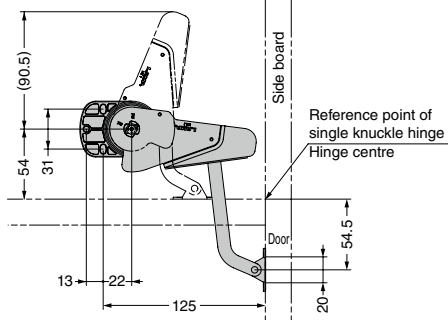
Recessed Hooks



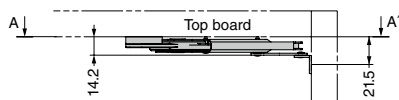
Right-handed



**[Installation With Single Knuckle Hinge]**

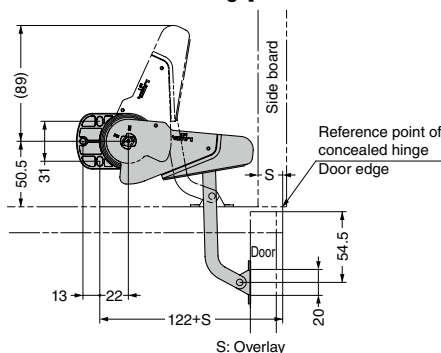


Cutaway view A-A'

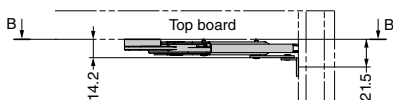


※ Right-handed type shown.

**[Installation With Concealed Hinge]**



Cutaway view B-B'



※ Right-handed type shown.

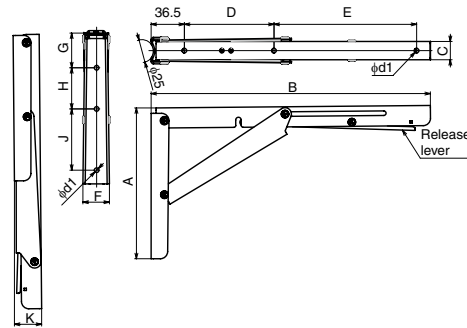
RHS	CAD	Item Code	Item Name	Material	Colour	Door Width	Door Weight kg	Opening/Closing Angle	Weight (g)	Box (pcs)	Carton (pcs)
		180-100-103	YMC-R	Stainless	Grey	Max. 300	0.3~0.7	0°~90°	103	50	-
		180-100-102	YMC-L	Steel/PBT	Grey	Max. 300	0.3~0.7	0°~90°	103	50	-

# FOLDING BRACKET EB

**LOAD CAPACITY** 200 kgf



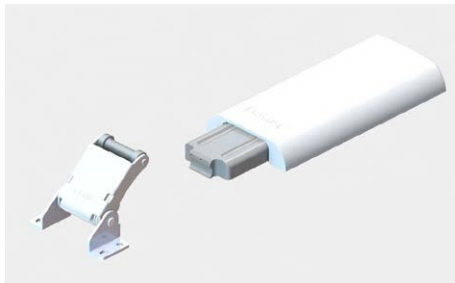
- Automatically locks when flap is in opened position.
- Press lever to release the lock.
- Bracket with hinge function in one unit.



Item Name	A	B	C	D	E	F	G	H	J	K	d1
EB-200/EP	116	199.5	20	155	-	29	21	80	-	28.5	5
EB-303/EP	165	305.5		98	156	36	38	45	67		
EB-317/EP	171	317	24							30	6

RohS	CAD	Item Code	Item Name	Material	Finish	Load Capacity N	Load Capacity kgf	Weight (g)	Box (pcs)	Carton (pcs)
CE	SD	120-041-277	EB-200/EP	Stainless Steel (SUS304)	Mirror	1716	175	332	50	-
CE	SD	120-018-226	EB-303/EP	Stainless Steel (SUS304)	Mirror	1471	150	500	25	-
CE	SD	120-041-278	EB-317/EP	Stainless Steel (SUS304)	Mirror	1961	200	750	25	-

# DAMPER FOR EB FOLDING BRACKET EBD



- Designed for EB folding bracket.
- Lapcon mechanism prevents shelf from sudden drop.
- Installation position can be easily determined with the supplied template.

**[Remarks]**

- Make sure to have sufficient mounting surface strength.
- Please completely close shelf board with hands.
- Shelf board must be assembled to the arm with release lever.

**[Parts Included]**

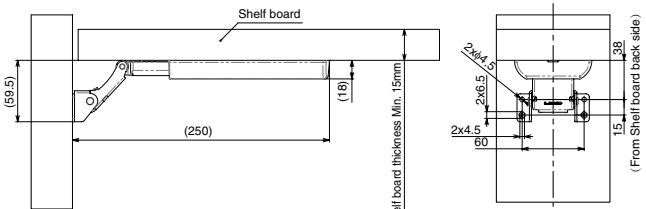
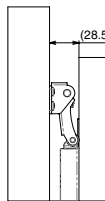
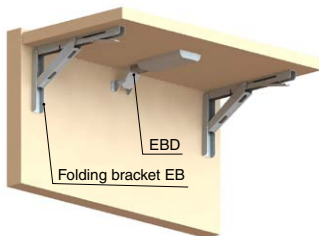
- Binding head tapping screw 4 × 16
- Template

**[Sold Separately]**

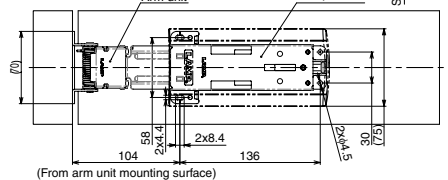
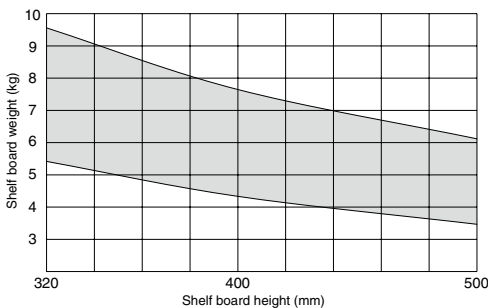
- Folding bracket EB



**[Application Example]**



**[Shelf board Size Range]**



RohS	CAD	Item Code	Item Name	Material	Finish	Maximum Door Moment N·m	Maximum Door Moment kgf·cm	Flap thickness	Weight (g)	Box (pcs)	Carton (pcs)
CE	SD	120-034-867	EBD	ABS/POM/Steel	Off-White/Zinc/Chrome	8.5-15	86.7-153.0	Min. 15	400	1	20



Damper  
Hinges

Soft  
Closing  
Stays

Door  
Dampers

Brackets &  
Shelving  
Systems

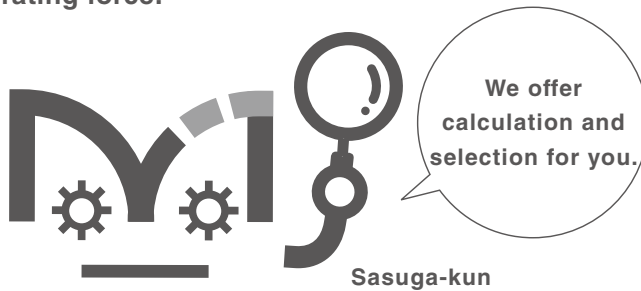
Soft  
Close  
Slides

Recessed  
Hooks



## Product Selection Tool Sasuga-kun

Just inputting the dimensions and weight of the flap/door, you can select suitable Motion Design Tech products or simulate (graphically display) moment and operating force.



Sasuga-kun

Access from here

Sasuga-kun

Search

<https://contents.sugatsune.co.jp/en/motion/selection/>



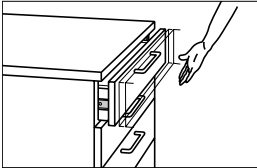
# FULL EXTENSION SOFT-CLOSE SLIDE 3670

**LOAD CAPACITY** 147-196 N/pair **L=R** **DETACH** **BUMPER** **CATCH** **INSTRUCTION**

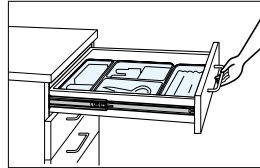


- Full extension (3 members).
- The drawer can be fully pulled out for slide length 300mm or above.
- Soft-closes at 20mm distance from closed position (slide length 350mm or below) or 36mm distance from closed position (slide length 400mm or above).
- The maximum width of the drawer is the slide length +200mm.
- Sliding smoothly even with some deflection of cabinet due to shock absorbing effect of the outer member installation part.
- The drawer is detachable by lifting the lever.
- Type 4670 with slide width 45.5mm, load capacity 15~40kgf / pair (black chromate: 1, clear zinc chromate 2) also available.

[Self & Soft Closing]



[Full Extension (3 Members)]



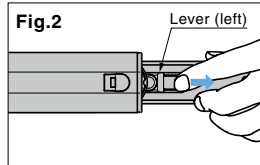
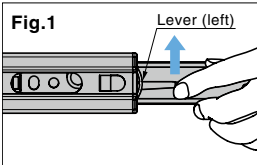
[Remarks]

- Be sure to read the "Cautions" 3.
- Gap between drawer and cabinet beyond the range ※1 in the drawing below may cause unexpected damage to the slide.
- Do not push with a strong force when soft-closing mechanism is operating. Otherwise, it may cause oil leakage.

[Parts Included]

- Truss head tapping screw 4x12

[Easy to Detach]



Simultaneously move the left lever upwards and the right lever downwards.

Move the left and right levers towards you at the same time.

Fig.3

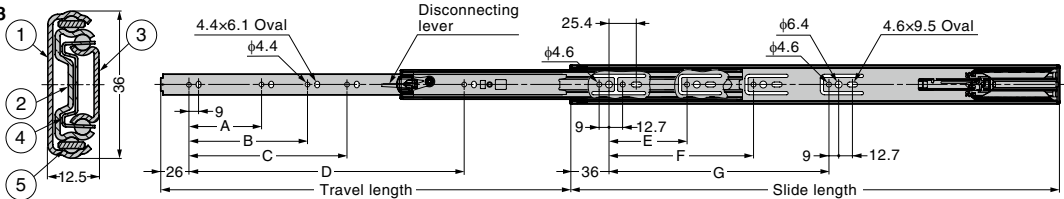
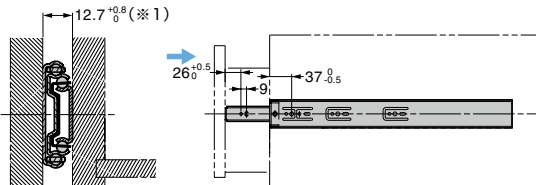
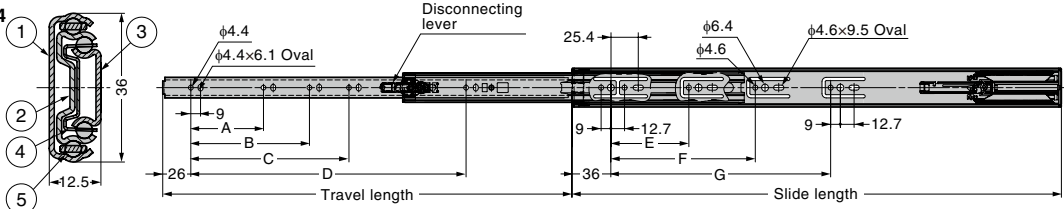


Fig.4



No.	Part Name	Material	Finish/Colour
①	Outer Member	Steel	Clear Zinc Chromate (Trivalent)
②	Intermediate Member		
③	Inner Member		(Zinc Chromate Steel)
④	Retainer		
⑤	Balls		

Sold in pairs (2 pcs).

RoHS	CAD	Item Code	Item Name	Slide Length	Travel Length	A	B	C	D	E	F	G	Load Capacity N/pair	Load Capacity kgf/pair	Weight (kg/pair)	Box (pairs)	Carton (pairs)	
☑	SD	190-027-543	3670-250	250	200	124	-	-	-	87	-	-	147	15	0.54	20	-	
☑	SD	190-027-544	3670-300	300	300	174	-	-	-	183	-	-			0.66	20	-	-
☑	SD	190-027-545	3670-350	350	350	96	224	-	-	199	-	-			0.78	10	-	-
☑	-	190-027-546	3670-400	400	400	160	256	-	-	247	-	-	196	20	0.9	10	-	
☑	-	190-027-547	3670-450	450	450	96	192	306	-	215	295	-			1.02	10	-	-
☑	-	190-027-548	3670-500	500	500	-	-	356	-	343	343	-			1.12	10	-	-
☑	-	190-027-549	3670-550	550	550	128	224	352	406	247	375	-			1.24	10	-	-
☑	-	190-027-550	3670-600	600	600	-	-	384	456	-	-	-			1.38	10	-	-

Refer to 1 : P.137, 2 : P.136, 3 : No.280 P.399

※ As soon as the stock of this product runs out, the slide detaching method is changed from Fig.1 to Fig.2, and the drawing is changed from Fig.3 to Fig.4.

**FULL EXTENSION SOFT-CLOSE SLIDE ESR4670** Stainless steel

**LOAD CAPACITY** 157-343 N

**L=R**

**DETACH**

**HOLD CLOSED**

**CATCH**

**INSTRUCTION**

**SUS**



- Soft-closes at 20mm distance from closed position (slide length 350mm or below) or 36mm distance from closed position (slide length 400mm or above).
- With self & soft closing mechanism built-in, possible to install as with conventional slides.
- Full extension (3 members).
- The drawer is detachable by lifting the lever.
- The maximum width of the drawer is the slide length +200mm.

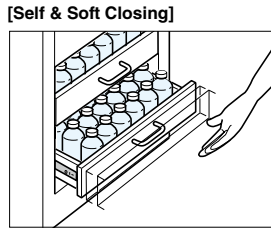
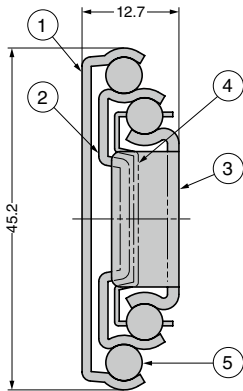
**[Remarks]**

- Be sure to read the "Cautions" 1.
- Some parts of this product are made of plastic.
- Do not push with a strong force when soft-closing mechanism is operating. Otherwise, it may cause oil leakage.

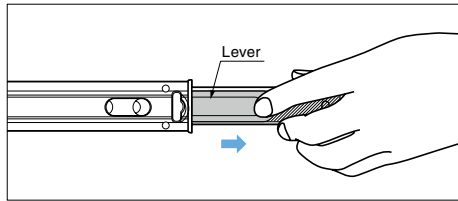
**[Recommended Screws]**

- For metal: M4 screw (except for countersunk head)
- For wood: M4 tapping screw (except for countersunk head)

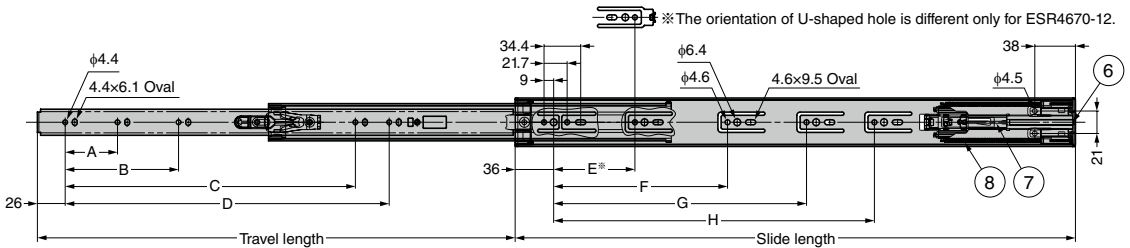
● Slide cross section S=1/1



**[Easy to Detach]**



The drawer can be detached by pulling the lever in the direction of the arrow.



No.	Part Name	Material
①	Outer Member	Stainless Steel (SUS304)
②	Intermediate Member	
③	Inner Member	
④	Retainer	
⑤	Balls	
⑥	Damper Case	POM
⑦	Shaft	Stainless Steel (SUS303)
⑧	Spring	Stainless Steel (SUS304)

Sold in pairs (2 pcs).

RtHS	CAD	Item Code	Item Name	Slide Length	Travel Length	A	B	C	D	E	F	G	H	Load Capacity N/pair	Load Capacity kgf/pair	Weight (kg/pair)	Box (pairs)	Carton (pairs)
G	3D	190-033-964	ESR4670-12	300	265	-	-	-	174	145	-	-	-	157	16	0.78	10	-
G	3D	190-033-965	ESR4670-14	350	340	-	-	-	224	151	-	-	0.93			10	-	
G	3D	190-033-966	ESR4670-16	400	400	96	-	-	256	167	-	-	196	20	1.07	10	-	
G	3D	190-033-967	ESR4670-18	450	450	128	-	-	306	215	-	-			1.21	10	-	
G	3D	190-033-968	ESR4670-20	500	500	96	160	-	344	279	-	-	294	30	1.36	10	-	
G	3D	190-033-969	ESR4670-22	550	550	-	-	-	394	215	311	-			1.46	10	-	
G	3D	190-033-970	ESR4670-24	600	600	-	192	-	444	247	375	-	343	35	1.66	10	-	
G	3D	190-033-971	ESR4670-26	650	650	128	-	416	494	311	407	-			1.81	10	-	
G	3D	190-033-972	ESR4670-28	700	700	-	224	480	544	215	343	471	-	1.96	10	-		

Refer to 1 : No.280 P.399

# FULL EXTENSION SOFT-CLOSE SLIDE 4670

**LOAD CAPACITY** 147-392 N/pair

**L=R**

**DETACH**

**BUMPER**

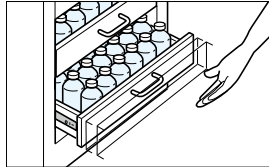
**CATCH**

**INSTRUCTION**

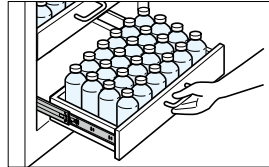


- Soft-closes at 20mm distance from closed position (slide length 350mm or below) or 36mm distance from closed position (slide length 400mm or above).
- With self & soft closing mechanism built-in, easy to install as with conventional slides.
- Full extension (3 members).
- The drawer can be pulled out beyond the slide length for slide length above 350mm.
- The maximum width of the drawer is the slide length +200mm.
- Sliding smoothly even with some deflection of cabinet due to shock absorbing effect of the outer member installation part.
- The drawer is detachable by lifting the lever.

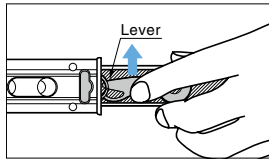
[Self & Soft Closing]



[Full Extension (3 Members)]



[Easy to Detach]



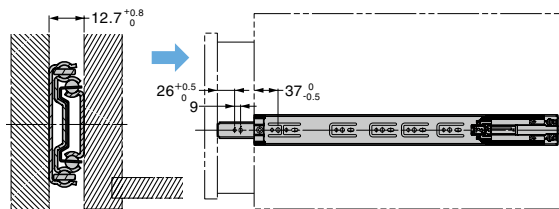
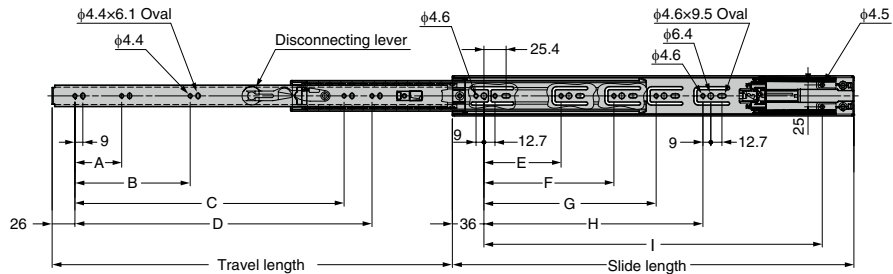
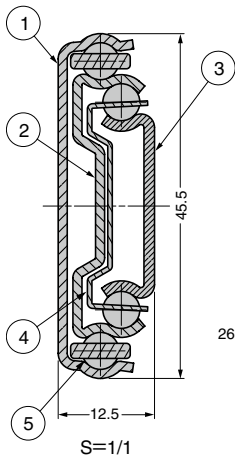
Simultaneously move the left lever upwards and the right lever downwards.

**[Remarks]**

- Be sure to read the "Cautions" 1.
- Do not push with a strong force when soft-closing mechanism is operating. Otherwise, it may cause oil leakage.

**[Parts Included]**

- Truss head tapping screw 4x12



No.	Part Name	Material	Finish/Colour
①	Outer Member	Steel	Clear Zinc Chromate (Trivalent)
②	Intermediate Member		
③	Inner Member		(Zinc Chromate Steel)
④	Retainer		
⑤	Balls		

Sold in pairs (2 pcs).

R/H/S	CAD	Item Code	Item Name	Slide Length	Travel Length	A	B	C	D	E	F	G	H	I	Load Capacity N/pair	Load Capacity kgf/pair	Weight (kg/pair)	Box (pairs)	Carton (pairs)
G	SD	190-021-265	4670-250	250	175			124		87				179	147	15	0.71	10	-
G	SD	190-021-266	4670-300	300	275			174						229	196	20	0.85	10	-
G	SD	190-021-267	4670-350	350	353	96		224			183			279	245	25	0.99	10	-
G	SD	190-021-268	4670-400	400	404			254			199			329			1.13	10	-
G	SD	190-021-269	4670-450	450	455	128		294			247			379	294	30	1.27	10	-
G	SD	190-021-270	4670-500	500	505	96	160	344		119	295			429	343	35	1.44	10	-
G	SD	190-021-271	4670-550	550	556			394						479	392	40	1.59	6	-
G	SD	190-021-272	4670-600	600	606		192	444						529			1.77	6	-
G	SD	190-021-273	4670-650	650	653	128		416	494		215	343		439	579	30	1.92	6	-
G	SD	190-021-274	4670-700	700	704		224	480	544					487	629		2.07	6	-

Refer to 1 : No.280 P.399

# FULL EXTENSION SOFT-CLOSE SLIDE 4670 Black

**LOAD CAPACITY** 147-392 N/pair

**L=R**

**DETACH**

**BUMPER**

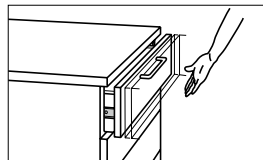
**CATCH**

**INSTRUCTION**

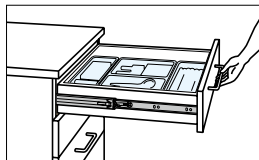


- Full extension (3 members).
- Black version of slide 4670 1.
- Soft-closes at 20mm distance from closed position (slide length 350mm or below) or 36mm distance from closed position (slide length 400mm or above).
- With self & soft closing mechanism built-in, easy to install as with conventional slides.
- The drawer can be fully pulled out for slide length 350mm or above.
- The maximum width of the drawer is the slide length +200mm.
- Sliding smoothly even with some deflection of cabinet due to shock absorbing effect of the outer member installation part.
- The drawer is detachable by lifting the lever.

**[Self & Soft Closing]**



**[Full Extension (3 Members)]**



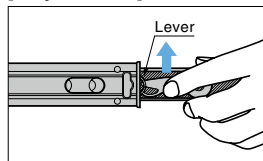
**[Remarks]**

- Be sure to read the "Cautions" 2.
- Do not push with a strong force when soft-closing mechanism is operating. Otherwise, it may cause oil leakage.
- Noted that scratch is conspicuous on black surface.

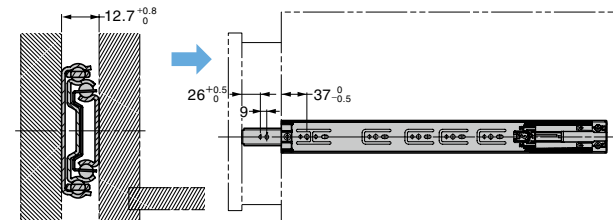
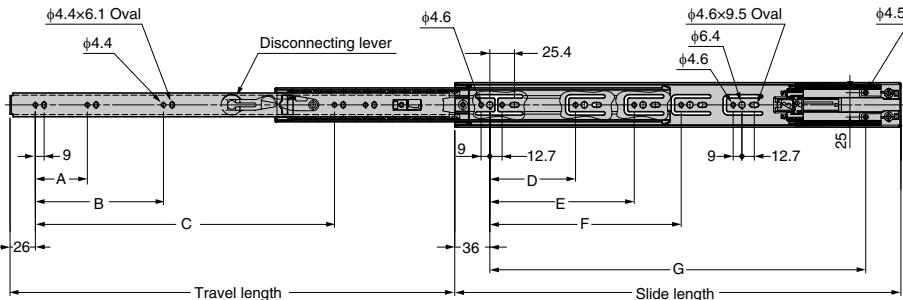
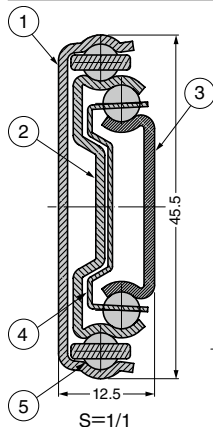
**[Parts Included]**

- Truss head tapping screw 4x12 (black chromate)

**[Easy to Detach]**



Simultaneously move the left lever upwards and the right lever downwards.



No.	Part Name	Material	Finish/Colour
①	Outer Member	Steel	Black
②	Intermediate Member		Electrodeposition
③	Inner Member		(Zinc Chromate Steel)
④	Retainer		-
⑤	Balls		-

Sold in pairs (2 pcs).

RoHS	CAD	Item Code	Item Name	Slide Length	Travel Length	A	B	C	D	E	F	G	Load Capacity N/pair	Load Capacity kgf/pair	Weight (kg/pair)	Box (pairs)	Carton (pairs)
-	-	190-028-947	4670-250BL	250	175	-	-	124	87	-	-	179	147	15	0.71	10	-
-	3D	190-028-948	4670-300BL	300	275	-	-	174	-	-	-	229	196	20	0.85	10	-
-	3D	190-028-949	4670-350BL	350	353	-	-	224	-	183	-	279	245	25	0.99	10	-
-	3D	190-028-950	4670-400BL	400	404	96	-	254	-	199	-	329	294	30	1.13	10	-
-	-	190-028-951	4670-450BL	450	455	128	-	294	119	247	-	379	294	30	1.27	10	-
-	3D	190-028-952	4670-500BL	500	505	96	160	344	-	295	-	429	343	35	1.44	10	-
-	-	190-028-953	4670-550BL	550	556	96	160	394	-	343	-	479	392	40	1.59	6	-
-	-	190-028-954	4670-600BL	600	606	128	192	444	-	215	343	529	294	30	1.77	6	-

Refer to 1 : P.136, 2 : No.280 P.399

FULL EXTENSION SOFT-CLOSE SLIDE L52145

LOAD CAPACITY 540 N/pair

L=R

DETACH

CATCH



- Full extension (3 members).
- Soft-closes at 50mm distance from closed position.
- With self & soft closing mechanism built-in, easy to install as with conventional slides.
- Travel length is slide length – 50mm (approx.).
- Larger load capacity compared with our company's other products with the same mechanism.
- The drawer is detachable by lifting the lever.

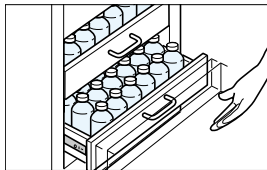
[Remarks]

- Be sure to read the "Cautions" 1D.
- Do not push with a strong force when soft-closing mechanism is operating. Otherwise, it may cause oil leakage.

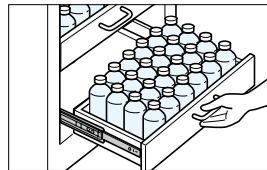
[Recommended Screws]

- For outer member  
Oval hole: M4 or nominal 4 screw  
Round hole: M5 or nominal 5 low head screw
- For inner member  
M4 or nominal 4 low head screw

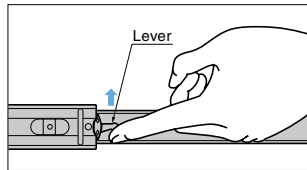
[Self & Soft Closing]



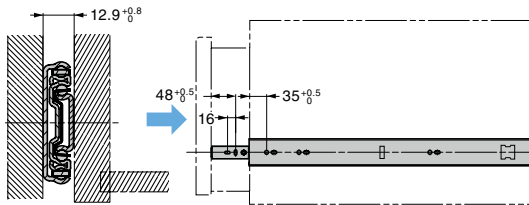
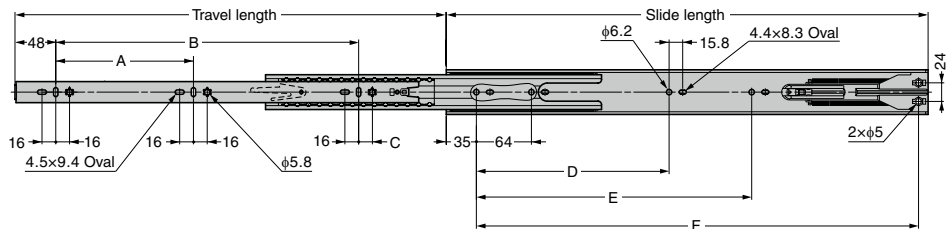
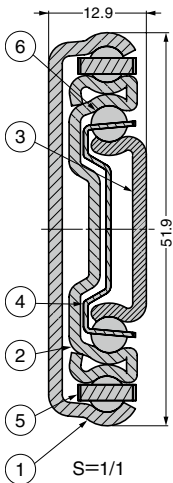
[Full Extension (3 Members)]



[Easy to Detach]



Simultaneously move the left lever upwards and the right lever downwards.



No.	Part Name	Material	Finish/Colour
①	Outer Member	Steel (SPCC)	Clear Zinc Chromate (Trivalent)
②	Intermediate Member		
③	Inner Member		
④	Retainer	Steel (SECC)	(Zinc Chromate Steel)
⑤		PA	
⑥	Balls	Steel	-

Sold in pairs (2 pcs).

RHS	CAD	Item Code	Item Name	Slide Length	Travel Length	A	B	C	D	E	F	Load Capacity N/pair	Load Capacity kgf/pair	Weight (kg/pair)	Box (pairs)	Carton (pairs)
☑	SD	190-012-982	L52145-410	410	360	96	224	-	160	-	362.5	540	55	1.6	10	-
☑	SD	190-012-983	L52145-460	460	403	256	224	-	224	-	412.5			1.8	10	-
☑	SD	190-012-984	L52145-510	510	453	128	288	-	256	-	462.5			2.1	10	-
☑	SD	190-012-985	L52145-560	560	502	160	352	16	320	512.5	2.3			8	-	
☑	SD	190-012-986	L52145-610	610	552	192	384	224	352	562.5	2.5			8	-	
☑	SD	190-012-987	L52145-660	660	604	224	416	416	416	612.5	2.7			6	-	
☑	SD	190-012-988	L52145-710	710	651	224	480	416	416	662.5	3.0			6	-	

Refer to 1D : No.280 P.399

# RECESSED HOOK NF-60D With Soft Closing Mechanism

TEST METHOD 18 VIDEO



- Arm automatically and slowly closes when hooked items removed.
- Handhold at hook tip allows for easy opening.
- Little projection when hook retracted.
- Possible to install to sheet metal by using bracket NF-50D 1
- Special colours can be made to order. For further details, please contact local representatives.

**[Applications]**

- Cabinet, vehicle, etc.

**[Remarks]**

- Please take off the cushion rubber when installing on a wooden panel.

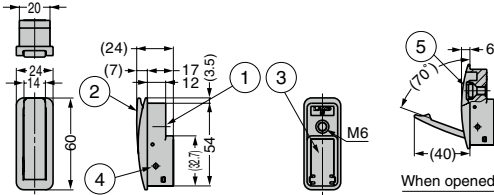
**[Sold Separately]**

- Bracket NF-50D 1

**[Recommended Screws]**

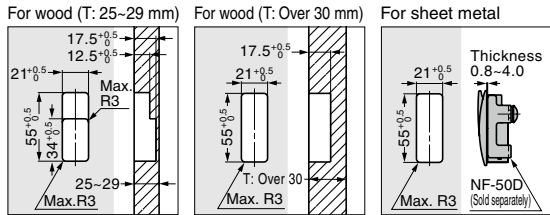
- For wooden board
  - Thickness 25~29mm : Countersunk head tapping screw 5×20
  - Thickness min 30mm : Countersunk head tapping screw 5×25

Video Link



No.	Part Name	Material	Finish / Colour
①	Body	Aluminium Alloy (ADC)	Dark Grey, Silver, Metallic Silver Enamel Finish
②	Arm		
③	Cover	POM	Dark Grey
④	Knurled Pin	Stainless Steel (SUS304)	Plain
-	Spring		
⑤	Cushion Rubber	CR	Black

**[Cut Out Dimensions]**



Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

Recessed Hooks

**[Body]**

RHS	CAD	Item Code	Item Name	Colour	Load Capacity N	Load Capacity kgf	Weight (g)	Box (pcs)	Carton (pcs)
		110-022-191	NF-60D-GR	Dark Grey	294	30	49	10	200
		110-024-598	NF-60D-SL	Silver				10	200
		110-027-560	NF-60D-MSL	Metallic Silver				10	200

Refer to 1 : P.140

# RECESSED HOOK NF-60DF

TEST METHOD 18



- Easy installation and removal. Surface mount type on sheet metal.
- Arm automatically and slowly closes when hooked items are removed.
- Handhold at hook tip allows for easy opening.
- Little projection when hook is retracted.

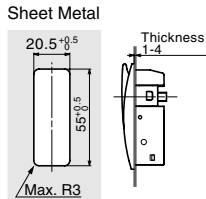
**[Applications]**

- Cabinet, vehicle, etc.

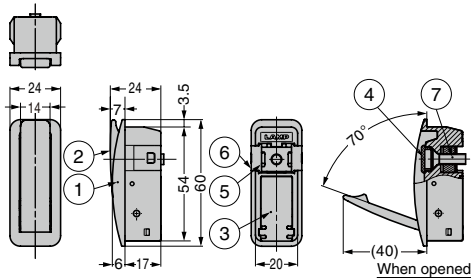
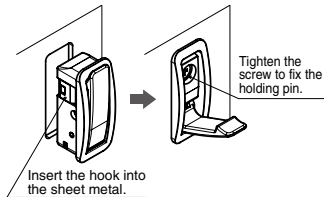
**[Remarks]**

- Please take off the cushion rubber when tighten the screw and put it on again when finished.
- Please do not tighten the screw too much (recommended fastening torque: 3N·m).

**Cut Out Dimensions**



**Installation**

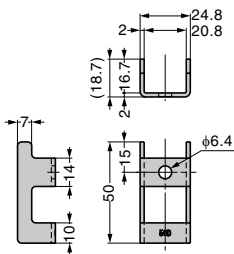


No.	Part Name	Material	Finish / Colour
①	Body	Aluminium Alloy (ADC)	Black, Metallic Silver
②	Arm		
③	Cover	POM	Dark Grey
④	Cushion Rubber	CR	Black, Metallic Silver
⑤	Nut	ZDD	Chromate
⑥	Holding Pin		
⑦	Screw	Stainless Steel (SUS304)	Plain

**Body**

RHS	CAD	Item Code	Item Name	Colour	Load Capacity N	Load Capacity kgf	Weight (g)	Box	Carton
		110-037-738	NF-60DF-BL	Black, Metallic Silver	294	30	54	10 pcs	200 pcs
		110-037-740	NF-60DF-MSL	Metallic Silver				10 pcs	200 pcs

# BRACKET FOR SHEET METAL NF-50D



- Bracket for sheet metal applications of NF-60D **1**.

**[Parts Included]**

- Pan head screw M6 × 20 (SUS)

RevS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)	Carton (pcs)
G	BD	110-024-599	NF-50D	Steel (SPCC)	Coloured Zinc Chromate (Trivalent)	25	20	400

Refer to **1** : P.139

Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

Soft Close Slides

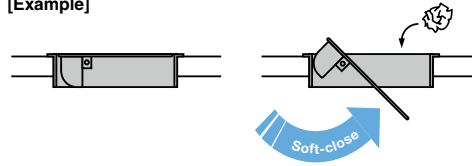
Recessed Hooks

# Product Line Up Of Multi-Purpose Lid With Damper



- Built-in damper causes lid to gently close when released, preventing slamming sounds.
- Made from stainless steel for corrosion resistance.

[Example]



[Installation]



Damper Hinges

Soft Closing Stays

Door Dampers

Brackets & Shelving Systems

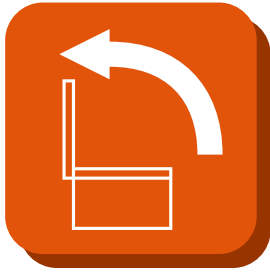
Soft Close Slides

Recessed Hooks

## Dimensions Chart

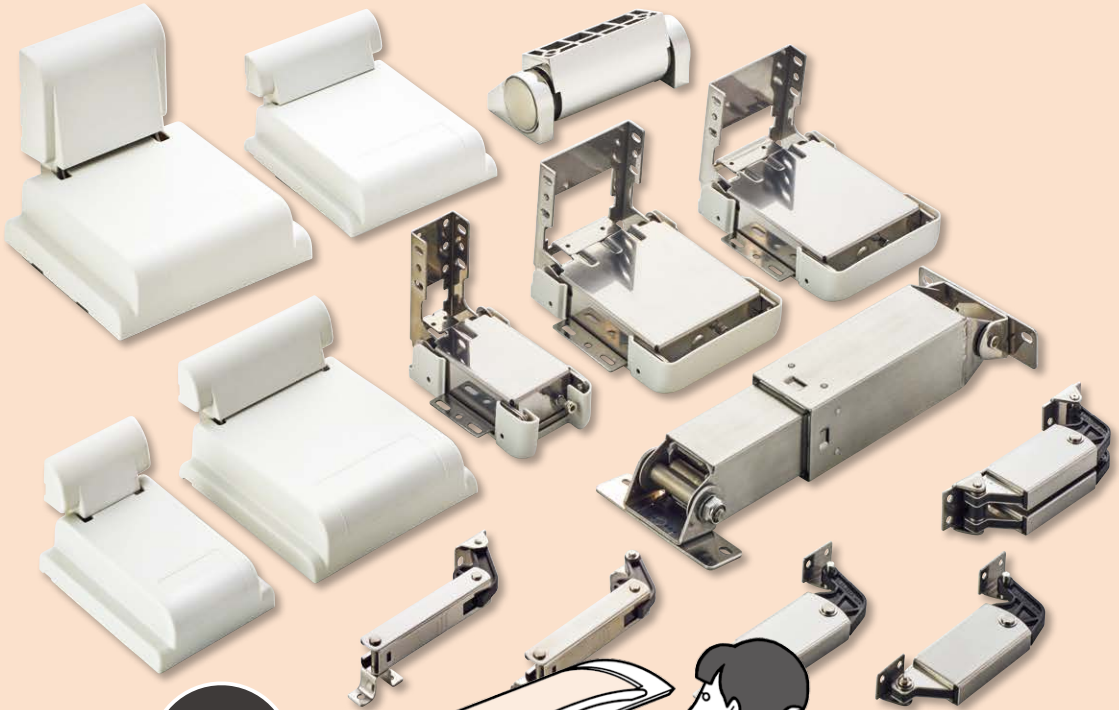
Width (Opening Dimensions)	50	100	150	200	250	300		
Examples								
Top		<p>φ106 (φ107) AD-GD011-HL 1</p>	<p>φ146 (φ147) AD-GD015-HL 1</p>	<p>φ196 Under Development</p>		<p>φ276 Under Development</p>		
Side			<p>146 × 146 (147 × 147) AD-KH015-HL 2</p>	<p>196 × 196 Under Development</p>		<p>276 × 276 Under Development</p>		
Diagonal				<p>128 × 182 (※) AZ-GD180-HL 3</p>	<p>160 × 234 (※) AZ-GD230-HL AZ-GD231-HL 3 4</p>	<p>220 × 310 (※) AZ-GD310-HL 3</p>	<p>160 × 234 (※) AZ-GD232-HL 4</p>	
Example	<p>Opening Dimension</p> <p>Item Name 1 (Reference)</p> <p>Confirm mounting hole dimensions marked with (*) on product pages.</p>						<p>Back mounting type - Frame will be hidden.</p>	

Refer to 1 : No.280 P.858, 2 : No.280 P.860, 3 : No.280 P.862, 4 : No.280 P.863

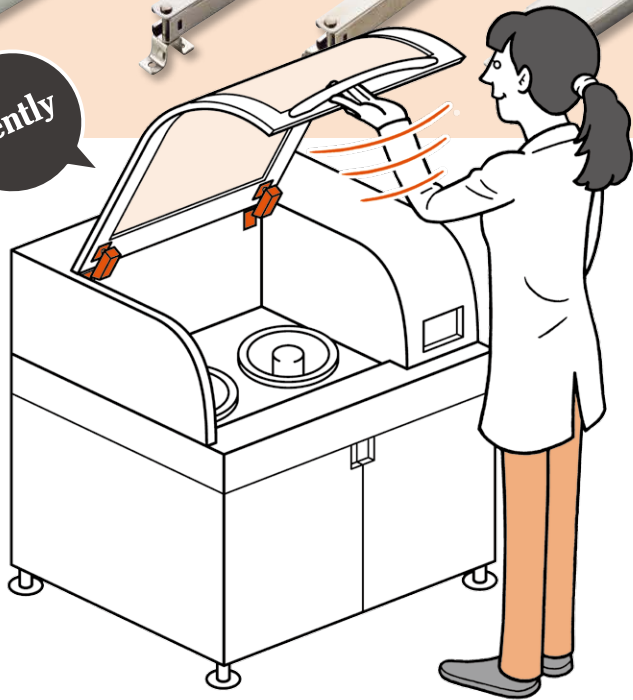


Helps you open  
**Power Assist  
Motion**

Assists in opening/closing heavy doors, lids or covers.



Gently





# LIFT-ASSIST HINGE HG-PA SERIES

Power Assist Motion

Lift-Assist Hinges

Lift-Assist Stays

Self-Opening Stays



- Easy to lift heavy top-opening lid with spring tension (lift assist function).
- Smooth and soft-closing movement at the end, preventing lid from slamming shut.
- Torque is adjustable by turning the adjustment screw (see below).

**[Specifications]**

- Operating temperature: 0°C~40°C

**[Applications]**

- Medical equipment, analytical instruments, semiconductor equipment etc.

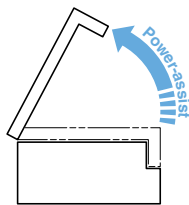
**[Remarks]**

- Be sure to read the "Cautions"
- When installing, ensure that both hinge shafts are levelled and aligned.
- Install a stopper (not included) on the cabinet to prevent from exceeding the operating angle during opening or closing.
- Do not use outdoors.
- Check if the cabinet has sufficient strength and rigidity before use.
- For inside mount type, check the torque adjusting screw position, and turn the screw with cabinet and lid already mounted.

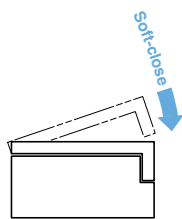
**Selection Tool**  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**My Motion Design Tec**  
**Video Lift Assist**

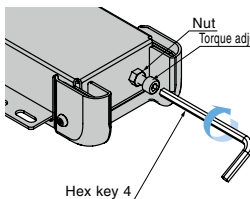
**Lift assist function**



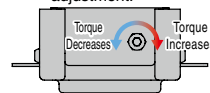
**Soft-close function**



**[How to Adjust Torque]**



Loose the end nut with a wrench, and then turn the adjustment screw with a hex key. Tighten the nut again after adjustment.



**[HG-PA Series]**

Type		Torque (N•m)	Torque Adjustment Range	Peak Torque	Page
<p><b>Outside Mount</b></p>	HG-PA270	45 <sup>+10%</sup>	±5%	35	P.147
		35 <sup>+10%</sup>			
	HG-PA201	25 <sup>+10%</sup>	±5%	35 20	P.148
	HG-PA200	20 <sup>+10%</sup>			
	HG-PA300	15 <sup>+10%</sup>	±10%	60~80	Balance Adjustable
HG-PA180-9		9 <sup>+10%</sup>	±11%	35	P.149
<p><b>Inside Mount</b></p>	HG-PA231	25 <sup>+10%</sup>	±5%	35 20	P.150
	HG-PA230	20 <sup>+10%</sup>			
		15 <sup>+10%</sup>			
	HG-PA210-9		9 <sup>+10%</sup>	±11%	35

Refer to : P.253

Please use selection tool “SASUGA-kun” for product selection.  
Simulation when using multiple hinges is possible.

Please visit by clicking the banner on the website

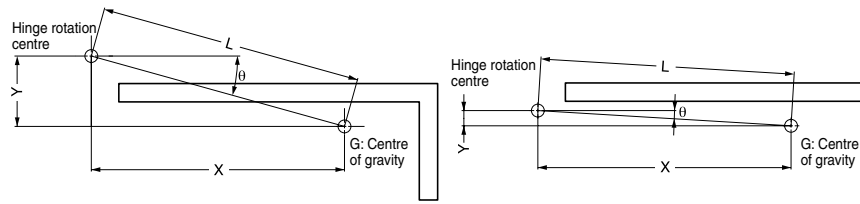


[How to Select] Refer to the following 1~3 for model selection.

1. Calculating lid moment

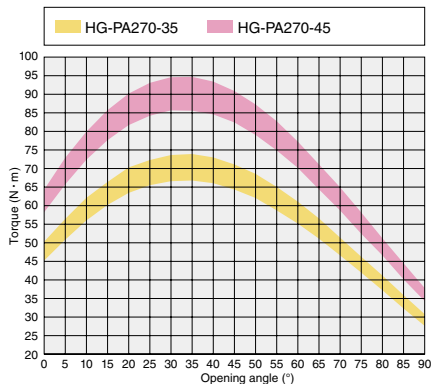
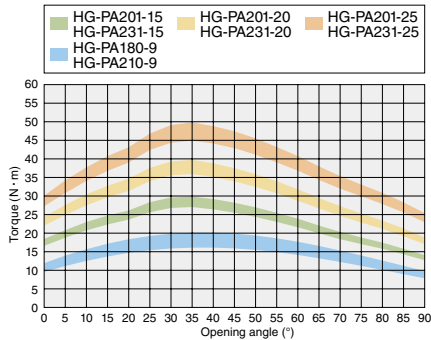
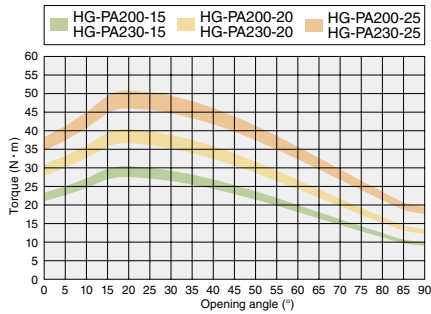
Calculation formula  $Mu = m \times g \times L \times \cos \theta$

- Outside mount type (HG-PA180, HG-PA200, HG-PA201, HG-PA270)
- Inside mount type (HG-PA210, HG-PA230, HG-PA231)



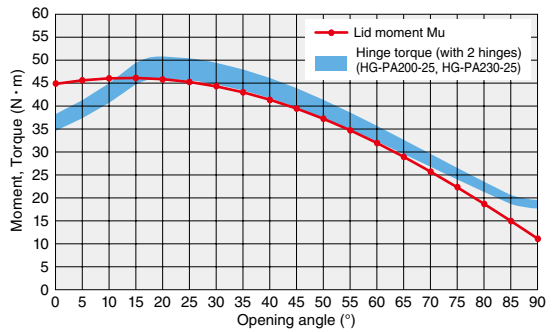
X	Horizontal distance from rotation centre to lid centre of gravity
Y	Vertical distance from rotation centre to lid centre of gravity
L	Distance from rotation centre to lid centre of gravity
$\theta$	Angle from the horizontal line at the rotation centre to lid centre of gravity
m	Lid weight
G	Lid centre of gravity

2. Torque of the hinge (using 2 pcs)



3. Selecting model

Example



Lid torque and hinge torque should be overlapped as shown on the graph above.

Lid moment  $Mu >$  Hinge torque...Force is applied in the closing direction of lid.  
Lid moment  $Mu <$  Hinge torque...Force is applied in the opening direction of lid.

※Confirm the movement with actual item when the lid moment  $Mu$  is at the upper or lower limit of the torque range of lift assist hinge.

Conditions in the above example : X=43 cm, Y=10.5 cm, L=44.3 cm, W=10.8 kg  
Recommended model : 2 pcs of HG-PA200-25 or HG-PA230-25

**BALANCE-ADJUSTABLE LIFT-ASSIST HINGE HG-PA300-15 OUTSIDE MOUNT**

INSTRUCTION SUS VIDEO

Power Assist Motion

Lift-Assist Hinges

Lift-Assist Stays

Self-Opening Stays



- Easy to lift heavy top-opening lids due to spring tension (lift-assist).
- Balance adjustment allows for use in a wider range of lids than conventional lift-assist hinges.
- The built-in damper prevents lids from slamming shut (soft-close).
- Torque is adjustable by turning the adjustment screw ( $\pm 10\%$ ).
- Comes with a plastic cover for clean appearance.

**[Applications]**

● Medical equipment, analytical instruments, semiconductor equipment.

**[Remarks]**

● Be sure to read the "Cautions"

Video Link



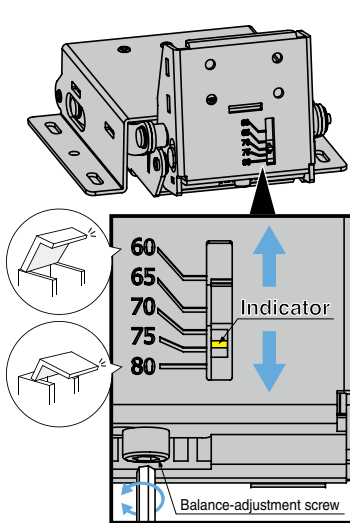
Selection Tool

Sasuga-kun

Applicable Products

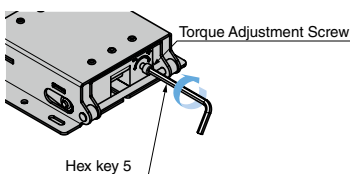
Used for Product Selection & Simulation. Available online!

**[Balance Adjustment]**

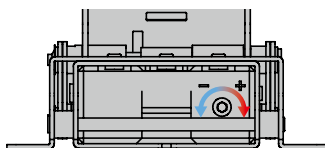


Angle of peak torque is adjustable with hex key 5. This feature allows adjustment to the location of center of gravity

**[How to Adjust Torque]**

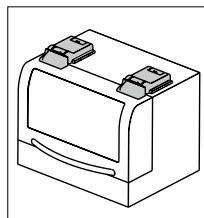


Turn the screw with a hex key

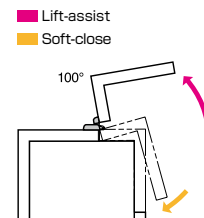


Refer to : P.253

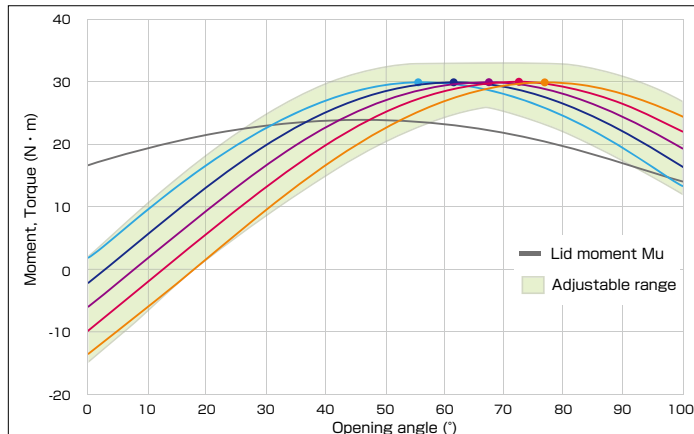
**[Installation]**



**[Working range]**



**[Torque-Angle Graph]** showing the adjustable range of peak torque's angle

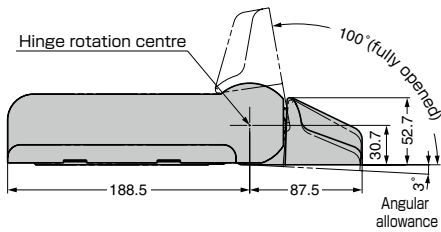
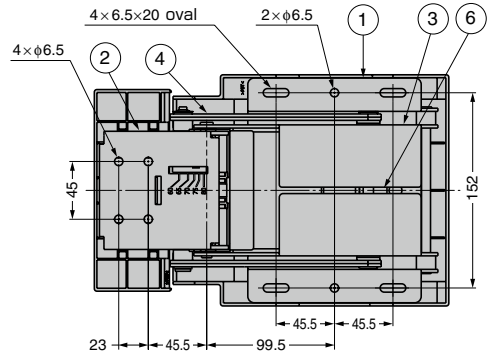
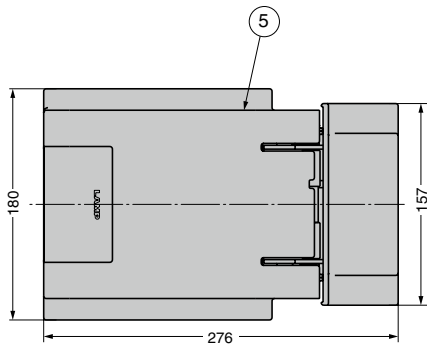


Lid moment  $\mu >$  Hinge torque . . . Force is applied in the closing direction of lid.  
 Lid moment  $\mu <$  Hinge torque . . . Force is applied in the opening direction of lid.  
 Lid specs (example) : X=170mm Y=175mm L=244mm m=8.6kg  
 (Setting the indicator to 60 is the right adjustment in this case.)

**[Calculating Lid Moment]**

**Calculation formula  $\mu = m \times L \times \cos \theta$**

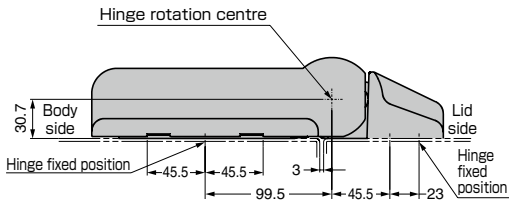
X	Horizontal distance from rotation centre to lid centre of gravity
Y	Vertical distance from rotation centre to lid centre of gravity
L	Distance from rotation centre to lid centre of gravity
$\theta$	Angle from the horizontal line at the rotation centre to lid centre of gravity
m	Lid weight
G	Lid centre of gravity



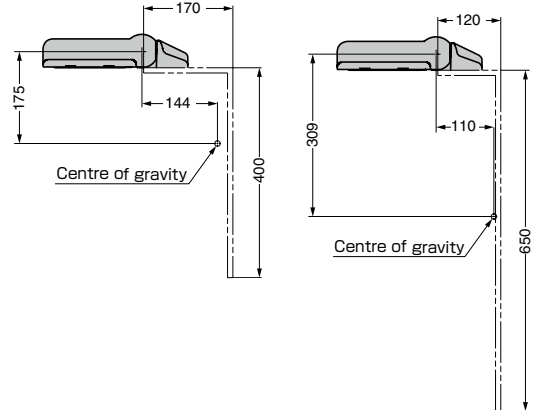
No.	Part Name	Material / Colour
①	Base A	Stainless Steel (SUS430)
②	Base B	
③	Case	PBT / Light Grey
④	Link Arm	
⑤	Plastic Cover	PBT / Light Grey
⑥	Slider	POM
⑦	Spring	Steel (SWO)

Lift-Assist Hinges  
Lift-Assist Stays  
Self-Opening Stays

[Installation]



[Installation Example]



RHS	CAD	Item Code	Item Name	Description	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
G	SD	170-044-367	HG-PA300-15	Peak torque 60°-80°	15±10%	153±10%	3400	1	-

# LIFT-ASSIST HINGE HG-PA270 Outside Mount



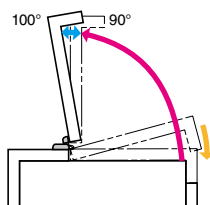
- Easy to lift heavy top-opening lid with spring tension (lift assist function).
- Smooth and soft-closing movement at the end, preventing lid from slamming shut.
- Torque is adjustable by turning the adjustment screw ( $\pm 5\%$ ).
- With plastic cover for clean appearance.

**[Remarks]**

- Be sure to read the "Cautions" 1.
- Install a stopper (not included) on the cabinet to prevent from exceeding the operating angle during opening or closing.

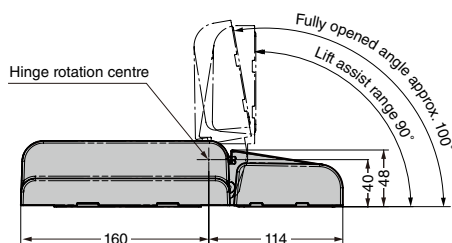
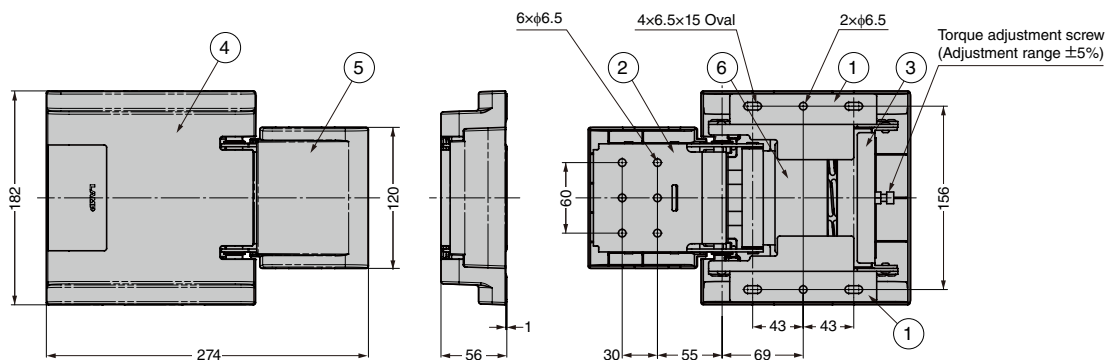
**[Operating Range]**

- Free
- Lift assist
- Soft-close



**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

**Motion Design**  
**Video Lift Assist**



No.	Part Name	Material / Colour
①	Base A	Stainless Steel (SUS430)
②	Base B	
③	Case	PBT/Light Grey
④	Cover A	
⑤	Cover B	POM
⑥	Slider	
-	Spring	Steel (SWO)

RdHS	CAD	Item Code	Item Name	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
		170-034-307	HG-PA270-35	35 ±10%	357 ±10%	2500	1	4
		170-034-308	HG-PA270-45	45 ±10%	459 ±10%		1	4

Refer to 1 : P.253

LIFT-ASSIST HINGE HG-PA200, HG-PA201 Outside Mount



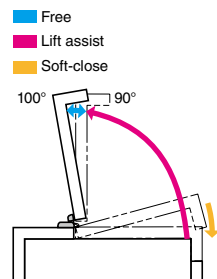
**Lift assist**  
**Soft-close**  
Passed 100,000 open/close private cycle test

- The torque peaks at 20° or 35° depending on the lid shape (see diagram below).
- Easy to lift heavy top-opening lid with spring tension (lift assist function).
- Smooth and soft-closing movement at the end, preventing lid from slamming shut.
- Torque is adjustable by turning the adjustment screw (±5%).
- With plastic cover for clean appearance.

**[Remarks]**

- Be sure to read the "Cautions" 1.
- Install a stopper (not included) on the cabinet to prevent from exceeding the operating angle during opening or closing.
- For HG-PA200 and HG-PA201, centre-of-gravity positions of the applicable doors are different. Please refer to How to Select 2 for model selection.

**[Operating Range]**

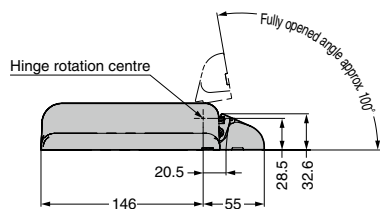
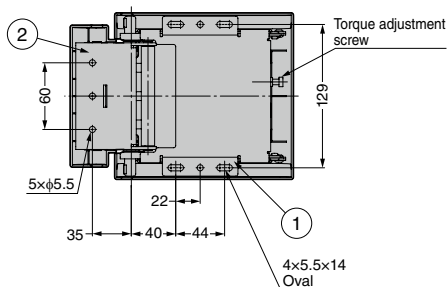
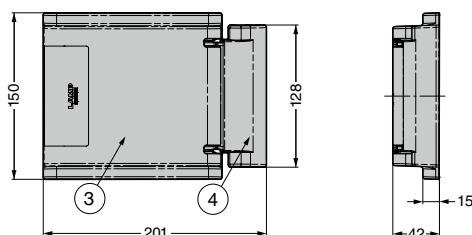


**S**election Tool  
**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!

**Video Link**

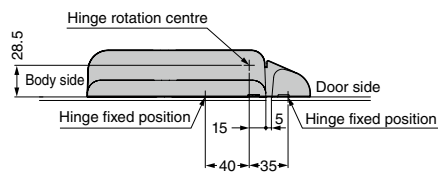


Video  
Lift Assist



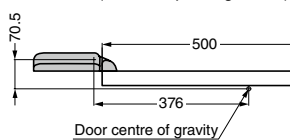
No.	Part Name	Material / Colour
①	Base A	Stainless Steel (SUS430)
②	Base B	
③	Cover A	PBT/Light Grey
④	Cover B	
-	Slider	POM
-	Spring	Steel (SWO)

**[Installation]**

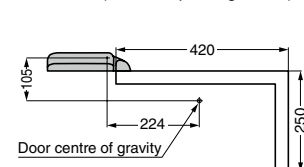


**[Installation]**

HG-PA200 (Peak torque angle 20°)



HG-PA201 (Peak torque angle 35°)



RoHS	CAD	Item Code	Item Name	Description	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
☑	☑	170-025-668	HG-PA200-15	Peak torque angle 20°	15 ±10%	153 ±10%	1385	1	8
☑	☑	170-025-669	HG-PA200-20		20 ±10%	204 ±10%		1	8
☑	☑	170-025-670	HG-PA200-25		25 ±10%	255 ±10%		1	8
☑	☑	170-029-741	HG-PA201-15	Peak torque angle 35°	15 ±10%	153 ±10%		1	8
☑	☑	170-029-742	HG-PA201-20		20 ±10%	204 ±10%		1	8
☑	☑	170-029-743	HG-PA201-25		25 ±10%	255 ±10%		1	8

Refer to 1 : P.253, 2 : P.144

LIFT-ASSIST HINGE HG-PA180-9 Outside Mount

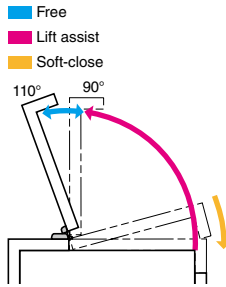


- Easy to lift heavy top-opening lid with spring tension (lift assist function).
- Smooth and soft-closing movement at the end, preventing lid from slamming shut.
- Torque is adjustable by turning the adjustment screw ( $\pm 11\%$ ).
- With plastic cover for clean appearance.

[Remarks]

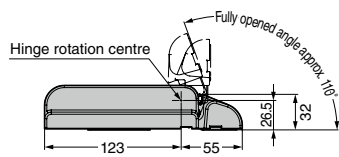
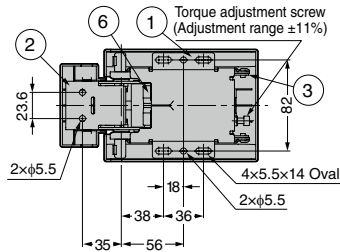
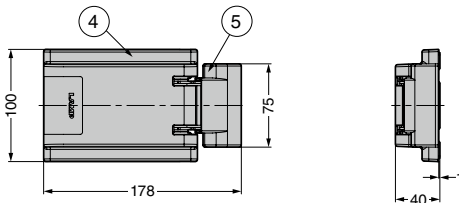
- Be sure to read the "Cautions" 1 .

[Operating Range]



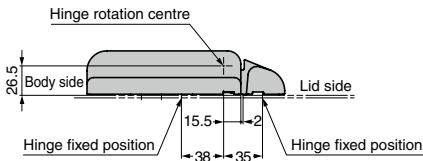
**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

Video  
 Lift Assist



No.	Part Name	Material / Colour
①	Base A	Stainless Steel (SUS430)
②	Base B	
③	Case	PBT/Light Grey
④	Cover A	
⑤	Cover B	
⑥	Slider	POM
-	Spring	Steel (SWO)

[Installation]



RHS	CAD	Item Code	Item Name	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
		170-029-739	HG-PA180-9	$9 \pm 10\%$	$91 \pm 10\%$	800	1	12

Refer to 1 : P.253

LIFT-ASSIST HINGE HG-PA230, HG-PA231 Inside Mount



**Lift assist**  
**Soft-close**  
Passed 100,000 open/close private cycle test

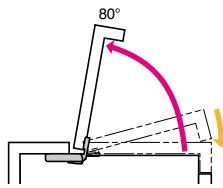
- The torque peaks at 20° or 35° depending on the lid shape (see diagram below).
- Easy to lift heavy top-opening lid with spring tension (lift assist function).
- Smooth and soft-closing movement at the end, preventing lid from slamming shut.
- Torque is adjustable by turning the adjustment screw (±5%).
- Able to limit the 140° opening angle to 55° or 80° with use of the included stopper plate.
- Opening angle can also be restricted between 15° and 90° (made to order).

**[Remarks]**

- Be sure to read the "Cautions" 1.
- For HG-PA230 and HG-PA231, centre-of-gravity positions of the applicable doors are different. Please refer to How to Select 2 for model selection.
- Install a stopper (not included) on the cabinet to prevent from exceeding the operating angle during opening or closing.

**[Operating Range]**

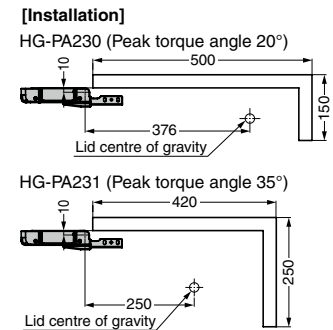
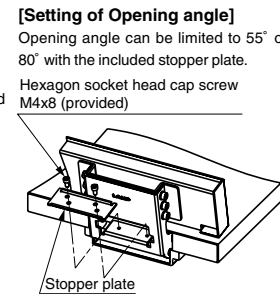
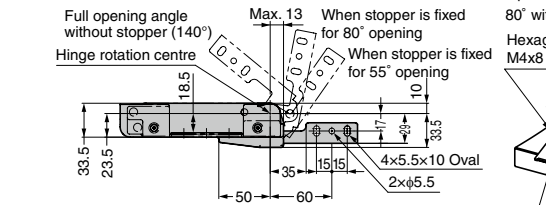
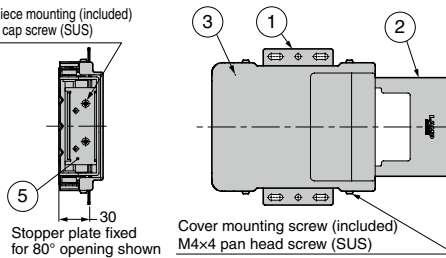
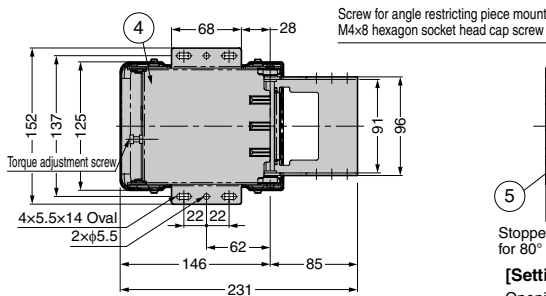
- Lift assist
- Soft-close



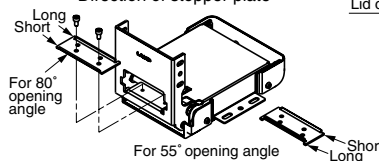
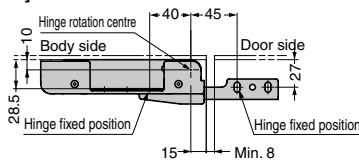
**Selection Tool**  
**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!

**Motion Design Video**  
**Lift Assist**

No.	Part Name	Material / Colour
①	Base A	Stainless Steel (SUS430)
②	Base B	
③	Cover	PP/Light Grey
④	Case	Stainless Steel (SUS430)
⑤	Stopper Plate	
-	Slider	POM
-	Spring	Steel (SWO)



**[Installation]**



RoHS	CAD	Item Code	Item Name	Description	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
RoHS	3D	170-025-671	HG-PA230-15	Peak torque angle 20°	15±10%	153±10%	1296	1	8
RoHS	3D	170-025-672	HG-PA230-20		20±10%	204±10%		1	8
RoHS	3D	170-025-673	HG-PA230-25		25±10%	255±10%		1	8
RoHS	3D	170-029-744	HG-PA231-15	Peak torque angle 35°	15±10%	153±10%		1	8
RoHS	3D	170-029-745	HG-PA231-20		20±10%	204±10%		1	8
RoHS	3D	170-029-746	HG-PA231-25		25±10%	255±10%		1	8

Refer to 1 : P.253, 2 : P.144

LIFT-ASSIST HINGE HG-PA210-9 Inside Mount



Power Assist Motion

Lift-Assist Hinges

Lift-Assist Stays

Self-Opening Stays



**Lift assist**  
**Soft-close**  
Passed 100,000 open/close private cycle test

- Easy to lift heavy top-opening lid with spring tension (lift assist function).
- Smooth and soft-closing movement at the end, preventing lid from slamming shut.
- Torque is adjustable by turning the adjustment screw ( $\pm 11\%$ ).
- Able to limit the 140° opening angle to 55° or 80° with use of the included stopper plate.
- Opening angle can also be restricted between 15° and 90° (made to order).

[Remarks]

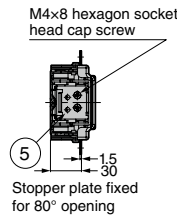
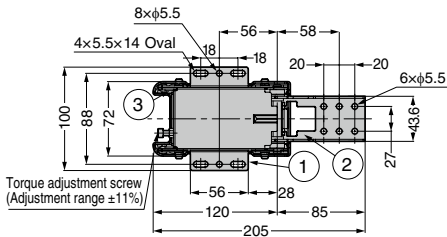
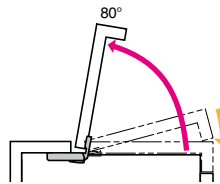
- Be sure to read the "Cautions" 1.
- When not mounting the angle restricting piece, install a stopper (not included) on the cabinet to prevent from exceeding the operating angle during opening or closing.

[Operating Range]

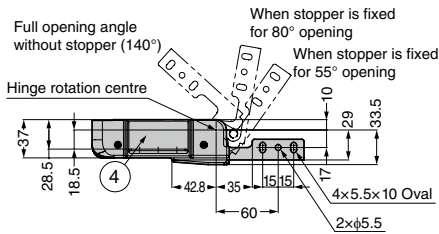
- Lift assist
- Soft-close

**Selection Tool**  
**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available on Web!

**My Motion Design**  
**Video**  
**Lift Assist**



No.	Part Name	Material / Colour
①	Base A	Stainless Steel (SUS430)
②	Base B	
③	Case	PP/Light Grey
④	Cover	
⑤	Stopper Plate	Stainless Steel (SUS430)
-	Slider	POM
-	Spring	Steel (SWO)

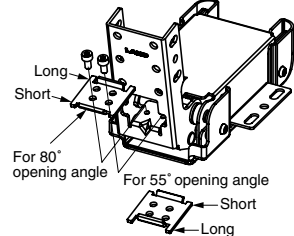
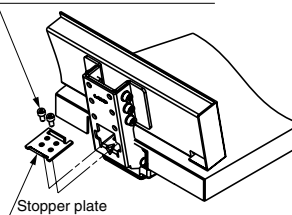


[Setting of Opening angle]

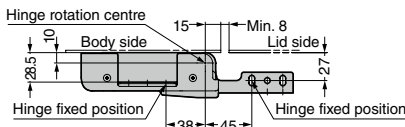
Opening angle can be limited to 55° or 80° with the included stopper plate.

Hexagon socket head cap screw M4x8 (provided)

Direction of stopper plate



[Installation]



ReHS	CAD	Item Code	Item Name	Torque N·m/pc	Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
SC	SC	170-029-740	HG-PA210-9	9±10%	91±10%	770	1	12

Refer to 1 : P.253

STAINLESS STEEL LIFT-ASSIST HINGE HG-JH210



- Easy to lift heavy top-opening lid with spring tension (lift assist function).
- Supplied damper prevents top-opening lid from slamming shut. (Damper effective angle approx. 30° or more).
- Built-in helical torsion spring makes lid feel lighter when opening.

[Specifications]

- Assist torque: 20.58N · m (210kgf · cm) (when using 1 pc)
- Built-in damper max. load torque: 7N · m (71.4kgf · cm)
- Built-in damper operating temperature: 0°C ~ 40°C
- Hinge operating angle: 0° ~ 110°

**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation. Available on Web!

**M**otion Design **Video**  
**Lift Assist**

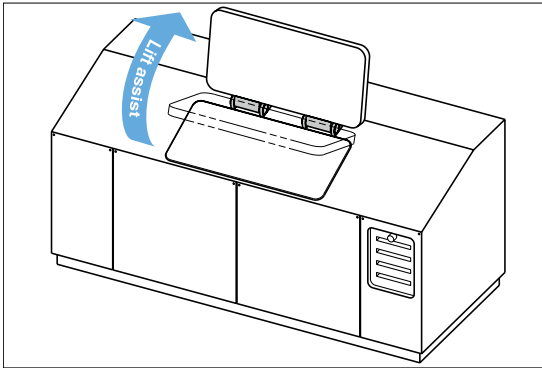
[Applications]

- Heavy top-opening lids of environmental equipment, testing equipment, etc.

[Remarks]

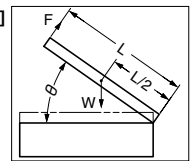
- When installing, ensure that both hinge shafts are levelled and aligned.

[Application Example]



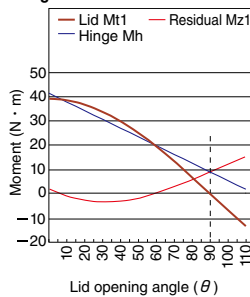
[Calculation Formula and Graph of Moment]

Lid moment  $M_t = W \times \cos \theta \times \frac{L}{2}$   
 Hinge moment  $M_h = M_m \times (1 - \frac{\theta}{115})$   
 Residual moment  $M_z = M_h - M_t$   
 Operating force  $F = \frac{M_t - M_h}{L}$

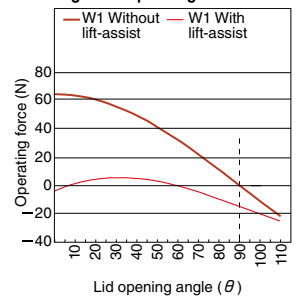


W : Weight at lid centre of gravity     $\theta$  : Lid opening angle  
 L : Lid length    Mm : Torque value of lift-assist hinge  
 The meaning of residual moment  $M_z = (M_h - M_t)$  is as follows.  
 · “-” means that the force is applied in the closing direction of lid.  
 · “+” means that the force is applied in the opening direction of lid.

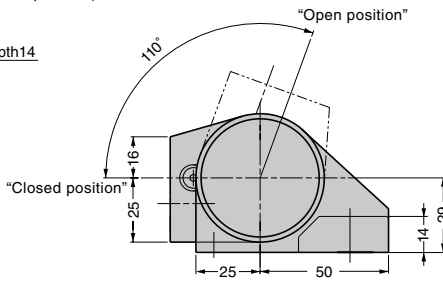
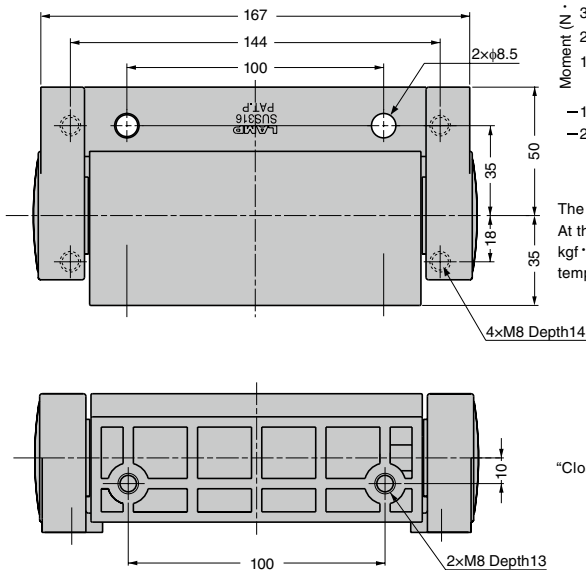
Relationship between lid opening angle and moments



Relationship between lid opening angle and operating forces



The graph is an example when L=60cm, W1=12kg, and two HG-JH210 are used. At this time, the maximum load torque of built-in damper is  $7 \times 2 = 14 \text{ N} \cdot \text{m}$  (142.8 kgf · cm). Damper works when the residual moment is 14N · m or less. (Room temperature)



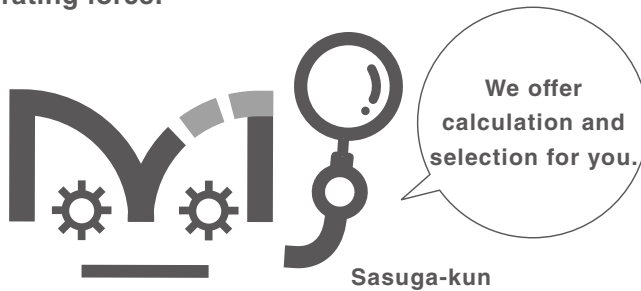
RoHS	CAD	Item Code	Item Name	Material	Finish	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
-	SD	170-090-535	HG-JH210	Stainless Steel (SCS14)	Polished	110°	2350	1	6

※SCS14 is equivalent of SUS316.

Lift-  
Assist  
HingesLift-  
Assist  
StaysSelf-  
Opening  
Stays

## Product Selection Tool Sasuga-kun

Just inputting the dimensions and weight of the flap/door, you can select suitable Motion Design Tech products or simulate (graphically display) moment and operating force.



Sasuga-kun

Access from here

Search

<https://contents.sugatsune.co.jp/en/motion/selection/>



# LIFT ASSIST STAY S-AT SERIES



- Spring mechanism assists in lifting the top-opening lid.
- Easily holds the door at any angle.

**[Specifications]**

- Operating temperature: 0°C~40°C
- Operating humidity: 90%RH or less
- For other specification exceeding the above range, please contact local representatives.

**[Remarks]**

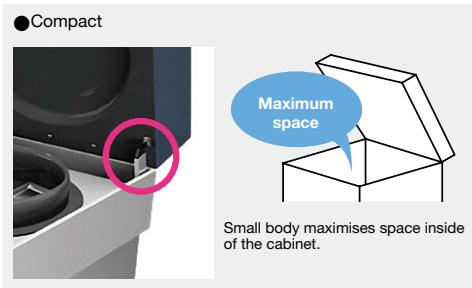
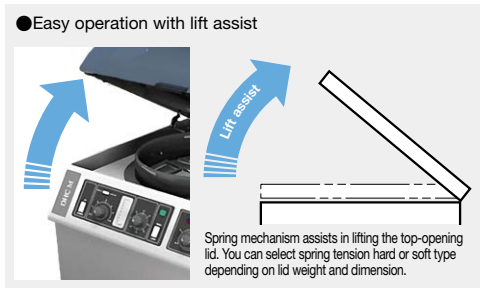
- Be sure to read the "Cautions" 1
- When used for the top-opening lid, install a stopper (not included) to prevent from exceeding the opening angle.
- Material of the mounting surface should be taken into consideration. Low rigidity may cause deformation or damage.
- Continuous opening and closing is not allowed.
- Do not use outdoors.
- Spring tension may vary over time.
- Do not use concealed hinges (multiaxial hinges).

S-AT01

**Video Link**



**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!



**[S-ATH seriese]**

Item name	Maximum Door Moment (N•m) (As a reference value)										Feature	Page
	5	10	15	20	25	55	60	65	70			
S-AT	4.1~6.1	6.1~8.8	8.8~11.8								Side Mount	P.159
											Back Panel Mount	
S-ATJ	6.1~8.8	8.8~11.8				Balance Adjustable	Damper Available				Side Mount	P.161
S-ATJD	6.1~8.8	8.8~11.8				Balance Adjustable	Damper Available				Back Panel Mount	P.163
S-ATJS	6.1~8.8	8.8~11.8				Balance Adjustable					Back Panel Mount	P.165
S-AT02W				17.6~21.0							Side Mount	P.157
											Back Panel Mount	
S-ATH								54.0~60.0	63.0~70.0		Back Panel Mount	P.155

Refer to 1 : P.253

LIFT ASSIST STAY S-ATH

Power Assist Motion

Lift-Assist Hinges

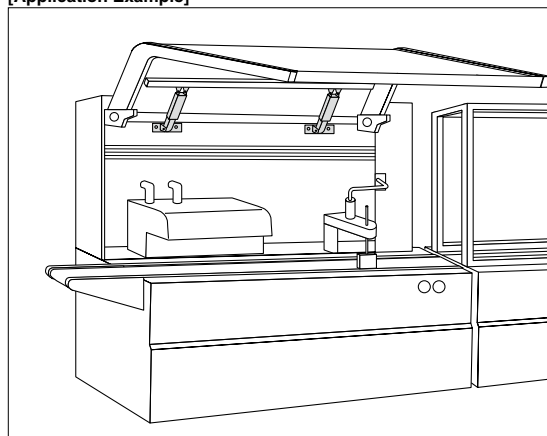
Lift-Assist Stays

Self-Opening Stays



**Lift assist**  
For ultra heavy duty  
Passed 30,000 open/close private cycle test

[Application Example]



Opening Direction	Item Name	Non-handed	Maximum Door Moment
Top-opening	S-ATH-60S	Yes	60 N · m/pc (611.6 kgf · cm/pc)
	S-ATH-70S		70 N · m/pc (713.6 kgf · cm/pc)

- Applicable to heavier top-opening lids.
- Spring mechanism assists in lifting heavy top-opening lid.
- Can choose from two types depending on the shape of top-opening lid.
- Torque adjustable (+0%, -10%) by turning the adjustment bolt.

[Specifications]

- Operating temperature: 0°C~40°C
- Operating humidity: 90%RH or less

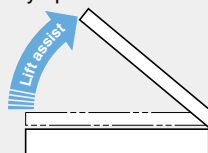
[Remarks]

- When used for the top-opening lid, install a stopper (not included) to prevent from exceeding the opening angle.
- Because of high spring tension product, abnormal noise, deformation or damage may occur depending on cabinet and hinge used. Check if the cabinet and hinge have sufficient strength and rigidity before use.
- Continuous opening and closing is not allowed.
- Do not use outdoors.
- Proper testing is necessary.
- Spring tension may vary over time.

**S**election Tool  
**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
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Simulation at other installation positions than those in the catalogue may also be done.

- Easy operation with lift assist.



Easy to lift heavy top-opening lid with spring tension (lift assist function). Can choose from two types depending on the shape of top-opening lid.

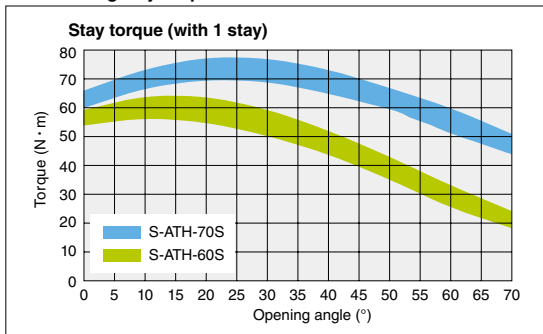
[How to Select] Refer to the following 1~3 for model selection.

1. Calculating the maximum door moment

**Calculation formula**  
 $Mu = W \times L \times \cos \theta$

X	Horizontal distance from rotation centre to door centre of gravity
Y	Vertical distance from rotation centre to door centre of gravity
L	Distance from rotation centre to door centre of gravity
$\theta$	Angle from horizontal line at hinge centre to door centre of gravity
W	Door weight
G	Door centre of gravity

2. Confirming stay torque

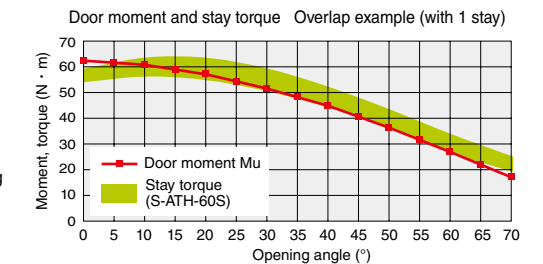


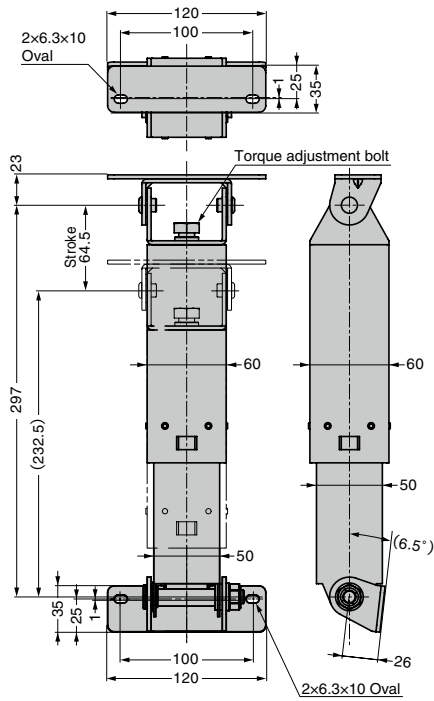
3. Selecting model

As shown in the graph on the right, if the door moment and stay torque overlap, the stay is considered to be consistent with the specifications.

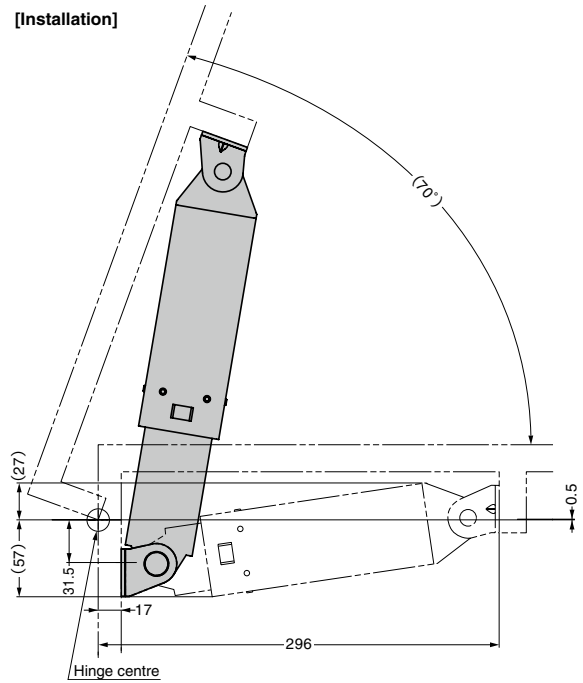
Door moment  $Mu >$  Stay torque... Force is applied in the closing direction of door.  
Door moment  $Mu <$  Stay torque... Force is applied in the opening direction of door.

Conditions in the above example: X = 42cm, Y = 3cm, L = 42.1cm, W = 15kg  
Stay in application example: S-ATH-60S (1 pc use)





[Installation]



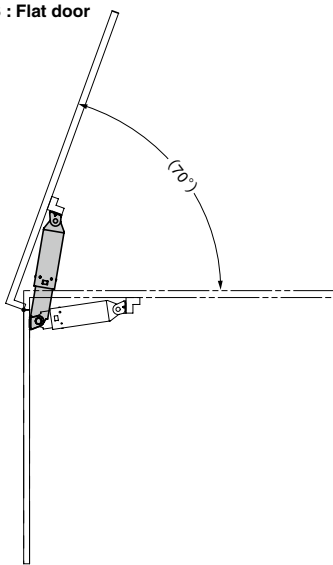
Lift-Assist Hinges

Lift-Assist Stays

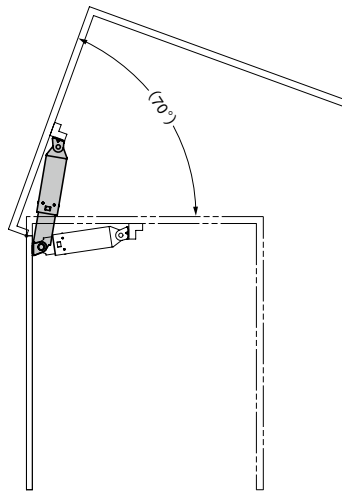
Self-Opening Stays

[Applicable Door Shape]

S-ATH-60S : Flat door



S-ATH-70S : L-shaped door



RHS	CAD	Item Code	Item Name	Applicable Door Shape	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)
		180-033-866	S-ATH-60S	Flat Door	Stainless Steel (SUS304)	Satin	60	611.6	2500	1
		180-033-867	S-ATH-70S	L-shaped door			70	713.6		1

# LIFT ASSIST STAY S-AT02W Side Mount, Back Panel Mount



Opening Direction	Description	Non-handed	Maximum Door Moment
Top-opening	Side Mount	Yes	17.6~21.0 N·m/pc (180~214 kgf·cm/pc)
	Back Panel Mount		15.0~16.5 N·m/pc (153~168 kgf·cm/pc)

- Doubled torque (※) compared with conventional S-AT 1 . (※ For side mount)
- Spring mechanism assists in lifting heavy top-opening lid.
- Easily holds the lid at any angle (about 10° ~80°).
- Compact design maximises space inside of the cabinet.
- Non-handed for both side and back panel mount. Use side board bracket for side mount.

### [Specifications]

- Operating temperature: 0°C~40°C
- Operating humidity: 90%RH or less
- ※ For other specification exceeding the above range, please contact local representatives.

### [Remarks]

- Be sure to read the "Cautions" 2 .
- When used for the top-opening lid, install a stopper (not included) to prevent from exceeding the opening angle.
- Because of high spring tension product, abnormal noise, deformation or damage may occur depending on cabinet and hinge used. Check if the cabinet has sufficient strength and rigidity before use.
- Continuous opening and closing is not allowed.
- Spring tension may vary over time.
- Do not use with concealed hinges (multiaxial hinges).
- We recommend to test assembly before final use.

### Video Link



**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

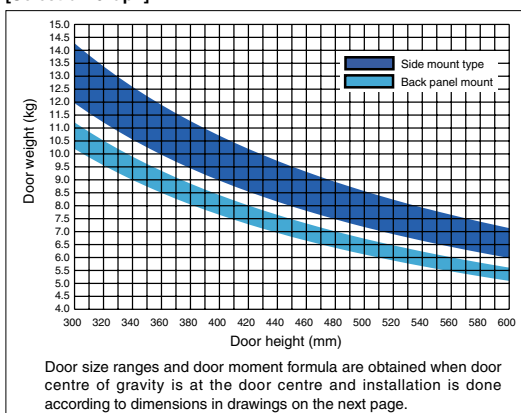
### [Parts Included]

- Side board bracket (For side mount)
- Truss head screw M5×6 (Used for fixing the body and bracket in case of side mount)

### [Recommended Screw]

- Truss head screw M5

### [Selection Graph]



### [Maximum Door Moment]

- Choose from 2 types of installation according to the maximum door moment.  
 Maximum Door Moment (N·m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

Maximum Door Moment N·m	Installation	Qty
17.6~21.0	Side Mount	1 pc
15.0~16.5	Back Panel Mount	

- With 2 stays, the maximum door moment will be doubled.

● Easy operation with lift assist

Built-in spring mechanism assists in lifting heavy top-opening lid.

● Free stop

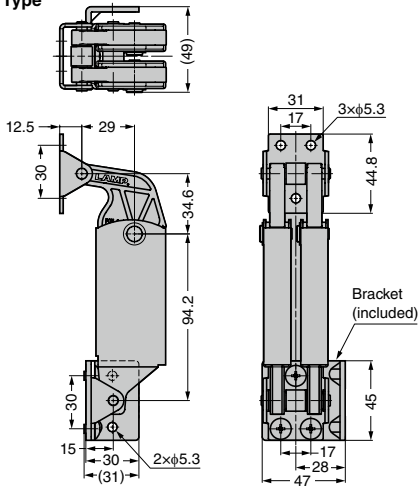
Easily holds the opening angle of top-opening lid at about 10°~80°.

● Compact

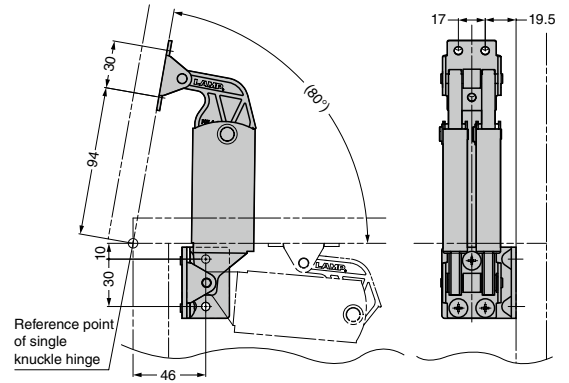
Small body maximises space inside of the cabinet.

Refer to 1 : P.159, 2 : P.253

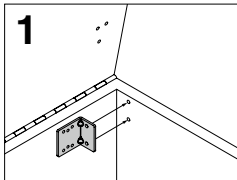
Side Mount Type



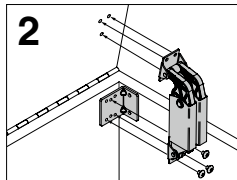
[Installation]



[How to Install]



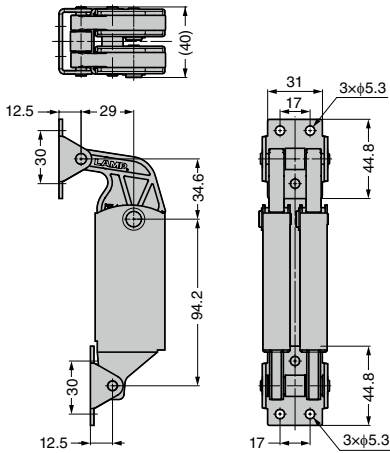
1  
Install side board bracket (non-handed) to cabinet with mounting screws (※).  
※Not included.



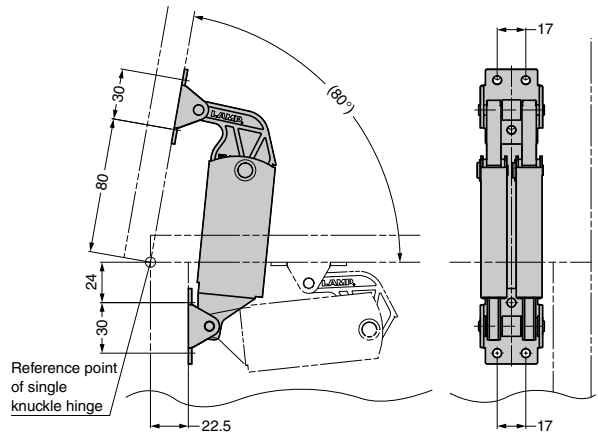
2  
Fix stay body to side board bracket with supplied screws, and then install the body to top-opening lid with mounting screws (※).

For inset type or other non-specified installation types, please contact local representative.

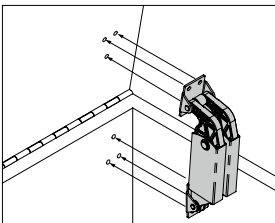
Back Panel Mount Type



[Installation]



[How to Install]



Install the body to cabinet with mounting screws (※). Do not use the supplied side board bracket and truss head screws.  
※Not included.

For inset type or other non-specified installation types, please contact local representative.

RoHS	CAD	Item Code	Item Name	Material	Finish/Colour	Type	Side Mount Maximum Door Moment N°m/pc	Side Mount Maximum Door Moment kgf°cm/pc	Back Panel Mount Maximum Door Moment N°m/pc	Back Panel Mount Maximum Door Moment kgf°cm/pc	Weight (g)	Box (pcs)
CE	3D	180-025-461	S-AT02W	Stainless Steel (SUS430)/POM	Plain/Black	Side Mount Back Panel Mount	176~21.0	180~214	15.0~16.5	153~168	490	10

# LIFT ASSIST STAY S-AT Side Mount, Back Panel Mount



Opening Direction	Item Name	Description	Non-handed	Maximum Door Moment
 Top-opening	S-AT01	Side mount	Yes	6.1~8.8 N · m/pc (62~90 kgf · cm/pc)
	S-AT02			8.8~11.8 N · m/pc (90~120 kgf · cm/pc)
	S-AT01S	Back panel mount		6.1~8.8 N · m/pc (62~90 kgf · cm/pc)
	S-AT02S			8.8~11.8 N · m/pc (90~120 kgf · cm/pc)

- Spring mechanism assists in lifting the top-opening lid.
- Easily holds the door at any angle (about 10° ~80° ).
- Compact design maximises the space inside.
- Side mount and back panel mount are available. Both are non-handed.
- Can select spring tension hard or soft type depending on lid weight and dimension.
- S-AT02W **1** with doubled maximum door moment also available.

### [Specifications]

- Operating temperature: 0°C~40°C
- Operating humidity: 90%RH or less
- For other specification exceeding the above range, please contact local representatives.

### [Remarks]

- Be sure to read the "Cautions" **2**.
- When used for the top-opening lid, install a stopper (not included) to prevent from exceeding the opening angle.
- Material of the mounting surface should be take into consideration. Low rigidity may cause deformation or damage.
- Continuous opening and closing is not allowed.
- Do not use outdoors.
- Spring tension may vary over time.
- Do not use concealed hinges (multiaxial hinges).
- We recommend to test the assembly before final use.

### Video Link

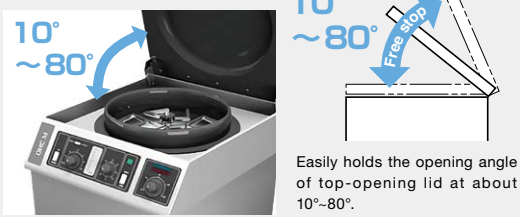


**S**election Tool  
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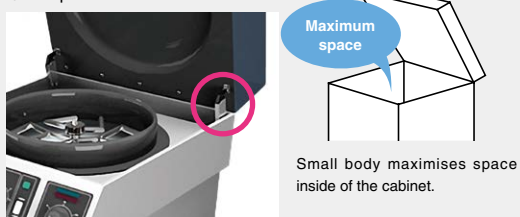
### ● Easy operation with lift assist



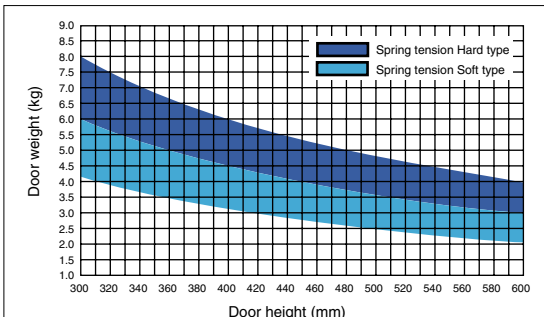
### ● Free stop



### ● Compact



### [Selection Graph]



Selection graph and door moment formula are obtained when door centre of gravity is at the height centre and installation is done according to dimensions in drawings on the next page.

### [Applicable Range]

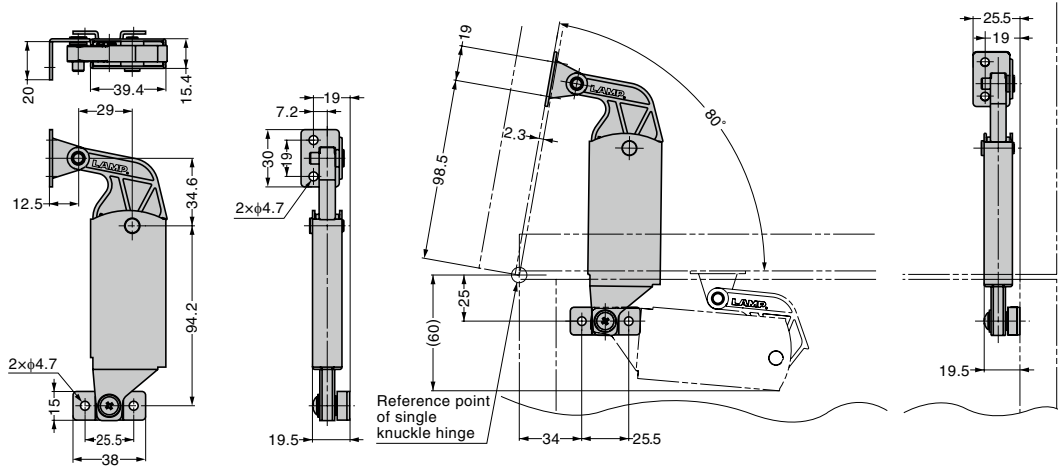
- Choose from 2 types according to the maximum door moment.  
 Maximum Door Moment (N · m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

Maximum Door Moment N · m	Item Name	Qty
6.1~8.8	S-AT01 (S)	1pc
8.8~11.8	S-AT02 (S)	

- With 2 stays, the maximum door moment will be doubled.

Refer to **1** : P.157, **2** : P.253

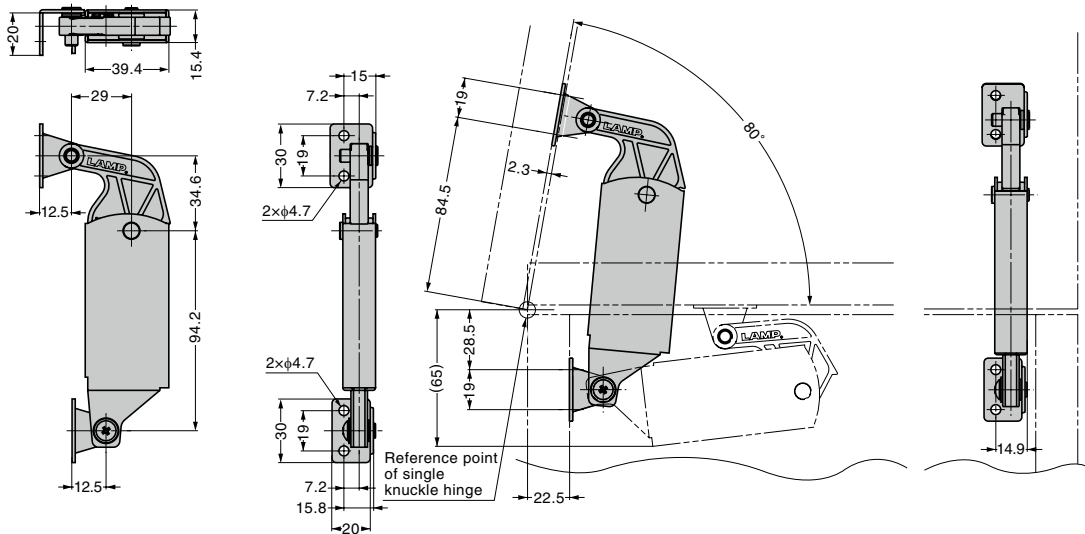
LIFT ASSIST STAY S-AT01, S-AT02 Side Mount



Lift-Assist Hinges  
Lift-Assist Stays  
Self-Opening Stays

RoHS	CAD	Item Code	Item Name	Spring Tension	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
G	SD	180-017-544	S-AT01	Soft	Stainless Steel (SUS430)/ POM	Plain	6.1-8.8	62-90	195	10	50
G	SD	180-017-545	S-AT02	Hard	Stainless Steel (SUS430)/ POM	Plain	8.8-11.8	90-120	195	10	50

LIFT ASSIST STAY S-AT01S, S-AT02S Back Panel Mount



RoHS	CAD	Item Code	Item Name	Spring Tension	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
G	SD	180-017-546	S-AT01S	Soft	Stainless Steel (SUS430)/ POM	Plain	6.1-8.8	62-90	195	10	50
G	SD	180-017-547	S-AT02S	Hard	Stainless Steel (SUS430)/ POM	Plain	8.8-11.8	90-120	195	10	50

**BALANCE-ADJUSTABLE LIFT-ASSIST STAY S-ATJ Side Mount**

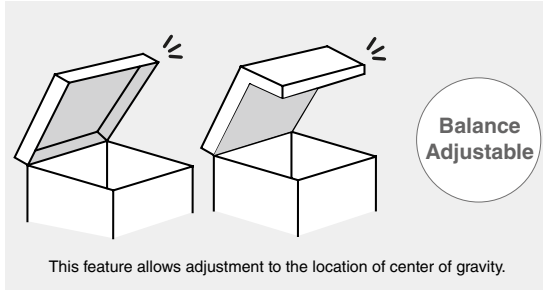
L=R

INSTRUCTION

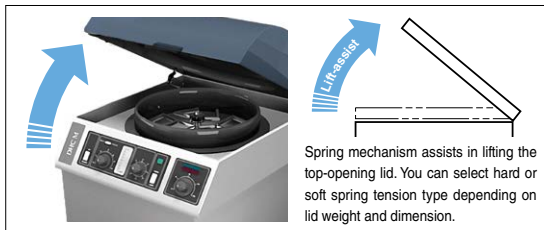
VIDEO



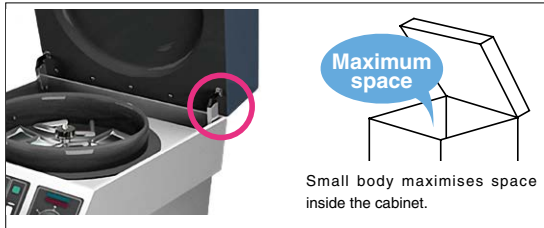
**[Balance Adjustment]**



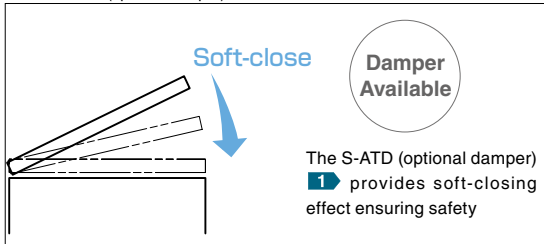
**[Lift-assist]**



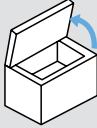
**[Compact]**



**[Soft-close] (optional damper)**



Refer to 1 : P.167, 2 : P.253

Opening Direction	Description	Non-handed	Maximum Door Moment*
 Top-opening	Side mount (damper option available)	Yes	6.1-8.8 N · m/pc (62-90 kgf · cm/pc)
			8.8-11.8 N · m/pc (90-120 kgf · cm/pc)

\*The max. door moment depends on the following factors:

- Location of center of gravity
- Installation point of stays
- Balance adjustment

- Spring mechanism assists in lifting the top-opening lid.
- Easily holds the door at any angle.
- The balance adjustment allows for use in wider range of lids than conventional S-AT stays can be used.
- The locking hole prevents accidental close by inserting a screw driver into it.
- The optional damper S-ATD 1 provides soft closing.

**[Specifications]**

- Operating temperature : 0°C~40°C
- Operating humidity : 90%RH or less
- For other specifications exceeding the above range, please contact local representatives.

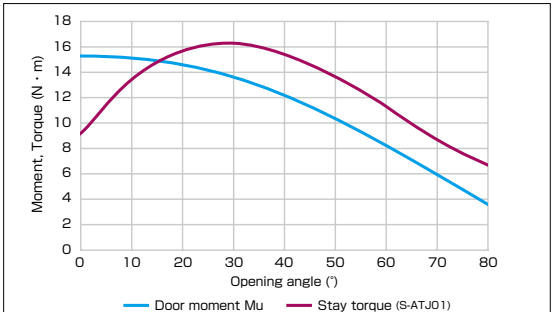
**[Remarks]**

- Be sure to read the "Cautions" 2.
- When used for the top-opening lid, install a stopper (not included) to prevent from exceeding the opening angle.
- Material of the mounting surface should be take into consideration. Low rigidness may cause deformation or damage.
- Was not designed for continuous opening and closing .
- Do not use outdoors.
- Spring tension may vary over time.
- Do not use concealed hinges (multi-axial hinges).
- Installation points must be parallel when using more than one stay.

**[Recommended Screw]**

- Truss head screw M5

**[Door Moment and Stay Torque] (when using two stays, setting adjustment C)**



The graph above shows an ideal example of curves.

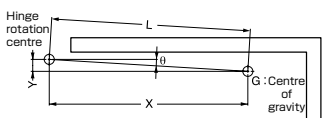
The stay torque should be above the door moment from the middle of the opening.

- Door moment Mu > Stay torque : Force is applied in the closing direction of door.
- Door moment Mu < Stay torque : Force is applied in the opening direction of door.
- Door specs (example) : X=500mm Y=20mm L=500.4mm m=3kg

\*The installation point is the same as the drawings on the page of the HG-PA300-15.

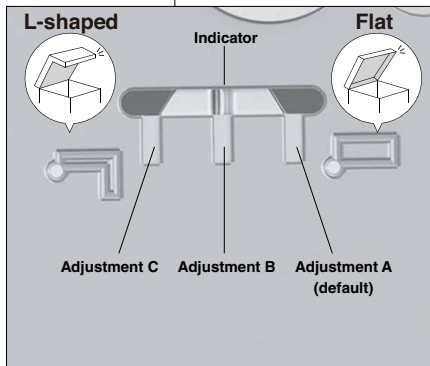
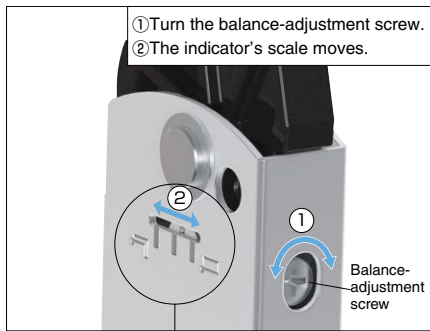
**[Calculating Door Moment]**

**Calculation formula:  $Mu = m \times L \times \cos\theta$**



X	Horizontal distance from rotation centre to lid centre of gravity
Y	Vertical distance from rotation centre to lid centre of gravity
L	Distance from rotation centre to lid centre of gravity
$\theta$	Angle from the horizontal line at the rotation centre to lid centre of gravity
m	Lid weight
G	Lid centre of gravity

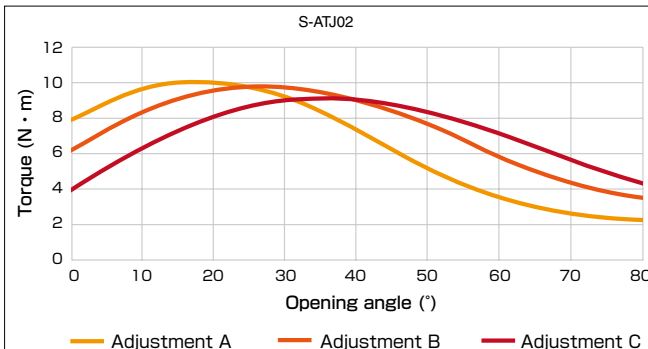
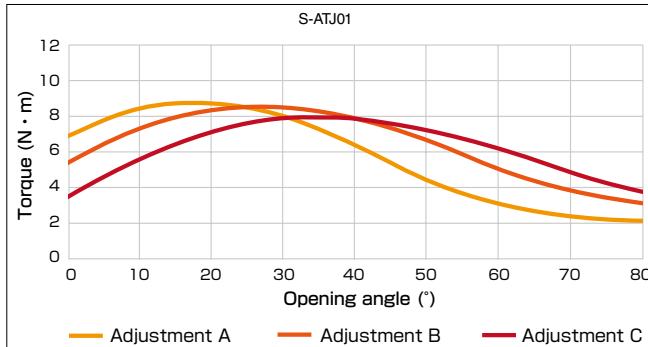
[Balance Adjustment]



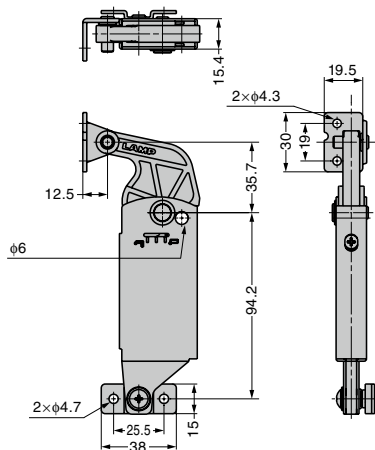
The indicator shows how much balance-adjustment is applied. Balance-adjustment should depend on the location of the center of gravity. When used in:

- a flat lid, "Adjustment A" becomes better setting.\*
- a L-shaped lid, "Adjustment C" becomes better setting.\*
- \* A flat lid's center of gravity is higher than its rotational center.
- \* A L-shaped lid's center of gravity is lower than its rotational center.

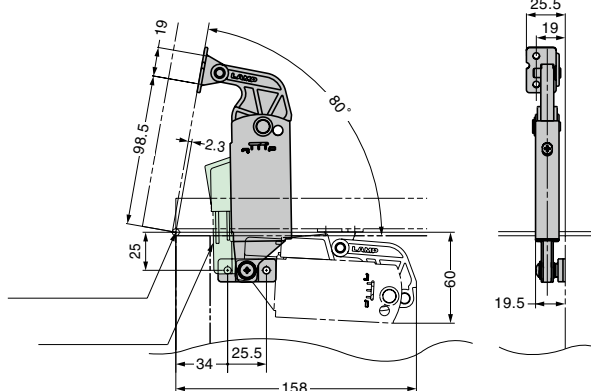
[Torque-Angle Graph] showing the variation of peak torque when balance-adjusted



**S**election Tool  
**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available online!



[Installation]



[Body]

RoHS	CAD	Item Code	Item Name	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
CE	3D	180-043-515	S-ATJ01	Stainless Steel (SUS430) /	Plain	6.1~8.8	62~90	200	10	50
CE	3D	180-043-518	S-ATJ02	POM		8.8~11.8	90~120			

\*The Max. door moment depends on location of center of gravity, installation point of stays, and balance adjustment.

[Damper Unit] option

RoHS	CAD	Item Code	Item Name	Weight (g)	Box (pcs)	Carton (pcs)
CE	3D	180-043-521	S-ATD-30	15	50	-

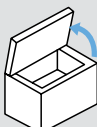
**BALANCE-ADJUSTABLE LIFT-ASSIST STAY S-ATJD Back Panel Mount**

L=R

INSTRUCTION

VIDEO



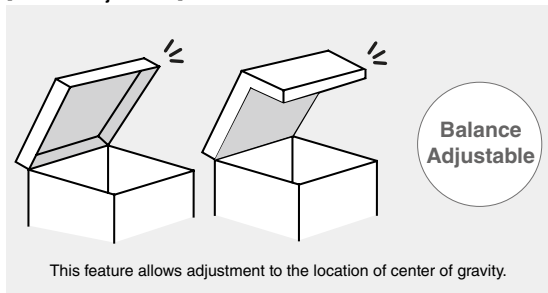
Opening Direction	Description	Non-handed	Maximum Door Moment*
 Top-opening	Back panel mount (damper option available)	Yes	6.1-8.8 N · m/pc (62-90 kgf · cm/pc)
			8.8-11.8 N · m/pc (90-120 kgf · cm/pc)

\*The max. door moment depends on the following factors:

- Location of center of gravity
- Installation point of stays
- Balance adjustment

- Spring mechanism assists in lifting the top-opening lid.
- Easily holds the door at any angle.
- The balance adjustment allows for use in wider range of lids than conventional S-AT stays can be used.
- The locking hole prevents accidental close by inserting a screw driver into it.
- The optional damper S-ATD 1 provides soft closing.

**[Balance Adjustment]**



**[Specifications]**

- Operating temperature : 0°C~40°C
- Operating humidity : 90%RH or less
- For other specifications exceeding the above range, please contact local representatives.

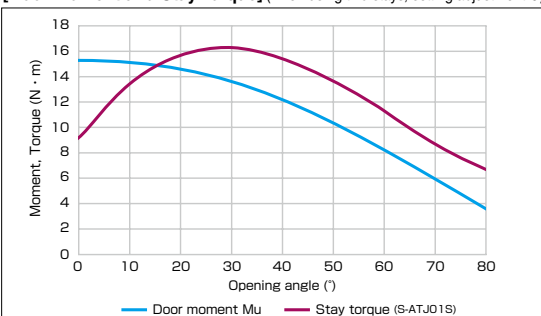
**[Remarks]**

- Be sure to read the "Cautions" 2.
- When used for the top-opening lid, install a stopper (not included) to prevent from exceeding the opening angle.
- Material of the mounting surface should be take into consideration. Low rigidness may cause deformation or damage.
- Was not designed for continuous opening and closing .
- Do not use outdoors.
- Spring tension may vary over time.
- Do not use concealed hinges (multi-axial hinges).
- Installation points must be parallel when using more than one stay.

**[Recommended Screw]**

- Truss head screw M4

**[Door Moment and Stay Torque]** (when using two stays, setting adjustment C)



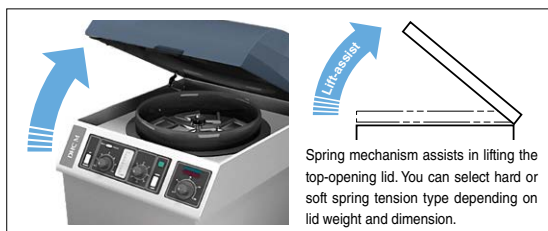
The graph above shows an ideal example of curves.

The stay torque should be above the door moment from the middle of the opening.

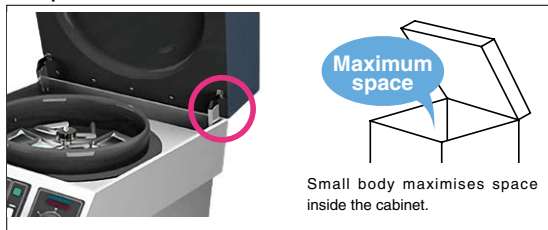
- Door moment Mu > Stay torque : Force is applied in the closing direction of door.
- Door moment Mu < Stay torque : Force is applied in the opening direction of door.
- Door specs (example) : X=500mm Y=20mm L=500.4mm m=3kg

\*The installation point is the same as the drawings on the page of the HG-PA300-15.

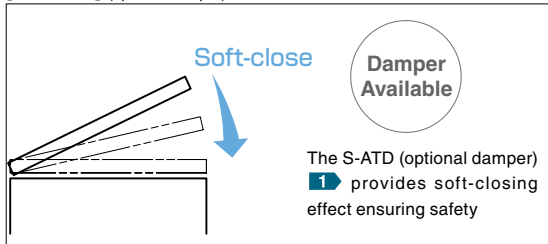
**[Lift-assist]**



**[Compact]**



**[Soft-close]** (optional damper)



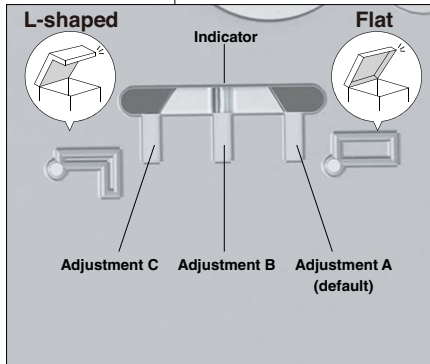
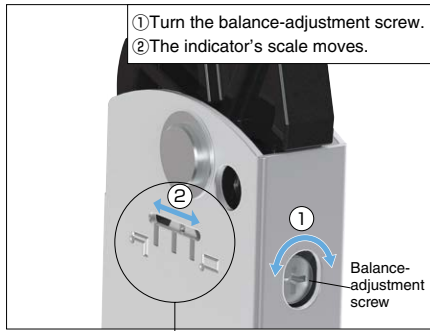
Refer to 1 : P.167, 2 : P.253

**[Calculating Door Moment]**

**Calculation formula:  $Mu = m \times L \times \cos\theta$**

X	Horizontal distance from rotation centre to lid centre of gravity
Y	Vertical distance from rotation centre to lid centre of gravity
L	Distance from rotation centre to lid centre of gravity
$\theta$	Angle from the horizontal line at the rotation centre to lid centre of gravity
m	Lid weight
G	Lid centre of gravity

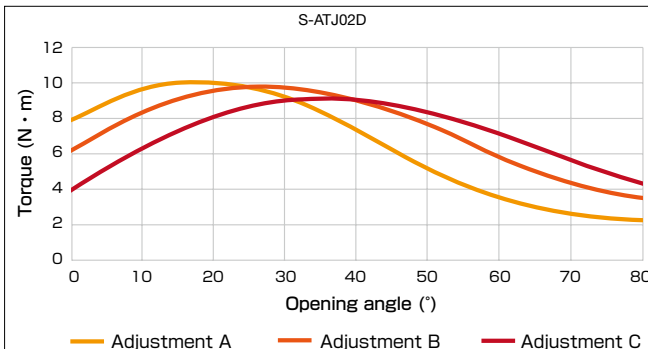
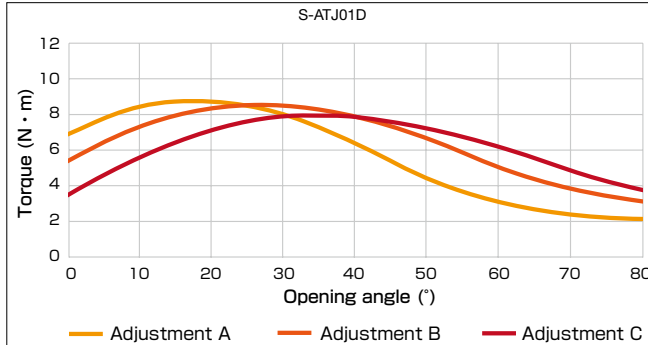
[Balance Adjustment]



The indicator shows how much balance-adjustment is applied. Balance-adjustment should depend on the location of the center of gravity. When used in:

- a flat lid, "Adjustment A" becomes better setting.\*
- a L-shaped lid, "Adjustment C" becomes better setting.\*
- \*A flat lid's center of gravity is higher than its rotational center.
- \*A L-shaped lid's center of gravity is lower than its rotational center.

[Torque-Angle Graph] showing the variation of peak torque when balance-adjusted



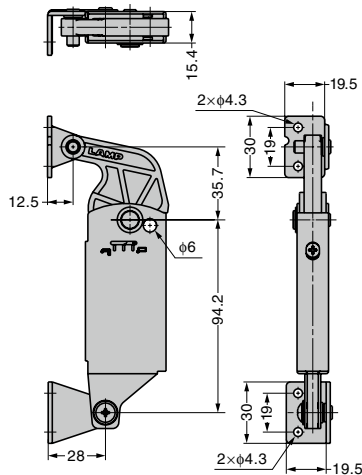
**S**election Tool

**Sasuga-kun**

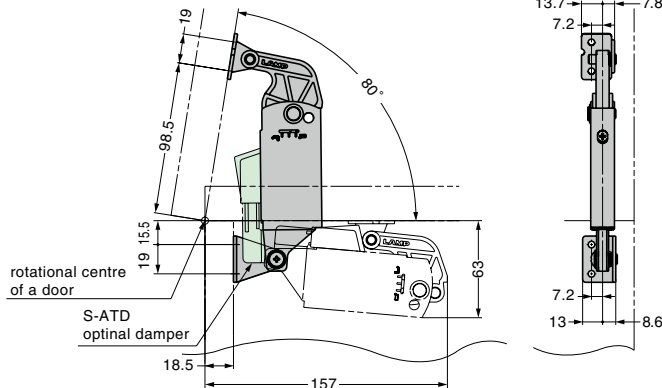
Applicable Products

Used for Product Selection & Simulation.

Available online!



[Installation]



[Body]

RoHS	CAD	Item Code	Item Name	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
CE	3D	180-043-516	S-ATJ01D	Stainless Steel (SUS430) / POM	Plain	6.1~8.8	62~90	210	10	50
CE	3D	180-043-519	S-ATJ02D			8.8~11.8	90~120		10	50

\*The Max. door moment depends on location of center of gravity, installation point of stays, and balance adjustment.

[Damper Unit] option

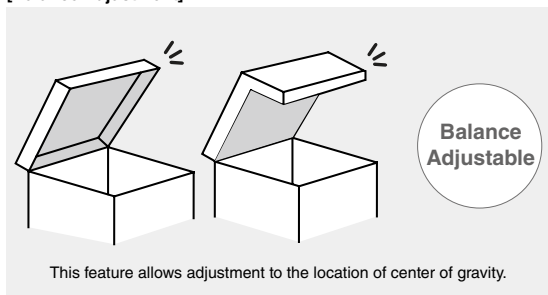
RoHS	CAD	Item Code	Item Name	Weight (g)	Box (pcs)	Carton (pcs)
CE	3D	180-043-521	S-ATD-30	15	50	-

**BALANCE-ADJUSTABLE LIFT-ASSIST STAY S-ATJS Back Panel Mount**



Lift assist

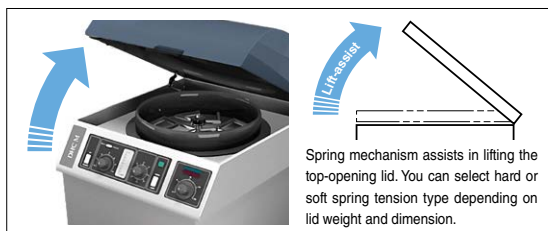
**[Balance Adjustment]**



Balance Adjustable

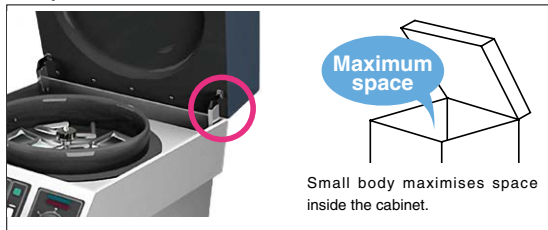
This feature allows adjustment to the location of center of gravity.

**[Lift-assist]**



Spring mechanism assists in lifting the top-opening lid. You can select hard or soft spring tension type depending on lid weight and dimension.

**[Compact]**



Maximum space

Small body maximises space inside the cabinet.

Opening Direction	Description	Non-handed	Maximum Door Moment*
 Top-opening	Back panel mount (damper option available)	Yes	6.1-8.8 N · m/pc (62-90 kgf · cm/pc)
			8.8-11.8 N · m/pc (90-120 kgf · cm/pc)

\*The max. door moment depends on the following factors:

- Location of center of gravity
- Installation point of stays
- Balance adjustment

- Spring mechanism assists in lifting the top-opening lid.
- Easily holds the door at any angle.
- The balance adjustment allows for use in wider range of lids than conventional S-AT stays can be used.
- The locking hole prevents accidental close by inserting a screw driver into it.

**[Specifications]**

- Operating temperature : 0°C ~ 40°C
- Operating humidity : 90%RH or less
- For other specifications exceeding the above range, please contact local representatives.

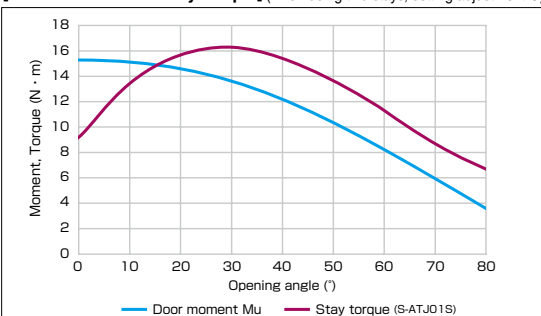
**[Remarks]**

- Be sure to read the "Cautions"
- When used for the top-opening lid, install a stopper (not included) to prevent from exceeding the opening angle.
- Material of the mounting surface should be take into consideration. Low rigidity may cause deformation or damage.
- Was not designed for continuous opening and closing .
- Do not use outdoors.
- Spring tension may vary over time.
- Do not use concealed hinges (multiaxial hinges).
- Installation points must be parallel when using more than one stay.

**[Recommended Screw]**

- Truss head screw M4

**[Door Moment and Stay Torque] (when using two stays, setting adjustment C)**



The graph above shows an ideal example of curves.  
 The stay torque should be above the door moment from the middle of the opening.  
 • Door moment  $\mu_u >$  Stay torque : Force is applied in the closing direction of door.  
 • Door moment  $\mu_u <$  Stay torque : Force is applied in the opening direction of door.  
 • Door specs (example) : X=500mm Y=20mm L=500.4mm m=3kg  
 \*The installation point is the same as the drawings on the page of the HG-PA300-15.

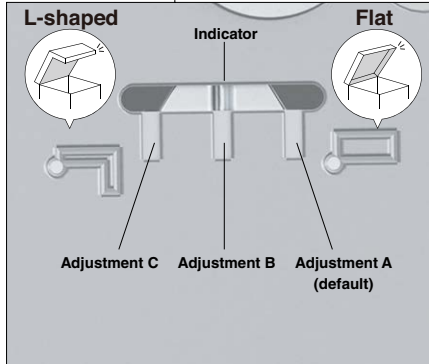
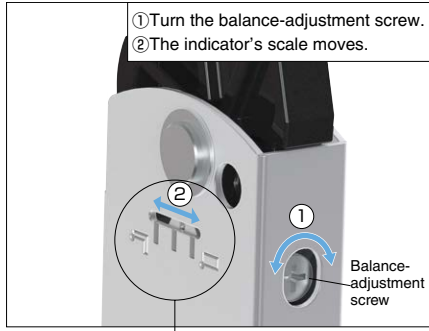
**[Calculating Door Moment]**

**Calculation formula:  $\mu_u = m \times L \times \cos\theta$**

X	Horizontal distance from rotation centre to lid centre of gravity
Y	Vertical distance from rotation centre to lid centre of gravity
L	Distance from rotation centre to lid centre of gravity
$\theta$	Angle from the horizontal line at the rotation centre to lid centre of gravity
m	Lid weight
G	Lid centre of gravity

Refer to : P253

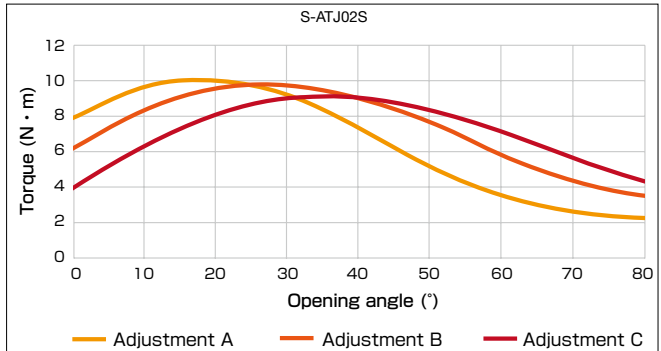
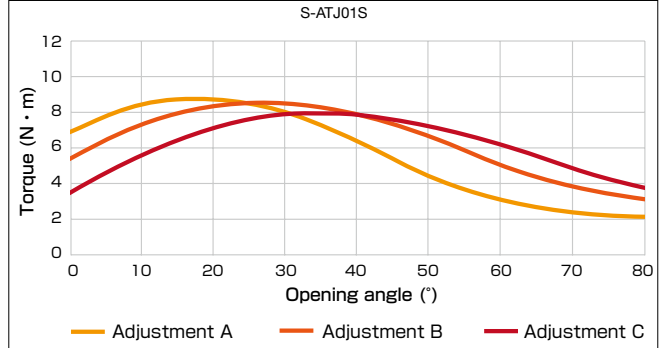
[Balance Adjustment]



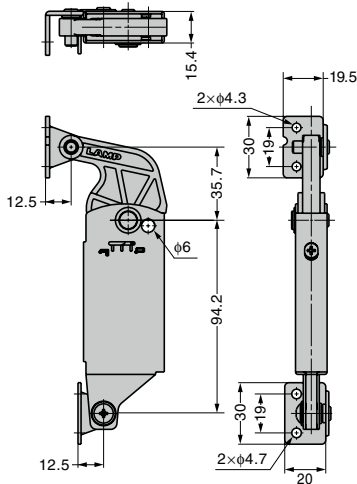
The indicator shows how much balance-adjustment is applied. Balance-adjustment should depend on the location of the center of gravity. When used in:

- a flat lid, "Adjustment A" becomes better setting.\*
- a L-shaped lid, "Adjustment C" becomes better setting.\*
- \*A flat lid's center of gravity is higher than its rotational center.
- \*A L-shaped lid's center of gravity is lower than its rotational center.

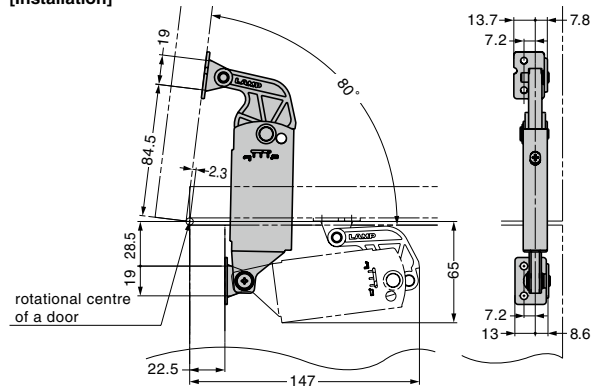
[Torque-Angle Graph] showing the variation of peak torque when balance-adjusted



**S**election Tool  
**Sasuga-kun**  
Applicable Products  
Used for Product Selection & Simulation.  
Available online!



[Installation]



[Body]

RoHS	CAD	Item Code	Item Name	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
CE	BD	180-043-517	S-ATJ01S	Stainless Steel (SUS430) / POM	Plain	6.1~8.8	62~90	200	10	50
CE	BD	180-043-520	S-ATJ02S	POM	Plain	8.8~11.8	90~120		10	50

\*The Max. door moment depends on location of center of gravity, installation point of stays, and balance adjustment.

## DAMPER UNIT S-ATD For S-ATJ and S-ATJD

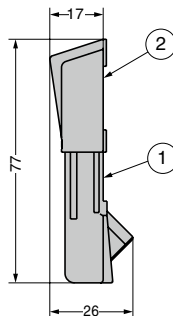


- Specially designed for use with the S-ATJ **1** and S-ATJD **2**. Adds soft-closing feature to the stays.
- Easy to attach to the S-ATJ and S-ATJD stays by simply inserting it. The thickness is designed to fit the stays allowing for maximum space inside cabinets.

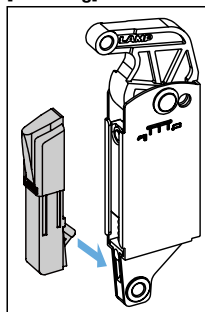
### [Remarks]

- Only for use with the S-ATJ and S-ATJD. Can not be used with other items in the S-AT series.
- Other installation points than those in this catalogue may not be available. For details, please check with the product search engine called "Sasuga-kun".

### [When attached to the S-ATJD]



### [Attaching]



**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available online!

RvHS	CAD	Item Code	Item Name	Weight (g)	Box (pcs)	Carton (pcs)
		180-043-521	S-ATD-30	15	50	-

Refer to **1** : P.161, **2** : P.163

No.	Part Name	Material
①	Damper Case	POM
②	Slider	PBT

Lift-Assist Hinges

Lift-Assist Stays

Self-Opening Stays

**SELF-OPENING STAY HDS-20S For Use in Pairs**



Opening Direction	Description	Non-handed	Model	Maximum door moment
Top-opening	With Self-opening For Use in Pairs	-	H	6.9~10.8 N·m/2 pcs (70~110 kgf·cm/2 pcs)
			S	10.9~14.7 N·m/2 pcs (111~150 kgf·cm/2 pcs)

- Ideal for top-opening lids.
- Opens automatically after a small impulse.
- Holds the door at closed position.
- For door hinge, piano/butt hinge or concealed hinge is suitable.

**[Specifications]**

- Operating temperature: 0°C ~40°C

**[Remarks]**

- Be sure to read the "Cautions"
- Handed: Specific left and right-handed.
- Used in pairs.
- Do not push the door up over the max. opening angle. And do not roughly open and close the door.

**[Parts Included]**

- Mounting plate
- Binding head tapping screw 3.5×15

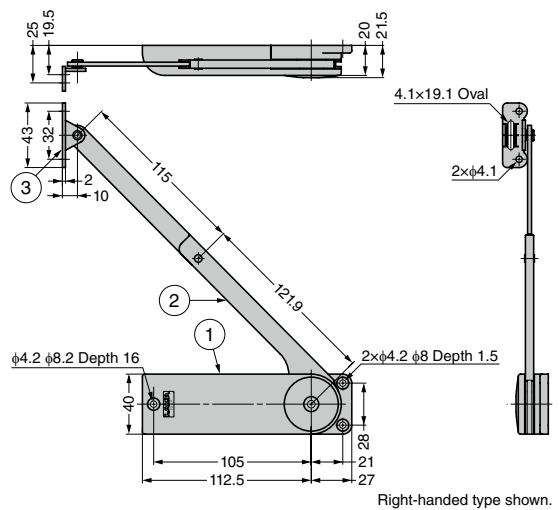
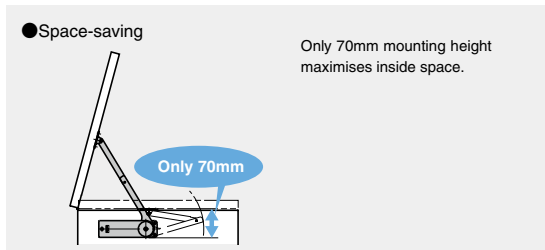
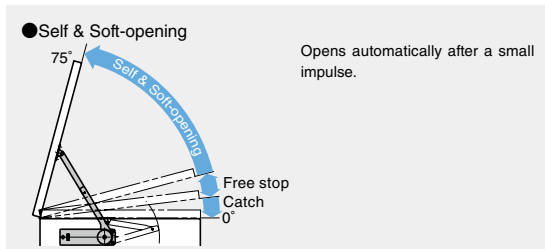
Video Link



**[Applicable Range]**

- Choose from 2 types according to door moment.  
Maximum door moment (N·m) = Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

Maximum door moment N·m	Model	Qty
6.9~10.8	H	2pcs
10.9~14.7	S	2pcs

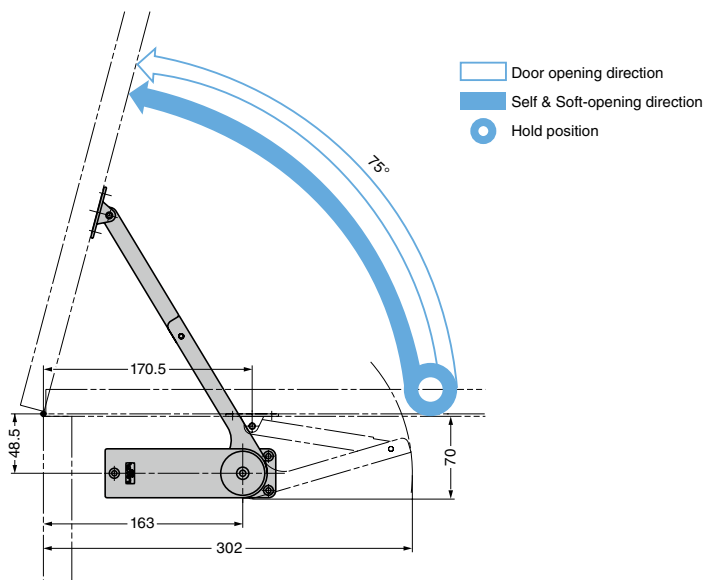


No.	Part Name	Material	Finish/Colour
①	Body	ABS	Black, White
②	Arm	Steel (SPCC)	Nickel
③	Mounting Plate		

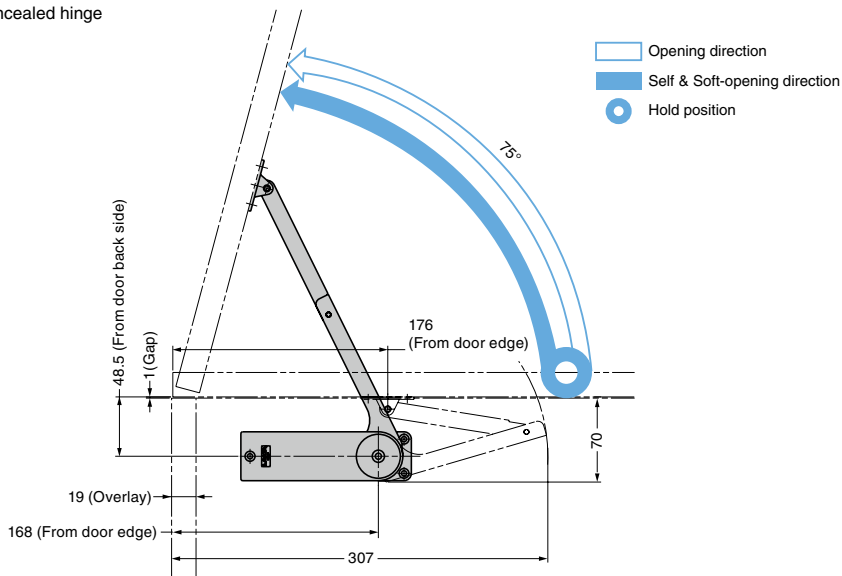
Refer to : No.280 P.207

[Installation] Top-opening 75° and right side installation. Left side installation is symmetrical.

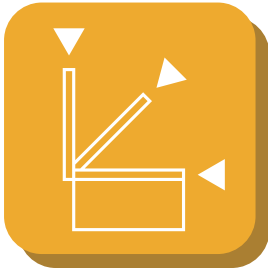
With piano/butt hinge



With concealed hinge



RHS	CAD	Item Code	Item Name	Type	Material	Finish/Colour	Model	Maximum Door Moment N·m/2 pcs	Maximum Door Moment kgf·cm/2 pcs	Weight (g)	Box (pcs)
		180-029-751	HDS-20S-HL-BL	Left-handed	Steel / ABS	Nickel plating / Black	H	6.9~10.8	70~110	298	40
		180-029-752	HDS-20S-HR-BL	Right-handed		Nickel plating / White				298	40
		180-029-753	HDS-20S-HL-WT	Left-handed		Nickel plating / Black				311	40
		180-029-754	HDS-20S-HR-WT	Right-handed		Nickel plating / White				298	40
		180-029-755	HDS-20S-SL-BL	Left-handed		S	Nickel plating / Black	10.9~14.7	111~150	311	40
		180-029-756	HDS-20S-SR-BL	Right-handed			Nickel plating / White			311	40
		180-029-757	HDS-20S-SL-WT	Left-handed			Nickel plating / Black			311	40
		180-029-758	HDS-20S-SR-WT	Right-handed			Nickel plating / White			311	40



# Snap and stop Click Motion

Temporarily holds door, lid or cover during opening/closing at a certain angle with a unique feel.





# ANGLE-ADJUSTABLE DETENT HINGE HG-CHJ70



Click Motion

Detent Hinges

Multi Angle Locking Hinges

Ratchet Hinge



- Intermediate holding position can be set at 3 angles: 45°, 90°, and 135°.
- Comes with covers to hide the mounting holes.

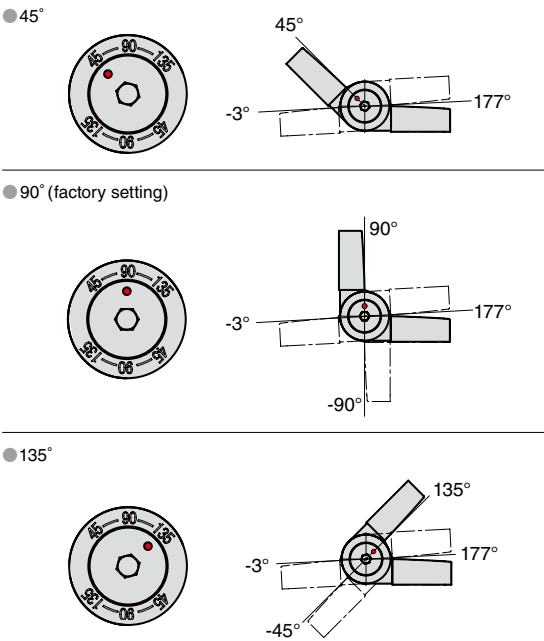
**[Applications]**

- Environmental test equipment, laboratory equipment.

**[Remarks]**

- Adjustment of detent angles must be done when the hinge is open.
- The retaining torque may vary.

**[Available Detent Angles]**



**[Without Covers]**



**[Application Example]**



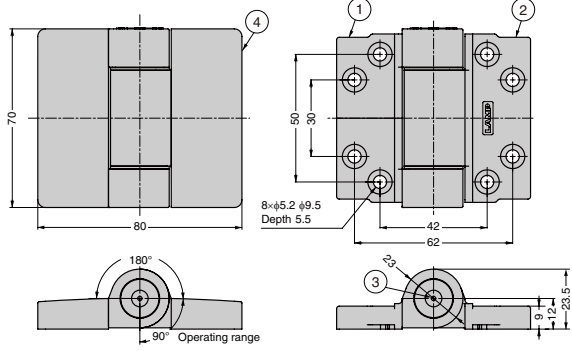
Detent angle: 45°

**[Adjustment]**



Video Link

Simple adjustment with a hex key 4.

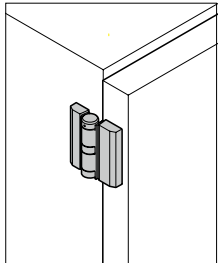


With Covers

Without Covers

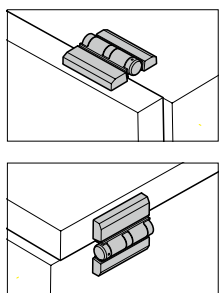
**[Door Specs]** When using two hinges

● Lateral opening



- Weight: Max. 8kg
- Width: Max. 500mm
- Height: Max. 1,000mm

● Upward opening



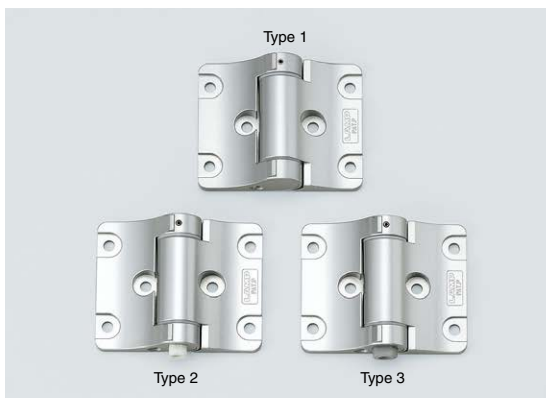
- Moment: Max. 1.7N·m
- Height: Max. 250mm

- Moment: Max. 2.4N·m
- Height: Max. 300mm

No.	Part Name	Material
①	Fixed Bracket	POM
②	Movable Bracket	
③	Shaft	Stainless Steel
④	Cover	ABS

RHS	CAD	Item Code	Item Name	Colour	Retaining Torque N·m / pc	Retaining Torque kgf·cm / pc	Weight (g)	Box (pcs)	Carton (pcs)
		170-043-659	HG-CHJ70BL	Black	2	20.4	115	10	80
		170-043-660	HG-CHJ70WT	White				10	80

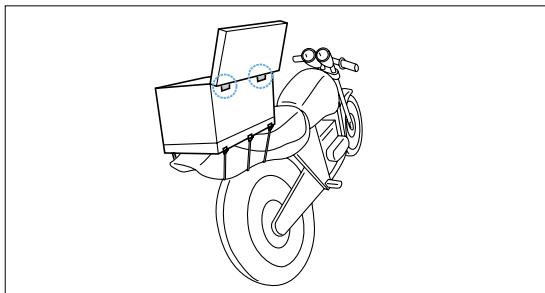
## DETENT HINGE HG-CSH63 DIGEST



- Detent at both of 0° and 100°.
- Also available without damper type.
- Damper works clockwise or counterclockwise.
- Refer to 1 for details.

**S**election Tool  
**Sasuga-kun**  
 Applicable Products  
 Used for Product Selection & Simulation.  
 Available on Web!

### [Installation]



Refer to 1 : P.71

## DETENT HINGE HG-YC105

SUS



- Holds door open without secondary support.
- Easy installation and no damage to mounting surface with integrated back cover.

### [Applications]

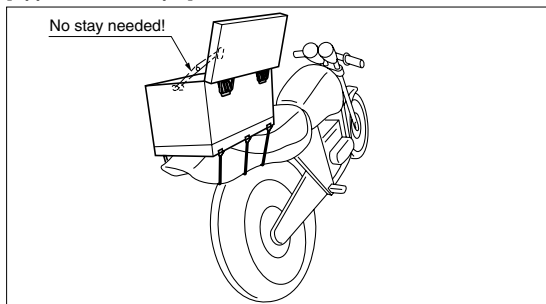
- Motorcycle carrying box, control box, etc.

### [Remarks]

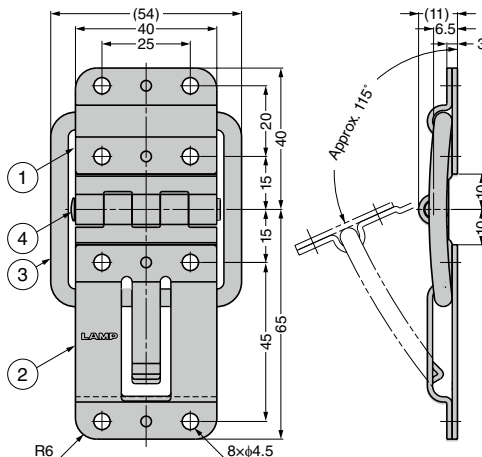
- Retaining torque varies. Not guaranteed value.
- Confirm with actual item before use.



### [Application Example]



No.	Part Name	Material	Finish
①	Body (Fixed Side)	Stainless Steel (SUS304)	Barrel Polished
②	Body (Movable Side)		
③	Stopper		-
④	Shaft		



RoHS	CAD	Item Code	Item Name	Retaining Torque N·m/pc	Retaining Torque kgf·m/pc	Weight (g)	Box (pcs)	Carton (pcs)
GD	BD	170-099-093	HG-YC105	Approx. 1.18	Approx. 12	122	10	100

# DETENT HINGE HG-MPS2



- Holds at 3 positions: -10° , 120° and 170° .
- Can be used horizontally or vertically.

**[Applications]**

- Small and light doors of medical equipment, measuring equipment, analytical equipment, etc.

**[Remarks]**

- Additional stopper is recommended at 0° (fully closed) and 170° (fully opened).
- For indoor use only. Not suitable for wet applications.
- Do not use impact screwdriver for mounting.

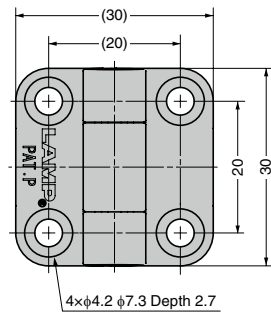
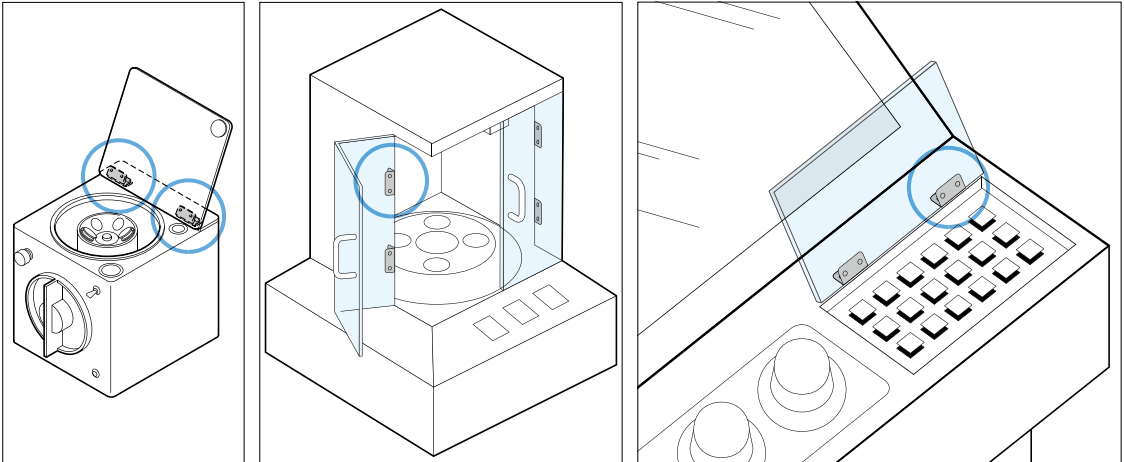
**[Recommended Screws]**

- Pan head screw M4 or pan head tapping screw 4

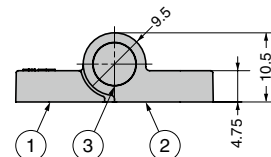
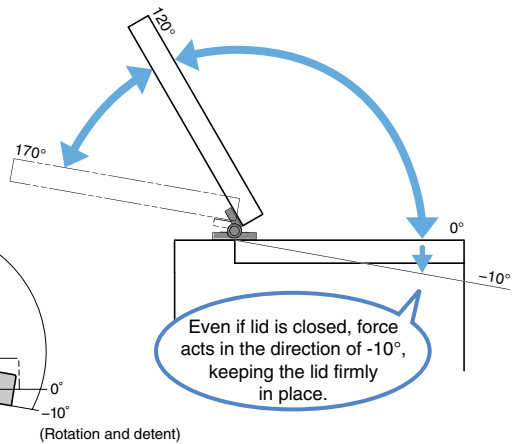
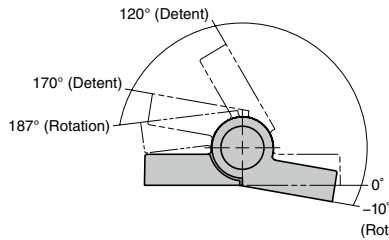
Video Link



**[Installation]**



**[Rotation and Detent Angle]**



**[Criterion of Door or Lid Size] Using 2 pcs vertically**

No.	Part Name	Material	Colour
①	Fixed Bracket	PBT	Black (BL), White (WT)
②	Movable Bracket		
③	Cap	ABS	

Width	Height	Weight
Max. 370	Max. 460	Max. 1.0kg

When using horizontally, design the door and lid sizes not to exceed the following torque.

RoHS	CAD	Item Code	Item Name	Colour	Retaining Torque -10° , 170°		Retaining Torque 120°		Weight (g)	Box (pcs)	Carton (pcs)
					N·m/pc	kgf·cm/pc	N·m/pc	kgf·cm/pc			
GD	BD	170-023-908	HG-MPS2-BL	Black	0.26	2.65	0.145	1.48	6.9	50	500
GD	BD	170-023-909	HG-MPS2-WT	White							

Detent Hinges

Multi Angle Locking Hinges

Ratchet Hinge

# DETENT HINGE HG-YJ50



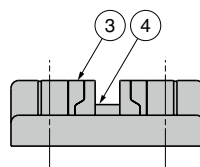
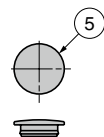
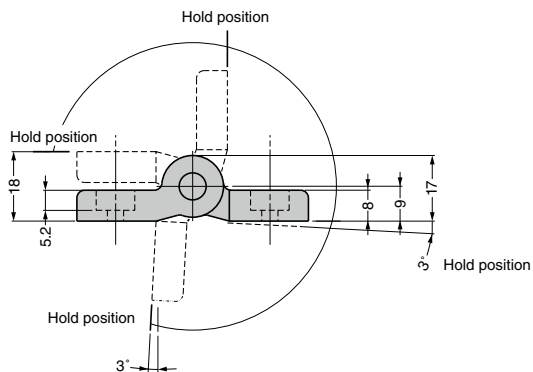
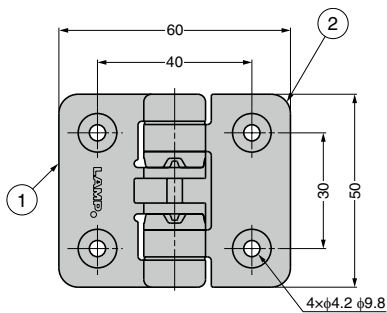
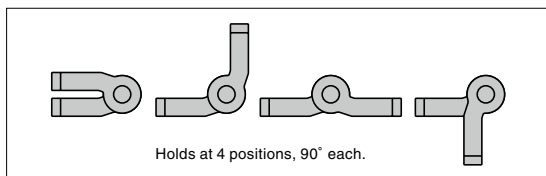
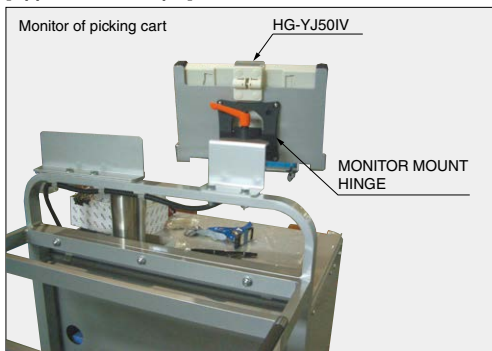
With cap.

- Holds at 4 positions, 90° each.
- Lightweight plastic hinge.
- Plastic parts and metal parts can be separated for easy recycling.
- Caps for the screw holes are included. Caps (Ivory: KD-772-3I, Black: KD-772-3B) also available separately. 1

### [Applications]

- Plastic doors or small metal doors of medical equipment, measuring equipment, food machinery, etc.

### [Application Example]



No.	Part Name	Material	Finish / Colour
①	Body A	POM	Emboss/Ivory (IV), Black (BL)
②	Body B		
③	Stopper Plate	PA	
④	Shaft	Stainless Steel (SUS303)	-
⑤	Cap (included)	PP	Emboss/Ivory (IV), Black (BL)

[Criterion of Door Size] using 2 pcs vertically for plastic doors

Width	Height	Weight
Max. 400	Max. 500	Max. 1.2kg

RHS	CAD	Item Code	Item Name	Colour	Retaining Torque N·m/pc	Retaining Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
		170-090-000	HG-YJ50IV	Ivory	Approx. 0.49	Approx. 5	30	20	200
		170-090-002	HG-YJ50BL	Black				20	200

Refer to 1 : No.280 P.881

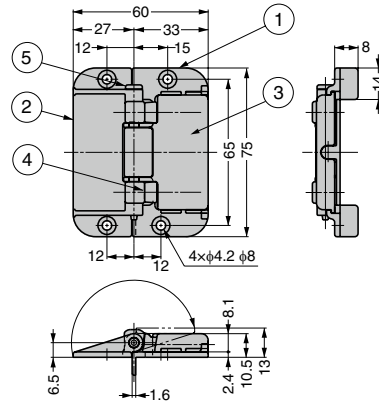
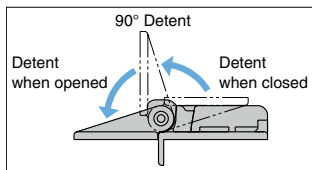
# CENTRE HINGE CH-75



Click Motion



- Cam and slide latch provide a detent function in opened and closed positions.
- Cushion function absorbs impact at full opening and unexpected external force.
- Removable hinge pin allows easy installation.
- AS Parts Set for installing to aluminium frame also available. Please contact local representative for more details.



No.	Part Name	Material	Finish / Colour
①	Body A	Zinc Alloy	Nickel (NI)
②	Body B		Bronze (GB)
③	Holder	POM	Brown
④	Latch		Black
⑤	Hinge Pin	Steel (SWCH)	Lubricant Coating/Black

RefHS	CAD	Item Code	Item Name	Finish	Weight (g)	Box (pcs)	Carton (pcs)
-		250-129-208	CH-75-NI	Nickel	101	42	168
-		250-120-031	CH-75-GB	Bronze	99	42	168

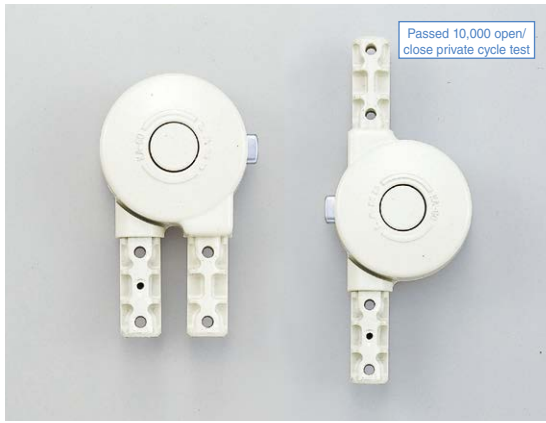
Detent Hinges

Multi Angle Locking Hinges

Ratchet Hinge

# MULTI ANGLE STAY KA-60 With Locking Mechanism

Click Motion



- Angle adjustment and locking is realised by simple button operation. Suitable for pipe joints for which angle adjustment is required.
- Angle can be adjusted from 0° ~180° by 10° increment.
- Completely locked when your hands are off the release button.

**[Remarks]**

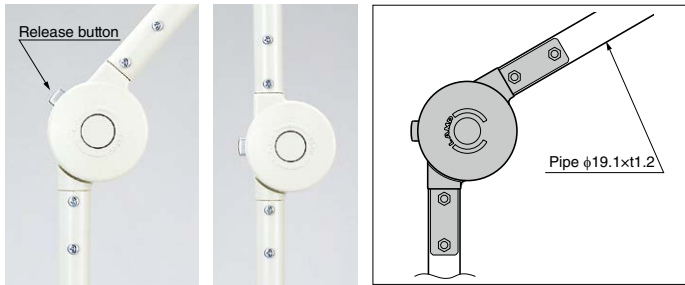
- Do not forcibly apply force in the locked position.
- Pipe not included.

Detent Hinges

Multi Angle Locking Hinges

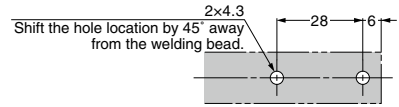
Ratchet Hinge

**[Installation Example]**

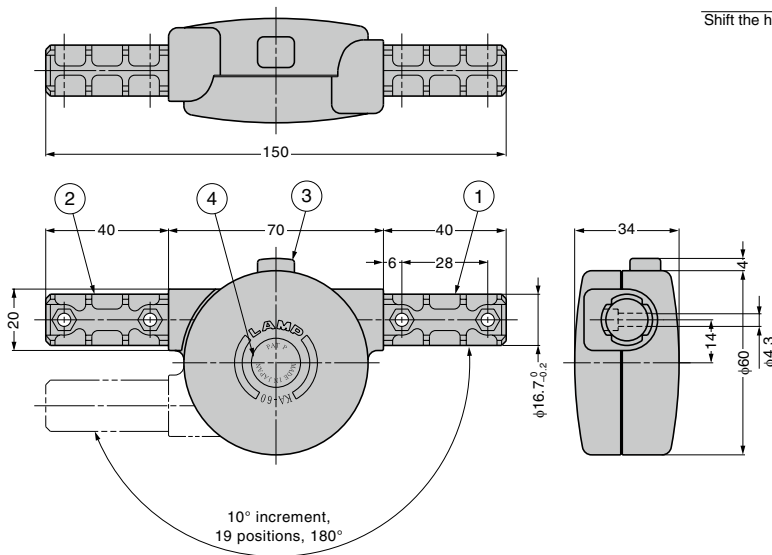


After releasing the lock by pushing the button, angle can be adjusted every 10° .

**[Pipe Cut Out Dimensions]**



Pipe outer diameter : φ 19.1  
Pipe thickness : t1.2



No.	Part Name	Material	Finish
①	Body A	Aluminium Alloy	Enamel Finish/Ivory
②	Body B		
③	Release Button	ABS	Chrome
④	Cap		Black

R/W/S	CAD	Item Code	Item Name	Pipe	Load Capacity N·m/pc	Load Capacity kgf·m/pc	Weight (g)	Box (pcs)	Carton (pcs)
-	3D	170-890-570	KA-60	φ 19.1×1.2	25	2.5	170	6	60

# CONCEALED HINGE (W/ STAY) HG-YS65C

SUS



- Combination of hinge and stay.
- Slim shape. (Refer to ※ following "Cut Out Dimensions".)
- Stay with catch holds door in opened position.
- Catch is spring type. When door is pushed with a stronger force (refer to the retaining torque), the spring extends and the catch is released.
- Non-handed.
- Removable pin allows easy door installation and removal.

**[Applications]**

- Measurement equipment, communication equipment, control cabinet, etc.

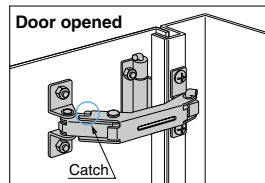
**[Remarks]**

- E-type retaining ring not included.
- Use screw lock to fix mounting screws of stay and hinge.
- Retaining torque varies. It is not guaranteed value.

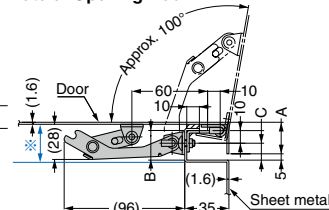
**[Parts Included]**

- Mounting screws for stay and hinge: truss head screw M5×10 2pcs

**[Installation]**

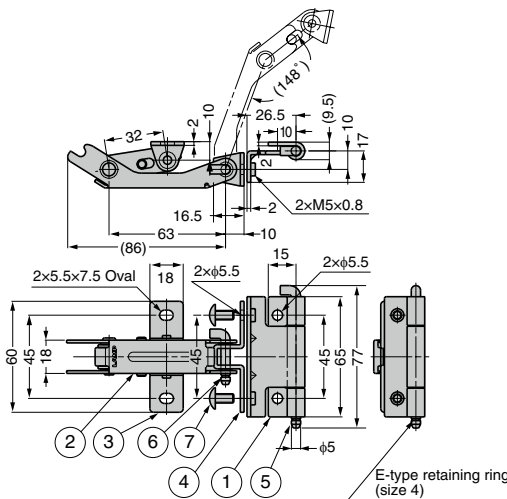


**Lateral Opening Door**



**[Cut Out Dimensions]**

A	B	C
20	19	8.5
21	20	9.5
22	21	10.5
23	22	11.5
24	23	12.5
25	24	13.5



No.	Part Name	Material	Finish
①	Hinge	Stainless Steel (SUS304)	Polished
②	Stay		
③	Bracket		
④	Hinge Bracket		
⑤	Pin		
⑥	Hinge Bracket Pin		
⑦	Truss Head Screw M5×10 (Included)		

※It can also be used for top-opening lid, but the retaining torque varies. Besides, retaining torque is not two times when using two hinges due to installation fluctuation.

RoHS	CAD	Item Code	Item Name	Door Weight kg (Per Pair)	Retaining Torque cN·m/pc	Retaining Torque kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
CE	3D	170-100-087	HG-YS65C	Approx. 10 (Max.)	Approx. 294	Approx. 30	190	10	100

# CORNER FASTENER (W/ LOCK) STF-C64A, STF-C64B DIGEST

SUS



- Designed to allow front operation.
- Locks when fastened to prevent accidental release.
- With hole for padlock.
- Available with or without spring.
- Applicable door thickness: 14~28mm
- Refer to the product page 1 for details.



● After locked



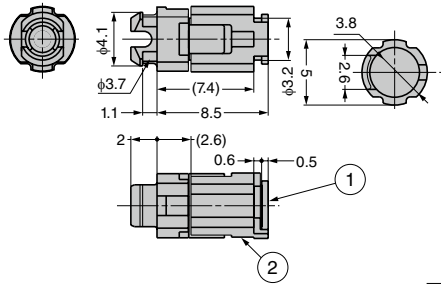
● Pull the lever and lift the latch to open the lid.



● After opened

Refer to 1 : No.280 P.678

## MICRO DETENT HINGE MPH-20-5G2



- Ultra compact detent hinge suitable for clamshell type cell phones, PDA and other foldable devices.
- Small diameter of  $\phi 5$  for space-saving and downsizing of casing.
- Designed for  $160^\circ$  opening, and detent catch in open and closed position.
- Easy snap-in for quick assembly.

## [Applications]

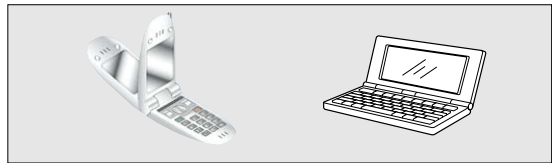
- Cell phone, PDA, remote control, gaming device, etc.

## [Remarks]

- For clamshell type cell phones, with weight up to 55g when using two hinges.
- The boundary between the movable side and fixed side of casing shall be set near the hinge centre.
- For more details on mounting dimensions, please contact local representatives.



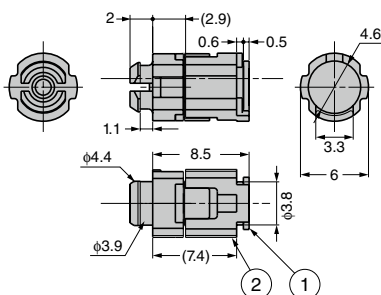
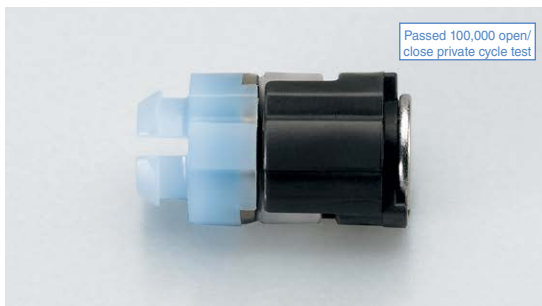
## [Application Example]



No.	Part Name	Material	Finish / Colour
①	Spindle	Steel	Clear Zinc Chromate
②	Body	POM	White

RoHS	CAD	Item Code	Item Name	Opening Angle	Weight (g)	Box (pcs)
		170-090-536	MPH-20-5G2	$160^\circ$	0.46	4000

## MICRO DETENT HINGE MPH-22G



- Ultra compact detent hinge suitable for clamshell type cell phones, PDA and other foldable devices.
- Designed for  $160^\circ$  opening, and detent catch in open and closed position.
- Easy snap-in for quick assembly.

## [Applications]

- Cell phone, PDA, remote control, gaming device, etc.

## [Remarks]

- For clamshell type cell phones, with weight up to 55g when using two hinges.
- The boundary between the movable side and fixed side of casing shall be set near the hinge centre.
- For more details on mounting dimensions, please contact local representatives.



## [Application Example]



No.	Part Name	Material	Finish / Colour
①	Spindle	Steel	Coloured Zinc Chromate
②	Body	POM	Grey

RoHS	CAD	Item Code	Item Name	Opening Angle	Weight (g)	Box (pcs)
		170-098-727	MPH-22G	$160^\circ$	0.62	4000

## MICRO DETENT HINGE MPH-30 High Torque Type



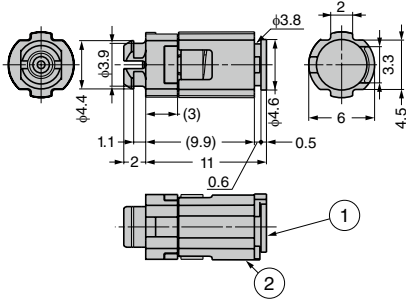
- Ultra compact detent hinge suitable for clamshell type cell phones, PDA and other foldable devices.
- With the torque of a single hinge equal to that of two conventional hinges, you can design various casings as there is no need for hinge space on the other side.
- Designed for 160° opening, and detent catch in open and closed position.
- Easy snap-in for quick assembly.

### [Applications]

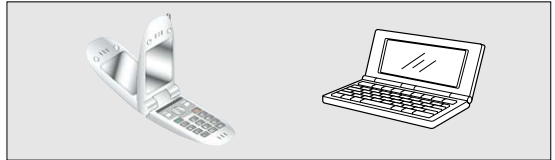
- Cell phone, PDA, remote control, gaming device, etc.

### [Remarks]

- For clamshell type cell phones, with weight up to 55g when using one hinge.
- The boundary between the movable side and fixed side of casing shall be set near the hinge centre.
- For more details , please contact local representatives.



### [Application Example]



No.	Part Name	Material	Finish
①	Spindle	Steel	Clear Zinc Chromate
②	Body	POM	Black

RoHS	CAD	Item Code	Item Name	Opening Angle	Weight (g)	Box (pcs)
		170-090-024	MPH-30	160°	0.98	4000

Detent Hinges

Multi Angle Locking Hinges

Ratchet Hinge

## MICRO DETENT HINGE MPH-30-5TN High Torque Type



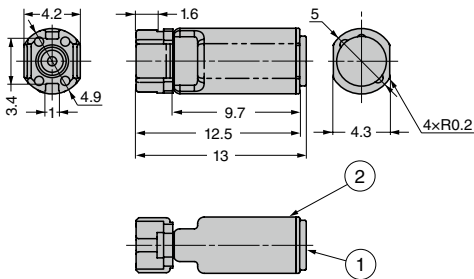
- Ultra compact detent hinge suitable for clamshell type cell phones, PDA and other foldable devices.
- With the torque of a single hinge equal to that of two conventional hinges, you can design various casings as there is no need for hinge space on the other side.
- Small outer diameter of  $\phi 5$  realises space-saving and downsizing of casing.
- Designed for 160° opening, and detent catch in open and closed position.

### [Applications]

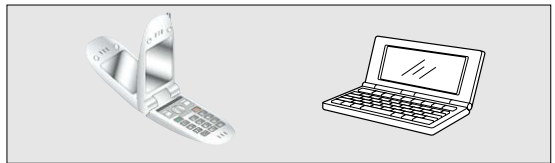
- Cell phone, PDA, remote control, gaming device, etc.

### [Remarks]

- For clamshell type cell phones, with weight up to 55g when using one hinge.
- The boundary between the movable side and fixed side of casing shall be set near the hinge centre.
- For more details , please contact local representatives.



### [Application Example]



No.	Part Name	Material	Finish
①	Spindle	Steel	Nickel
②	Body	Stainless Steel	-

RoHS	CAD	Item Code	Item Name	Opening Angle	Weight (g)	Box (pcs)
		170-097-888	MPH-30-5TN	160°	0.86	4000

※The item will be discontinued after current stock is sold out.



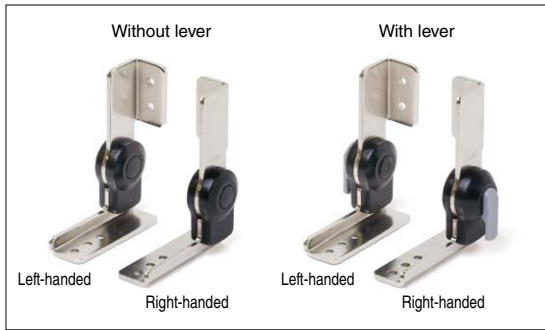
# MULTI ANGLE LOCKING HINGE HG-MA95A

Click Motion

Detent Hinges

Multi Angle Locking Hinges

Ratchet Hinge



- Easily adjusts the flap angle by toggling the lever.
- Lock allows the hinge to be held in position from 0° to 180° in 10° increments.
- The flap is temporarily unlocked while the lever is pushed.
- The flap stays unlocked when the lever is lifted.
- Both hinge types can be used together.

**[Applications]**

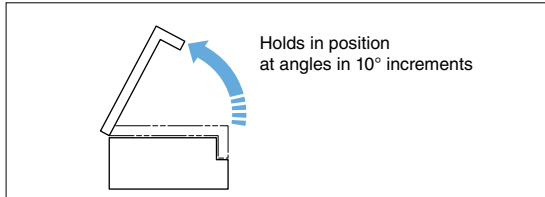
- Medical equipment, analytical instruments, semiconductor equipment.

**[Remarks]**

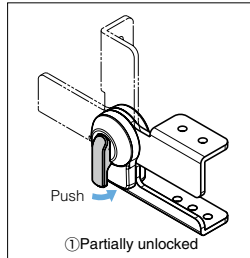
- Be sure to read the "Cautions"

**[Recommended screws]**

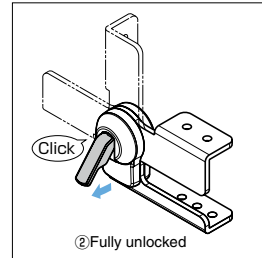
- M5 screw



**[Two ways to unlock]**

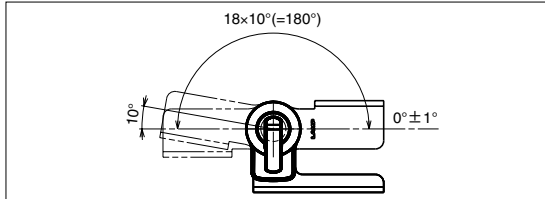


The flap is temporarily unlocked while the lever is pushed.

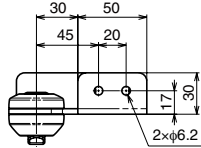


The flap stays unlocked when the lever is lifted.

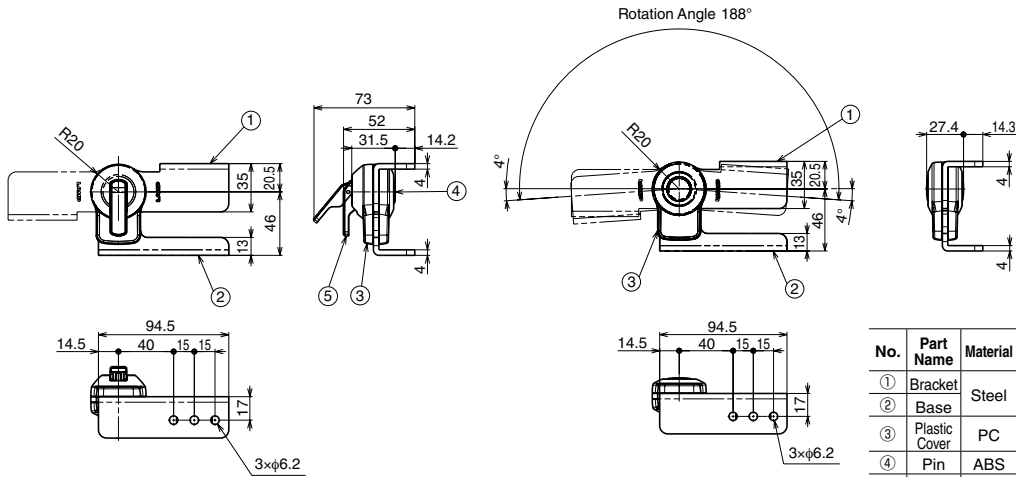
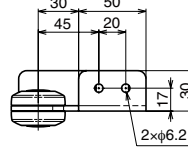
**[Locus chart]**



[HG-MA95A-L]



[HG-MA95AF-L]



No.	Part Name	Material	Surface Finish
①	Bracket	Steel	Nickel
②	Base	Steel	Nickel
③	Plastic Cover	PC	-
④	Pin	ABS	-
⑤	Lever	PA	-

Left-handed shown. Right-handed is symmetrical.

RdHS	CAD	Item Code	Item Name	Position	Type	Max Torque N.m / pc	Max Torque kgf.cm/pc	Weight (g)	Box (pc)	Carton (pc)
		170-043-818	HG-MA95A-R	Right-handed	With lever	45	459	351.4	5	20
		170-043-819	HG-MA95A-L	Left-handed				351.4	5	20
		170-043-822	HG-MA95AF-R	Right-handed	Without lever	-	-	350.7	5	20
		170-043-823	HG-MA95AF-L	Left-handed				350.7	5	20

Refer to : P.253

# MULTI ANGLE LOCKING HINGE HG-MA95B



Click Motion



- Easily adjusts the flap angle by toggling the lever.
- Lock allows the hinge to be held in position from 0° to 180° in 10° increments.
- The flap is temporarily unlocked while the lever is pushed.
- The flap stays unlocked when the lever is lifted.
- Both hinge types can be used together.

**[Applications]**

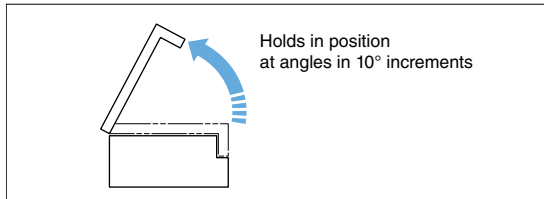
- Medical equipment, analytical instruments, semiconductor equipment.

**[Remarks]**

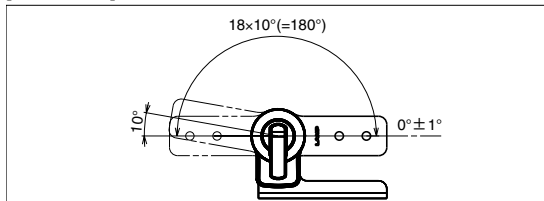
- Be sure to read the "Cautions"

**[Recommended screws]**

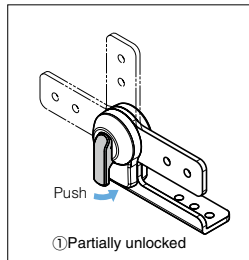
- M5 screw



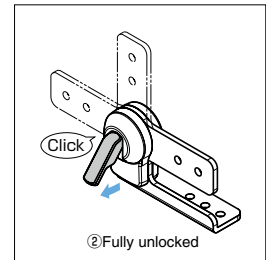
**[Locus chart]**



**[Two ways to unlock]**



The flap is temporarily unlocked while the lever is pushed.



The flap stays unlocked when the lever is lifted.

Video Link

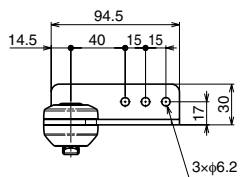


Detent Hinges

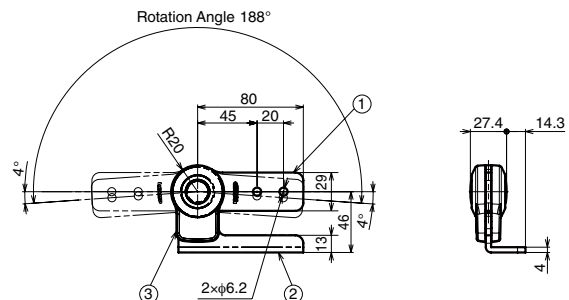
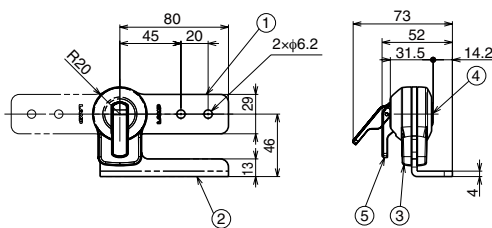
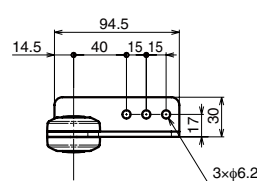
Multi Angle Locking Hinges

Ratchet Hinge

[HG-MA95B-L]



[HG-MA95BF-L]



No.	Part Name	Material	Surface Finish
①	Bracket	Steel	Nickel
②	Base		
③	Plastic Cover	PC	-
④	Pin	ABS	
⑤	Lever	PA	

Left-handed shown. Right-handed is symmetrical.

RevS	CAD	Item Code	Item Name	Position	Type	Max Torque N.m / pc	Max Torque kgf.cm/pc	Weight (g)	Box (pc)	Carton (pc)
G	SD	170-043-820	HG-MA95B-R	Right-handed	With lever	45	459	305	5	20
G	SD	170-043-821	HG-MA95B-L	Left-handed				305	5	20
G	SD	170-043-824	HG-MA95BF-R	Right-handed	Without lever	-	-	304.8	5	20
G	SD	170-043-825	HG-MA95BF-L	Left-handed				304.8	5	20

Refer to : P.253



# RATCHET HINGE WITH FRICTION HG-RCT12-C

Click Motion



- Ratchet mechanism holds at angles in 5° increment from closed to opened position.
- Lift up to the fully open position to release the ratchet mechanism.
- The friction (resistance) function works even when released for safe operation.

**[Applications]**

- For angle adjustment of folding table, touch panel, keyboard, etc.

**[Remarks]**

- Use in pairs.
- Ensure the cabinet has enough rigidity. Otherwise, the ratchet mechanism may not function.
- When the mounting width of hinge is more than 400mm, the ratchet mechanisms may not work simultaneously on the left and right.

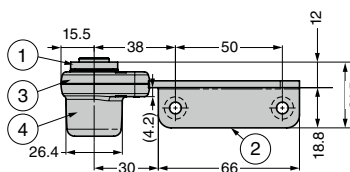
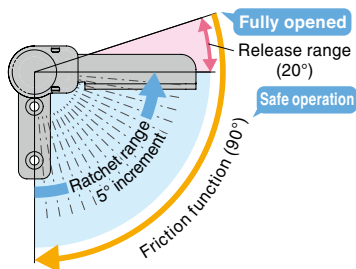
Video Link



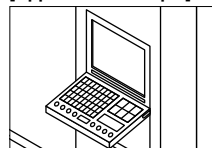
Detent Hinges

Multi Angle Locking Hinges

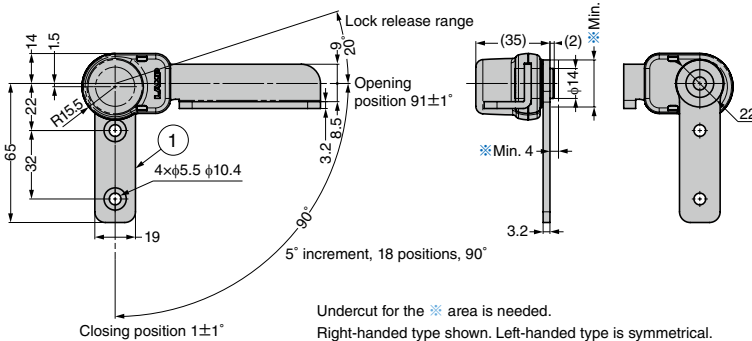
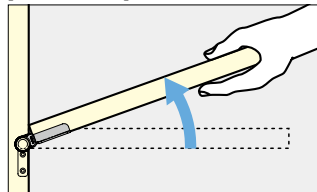
Ratchet Hinge



**[Application Example]**



**[Lock Release]**



No.	Part Name	Material	Finish
①	Bracket	Steel (SPCC)	Nickel
②	Arm (Right-handed)		
③	Cover (Right-handed)	PC	-
④	Cover (Right-handed)		

R/W/S	CAD	Item Code	Item Name	Allowable Moment N·m/pair	Allowable Moment kgf·cm/pair	Weight (g)	Box (pairs)	Carton (pairs)
-	3D	170-036-333	HG-RCT12-C	40	408	350	8	32

# MULTI-STEP TABLE LEG RTL-KUS



- Height can be raised just by lifting up with hands.
- Ideal for workbench and equipment required for barrier-free, etc.
- Mark on inner pipe is a rough standard for height alignment.
- Recommended to use 2~4 pcs to prevent distortion.

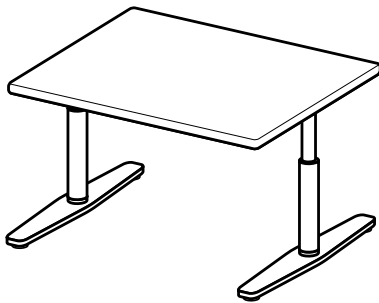
**[Remarks]**

- The tabletop will tilt in case of height adjustment.
- Be sure to hold the tabletop with hands while lowering it.
- The leg pitch shall be 900mm or less.

**[Others]**

- Change to stroke, pitch and pipe colour is possible. For diameter, shape and load capacity change, please consult us.
- Oil adhered to the inner pipe will decrease the friction at the time of descent. Besides, if the lower movement is not so smooth, wipe the inner pipe gently with a cloth containing a little industrial lubricating oil. Please gently wipe excessive oil (if any) with a clean cloth. Do not use oil that will react with urethane. This is because the inner pipe may come in contact with the urethane O-ring on the inside of the pipe.
- Models with single leg and lifting lock function also available.

**[Application Example]**



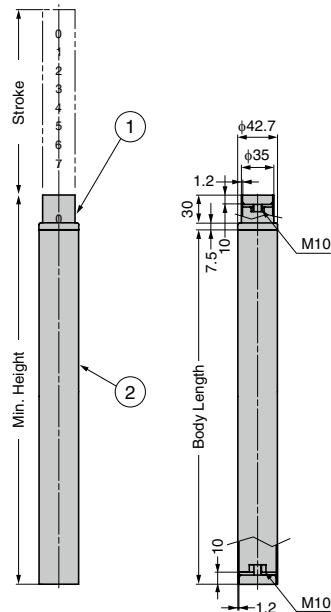
**[How to Raise and Lower]**

When raising

When lowering

With the ground contact part fixed, slowly lift the tabletop until you hear a click at every step.

Lifting to the maximum stroke will release the lock. At this moment, hold the tabletop and lower it to the minimum height, and then raise it to the desired step.



No.	Part Name	Material	Finish / Colour
①	Inner Pipe	Steel	Chrome
②	Body	Steel	Paint/Black

RoHS	CAD	Item Code	Item Name	Min. Height	Stroke	Body Length	Adjustable Pitch	Adjustable Steps	Load Capacity N/pc	Load Capacity kgf/pc	Weight (kg)	Box (pcs)	Carton (pcs)
☑	☑	200-035-569	RTL-KUS-5	320	100	282.5	20	5	400	40	0.86	-	-
☑	☑	200-035-570	RTL-KUS-10	420	200	382.5		10			1.1	-	-
☑	☑	200-035-571	RTL-KUS-15	520	300	482.5		15			1.35	-	-



# Understandable! Selectable! Usable!

Sugatsune Website

<https://www.sugatsune-intl.com>

## You can visit the website to



- Check new product information



- View product introduction video



- Browse digital web catalogue



- Use product selection tool

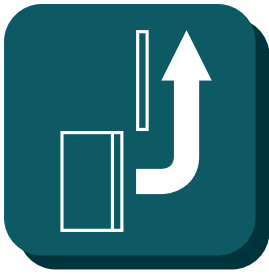
Refer to P.13



- Download installation instructions

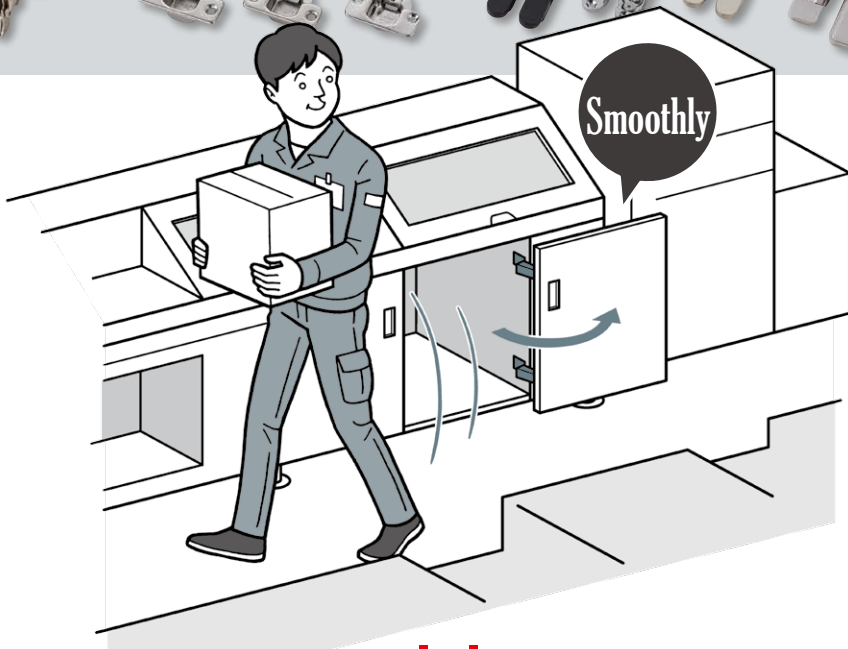
SUGATSUNE

Search



# New openings Unique Motion

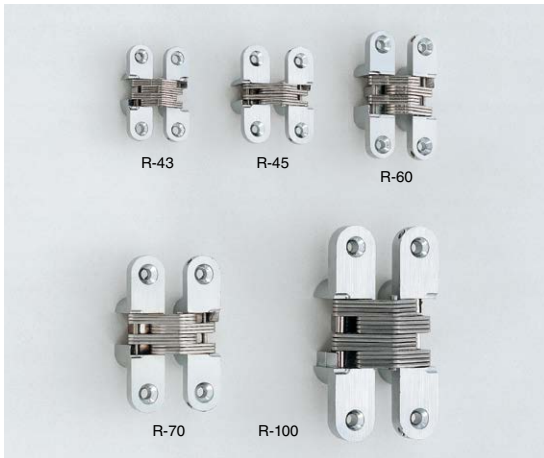
Expand variations of opening/closing locus.





# CONCEALED HINGE R

Unique Motion



- Stainless steel (SUS304) arm has sufficient strength and superior corrosion resistance.
- R-100 adopts a roller as guide pin, making smooth movement even under high load.
- Can be widely used from wooden doors to sheet metal doors.
- Torque hinge types also available **1**.

**[Remarks]**

- Distance to door edge must be less than Xmm.
- Roller is supplied to R-100 only.
- Recommended for use in pairs.

**[Parts Included]**

- Countersunk head wood screw (SUS)
- Countersunk head tapping screw (SUS) (R-70 only)

Video Link

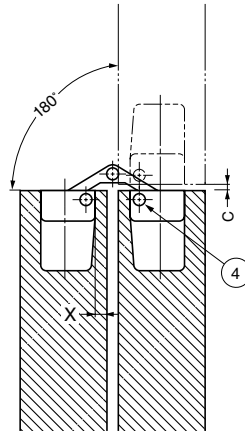
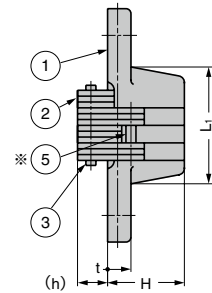
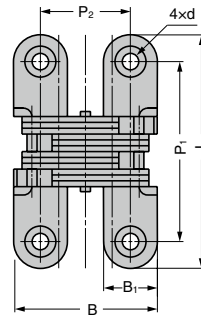
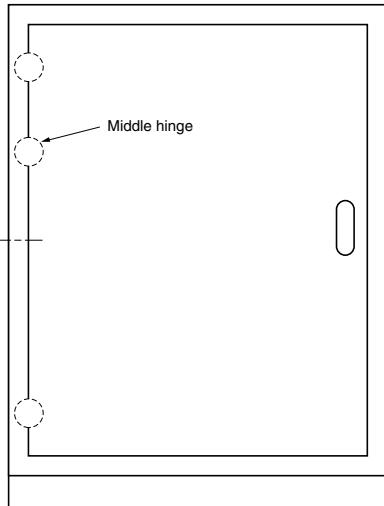
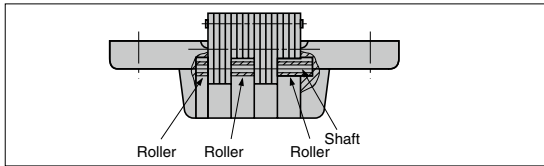
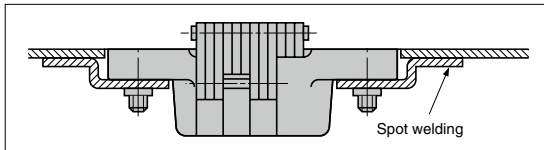


Concealed Hinges

Stays

Lateral Opening Door Systems

**[Metal Door]**



**(Reference)**

When hanging a door with 3 hinges, a large load is applied to the upper hinge, so the middle hinge is preferably set at about 1/2 of the distance from the midpoint of upper and lower hinges to the upper hinge.

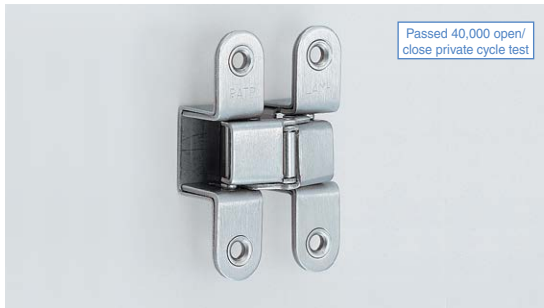
No.	Part Name	Material				Finish
		R-43	R-45	R-60	R-70	
①	Body	Zinc Alloy				Satin Chrome
②	Arm	Stainless Steel (SUS304)				Plain
③	Shaft	Stainless Steel		Stainless Steel	Stainless Steel	
④	Shaft	Stainless Steel (SUS304)		Stainless Steel (SUS303)	Steel	
⑤	Shaft	Stainless Steel (SUS304)				Nickel
※ Roller (R-100 only)		-				

Rd/S	CAD	Item Code	Item Name	L	L <sub>1</sub>	B	B <sub>1</sub>	P <sub>1</sub>	P <sub>2</sub>	H	h	t	d	C	X	Screw	Number of Arms	Door Width	Door Height	Door Weight kg/2 pcs	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
SD	SD	170-090-079	R-43	43	22	29	11		18	13	5		φ3.5 φ6.2	0.8	2.3	3.1×16	12	Max. 450	Max. 700	Max. 4	180°	37	30	300
SD	SD	170-090-084	R-45	45	19	35.7	13		22.7	18.5	6	5	φ3.5 φ7	1	3	3.1×20	8					56	20	200
SD	SD	170-090-081	R-60	60	33	35.2		47	22.2		6.5	6.5	φ4.3 φ8.3	1		3.5×20	12					94	10	100
SD	SD	170-095-200	R-70	70	35	42.6	16.1	53	26.6	23	7.3	7	φ4.6 φ9.1	1.2	3.5	4×25						157	10	-
SD	SD	170-095-201	R-100	100	52	53.2	20	80	33.2	27.5	9.5	9.5	φ5.3 φ10	1.8	4.8	4.5×32	16			Max. 7		342	10	60

Refer to **1** : P.46



## CONCEALED HINGE RK-50



- High corrosion with stainless steel.
- For light door.

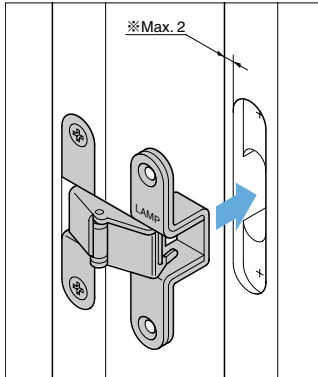
**[Remarks]**

- When increasing the board thickness, be sure to keep the dimensions of ※ marked on below drawings and increase the remaining margins on the opposite side.
- Recommended for use in pairs.

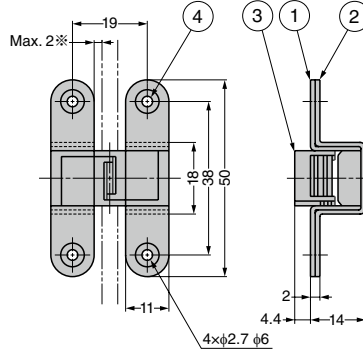
**[Parts Included]**

- Countersunk head wood screw 2.4×13 (SUS)

Video Link



※Distance to door edge must be less than 2mm.



No.	Part Name	Material	Finish
①	Body	Stainless Steel (SUS304)	Satin
②	Cover		Plain
③	Arm		Satin
④	Eyelet		Plain
-	Other Shaft Parts		

RoHS	CAD	Item Code	Item Name	Door Width	Door Height	Door Thickness	Door Weight kg/2 pcs	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
CE	3D	170-090-086	RK-50	Max. 450	Max. 700	Min. 15	Max. 2.6	180°	28	24	240

## CONCEALED HINGE INO-66



- Stainless steel front plate.

**[Applications]**

- Folding door or window, door of built-in furniture, etc.

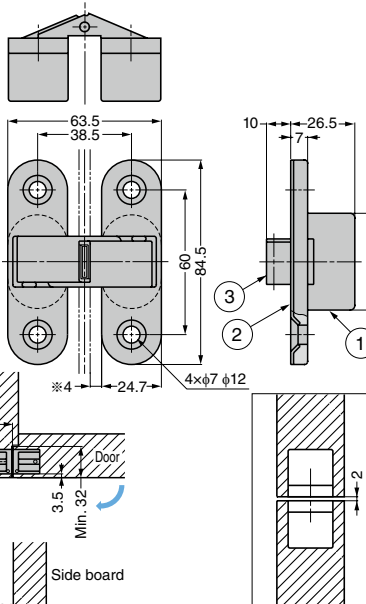
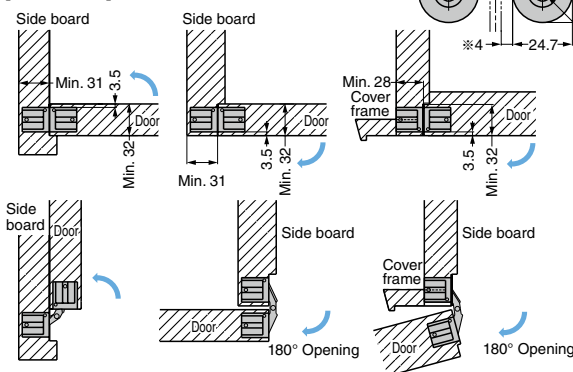
**[Remarks]**

- When using three hinges, install the middle one 200mm below the upper hinge.
- ※Distance to door edge must be less than 4mm.

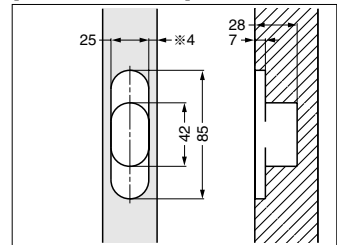
**[Recommended Screws]**

- Countersunk head wood screw 5.8

**[Installation]**



**[Cut out dimensions]**



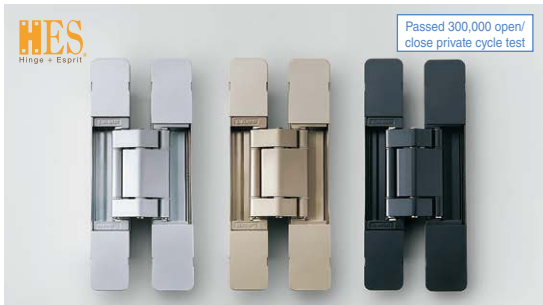
No.	Part Name	Material	Finish
①	Body	PA	-
②	Front Plate	Stainless Steel (SUS304)	Satin
③	Arm		-

RoHS	CAD	Item Code	Item Name	Door Width	Door Height	Door Weight kg/2 pcs	Door Weight kg/3 pcs	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
CE	3D	170-095-018	INO-66	Max. 800	Max. 2100	Max. 30	Max. 50	180°	100	24	240

# 3-WAY ADJUSTABLE CONCEALED HINGE HES3D-E190



Unique Motion



- Max. Door Weight: 100kg with 2 pcs, 125kg with 3 pcs.
- Small bore depth for compact assembly.
- 3-way adjustment function allows vertical, horizontal, and depth adjustment after hinge installed.
- Easy installation: Hinge can be split into the door side and the frame side and has temporary door holding feature.
- Unique seven link structure helps to prevent door sagging.
- Order-made colour available.

### [Remarks]

- Can be used with Sugatsune door damper/door closer shown below. Please check and follow product specifications.
  - LAPCON DOOR DAMPER LDD-S **1**
  - LAPCON DOOR DAMPER LDD-V **2**
  - LAPCON DOOR CLOSER LDC-N2
- Using with other door closers might lead to hinge damage.
- For using Sugatsune door closer, please install the door holder separately at the stop position.

### [Parts Included]

- Countersunk head tapping screw 5×30 (8 pcs/hinge) SUS
- Hex key 4

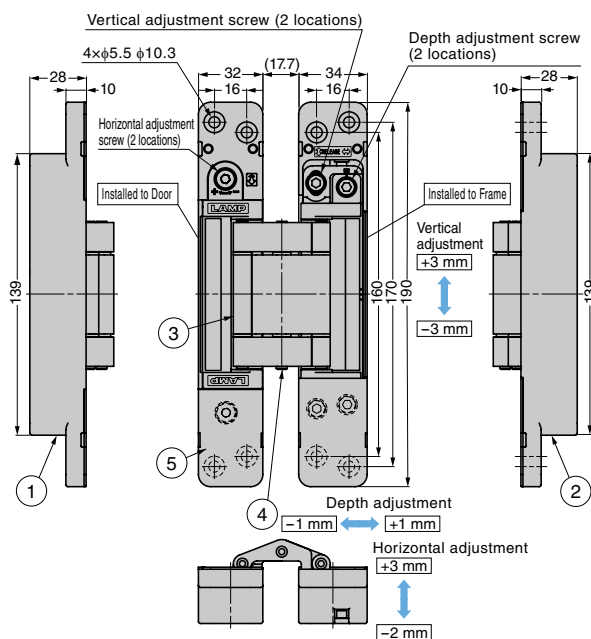
### [Sold Separately]

Installation template HES3D-E190-TMP **3**  
 ※ Can be reused, so door and frame can be easily cut out with a router.

Stays

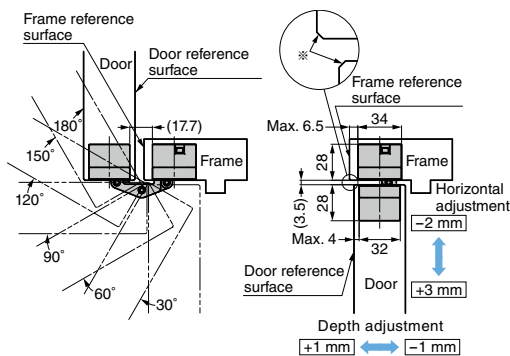
Lateral Opening Door Systems

Figure below shows the state with the upper screw covers removed.

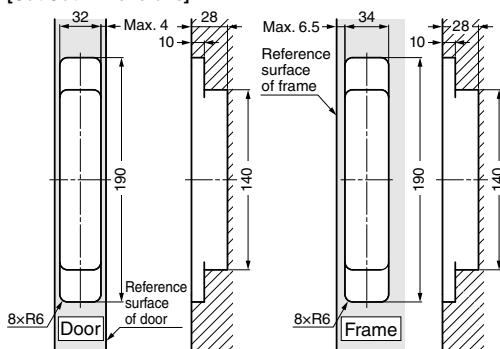


### [Locus Chart]

Please process the part (corner of door/frame) of ※ marked on the drawing to C1 or more (or R1 or more).



### [Cut Out Dimensions]



No.	Part Name	Material	Finish / Colour		
			DC	DN	BL
①	Body	Zinc Alloy (ZDC)	Satin Chrome	Dull Nickel	Black Enamel Finish
②	Base Frame				
③	Arm	Aluminium Alloy			
④	Shaft	Stainless Steel	Plain	Plain	Plain
⑤	Cover (2 pairs)	ABS	Satin Chrome	Dull Nickel	Black

Video Link

N Motion Design Video Easy Installation & Adjustment

M Motion Design Video Locus & Open/Close Angle

RHS	CAD	Item Code	Item Name	Colour	Door Width	Door Height	Door Thickness	Door Weight kg/2 pcs	Door Weight kg/3 pcs	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
		170-025-498	HES3D-E190DC	Silver	Max.	Max.	Min.	Max.	Max.	180°	1110	2	12
		170-025-499	HES3D-E190DN	Champagne Gold	900	2400	38	100	125		1113	2	12
		170-025-539	HES3D-E190BL	Black							1110	2	12

Refer to **1** : P.125, **2** : No.280 P.710, **3** : No.280 P.99

# 3-WAY ADJUSTABLE CONCEALED HINGE HES3D-E160

Under Development



- Shallow drilling depth enables easy drilling of the door and frame.
- Three-way adjustment feature enables fine adjustment up, down, left, right, forward and back.
- The hinge can be divided between the door and frame and the door can be temporarily fastened to the frame, making it easy to hang the door.
- The structure is designed to prevent the door from sagging.
- Screw covers can be purchased separately in the event that the original covers are broken or lost. Contact us for details.

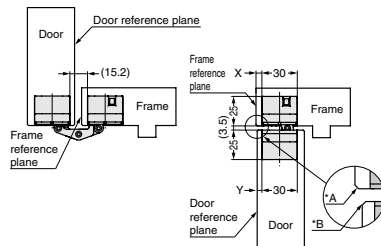
### [Remarks]

- Read all remarks on handling thoroughly before use.
- When using with a door damper and/or closer, select the LAPCON LDD-S Door Damper, LAPCON LDD-V Door Damper and/or LAPCON LDC-N2 Closer.
- Select a door weight within a range satisfying the conditions of both the hinge and the door damper and/or closer.
- Some closers may cause the door to move awkwardly or not close fully. Test the product before purchase.
- When using a closer with a stopper, be sure to use a door stopper too (floor mounting type, wall mounting type, etc.). Install the door stopper in a position further forward than the stopper of the closer, and between the centre and end of the door.

### [Parts Included]

- Size 5 x 25 cross-recessed flat head tapping screws (stainless steel) (8 screws per hinge)
- Nominal size 4 hex bar spanner

### [Installation Drawing]

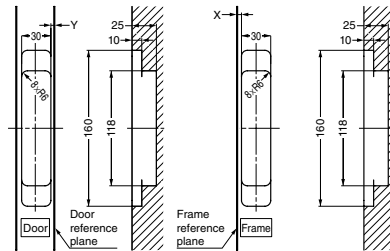


\*The door and frame need to be chamfered based on the machining margin.

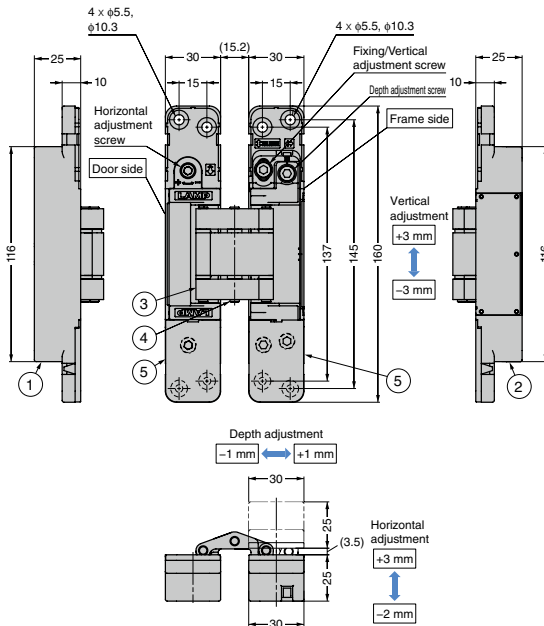
Y: Door machining margin	B: Door chamfering	X: Frame machining margin	A: Frame chamfering
4	1	5	1
4	2	6	2
4	2	7	3
5	3	5	3
5	3	6	4

(Reference values)

### [Cut Out Dimensions]



This figure shows this product with the upper screw cover removed.



No.	Part Name	Material	Finish/Colour		
			DC	DN	BL
①	Body	Zinc Alloy (ZDC)	Satin Chrome	Satin Nickel	Baked Enamel
②	Base Frame		Satin Chrome	Satin Nickel	Finish/Black
③	Arm	Aluminium Alloy	Plain	Plain	Plain
④	Shaft	Stainless Steel	Plain	Plain	Plain
⑤	Screw Covers	ABS	Satin Chrome	Satin Nickel	Black

Video Link



RoHS	CAD	Item Code	Item Name	Colour	Door Width (mm)	Door Height (mm)	Door Thickness (mm)	Opening Angle
-	-	170-041-454	HES3D-E160DC	Silver	Max. 900	Max. 2400	Min. 36	180°
-	-	170-041-455	HES3D-E160DN	Champagne Gold				
-	-	170-041-456	HES3D-E160BL	Black				

# 3-WAY ADJUSTABLE CONCEALED HINGE HES3D-120



Unique Motion



Passed 300,000 open/close private cycle test



- Small bore depth for compact assembly.
- Black colour is newly launched.
- 3-way adjustment function allows vertical, horizontal, and depth adjustment after hinge installed.
- Easy installation: Hinge can be split into the door side and the frame side and has temporary door holding feature.
- Unique seven link structure helps to prevent door sagging.
- Order-made colour available.

**[Remarks]**

- Can be used with Sugatsune door damper/door closer shown below. Please check and follow product specifications.
  - LAPCON DOOR DAMPER LDD-S 1
  - LAPCON DOOR DAMPER LDD-V 2
  - LAPCON DOOR CLOSER LDC-N2
- Using with other door closers might lead to hinge damage.
- We do not recommend to use with concealed door closer.

**[Parts Included]**

- Countersunk head tapping screw 5×20 (4 pcs/hinge) SUS
- Hex key 3

**[Sold Separately]**

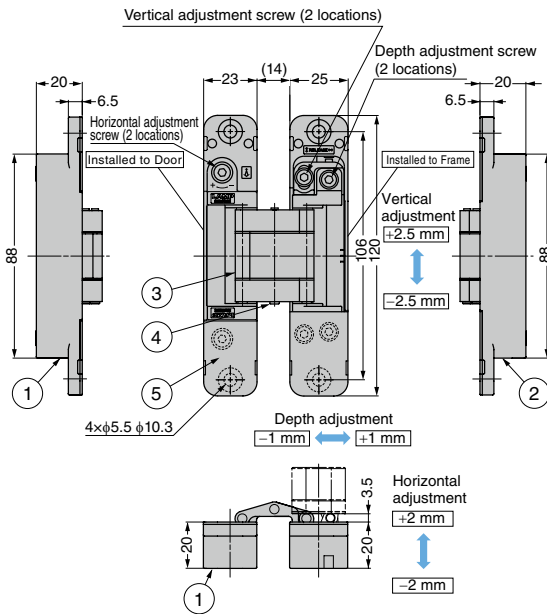
- Installation template HES3D-120-TMP 3
- ※Can be reused, so door and frame can be easily cut out with a router.

Concealed Hinges

Stays

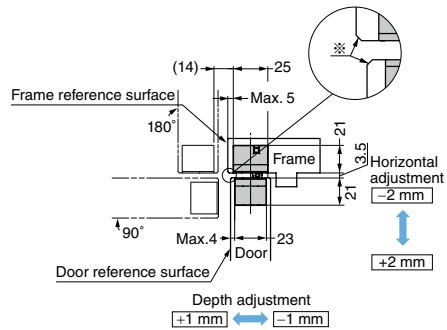
Lateral Opening Door Systems

Figure below shows the state with the upper screw covers removed.

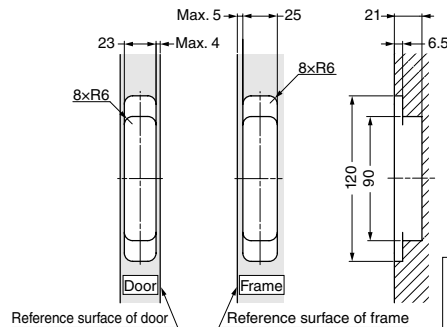


**[Locus Chart]**

Please process the part (corner of door/frame) of ※ marked on the drawing to C1 or more (or R1 or more).



**[Cut Out Dimensions]**



No.	Part Name	Material	Finish / Colour		
			DC	DN	BL
①	Body	Zinc Alloy (ZDC)	Satin Chrome	Dull Nickel	Black Enamel Finish
②	Base Frame				
③	Arm				
④	Shaft	Stainless Steel	-	-	-
⑤	Cover (2 pairs)	ABS	Satin Chrome	Dull Nickel	Black

RHS	CAD	Item Code	Item Name	Colour	Door Width	Door Height	Door Thickness	Door Weight kg/2 pcs	Door Weight kg/3 pcs	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
G	3D	170-022-086	HES3D-120DC	Silver	Max. 900	Max. 2400	Min. 29	Max. 30	Max. 40	180°	410	2	24
G	3D	170-022-087	HES3D-120DN	Champagne Gold							415	2	24
G	3D	170-022-088	HES3D-120BL	Black							403	2	12

Refer to 1 : P.125, 2 : No.280 P.710, 3 : No.280 P.99

# 3-WAY ADJUSTABLE CONCEALED HINGE HES3D-90

INSTRUCTION



- Small HES series can be applied with Min. door thickness of 23mm.
- Small bore depth, easy to cut out the door and frame.
- 3-way adjustment function allows vertical, horizontal, and depth adjustment after hinge installed.
- Hinge can be split into the door side and the frame side.
- Unique seven link structure helps to prevent door sagging.
- Order-made colour available. For further details, please contact local representatives.

**[Remarks]**

- Can not be used with LAPCON DOOR DAMPER LDD 1 or LAPCON DOOR CLOSER LDC-N2.

**[Parts Included]**

- Countersunk head tapping screw 4×20 (4 pcs/hinge) SUS
- Hex key 2

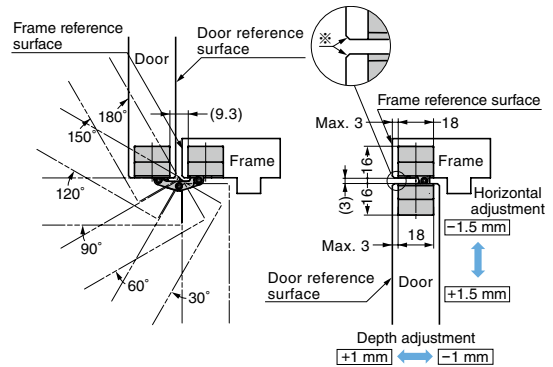
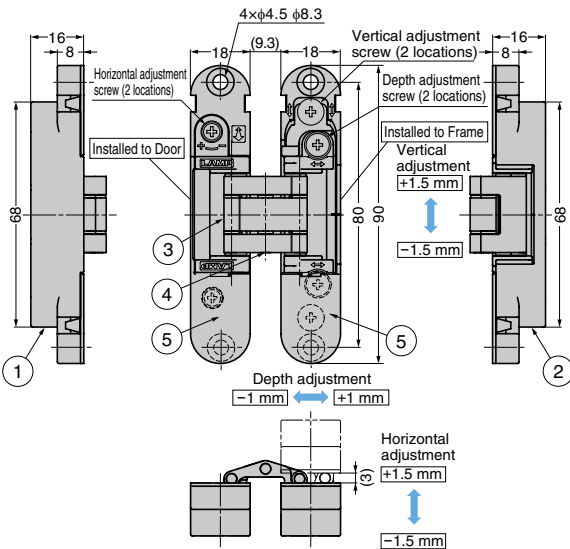
**[Sold Separately]**

- Installation template HES3D-90-TMP (made to order)  
※Can be reused, so door and frame can be easily cut out with a router.

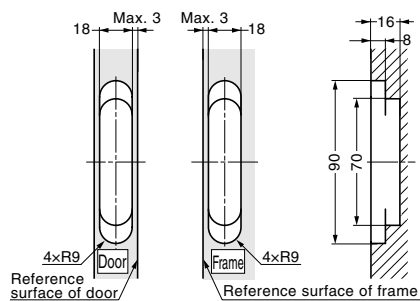
**[Locus Chart]**

Please process the part (corner of door/frame) of ※ marked on the drawing to C1 or more (or R1 or more).

Figure below shows the state with the upper screw covers removed.



**[Cut Out Dimensions]**



No.	Part Name	Material	Finish		
			DC	DN	BL
①	Body	Zinc Alloy (ZDC)	Satin Chrome	Dull Nickel	Black Enamel Finish
②	Base Frame				
③	Arm				
④	Shaft	Stainless Steel	-	-	-
⑤	Cover (2 pairs)	ABS	Satin Chrome	Dull Nickel	Black

RoHS	CAD	Item Code	Item Name	Colour	Door Width	Door Height	Door Thickness	Door Weight kg/2 pcs	Door Weight kg/3 pcs	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
GD	BD	170-029-221	HES3D-90DC	Silver	Max. 600	Max. 1500	Min. 23	Max. 12	Max. 16	180°	195	2	48
GD	BD	170-029-222	HES3D-90DN	Champagne Gold							195	2	48
GD	BD	170-033-588	HES3D-90BL	Black							195	2	48

Refer to 1 : No.280 P.710, P.125

# 3-WAY ADJUSTABLE CONCEALED HINGE HES3D-70

INSTRUCTION

Unique Motion



Passed 50,000 open/close private cycle test



- Small HES series can be applied with Min. door thickness of 19mm.
- Small bore depth, easy to cut out the door and frame.
- 3-way adjustment function allows vertical, horizontal, and depth adjustment after hinge installed.
- Hinge can be split into the door side and the frame side.

**[Remarks]**

- Can not be used with LAPCON DOOR DAMPER LDD 1 or LAPCON DOOR CLOSER LDC-N2.
- Use below opening angle 180°.

**[Parts Included]**

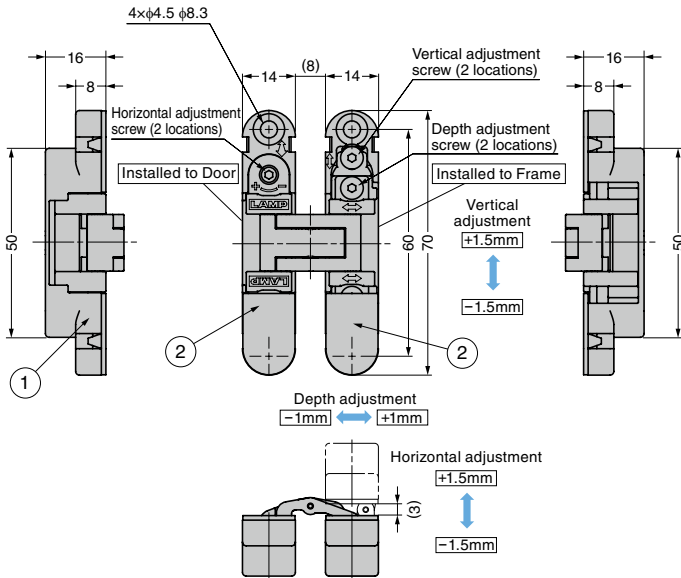
- Countersunk head tapping screw 4×20 (4 pcs/hinge) SUS
- Hex key 2

Concealed Hinges

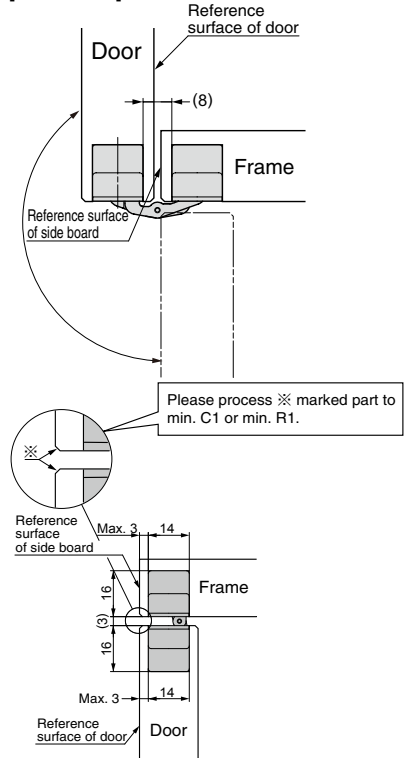
Stays

Lateral Opening Door Systems

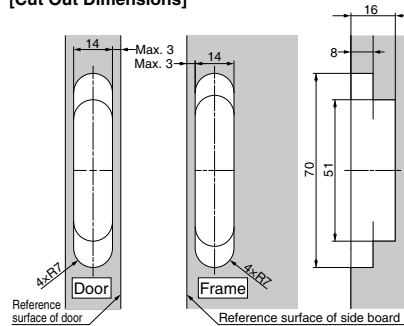
Figure below shows the state with the upper screw covers removed.



**[Locus Chart]**



**[Cut Out Dimensions]**



No.	Part Name	Material	Finish		
			DC	DN	BL
①	Body	Zinc Alloy (ZDC)	Satin Chrome	Dull Nickel	Black Paint
②	Cover (2 pairs)	ABS	Silver Paint	Champagne Gold Paint	Black

RHS	CAD	Item Code	Item Name	Colour	Door Width	Door Height	Door Thickness	Door Weight kg/2 pcs	Door Weight kg/3 pcs	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
☑	☑	170-035-441	HES3D-70DC	Silver	Max. 600	Max. 1200	Min. 19	Max. 9	Max. 12	180°	95	2	48
☑	☑	170-035-442	HES3D-70DN	Champagne Gold								2	48
☑	☑	170-035-443	HES3D-70BL	Black								2	48

Refer to 1 : No.280 P.710, P.125

# 3-WAY ADJUSTABLE CONCEALED HINGE HES3D-V135LGR



- Small bore depth for compact assembly.
- 3-way adjustment function allows vertical, horizontal, and depth adjustment after hinge installed.
- Easy installation: Hinge can be split into the door side and the frame side and has temporary door holding feature.
- Unique seven link structure helps to prevent door sagging.

**[Remarks]**

- Our original new link arm mechanism provides different locus from other products **1** of the same series. Please confirm the position where the door is opened by 90° on the left figure.
- Can be used with Sugatsune door damper/door closer shown below. Please check and follow product specifications.
  - LAPCON DOOR DAMPER LDD-S **2**
  - LAPCON DOOR DAMPER LDD-V **3**
  - LAPCON DOOR CLOSER LDC-N2
- Using with other door closers might lead to hinge damage.
- For using Sugatsune door closer, please install the door holder separately at the stop position.

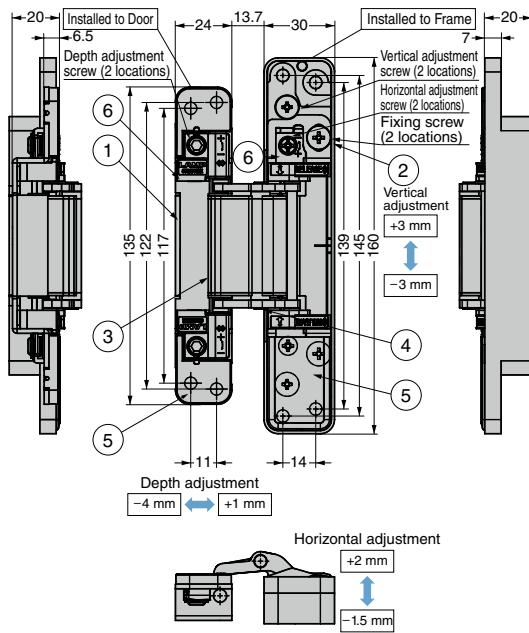
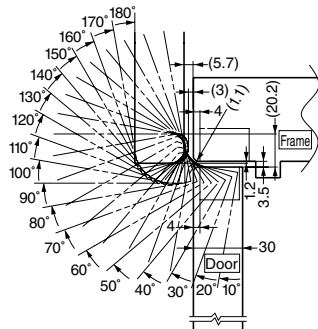
**[Parts Included]**

- Binding head tapping screw 5×15

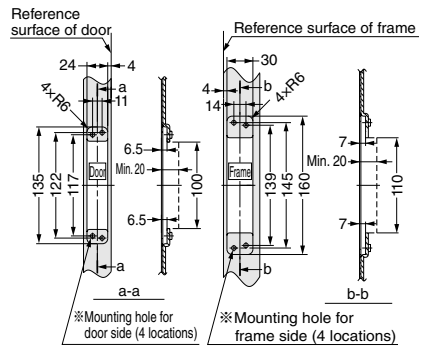
**[Sold Separately]**

- Installation template HES3D-V135-TMP **4**

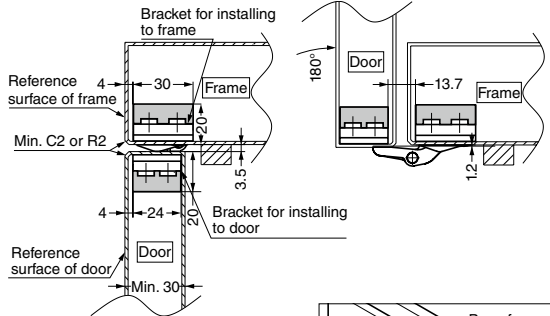
**[Locus Chart]**



**[Cut Out Dimensions]**

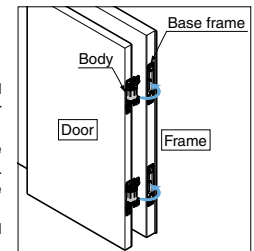


**[Installation]**



**[Temporary Holding Feature]**

- Hinge can be split into the body and base frame. Install the body to the door and the base frame to the frame.
- Push the hinge body horizontally into the base frame in the direction of the arrow. The door is held to the frame duo to the temporary holding feature.
- Temporarily tighten the fixing screws and adjust the door position.
- After adjustment, tighten the fixing screws completely to fix the hinge body.

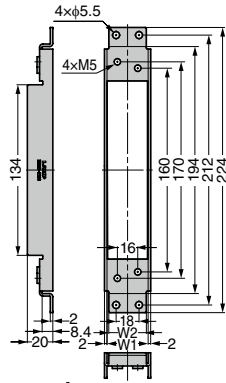


No.	Part Name	Material	Finish / Colour
①	Body	Steel	Nickel
②	Base Frame	POM	Light Grey
③	Arm	Aluminium Alloy	Anodised Silver
④	Shaft	Steel	Nickel
⑤	Cover	POM	Light Grey
⑥	Adjustment Block	Zinc Alloy (ZDC)	Nickel

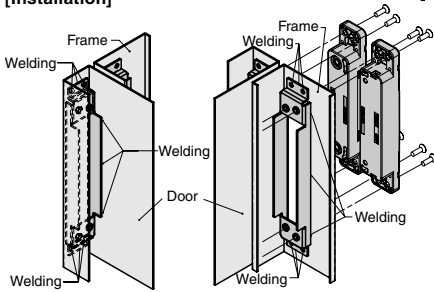
RoHS	CAD	Item Code	Item Name	Door Width	Door Height	Door Thickness	Frame Thickness	Door Weight kg/2 pcs	Door Weight kg/3 pcs	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
CE	3D	170-020-804	HES3D-V135LGR	Max. 900	Max. 2400	Min. 30	Min. 20	Max. 40	Max. 55	180°	400	2	24

Refer to **1** : No.280 P.91, **2** : P.125, **3** : No.280 P.710, **4** : No.280 P.99

## BRACKET FOR SHEET METAL HES3D-E190BKT For Hinge HES3D-E190



**[Installation]**

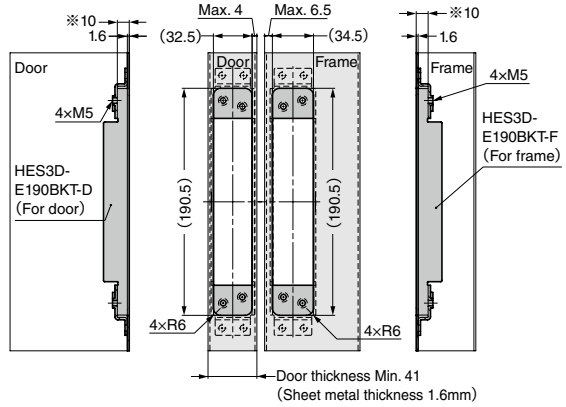


- Brackets for installing HES3D-E190 **1** to steel door (SD) and steel frame.

**[Remarks]**

- When the sheet metal thickness of the installation side is 1.6 mm, screw cover surface becomes flush with cabinet surface. The surface may slightly protrude or retract, depending on the board thickness of the installation side.
- As a general-purpose bracket, additional processing may be required for the door and frame of the installation side and the bracket when installation.

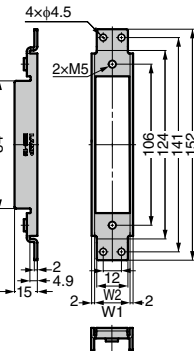
**[Cut Out Dimensions]** ※Dimensions in case of 1.6 mm thick sheet metal.



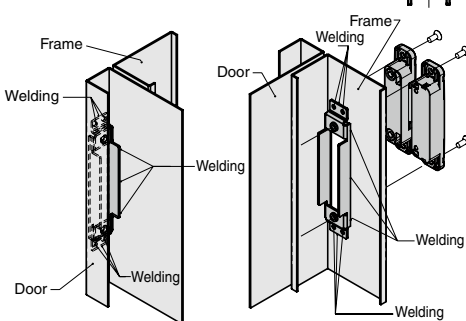
Rt/LS	CAD	Item Code	Item Name	Description	Material	Finish	W1	W2	Weight (g)	Box (pcs)
G	SD	170-032-741	HES3D-E190BKT-D	For Door	Steel (SPCC)	Coloured Zinc Chromate (Trivalent)	32.3	29.5	142	50
G	SD	170-032-742	HES3D-E190BKT-F	For Frame			34.3	31.5	144	50

Refer to **1** : P.189

## BRACKET FOR SHEET METAL HES3D-120BKT For Hinge HES3D-120



**[Installation]**

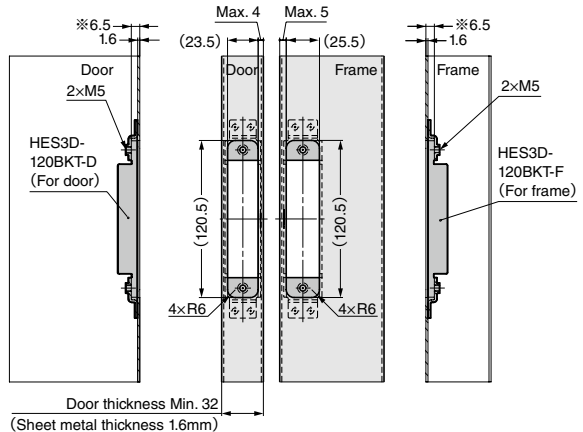


- Brackets for installing HES3D-120 **1** to steel door (SD) and steel frame.

**[Remarks]**

- When the sheet metal thickness of the installation side is 1.6 mm, screw cover surface becomes flush with cabinet surface. The surface may slightly protrude or retract, depending on the board thickness of the installation side.
- As a general-purpose bracket, additional processing may be required for the door and frame of the installation side and the bracket when installation.

**[Cut Out Dimensions]** ※Dimensions in case of 1.6 mm thick sheet metal.



Rt/LS	CAD	Item Code	Item Name	Description	Material	Finish	W1	W2	Weight (g)	Box (pcs)
G	SD	170-032-739	HES3D-120BKT-D	For Door	Steel (SPCC)	Coloured Zinc Chromate (Trivalent)	23.3	20.5	66	50
G	SD	170-032-740	HES3D-120BKT-F	For Frame			25.3	22.5	68	50

Refer to **1** : P.191

# CONCEALED HINGE (CLIP-ON) HT160THV2



Passed 10,000 open/close private cycle test

- Sheet metal door can be quickly installed and removal.
- Spacers on the slide arms reduce arm wear and door sagging.
- Door opens without interfering with side cabinets or wall.
- For more details , please contact local representatives.

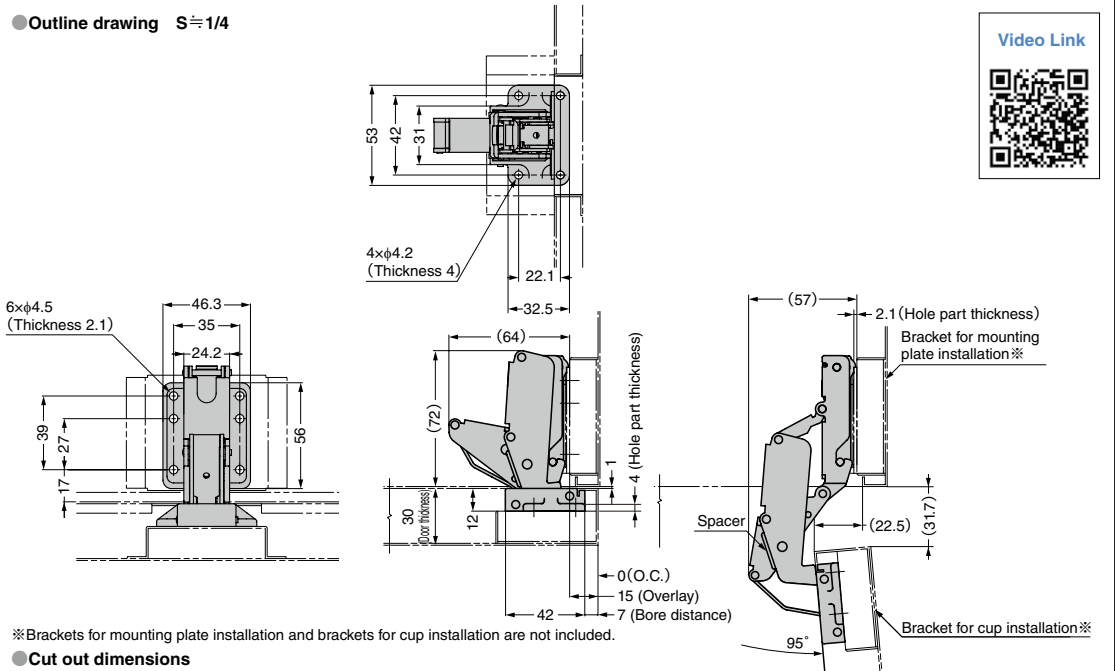
**[Applications]**

- Small vending machines, ticket vending machines, contiguous doors, door of cabinet embedded in the wall, etc.

**[Sold Separately]**

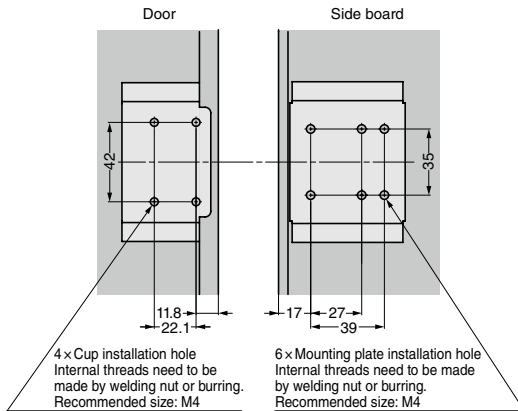
- Mounting plate HT160TZ

● Outline drawing S ≒ 1/4



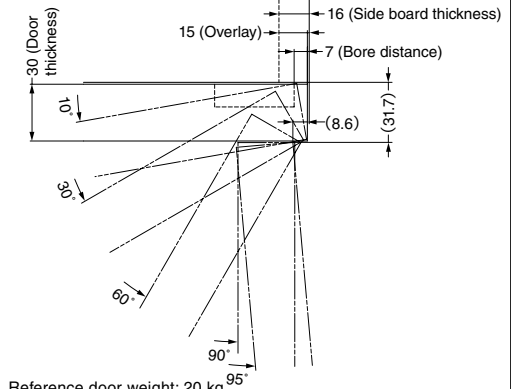
※ Brackets for mounting plate installation and brackets for cup installation are not included.

● Cut out dimensions



Drawing above is Bore Distance 7 mm, Door Thickness 30 mm and 15 mm Overlay.

● Locus chart



Reference door weight: 20 kg  
(In case of door size W450 X H800, installation pitch 550, using 2 pcs vertically)

**[Hinge Body]**

RHS	CAD	Item Code	Item Name	Material	Finish / Colour	Weight (g)	Box (pcs)
		160-070-327	HT160THV2-G	Body/Steel, Cup/Zinc Alloy (ZDC), Spacer/POM	Body • Cup/Nickel, Spacer/Black	204.6	100

**[Mounting Plate] Sold Separately**

RHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
		160-070-391	HT160TZ	Steel	Nickel	69.1	200

※ Use in combination of hinge body and mounting plate (sold separately).

Concealed Hinges

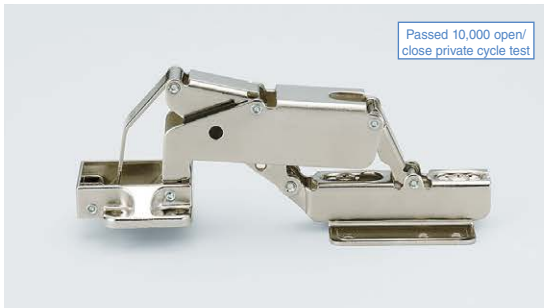
Stays

Lateral Opening Door Systems



# CONCEALED HINGE FOR SHEET METAL HT160V2 With Mounting Plate

Unique Motion



- For sheet metal doors.
- Overlay adjustment (Max.  $+0_{-3mm}$ ) by turning the overlay adjustment screw.
- Spacer on the slide arms reduces arm wear and door sagging.
- Door opens without interfering with side cabinets or wall.
- For more details, please contact local representatives.

**[Applications]**

- Small vending machines, ticket vending machines, contiguous doors, door of cabinet embedded in the wall, etc.

**[Parts Included]**

- Mounting plate

Concealed Hinges

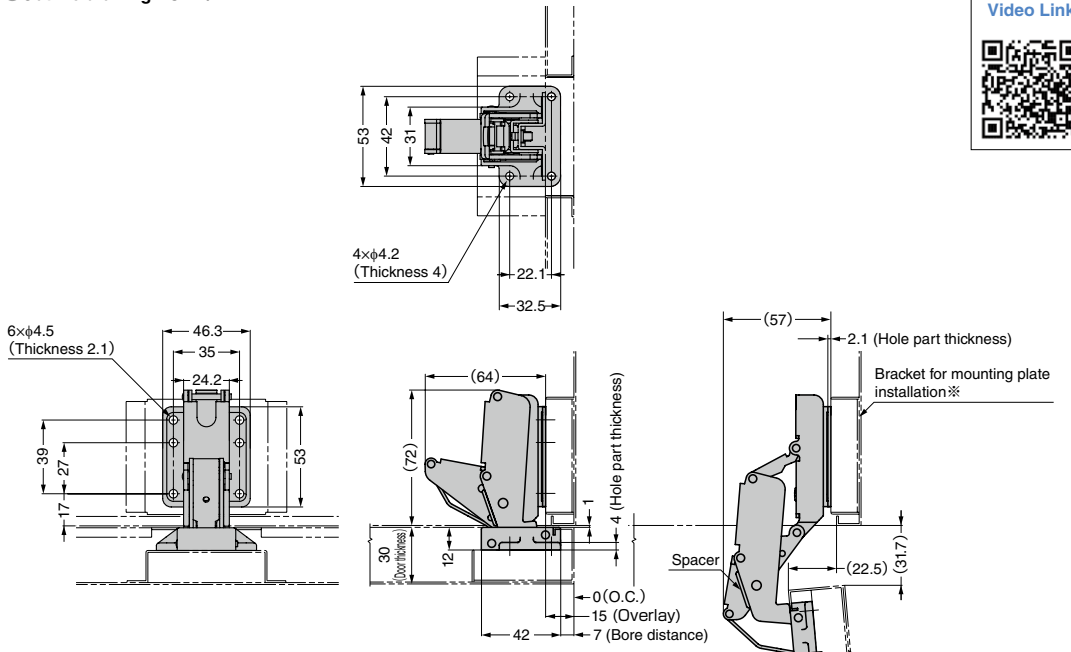
Stays

Lateral Opening Door Systems

Video Link

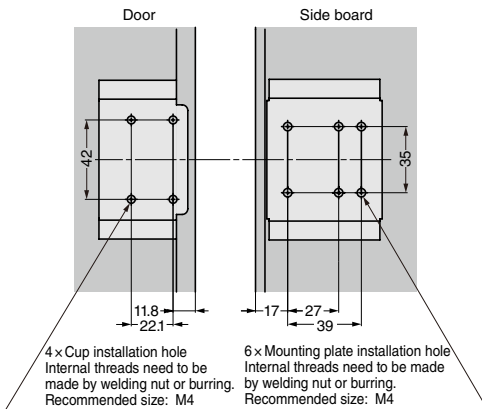


● Outline drawing S ≐ 1/4



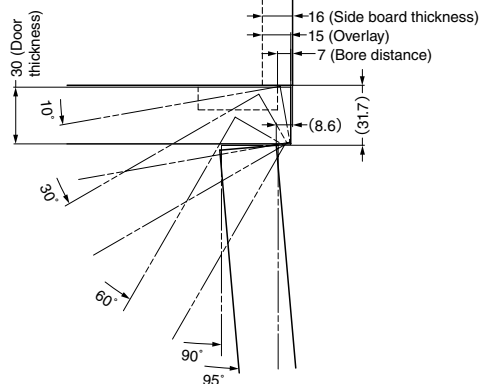
※ Brackets for mounting plate installation and brackets for cup installation are not included.

● Cut out dimensions



Drawing above is Bore Distance 7 mm, Door Thickness 30 mm and 15 mm Overlay.

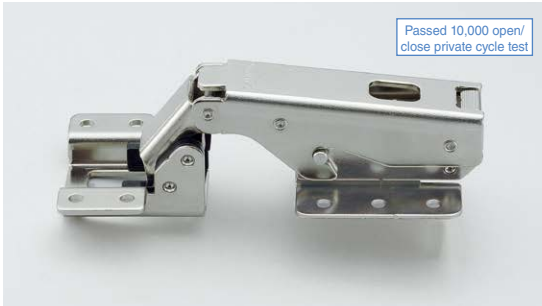
● Locus chart



Reference door weight: 20 kg  
(In case of door size W450×H800, installation pitch 550, using 2 pcs vertically)

RWIS	CAD	Item Code	Item Name	Material	Finish / Colour	Weight (g)	Box (pcs)
		160-070-393	HT160V2	Body/Steel, Cup/Zinc Alloy (ZDC), Spacer/POM	Body • Cup/Nickel, Spacer/Black	252.6	50

# CONCEALED HINGE (CLIP-ON) H95TMH



- Compact design for space saving.
- Simple one-touch installation and detachment.
- Door opens without interfering with side cabinets or wall.
- For more details, please contact local representatives.

**[Applications]**

- Small vending machines, ticket vending machines, contiguous doors, door of cabinet embedded in the wall, etc.

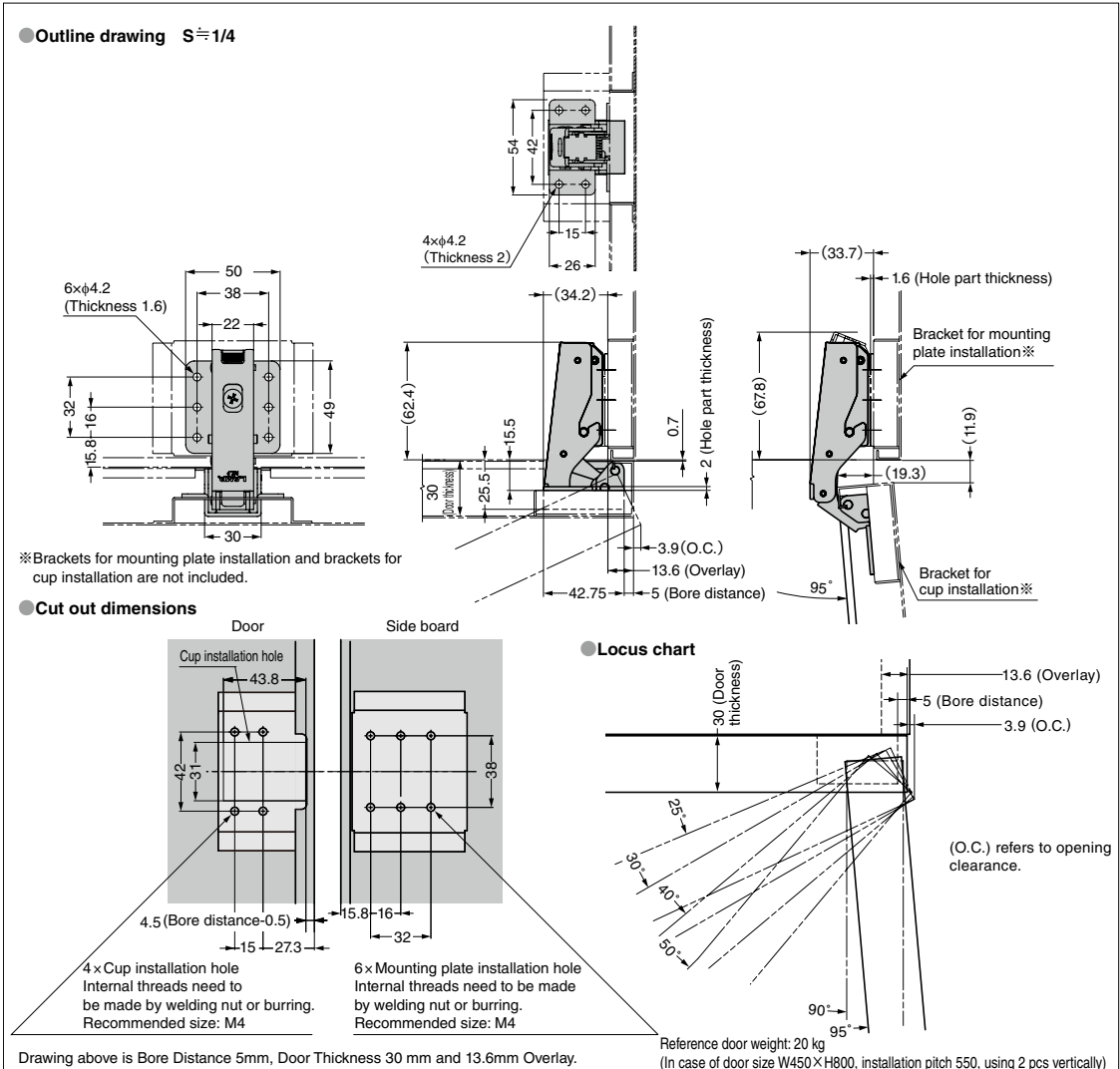
**[Sold Separately]**

- Mounting plate H95TMZ

Concealed Hinges

Stays

Lateral Opening Door Systems



**[Hinge Body]**

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
		160-070-101	H95TMH	Steel	Nickel	138	100

**[Mounting Plate] Sold Separately**

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
		160-070-102	H95TMZ	Steel	Nickel	80.8	100

※ Use in combination of hinge body and mounting plate (sold separately).

# CONCEALED HINGE (CLIP-ON) H95TSH



Passed 10,000 open/close private cycle test

Safety pin

- Simple installation and detachment by one-touch.
- Door opens without interfering with side cabinets or wall.
- With a safety pin on the lock lever.
- For more details, please contact local representatives.

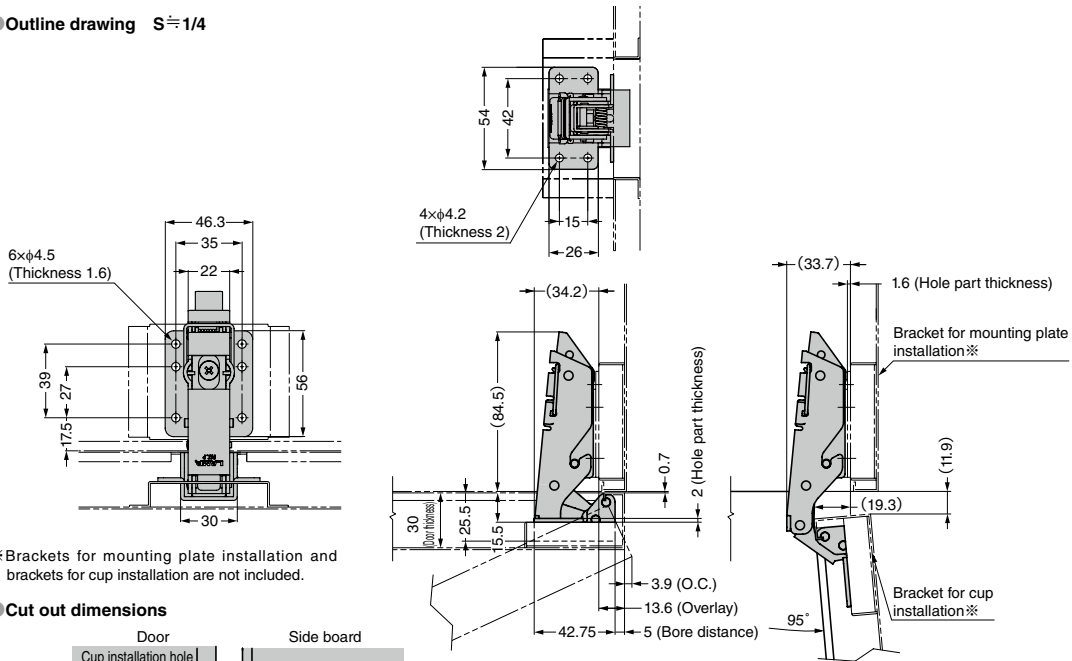
**[Applications]**

- Small vending machines, ticket vending machines, contiguous doors, door of cabinet embedded in the wall, etc.

**[Sold Separately]**

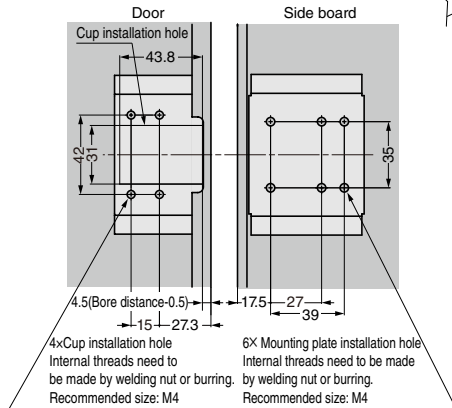
- Mounting plate H95TSZ

● Outline drawing S ≒ 1/4



※ Brackets for mounting plate installation and brackets for cup installation are not included.

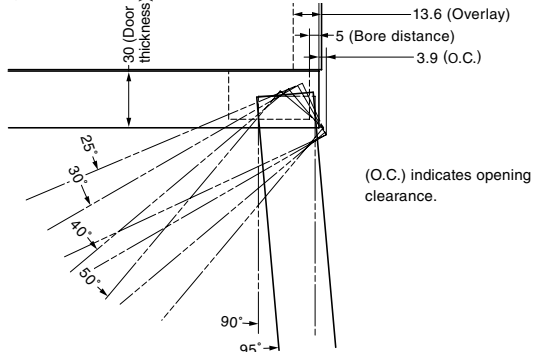
● Cut out dimensions



4x Cup installation hole  
Internal threads need to be made by welding nut or burring.  
Recommended size: M4

6x Mounting plate installation hole  
Internal threads need to be made by welding nut or burring.  
Recommended size: M4

● Locus chart



(O.C.) indicates opening clearance.

Drawing above is Bore Distance 5mm, Door Thickness 30 mm and 13.6mm Overlay.

Reference door weight: 20 kg  
(In case of door size W450×H800, installation pitch 550, using 2 pcs vertically)

**[Hinge Body]**

RWHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
		160-073-590	H95TSH	Steel	Nickel	150	100

**[Mounting Plate] Sold Separately**

RWHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
		160-073-591	H95TSZ	Steel	Nickel	94	100

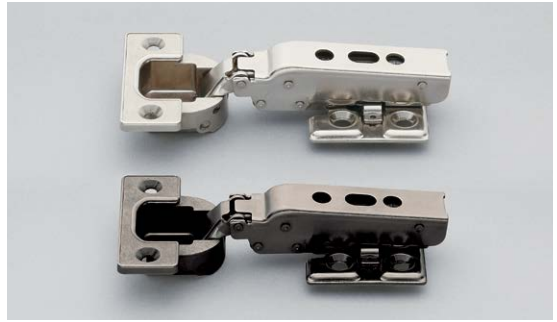
※ Use in combination of hinge body and mounting plate (sold separately).

# HEAVY DUTY CONCEALED HINGE J95



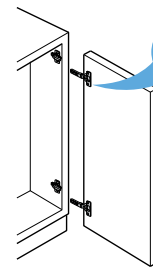
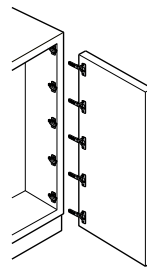
Max. Door Weight : **25 kg** with 2 pcs, **40 kg** with 3 pcs.

[Application Example] Chemical storage cabinets, etc.  
Operating temperature of J95: -10°C ~ 40°C



[Normal Concealed Hinges]  
5 pcs used

[J95]  
2 pcs used



Less usage compared with normal concealed hinges, reducing construction and installation time and providing clean appearance.

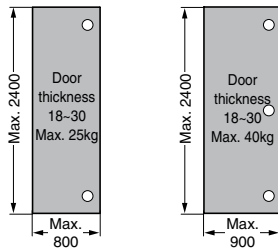
Concealed Hinges

Stays

Lateral Opening Door Systems

### [Door Dimensions and Number of Hinges]

● In case of sheet metal door

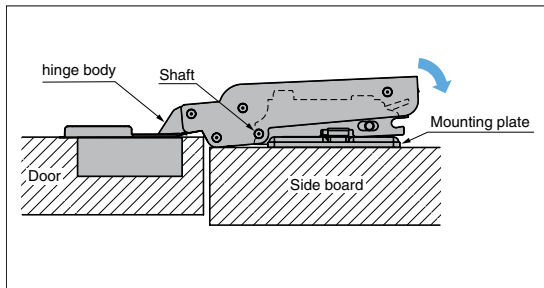


Install the upper and lower hinges within 200mm from the door end. Set equal installation pitch when using 3 pcs.

## Simple Installation and Detachment by One-Touch.

### [How to Install]

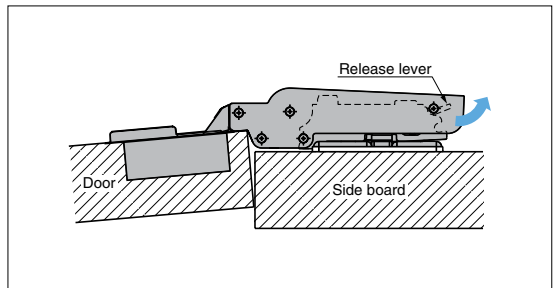
Align shaft of hinge body with front end of mounting plate, and press down back end of hinge body until it snaps into place.



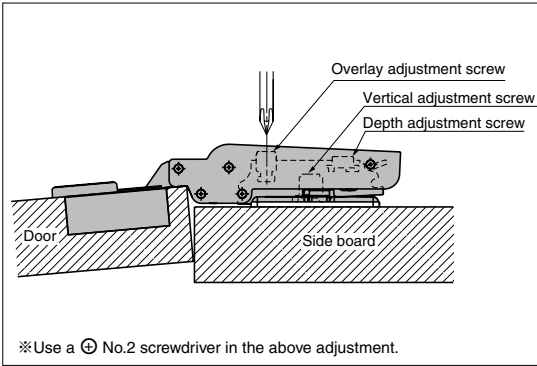
Check if hinge body is properly installed on mounting plate.

### [How to Detach]

Push up release level in direction, and remove hinge body from mounting plate.



## Easy and Fast Adjustment

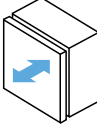
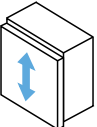


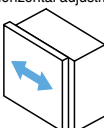
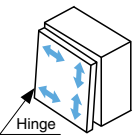
With the eccentric cam mechanism, the door can be freely adjusted by only turning depth and vertical adjustment screws. Door position is easy to adjust without the need of loosening the adjustment screw, positioning and fixing. Overlay and tilting are adjustable by turning overlay adjustment screw.

### [Remarks]

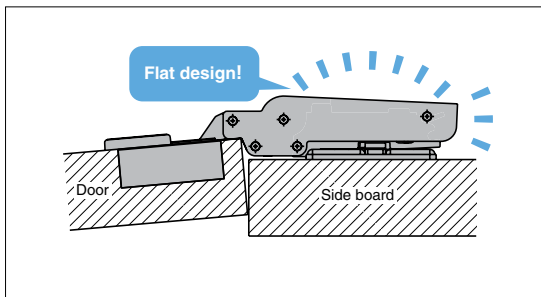
Be sure to use a manual screwdriver to fine tune adjustment screws within the adjustment range. Do not use pneumatic, electric or rechargeable screwdriver. Otherwise, the adjustment range may be exceeded and damage and malfunction of adjusting mechanism may occur.

### [Adjustment Directions, Amount and Method]

Depth adjustment	+1.5 mm, -2.5 mm
	Turning the depth adjustment screw counterclockwise $\curvearrowright$ to move the door forwards and clockwise $\curvearrowleft$ to move the door backwards.
Vertical adjustment	$\pm 3$ mm
	In case of right-hanging, turning the vertical adjustment screw counterclockwise $\curvearrowright$ to move the door upwards and clockwise $\curvearrowleft$ to move the door downwards. ※ In case of left-hanging, door moves in the opposite direction.

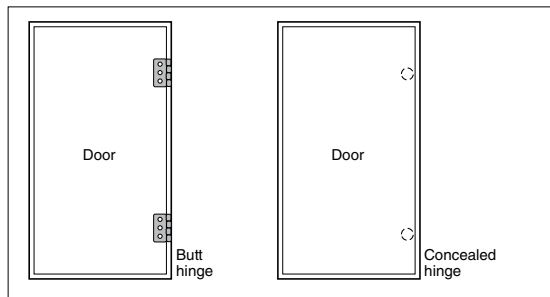
Overlay adjustment (Horizontal adjustment)	+0 mm, -4 mm
	Turning the overlay adjustment screw clockwise $\curvearrowright$ to decrease and counterclockwise $\curvearrowleft$ to increase the overlay.
Tilting Adjustment	-
	Turning the overlay adjustment screw counterclockwise or clockwise to adjust.

## Flat Design



Flat design with no projections such as adjustment screws on the top of body. It is safe because the release level does not protrude from the back of body.

## Without Impairing Design



Since the hinge is not visible from outside when door is closed, it does not impair the design of cabinet.

### [Remarks]

- When using concealed hinge J95 for glass and metal door, applicable door size varies.
- Door weight has priority over door size.
- Set door centre of gravity at door centre.
- Maximise the hinge installation pitch. Set equal installation pitch when using 3 pcs. Besides, the warpage of door shall be considered.
- Door dimensions and number of hinges 1 are for reference only. Please check in actual installation.
- Lubricate regularly during use.
- Watch your hands during handling before door installation.
- Do not repeatedly open and close with a single concealed hinge before installation. Otherwise, it may be damaged.
- Scattering prevention film is recommended for tempered glass.

Refer to 1 : P.200

95° Opening

25mm Overlay

Overlay 21~25mm  
(When Bore Distance is 8 mm)

Cup Dia  $\phi 40$  Bore Depth 15mm  
Door Thickness 18~30mm

Mounting Plate **1**  
J95-P6T

## HEAVY DUTY CONCEALED HINGE J95



Passed 40,000 open/close private cycle test

RoHS	CAD	Item Code	Item Name	Type	Material	Finish	Weight (g)	Box (pcs)
G	3D	160-026-905	J95-24/25T	Without Catch	Body/Steel, Cup/Zinc Alloy (ZDC)	Nickel	134	100
G	3D	160-026-731	J95-C24/25T	With Catch		Nickel	146	100
G	3D	160-034-919	J95-24/25T BN	Without Catch		Black	134	100
G	3D	160-034-916	J95-C24/25T BN	With Catch		Nickel	146	100

A mounting plate (sold separately) is required for installation. Please order separately.

### [Sold Separately]

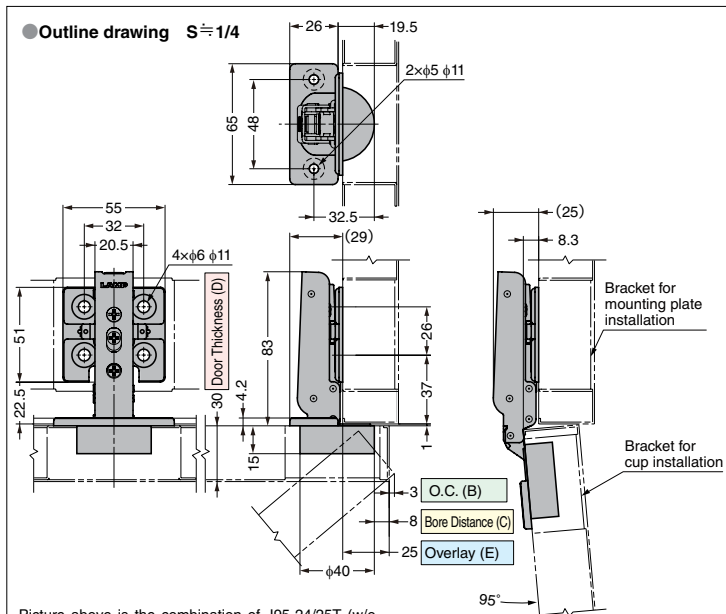
- Mounting plate J95-P6T **1**
- Safety cover J95SC-25GR **2**
- Cover for mounting plate J95ZC-GR **3**

### [Recommended Screws]

- M5 countersunk head screw, M5 raised countersunk head screw

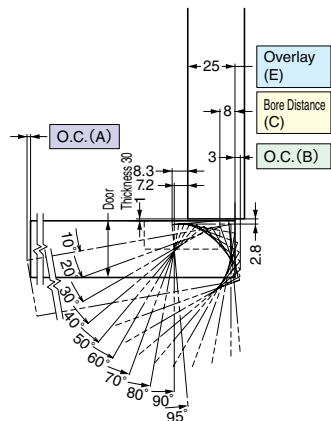
Picture above is the combination of concealed hinge and mounting plate (sold separately).

### In case of sheet metal door

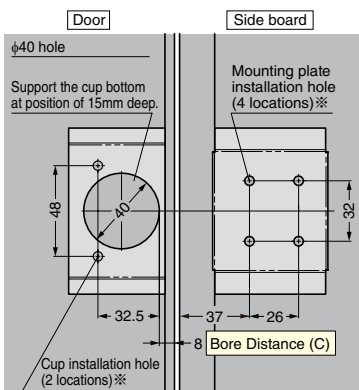


Picture above is the combination of J95-24/25T (w/o catch) or J95-C24/25T (w/catch) and mounting plate J95-P6T (sold separately).

### ● Locus chart S $\approx$ 1/4 (How to Use the Locus Chart **4**)



### ● Cut Out Dimensions



※Internal threads need to be made by welding nut or burring.

### [Bore Distance (C)]

Table-1

Bore Distance (C)	3	4	5	6	7	8
Overlay (E)	20	21	22	23	24	25

Overlay adjustment (Max. -4mm) by turning the Overlay adjustment screw.

### [Opening Clearance (O.C.)]

Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

### [O.C. (B)]

Table-2

Door Thickness (D)	Bore Distance (C)							
	3	4	5	6	7	8		
18	0.3	0.3	0.3	0.3	0.3	0.3		
20	0.5	0.5	0.5	0.5	0.5	0.5		
22	0.8	0.8	0.8	0.7	0.7	0.7		
24	1.1	1.1	1.1	1.1	1.1	1.0		
26	1.7	1.6	1.6	1.5	1.5	1.5		
28	3.2	2.8	2.5	2.2	2.1	2.0		
30	5.0	4.5	4.0	3.6	3.3	3.0		
32※	6.8	6.2	5.7	5.2	4.8	4.4		
34※	8.6	8.0	7.5	6.9	6.5	6.0		

※ Please refer to the locus chart if door thickness is over 30 mm. (O.C. (B) can be made smaller by R chamfering (round chamfer) or C chamfering (chamfer plane) on the door)

### [O.C. (A)]

Table-3

Door Thickness (D)	Door Width							
	300	400	500	600	700	800	900	
30	0.5	0.3	0.3	0.2	0.2	0.2	0.2	

### [Door Dimensions and Number of Hinges] **5**

Refer to **1** **3** : P.205, **2** : P.206, **4** : No. 280 P.111, **5** : P.200

95° Opening

16mm Overlay

Overlay 12~16mm  
(When Bore Distance is 8 mm)

Cup Dia  $\phi 40$  Bore Depth 15mm  
Door Thickness 18~30mm

Mounting Plate **1**  
J95-P6T

# HEAVY DUTY CONCEALED HINGE J95



Picture above is the combination of concealed hinge and mounting plate (sold separately).

Ref/HS	CAD	Item Code	Item Name	Type	Material	Finish	Weight (g)	Box (pcs)
G	3D	160-033-658	J95-24/16T	Without Catch	Body/Steel, Cup/Zinc Alloy (ZDC)	Nickel	143	50
G	3D	160-033-657	J95-C24/16T	With Catch		Nickel	155	50
G	3D	160-034-920	J95-24/16T BN	Without Catch	Alloy (ZDC)	Black	143	50
G	3D	160-034-917	J95-C24/16T BN	With Catch		Nickel	155	50

A mounting plate (sold separately) is required for installation. Please order separately.

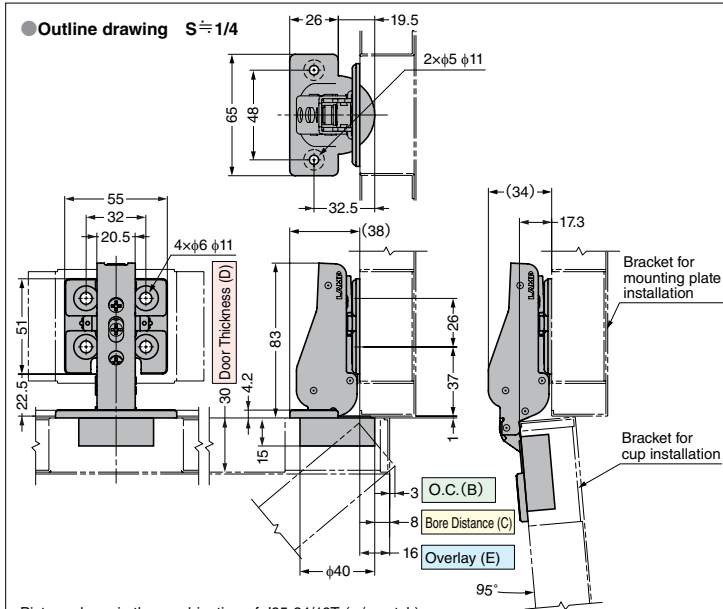
**[Sold Separately]**

- Mounting plate J95-P6T **1**
- Safety cover J95SC-16GR **2**
- Cover for mounting plate J95ZC-GR **3**

**[Recommended Screws]**

- M5 countersunk head screw, M5 raised countersunk head screw

**In case of sheet metal door**



Picture above is the combination of J95-24/16T (w/o catch) or J95-C24/16T (w/catch) and mounting plate J95-P6T (sold separately).

**[Bore Distance (C)]**

Table-1

Bore Distance (C)	3	4	5	6	7	8
Overlay (E)	11	12	13	14	15	16

Overlay adjustment (Max. -4 mm) by turning the Overlay adjustment screw.

**[Opening Clearance (O.C.)]**

Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

**[O.C.(B)]**

Table-2

Door Thickness (D)	Bore Distance (C)					
	3	4	5	6	7	8
18	0.3	0.3	0.3	0.3	0.3	0.3
20	0.5	0.5	0.5	0.5	0.5	0.5
22	0.8	0.8	0.8	0.7	0.7	0.7
24	1.1	1.1	1.1	1.1	1.1	1.0
26	1.7	1.6	1.6	1.5	1.5	1.5
28	3.2	2.8	2.5	2.2	2.1	2.0
30	5.0	4.5	4.0	3.6	3.3	3.0
32*	6.8	6.2	5.7	5.2	4.8	4.4
34*	8.6	8.0	7.5	6.9	6.5	6.0

O.C. (B)

\*Please refer to the locus chart if door thickness is over 30 mm. (O.C. (B) can be made smaller by R chamfering (round chamfer) or C chamfering (chamfer plane) on the door)

**[O.C.(A)]**

Table-3

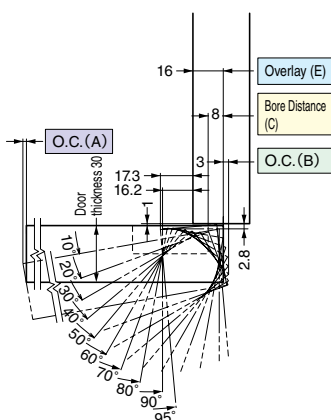
Door Thickness (D)	Door Width						
	300	400	500	600	700	800	900
30	0.5	0.3	0.3	0.2	0.2	0.2	0.2

O.C. (A)

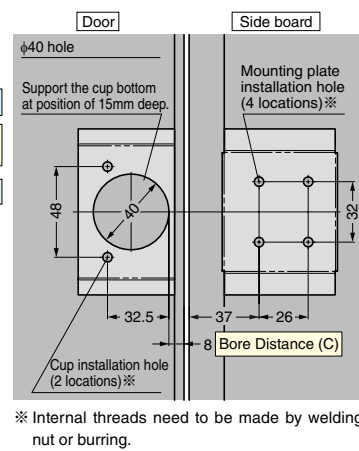
**[Door Dimensions and Number of Hinges]** **5**

**Locus chart S=1/4**

(How to Use the Locus Chart **4**)



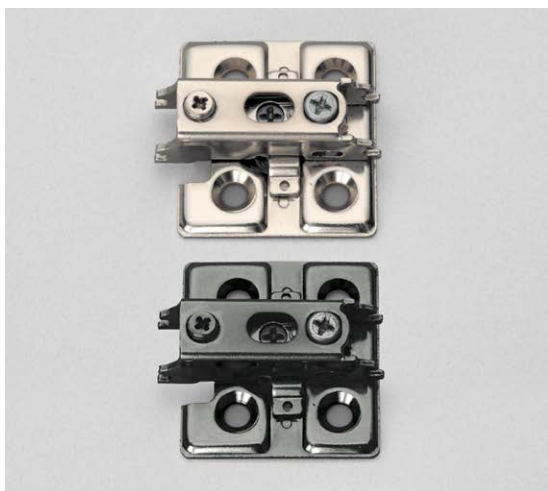
**Cut out dimensions**



Refer to **1** **3** : P.205, **2** : P.206, **4** : No.280 P.111, **5** : P.200



## MOUNTING PLATE J95-P6T For Heavy Duty Concealed Hinge J95



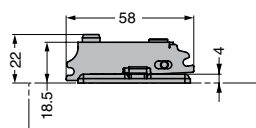
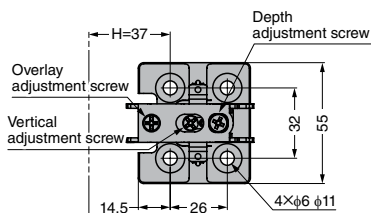
- Depth adjustment: +1.5, -2.5mm
- Vertical adjustment:  $\pm 3$ mm
- Overlay (horizontal) adjustment: +0, -4mm
- Value of H: Door thickness +42mm in use of INSET type.

### [Sold Separately]

- Cover for mounting plate J95ZC [1](#)

### [Recommended Screws]

- Size 5 countersunk head, or raised countersunk head tapping screw or wood screw.



Concealed Hinges

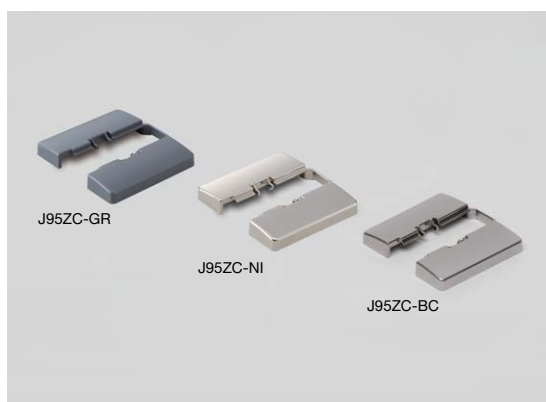
Stays

Lateral Opening Door Systems

RtHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
		160-026-732	J95-P6T	Steel/Zinc Alloy (ZDC)	Nickel	94	100
		160-034-927	J95-P6T BN		Black Nickel	94	100

Refer to [1](#) : P.205

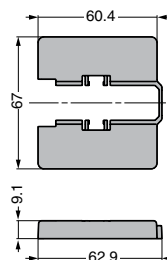
## COVER FOR MOUNTING PLATE J95ZC For Heavy Duty Concealed Hinge J95 Series



- For hiding screw holes of mounting plate [1](#).
- Mounting plate adjustable horizontally, vertically and in depth even after installation.

### [Remarks]

- Do not bend by force. Otherwise, it may be damaged.



[With Safety Cover and Mounting Plate Cover]



Picture above is for 25mm overlay.

RtHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
		160-032-766	J95ZC-GR	ABS	Grey	9	500
		160-034-743	J95ZC-NI		Nickel	9	500
		160-044-252	J95ZC-BC		Black Chrome	9	500

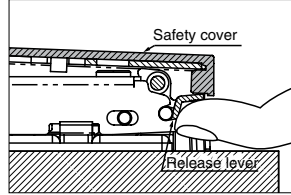
Refer to [1](#) : P.205

### SAFETY COVER J95SC-25 For Heavy Duty Concealed Hinge J95 25mm Overlay

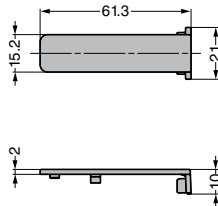


- Nickel plating finish is newly launched.
- For hiding screw holes.

**[Fall-preventing]**



Safety cover can lock the release lever of J95 body, preventing door from falling-off due to misoperation.



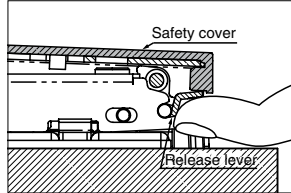
RohS	CAD	Item Code	Item Name	Material	Finish / Colour	Weight (g)	Box (pcs)
CE	3D	160-032-763	J95SC-25GR	ABS	Grey	3	500
CE	3D	160-034-673	J95SC-25NI		Nickel	9	500
CE	3D	160-044-249	J95SC-25BC		Black chrome	3	500

### SAFETY COVER J95SC-16 For Heavy Duty Concealed Hinge J95 16mm Overlay

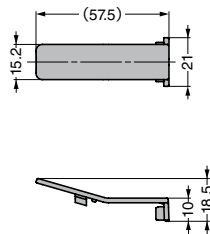


- Nickel plating finish is newly launched.
- For hiding screw holes.

**[Fall-preventing]**



Safety cover can lock the release lever of J95 body, preventing door from falling-off due to misoperation.



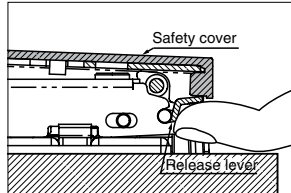
RohS	CAD	Item Code	Item Name	Material	Finish / Colour	Weight (g)	Box (pcs)
CE	3D	160-032-764	J95SC-16GR	ABS	Grey	3	500
CE	3D	160-034-674	J95SC-16NI		Nickel	9	500
CE	3D	160-044-250	J95SC-16BC		Black chrome	3	500

### SAFETY COVER J95SC-0 For Heavy Duty Concealed Hinge J95 Inset

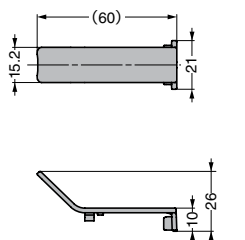


- Nickel plating finish is newly launched.
- For hiding screw holes.

**[Fall-preventing]**



Safety cover can lock the release lever of J95 body, preventing door from falling-off due to misoperation.



RohS	CAD	Item Code	Item Name	Material	Finish / Colour	Weight (g)	Box (pcs)
CE	3D	160-032-765	J95SC-0GR	ABS	Grey	3	500
CE	3D	160-034-675	J95SC-0NI		Nickel	9	500
CE	3D	160-044-251	J95SC-0BC		Black chrome	3	500

A NEW STEP FOR HINGE TECHNOLOGY

## OLYMPIA

360 POWERED BY  Lapcon

5-speed adjustable soft close.  
The first Sugatsune concealed hinge ever built  
with Lapcon technology.



105° Opening

19mm Overlay

Overlay 15-19mm  
(When Bore Distance is 5mm)

Cup size  $\phi 35$  Bore Depth 11mm  
Door Thickness 15-20mm

Mounting plates  
Olympia series

OLYMPIA CONCEALED HINGE 360

OLYMPIA

Soft-close

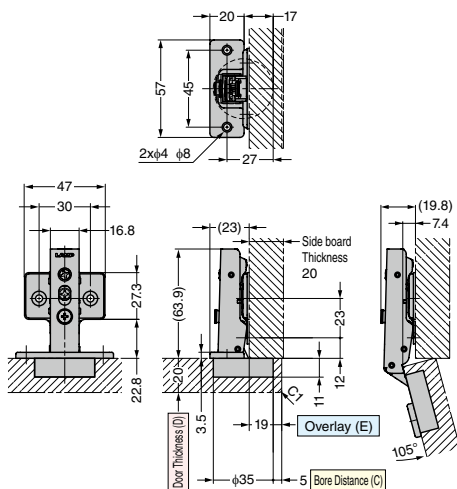
Passed 200,000 open/close private cycle test



Damper power adjustment lever

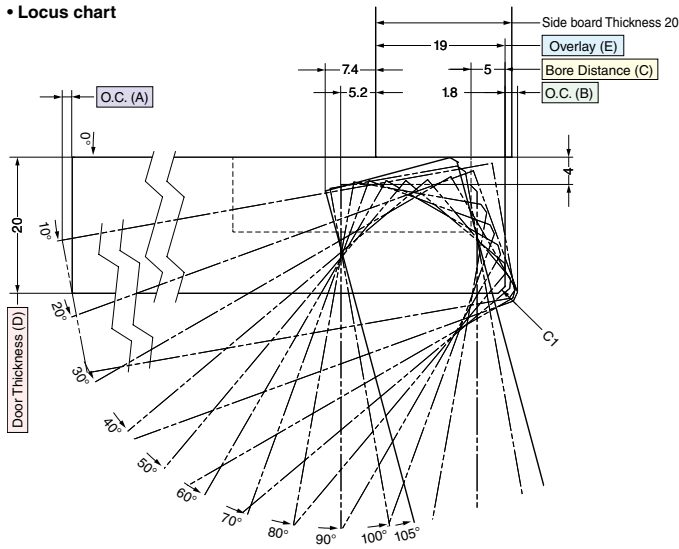
Picture above is the combination of a concealed hinge (with damper) and a mounting plate (sold separately).

• Outline drawing



Drawing above is 360-D26-19T, 360-26-19T, 360-C26-19T snapped on to mounting plate 360-P4W-30T: Bore Distance 5mm, Door Thickness 20mm, Side board Thickness 20mm and 19mm Overlay.

• Locus chart



Refer to P.212

- Damper strength features a 5-level adjustment.
- Door can be adjusted in 3 dimensions (Depth: +1.5, -2.5mm, Vertical: ±2.5mm, Overlay: +0, -4mm)

[Sold separately]

- Olympia series mounting plate 1

[Recommended screws]

- M4 raised countersunk head screw

Ref/IS	CAD	Item Code	Item Name	Type	Material	Finish	Carton
G	3D	160-026-840	360-D26-19T	with damper	Steel	Nickel	100pcs
G	3D	160-026-836	360-26-19T	without catch			200pcs
G	3D	160-026-832	360-C26-19T	with catch			200pcs

A mounting plate(sold separately) is required for installation. Please order separately.

Bore Distance (C)

Bore Distance (C)	3	4	5
Overlay (E)	17	18	19

For standard type mounting plate 0mm thickness.

Overlay adjustment (-4mm) by turning the overlay adjustment screw.

Opening Clearance (O.C.)

Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

O.C. (B)

Door Thickness (D)	Bore Distance (C)		
	3	4	5
15	0.6	0.6	0.5
16	0.8	0.8	0.7
17	1.0	1.0	1.0
18	1.3	1.3	1.2
19	1.6	1.6	1.5
20	2	1.9	1.8
21*	2.4	2.3	2.2
22*	2.8	2.7	2.6

The table above shows O.C. (B) for C1 chamfering (chamfer plane).

\*Please refer to the locus chart if door thickness is over 20mm.

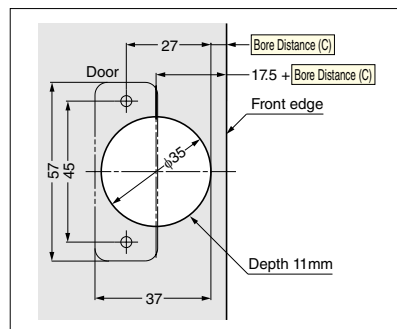
(O.C. (B) can be made smaller by R chamfering (round chamfer) and C chamfering (chamfer plane) on the door.)

O.C. (A)

Door Thickness (D)	Door Width			
	300	400	500	600
20	0.13	0.09	0.07	0.06

[Door dimensions and number of hinges necessary] ▶ P.212

Cut Out Dimensions



Concealed Hinges

Stays

Lateral Opening Door Systems



105° Opening

9mm Overlay

Overlay 5-9mm  
(When Bore Distance is 5mm)

Cup size  $\phi 35$  Bore Depth 11mm  
Door Thickness 15-20mm

Mounting plates  
Olympia series

# OLYMPIA CONCEALED HINGE 360

# OLYMPIA

Soft-close

Passed 200,000 open/close private cycle test



Damper power adjustment lever

Picture above is the combination of a concealed hinge (with damper) and a mounting plate (sold separately).

- Damper strength features a 5-level adjustment.
- Door can be adjusted in 3 dimensions (Depth: +1.5, -2.5mm, Vertical:  $\pm 2.5$ mm, Overlay: +0, -4mm)

[Sold separately]

- Olympia series mounting plate **1**

[Recommended screws]

- M4 raised countersunk head screw

RoHS	CAD	Item Code	Item Name	Type	Material	Finish	Carton
CE	3D	160-026-842	360-D26-9T	with damper	Steel	Nickel	100pcs
CE	3D	160-026-838	360-26-9T	without catch			200pcs
CE	3D	160-026-834	360-C26-9T	with catch			200pcs

A mounting plate(sold separately) is required for installation. Please order separately.

Bore Distance (C)

Bore Distance (C)	3	4	5
Overlay (E)	7	8	9

For standard type mounting plate 0mm thickness.  
Overlay adjustment (-4mm) by turning the overlay adjustment screw.

Opening Clearance (O.C.)

Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

O.C. (B)

Door Thickness (D)	Bore Distance (C)		
	3	4	5
15	0.6	0.6	0.5
16	0.8	0.8	0.7
17	1.0	1.0	1.0
18	1.3	1.3	1.2
19	1.6	1.6	1.5
20	2	1.9	1.8
21*	2.4	2.3	2.2
22*	2.8	2.7	2.6

O.C. (B)

The table above shows O.C. (B) for C1 chamfering (chamfer plane).

\*Please refer to the locus chart if door thickness is over 20mm.

(O.C. (B) can be made smaller by R chamfering (round chamfer) and C chamfering (chamfer plane) on the door.)

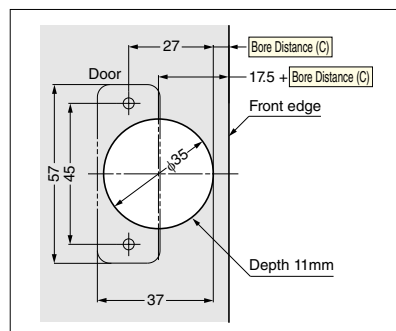
O.C. (A)

Door Thickness (D)	Door Width			
	300	400	500	600
20	0.13	0.09	0.07	0.06

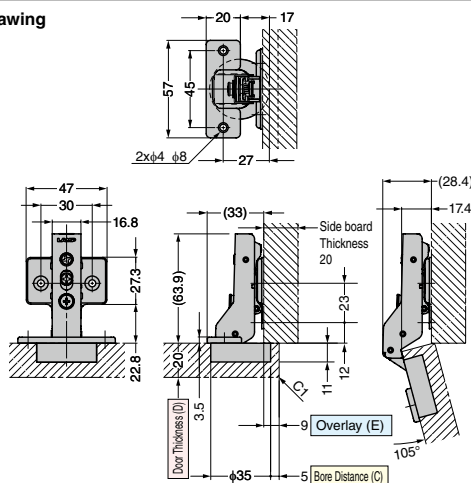
O.C. (A)

[Door dimensions and number of hinges necessary] ▶ P.212

Cut Out Dimensions

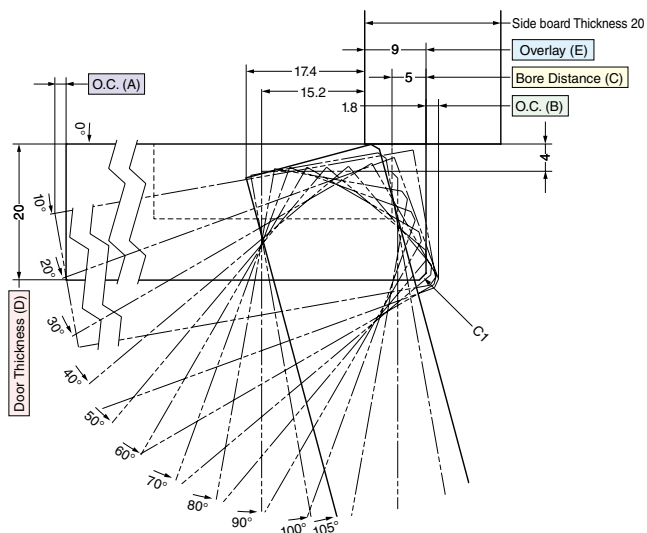


• Outline drawing



Drawing above is 360-D26-9T, 360-26-9T, 360-C26-9T snapped on to mounting plate 360-P4W-30T: Bore Distance 5mm, Door Thickness 20mm, Side board Thickness 20mm and 9mm Overlay.

• Locus chart



Refer to **1**: P.212

93° Opening

Inset

Cup size  $\phi 35$   
Bore Depth 11mm Door Thickness 15-20mm

Mounting plates  
Olympia series

OLYMPIA CONCEALED HINGE 360

OLYMPIA

Soft-close

Passed 200,000 open/close private cycle test



Damper power adjustment lever

- Damper strength features a 5-level adjustment.
- Door can be adjusted in 3 dimensions (Depth: +1.5, -2.5mm, Vertical:  $\pm 2.5$ mm, Overlay: +0, -4mm)

[Sold separately]

- Olympia series mounting plate 1

[Recommended screws]

- M4 raised countersunk head screw

RHS	CAD	Item Code	Item Name	Type	Material	Finish	Carton
G	SD	160-026-843	360-D26-0T	with damper	Steel	Nickel	100pcs
G	SD	160-026-839	360-26-0T	without catch			200pcs
G	SD	160-026-835	360-C26-0T	with catch			200pcs

A mounting plate(sold separately) is required for installation. Please order separately.

Bore Distance (C)

Bore Distance (C)	3	4	5
Door Gap (b)	2	1	0

For standard type mounting plate 0mm thickness.  
Door Gap (b) adjustment (+4mm) by turning the overlay adjustment screw. Please check required O.C. (B) at the table below.

Opening Clearance (O.C.)

Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

O.C. (B)

Door Thickness (D)	Bore Distance (C)		
	3	4	5
15	0	0	0
16	0	0	0
17	0	0	0
18	0	0	0
19	0.1	0.1	0.1
20	0.3	0.3	0.2
21*	0.5	0.4	0.4
22*	1.0	0.7	0.7

O.C. (B)

The table above shows O.C. (B) for C1 chamfering (chamfer plane).

\*Please refer to the locus chart if door thickness is over 20mm.

(O.C. (B) can be made smaller by R chamfering (round chamfer) and C chamfering (chamfer plane) on the door.)

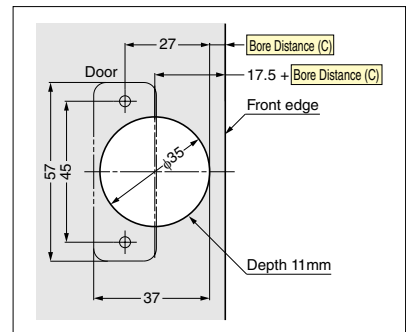
O.C. (A)

Door Thickness (D)	Door Width			
	300	400	500	600
20	0.44	0.32	0.25	0.21

O.C. (A)

[Door dimensions and number of hinges necessary] ▶ P.212

Cut Out Dimensions



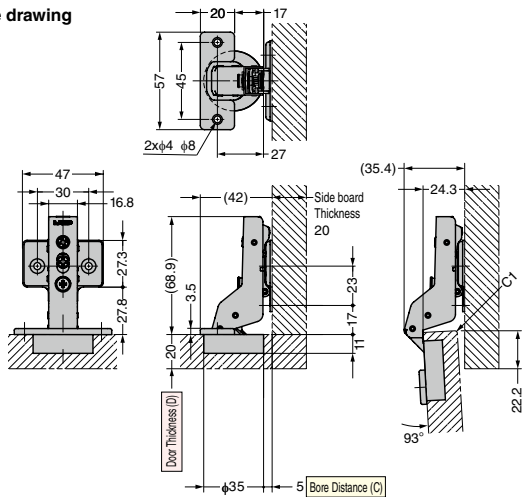
Picture above is the combination of a concealed hinge (with damper) and a mounting plate (sold separately).

Concealed Hinges

Stays

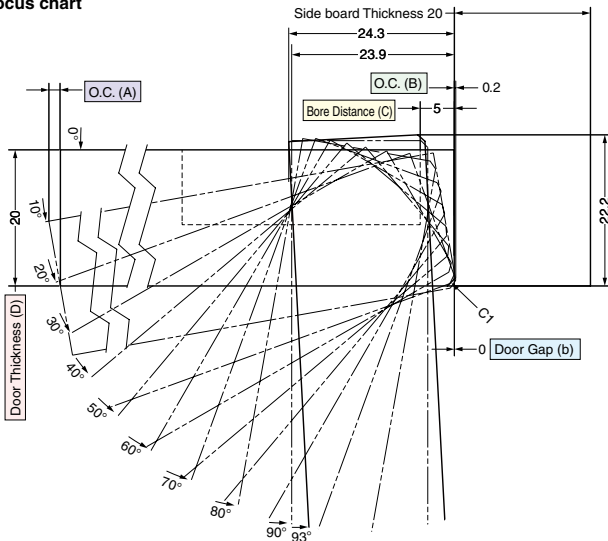
Lateral Opening Door Systems

• Outline drawing



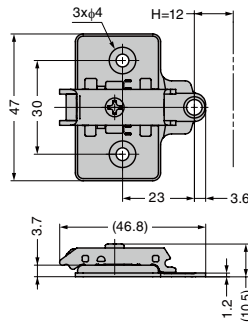
Drawing above is 360-D26-0T, 360-26-0T, 360-C26-0T snapped on to mounting plate 360-P4W-30T: Bore Distance 5mm, Door Thickness 20mm, Side board Thickness 20mm, and Inset.

• Locus chart



Refer to P.212

**MOUNTING PLATE 360-P4W-30T Olympia series - System 30**



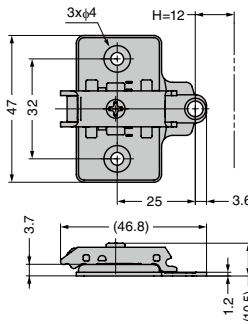
- Height adjustable ( $\pm 2.5$ ).
- Standard height: 0mm
- Value of H for inset installation is Door thickness + 17mm.

**[Recommended Screws]**

- M4 raised countersunk head screw

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Carton
		160-026-844	360-P4W-30T	Steel	Nickel	25	400pcs

**MOUNTING PLATE 360-P4W-32T Olympia series - System 32**



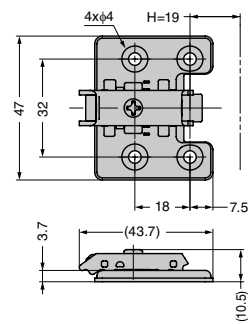
- Height adjustable ( $\pm 2.5$ ).
- Standard height: 0mm
- Value of H for inset installation is Door thickness + 17mm.

**[Recommended Screws]**

- M4 raised countersunk head screw

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Carton
		160-026-845	360-P4W-32T	Steel	Nickel	25	400pcs

**MOUNTING PLATE 360-P6WT Olympia series - System 32 with 4 holes**



- Height adjustable ( $\pm 2.5$ ).
- Standard height: 0mm
- Value of H for inset installation is Door thickness + 24mm.

**[Recommended Screws]**

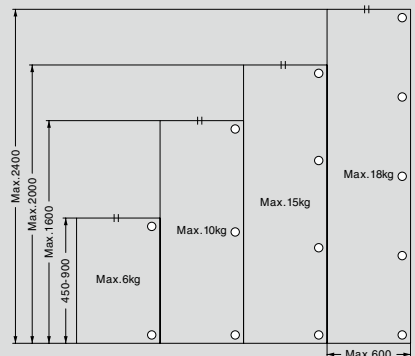
- M4 raised countersunk head screw

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Carton
		160-026-846	360-P6WT	Steel	Nickel	25	400pcs

Door dimensions and number of hinges necessary

Door width	Door thickness	Material density	Installation pitch
Max.600	Max.20	Max.0.6	Min.300

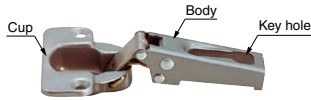
- ▶ The door's centre of gravity should be in the centre
- ▶ The top-most and bottom-most hinges should be installed within 100mm of the door edge. For 3 or more hinges, ensure that the pitch is regular.
- ▶ The drawing on the right is for demonstration only. Always test your assembly first.
- ▶ For any other application, please consult you closest reseller for further technical assistance.



# CONCEALED HINGE 100 SERIES

## Part Names

### [Concealed Hinge 1]

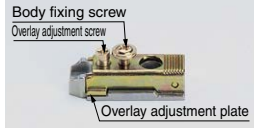


### [Mounting Plate 2]

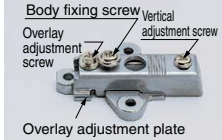
#### Mounting Plate



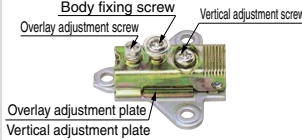
#### Type A



#### Type W



#### Type A-W

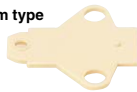


### [Spacer 3]

#### Standard type



#### System type



- Body** Install to mounting plate.
- Cup** Cut out a  $\phi 35$  (or  $\phi 26$ ,  $\phi 40$ ) hole on the door, and install concealed hinge.
- Key hole** When fixing to the mounting plate, insert body fixing screw in this hole and tighten.
- Mounting plate** First install to the side board, then insert and tighten the body.
- Body fixing screw** Used to fix the body to the mounting plate. It can also be used for door depth adjustment.
- Overlay adjustment screw** Used to adjust overlay of door.
- Overlay adjustment plate** (In case of type A or type A-W mounting plate) Turning overlay adjustment screw can adjust door overlay without affecting door depth and vertical adjustment.
- Vertical adjustment screw** (In case of type W or type A-W mounting plate) Used for vertical adjustment of door.
- Vertical adjustment plate** (In case of type W or type A-W mounting plate) Turning door vertical adjustment screw can move the door vertically.
- Spacer** Used for decreasing door overlay, or increasing door gap for inset type.

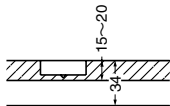
Concealed Hinges

Stays

Lateral Opening Door Systems

## Suitable for Various Door Thickness

100 Series are suitable for door thickness 15mm~34mm. Besides, performance can be maximised by using locus chart.



## Superior Corrosion Resistance

### [All Stainless Steel]

The world's first stainless steel (SUS304) concealed hinge. Stainless steel features superior corrosion resistance, suitable for damp places like combined kitchen and washroom, etc. It can also be used for fields such as medical, laboratory and ship, etc.

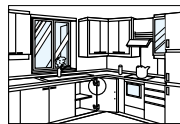
### [Satin Chrome]

Plated type is highly corrosion-resistant thanks to satin chrome finish of main metal parts. And metallic silver colour makes high-tech furniture more eye-catching. (Nickel plating type also available by made to order)

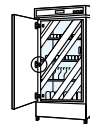
## Full Range of Mounting Plates

Nearly 20 different mounting plates are available for 100 series to meet diversified installation requirements. Each one can be installed quickly, accurately and reliably.

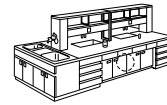
### <Main Purpose of Stainless Steel Concealed Hinge>



Kitchen equipment



Medical warehouse



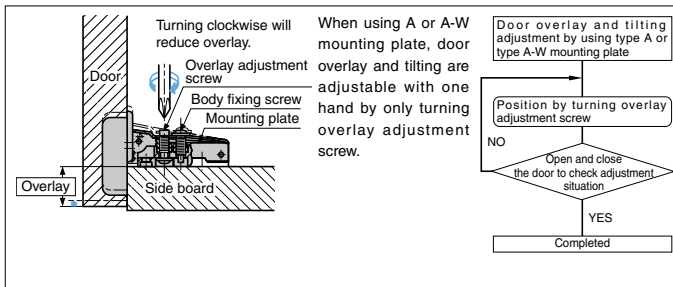
Laboratory



Marine

## Easy and Fast Adjustment TYPE A, A-W MOUNTING PLATE

### [100 Series Concealed Hinge Type A, A-W Mounting Plate]



Note) Be sure to use a manual screwdriver to fine tune adjustment screws within the adjustment range. Do not use a pneumatic, electric or rechargeable screwdriver, or excessive tightening torque may damage thread and cause malfunction.

Refer to 1 : P.215-217, 2 : P.218, 3 : No.280 P.129

## How to Adjust

## Door Adjustment by Using Type A or Type A-W Mounting Plate

## [Type A]

100-02A-30, 100-03A, 100-04A-30, 100-04A-32-3, 100-06A, 100-P3A, 100-P4A-30

## Depth Adjustment

Loosen the body fixing screw, move the door back and forth to select appropriate position, and then tighten the screw.

## Overlay Adjustment (Horizontal Adjustment)

Turning the overlay adjustment screw clockwise (↻) to decrease and counterclockwise (↺) to increase the overlay.

Operate with the body fixing screw tightened.

## Tilting Adjustment

Turn the overlay adjustment screw. Operate with the body fixing screw tightened.

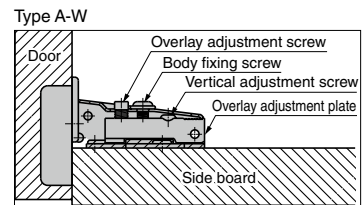
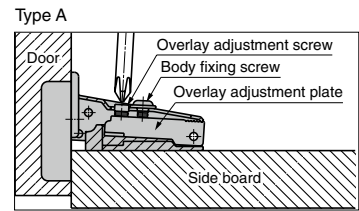
## [Type A-W]

100-04A-W-30, 100-04A-W-30-2, 100-04A-W-32, 100-06AW

Depth Adjustment Overlay Adjustment Tilting Adjustment are the same as type A.

## Vertical Adjustment

Loosen the vertical adjustment screw, move the door up and down to select appropriate position, and then tighten the screw.



Concealed Hinges

Stays

Lateral Opening Door Systems

## Door Adjustment by Using Mounting Plate Other Than Type A and Type A-W

[100-01, 100-02-30, 100-03, 100-04-30, 100-06, 100-P6]

## Depth Adjustment

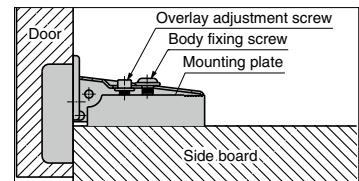
Loosen the body fixing screw, move the door back and forth to select appropriate position, and then tighten the screw.

## Overlay Adjustment (Horizontal Adjustment)

Loosen the body fixing screw first. Turn the overlay adjustment screw to determine appropriate position. Turning the overlay adjustment screw clockwise (↻) to increase and counterclockwise (↺) to decrease the overlay. Finally tighten the body fixing screw.

## Tilting Adjustment

Loosen the body fixing screw first. Turn the overlay adjustment screw to determine appropriate position, and finally tighten the body fixing screw securely.



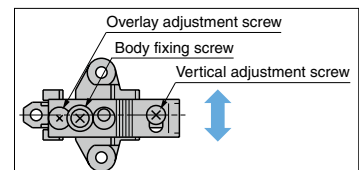
## [Type W]

100-04W-30

Depth Adjustment Overlay Adjustment Tilting Adjustment are the same as the above method.

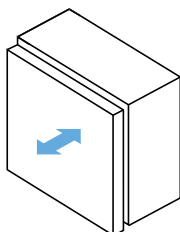
## Vertical Adjustment

Loosen the vertical adjustment screw, move the door up and down to select appropriate position, and then tighten the screw.

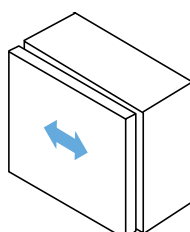
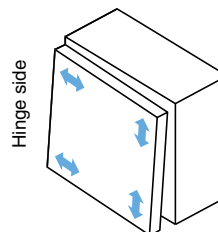


## [Remarks]

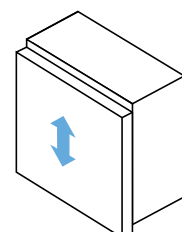
Body fixing screw may become loose due to door opening and closing. Regularly check and tighten to prevent the door from falling off.



Depth Adjustment

Overlay Adjustment  
(Horizontal Adjustment)

Tilting Adjustment



Vertical Adjustment



100° Opening

14mm Overlay

Overlay 10~14mm

Cup Dia  $\phi 35$  Bore Depth 11mm Door Thickness 15~20mm

Stainless Steel Mounting Plate 100 Series

CONCEALED HINGE (STAINLESS STEEL) 100



Passed 40,000 open/close private cycle test

[Sold Separately]

● Stainless steel 100 series mounting plate 1

[Recommended Screws]

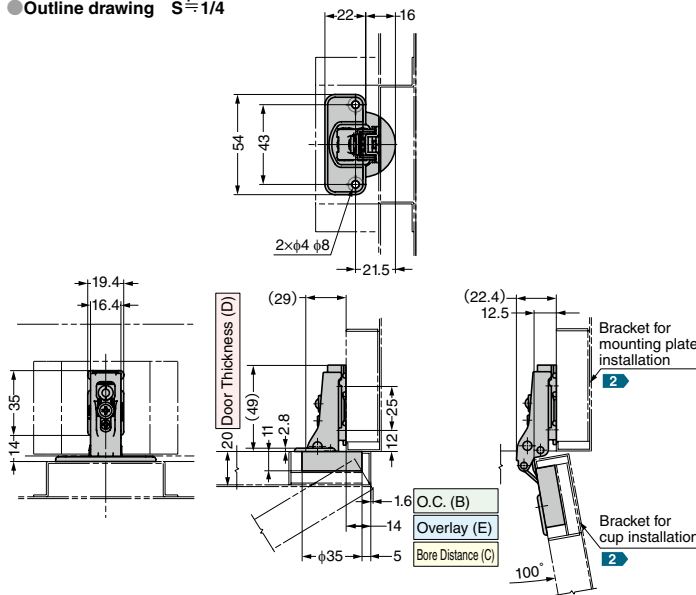
● M4 raised countersunk head screw

RdHS	CAD	Item Code	Item Name	Description	Material	Finish	Weight (g)	Box (pcs)
G	SD	160-073-875	100-46/14SUS304B	Without Catch	Stainless Steel	Polished	39.8	200
G	SD	160-073-880	100-C46/14SUS304B	With Catch	(SUS304)	Polished	44	200

A mounting plate (sold separately) is required for installation. Please order separately.

Picture above is the combination of concealed hinge and mounting plate (sold separately).

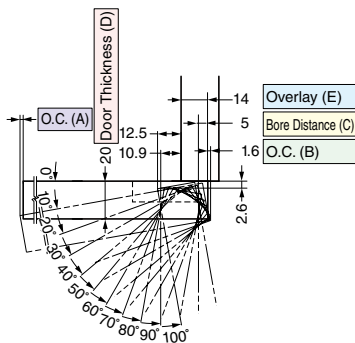
● Outline drawing S  $\approx$  1/4



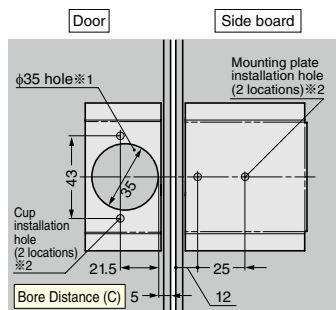
Picture above is the combination of 100-46/14 or 100-C46/14 (w/catch) and mounting plate 100-P3A (sold separately).

● Locus chart S  $\approx$  1/4

(How to Use the Locus Chart 3)



● Cut out dimensions For metal door



※1: Support the cup bottom at position of 11mm deep.

※2: Internal threads needed to be made by welding nut or burring.

[Bore Distance (C)]

Table-1

Bore Distance (C)	3	4	5
Overlay (E)	12	13	14

For standard type shown in the table above mounting plate 0mm thickness.

Turning the overlay adjustment screw or using spacer (2mm thickness) to adjust overlay (Max. -6mm).

[Opening Clearance (O.C.)]

Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

[O.C. (B)]

Table-2

Door Thickness (D)	Bore Distance (C)		
	3	4	5
15	0.5	0.5	0.4
16	0.6	0.6	0.6
17	0.9	0.8	0.8
18	1.1	1.1	1.0
19	1.4	1.3	1.3
20	1.7	1.6	1.6
21※	2.1	2.0	1.9
22※	2.5	2.4	2.3
O.C. (B)			

※Please refer to the locus chart if door thickness is over 20mm.

(O.C. (B) can be made smaller by R chamfering (round chamfer) and C chamfering (chamfer plane) on the door.)

[O.C. (A)]

Table-3

Door Thickness (D)	O.C. (A)			
	Door Width 300	Door Width 400	Door Width 500	Door Width 600
20	0.2	0.1	0.1	0.1

[Door Dimensions and Number of Hinges] 4

Refer to 1 : P.218, 2 : No.280 P.131, 3 : No.280 P.111, 4 : No.280 P.110

100° Opening

9mm Overlay

Overlay 5-9mm

Cup Dia  $\phi 35$  Bore Depth 11mm Door Thickness 15~20mm

Stainless Steel Mounting Plate 100 Series



CONCEALED HINGE (STAINLESS STEEL) 100



[Sold Separately]

- Stainless steel 100 series mounting plate 1

[Recommended Screws]

- M4 raised countersunk head screw

RoHS	CAD	Item Code	Item Name	Description	Material	Finish	Weight (g)	Box (pcs)
CE	3D	160-073-883	100-46/9SUS304B	Without Catch	Stainless Steel (SUS304)	Polished	41.3	200
CE	3D	160-073-884	100-C46/9SUS304B	With Catch	Stainless Steel (SUS304)	Polished	45.9	200

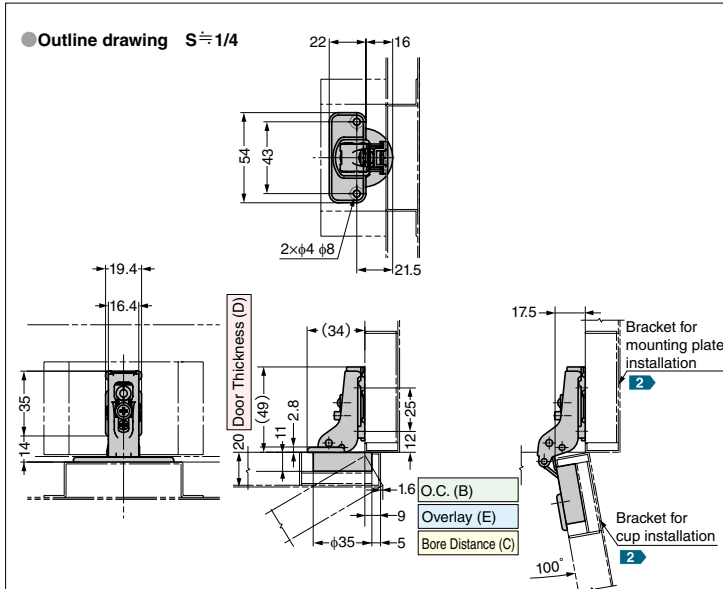
A mounting plate (sold separately) is required for installation. Please order separately.

Picture above is the combination of concealed hinge and mounting plate (sold separately).

Concealed Hinges

Stays

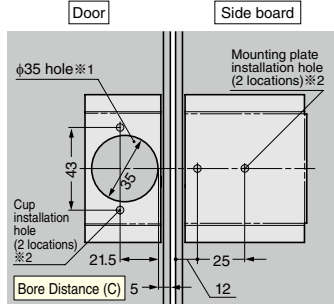
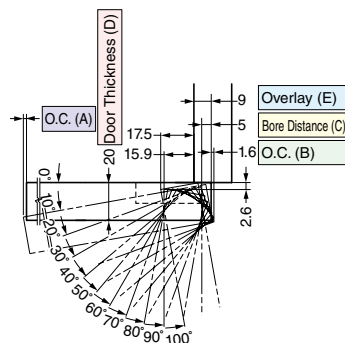
Lateral Opening Door Systems



● Outline drawing S ≒ 1/4

● Locus chart S ≒ 1/4 (How to Use the Locus Chart 3)

● Cut out dimensions For metal door



- ※1: Support the cup bottom at position of 11mm deep.
- ※2: Internal threads need to be made by welding nut or burring.

[Bore Distance (C)]

Table-1

Bore Distance (C)	3	4	5
Overlay (E)	7	8	9

For standard type shown in the table above mounting plate 0mm thickness.

Turning the overlay adjustment screw or using spacer (2mm thickness) to adjust overlay (Max. -6mm).

[Opening Clearance (O.C.)]

Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

[O.C.(B)]

Table-2

Door Thickness (D)	Bore Distance (C)		
	3	4	5
15	0.5	0.5	0.4
16	0.6	0.6	0.6
17	0.9	0.8	0.8
18	1.1	1.1	1.0
19	1.4	1.3	1.3
20	1.7	1.6	1.6
21※	2.1	2.0	1.9
22※	2.5	2.4	2.3

※Please refer to the locus chart if door thickness is over 20mm. (O.C. (B) can be made smaller by R chamfering (round chamfer) and C chamfering (chamfer plane) on the door.)

[O.C.(A)]

Table-3

Door Thickness (D)	O.C. (A)			
	Door Width 300	Door Width 400	Door Width 500	Door Width 600
20	0.2	0.1	0.1	0.1

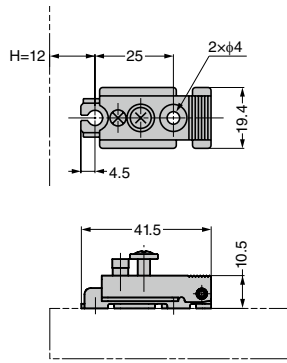
[Door Dimensions and Number of Hinges] 4

Refer to 1 : P.218, 2 : No.280 P.131, 3 : No.280 P.111, 4 : No.280 P.110

**STAINLESS STEEL MOUNTING PLATE 100-P3A-SUS304B**

SUS

STANDARD TYPE



- Overlay adjustable.
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

**[Recommended Screws]**

- M4 binding head screw

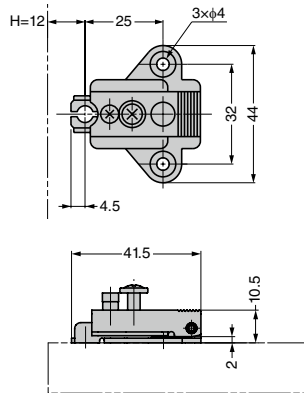
RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
G	SD	160-074-155	100-P3A-SUS304B	Stainless Steel (SUS304)	Barrel Polished	21.3	400

Concealed Hinges

**STAINLESS STEEL MOUNTING PLATE 100-P4A-32-SUS304B**

SUS

SYSTEM 37, 32 TYPE



- Overlay adjustable.
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

**[Recommended Screws]**

- M4 binding head screw

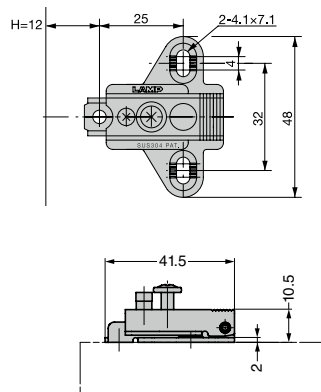
RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
G	SD	160-074-149	100-P4A-32-SUS304B	Stainless Steel (SUS304)	Barrel Polished	26	400

Stays

Lateral Opening Door Systems

**STAINLESS STEEL MOUNTING PLATE 100-P4A/32-3WAY-SUS304B**

SUS



- Overlay adjustable.
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

**[Recommended Screws]**

- M4 binding head screw

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
G	SD	160-079-044	100-P4A/32-3WAY-SUS304B	Stainless Steel (SUS304)	Barrel Polished	40	400

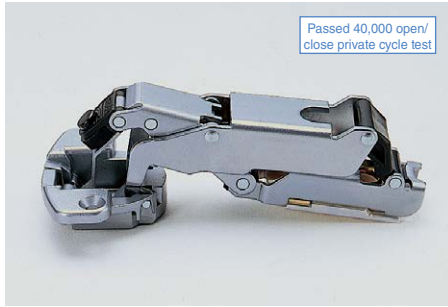
170° Opening 19mm Overlay

Overlay 15~20mm

Cup Dia  $\phi$ 35 Bore Depth 11mm Door Thickness 15~20mm

Mounting Plate 100 Series

CONCEALED HINGE 170



Passed 40,000 open/close private cycle test

● Opening angle can be adjusted 140° ~ 170° degrees by turning the adjustment dial on the hinge.

[Sold Separately]

● 100 series mounting plate 1

[Recommended Screws]

● M4 raised countersunk head screw

RoHS	CAD	Item Code	Item Name	Description	Material	Finish	Weight (g)	Box (pcs)
CE	3D	160-073-390	170-34/19	Without Catch	Body/Steel, Cup/	Satin	117	100
CE	3D	160-073-400	170-C34/19	With Catch	Zinc Alloy (ZDC)	Chrome	125.7	100

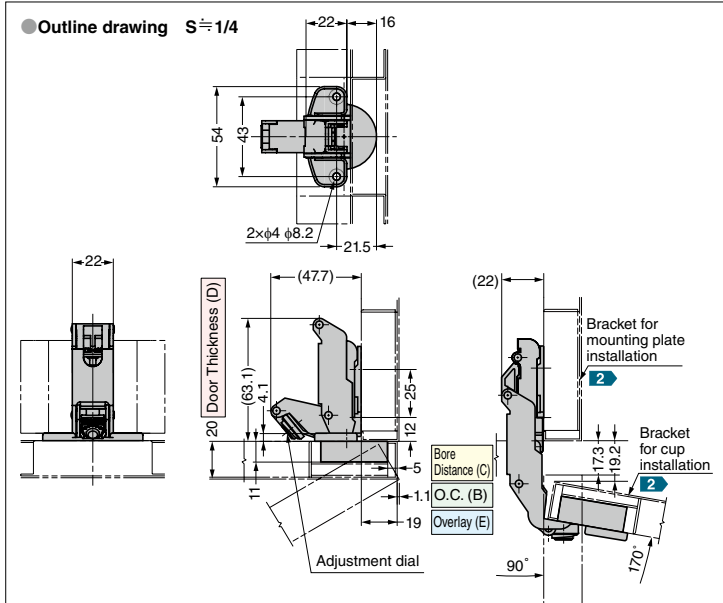
A mounting plate (sold separately) is required for installation. Please order separately.

Picture above is the combination of concealed hinge and mounting plate (sold separately).

Concealed Hinges

Stays

Lateral Opening Door Systems



Picture above is the combination of 170-34/19 or 170-C34/19 (w/catch) and mounting plate 100-03A (sold separately).

[Bore Distance (C)]

Table-1

Bore Distance (C)	3	4	5	6
Overlay (E)	17	18	19	20

For standard type shown in the table above mounting plate 0mm thickness.

Turning the overlay adjustment screw or using spacer (2mm thickness) to adjust overlay (Max. -6mm).

[Opening Clearance (O.C.)]

Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

[O.C.(B)]

Table-2

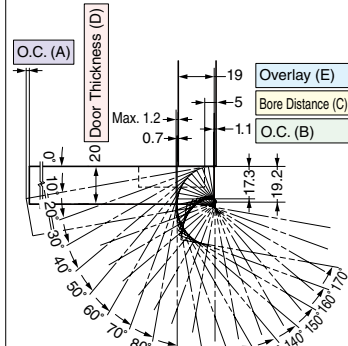
Door Thickness (D)	Bore Distance (C)			
	3	4	5	6
15	0	0	0	0
16	0	0	0	0
17	0.1	0.1	0.1	0.1
18	0.1	0.1	0.1	0.1
19	1.1	0.8	0.3	0.1
20	2.5	1.7	1.1	0.6
21*	3.5	2.7	2.0	1.5
22*	4.5	3.7	2.9	2.3

O.C. (B)

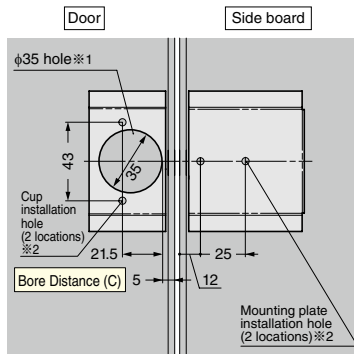
※The above table is O.C. (B) for 0~90° opening. Please refer to the locus chart if door thickness is over 20mm. O.C. (B) can be made smaller by R chamfering (round chamfer) and C chamfering (chamfer plane) on the door.

● Locus chart S=1/4

(How to Use the Locus Chart 3)



● Cut out dimensions For metal door



※1: Support the cup bottom at position of 11mm deep.  
 ※2: Internal threads need to be made by welding nut or burring.

[O.C.(A)]

Table-3

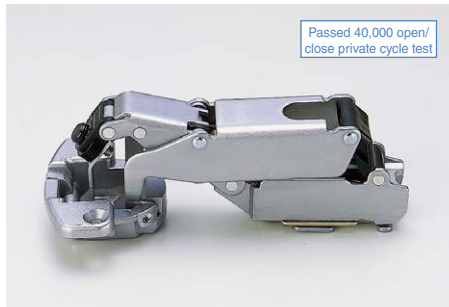
Door Thickness (D)	O.C. (A)		
	Door Width 300	Door Width 400	Door Width 500
15	0.7	0.6	0.5
20	0.7	0.6	0.5
22	0.7	0.6	0.5

[Door Dimensions and Number of Hinges] 4

Refer to 1 : P.226-229, 2 : No.280 P.131, 3 : No.280 P.111, 4 : No.280 P.110

<b>170° Opening</b>	<b>9mm Overlay</b>	<b>Overlay 5~10mm</b>	<b>Cup Dia <math>\phi</math>35 Bore Depth 11mm Door Thickness 15~20mm</b>	<b>Mounting Plate 100 Series</b>
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## CONCEALED HINGE 170



Passed 40,000 open/close private cycle test

- Opening angle can be adjusted 140° ~ 170° degrees by turning the adjustment dial on the hinge.

**[Sold Separately]**

- 100 series mounting plate **1**

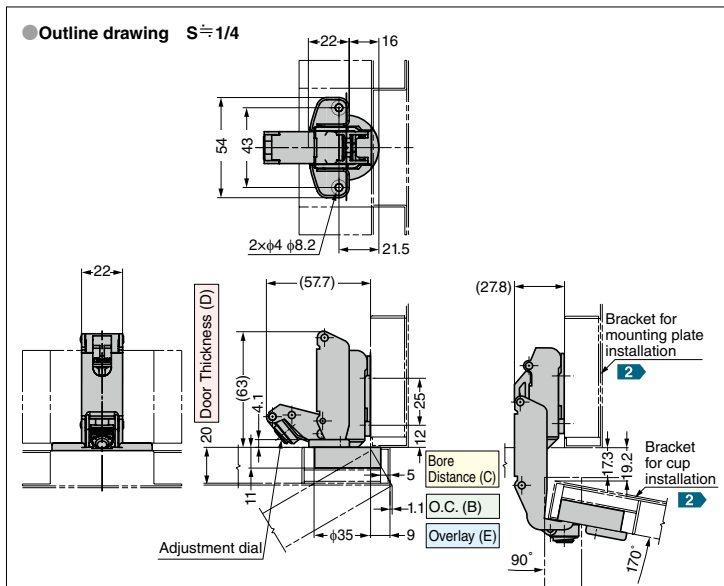
**[Recommended Screws]**

- M4 raised countersunk head screw

RoHS	CAD	Item Code	Item Name	Description	Material	Finish	Weight (g)	Box (pcs)
CE	SD	160-073-392	170-34/9	Without Catch	Zinc Alloy	Satin	132.8	100
CE	SD	160-073-402	170-C34/9	With Catch	(ZDC)	Chrome	140.6	100

A mounting plate (sold separately) is required for installation. Please order separately.

Picture above is the combination of concealed hinge and mounting plate (sold separately).



Picture above is the combination of 170-34/9 or 170-C34/9 (w/catch) and mounting plate 100-03A (sold separately).

**[Bore Distance (C)]** Table-1

Bore Distance (C)	3	4	5	6
Overlay (E)	7	8	9	10

For standard type shown in the table above mounting plate 0mm thickness.

Turning the overlay adjustment screw or using spacer (2mm thickness) to adjust overlay (Max. -6mm).

**[Opening Clearance (O.C.)]**

Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

**[O.C.(B)]** Table-2

Door Thickness (D)	Bore Distance (C)			
	3	4	5	6
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0.1	0.1	0	0
19	1.0	0.6	0.2	0
20	2.3	1.7	1.1	0.6
21*	3.5	2.6	2.0	1.5
22*	4.4	3.5	2.9	2.2

O.C. (B)

※The above table is O.C. (B) for 0-90° opening. Please refer to the locus chart if door thickness is over 20mm. (O.C. (B) can be made smaller by R chamfering (round chamfer) and C chamfering (chamfer plane) on the door).

**[O.C.(A)]** Table-3

Door Thickness (D)	O.C. (A)		
	Door Width 300	Door Width 400	Door Width 500
15	0.7	0.5	0.5
20	0.7	0.5	0.5
22	0.7	0.5	0.5

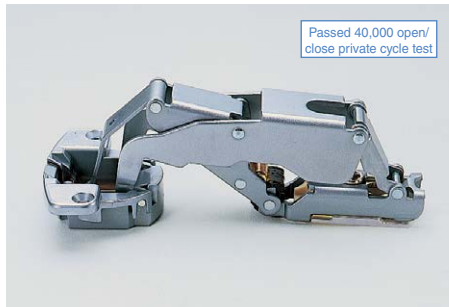
**[Door Dimensions and Number of Hinges]** **4**

Refer to **1** : P.226-229, **2** : No.280 P.131, **3** : No.280 P.111, **4** : No.280 P.110



**160° Opening**   **28mm Overlay**   **Overlay 19-28mm**   **Cup Dia  $\phi$ 40 Bore Depth 15mm Door Thickness 18-34mm**   **Mounting Plate 100 Series**

**CONCEALED HINGE H160 For Thick Door**



Passed 40,000 open/close private cycle test

**[Sold Separately]**

- 100 series mounting plate 1

**[Recommended Screws]**

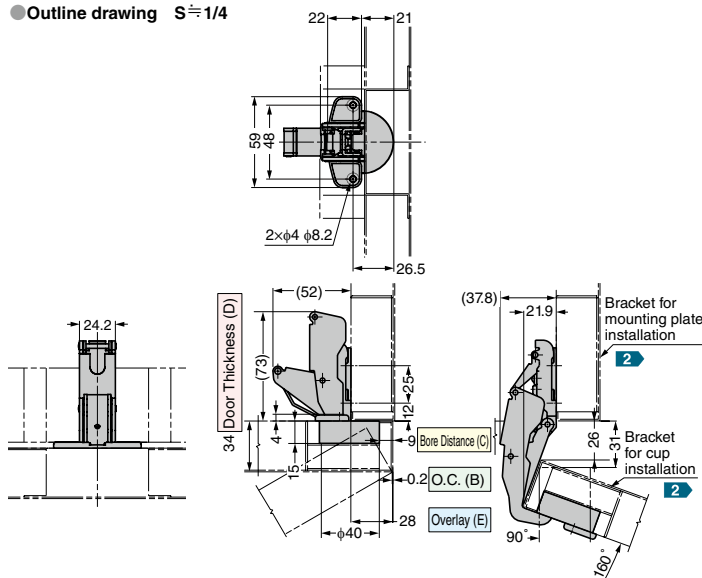
- M4 raised countersunk head screw

RHS	CAD	Item Code	Item Name	Description	Material	Finish	Weight (g)	Box (pcs)
G	D	160-073-620	H160-34/28	Without Catch	Body/Steel, Cup/ Zinc Alloy (ZDC)	Satin	181.4	100
G	D	160-073-630	H160-C34/28	With Catch	Zinc Alloy (ZDC)	Chrome	194.4	100

A mounting plate (sold separately) is required for installation. Please order separately.separately.

Picture above is the combination of concealed hinge and mounting plate (sold separately).

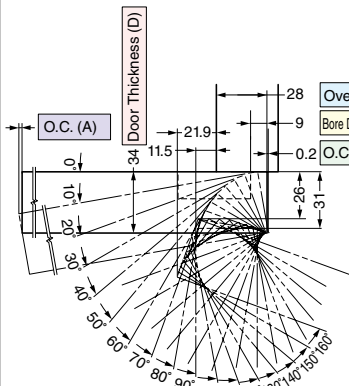
● **Outline drawing** S ≒ 1/4



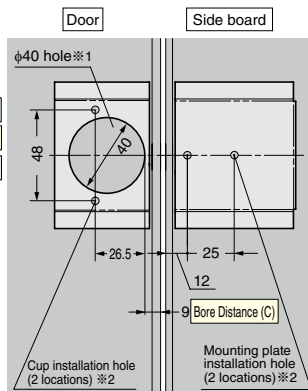
Picture above is the combination of H160-34/28 or H160-C34/28 (w/catch) and mounting plate 100-03A (sold separately).

● **Locus chart** S ≒ 1/4

(How to Use the Locus Chart 3)



● **Cut Out Dimensions For metal door**



- ※ 1: Support the cup bottom at position of 15mm deep.
- ※ 2: Internal threads need to be made by welding nut or burring.

**[Bore Distance (C)]**

Table-1

Bore Distance (C)	3	4	5	6	7	8	9
Overlay (E)	22	23	24	25	26	27	28

For standard type shown in the table above mounting plate 0mm thickness.

Turning the overlay adjustment screw or using spacer (2mm thickness) to adjust overlay (Max. -6mm).

**[Opening Clearance (O.C.)]**

Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

**[O.C.(B)]**

Table-2

Door Thickness (D)	Bore Distance (C)								
	3	4	5	6	7	8	9		
Max. 33	Max. 0.1								
34	0.2	0.2	0.2	0.2	0.2	0.2	0.2		
35※	0.3	0.3	0.3	0.3	0.3	0.3	0.3		
36※	2.0	1.6	1.5	1.4	1.0	0.7	0.5		
37※	3.7	3.1	2.7	2.4	2.0	1.4	0.9		
38※	5.0	4.4	3.8	3.3	2.8	2.2	1.7		
39※	6.2	5.4	4.9	4.3	3.7	3.0	2.6		
40※	7.2	6.4	5.7	5.3	4.6	3.9	3.4		
O.C. (B)									

※ The above table is O.C. (B) for 0-90° opening. Please refer to the locus chart if door thickness is over 34mm. (O.C. (B) can be made smaller by R chamfering (round chamfer) and C chamfering (chamfer plane) on the door.)

**[O.C.(A)]**

Table-3

Door Thickness (D)	O.C. (A)			
	Door Width 300	Door Width 400	Door Width 500	Door Width 600
20	1.6	1.1	1.0	0.9
30	2.2	1.4	1.1	1.0
34	2.2	1.5	1.1	1.0

**[Door Dimensions and Number of Hinges] 4**

Refer to 1 : P.226-229, 2 : No.280 P.131, 3 : No.280 P.111, 4 : No.280 P.110

160° Opening

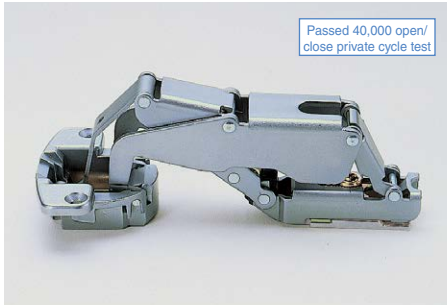
23mm Overlay

Overlay 14~23mm

Cup Dia  $\phi 40$  Bore Depth 15mm  
Door Thickness 18~34mm

Mounting Plate 100 Series

CONCEALED HINGE H160 For Thick Door



Passed 40,000 open/close private cycle test

[Sold Separately]

● 100 series mounting plate 1

[Recommended Screws]

● M4 raised countersunk head screw

RoHS	CAD	Item Code	Item Name	Description	Material	Finish	Weight (g)	Box (pcs)
G	SD	160-073-621	H160-34/23	Without Catch	Body/Steel, Cup/	Satin	185.4	100
G	SD	160-073-631	H160-C34/23	With Catch	Zinc Alloy (ZDC)	Chrome	197.9	100

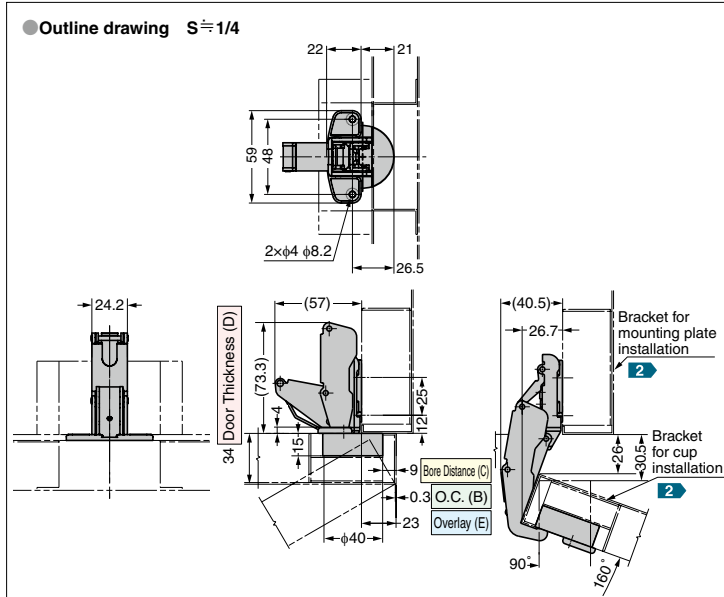
A mounting plate (sold separately) is required for installation. Please order separately.

Picture above is the combination of concealed hinge and mounting plate (sold separately).

Concealed Hinges

Stays

Lateral Opening Door Systems



Picture above is the combination of H160-34/23 or H160-C34/23 (w/catch) and mounting plate 100-03A (sold separately).

[Bore Distance (C)]

Table-1

Bore Distance (C)	3	4	5	6	7	8	9
Overlay (E)	17	18	19	20	21	22	23

For standard type shown in the table above mounting plate 0mm thickness.

Turning the overlay adjustment screw or using spacer (2mm thickness) to adjust overlay (Max. -6mm).

[Opening Clearance (O.C.)]

Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

[O.C. (B)]

Table-2

Door Thickness (D)	Bore Distance (C)						
	3	4	5	6	7	8	9
Max. 33	Max. 0.2						
34	0.3	0.3	0.3	0.3	0.3	0.3	0.3
35*	0.7	0.7	0.7	0.7	0.7	0.6	0.5
36*	3.2	3.0	2.7	2.3	1.6	1.3	0.9
37*	5.0	4.4	3.8	3.2	2.6	2.1	1.6
38*	6.2	5.5	4.8	4.2	3.5	2.9	2.4
39*	7.2	6.4	5.7	5.1	4.4	3.9	3.3
40*	8.3	7.3	6.6	6.0	5.4	4.7	4.2

O.C. (B)

\*The above table is O.C. (B) for 0-90° opening. Please refer to the locus chart if door thickness is over 34mm. (O.C. (B) can be made smaller by R chamfering (round chamfer) and C chamfering (chamfer plane) on the door.)

[O.C. (A)]

Table-3

Door Thickness (D)	O.C. (A)			
	Door Width 300	Door Width 400	Door Width 500	Door Width 600
20	1.4	1.1	0.8	0.7
30	1.8	1.3	1.0	0.8
34	1.8	1.3	1.0	0.8

[Door Dimensions and Number of Hinges] 4

Refer to 1 : P.226-229, 2 : No.280 P.131, 3 : No.280 P.111, 4 : No.280 P.110

160° Opening

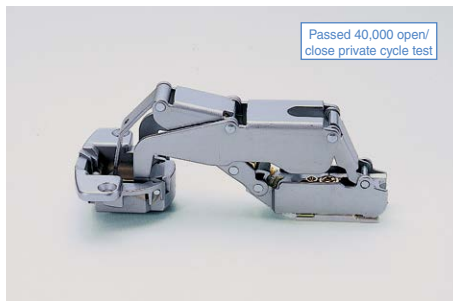
18mm Overlay

Overlay 9~18mm

Cup Dia  $\phi 40$  Bore Depth 15mm  
Door Thickness 18~34mm

Mounting Plate 100 Series

CONCEALED HINGE H160 For Thick Door



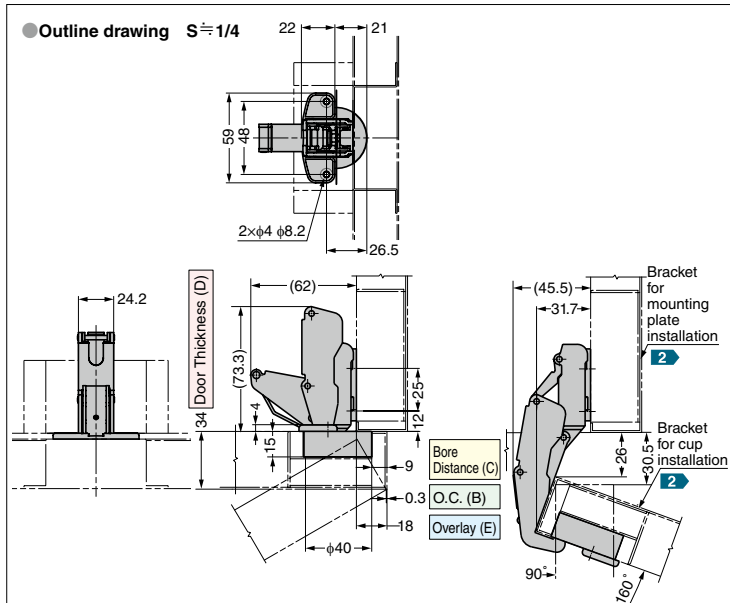
Passed 40,000 open/close private cycle test

- [Sold Separately]
  - 100 series mounting plate 1
- [Recommended Screws]
  - M4 raised countersunk head screw

RoHS	CAD	Item Code	Item Name	Description	Material	Finish	Weight (g)	Box (pcs)
RoHS	3D	160-073-622	H160-34/18	Without Catch	Zinc Alloy	Satin	191	100
RoHS	3D	160-073-632	H160-C34/18	With Catch	(ZDC)	Chrome	203.5	100

A mounting plate (sold separately) is required for installation. Please order separately.

Picture above is the combination of concealed hinge and mounting plate (sold separately).



● Outline drawing  $S \approx 1/4$

**[Bore Distance (C)]** Table-1

Bore Distance (C)	3	4	5	6	7	8	9
Overlay (E)	12	13	14	15	16	17	18

For standard type shown in the table above mounting plate 0mm thickness.  
Turning the overlay adjustment screw or using spacer (2mm thickness) to adjust overlay (Max. -6mm).

**[Opening Clearance (O.C.)]**  
Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

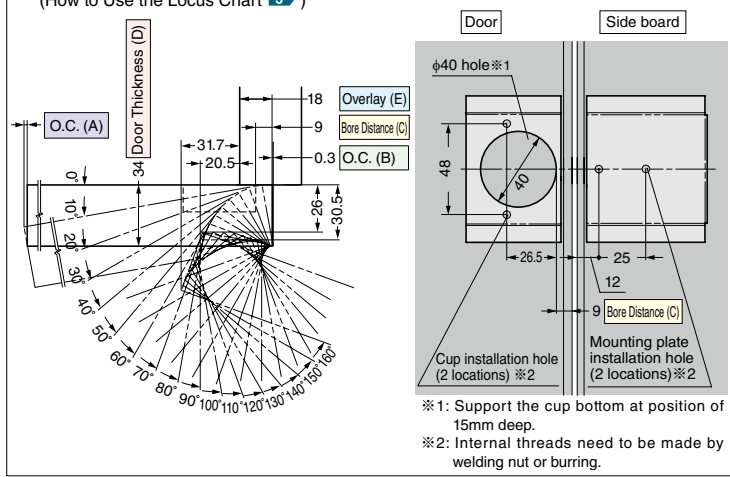
**[O.C.(B)]** Table-2

Door Thickness (D)	Bore Distance (C)						
	3	4	5	6	7	8	9
Max. 33	Max. 0.2						
34	0.3	0.3	0.3	0.3	0.3	0.3	0.3
35※	0.7	0.7	0.7	0.7	0.7	0.6	0.5
36※	3.2	3.0	2.7	2.3	1.6	1.3	0.9
37※	5.0	4.4	3.8	3.2	2.6	2.1	1.6
38※	6.2	5.5	4.8	4.2	3.5	2.9	2.4
39※	7.2	6.4	5.7	5.1	4.4	3.9	3.3
40※	8.3	7.3	6.6	6.0	5.4	4.7	4.2
O.C. (B)							

※The above table is O.C. (B) for 0~90° opening. Please refer to the locus chart if door thickness is over 34mm. (O.C. (B) can be made smaller by R chamfering (round chamfer) and C chamfering (chamfer plane) on the door.)

● Locus chart  $S \approx 1/4$   
(How to Use the Locus Chart 3)

● Cut Out Dimensions For metal door



**[O.C.(A)]** Table-3

Door Thickness (D)	O.C. (A)			
	Door Width 300	Door Width 400	Door Width 500	Door Width 600
20	1.4	1.1	0.8	0.7
30	1.8	1.3	1.0	0.8
34	1.8	1.3	1.0	0.8

**[Door Dimensions and Number of Hinges] 4**

- ※1: Support the cup bottom at position of 15mm deep.
- ※2: Internal threads need to be made by welding nut or burring.

Refer to 1 : P.226-229, 2 : No.280 P.131, 3 : No.280 P.111, 4 : No.280 P.110

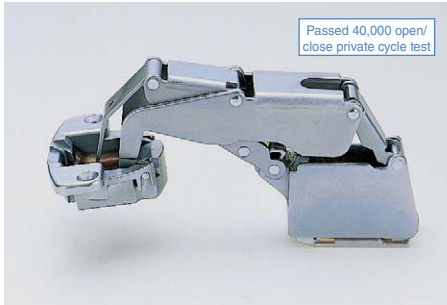
160° Opening

Inset

Cup Dia  $\phi 40$  Bore Depth 15mm  
Door Thickness 18~34mm

Mounting Plate 1  
100 Series

CONCEALED HINGE H160 For Thick Door



[Sold Separately]

- 100 series mounting plate 1

[Recommended Screws]

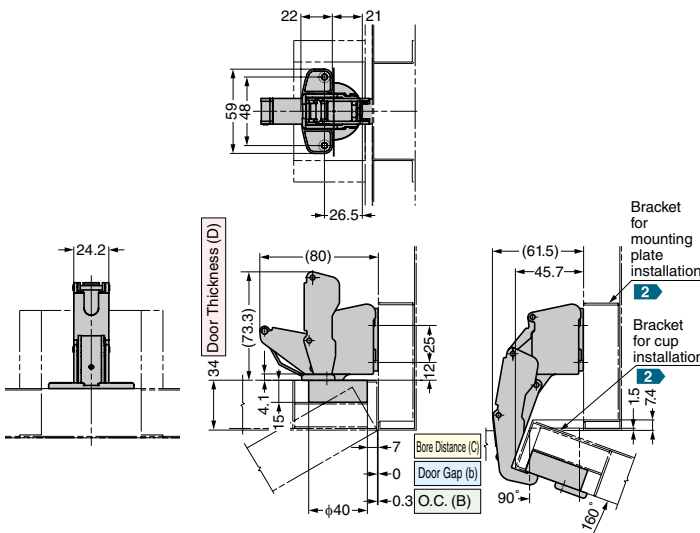
- M4 raised countersunk head screw

RefHS	CAD	Item Code	Item Name	Description	Material	Finish	Weight (g)	Box (pcs)
G	SD	160-073-623	H160-34/0	Without Catch	Zinc Alloy	Satin	230.9	100
G	SD	160-073-633	H160-C34/0	With Catch	(ZDC)	Chrome	244.1	100

A mounting plate (sold separately) is required for installation. Please order separately.

Picture above is the combination of concealed hinge and mounting plate (sold separately).

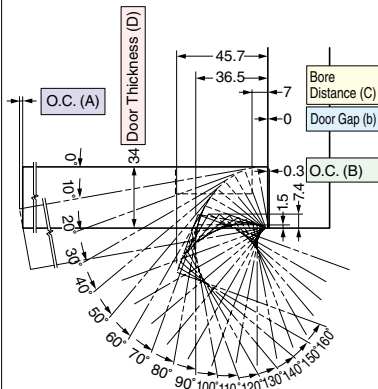
● Outline drawing S = 1/4



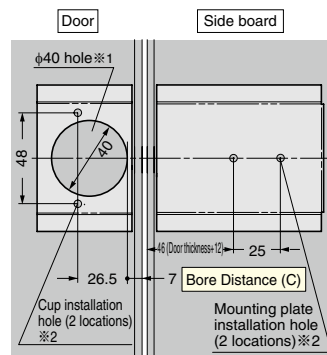
Picture above is the combination of H160-34/0 or H160-C34/0 (w/catch) and mounting plate 100-03A (sold separately).

● Locus chart S = 1/4

(How to Use the Locus Chart 3)



● Cut Out Dimensions For metal door



- ※1: Support the cup bottom at position of 15mm deep.
- ※2: Internal threads need to be made by welding nut or burring.

Refer to 1 : P.226-229, 2 : No.280 P.131, 3 : No.280 P.111, 4 : No.280 P.110

[Bore Distance (C)]

Table-1

Bore Distance (C)	3	4	5	6	7
Door Gap (b)	4	3	2	1	0

For standard type shown in the table above mounting plate 0mm thickness.

Turning the overlay adjustment screw to adjust the gap.

[Opening Clearance (O.C.)]

Clearances for door edge O.C. (A) and hinge side O.C. (B) are necessary. O.C. (A) and (B) change depending on door thickness and bore distance (C). Refer to locus chart and tables below when designing cabinets.

[O.C. (B)]

Table-2

Door Thickness (D)	Bore Distance (C)				
	3	4	5	6	7
Max. 30	Max. 0.1				
31	0.1	0.1	0.1	0.1	0.1
32	0.2	0.2	0.2	0.2	0.2
33	0.2	0.2	0.2	0.2	0.2
34	0.3	0.3	0.3	0.3	0.3
35*	0.9	0.9	0.9	0.8	0.8
36*	3.4	3.1	2.8	2.2	1.6
O.C. (B)					

※The above table is O.C. (B) for 0-90° opening. Please refer to the locus chart if door thickness is over 34mm. (O.C. (B) can be made smaller by R chamfering (round chamfer) and C chamfering (chamfer plane) on the door.)

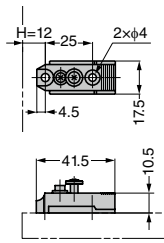
[O.C. (A)]

Table-3

Door Thickness (D)	O.C. (A)			
	Door Width 300	Door Width 400	Door Width 500	Door Width 600
20	1.4	1.1	0.8	0.7
30	1.7	1.3	1.0	0.8
34	1.7	1.3	1.0	0.8

[Door Dimensions and Number of Hinges] 4

## MOUNTING PLATE 100-01



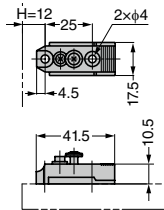
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

## [Recommended Screws]

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RoHS	CAD	Item Code	Item Name	Material	Colour	Weight (g)	Box (pcs)
CE	SD	160-074-070	100-01	PA	Ivory	7.3	800

## MOUNTING PLATE 100-03



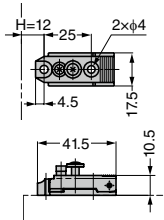
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

## [Recommended Screws]

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
CE	SD	160-074-079	100-03	Zinc Alloy (ZDC)	Satin Chrome	22.3	800

## MOUNTING PLATE 100-03A



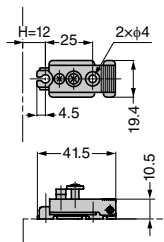
- Overlay adjustable.
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

## [Recommended Screws]

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
CE	SD	160-074-083	100-03A	Zinc Alloy (ZDC)/Steel	Nickel/Coloured Zinc Chromate	27.8	800

## MOUNTING PLATE 100-P3A



- Overlay adjustable.
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

## [Recommended Screws]

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
CE	SD	160-074-244	100-P3A	Steel	Satin Chrome/Coloured Zinc Chromate	21.4	800

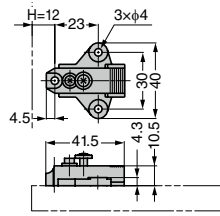
STANDARD TYPE

Concealed Hinges

Stays

Lateral Opening Door Systems

## MOUNTING PLATE 100-02-30



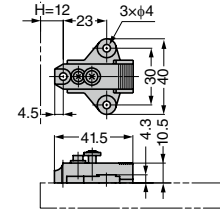
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

## [Recommended Screws]

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RoHS	CAD	Item Code	Item Name	Material	Colour	Weight (g)	Box (pcs)
CE	SD	160-074-071	100-02-30	PA	Ivory	8.3	400

## MOUNTING PLATE 100-04-30



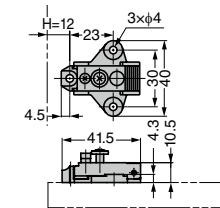
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

## [Recommended Screws]

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
CE	SD	160-074-085	100-04-30	Zinc Alloy (ZDC)	Satin Chrome	28.3	400

## MOUNTING PLATE 100-02A-30



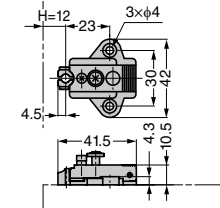
- Overlay adjustable.
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

## [Recommended Screws]

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RoHS	CAD	Item Code	Item Name	Material	Finish / Colour	Weight (g)	Box (pcs)
CE	SD	160-074-074	100-02A-30	PA/Steel	Ivory/Coloured Zinc Chromate	17	400

## MOUNTING PLATE 100-04A-30



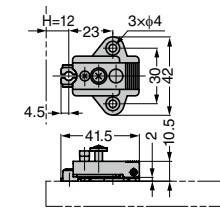
- Overlay adjustable.
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

## [Recommended Screws]

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
CE	SD	160-074-087	100-04A-30	Zinc Alloy (ZDC)/Steel	Satin Chrome/Coloured Zinc Chromate	30.7	400

## MOUNTING PLATE 100-P4A-30



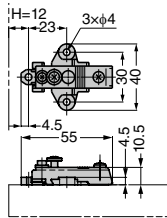
- Overlay adjustable.
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

## [Recommended Screws]

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
CE	SD	160-074-161	100-P4A-30	Steel	Satin Chrome/Coloured Zinc Chromate	26.6	400

### MOUNTING PLATE 100-04W-30



- Height adjustable ( $\pm 1.5$ ).
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

**[Remarks]**

- When using a concealed hinge with wide angle opening, vertical adjustment screw is difficult to adjust.

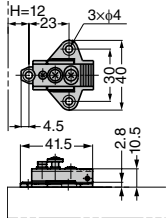
**[Recommended Screws]**

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RtHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)	Carton (pcs)
G	3D	160-074-095	100-04W-30	Zinc Alloy (ZDC)/Steel	Satin Chrome	35.4	200	800

SYSTEM 30 TYPE

### MOUNTING PLATE 100-04A-W-30



- Height adjustable ( $\pm 1.5$ ).
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

**[Recommended Screws]**

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

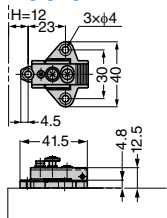
RtHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)	Carton (pcs)
G	3D	160-074-115	100-04A-W-30	Steel	Satin Chrome/Coloured Zinc Chromate	32.1	200	800

Concealed Hinges

Stays

Lateral Opening Door Systems

### MOUNTING PLATE 100-04A-W-30-2



- Overlay and height adjustable ( $\pm 1.5$ ).
- Height: 2mm
- Used to make overlay 2mm smaller.
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

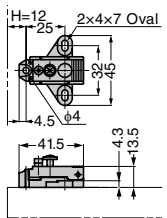
**[Recommended Screws]**

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RtHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)	Carton (pcs)
G	3D	160-074-158	100-04A-W-30-2	Zinc Alloy (ZDC)/Steel	Satin Chrome/Coloured Zinc Chromate	35	200	800

SYSTEM 32 TYPE

### MOUNTING PLATE 100-04A-32-3



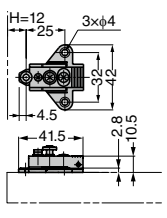
- Overlay adjustable.
- Height: 3mm
- Used to make overlay 3mm smaller.
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

**[Recommended Screws]**

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RtHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)	Carton (pcs)
G	3D	160-074-089	100-04A-32-3	Zinc Alloy (ZDC)/Steel	Satin Chrome/Coloured Zinc Chromate	37.2	400	

### MOUNTING PLATE 100-04A-W-32



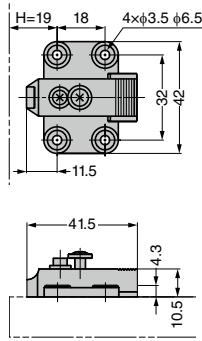
- Overlay and height adjustable ( $\pm 1.5$ ).
- Standard height: 0mm
- Value of H: Door thickness + 17mm in use of INSET type (Door thickness + 12mm in use of INSET type of H160 or 170 hinge).

**[Recommended Screws]**

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RtHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)	Carton (pcs)
G	3D	160-074-116	100-04A-W-32	Steel	Satin Chrome/Coloured Zinc Chromate	32.4	200	800

## MOUNTING PLATE 100-06



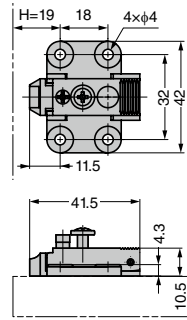
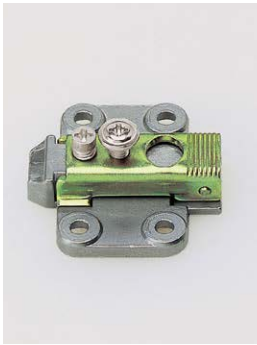
- Standard height: 0mm
- Value of H: Door thickness + 24mm in use of INSET type (Door thickness + 19mm in use of INSET type of H160 or 170 hinge).

**[Recommended Screws]**

- Size 3.1 countersunk head screw

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
		160-074-110	100-06	Zinc Alloy (ZDC)	Satin Chrome	28.5	400

## MOUNTING PLATE 100-06A



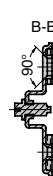
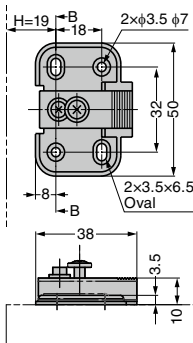
- Overlay adjustable.
- Standard height: 0mm
- Value of H: Door thickness + 24mm in use of INSET type (Door thickness + 19mm in use of INSET type of H160 or 170 hinge).

**[Recommended Screws]**

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
		160-074-111	100-06A	Zinc Alloy (ZDC)/Steel	Satin Chrome/ Coloured Zinc Chromate	36.1	400

## MOUNTING PLATE 100-P6



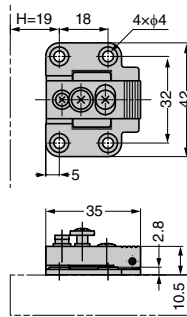
- Standard height: 0mm
- Value of H: Door thickness + 24mm in use of INSET type (Door thickness + 19mm in use of INSET type of H160 or 170 hinge).

**[Recommended Screws]**

- Size 3.1 countersunk head screw

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
		160-074-160	100-P6	Steel	Satin Chrome	23	400

## MOUNTING PLATE 100-06AW



- Overlay and height adjustable ( $\pm 1.5$ ).
- Standard height: 0mm
- Value of H: Door thickness + 24mm in use of INSET type (Door thickness + 19mm in use of INSET type of H160 or 170 hinge).

**[Recommended Screws]**

- Size 3.5 tapping screw or wood screw (do not use countersunk head screws)

RoHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)
		160-074-171	100-06AW	Steel	Satin Chrome/ Coloured Zinc Chromate	36.7	400



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- View product introduction video



- Browse digital web catalogue



- Use product selection tool

Refer to P.13



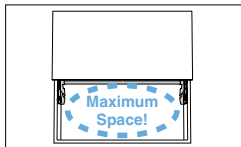
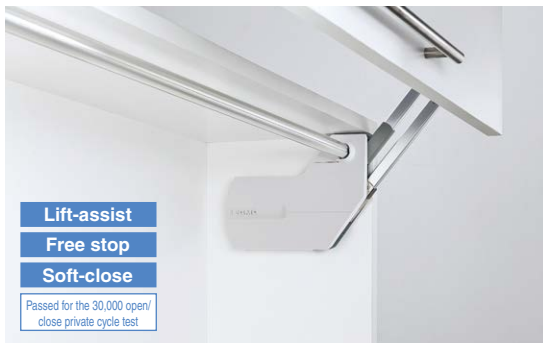
- Download installation instructions

## SWING LIFT-UP STAY SLU-ELAN



INSTRUCTION

VIDEO



## [3 Functions in 1 Stay]

## ● Lift-assist

Can open the door with a slight force.



## ● Free stop

Door can be stopped in any position.

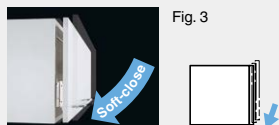
※ The operating range varies slightly depending on the door size and weight.



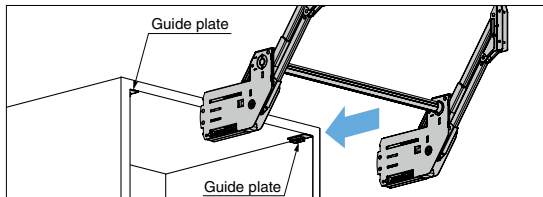
## ● Soft-close

Door closes slowly even if you release your hands from the door.

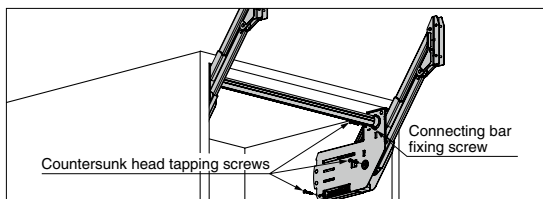
※ The operating range varies slightly depending on the door size and weight.



## [Easy Installation] Fig.4 ※1 connecting bar (sold separately) is necessary for 1 set of stay.



Install on left and right sides of top board bottom after aligning the guide plate with internal surface and edge of cabinet. Installation position is determined by inserting the main body with the main body and connecting bar temporarily assembled.



Fix the main body to cabinet with countersunk head tapping screws (included). Tighten connecting bar fixing screws (left and right sides).

Refer to 1 : P.253, 2 : P.232

Opening Direction	Description	Item Name	Door Width	Door Height	Door Weight※
Lift-Up	Lift-assist Free stop Soft-close	SLU-ELAN-S4	Max. 1800	390-500	5-6.5 kg
		SLU-ELAN-L4			6.5-8 kg
		SLU-ELAN-M4			8-9.5 kg
		SLU-ELAN-H4			9.5-11 kg

※ Door weight includes handle.

- Patented Lapcon mechanism controls door opening and closing softly and smoothly.
  - Door can be opened with a slight force (see Fig. 1).
  - Door can be stopped in any position (see Fig. 2).
  - Door closes slowly even if you release your hands from the door (see Fig. 3).
- Door can be opened and closed smoothly regardless of handle position.
- Installed on the bottom of cabinet top board for maximum space inside the cabinet, not even affecting the shelf mounting.
- Installation position of the main body can be easily determined (see Fig.4).
- Mounting plate can be quickly attached to the main body (see Fig.5).

## [Specifications]

- Operating temperature: 0°C-40°C

## [Remarks]

- Be sure to read the "Cautions" 1.
- 1 connecting bar (sold separately) is necessary for 1 set of stay.
- Use in pairs.
- Never push down the arm of single stay before installation.
- Do not open the door further in fully opened position. And do not roughly.

## [Parts Included]

- Mounting plate (2 pcs)
- Guide plate (2 pcs)
- Countersunk head tapping screw 3.5×38 (6 pcs) for main body
- Binding head tapping screw 3.5×15 (6 pcs) for mounting plate

## [Sold Separately]

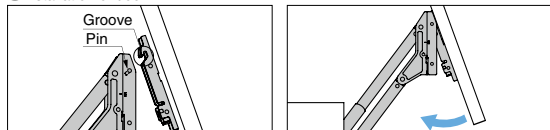
- Connecting bar ELB 2

Video Link



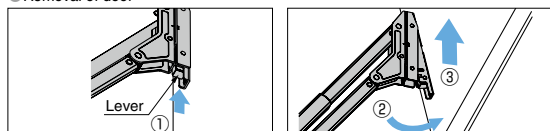
## [Installation and Removal of Door] Fig. 5

## ● Installation of door

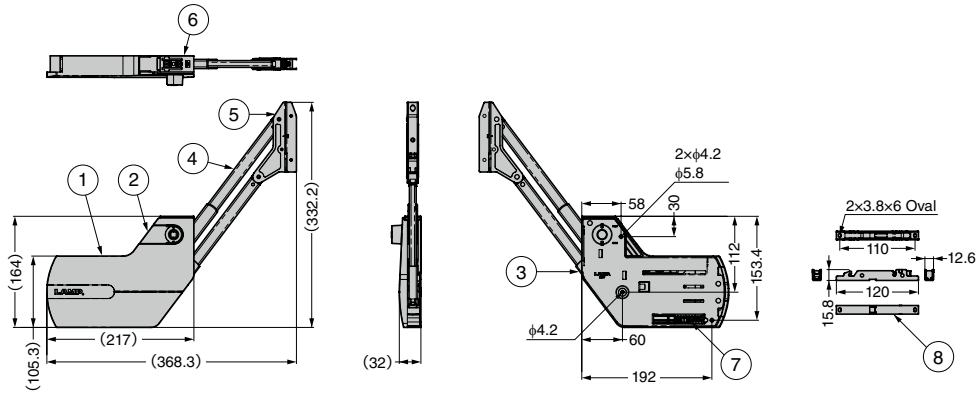


Hang the groove at the tip of mounting plate on the pin of main body, and then push the door along the arrow with a click feeling.

## ● Removal of door



Lift the door along ② arrow while pushing the lever along ① arrow, and then move the door along ③ arrow to detach.



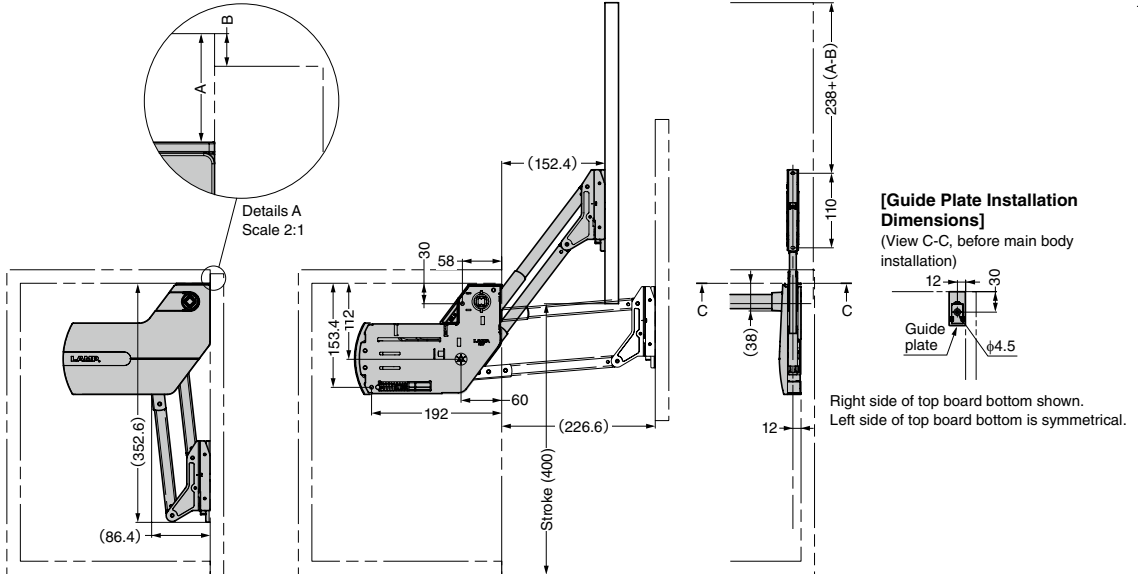
No.	Part Name	Material	Finish/Colour
①	Body Cover	ABS	Light Grey
②	Side Cover		
③	Main Body	Steel (SECC)	-
④	Arm	Aluminium Alloy	Anodised
⑤	Mounting Plate Body	Steel (SPCC)	Nickel
⑥	Guide Plate	POM	Dark Grey
⑦	Damper	-	-
⑧	Mounting Plate	Steel (SPCC)	Nickel

Concealed Hinges

Stays

Lateral Opening Door Systems

[Bracket for installing to frame]



For vertical continuous doors, the gap from upper door should be 3mm or more (for door thickness 16-22mm).

[Main Body]

RHS	CAD	Item Code	Item Name	Material	Finish/Colour	Door Width	Door Height**1	Door Weight kg**2	Weight (g)	Box (sets)	Carton (sets)
☑	☑	180-022-312	SLU-ELAN-S4	Steel/ ABS	Nickel/ Light Grey	Max. 1800	390-500	5-6.5	2491	5	-
☑	☑	180-022-313	SLU-ELAN-L4					6.5-8	2542	5	-
☑	☑	180-022-314	SLU-ELAN-M4					8-9.5	2581	1	5
☑	☑	180-022-315	SLU-ELAN-H4					9.5-11	2631	5	-

\*\*1 Cabinet inside height is Min. 360 mm. \*\*2 Door weight includes handle.

[Connecting Bar] Sold Separately

RHS	CAD	Item Code	Item Name	Material	Finish	Cabinet Inside Width**3	Weight (g)	Box (pcs)	Carton (pcs)
☑	☑	180-022-319	ELB-480	Aluminium Alloy	Anodised	556-566	181	10	-
☑	☑	180-022-320	ELB-780			856-866	294	10	-
☑	☑	180-022-321	ELB-1080			1156-1166	407	10	-
☑	☑	180-022-322	ELB-1380			1456-1466	520	10	-
☑	-	180-026-323	ELB-1680			1756-1766	633	10	-

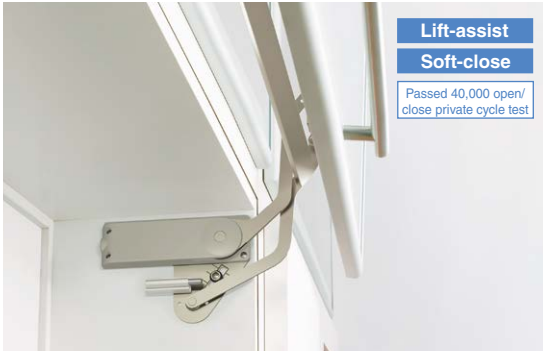
\*\*3 For other cabinet inside widths, the bar can be cut on site (connecting bar length = cabinet inside width - 80mm).

# SWING LIFT-UP STAY SLUN-N



INSTRUCTION

VIDEO



**Lift-assist**  
**Soft-close**  
Passed 40,000 open/close private cycle test

Opening Direction	Item Name	Description	Door Width	Door Height	Door Weight
Lift-up	SLUN-3N	Lift-assist Soft-close	600 ~900	390 ~450	2.8~3.8 kg
	SLUN-4N				3.8~4.8 kg
	SLUN-5N				4.8~5.8 kg

- Patented Lapcon mechanism helps open and close the door smoothly.
- Spring mechanism assists opening the door lightly when it is opened outwards by 50~70mm.
- Damper provides smooth and soft closing.
- Installed on the bottom of cabinet top board for maximum space inside the cabinet.



- [Parts Included]**
- Binding head tapping screw 3.5×15 (for main body)
  - Countersunk head tapping screw 3.5 × 20 (for damper)
  - Truss head tapping screw 4.5 ×12 (for connecting bar)

**[Sold Separately]**

- Connecting bar SLUB (below)

**[Specifications]**

- Operating temperature: 5°C~35°C

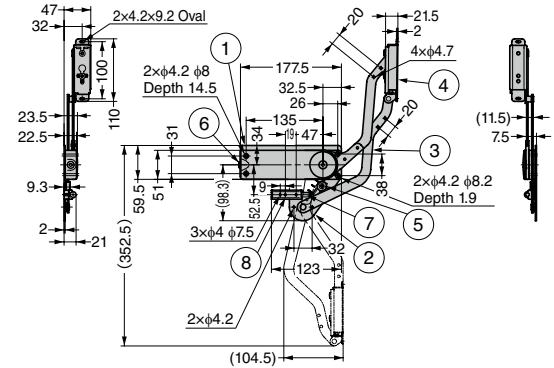
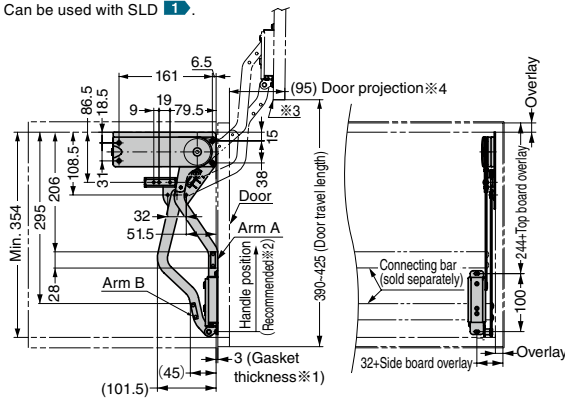
**[Remarks]**

- Be sure to read the "Cautions" 2.
- 1 connecting bar (sold separately) is necessary for 1 set of stay. Install 2 pcs to ensure lateral strength.
- For glass door, the frame width needs 75mm or more.
- Be sure to install a handle (sold separately) in the middle of door width. For easy door opening, install the handle above the bottom edge of door side mounting plate (see ※2 in the figure below).
- Used in pairs.

Video Link



Can be used with SLD 1.



**[Installation]**

- ※1: Dimension with gasket attached on door. Without gasket, shift stay installation position towards back panel side by 3mm.
- ※2: Install handle above the bottom edge of door side mounting plate as shown above.
- ※3: If door height is 425mm or more, lower part of door will cover cabinet top board when door is fully opened.
- ※4: Maximum door projection is 267mm.

**[Body] 1 pair**

Rt/LS	CAD	Item Code	Item Name	Material	Finish/Colour	Door Width	Door Height	Door Weight kg	Weight (g)	Box (sets)	Carton (sets)
G	3D	180-020-832	SLUN-3N	ABS/Steel	Chrome/Grey	600~900	390~450	2.8~3.8	1972	5	-
G	3D	180-020-833	SLUN-4N					3.8~4.8	1967	5	-
G	3D	180-020-834	SLUN-5N					4.8~5.8	2012	5	-

**[Connecting Bar] Sold Separately**

Rt/LS	CAD	Item Code	Item Name	Material	Finish	Mounting Position	Length of Connecting Bar for Cabinet Overall Width 600	Length of Connecting Bar for Cabinet Overall Width 900	Weight (g)	Box (pcs)	Carton (pcs)
G	3D	180-120-287	SLUB-535	Aluminium Alloy	Anodised	Arm A	535	-	191	10	-
G	3D	180-104-088	SLUB-551			Arm B※	551		196	10	-
G	3D	180-120-288	SLUB-835			Arm A	-	835	308	10	-
G	3D	180-100-131	SLUB-851			Arm B※	-	851	312	10	-

※ If the centre part of door is glass etc., install the connecting bar on arm B to make it inconspicuous.

Refer to 1 : P.234, 2 : P.253

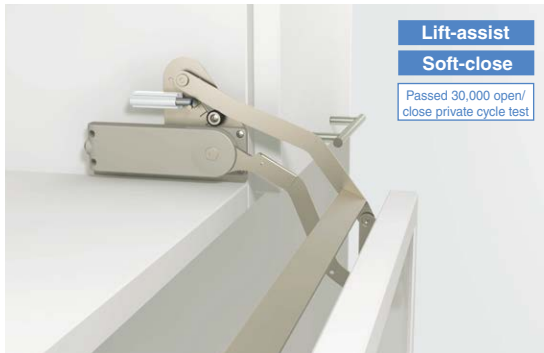
● 2 types of connecting bars are available for cabinet overall width 600mm and 900mm.

● Dimensions in the left table are for standard products with side board thickness of cabinet 15mm. If the side board thickness is over 15mm, the connecting bar should be cut according to the below formula.

Arm A: Connecting bar length = Cabinet overall width - (Side board thickness×2) - 35

Arm B: Connecting bar length = Cabinet overall width - (Side board thickness×2) - 19

# SWING DOWN STAY SLD



**Lift-assist**  
**Soft-close**  
Passed 30,000 open/close private cycle test!

Opening Direction	Item Name	Description	Door Width	Door Height	Door Weight
Lift-down	SLD-3	Lift-assist Soft-close	600 ~900	360 ~400	3~4 kg
	SLD-4				4~5 kg
	SLD-5				5~6 kg

- Patented Lapcon mechanism helps open and close the door smoothly.
- Unique swing down mechanism holds the door in fully opened position.
- Damper provides smooth and soft closing.
- Installed on the top of cabinet bottom board for maximum space inside the cabinet.



- [Parts Included]**
- Binding head tapping screw 3.5×15 (for main body)
  - Countersunk head tapping screw 3.5 × 20 (for damper)
  - Truss head tapping screw 4.5 ×12 (for connecting bar)

**[Sold Separately]**

- Connecting bar SLUB (below)

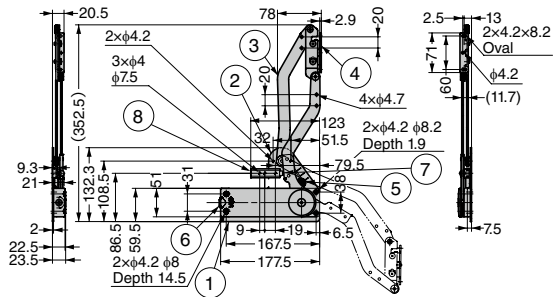
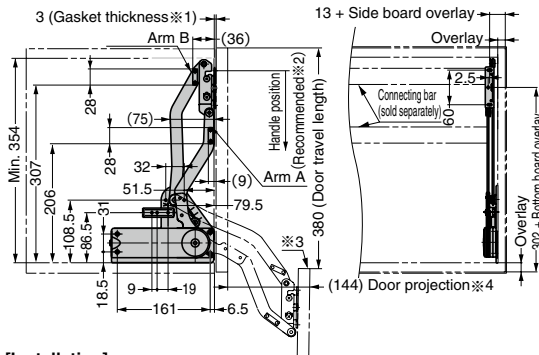
**[Specifications]**

- Operating temperature: 5°C~35°C

**[Remarks]**

- Be sure to read the "Cautions" 2 .
- 1 connecting bar (sold separately) is necessary for 1 set of stay. Install 2 pcs to ensure lateral strength.
- For glass door, the frame width needs 45mm or more.
- Be sure to install a handle (sold separately) in the middle of door width. For easy door opening, install the handle below the top edge of door mounting Plate (see ※2 in the figure below).
- Used in pairs.

Can be used with SLUN-N 1 .



**[Installation]**

- ※1: Dimension with gasket attached on door. Without gasket, shift stay installation position towards back panel side by 3mm.
- ※2: Install handle below the top edge of door side mounting Plate as shown above.
- ※3: If door height is 380mm or more, upper part of door will cover cabinet bottom board when door is fully opened.
- ※4: Maximum door projection is 242mm.

No.	Part Name	Material	Finish/Colour
①	Body	ABS	Grey
②	Mounting Plate	Steel (SPCC)	Chrome
③	Arm		
④	Mounting Plate	POM	Black
⑤	Stopper		
⑥	Adjustment Screw	Steel (SWCH)	Tin Cobalt Plating
⑦	Damper Core	POM	-
⑧	Damper Holder	PA	-

**[Body] 1 pair**

RoHS	CAD	Item Code	Item Name	Material	Finish/Colour	Door Width	Door Height	Door Weight kg	Weight (g)	Box (sets)	Carton (sets)
CE	BD	180-020-848	SLD-3	ABS/Steel	Chrome/Grey	600~900	360~400	3~4	1900	5	-
CE	BD	180-020-849	SLD-4					4~5	1900	5	-
CE	BD	180-020-850	SLD-5					5~6	1980	5	-

**[Connecting Bar] Sold Separately**

RoHS	CAD	Item Code	Item Name	Material	Finish	Mounting Position	Length of Connecting Bar for Cabinet Overall Width 600	Length of Connecting Bar for Cabinet Overall Width 900	Weight (g)	Box (pcs)	Carton (pcs)
CE	BD	180-120-287	SLUB-535	Aluminium Alloy	Anodised	Arm A	535	-	191	10	-
CE	BD	180-104-088	SLUB-551			Arm B※	551		196	10	-
CE	BD	180-120-288	SLUB-835			Arm A	-	835	308	10	-
CE	BD	180-100-131	SLUB-851			Arm B※	-	851	312	10	-

- 2 types of connecting bars are available for cabinet overall width 600mm and 900mm.
- Dimensions in the left table are for standard products with side board thickness of cabinet 15mm. If the side board thickness is over 15mm, the connecting bar should be cut according to the below formula.

Arm A: Connecting bar length = Cabinet overall width - (Side board thickness×2) - 35  
 Arm B: Connecting bar length = Cabinet overall width - (Side board thickness×2) - 19

※ If the centre part of door is glass etc., install the connecting bar on arm B to make it inconspicuous.  
 Refer to 1 : P.233, 2 : P.253

# LIFT-ASSIST STAY EZS-ELAN®

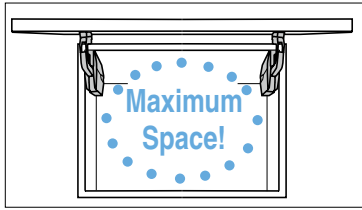


INSTRUCTION

VIDEO



- Lift-assist
  - Free stop
  - Soft-close
- Passed 30,000 open/close private cycle test



Slim design maximises space inside of the cabinet.

Concealed Hinges

Stays

Lateral Opening Door Systems

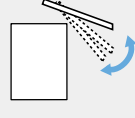
### [3 Functions in 1 Stay]

#### ● Lift-assist

Door can be opened with a slight force.



Fig. 1

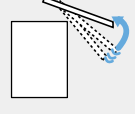


#### ● Free stop

Door can be stopped in any position in the range of about 30° to 70°.



Fig. 2



#### ● Soft-close

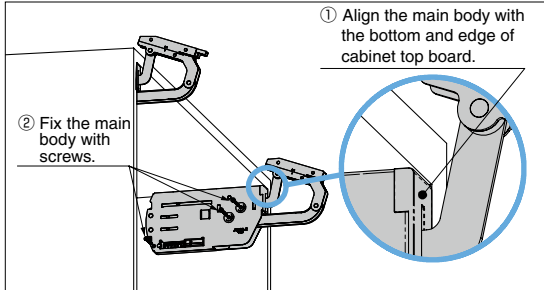
Door closes slowly in the range of about 0° to 20° even if you release your hands from the door.



Fig. 3



### [Easy Installation] Fig.4



Installation position is determined simply by pressing the main body against the bottom surface of top board and aligning the surface indicated by ① with cabinet edge.

Refer to 1 : P.253

Opening Direction	Description	Door Width	Door Height	Door Weight※
Up & Over	Lift-assist Free stop Soft-close	Max. 1200	500-750	5-12.5 kg

※ Door weight includes handle.

- Patented Lapcon mechanism controls door opening and closing softly and smoothly.
  - Door can be opened with a slight force (see Fig. 1).
  - Door can be stopped in any position in the range of about 30° to 70° (see Fig.2).
  - Door closes slowly in the range of about 0° to 20° (see Fig.3).
- Installed on the bottom of cabinet top board for maximum space inside the cabinet.
- No hinges and connecting bar required for installation.
- Installation position of the main body is determined simply by aligning to the bottom surface of top board and cabinet edge (see Fig.4).
- Mounting plate can be quickly attached to the main body (see Fig.5).
- Torque adjustment according to the door weight is unnecessary.

### [Specifications]

- Operating temperature: 0°C-40°C

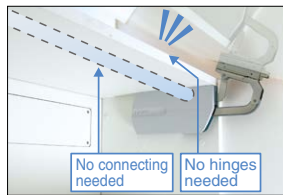
### [Remarks]

- Be sure to read the "Cautions" 1.
- Used in pairs.
- Never push down the arm of single stay before installation.
- Do not open the door further in fully opened position.
- Do not roughly open and close the door.

### [Parts Included]

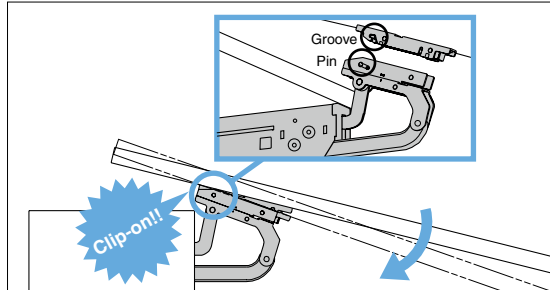
- Mounting plate
- Countersunk head tapping screw 3.5×38 (for main body)
- Binding head tapping screw 3.5×15 (for mounting plate)

Video Link

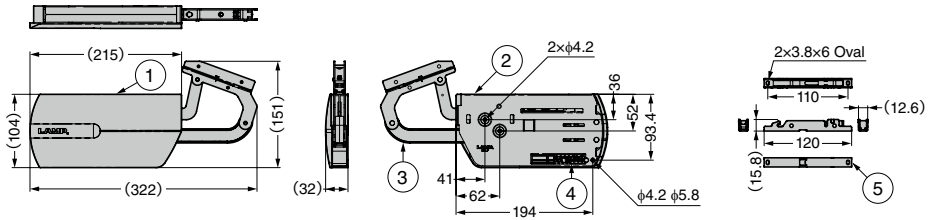


No need to install connecting bar and hinge separately, maximising space inside of the cabinet.

### [Quick Door Installation] Fig.5

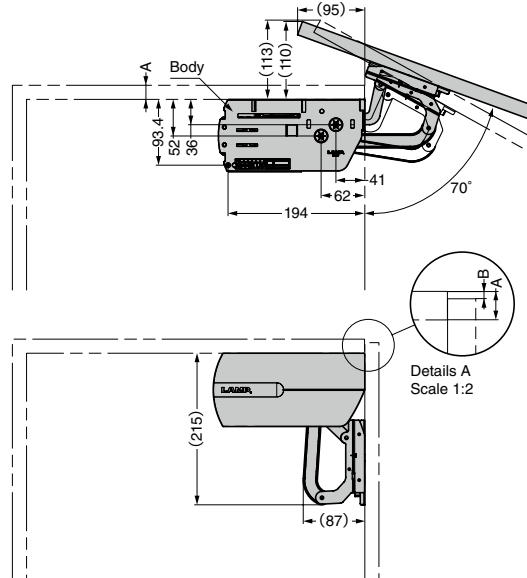
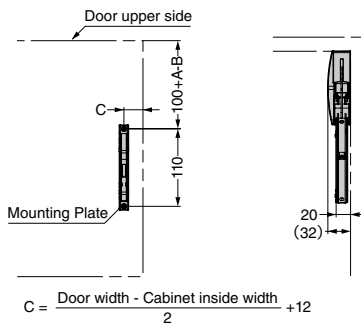


To install the door, simply hook the pin of main unit to the groove of mounting plate and lower the door until it clicks in place.



No.	Part Name	Material	Finish
①	Body Cover	ABS	-
②	Body	Steel (SECC)	-
③	Arm	Steel (SPCC)/POM	Nickel
④	Damper	-	-
⑤	Mounting Plate	Steel (SPCC)	Nickel

[Installation]

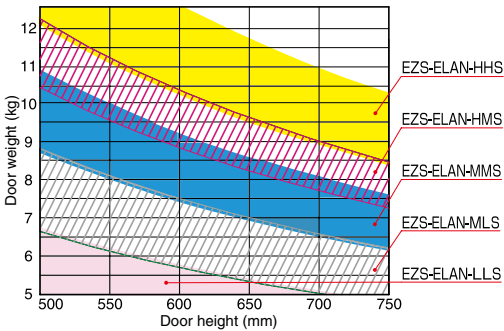


Concealed Hinges

Stays

Lateral Opening Door Systems

[Door Size Range]



Refer to the left graph or the following as a guide for model selection.

1. Calculation of lifting power

**Lifting power = Door height [mm] × (Door weight [kg] - 1)**

Door size

Door width: Max. 1200mm

Door height: 500-750 mm

Door weight: 5-12.5 kg

※ Confirm the movement with actual item if lifting power is at the upper or lower limit of each model.

※ Door weight includes handle.

2. Applicable models

Lifting Power	Model
1900-2860	EZS-ELAN-LLS
2820-3900	EZS-ELAN-MLS
3850-4950	EZS-ELAN-MMS
4700-5600	EZS-ELAN-HMS
5550-6930	EZS-ELAN-HHS

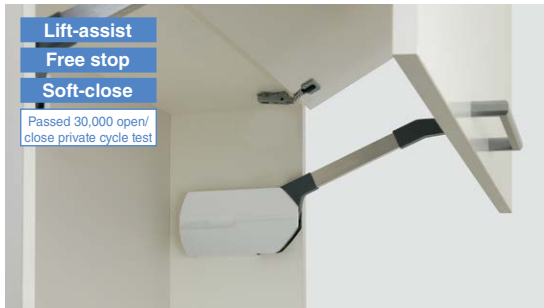
[Set Packing]

RoHS	CAD	Item Code	Item Name	Material	Finish/Colour	Weight (g)	Box (sets)	Carton (sets)
☑	3D	180-018-903	EZS-ELAN-LLS	Steel/ABS	Nickel/Light Grey	2245	1	5
☑	3D	180-018-904	EZS-ELAN-MLS			2316	1	5
☑	3D	180-018-905	EZS-ELAN-MMS			2387	1	5
☑	3D	180-018-906	EZS-ELAN-HMS			2431	1	5
☑	3D	180-018-907	EZS-ELAN-HHS			2475	1	5

[Bulk Packing]

RoHS	CAD	Item Code	Item Name	Material	Finish/Colour	Weight (g)	Box (sets)	Carton (sets)
☑	3D	180-018-923	EZS-ELAN-L	Steel/ABS	Nickel/Light Grey	2334	1	5
☑	3D	180-018-924	EZS-ELAN-M			2486	1	5
☑	3D	180-018-925	EZS-ELAN-H			2486	1	5
☑	3D	180-018-983	EZS-ELAN-COVER	ABS	Light Grey	160	1	5

# BI-FOLD LIFT-ASSIST STAY HBF-ELAN



- Lift-assist
  - Free stop
  - Soft-close
- Passed 30,000 open/close private cycle test

Opening Direction	Description	Door Width	Door Height	Door Weight
Bi-folding	Lift-assist Free stop Soft-close	Max. 1200	320~370	2.5~6.5 kg

Values above are for 1 bi-fold door.

- Patented Lapcon mechanism controls door opening and closing softly and smoothly.
  - Door can be opened with a slight force (see Fig. 1).
  - Door can be stopped in any position in the range of about 50° to fully opened position (see Fig.2).
  - Door closes slowly in the range of about 0° to 40° even if you release your hands from the door (see Fig.3).
- Opening angle can be easily adjusted according to hinge used (see Fig.4).
- Quick installation due to innovative vertical adjustment function of mounting plate (see Fig.5~7).
- Easy installation by using supplied template.

### [3 Functions in 1 Stay]

#### ● Lift-assist

Door can be opened with a slight force.

Fig. 1



#### ● Free stop

Door can be stopped in any position in the range of about 50° to fully opened position.

Fig. 2



#### ● Soft-close

Door closes slowly in the range of about 0° to 40° even if you release your hands from the door.

Fig. 3



### [Specifications]

- Operating temperature: 0°C~40°C

### [Remarks]

- Be sure to read the "Cautions" 1.
- Never push down the arm of single stay before installation.
- Do not open the door further in fully opened position.
- Do not roughly open and close the door.
- Hinges not included. Customer should provide concealed hinges (without catch) or single knuckle hinges.
- Specified range of movement and door weight slightly vary depending on the type of hinge used (concealed hinge or piano/butt hinge). Confirm with actual item before use.
- Two centre hinges connecting the upper door and the lower door are included.
- For easy door opening, recommended to install the handle above the centre of the lower door mounting plate.
- Use in pairs.

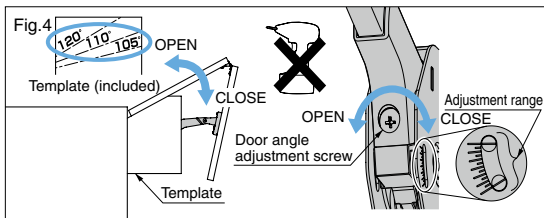
### Video Link



### [Parts Included]

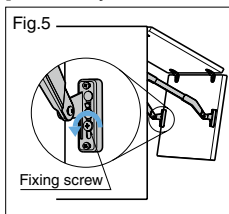
- Mounting plate
- Centre hinge
- Paper template
- Countersunk head tapping screw 3.5×38 (for main body)
- Binding head tapping screw 3.5×15 (for centre hinge)
- Binding head tapping screw 3.5×27 (for mounting plate)
- Truss head screw M4×5 (for mounting plate)

### [Multiple Adjustments]

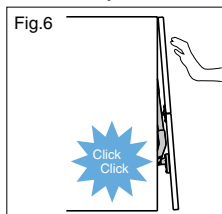


Place the template folded at the opening angle position of hinge against the hinge side of cabinet, and then turn the door angle adjustment screw to match the opening angle with the template.

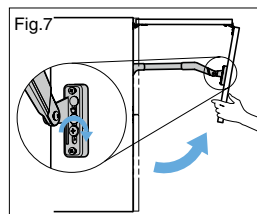
### [Vertical Adjustment of Mounting Plate] Quick installation possible



Loosen the fixing screws of the left and right mounting plates.

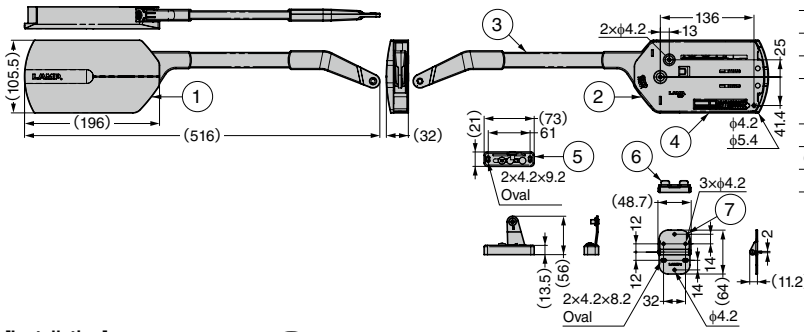


Press the upper door until the door is closed, then the mounting plates is adjusted to the appropriate position with a click sound.



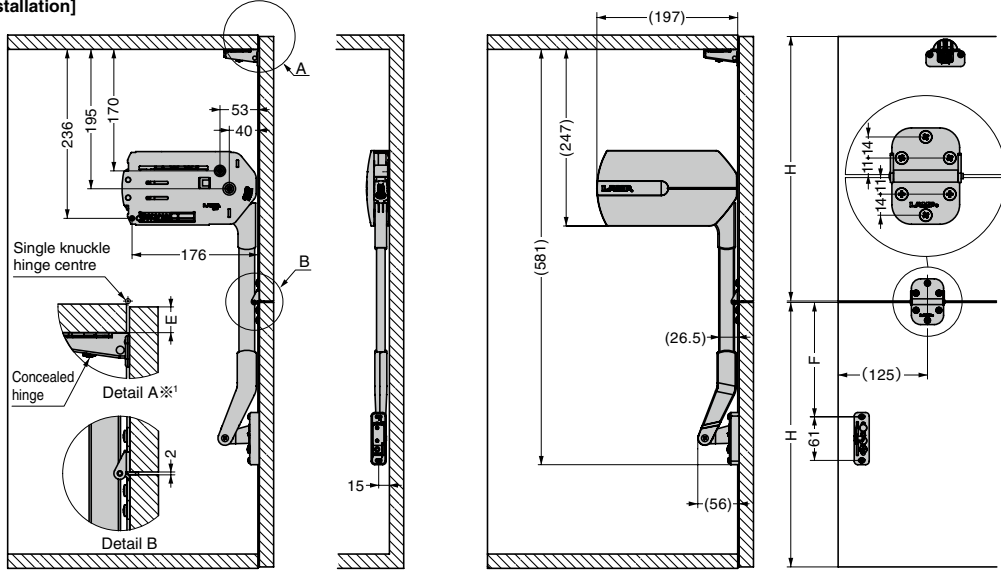
Grasp the lower part of the lower door, slowly open the door, and then tighten the fixing screws of the left and right mounting plates.

Refer to 1 : P.253



No.	Part Name	Material	Finish/Colour
①	Body Cover	ABS	-
②	Body	Steel (SECC)	-
③	Arm	Aluminium Alloy/ABS	Anodised
④	Damper	-	-
⑤/⑥	Mounting Plate	Steel (SPCE)	Nickel
⑦	Centre Hinge	Steel (SPCC)	Nickel

[Installation]



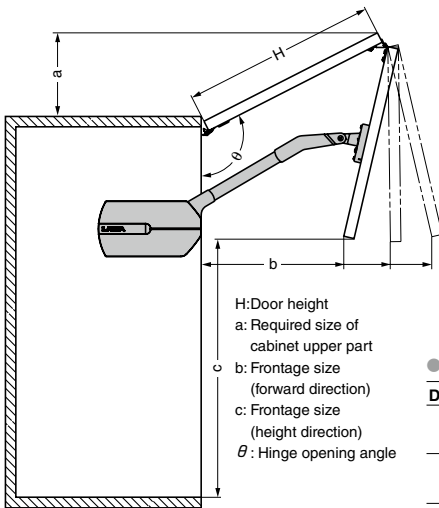
※1 Concealed hinge or piano/butt hinge not included.

$F = 512 + E$  (Overlay) - H (Door height)

[With concealed hinge]

● Hinge opening angle and door position

Opening Angle $\theta$	Door Height H	a	b	c
105°	320	58	364	341
	350	65	348	373
	370	69	314	399
110°	320	85	364	369
	350	93	344	402
	370	99	303	431
120°	320	134	359	424
	350	148	330	459
	370	157	270	492



● Qty of Concealed Hinges

Door Weight kg	Door Width	Qty
2.5~5.5	~900	2 pcs
	900~1200	
5.6~6.5	~900	3 pcs
	900~1200	

[With single knuckle hinge]

● Hinge opening angle and door position

Opening Angle $\theta$	Door Height H	a	b	c
120°	320	167	351	452
	350	181	313	490
110°	370	131	289	461

※When using single knuckle hinge, use the template (included) and adjust so that the opening angle  $\theta$  of the hinge becomes 120° or less (see Fig. 4).

[Body]1 pair Values below are for 1 door (bi-fold door). 2 doors are necessary for 1 cabinet.

Rd/S	CAD	Item Code	Item Name	Material	Finish/Colour	Door Width	Door Height※2	Door Weight kg※3	Weight (g)	Box (sets)	Carton (sets)	
G	BD	180-024-608	HBF-ELAN-LL	Aluminium Alloy/ ABS	Anodised/ Light Grey	Max. 1200	320~370		2.5~3.3	2245	1	5
G	BD	180-024-609	HBF-ELAN-ML						3.3~4.1	2316	1	5
G	BD	180-024-610	HBF-ELAN-MM						4.1~4.9	2387	1	5
G	BD	180-024-611	HBF-ELAN-HM						4.9~5.7	2431	1	5
G	BD	180-024-612	HBF-ELAN-HH						5.7~6.5	2475	1	5

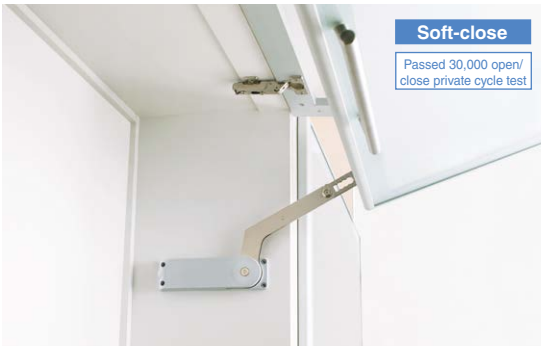
For supplied centre hinge (2 pcs), use 2 pcs regardless of door width.

※2 Cabinet inside height is Min. 600mm. ※3 Door weight includes handle.

# HORIZONTAL BI-FOLDING UNIT HBFN



INSTRUCTION



**Soft-close**  
Passed 30,000 open/close private cycle test

Opening Direction	Item Name	Description	Door Width	Door Height	Door Thickness	Door Weight
Bi-folding	HBFN-(2-4)M	Soft-close	450-900	320-370	17-20	2.5 ~ 5.5 kg
	HBFN-(3-7)L			370-420		2.5 ~ 6.5 kg

- Patented Lapcon mechanism controls door closing softly and smoothly.
- Designed to hold the door in closed and opened position.
- Mounting plates (sold separately) suitable for 20mm and 45mm aluminium frames are available.

**[Specifications]**

- Operating temperature: 5°C-35°C

**[Remarks]**

- Be sure to read the "Cautions" 1.
- 1 set of stays needs 1 set of mounting plates (sold separately).
- Hinges used for installing door to cabinet are not included. Customer should provide concealed hinges (overlay type, opening angle 105°).
- Two offset hinges used for connecting upper door and lower door are included. Order additionally if door width exceeds 600mm.
- For easy door opening, recommended to install the handle above the centre of the lower door mounting plate.

**[Parts Included]**

- Offset hinge HBFN-CH (2 pcs)
- Binding head tapping screw 3.5×15

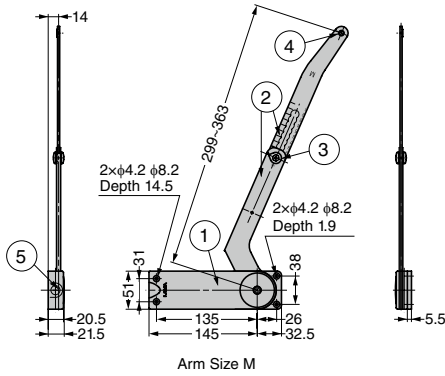
**[Sold Separately]**

- Mounting plate HBFN-SZ, HBFN-AZ-S 2

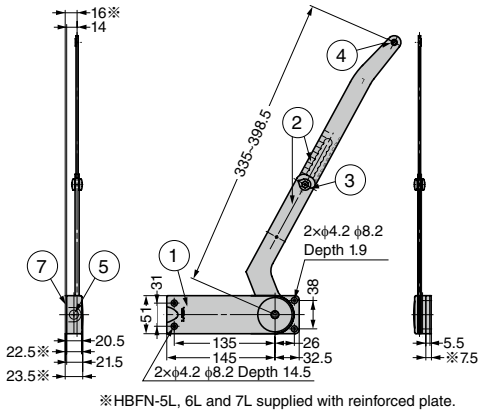
Concealed Hinges

Stays

Lateral Opening Door Systems

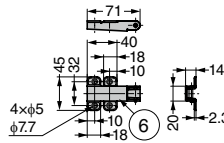


Arm Size M



※HBFN-5L, 6L and 7L supplied with reinforced plate.

Arm Size L



No.	Part Name	Material	Finish/Colour
①	Body	ABS	-
②	Arm	Steel (SPCC)	Nickel
③	Adjustment Dial	Zinc Alloy (ZDC)	
④	Sleeve	POM	Natural
⑤	Adjustment screw	Steel (SWCH)	Tin Cobalt Plating
⑥	Centre Hinge	Steel (SPCC)	Nickel
⑦	Reinforced Plate		

**[Offset Hinge] 2 pcs supplied with the main body. Order additionally for door width more than 600mm.**

RHS	CAD	Item Code	Item Name	Material	Finish	Weight (g)	Box (pcs)	Carton (pcs)
☑	☑	180-099-941	HBFN-CH	Steel	Nickel	64	40	160

**[Body] 1 pair** ※ Values below are only for 1 door. 2 doors are necessary for 1 cabinet.

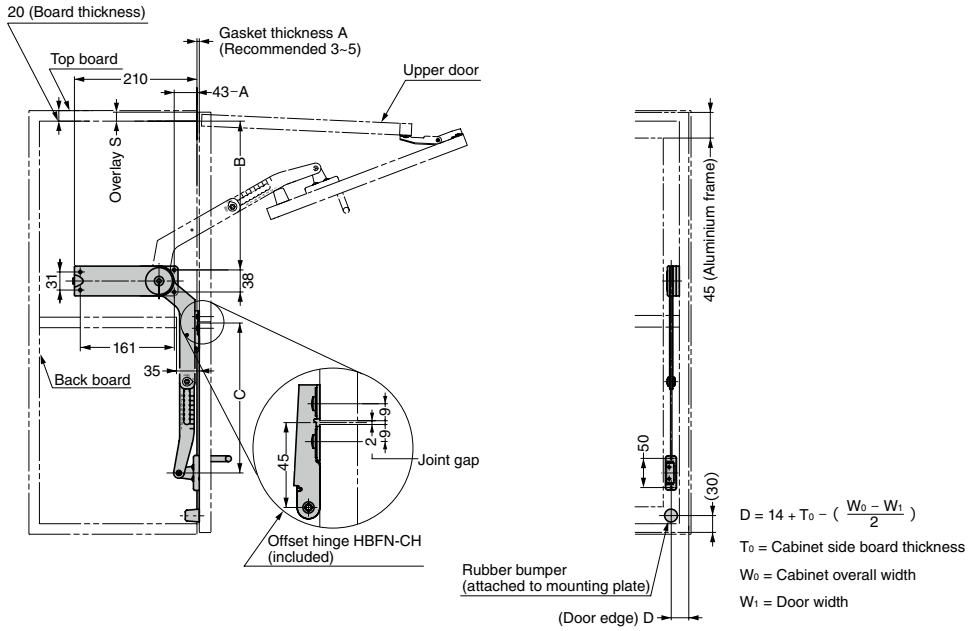
RHS	CAD	Item Code	Item Name	Arm Size	Door Width	Door Height	Door Thickness	Door Weight kg	θ	L	t	Weight (g)	Box (sets)	Carton (sets)
☑	☑	180-109-615	HBFN-2M	M		320-370	17-20	2.5-3.5	171°	299-363	14	1500	10	-
☑	☑	180-109-616	HBFN-3M					3.5-4.5				1500	10	-
☑	☑	180-109-617	HBFN-4M					4.5-5.5				1600	10	-
-	☑	180-100-212	★HBFN-3L	L	450-900	370-420	17-20	2.5-3.5	169°	335-398.5	16	-	10	10
-	☑	180-100-213	★HBFN-4L					3.5-4.5				-	10	10
-	☑	180-100-211	★HBFN-5L					4.5-5.5				-	10	10
-	☑	180-109-363	★HBFN-6L					5.5-6.0				-	10	-
-	☑	180-109-318	★HBFN-7L					6.0-6.5				-	10	-

Refer to 1 : P.253, 2 : P.240

★Discontinued

**[Installation]**

※Dimensions for door with gasket shown. Without gasket, shift main body installation position towards back panel side by gasket thickness A.

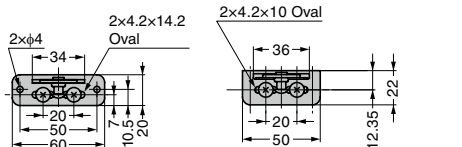


**[Installation Dimensions]**

Arm Size	Door Height	Upper Opening Angle 90°			Upper Opening Angle 105°		
		Arm Adjustment Position	B	C	Arm Adjustment Position	B	C
M	320	1	247-S	241	4	226-S	244
	330	2	252-S	244	5	234-S	250
	340	3	258-S	248	6	243-S	257
	350	4	263-S	251	7	251-S	263
	360	5	269-S	255	8	259-S	269
	370	6	274-S	258	9	267-S	275
L	370	1	289-S	269	4	291-S	295
	380	2	295-S	273	5	300-S	302
	390	3	300-S	276	6	308-S	308
	400	4	306-S	280	7	317-S	315
	410	5	313-S	285	8	327-S	323
	420	6	320-S	290	9	336-S	330

**ARM MOUNTING PLATE FOR HBFN HBFN-SZ, HBFN-AZ-S**

**INSTRUCTION**



● For wooden doors and aluminium frame doors. Only for HBFN.

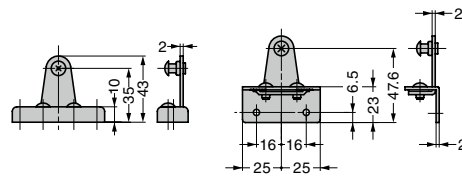
**[Remarks]**

● Sold in pairs.

**[Parts Included]**

● Truss head screw M4×6

● Countersunk head tapping screw 3.5×25



Rev's	CAD	Item Code	Item Name	Application	Material	Finish	Weight (g)	Box (sets)	Carton (sets)
01	01	180-109-618	HBFN-SZ	For 45 mm or more Aluminium Frame Door / Wooden Door	Steel/ Rubber	Nickel	44	50	-
-	01	-	☆HBFN-AZ-S	For 20mm Aluminium Frame Door			52	-	-

☆Made to order.

MONOFLAT LIN-X HINGE LIN-X450, LIN-X600



MonoFlat LIN-X hinge®



	LIN-X450 <sup>1</sup>	LIN-X600 <sup>2</sup>
Door Width	400-500 mm	550-650 mm
Door Height	600-2400 mm	
Door Thickness	15-24 mm	
Door Weight	Max. 17 kg/Door	Max. 24 kg/Door
Overlay	19 mm	
Specification	☐ Single Door (Overlay)	

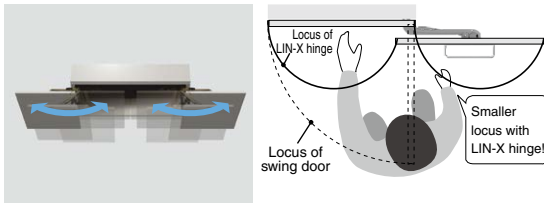
Concealed Hinges

Stays

Lateral Opening Door Systems

Door does not get in the way even when fully opened

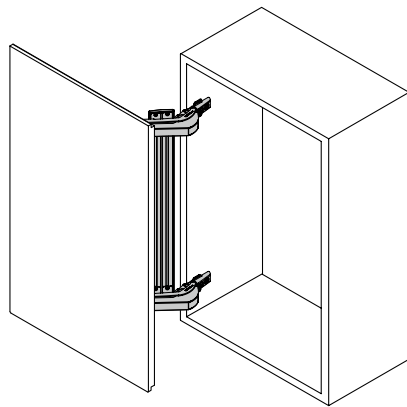
- Door will be flush with left and right doors when closed.
- Door does not get in the way during and after being opened.
  - Swings out laterally in small radius, ideal for tight front space application.
- Full access to cabinet! Maximising inside space.
  - Installed to cabinet side board, maximising space inside of cabinet.
- Smooth operation
  - Door can be opened and closed smoothly from any position.
- Soft close
  - Door closes smoothly and softly with damper.
- Easy installation
  - Arms are clipped or base.
- 4-way adjustable
  - Adjustable in vertical, horizontal, depth and parallel directions.
- Various applications
  - Allows to combine single door and double door, suitable for various cabinets. L-shaped corner use also possible.



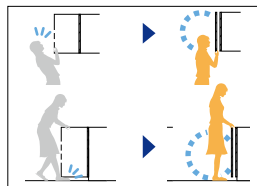
- Allows to swing out laterally in small radius, ideal for tight front space application.



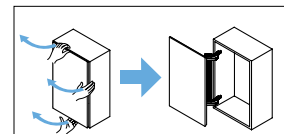
- Installed to side board, not interfering with taking in/out of articles. Suitable for hanging doors and floor cabinets.
- Easy installation and removal.



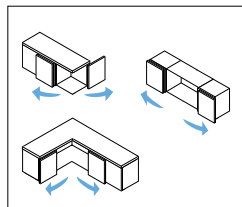
2 hinges per door shown.



- Door does not get in the way when opening and closing.



- Door can be opened and closed smoothly from any position.



- Suitable for various cabinets.

Refer to <sup>1</sup> : P.242, <sup>2</sup> : P.245

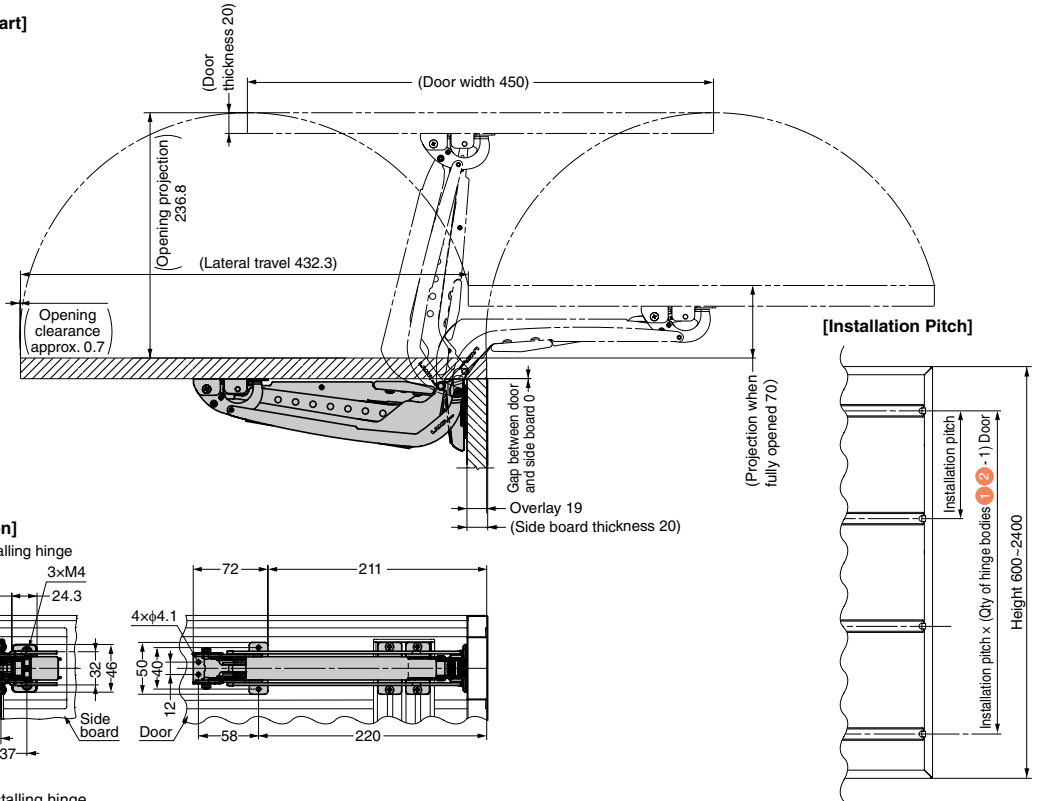
**LIN-X450 Installation Example**



Door specifications [Width: 400-500mm] [Thickness: 15-24mm] [Height: 600-2400mm] [Weight: Max. 17kg/door] [Overlay: 19mm for standard type]

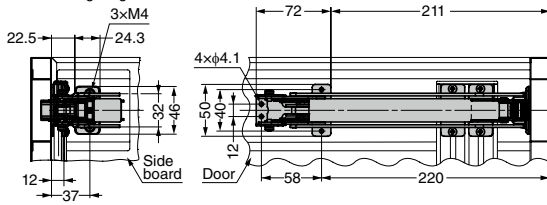
The circled numbers are part numbers. Please check with the parts list 1. For LIN-X600, refer to 2.

**[Locus Chart]**



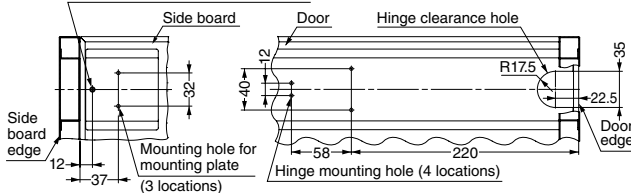
**[Installation]**

● When installing hinge



● Before installing hinge

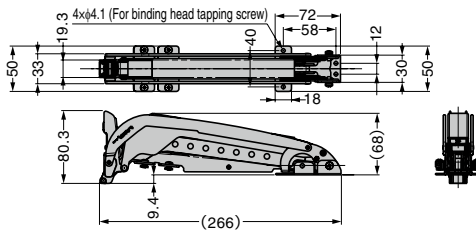
※ Chamfer the mounting hole. (φ5.2)



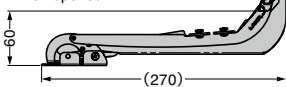
Qty of Hinge Bodies (1 + 2)	Item Name Suffix of Parts Set					
	09XX	12XX	15XX	18XX	21XX	24XX
	Connecting Bar 3 Length L					
(1 + 2)	540	840	1140	1440	1740	2040
2 Hinges per Door	490	790	1090	-	-	-
3 Hinges per Door	245	395	545	695	845	-
4 Hinges per Door	-	263	363	463	563	663
5 Hinges per Door	-	-	272.5	347.5	422.5	497.5

**[Parts Drawings]**

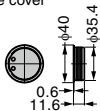
● Hinge body  
When closed



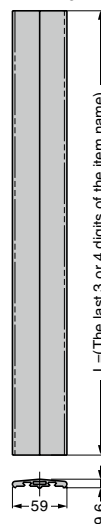
When opened



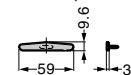
● Hole cover



● Connecting bar



● End cap for connecting bar



Refer to 1 : P.243-244, 2 : P.247-248

When Ordering MonoFlat  
LIN-X Hinge LIN-X450

● Necessary Parts..... **Parts Set (Per Door)** + **Mounting Plate**

● Standard kit **1** including mounting plates also available, suitable for door height 600~900mm and door weight 7kg or less.

Parts Set (Per Door)

Necessary Parts

Choose based on applicable door height and door weight.

(Refer to **2** for details on dimensions and descriptions of parts included in the set.)

RoHS	CAD	Item Code	Item Name	Door Height mm	Door Weight kg	Parts Included (For LIN-X450)				Weight (g)	
						1 Hinge Set (With Catch & Damper)	2 Hinge Set (Without Catch & Damper)	3 Connecting Bar			4 End Cap For Connecting Bar
								Qty/set	Qty/set		
		250-016-701	LIN-X450S-0907	600~	Max. 7	2	-	LIN-X45-L540	-	4046	
		250-016-702	LIN-X450S-0910	900	7.1~10.5	3	-	LIN-X45-L540	-	4812	
		250-016-703	LIN-X450S-1207	901~	Max. 7	2	-	LIN-X45-L840	-	4193	
		250-016-704	LIN-X450S-1210	1200	7.1~10.5	3	-	LIN-X45-L840	-	4959	
		250-016-705	※1 LIN-X450S-1214	1200	10.6~14	3	1	LIN-X45-L840	-	5661	
		250-016-706	LIN-X450S-1507	1201~	Max. 7	2	-	LIN-X45-L1140	-	4416	
		250-016-707	LIN-X450S-1510	1500	7.1~10.5	3	-	LIN-X45-L1140	-	5182	
		250-016-708	※1 LIN-X450S-1514	1500	10.6~14	3	1	LIN-X45-L1140	-	5884	
		250-016-709	※2 LIN-X450S-1517	1500	14.1~17	3	2	LIN-X45-L1140	-	6586	
		250-016-710	LIN-X450S-1807	1501~	Max. 7	3	-	LIN-X45-L1440	1	5512	
		250-016-711	LIN-X450S-1810	1800	7.1~10.5	3	-	LIN-X45-L1440	2	5512	
		250-016-712	※1 LIN-X450S-1814	1800	10.6~14	3	1	LIN-X45-L1440	-	6214	
		250-016-713	※2 LIN-X450S-1817	1800	14.1~17	3	2	LIN-X45-L1440	-	6916	
		250-016-715	LIN-X450S-2107	1801~	Max. 7	3	-	LIN-X45-L1740	-	5648	
		250-016-716	LIN-X450S-2110	2100	7.1~10.5	3	-	LIN-X45-L1740	-	5648	
		250-016-717	※1 LIN-X450S-2114	2100	10.6~14	3	1	LIN-X45-L1740	-	6350	
		250-016-718	※2 LIN-X450S-2117	2100	14.1~17	3	2	LIN-X45-L1740	-	7052	
		250-016-721	※1 LIN-X450S-2407	2101~	Max. 7	3	-	LIN-X45-L2040	-	6669	
		250-016-722	※1 LIN-X450S-2410	2400	7.1~10.5	3	1	LIN-X45-L2040	-	6669	
		250-016-723	※1 LIN-X450S-2414	2400	10.6~14	3	1	LIN-X45-L2040	-	6669	
		250-016-724	※2 LIN-X450S-2417	2400	14.1~17	3	2	LIN-X45-L2040	-	6669	

※1: 4 hinges per door. If installing hinge set (without catch & damper) **2**, please use it as the second one from the bottom.

※2: 5 hinges per door. If installing hinge set (without catch & damper) **2**, please use it as the second and third ones from the bottom.

[Parts Set Details] Refer to page **2** for the dimensions.

No.	Part Name	Description
<b>1</b>	<b>Hinge Set (With Catch &amp; Damper)</b> Parts Included in 1 Set Hinge Body (With Catch & Damper)	Item Code : 250-016-240 Item Name : LIN-X450ACD Weight (g) : 766
	Hole Cover ×1	
	Binding Head Tapping Screw ×4	● Material Steel ● Finish Nickel
<b>2</b>	<b>Hinge Set (Without Catch &amp; Damper)</b> Parts Included in 1 Set Hinge Body (With Catch & Damper)	Item Code : 250-016-242 Item Name : LIN-X450A Weight (g) : 702
	Hole Cover ×1	
	Binding Head Tapping Screw ×4	● Material Steel ● Finish Nickel

No.	Part Name	Description
<b>3</b>	<b>Connecting Bar</b>	Item Code : 250-016-250 Item Name : LIN-X45-L540 Weight (g) : 481
	Item Code : 250-016-252 Item Name : LIN-X45-L840 Weight (g) : 647	
	Item Code : 250-016-254 Item Name : LIN-X45-L1140 Weight (g) : 870	
	Item Code : 250-016-255 Item Name : LIN-X45-L1440 Weight (g) : 1200	
	Item Code : 250-016-256 Item Name : LIN-X45-L1740 Weight (g) : 1336	
	Item Code : 250-016-259 Item Name : LIN-X45-L2040 Weight (g) : 1655	
	● Material Aluminium Alloy ● Finish Anodised	
<b>4</b>	<b>End Cap for Connecting Bar</b>	Item Code : 250-016-260 Item Name : LIN-X45C Weight (g) : 2
	● Material POM ● Colour Grey	

Refer to **1** : P.244, **2** : P.242

# Mounting Plate

## Necessary Parts

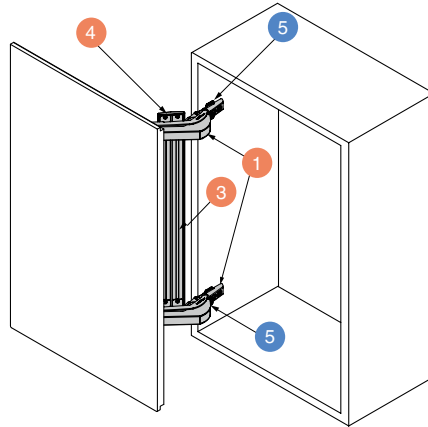
Mounting Plate (5) : Same qty as hinge (1+2) is necessary.

Countersunk Head Tapping Screw (6) : 3 pcs are necessary per 1 mounting plate.

No.	RoHS	CAD	Item Code	Dimensions
5	RoHS	CAD	160-070-041	Mounting Plate
Item Name : 230-P4W-32T Weight (g) : 26				
● Material Steel ● Finish Nickel				

No.	RoHS	CAD	Item Code	Dimensions
6	RoHS	-	160-070-030	Raised Countersunk Head Tapping Screw 3.5×15
Item Name : TAP3515NI Weight (g) : 1				<p>For Mounting Plate</p>
● Material Steel ● Finish Nickel				

The circled numbers are part numbers. Please check with the parts list 1. For LIN-X600, refer to 2.



Refer to 1 : P.243~244, 2 : P.247-248

## STANDARD KIT With Mounting Plate



- Includes parts set and mounting plates.
- Suitable for door size (width 400~500mm, height 600~900mm, thickness 15~24mm) and door weight 7kg or less.

### [Parts Included]

- Hinge body ..... 2 pcs
- End cap for connecting bar ..... 2 pcs
- Mounting plate ..... 2 pcs
- Hole cover ..... 2 pcs
- Connecting bar ..... 1 pc
- Raised countersunk head tapping screw 3.5×15 ..... 6 pcs
- Binding head tapping screw 3.5×15 ..... 8 pcs

RoHS	CAD	Item Code	Item Name	Overlay mm	Door Height mm	Door Weight kg	Mounting Plate (Included)	Weight (g)	Box (sets)	Carton (sets)
RoHS	CAD	250-014-240	LIN-X450	19	600~900	Max. 7	230-P4W-32T	2162	1	6
RoHS	CAD	250-014-553	LIN-X450 + 5	14			230-P4W-32T+5	2200	1	6

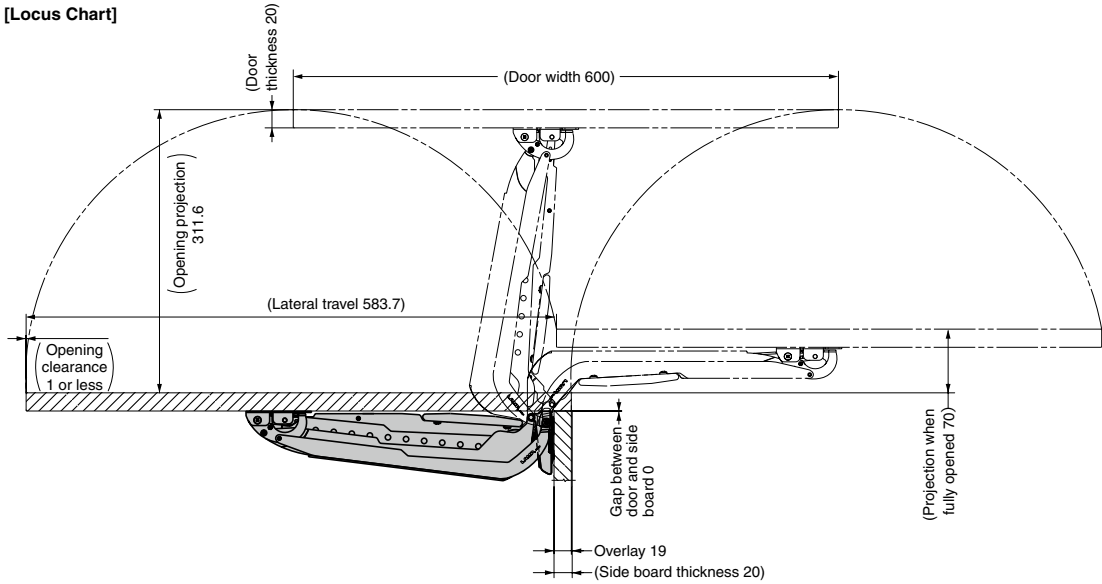
**LIN-X600 Installation Example**



Door specifications [Width: 550-650 mm] [Thickness: 15-24 mm] [Height: 600-2400 mm] [Weight: Max. 24 kg/door] [Overlay: 19 mm for standard type]

The circled numbers are part numbers. Please check with the parts list 1. For LIN-X450, refer to 2.

**[Locus Chart]**



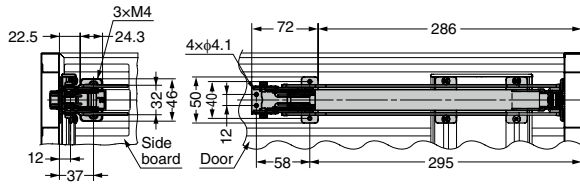
Concealed Hinges

Stays

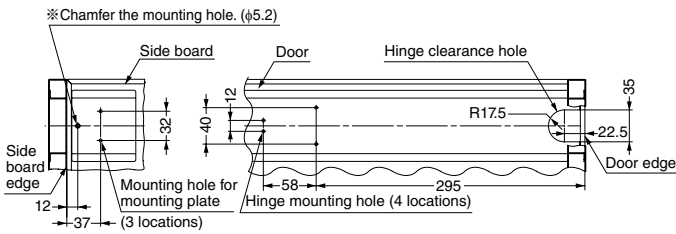
Lateral Opening Door Systems

**[Installation]**

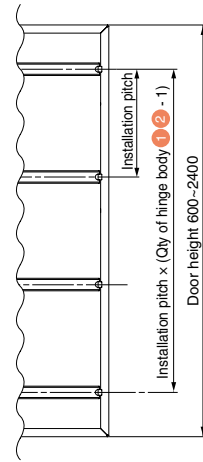
● When installing hinge



● Before installing hinge



**[Installation Pitch]**

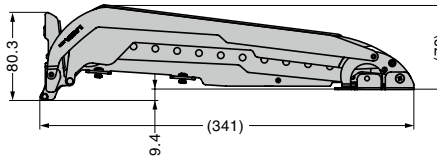
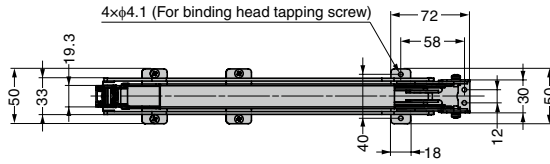


Qty of hinge bodies (1+2)	Item Name Suffix of Parts Set					
	09XX	12XX	15XX	18XX	21XX	24XX
	Connecting Bar (3) Length L					
	540	840	1140	1440	1740	2040
2 Hinges per Door	490	790	-	-	-	-
3 Hinges per Door	245	395	545	695	845	-
4 Hinges per Door	-	-	363	463	563	663
5 Hinges per Door	-	-	-	347.5	422.5	497.5

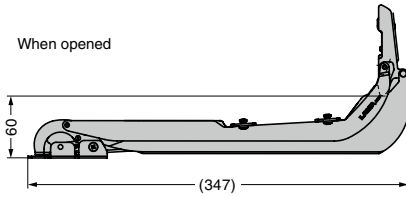
Refer to 1 : P.247-248, 2 : P.243-244

[Parts Drawings]

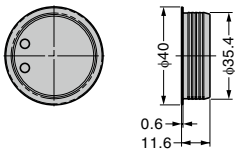
- Hinge body  
When closed



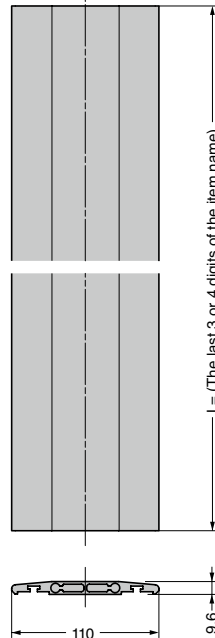
When opened



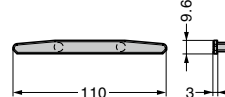
- Hole cover



- Connecting bar



- End cap for connecting bar



When Ordering MonoFlat  
LIN-X Hinge LIN-X600

● Necessary Parts..... **Parts Set (Per Door)** + **Mounting Plate**

● Standard kit **1** including mounting plates also available, suitable for door height 600~900mm and door weight 9kg or less.

Parts Set (Per Door)

Necessary Parts.

Choose based on applicable door height and door weight.

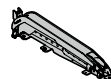


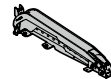


(Refer to **2** for details on dimensions and descriptions of parts included in the set.

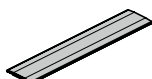
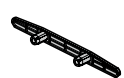
RtHS	CAD	Item Code	Item Name	Door Height mm	Door Weight kg	Parts Included (For LIN-X600)				Weight (g)
						<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	
						Hinge Set (With Catch & Damper) Qty/set	Hinge Set (Without Catch & Damper) Qty/set	Connecting Bar Qty/pc	End Cap For Connecting Bar Qty/pc	
		250-017-492	LIN-X600S-0909	600~	Max. 9	2				4913
		250-017-067	LIN-X600S-0912	900	9.1~12	3				5930
		250-017-068	LIN-X600S-1212	901~	Max. 12	2				5232
		250-017-069	LIN-X600S-1216	1200	12.1~16		-			6270
		250-017-070	LIN-X600S-1512	1201~	Max. 12					6752
		250-017-071	LIN-X600S-1516	1500	12.1~16					6752
		250-017-072	※1 LIN-X600S-1520		16.1~20		1			7748
		250-017-073	LIN-X600S-1812		Max. 12					7070
		250-017-074	LIN-X600S-1816	1501~	12.1~16		-			7070
		250-017-075	※1 LIN-X600S-1820	1800	16.1~20		1	1	2	8066
		250-017-493	※2 LIN-X600S-1824		20.1~24	3	2			9062
		250-017-076	LIN-X600S-2112		Max. 12					7608
		250-017-077	LIN-X600S-2116	1801~	12.1~16		-			7608
		250-017-078	※1 LIN-X600S-2120	2100	16.1~20		1			8604
		250-017-079	※2 LIN-X600S-2124		20.1~24		2			9600
		250-017-080	※1 LIN-X600S-2412		Max. 12					9066
		250-017-081	※1 LIN-X600S-2416	2101~	12.1~16		1			9066
		250-017-082	※1 LIN-X600S-2420	2400	16.1~20					9066
		250-017-083	※2 LIN-X600S-2424		20.1~24		2			9066

※1: 4 hinges per door. If installing hinge set (without catch & damper) **2**, please use it as the second one from the bottom.

※2: 5 hinges per door. If installing hinge set (without catch & damper) **2**, please use it as the second and third ones from the bottom.

[Parts Set Details] Refer to page **2** for the dimensions.

No.	Part Name	Description
<b>1</b>	<b>Hinge Set (With Catch &amp; Damper)</b> Parts Included in 1 Set Hinge Body (With Catch & Damper)	Item Code :   250-016-962 Item Name : LIN-X600ACD Weight (g) : 1017
	 × 1 Hole Cover  × 1 Binding Head Tapping Screw  × 4	● Material Steel ● Finish Nickel
<b>2</b>	<b>Hinge Set (Without Catch &amp; Damper)</b> Parts Included in 1 Set Hinge Body (Without Catch & Damper)	Item Code :   250-016-963 Item Name : LIN-X600A Weight (g) : 996
	 × 1 Hole Cover  × 1 Binding Head Tapping Screw  × 4	● Material Steel ● Finish Nickel

No.	Part Name	Description
<b>3</b>	<b>Connecting Bar</b>	Item Code : 250-016-964 Item Name : LIN-X60-L540 Weight (g) : 860
		Item Code : 250-016-965 Item Name : LIN-X60-L840 Weight (g) : 1200
		Item Code : 250-016-966 Item Name : LIN-X60-L1140 Weight (g) : 1682
		Item Code : 250-016-967 Item Name : LIN-X60-L1440 Weight (g) : 2000
		Item Code : 250-016-968 Item Name : LIN-X60-L1740 Weight (g) : 2538
		Item Code : 250-016-969 Item Name : LIN-X60-L2040 Weight (g) : 3000
		● Material Aluminium Alloy ● Finish Anodised
<b>4</b>	<b>End Cap for Connecting Bar</b>	Item Code : 250-016-970 Item Name : LIN-X60C Weight (g) : 4
		● Material POM ● Colour Grey

Refer to **1** : P:248, **2** : P:245-246

## Mounting Plate

### Necessary Parts.

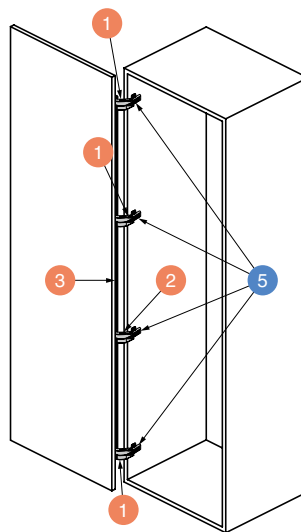
Mounting Plate **5** : Same qty as hinge (**1** + **2**) is necessary.  
 Countersunk Head Tapping Screw **6** : 3 pcs are necessary per 1 mounting plate.

No.	RevS	CAD	Item Code	Dimensions
<b>5</b>	01	3D	160-070-041	Mounting Plate
Item Name : 230-P4W-32T Weight (g) : 26				
● Material Steel ● Finish Nickel				

No.	RevS	CAD	Item Code	Dimensions
<b>6</b>	-	-	160-070-030	Raised Countersunk Head Tapping Screw 3.5×15
Item Name : TAP3515NI Weight (g) : 1				
For Mounting Plate				
● Material Steel ● Finish Nickel				

The circled numbers are part numbers. Please check with the parts list **1**. For LIN-X450, refer to **2**.

4 hinges per door shown.



Refer to **1** : P.247-248, **2** : P.243-244

## STANDARD KIT With Mounting Plate

### [Parts Included]

Hinge body ..... 2 pcs      End cap for connecting bar ..... 2 pcs  
 Mounting plate ..... 2 pcs      Hole cover ..... 2 pcs  
 Connecting bar ..... 1 pc  
 Raised countersunk head tapping screw 3.5×15 ..... 6 pcs  
 Binding head tapping screw 3.5×15 ..... 8 pcs

- Includes parts set and mounting plates.
- Suitable for door size (width 550~650mm, height 600~900mm, thickness 15~24mm) and door weight 9kg or less.

RevS	CAD	Item Code	Item Name	Overlay mm	Door Height mm	Door Weight kg	Mounting Plate (Included)	Weight (g)	Box (sets)	Carton (sets)
01	-	250-017-590	LIN-X600	19	600~900	Max. 9	230-P4W-32T	3210	1	4

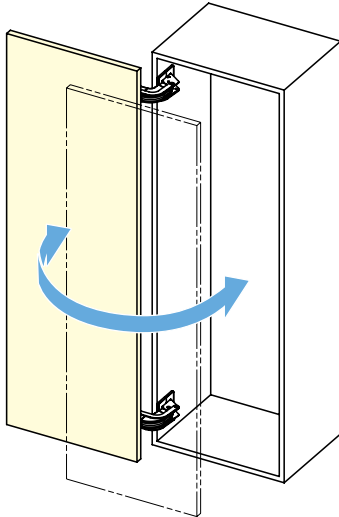
MONOFLAT LIN-X HINGE LIN-X800



Concealed Hinges

Stays

Lateral Opening Door Systems



MonoFlat LIN-X hinge®

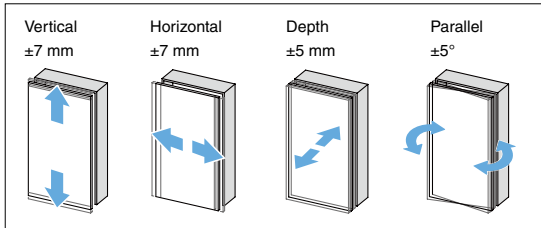
	LIN-X800	LIN-X800H
Door Width	750 - 850 mm	
Door Height	Max. 2400 mm	Max. 2980 mm
Door Thickness	24 - 40 mm	
Door Weight	Max. 40 kg per door	
Usage	1 per door (Overlay)	

[Features]

- **Innovative movement keeps doors discretely out of the way.**  
Door closes flush with surrounding walls for a sleek and clean design. No need to do special processing on any wall for grooves or rails. Can be used on aluminium frames (if the frame has a thickness over 120 mm).
- **Whether open or closed, door stays out of the way**  
Compared to regular swing doors, has a small radius allowing the space in front of the door to be used effectively.
- **Opens fully for access to entire cabinet.**  
Whether installing cabinets or just getting access, the entire cabinet interior is easily accessible.
- **Built-in soft close mechanism**  
When the door closes, the internal damper will cause the door to close softly, preventing slamming.
- **4 Way adjustment post installation**  
Can be adjusted vertically, horizontally, depth or parallel.
- **Wide amount of applicable cabinets**  
Can be used on dual opening, single opening cabinets. Can also be used on L shaped corner spaces.

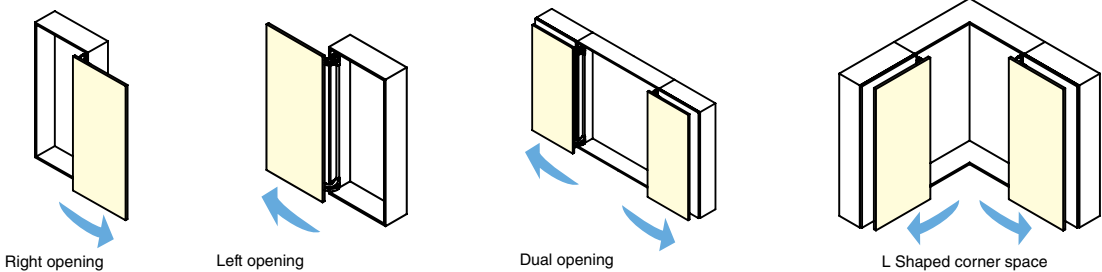
[Parts Included]

- OTruss head tapping screw 6\*25
- Truss head screw M5 x 10
- M5 Square Nut
- One end mouth wrench



•Vertical, Horizontal, Depth and Parallel adjustment possible post-installation.

[Colour Variation]



**MONO FLAT LIN-X HINGE**  
If ordering LIN-X800

• Be sure to order..... **Part Set (per door)**

**Part Set (per door)**

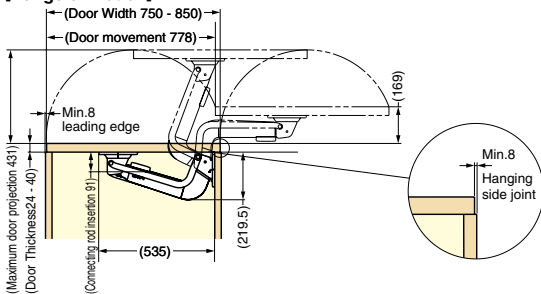
**This set must be ordered.**  
Select a suitable set according to the door height.

Rt/LS	CAD	Item Code	Item Name	Door Height	Colour
G	3D	250-043-897	LIN-X800-BL-S	2400 mm	Black
G	3D	250-043-898	LIN-X800-WT-S	or Less	White
G	3D	250-043-899	LIN-X800H-BL-S	2980 mm	Black
G	3D	250-043-900	LIN-X800H-WT-S	or Less	White

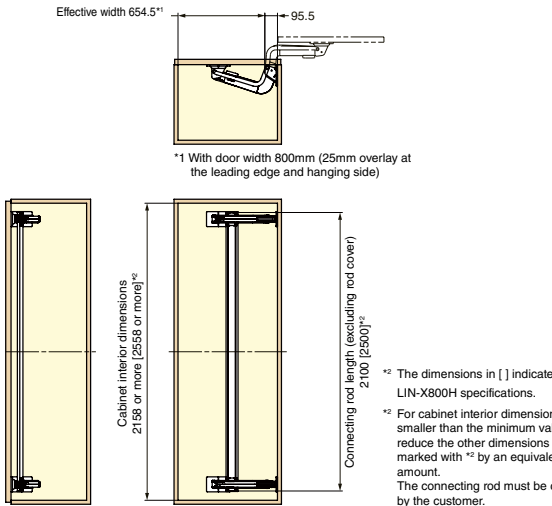
**Part Set Contents**

No.	Quantity	Type	Description
1	Hinge set	Black	Item Code : 250-043-834 Item Name: LIN-X800-BL
		White	Item Code : 250-043-835 Item Name: LIN-X800-WT
2	Connecting rod	2100mm Black	Item Code : 250-043-842 Item Name: LIN-X80-L2100-BL
		2100mm Silver	Item Code : 250-043-843 Item Name: LIN-X80-L2100-SL
		2500mm Black	Item Code : 250-043-844 Item Name: LIN-X80-L2500-BL
		2500mm Silver	Item Code : 250-043-845 Item Name: LIN-X80-L2500-SL

**[Range of Motion]**



**[Installation]**

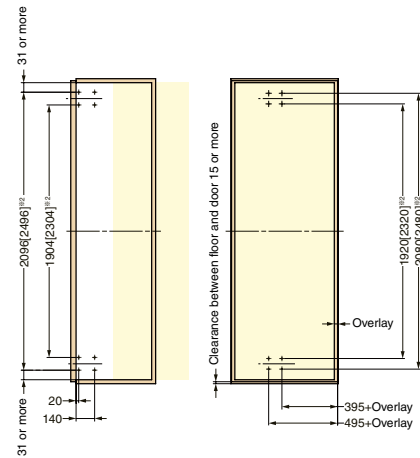


**[1 Hinge Set Content]**

Qty.	Parts in set	Dimensions	Specifications
1pc.	Hinge A		•Material: Steel (SPCC)/ Polyacetal (POM) •Finish: Nickel Plating Baked enamel
1pc.	Hinge B		•Material: Steel (SPCC)/ Polyacetal (POM) •Finish: Nickel Plating Baked enamel
4pcs.	Washer cover (hanging side)		•Material: ABS resin
4pcs.	Washer cover (leading edge)		•Material: ABS resin
2pcs.	Rod cover		•Material: Polyacetal (POM)

**[2 Connecting Rod Content]**

Qty.	Parts in set	Dimensions	Specifications
Either part	Connecting rod		•Material: Aluminium alloy •Finish: Anodised



MONOFLAT LIN-X HINGE LIN-X1000 For Heavy Duty Door



Passed 100,000 open/close private cycle test

MonoFlat LIN-X hinge®

LIN-X1000 For Heavy Duty	
Door Width	750-1100 mm
Door Height	2400※ <sup>1</sup> -2980 mm
Door Thickness	24-40 mm
Door Weight	Max. 90 kg/Door ※ <sup>2</sup>
Overlay	19 mm
Specification	<input type="checkbox"/> Single Door (Overlay)

※<sup>1</sup>Height may be 2400mm or less if cutting the connecting bar. For further details, please contact local representatives.  
 ※<sup>2</sup>Set the clearance between floor and door according to door weight. For details, refer to the drawings on P.337.

Concealed Hinges

Stays

Lateral Opening Door Systems

Video

Features



Use Example



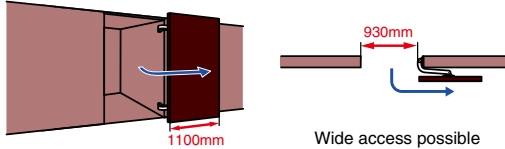
Installation



POINT 1

Max. door width 1100mm (effective opening width 930 mm)

Installed to side wall, not interfering with taking in/out of articles.



Wide access possible

POINT 2

Max. door weight 90kg

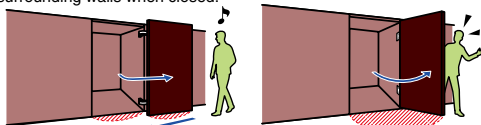


Recommended for storage doors and walk-in closets.

POINT 3

Door does not get in the way when opening and closing.

Opening projection is about half of swing door. Door will be flush with surrounding walls when closed.



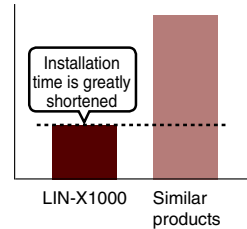
In case of LIN-X1000

In case of swing door

POINT 4

Greatly shortened installation time

Sub-arm is unnecessary at the upper/lower part of door, remarkably shortening installation time.



LIN-X1000

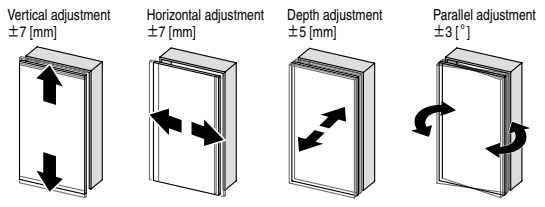
Similar products

Other Features

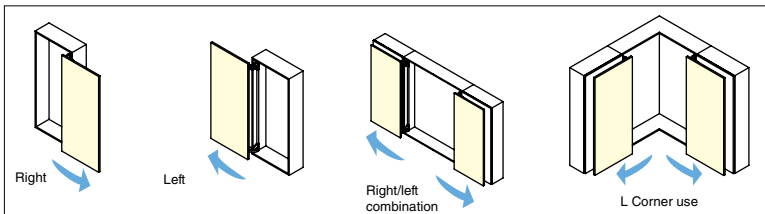
Soft close



Door closes smoothly and softly with damper. (Damping force 5-step adjustable)



● Adjustable in vertical, horizontal, depth and parallel directions.



● Suitable for various cabinets.



● Available in white and black colours.

When ordering MonoFlat  
LIN-X Hinge LIN-X1000  
For Heavy Duty Door

● Necessary Parts..... **Parts Set (Per Door)** + **Connecting Bar**

The circled numbers are part numbers. Please check with the drawings on the bottom.

Parts Set (Per Door)

Necessary Parts.

Set Name	RoHS	CAD	Item Code	Item Name	Weight (g)
Parts Set			250-034-706	※LIN-X1000-WT	12000
			250-042-288	LIN-X1000-BL	12000

Parts Included

※The item name has been changed.

No.	Qty	Dimensions	Description	No.	Qty	Dimensions	Description
1	1 pc		<ul style="list-style-type: none"> <li>Material: Aluminium Alloy</li> <li>Die-casting</li> <li>Finish: Powder Coating/ White/Black</li> </ul>	4	4 pcs		<ul style="list-style-type: none"> <li>Material: ABS</li> <li>Colour: White/Black</li> </ul>
2	1 pc		<ul style="list-style-type: none"> <li>Material: Aluminium Alloy</li> <li>Die-casting</li> <li>Finish: Powder Coating/ White/Black</li> </ul>	5	1 pc		<ul style="list-style-type: none"> <li>Material: PBT</li> <li>Colour: White/Black</li> </ul>
3	4 pcs		<ul style="list-style-type: none"> <li>Material: ABS</li> <li>Colour: White/Black</li> </ul>				

Connecting Bar

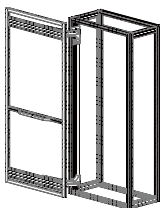
Necessary Parts 1 pc is necessary for 1 door.

No.	Qty	RoHS	CAD	Item Code	Dimensions	Description
6	1 pc			250-034-707		<ul style="list-style-type: none"> <li>Material: Aluminium Alloy</li> <li>Finish: White Anodised</li> </ul>
				250-042-289		<ul style="list-style-type: none"> <li>Material: Aluminium Alloy</li> <li>Finish: Black Anodised</li> </ul>

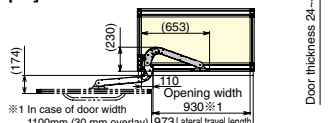
※The item name has been changed.

Table 1: Handle position area

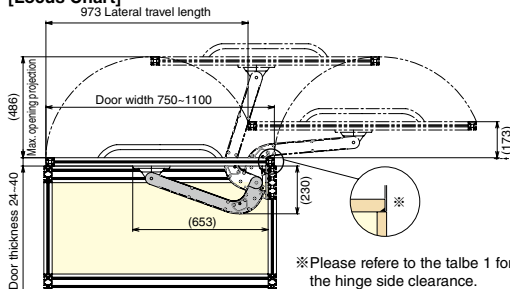
Door width	Hinge side clearance		
	10mm	15mm	20mm
750mm~ 900mm	Max. 300mm	Max. 350mm	Max. 500mm
900mm~1000mm	Max. 200mm	Max. 250mm	Max. 400mm
1000mm~1100mm	Max. 100mm	Max. 150mm	Max. 300mm



[Installation Example]



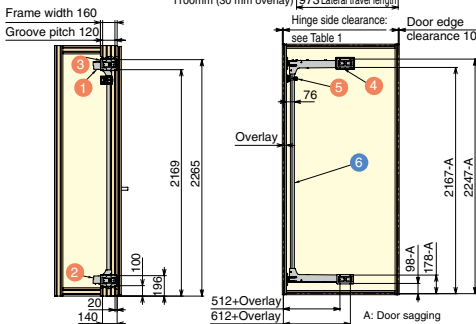
[Locus Chart]



※Please refer to the table 1 for the hinge side clearance.

Handle should be installed within the area shown in Table 1.

※Handle position area is centred on the door width.



Please set door sagging A based on the following table so that the door will not contact the floor.

Door weight	A: Door sagging
20kg	2mm
30kg	3.5mm
40kg	5mm
50kg	6.5mm
60kg	8mm
70kg	9.5mm
80kg	11mm
90kg	12.5mm

For carpeted floor, add the carpet thickness to the "door sagging" shown above.  
This product is vertically adjustable by ±7mm after installation. For adjustment method, please refer to the installation instruction.

## [Concept of Moment]

When selecting Motion Design Tech products, such as torque hinges and damper hinges, etc., the criterion is the moment of the door or cover. Moment refers to the action of the force tending to make the object rotate around a point. If the moment matches the torque (※) of the hinge, it means that the hinge is applicable.

※ Torque refers to the action of the force making the object rotate around the rotation axis. When using multiple hinges, its value is the torque multiplied by the number of hinges being used.

## Formula for Calculating the Moment

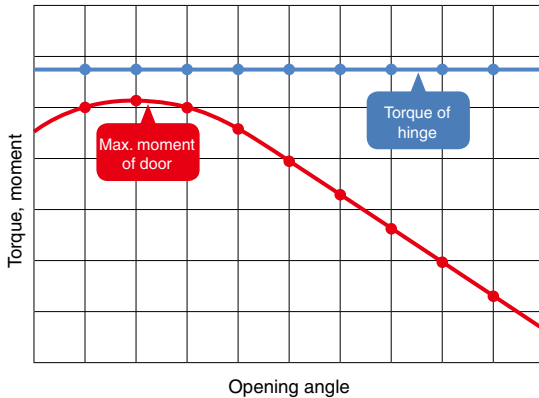
Moment of door or lid = Horizontal distance from rotation centre to centre of gravity × Weight of door or lid

Maximum moment of door or lid = Maximum horizontal distance from rotation centre to centre of gravity × Weight of door or lid

## Relationship between Applicable Hinge and Moment of Door

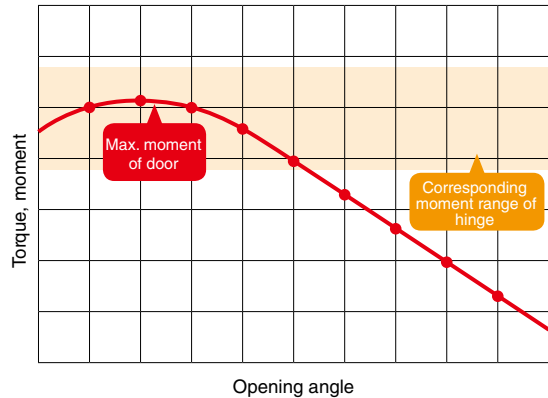
### ● In case of a torque hinge (Free stop)

If the torque of the hinge is more than the maximum moment of the door, then the hinge is applicable.



### ● In case of a damper hinge (soft motion)

If the maximum moment of the door is within the torque range of the hinge, then the hinge is applicable.

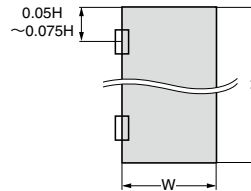


※ The moment of the door is calculated as per the horizontal distance from the rotation centre to the centre of gravity. Therefore, it changes with the opening angle.

## [Concept of Load-bearing]

The load-bearing of individual hinge is calculated as per "Door width : Door height = 1:2".

Wherein, the mounting position of the hinge is determined according to the situation that the distance from the upper end surface or lower end surface of the door to the hinge centre in longitudinal direction is within the range of 0.05 H ~ 0.075 H (H is the height of the door).



## [Precautions for Use]

### Torque Hinge

- 2 hinges per door (lid) is recommended.
- Continuous action (repeated action within short time) is not allowed.
- Avoid eccentric load on the hinge.
- Do not contact with water, oil and lubricants, etc.
- Torque refers to the torque at delivery, rather than the torque after durability test.
- Do not use in the outdoor or at dusty places to avoid significantly degrading of performance.

### Damper Hinge

- 2 hinges per door (lid) is recommended.
- Use within the torque range. Lift assist stays

### Lift assist stays

- Be sure to observe the specified dimensions, levelness and perpendicularity for cabinet and door design and installation position of the product.

### Soft closing stays

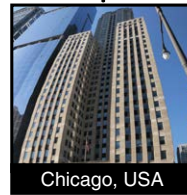
- Be sure to observe the specified dimensions, levelness and perpendicularity for cabinet and door design and installation position of the product. When multiple products are used for one door, difference in installation positions may concentrate load on a certain product, affecting product life and function. Pay full attention when installing.
- Incorrect installation dimension may cause malfunction (such as not able to close the door) or damage the product or hinge.
- Install to a firm and rigid cabinet. Insufficient rigidity may affect door opening and closing.
- Do not disassemble or modify the product.
- Add up door or handle weight when calculating door moment.
- Check the movement with actual item when door moment and door weight is close to the upper or lower limit of the specified range.
- Use a screw adhesive (when required) that will not penetrate into the resin part.

# International Company

## → Global Network

Besides setting up bases overseas, we are also exporting to more than 60 countries and regions worldwide.

# We are **SUGATSUNE**



### Business Partner Countries & Regions

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## → Overseas Showrooms

Please make use of them for information sharing with local corporations and local purchase.



Shanghai

**Renewed in 2015!**



Mumbai



Chicago

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↓  
E

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# Sugatsune Also Offers Made-to-order Products!

With our manufacturing and testing equipment, as well as over 15% of our human resource dedicated to product design and manufacturing, we can respond carefully and rapidly.

## Function Addition

### Torque Hinge + Detent Mechanism

A detent mechanism is added to the swivel torque hinge HG-S. It temporarily holds at a certain angle with a click.



Ready-made item

Stops in any position exactly!

Swivels 360°



Here is made to order.

Stops in any position exactly!

Clicks at a certain angle!



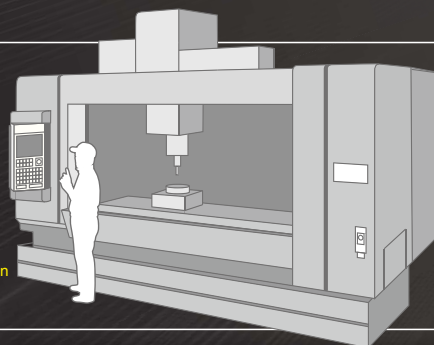
#### What is swivel torque hinge?

A hinge which can swivel 360°.

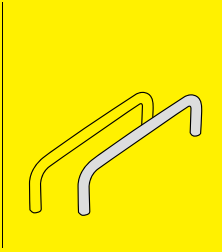
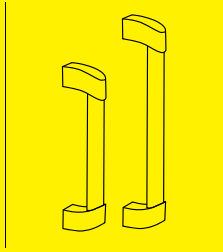
It can exactly stop in any position, suitable for the operation panel of machine tools.

Adjustable swivelling angle of the panel allows for easy checking of the processing status.

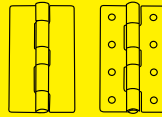
With the additional detent mechanism which can temporarily hold in a position with a click, the panel will not shake even with a forcible button operation or impact.



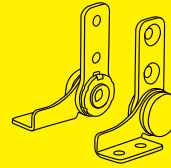
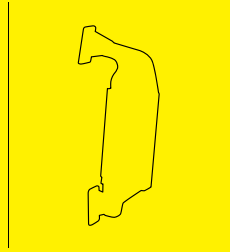
**Sugatsune can respond to customers' various requests!  
Please feel free to contact us.**

**Customised Finish****Customised Dimension****Processing & Function Addition**

Hole drilling, bending, etc.

**Customised Features**

Change in load capacity, torque, magnetic force, etc.

**Development**

※Shown are simulated images. Changes above may be unavailable for some products.

## Customised Dimension

### 3-metre Piano Hinge

Stainless steel piano hinge LSN (total length of ready-made item 300~2,000mm) is extended to 3,000mm.

Made to order

# 3,000mm

Ready-made item  
300mm

**So long!**

## Development

### Stainless Steel Spring Loaded Lid Stay S-AT

"I am worried about gas leaking from the gas spring....."  
In response to the customers' consultations like this, we designed and developed a compact stay with large load capacity from scratch.

For more details, please refer to ▶ P.159



For OEM and ODM quotation request with required items at consultation, refer to ▶ No.280 P.924

For the introduction of our manufacturing bases, refer to ▶ No.280 P.917

**Free Stop Motion**

Torque Hinges  
Monitor Bracket  
Torque Stays

**Soft Motion**

Damper Hinges  
Soft Closing Stays  
Drawer Slides  
Recess Hooks  
Door Dampers  
Multi-purpose Lids

**Power Assist Motion**

Lift Assist Hinges  
Lift Assist Stays  
Lapcon Stays

**Click Motion**

Detent Hinges  
Ratchet Hinge  
Multi-Step Table Legs

**Unique Motion**

Concealed Hinges  
Lapcon Stays  
Lateral Opening Systems

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