



Free Stop Motion

Soft Motion

Power Assist Motion

Click Motion

Unique Motion

# Motion Design Tec



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



**For smooth movement**  
Soft motion



**Helps you open**  
Power assist motion



**Snap and stop**  
Click motion



**New openings**  
Unique motion

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

**Motion**  
||  
**New motion**

**Design**  
||  
**Developed**

**Tech**  
||  
**With technology**

**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



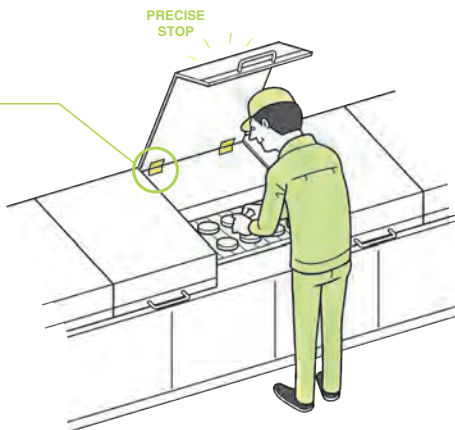


# Hold in any position Free Stop Motion

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

### Applicable Places

Torque Hinge, HG-TS



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.

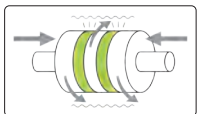


Torque Hinge, HG-TB

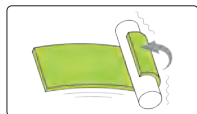
Suitable for displays of airplane seats. Enables a monitor to be adjusted to a level of adults or children's eyes.



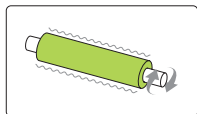
### Stops by means of friction



**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.

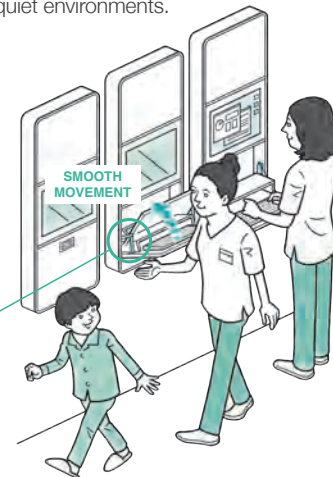
### Applicable Places

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

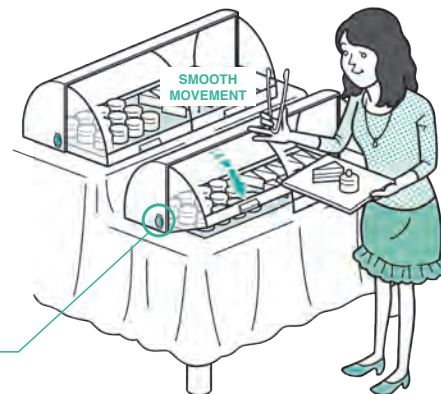


This is suitable for food display cases such as self-serve bakery cases and candy or sweet cases, etc.

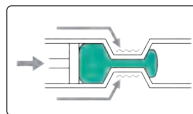
If the flap is pushed down slightly, it will close naturally and slowly by itself. (It isn't necessary to hold the flap until it closes completely)



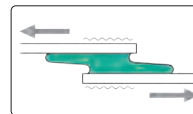
Disk Damper, UDD



### 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.



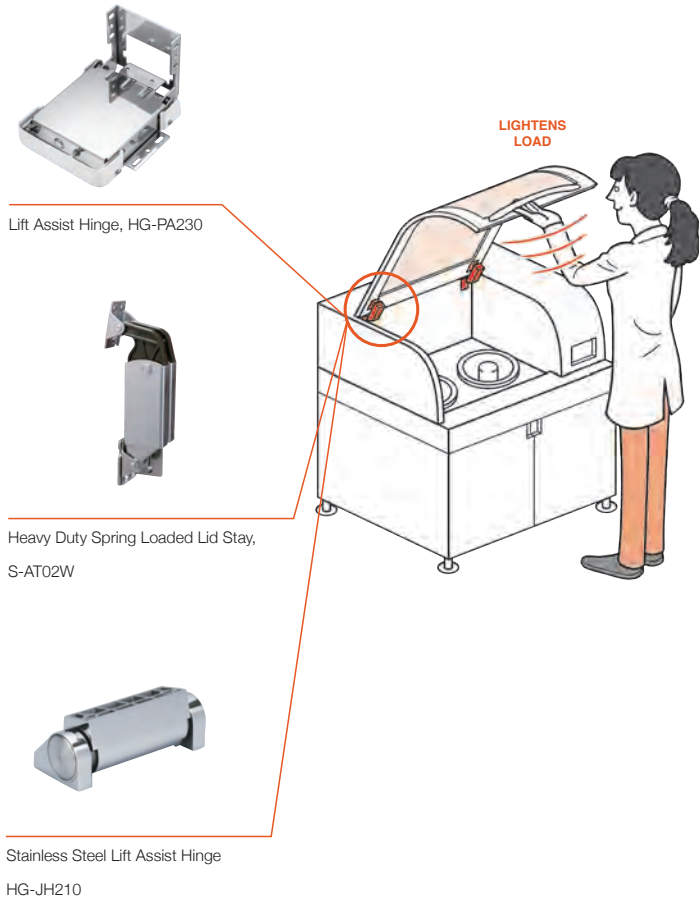
"Lapcon" refers to Sugatsune's patented damper mechanism using left structures.



## Helps you open Power Assist Motion

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

### Applicable Places



Lift Assist Hinge, HG-PA230

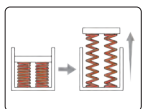
Heavy Duty Spring Loaded Lid Stay,  
S-AT02W

Stainless Steel Lift Assist Hinge  
HG-JH210

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

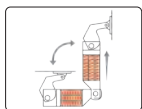
Anyone can easily handle it with one hand - neither the opening nor closing operation will burden users.

### Lifts by means of reaction force



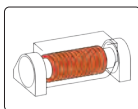
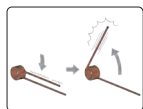
Compression Spring

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

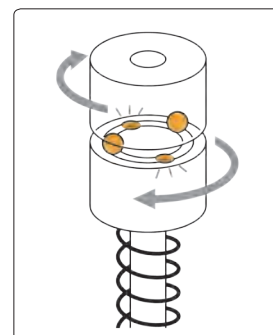
Temporarily holds door, lid or cover during opening/closing at a certain angle with a unique feel.

### 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



### Temporarily holds with detent mechanism

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





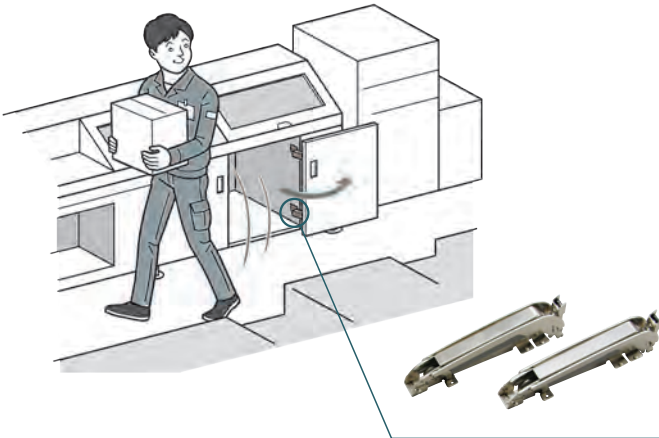
# New openings Unique Motion

Expand variations of opening/closing locus.

### Applicable Places

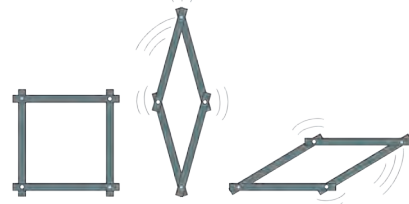
Ideal for large-size machines such as in food processing or printing. It enables a flap to move parallel to a body and decreases the space needed to open the door.

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.



MonoFlat LIN-X450 Hinge

### Moves by using link mechanism

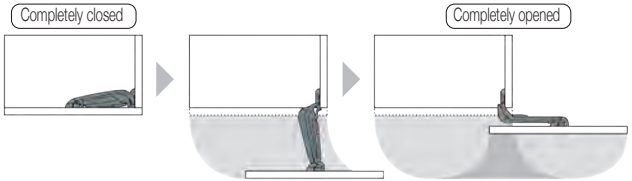


Combining multiple shafts and arms creates more versatile locus than moving with one shaft.



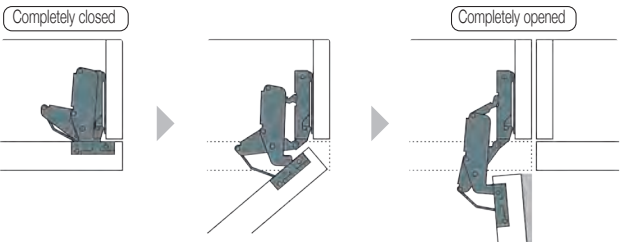
#### Example 1 Locus of MonoFlat LIN-X hinge

Door projection is less than that of common swing doors.



#### Example 2 Locus of concealed hinge

Even for overlay doors, the door hinge side moves inward and will not hit the door next.



One major advantage of "Motion Design Tech" supporting 5 types of motion

## Easy Installation & Adjustment Function

Proper installation is crucial for the performance of industrial components.

Since "Motion Design Tech" is a technology of motion, to further improve that "motion", installation support function is incorporated in various products.

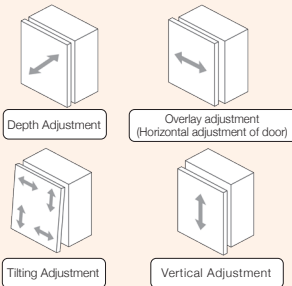
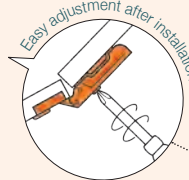
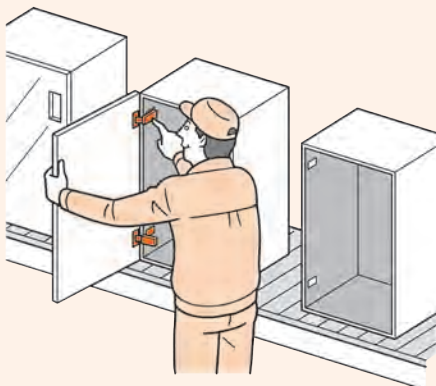
Easy installation and possible door adjustment after installation realises a comfortable fine opening and closing operation.



#### Example of Applicable Products CONCEALED HINGE FOR SHEET METAL HT160THV2



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



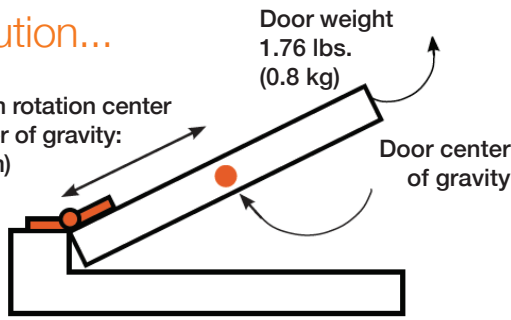
Adjustable in various directions.....





## The Solution...

Distance from rotation center to door center of gravity: 13/16" (20 cm)



The most suitable torque hinge is:

- Torque hinge A (0.4 N·m / pc.)
- Torque hinge B (1.0 N·m / pc.) ←
- Torque hinge C (4.5 N·m / pc.)

## Formula

The torque generated by the door can be calculated as below:

$$\frac{0.2\text{m} \times 0.8 \text{ kgf} \times 9.80665}{\text{N}} = 1.57 \text{ N}\cdot\text{m}$$

The torque generated per hinge is:

$$1.57 \text{ N}\cdot\text{m} \div 2 = 0.79 \text{ N}\cdot\text{m}$$

Torque has to be stronger than 0.79 N·m per hinge.

Considering torque tolerance 20 %, it has to be stronger than 0.95 N·m.

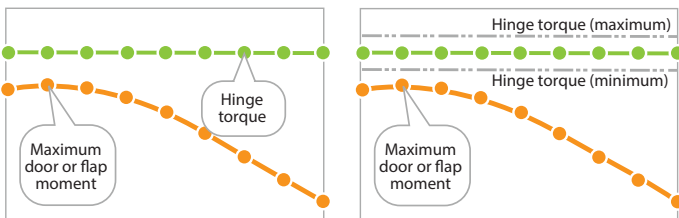
**The answer is: Torque hinge B (1.0 N·m / pc.)**

## Key Point for Selection

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%).



Hinge Torque

 $\geq$  Door Moment

# Online Tool to Simplify Your Selection Process

The SASUGA-KUN tool was designed to help calculate the torque generated by your door, flap or monitor and suggest



suitable Motion Design Tec® products that could work with your application. All you need to do is input values such as weight and dimensions, select a few options and conveniently find the right hardware.

**SEE PAGE 167 FOR MORE DETAILS.**



Visit Sasuga-kun by scanning the **QR Code** and select the **Industrial Experience**

## AS9120B



This standard includes ISO 9001:2015 quality management system requirements and specifies additional aviation, space, and defense industry requirements, definitions, and notes.

It is emphasized that the requirements specified in this standard are complementary (not alternative) to customer and applicable statutory and regulatory requirements.

\*Registered for Sugatsune America, Inc.

## ISO 9001



### Sugatsune Kogyo Co. LTD.

Management Systems Enhancement Department of the Japanese Standards Association (JSA) registers the Quality Management system of these organizations, which conforms to JIS Q 9001:2008, ISO 9001:2008

Design development, production and purchase sale of Furniture Fittings, Building Hardware, Machinery Hardware, Electronic and Communication Equipment Steel Furniture and Lobby Furnishings.

\*Registered for Global Headquarter Sugatsune Kogyo Co.,Ltd.

## ISO 14001



### Sugatsune Kogyo Co. LTD.

Management Systems Enhancement Department of the Japanese Standards Association (JSA) registers the Environmental Management System of the above organization, which conforms to the following Environmental Management System standards within the scope in the Appendix specified below:

Environmental Management System Standard: JIS Q 14001:1996, ISO 14001:1996

Appendix: Appendix to the Certificate of Registration JSAE 597-2002

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## NSF



### NSF International

#### RECOGNIZES SUGATSUNE AMERICA, INC. CARSON, CA

AS COMPLYING WITH NSF C2.

PRODUCTS APPEARING IN THE NSF OFFICIAL LISTING ARE AUTHORIZED TO BEAR THE NSF MARK.

SUGATSUNE's NSF Certified Products are designed to meet Food Equipment Industry Standard.

SUGATSUNE's NSF Certified part numbers are subject to change without notice.

When placing an order please specify NSF products.

## RoHS



SUGATSUNE has started changing products to comply with the European RoHS directive. Hexavalent Chromium is changed to either chromium free or trivalent chromium. Most of the stainless steel products do not contain Hexavalent Chromium. Please contact sales for RoHS compliant product information.

## SEMI



SUGATSUNE's SEMI compliant products are designed to meet SEMI S8, a safety guideline for ergonomics engineering of semiconductor manufacturing equipment.

### DISCLAIMER:

Specifications, features, illustrations, certifications and materials shown in this catalog are based upon the latest available information at the time of publication. Although descriptions are believed to be correct, accuracy cannot be guaranteed. Sugatsune reserves the right to make changes at any time, without notice or obligation, in finishes, materials, sizes, specifications and availability and disclaims any and all liability for typographical, printing or production errors or changes affecting the products and/or specifications contained herein. Actual performance of products may vary based upon many factors and may be less than stated. Differences in construction and build materials, designs or configurations may affect product performance and therefore, the customer is solely responsible for making the final selection of the product(s) to be used and to assure that all performance, safety and warning requirements of the application are satisfied.



This catalog is specifically designed to provide to you complete technical information & drawings.

The diagram illustrates the layout of two catalog pages. The left page is titled 'POWER ASSIST HINGE' and the right page is titled 'POWER ASSIST HINGE (OUTSIDE MOUNT)'. Callouts point to various elements: 'Header' at the top, 'Description' and 'Features of items' in the upper sections, 'Categories' on the left margin, 'Drawings' pointing to technical diagrams, 'Material' pointing to a table at the bottom, and 'Installation' at the bottom center. A red box at the bottom contains the text: 'Please use Item No. when ordering'.

## Features



**Lapcon**  
Patented products as Lapcon



**NSF**  
NSF certified products



**SEMI**  
Products Compliant with Semi Guideline (SEMI S8)



**RoHS**  
ROHS certified products



**M4 NUT**  
NUT  
Stainless Nut



**STAINLESS SCREW**  
SCREW  
Stainless Screw



**STAINLESS 430 STEEL**  
STAINLESS  
430 Stainless Steel



**ALUMINUM**  
ALUMINUM



**M4 NUT**  
NUT  
Steel Nut



**STEEL SCREW**  
SCREW  
Steel Screw



**STAINLESS 303 STEEL**  
STAINLESS  
303 Stainless Steel



**TITANIUM**  
TITANIUM



**M4x10 M4x14 STEEL SCREW**  
SCREW  
Stainless Screw with Size



**NO SCREW**  
NO SCREW  
No Screw



**STAINLESS 304 STEEL**  
STAINLESS  
304 Stainless Steel



**M5x30 STEEL SCREW**  
SCREW  
Steel Screw with Size



**STRONG NEODYMIUM**  
NEODYMIUM  
Strong Magnet



**STAINLESS 316 STEEL**  
STAINLESS  
316 Stainless Steel



Recognizable brand under Sugatsune



New motion developed with technology



Soft motion dampening technology

- All items, unless specified, are made to exact metric dimension.
- Changes in dimensions, finishes, packing, etc., and suspension of production may occur without notice.
- Our liability is limited to the replacement of the merchandise.



Hold in any position

## Free Stop Motion

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

- Torque Hinges
- Monitor Arms and Brackets
- Torque Stays

**Pages:**  
9 - 50



For smooth movement

## Soft Motion

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

- Damper Hinges
- Soft Closing Lid-Stays
- Brackets & Shelving Systems
- Soft-Close Slides
- Recessed Hooks
- Soft-Close Lids

**Pages:**  
51 - 96



Helps you open

## Power Assist Motion

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

- Lift-Assist Hinges
- Lift-Assist Lid-Stays

**Pages:**  
97 - 112



Snap and stop

## Click Motion

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

- Detent Hinges
- Multi-Angle Locking Hinges
- Ratchet Hinges

**Pages:**  
113 - 124



New openings

## Unique Motion

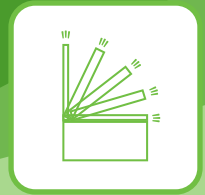
Expand variations of opening/closing locus.

- Concealed Hinges
- Stays
- Lateral Opening Door System

**Pages:**  
125 - 173



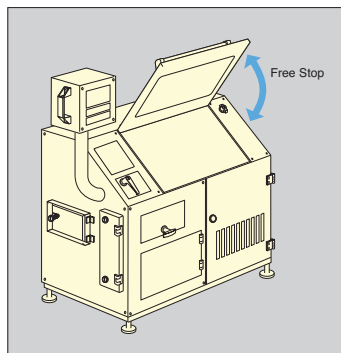
# Holds in any position Free Stop Motion



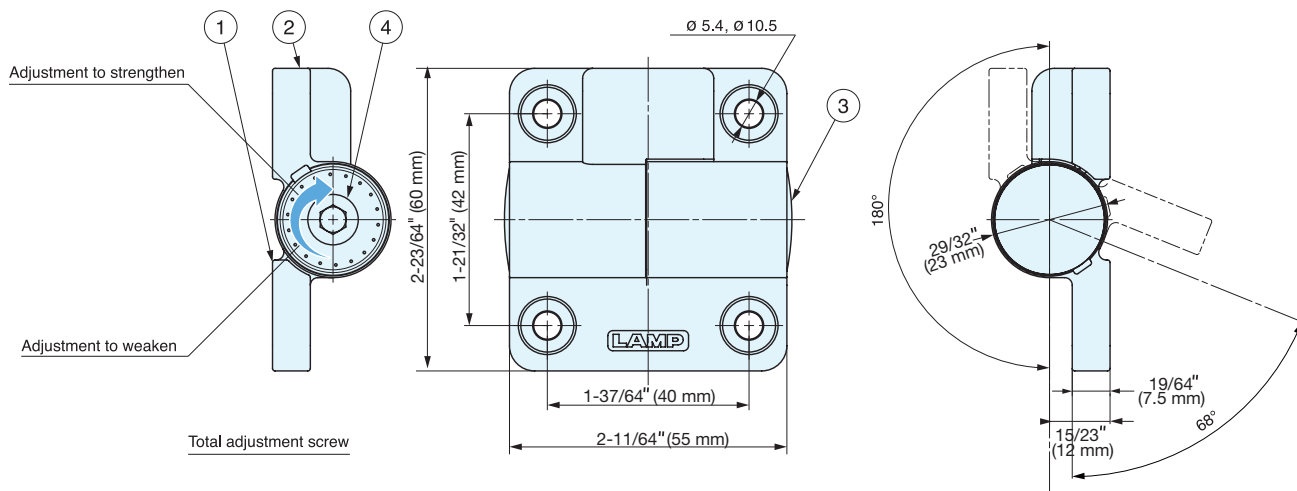
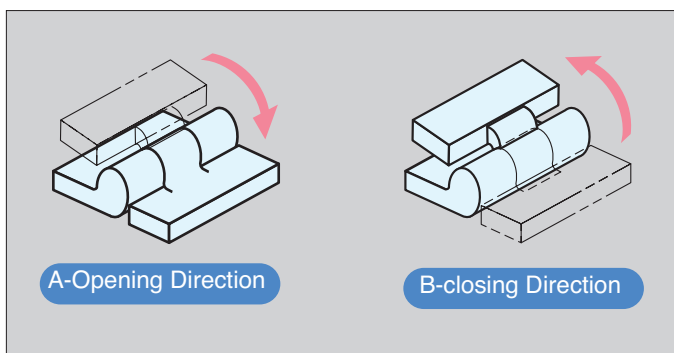
It can hold a door, lid or cover in any position during opening or closing

POSITION CONTROL HARDWARE

- Friction in one direction only.
- Torque strength adjustable.
- 2 versions available for friction torque opening direction (type – A) closing direction (type – B).



Torque Direction



Item No.	Torque Direction	Torque per piece (kgf·cm)
HG-TQJ100-A	Opening	0~102 (0~88.7 lbs·in)
HG-TQJ100-B	Closing	

No.	Part Name	Material	Finish
①	Bracket A	Zinc Alloy	Satin Chrome
②	Bracket B		
③	Cover Cap	Polypropylene	Dark Grey
④	Torque adjustment screw	Steel	-

# BI-DIRECTIONAL ONE-WAY TORQUE HINGE

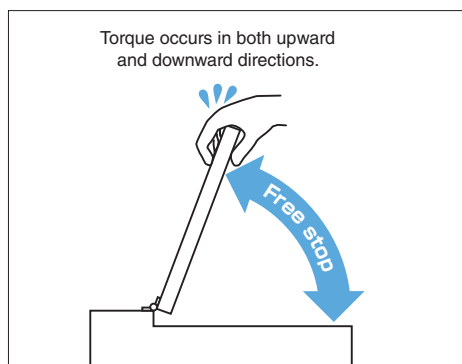


HG-TQW8080

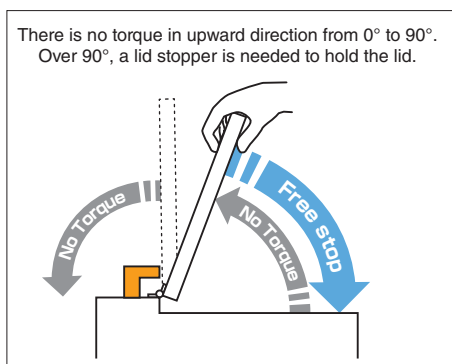
Free-Stop Motion



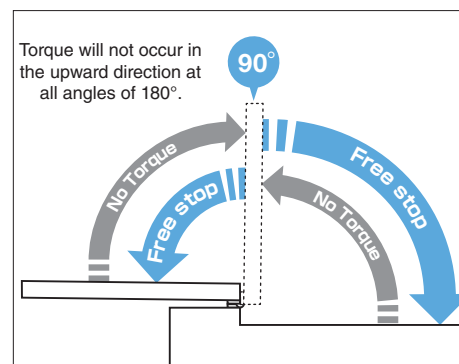
- Generates torque in downward direction only. (Operation range: 0 - 180°)
- The torque direction reverses when the hinge opens at over 90°. This allows a flap to hold in position at all angles of 180° with smooth and light operation.
- Operating temperature: 32°F - 104°F (0°C - 40°C).
- Ideal for medical equipment, factory automation equipment, office automation equipment, workstation monitors.



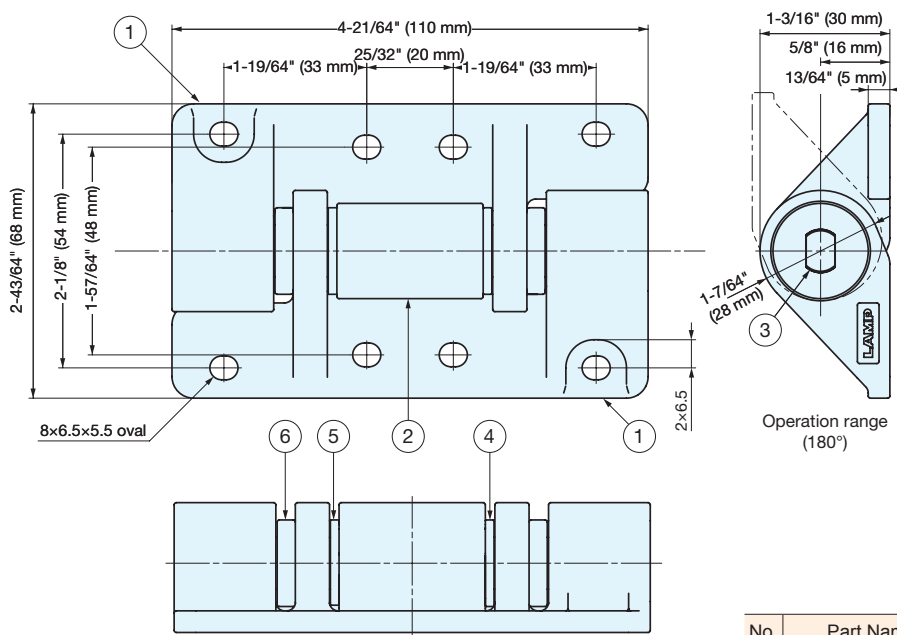
Conventional torque hinge



Conventional one-way torque hinge



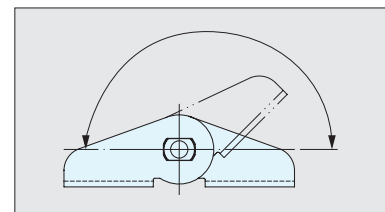
HG-TQW8080 hinge



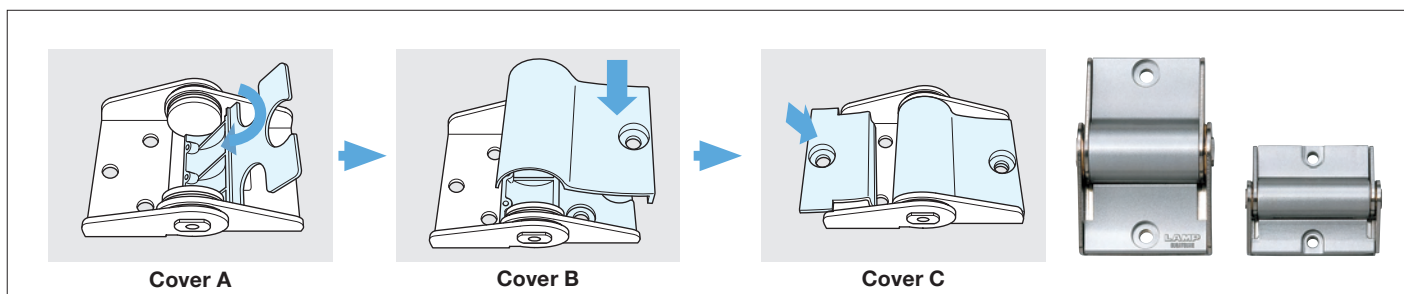
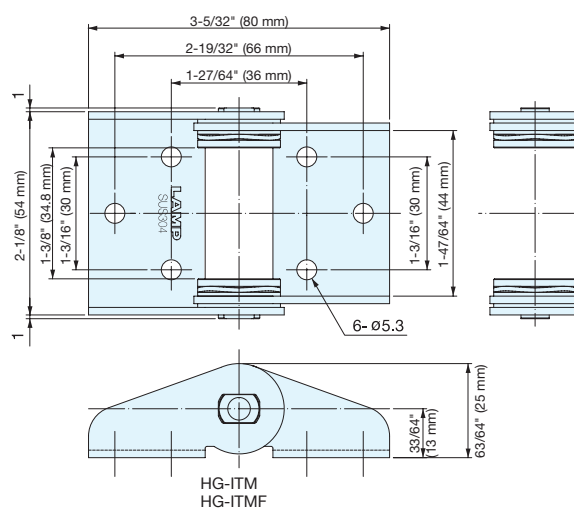
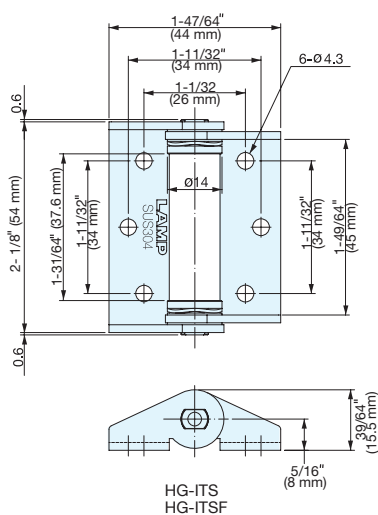
No.	Part Name	Material	Finish
①	Base	Zinc Alloy	Satin Chrome
②	Bracket		
③	Shaft	Stainless Steel	-
④	Plug	Polyacetal (POM)	Black
⑤	Washer A		
⑥	Washer B		

Item No.	Torque (lb · in)	Weight (g)	Box (pcs)	Carton (pcs)
HG-TQW8080	70.8 <sup>±20%</sup>	625	8	16

- Hinge with friction for holding monitors, displays etc. in desired position.
- Without torque available. (HG-ITSF, HG-ITMF)
- Optional cover available for clean appearance.
- Operating Temperature: -10°C~ 50°C (14F°~122F°)



Applicable torque range



HG-ITSC, HG-ITMC: Cover plates sold separately.

Item No.	Cover For	Weight (g)	Box (pcs)	Carton (pcs)
HG-ITSC	HG-ITS, HG-ITSF	10	40	960
HG-ITMC	HG-ITM, HG-ITMF	18	20	480

Item No.	Torque per piece (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-ITSF	Free Movement	48	10	80
HG-ITSF		125		

Item No.	Torque per piece (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-ITS25	25 ( 21.7 lbs-in ) ±20%	50	20	160
HG-ITS35	35 ( 30.4 lbs-in ) ±20%			
HG-ITM50	50 ( 43.4 lbs-in ) ±20%	130	10	80
HG-ITM70	70 ( 60.8 lbs-in ) ±20%			

Part Name	Material	Finish
Body	304 Stainless Steel	Polished
Shaft	303 Stainless Steel	Plain
Washer	Phosphor Bronze	Polished
Spring Washer	Steel	Nickel
Cover	ABS	Silver

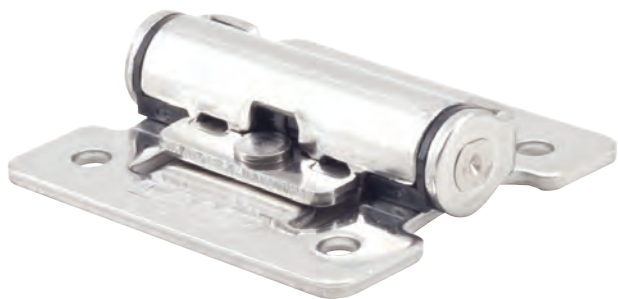


# STAINLESS STEEL TORQUE HINGE



HG-TS

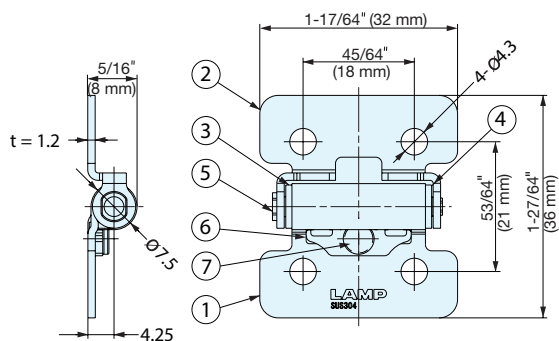
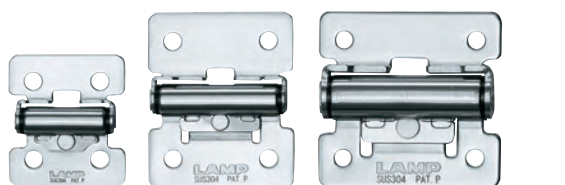
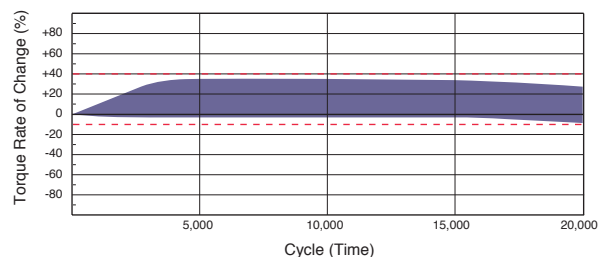
Free-Stop Motion



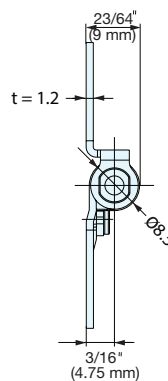
- Hinge with friction torque holds lid/door in desired position.
- Stainless steel material ideal for harsh environments.
- Free stop between 0~180 degrees.
- Successfully passed 20,000 open/close private cycle tests.

**Note:**

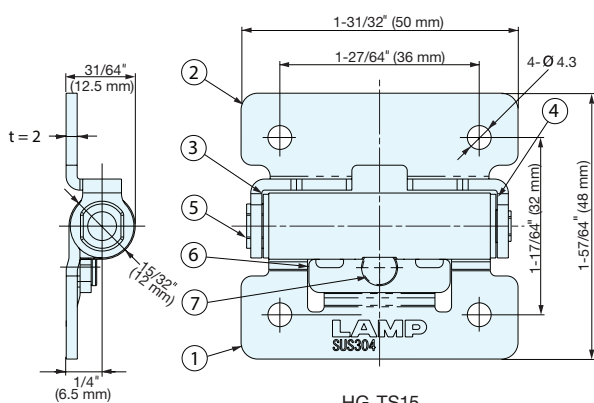
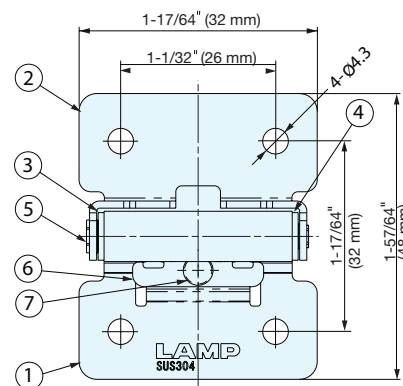
- Initial torque may vary - 20% ~ + 40%.
- At least 2 hinges necessary for 1 door.



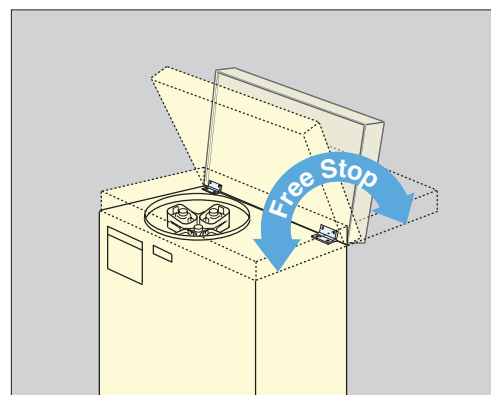
HG-TS03



HG-TS07



HG-TS15



No.	Part Name	Material	Finish
①	Body	304 Stainless Steel	Polished
②	Base		
③	Fixing Tube	Polyacetal	Black
④	Fixing Tube		
⑤	Shaft	303 Stainless Steel	-
⑥	Press Washer	304 Stainless Steel	Polished
⑦	Pin		-

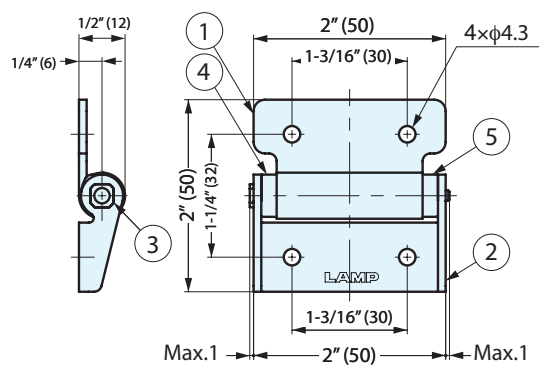
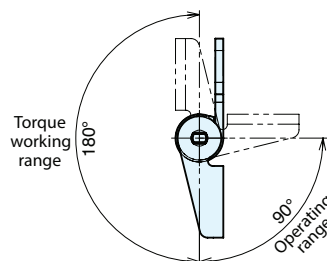
Item No.	Torque per piece (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-TS03	3.6 ( 3.1 lbs-in)	15.0	50	500
HG-TS07	7.1 ( 6.2 lbs-in)	27.5		
HG-TS15	15.3 (13.3 lbs-in)	64.1	20	200



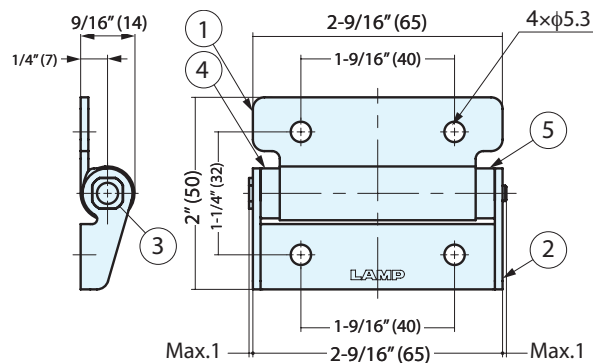
- Hinge with friction torque holds lid/door in desired position.
- Stainless steel material ideal for harsh environments.
- Free stop between 0~180 degrees.

## Note:

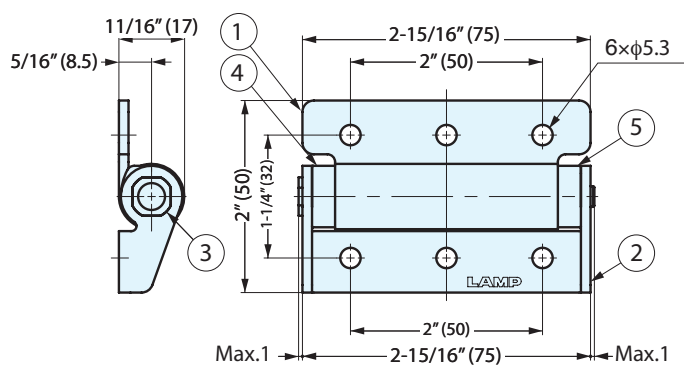
- At least 2 hinges necessary for 1 door/lid.
- Operating temperature: 14°F ~ 104°F (-10°C ~ 40°C)



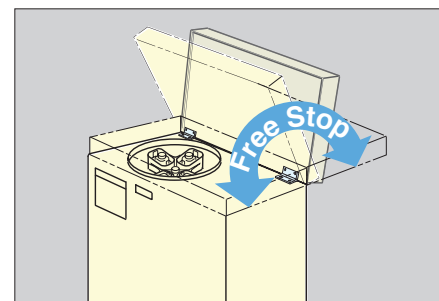
HG-TP20



HG-TP30



HG-TP45



Item No.	Torque per piece (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-TP20	20.3 (17.6 lbs-in)	60	50	200
HG-TP30	30.5 (26.5 lbs-in)	90	25	100
HG-TP45	45.8 (40 lbs-in)	150		

No.	Part Name	Material	Finish
①	Body	304 Stainless Steel	Polished
②	Base		
③	Fixing Tube	Polyacetal	Black
④	Fixing Tube		
⑤	Shaft	303 Stainless Steel	-

# STAINLESS STEEL TORQUE HINGE

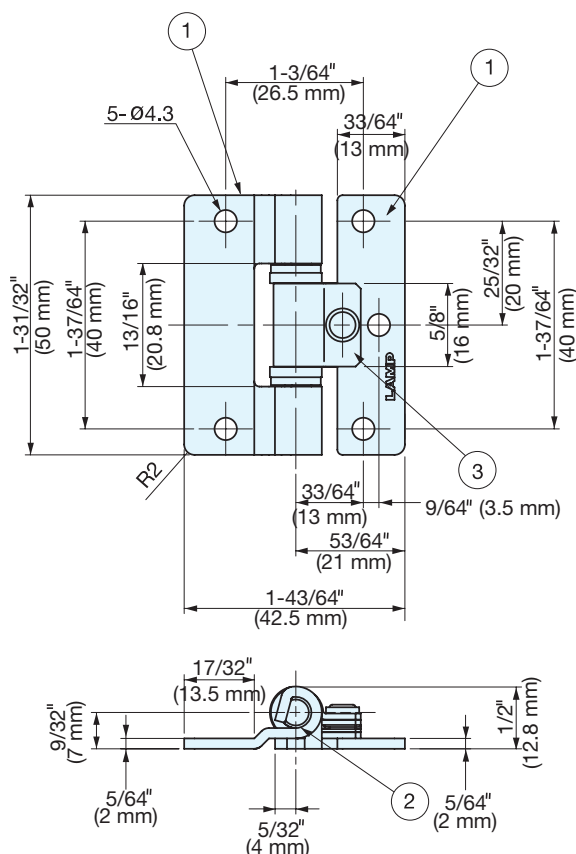
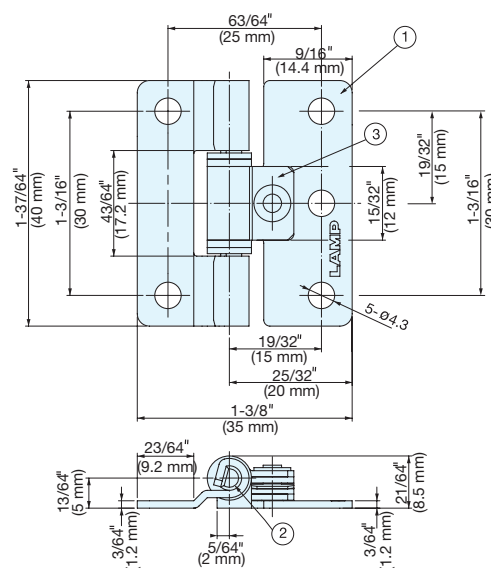


SFTH

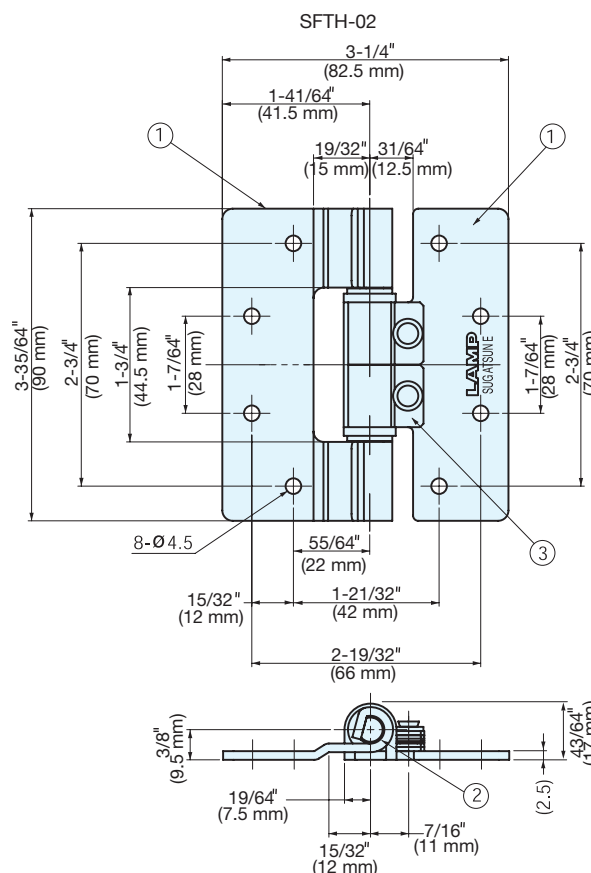
Free-Stop Motion



- Hinge with friction torque holds lid/door in desired position.
- Stainless steel construction for corrosive environments.
- Operating temperature: -20°C~60°C (-4°F~140°F)



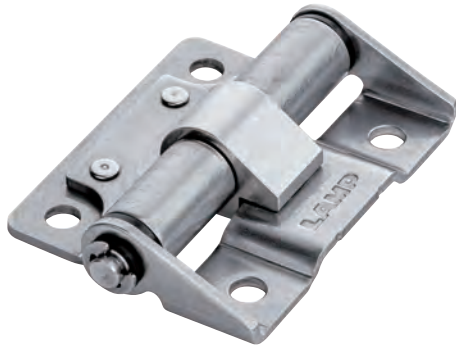
SFTH-03



SFTH-05

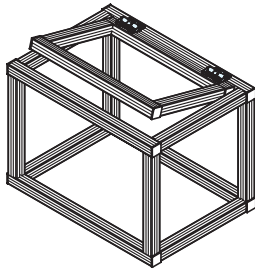
Item No.	Torque per piece (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
SFTH-02-5	5 ( 4.3 lbs-in ) ±1kgf·cm	21	50	500
SFTH-03-9	9 ( 7.8 lbs-in ) ±2kgf·cm	51	30	300
SFTH-03-19	19 ( 16.5 lbs-in ) ±2kgf·cm	195	10	100
SFTH-05-35	35 ( 30.4 lbs-in ) ±5kgf·cm			
SFTH-05-58	58 ( 50.3 lbs-in ) ±5kgf·cm			

No.	Part Name	Material	Finish
①	Body A	304 Stainless Steel	Polished
②	Shaft	303 Stainless Steel	
③	Body B	301 Stainless Steel	

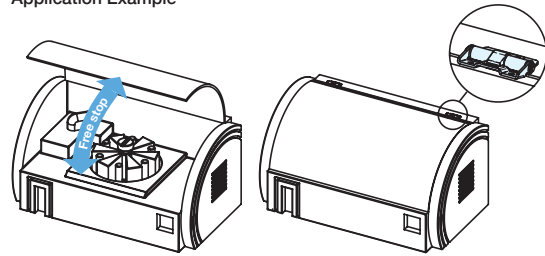


- Two options for torque direction:
  - Type A: has torque (free stop) in opening direction.
  - Type B: has torque (free stop) in closing direction.
- Allows for frictionless handling of doors in opposite direction of torque.
- Surface mounted: can be used horizontally or vertically.
- Install a catch or latch to keep lids or doors from opening.
- Durability: successfully passed 20,000 open/close private cycle test.
- Ideal for medical or analytical equipment, automation devices, maintenance on various manufacturing equipment.

Aluminium Installation Frame

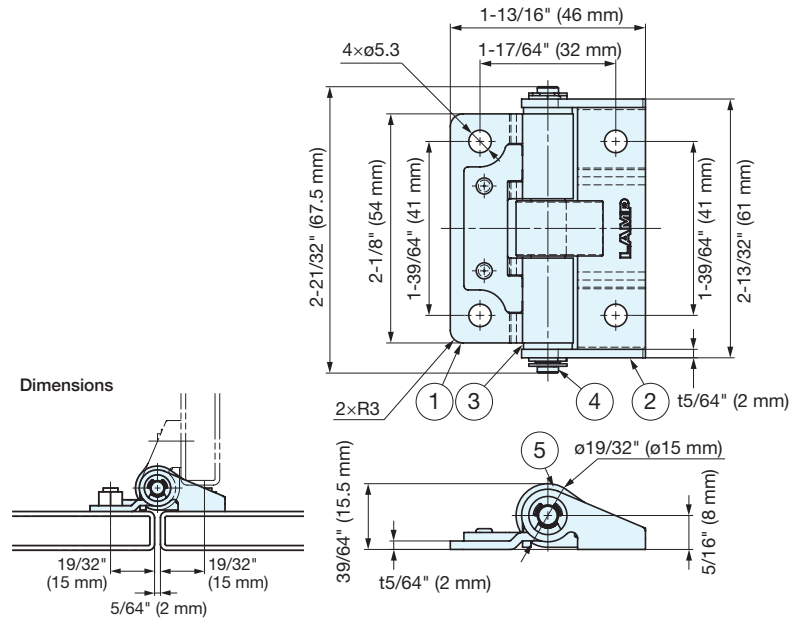
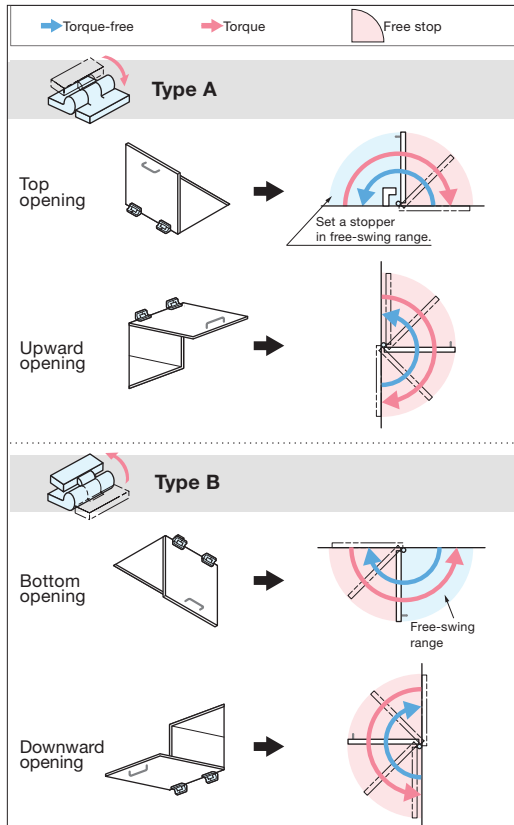


Application Example



Available for installation on aluminium frames of □ 1-3/16" (30 mm) or less.

### Torque Direction and Free-stop Range



No.	Part Name	Material	Finish
①	Body	304 Stainless Steel	Barrel Polished
②	Base		
③	Fixing Tube	Polyacetal (POM)	Black
④	Shaft	Stainless Steel	-
⑤	Housing	Zinc Alloy	Nickel

Item No.	Torque Working Direction	Torque	Weight (g)	Box (pcs)	Carton (pcs)
HG-TQS15-A	Opening Direction	13.2 <sup>+40%</sup> / <sub>-20%</sub> lb-in (15.3 <sup>+40%</sup> / <sub>-20%</sub> kgf-cm)	89	20	100
HG-TQS15-B	Closing Direction				

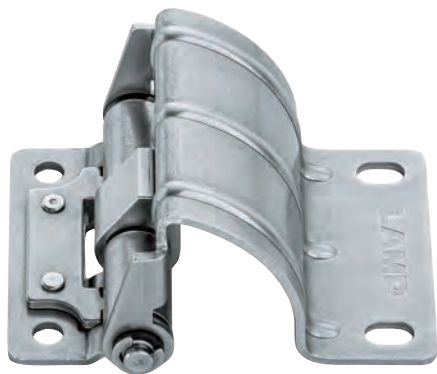


# 1-WAY CONCEALED TORQUE HINGE



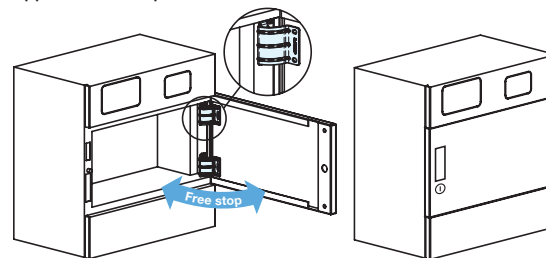
## HG-TQU15

Free-Stop Motion

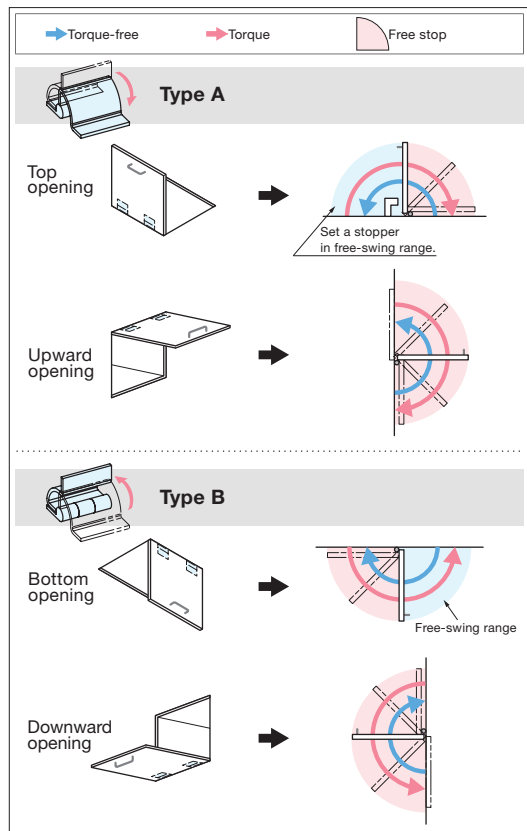


- Two options for torque direction:
  - Type A: has torque (free stop) in opening direction.
  - Type B: has torque (free stop) in closing direction.
- Allows for frictionless handling of doors in opposite direction of torque.
- Concealed hinge avoids tampering or exposure to external elements.
- Hinge is hidden (concealed) from the outside of the door.
- Can be used horizontally or vertically.
- Install a catch or latch to keep lids or doors from opening.
- Durability: successfully passed 20,000 open/close private cycle test.
- Ideal for medical or analytical equipment, automation devices, maintenance on various manufacturing equipment.

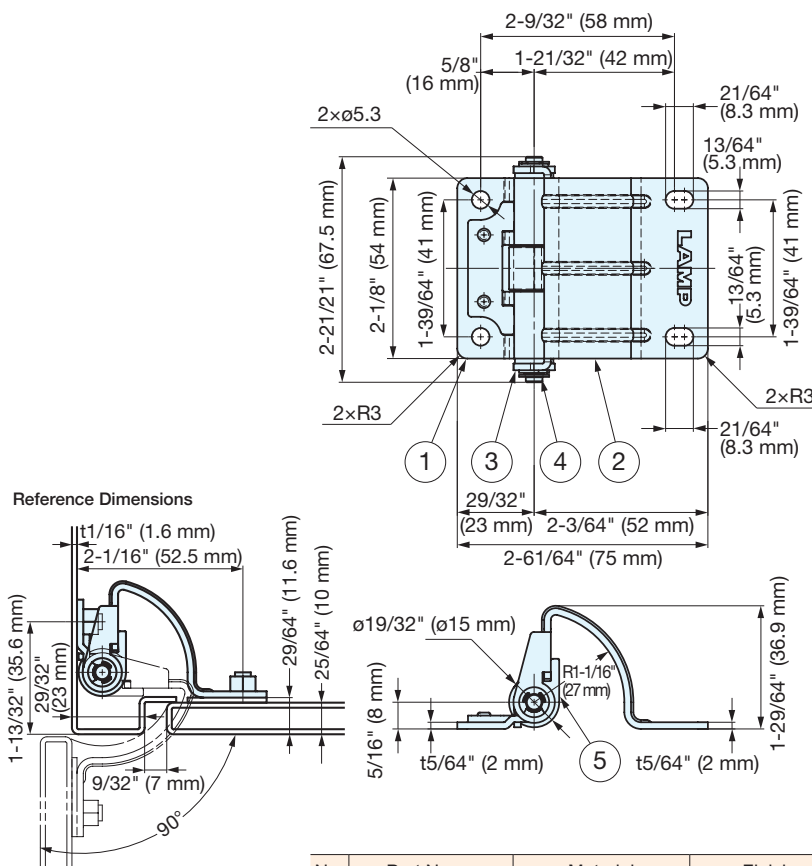
Application Example



### Torque Direction and Free-stop Range

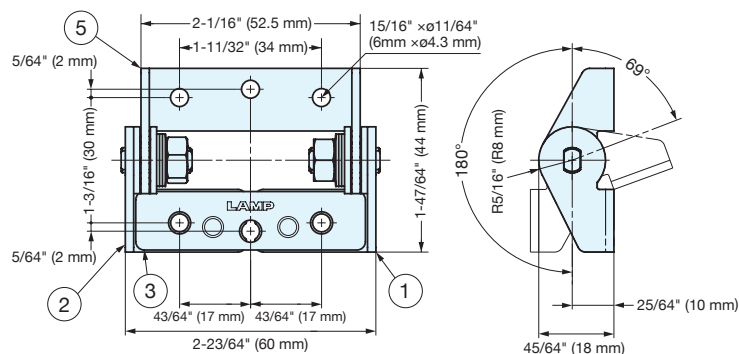
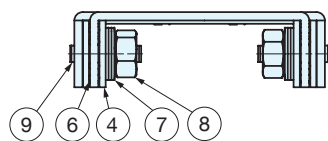


\*Figure shows torque direction. Check the actual opening and closing angles in the Reference Dimensions.

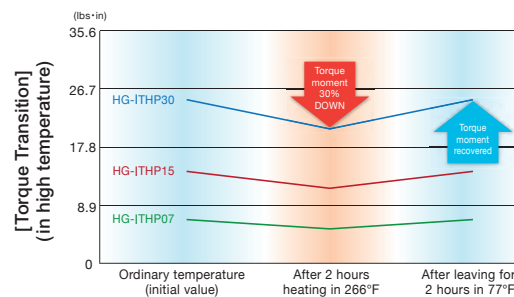


No.	Part Name	Material	Finish
①	Body	304 Stainless Steel	Barrel Polished
②	Base		
③	Fixing Tube	Polyacetal (POM)	Black
④	Shaft	Stainless Steel	-
⑤	Housing	Zinc Alloy	Nickel

Item No.	Torque Working Direction	Torque	Weight (g)	Box (pcs)	Carton (pcs)
HG-TQU15-A	Opening Direction	5.98 lb-in (6.9 kgf-cm)	145	10	50
HG-TQU15-B	Closing Direction				



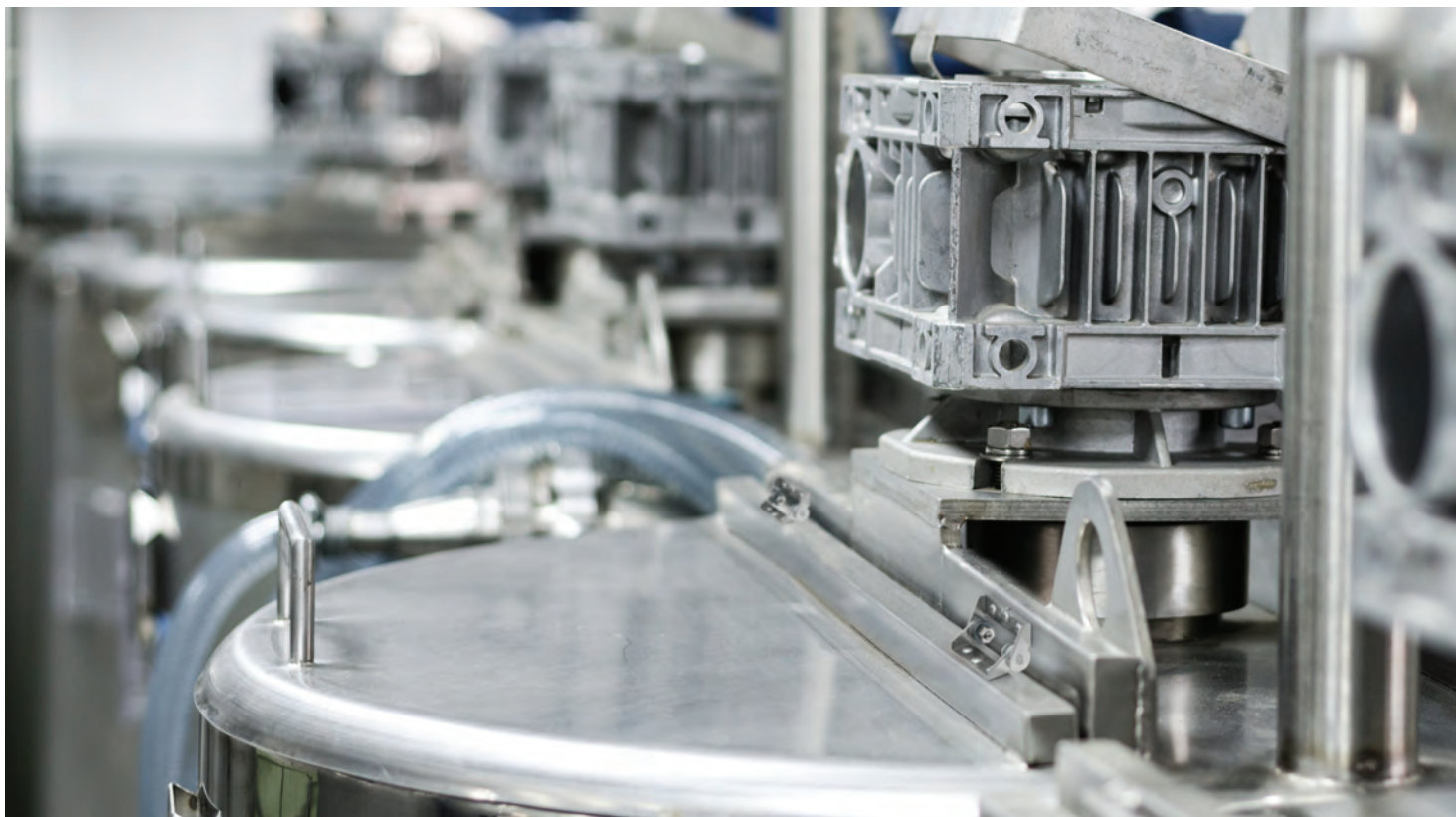
- Suitable for use in heat-generating environments. Mounts externally to the machinery.
- Operating temperature: 32°F~212°F
- Recommended for dryers, lighting equipment, temperature chambers, food processing equipment.
- Ideal solution to replace spring hinges that cannot free stop at any angle.
- When installing, ensure that both hinge shafts are leveled and aligned.



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

No.	Part Name	Material	Finish
①	Base L	304 Stainless Steel	
②	Base R		
③	Connecting Bracket		
④	Thrust Plate	Carbon Steel	-
⑤	Movable Bracket	304 Stainless Steel	
⑥	Ball	Steel	
⑦	Spring Washer	Stainless Steel	
⑧	Hexagon Nut	Steel	Zinc Chromate (Trivalent)
⑨	Shaft	303 Stainless Steel	-

Item No.	Torque per piece	Weight (g)	Box (pcs)	Carton (pcs)
HG-ITHP07	6.2 lbs-in	70	25	100
HG-ITHP15	13.3 lbs-in	70	25	100
HG-ITHP30	26.6 lbs-in	72	25	100

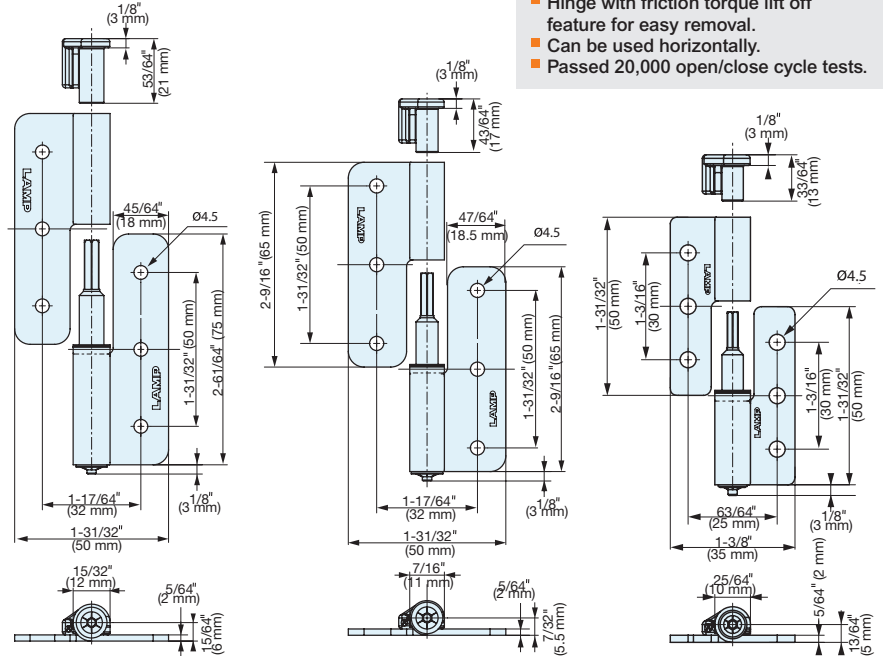
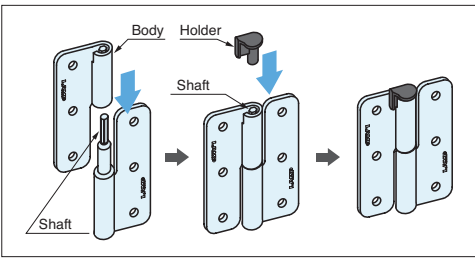


# LIFT-OFF TORQUE HINGE

STAINLESS  
304  
STEEL

HG-KNT

- Hinge with friction torque lift off feature for easy removal.
- Can be used horizontally.
- Passed 20,000 open/close cycle tests.



Item No.	Type	Torque per piece (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-KNT3L	Left	3.1 ( 2.5 lbs-in ) ± 20%	42	50	200
HG-KNT3R	Right				
HG-KNT7L	Left	7.1 ( 5.7 lbs-in ) ± 20%	76	30	120
HG-KNT7R	Right				
HG-KNT16L	Left	16.3 ( 13.0 lbs-in ) ± 20%	96	30	120
HG-KNT16R	Right				

No.	Part Name	Material	Finish
①	Body	304 Stainless Steel	Polished
②	Shaft		
③	Plug	Polyacetal	Black
④	Holder	Polyamide	
⑤	Washer A	PTFE	Natural
⑥	Washer B	Polyacetal	
⑦	Nut	Stainless Steel	-

Free-Stop Motion

# CLEAN ROOM TORQUE HINGE

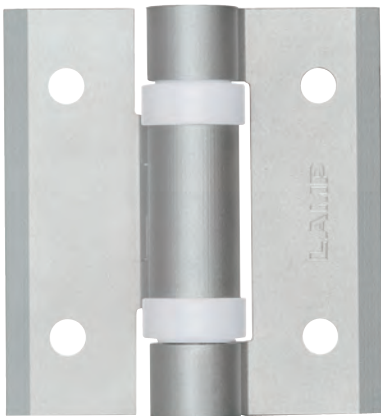
RoHS

ALUMINUM

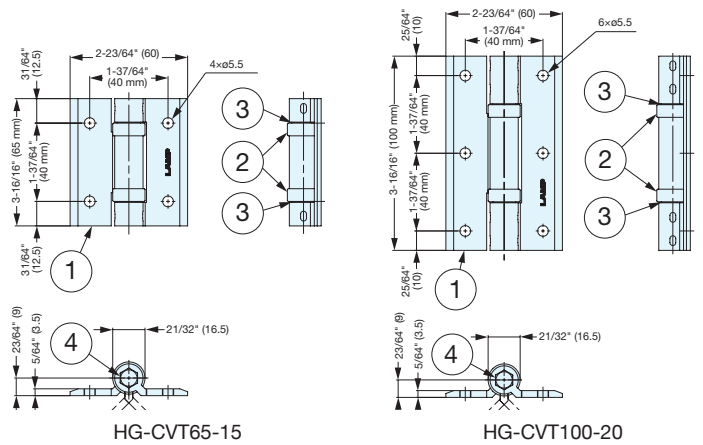
NO SCREW

HG-CVT

- Retains the door at any angle.
- Plastic caps at rotating part prevent metal-to-metal friction and metal powder scattering.
- Can be used horizontally or vertically.



HG-CVT65-15



No.	Part Name	Material	Finish
①	Body	Aluminum Alloy	Anodized
②	Cap	Polyacetal	Natural
③	Washer	PTFE	White
④	Shaft	303 Stainless Steel	-

Item No.	Weight (g)	Box (pcs)	Carton (pcs)
HG-CVT65-15	62	20	240
HG-CVT100-20	102		160

# COMBINATION HINGE

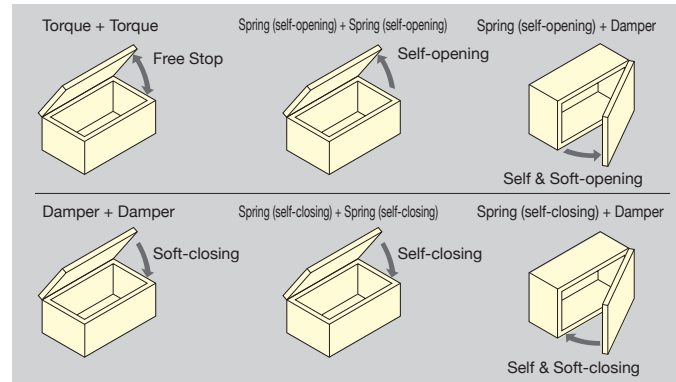
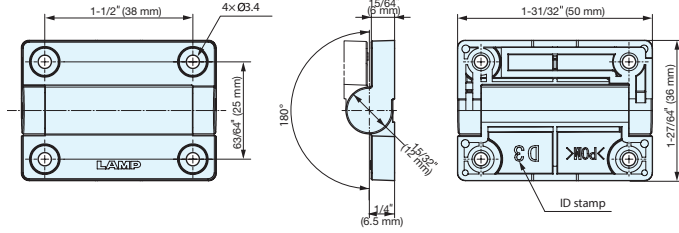


HG-VH8

Free-Stop Motion



- Hinges for light weight lids & doors.
- Various motions in same hinge case.
- Flexible combination.



Item No.	ID Stamp	Feature	Torque per piece (kgf·cm)	Opening angle	Material
HG-VH8-N-BL	N	Standard Movement	-	270°	Polyacetal
HG-VH8-N-WT					
HG-VH8-D3-BL	D3	Soft-Closing Damper	0.22 ~ 0.39 (0.19 ~ 0.34 lbs·in)		
HG-VH8-D3-WT					
HG-VH8-OP-BL	OP	Self-Opening Spring	0.16 ~ 0.64 (0.14 ~ 0.56 lbs·in)*		
HG-VH8-OP-WT					
HG-VH8-CL-BL	CL	Self-Closing Spring	1.53 ± 0.51 (1.33 ± 0.44 lbs·in)		
HG-VH8-CL-WT					
HG-VH8-T15-BL	T1	Free Stop	1.53 ± 0.51 (1.33 ± 0.44 lbs·in)		
HG-VH8-T15-WT					
HG-VH8-T35-BL	T3		3.57 ± 1.02 (3.10 ± 0.89 lbs·in)		
HG-VH8-T35-WT					

\*Increase of 0.16 kgf·cm for every 30° of rotation. Maximum rotation of 120°

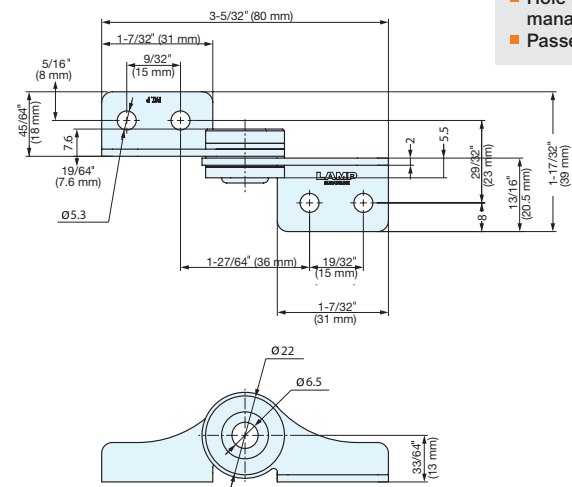
# TORQUE HINGE (W/CABLE HOLE)



HG-TC45H



- Hole in hinge knuckle allows for management of cable wire.
- Passed 50,000 open/close cycle test.



No.	Part Name	Material	Finish
①	Hinge A	430 Stainless Steel	Polished
②	Hinge B		
③	Spring Washer	Steel	-
④	Shaft	303 Stainless Steel	-
⑤	Washer	430 Stainless Steel	-

Item No.	Type	Torque per piece (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-TC45HR	Right	45.9 (39.8 lbs·in) ± 20%	60	20	160
HG-TC45HL	Left				



# TORQUE HINGE



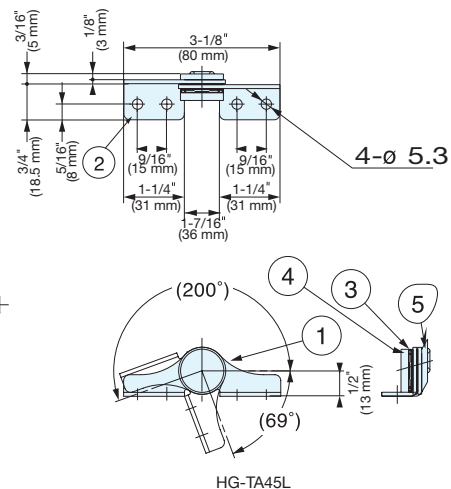
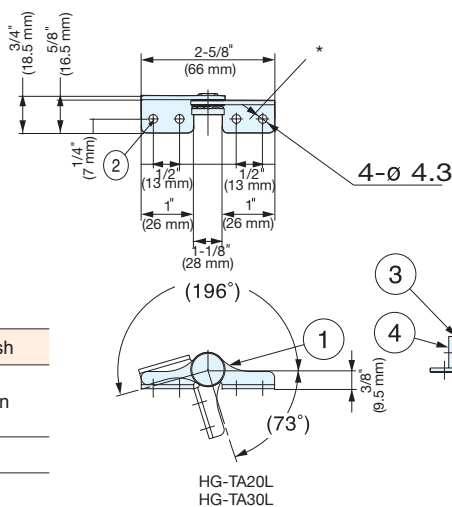
# HG-TA

Free-Stop Motion

- Free stop hinge with friction torque.
- Consistent torque throughout working range.
- Opening angle 0°~140°

**Applications:**

- Ideal for indoor applications.
- LCD monitors, monitoring cameras, displays etc.



No	Part Name	Material	Finish
①	Hinge A	430 Stainless Steel	Plain
②	Hinge B		
③	Spring Washer	Steel	-
④	Shaft	303 Stainless Steel	-
⑤	Washer	430 Stainless Steel	-

Item No.	Type	Torque per piece (kgf·cm)	Torque per piece (lbs·in)	Weight (g)	Box (pcs)	Carton (pcs)
HG-TA20R	Right hand	20.4 ± 20%	17.7 ± 20%	30	40	320
HG-TA20L	Left hand					
HG-TA30R	Right hand	30.6 ± 20%	26.5 ± 20%			
HG-TA30L	Left hand					
HG-TA45R	Right hand	45.9 ± 20%	39.8 ± 20%	65	20	160
HG-TA45L	Left hand					

# TORQUE HINGE

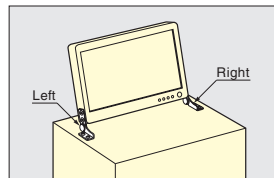


# HG-TB

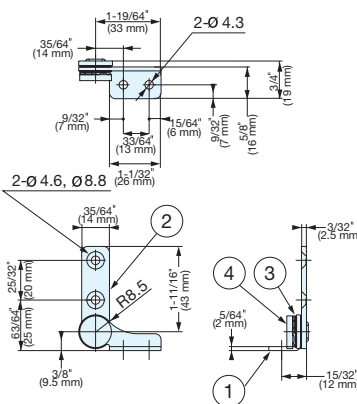
- Free stop hinge with friction torque.
- Consistent torque throughout working range.
- Opening angle 360°

**Applications:**

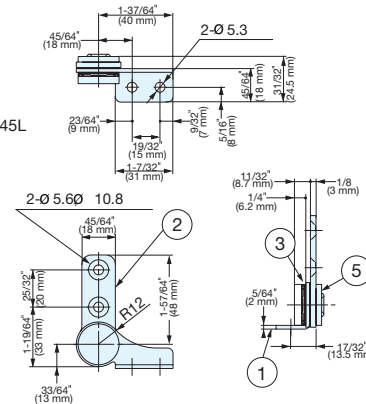
- Ideal for indoor applications.
- LCD monitors, monitoring cameras, displays etc.



HG-TB20L  
HG-TB30L



HG-TB45L



No.	Part Name	Material	Finish
①	Hinge A	430 Stainless Steel	Plain
②	Hinge B		
③	Spring Washer	Steel	-
④	Shaft	303 Stainless Steel	-
⑤	Washer	430 Stainless Steel	-

Item No.	Type	Torque per piece (kgf·cm)	Torque per piece (lbs·in)	Weight (g)	Box (pcs)	Carton (pcs)
HG-TB20R	Right hand	20.4 ± 20%	17.7 ± 20%	30	40	320
HG-TB20L	Left hand					
HG-TB30R	Right hand	30.6 ± 20%	26.5 ± 20%			
HG-TB30L	Left hand					
HG-TB45R	Right hand	45.9 ± 20%	39.8 ± 20%	65	20	180
HG-TB45L	Left hand					

# DETENT TORQUE HINGE

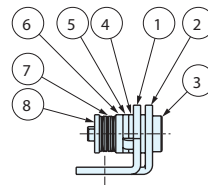
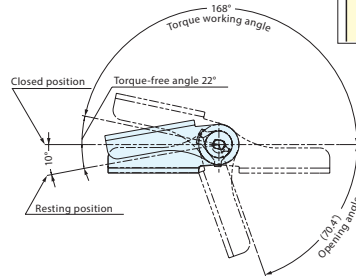
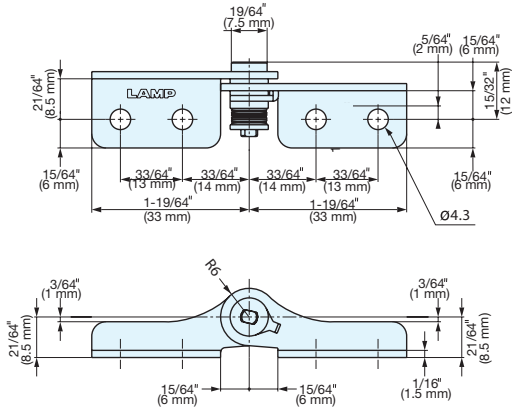
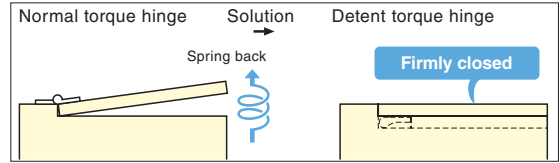


HG-DTA

Free-Stop Motion



- Hinge with built-in detent feature firmly keeps lid closed.
- No additional catch required.
- Suitable for corrosive environments.



No.	Part Name	Material	Finish
①	Base	304 Stainless Steel	Mirror
②	Bracket		
③	Shaft	303 Stainless Steel	
④	Washer	Stainless Steel	
⑤	Cam A		
⑥	Cam B		
⑦	Spring Washer		
⑧	Plate		

Item No.	ID Stamp	Torque per piece (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-DTA4-R	Right	4.08 (3.55 lbs·in) ± 20%	19	50	400
HG-DTA4-L	Left				
HG-DTA8-R	Right	8.16 (7.10 lbs·in) ± 20%			500
HG-DTA8-L	Left				

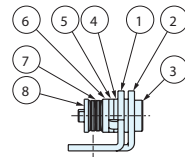
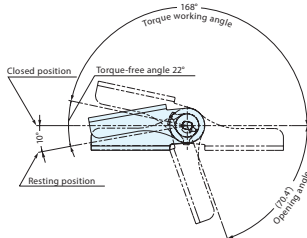
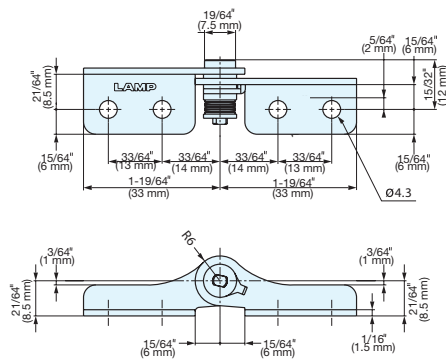
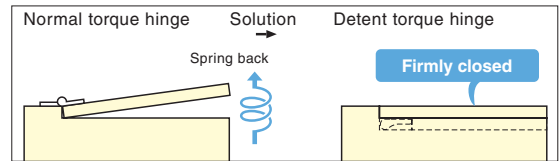
# DETENT TORQUE HINGE



HG-DTB



- Hinge with built-in detent feature firmly keeps lid closed.
- No additional catch required.
- Suitable for corrosive environments.



No.	Part Name	Material	Finish
①	Base	304 Stainless Steel	Mirror
②	Bracket		
③	Shaft	303 Stainless Steel	
④	Washer	Stainless Steel	
⑤	Cam A		
⑥	Cam B		
⑦	Spring Washer		
⑧	Plate		

Item No.	ID Stamp	Torque per piece (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-DTB4-R	Right	4.08 (3.55 lbs·in) ± 20%	19	50	400
HG-DTB4-L	Left				
HG-DTB8-R	Right	8.16 (7.10 lbs·in) ± 20%			500
HG-DTB8-L	Left				

## STAINLESS STEEL TORQUE HINGE

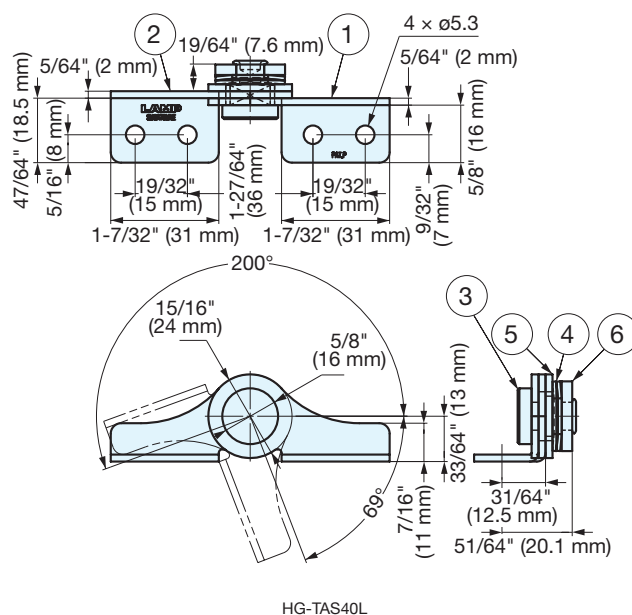
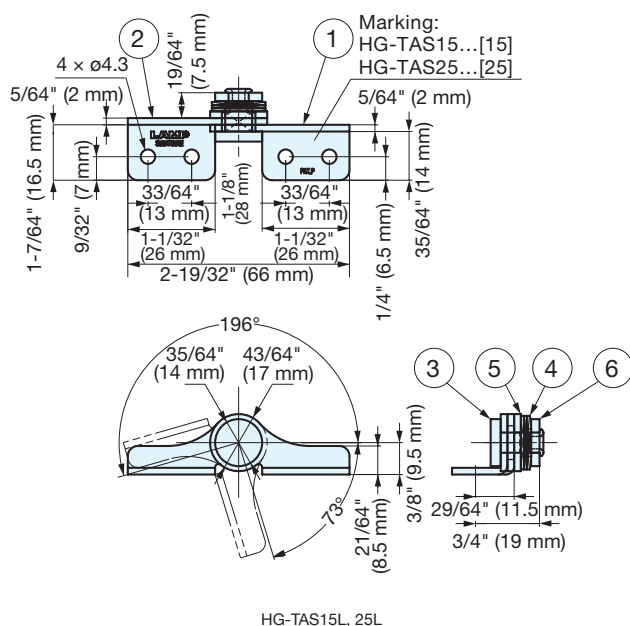
STAINLESS  
303  
STEELSTAINLESS  
304  
STEELSTAINLESS  
430  
STEEL

HG-TAS



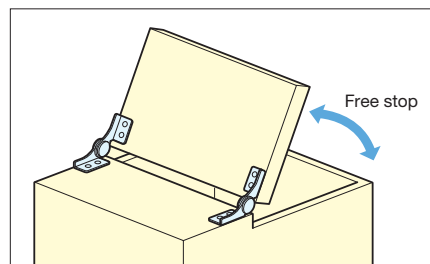
- Torque hinge made entirely from stainless steel, making it suitable for use in corrosive environments.
- For pair use. When installing, ensure that both hinge shafts are leveled and aligned.
- Operating temperature: 32°F - 104°F (0°C - 40°C).
- Great for LCD, monitoring camera displays, medical and food equipment.
- High Durability: HG-TAS passed 40,000 open/close private cycle test, twice that of HG-TA torque hinge (20,000 cycles).

Free-Stop Motion



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

## Application Example



No.	Part Name	Material	Finish
①	Body	304 Stainless Steel	Barrel Polished
②	Base		
③	Shaft	303 Stainless Steel	-
④	Spring Washer	304 Stainless Steel	Barrel Polished
⑤	Plate		
⑥	Washer	430 Stainless Steel	

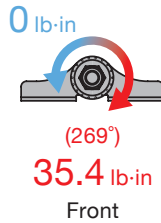
Item No.	Type	Torque (lb · in)	Weight (g)	Box (pcs)	Carton (pcs)
HG-TAS15R	Right	13.2 <sup>±20%</sup>	37	40	320
HG-TAS15L	Left		37	40	320
HG-TAS25R	Right	22.1 <sup>±20%</sup>	38	40	320
HG-TAS25L	Left		38	40	320
HG-TAS40R	Right	35.4 <sup>±20%</sup>	64	20	160
HG-TAS40L	Left		64	20	160



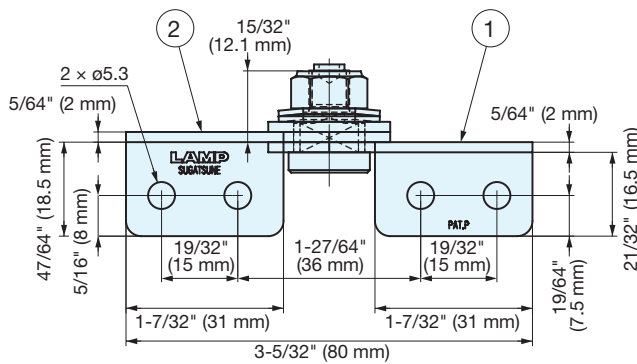
Free-Stop Motion



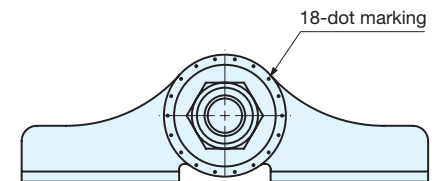
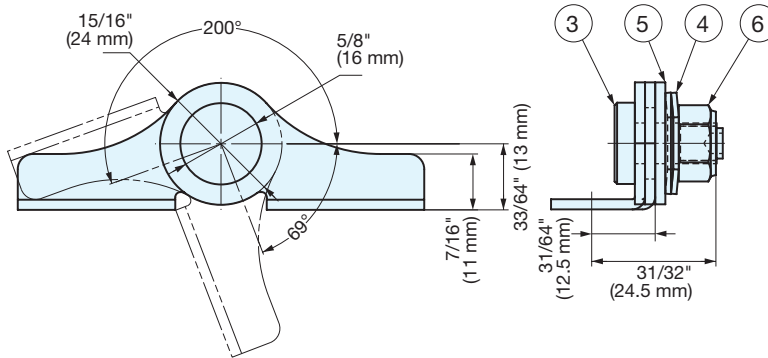
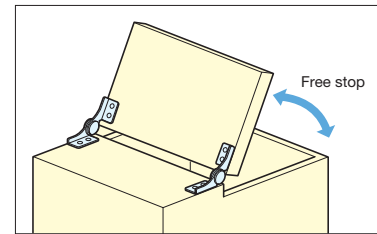
Adjustable with a hex key 13.



- Torque adjustable from 0 to 4 N·m (0 to 35.4 lbf·in). Factory setting is at 4.0 N·m.
- For pair use: Please use the same torque in both hinges.
- Use a spanner (nominal size 13) for torque adjustment. Do not forcibly remove the torque adjustment nut.
- When installing, ensure that both hinge shafts are leveled and aligned.
- Torque hinge made entirely from stainless steel, making it suitable for use in corrosive environments.
- Operating temperature: 32°F - 104°F (0°C - 40°C).
- Great for LCD's, monitoring camera displays, medical and food equipment.
- High Durability: HG-TASJ40 passed 40,000 open/close private cycle test, twice that of HG-TA torque hinge (20,000 cycles).



### Application Example



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

No.	Part Name	Material	Finish
①	Body	304 Stainless Steel	Barrel Polished
②	Base		
③	Shaft	303 Stainless Steel	-
④	Spring Washer	304 Stainless Steel	Barrel Polished
⑤	Plate		
⑥	Lock Nut	Stainless Steel	

Item No.	Type	Torque (lb · in)	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
HG-TASJ40R	Right	0 - 35.4 <sup>±20%</sup>	360°	64	20	160
HG-TASJ40L	Left			64	20	160

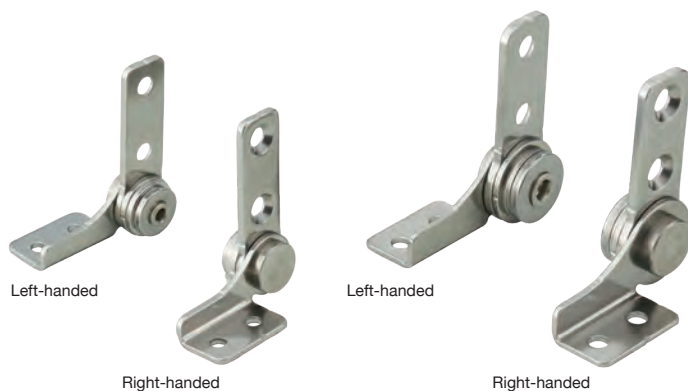


# STAINLESS STEEL TORQUE HINGE

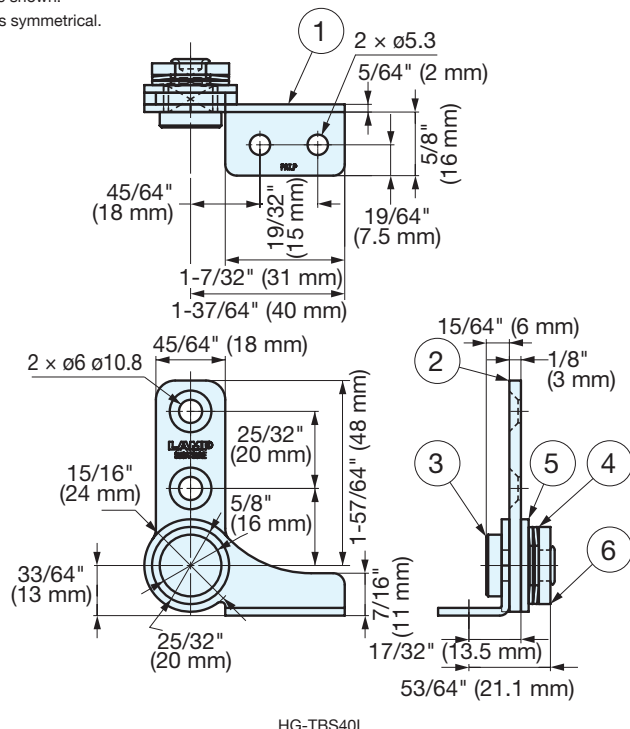
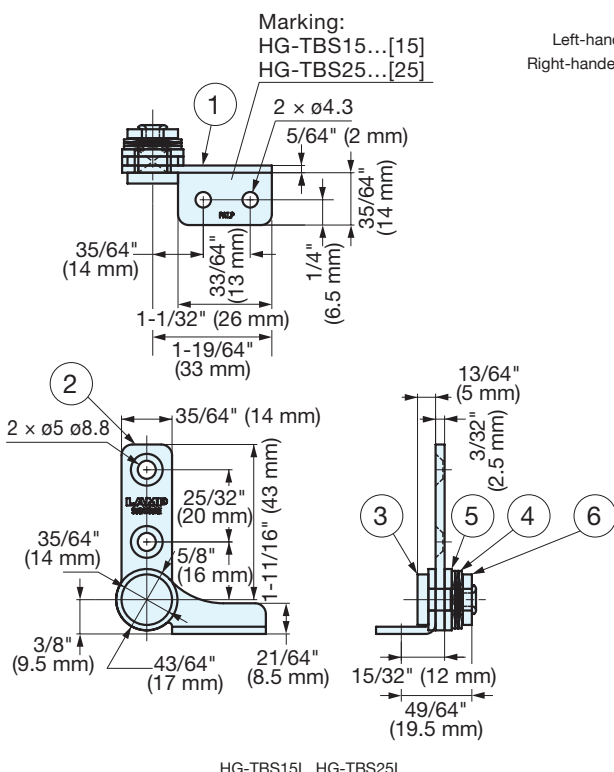


HG-TBS

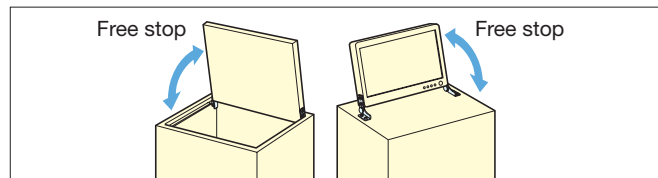
Free-Stop Motion



- Torque hinge is made entirely from stainless steel, making it suitable for use in corrosive environments.
- For pair use. When installing, ensure that both hinge shafts are leveled and aligned.
- Operating temperature: 0°~40°C (32°~104°F).
- Great for LCD's, monitoring camera displays, medical and food equipment.
- High Durability: HG-TBS passed 40,000 open/close private cycle test, twice that of HG-TB torque hinge (20,000 cycles).



Application Example

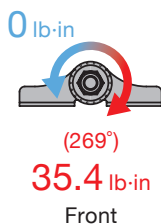


No.	Part Name	Material	Finish
①	Body	304 Stainless Steel	Barrel Polished
②	Base		
③	Shaft	303 Stainless Steel	-
④	Spring Washer	304 Stainless Steel	Barrel Polished
⑤	Plate		
⑥	Washer	430 Stainless Steel	

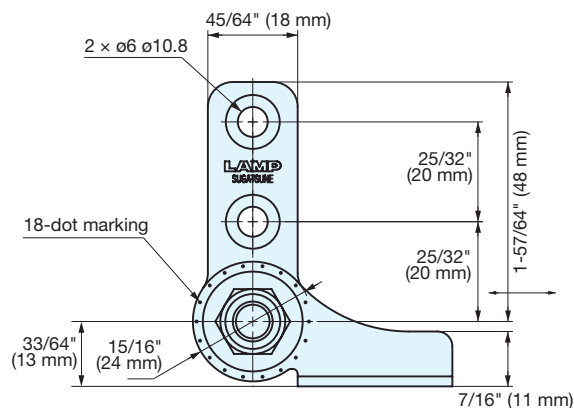
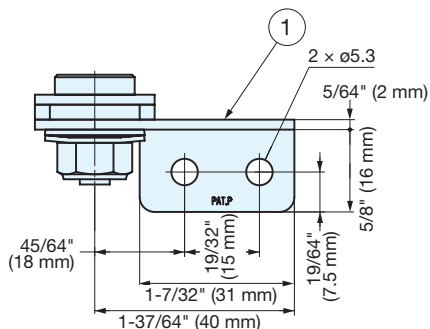
Item No.	Type	Torque (lb · in)	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
HG-TBS15R	Right	13.2 <sup>±20%</sup>	360°	37	40	320
HG-TBS15L	Left			37	40	320
HG-TBS25R	Right	22.1 <sup>±20%</sup>		38	40	320
HG-TBS25L	Left			38	40	320
HG-TBS40R	Right	35.4 <sup>±20%</sup>		67	20	160
HG-TBS40L	Left			67	20	160



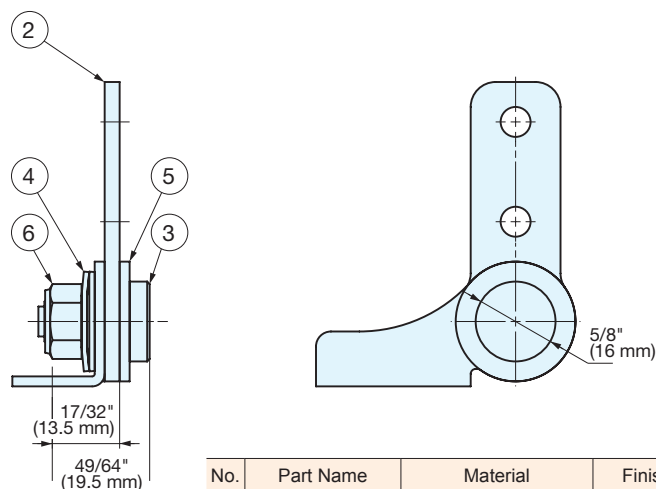
Adjustable with  
a hex key 13.



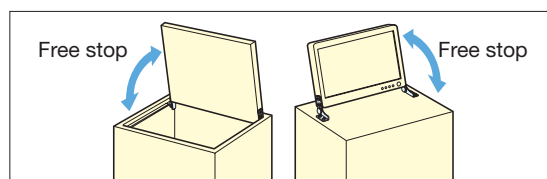
- Torque adjustable from 0 to 4 N·m (0 to 35.4 lbf·in). Factory setting is at 4.0 N·m.
- For pair use: Please use the same torque in both hinges.
- Use a spanner (nominal size 13) for torque adjustment. Do not forcibly remove the torque adjustment nut.
- When installing, ensure that both hinge shafts are leveled and aligned.
- Torque hinge made entirely from stainless steel, making it suitable for use in corrosive environments.
- Operating temperature: 0°~40°C (32°~104°F).
- Great for LCD's, monitoring camera displays, food and medical equipment.
- High Durability: HG-TBSJ40 passed 40,000 open/close private cycle test, twice that of HG-TB torque hinge (20,000 cycles).



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



#### Application Example



No.	Part Name	Material	Finish
①	Body	304 Stainless Steel	Barrel Polished
②	Base		
③	Shaft	303 Stainless Steel	-
④	Spring Washer	304 Stainless Steel	Barrel Polished
⑤	Plate		
⑥	Lock Nut	Stainless Steel	

Item No.	Type	Torque (lb · in)	Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
HG-TBSJ40R	Right	0 - 35.4 <sup>±20%</sup>	360°	67	20	160
HG-TBSJ40L	Left			67	20	160



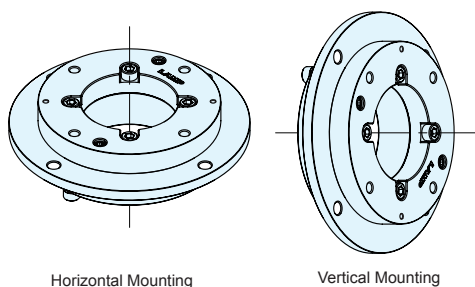
## (Unbalanced Load Type)



- High rigidity swivel torque hinge supports unbalanced loads in a hanging installation.
- Hinge can be installed vertically or horizontally.
- Can rotate 360° and be held at any angle (free stop).
- Rotation angle can be controlled with a supplied angle control bolt.
- Center hole for easy cable management (2" opening diameter).
- Durability: 30,000 open/close cycles passed (private test).



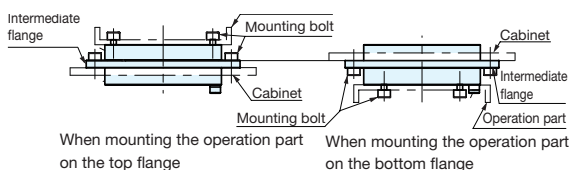
### Mounting Direction



Horizontal Mounting

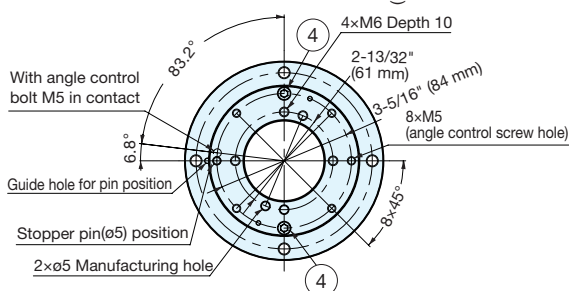
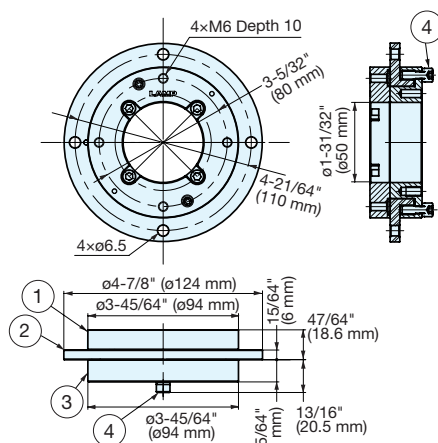
Vertical Mounting

### Horizontal Installation Example

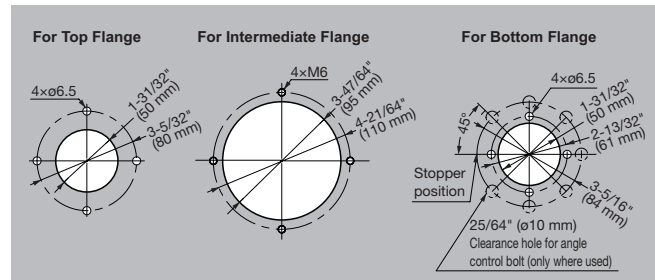


When mounting the operation part on the top flange

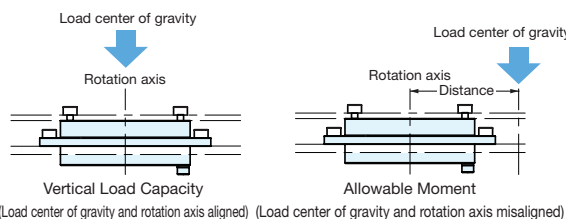
When mounting the operation part on the bottom flange



### Cut Out Dimensions

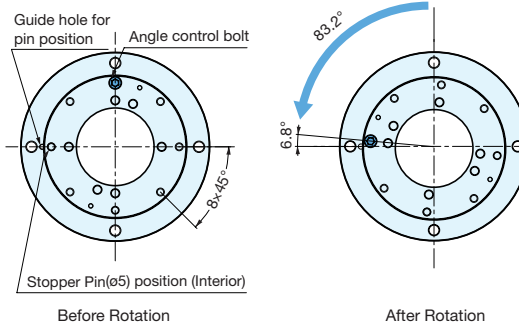


### Vertical Load Capacity & Allowable Moment



### Rotation Angle Control Function

Rotation angle can be controlled by mounting the supplied angle control bolt.



There are 8 angle control screw holes at 45° intervals; the actual rotation angles are 6.8° narrower because the stopper pins are blocked by bolts.

No.	Part Name	Material	Finish
①	Top Flange	Steel	Clear Zinc Chromate
②	Intermediate Flange		
③	Bottom Flange		
④	Spring Washer Embedded Hexagon Socket Head Cap Screw M5x14	-	

Item No.	Size	Hole Diameter	Torque (kgf·cm)	Vertical Load Capacity (kgf)	Allowable Moment (kgf·cm)	Weight (g)
HG-S50-HR50	4-7/8" (124 mm)	1-31/32" (50 mm)	51.0 ± 20% (44.26 lbs-in)	61.2 (134.9 lbs)	816 (708.3 lbs)	1330

## SWIVEL TORQUE HINGE

STAINLESS  
303  
STEELSTAINLESS  
304  
STEELSTAINLESS  
430  
STEEL

HG-S



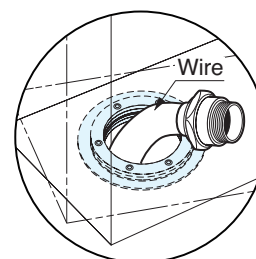
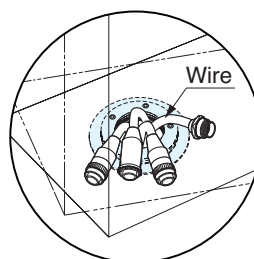
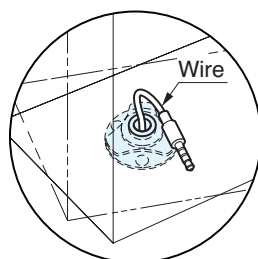
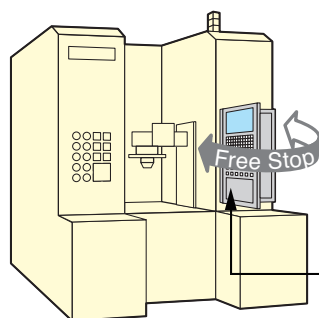
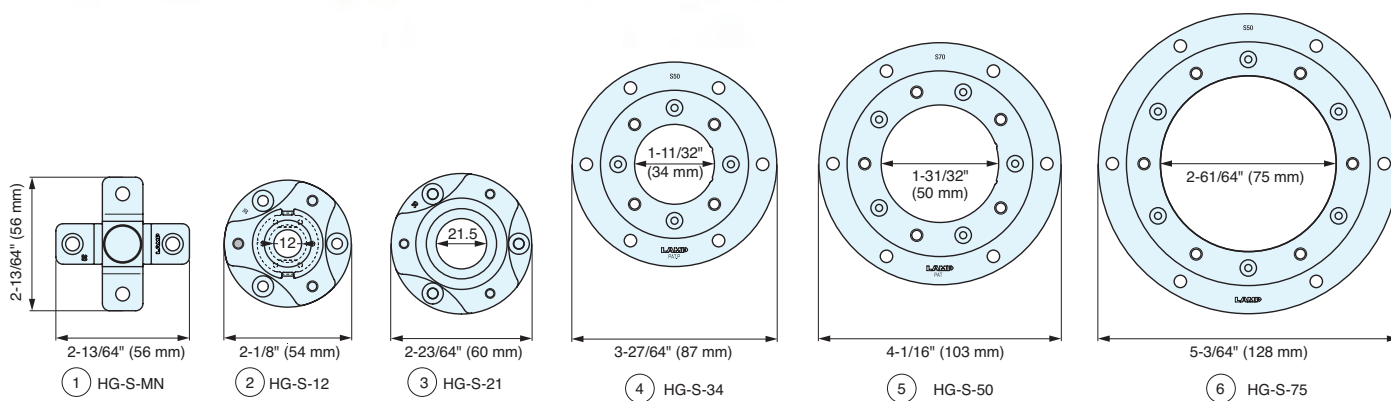
- Rotation angle: 360°
- Free stop function, can hold in any desired position.
- Design for easy wire pass through

Use for:

- Industrial control panels and monitors.

Note:

- Initial torque may vary  $\pm 20\%$ .
- Do not lubricate.
- For indoor use only.



Select appropriate model for wire size.

Item No.	No.	Outer Dimension (mm)	Center Hole Diameter (mm)	Torque per piece (kgf-cm)
HG-S7-MN	①	2-13/64" (56 mm)	-	7.1 $\pm$ 20% ( 6.2 lbs-in)
HG-S20-MN				20.4 $\pm$ 20% (17.7 lbs-in)
HG-S30-12	②	2-1/8" (54 mm)	15/32" (12 mm)	30.6 $\pm$ 20% (26.6 lbs-in)
HG-S50-12				51.0 $\pm$ 20% (44.3 lbs-in)
HG-S30-21	③	2-23/64" (60 mm)	27/32" (21.5 mm)	30.6 $\pm$ 20% (26.6 lbs-in)
HG-S50-21				51.0 $\pm$ 20% (44.3 lbs-in)
HG-S50-34	④	3-27/64" (87 mm)	1-11/32" (34 mm)	51.0 $\pm$ 20% (44.3 lbs-in)
HG-S70-34				71.4 $\pm$ 20% (62.1 lbs-in)
HG-S70-50	⑤	4-1/16" (103 mm)	1-31/32" (50 mm)	71.4 $\pm$ 20% (62.1 lbs-in)
HG-S100-50				102.0 $\pm$ 20% (88.7 lbs-in)
HG-S50-75	⑥	5-3/64" (128 mm)	2-61/64" (75 mm)	51.0 $\pm$ 20% (44.3 lbs-in)
HG-S70-75				71.4 $\pm$ 20% (62.1 lbs-in)

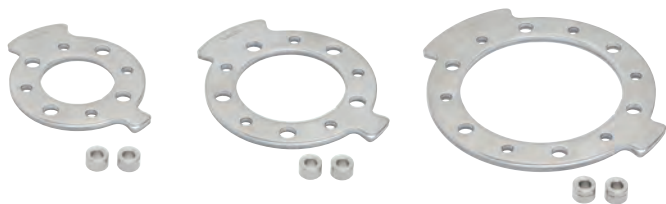
Part Name	Material	Finish
Plate	430 Stainless Steel	Barrel Polished
Washer		
F Plate	Bronze	
Spring Washer	Stainless Steel/ Steel (HG-S-12)	
Shaft	303 Stainless Steel (HG-S7,S20)	
Bush	POM(HG-S-34)	
Sleeve	303 Stainless Steel (HG-S30,S50)	

# SWIVEL TORQUE HINGE



## HG-S-ARP

Free-Stop Motion



HG-S-34-ARP

HG-S-50-ARP

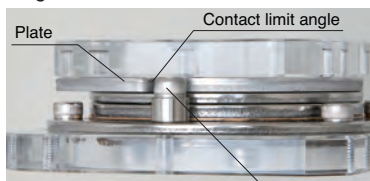
HG-S-75-ARP

- Plate and stopper form a set which can be installed to control the swivel angle of Swivel Torque Hinge HG-S.
- Two swivel directions and five angles can be selected according to the stopper installation position.

**Includes:**

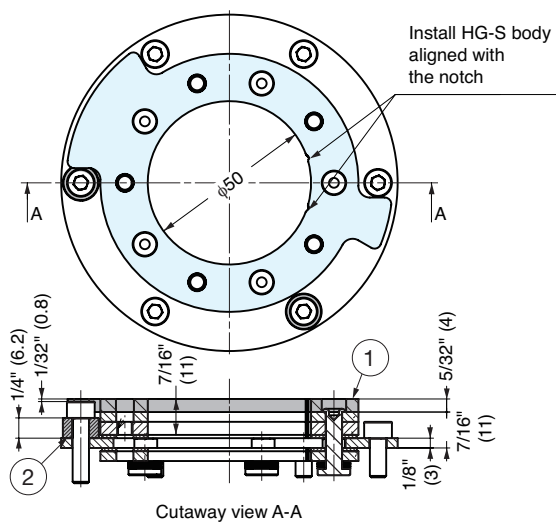
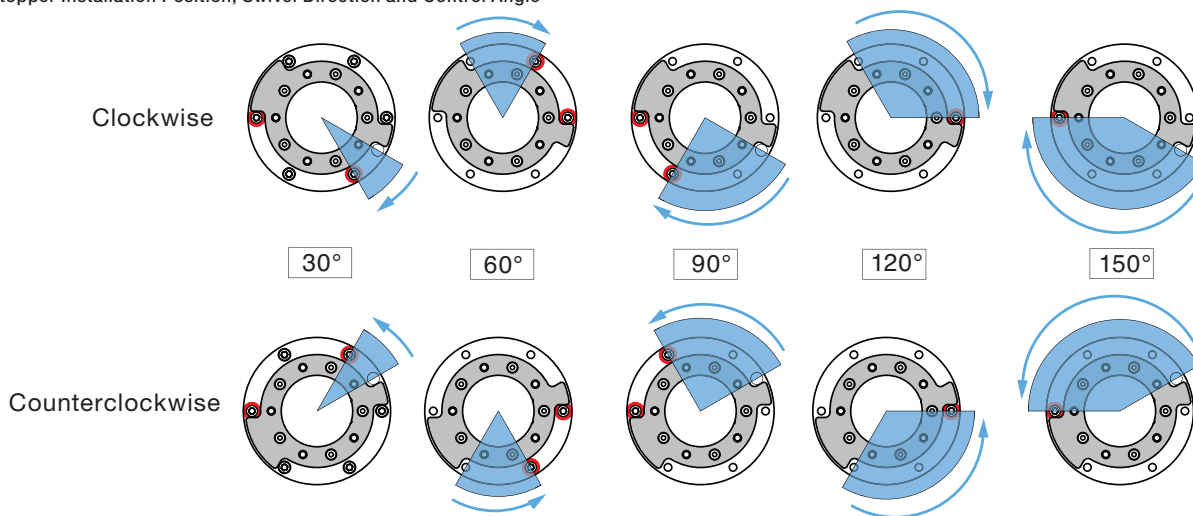
- HG-S-34-ARP: Height 6.2 mm/2 pcs
- HG-S-50-ARP: Height 6.2 mm/2 pcs
- HG-S-70-ARP: Height 7.2 mm/2 pcs (height differs from other models. Cannot be used together)

**Angle Limit Mechanism**

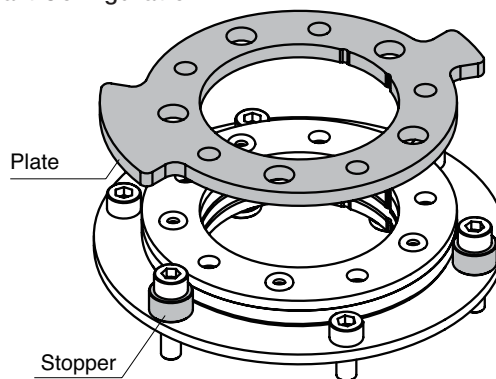


The angle is limited by contact between the stopper and the co-faturing bolt (to be prepared by the customer and the plate).

**Stopper Installation Position, Swivel Direction and Control Angle**



**Part Configuration**



Item No.	Corresponding Hinge	Weight (g)
HG-S-34-ARP	HG-S-34	77.6
HG-S-50-ARP	HG-S-50	99.7
HG-S-75-ARP	HG-S-75	148.5

No.	Part Name	Material	Finish
①	Angle Limiter Plate	430 Stainless Steel	Barrel Polished
②	Angle Limiter Stopper	303 Stainless Steel	-

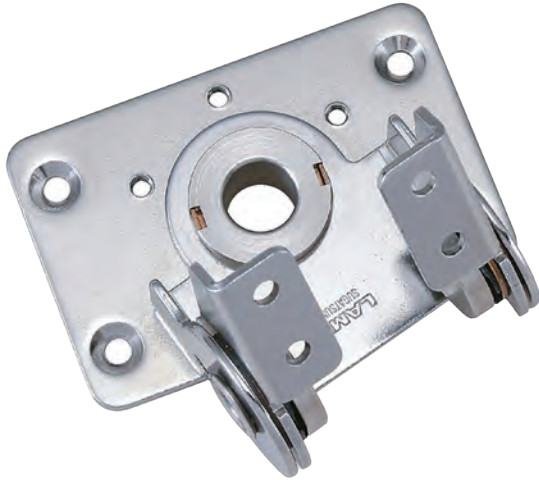


# TORQUE HINGE (DUAL AXIS)

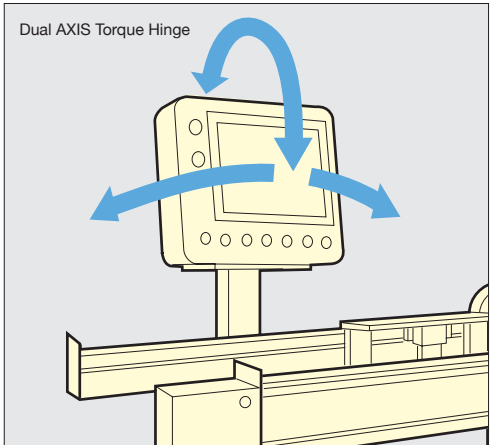
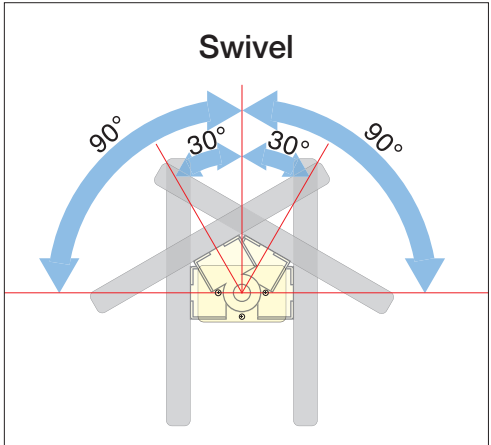
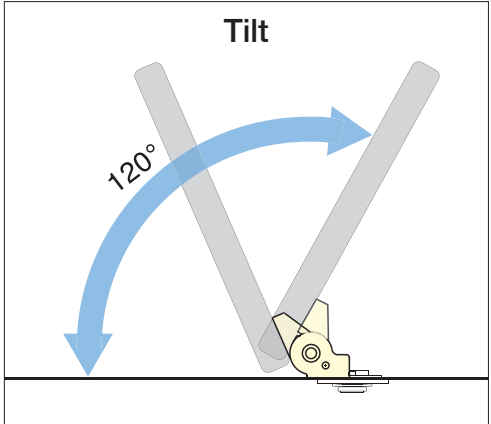


HG-T70S30

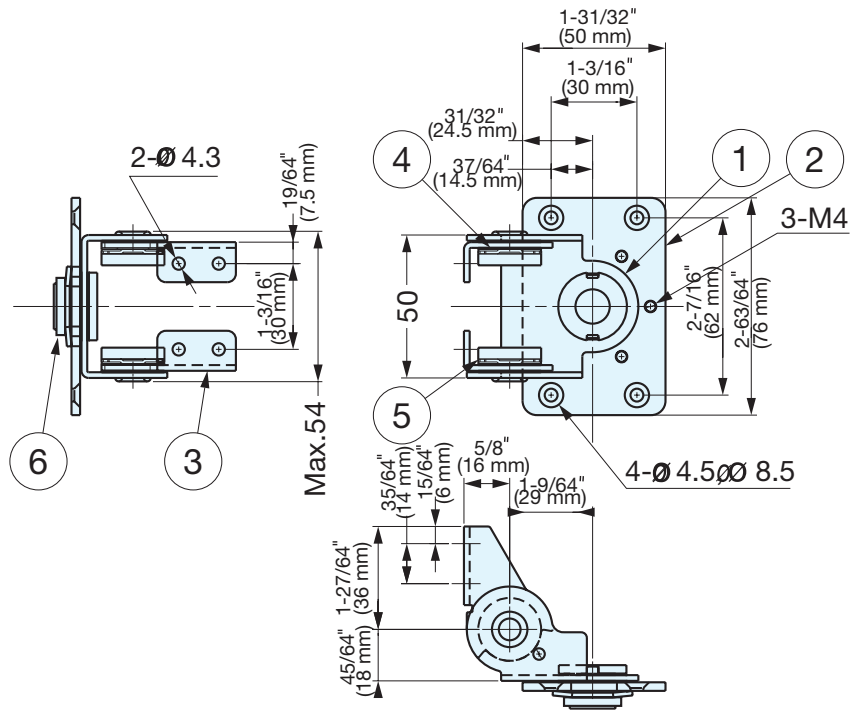
Free-Stop Motion



- Dual Axis: free stop at any angle in tilt & swivel.
- Provides torque stability in both directions.
- Suitable for monitor screens.



\*Angle restriction hole options with inserted pin/screw (not included).  
TILT 0-120° & SWIVEL ± 30°, ± 90°



Item No.	Torque per piece (tilting)	Torque per piece (swiveling)
HG-T70S30	62 lbs-in ± 15%	26.6 lbs-in ± 15%

No.	Part Name	Material	Finish
①	Body	430 Stainless Steel	Polished
②	Base		
③	Bracket		
④	Spring Washer	Steel	Plain
⑤	Shaft	303 Stainless Steel	Polished
⑥	Washer	430 Stainless Steel	

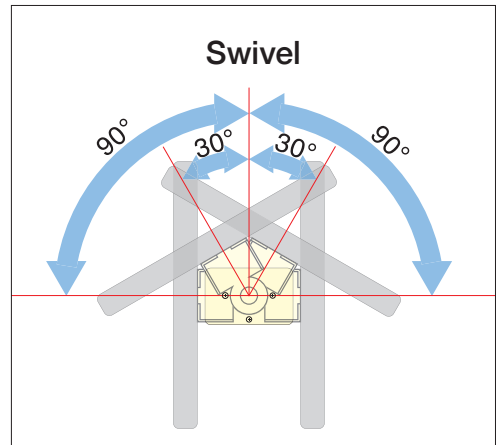
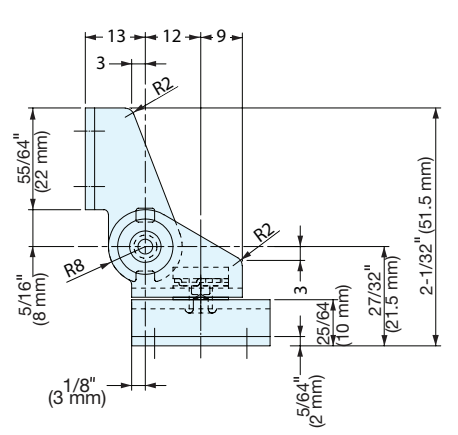
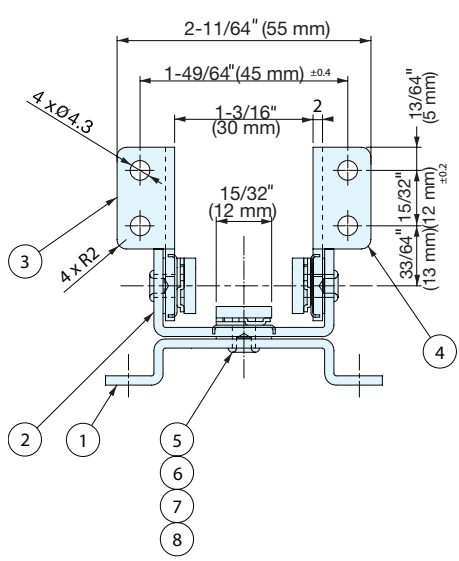
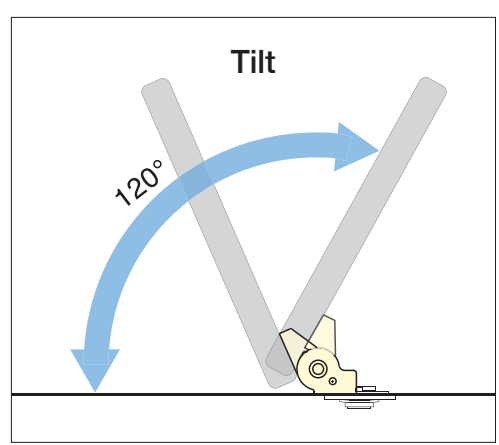
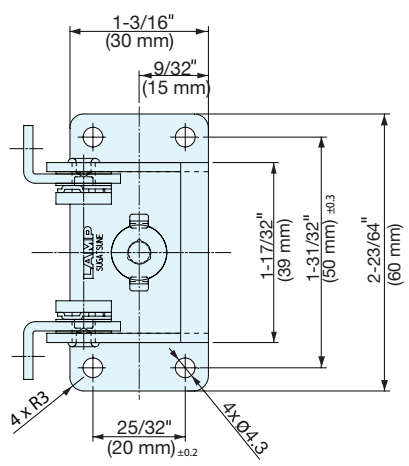
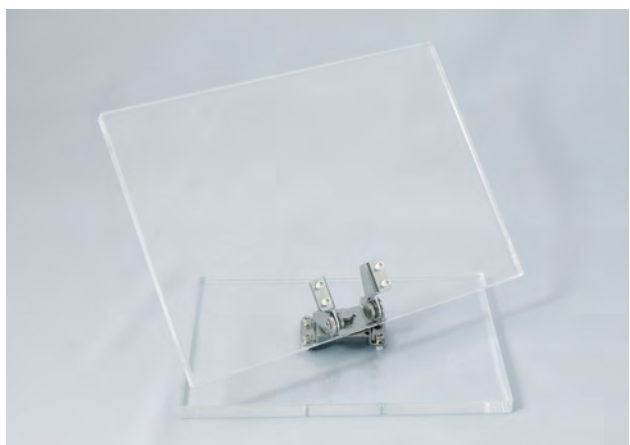
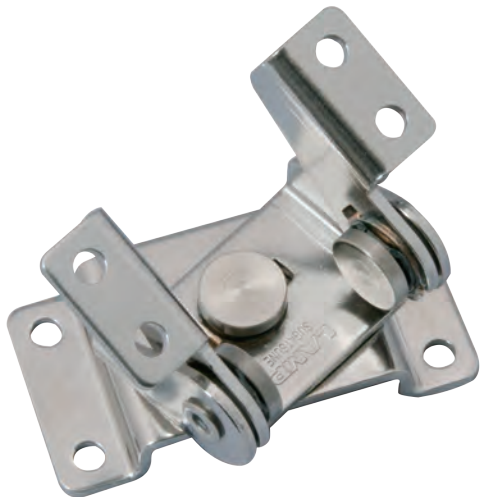
# TORQUE HINGE (DUAL AXIS)



HG-T30S15

Free-Stop Motion

- Dual Axis: Free stop between 0°~200° (Tilting) and 360° (swiveling).
- Provides torque stability in both directions.
- Suitable for monitor screens.
- Successfully passed 20,000 open/close private cycle tests.



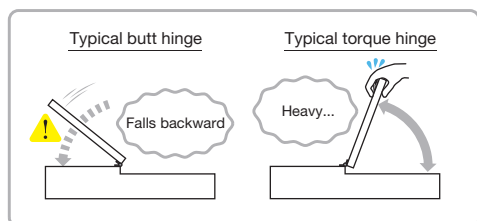
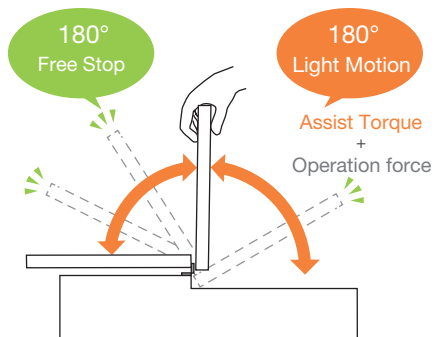
Item No.	Torque per piece (tilting)	Torque per piece (swiveling)
HG-T30S15	26.5 lbs-in ± 20%	13.0 lbs-in ± 20%

No.	Part Name	Material	Finish
①	Body	430 Stainless Steel	Polished
②	Base		
③	Bracket	303 Stainless Steel	-
④			
⑤	Shaft	Phosphor Bronze	Polished
⑥	Press Washer	Steel	-
⑦	Pin	-	-
⑧	Washer	-	-



**180° Lift Assist and Free Stop**

- Featuring free stop with lift-assist for lid opening & closing directions (0 ~ 180°), giving full access to the inside of equipment.
- Lift-assist makes lid feel lighter to open and close.
- This compact hinge is designed for external surface mounting on top-opening lids.
- The retaining torque (0 ~ 31 lbs-in) is adjustable with a 3/8" (10 mm) socket or wrench.
- Operating temperature: 32° to 104°F (0° to 40°C).
- Cover (included) provides clean appearance to blend in with aesthetics of machinery.
- Durability: successfully passed 50,000 open/close cycle test (private).
- Ideal for medical, analytical and factory automation equipment.
- See Lid Size Guidelines graph for recommended range of supported lid height and lid weight.



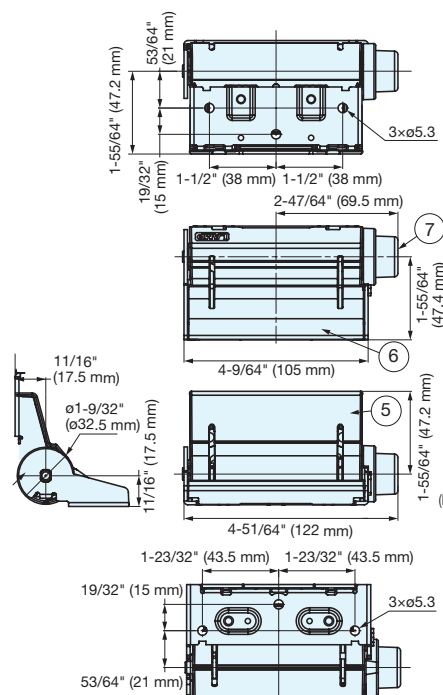
**Application Example**



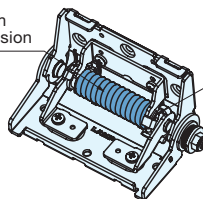
For lids that require wide opening



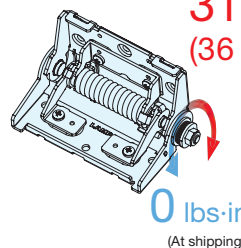
For analysis devices



Assist with spring tension

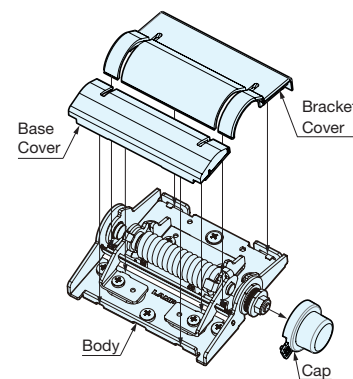


At 90°, the direction of the spring force will change.



Adjust with a 3/8" (10mm) socket or wrench

**Component Parts**



No.	Part Name	Material	Finish
①	Base	304 Stainless Steel/ PBT	Barrel Polished
②	Bracket	304 Stainless Steel	
③	Spring	Stainless Steel	-
④	Torque Adjustment Nut M6	-	-
⑤	Bracket Cover	PBT	Light Grey
⑥	Base Cover		
⑦	Cap		

Item No.	Spring-Assist Force	Retaining Torque	Weight (g)
HG-TAWJ40	31~39.9 lbs-in (36~46 kgf-cm)	0~31 lbs-in (0~36 kgf-cm)	385

# LIFT-ASSIST TORQUE HINGE



HG-TLAJ

Free-Stop Motion



Hinge



Cover (sold separately)

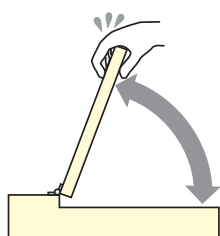
- Featuring free stop with lift-assist for lid opening & closing directions (0 ~ 100°).
- The retaining torque (0 ~ 31 lbs-in) is adjustable with a 3/8" (10 mm) socket or wrench.
- Lift-assist, makes lid feel lighter to open and close.
- Operating temperature: 32° to 104°F (0° to 40°C).
- This compact hinge is designed for external surface mount on top-opening lids.
- High Durability: 50,000 open/close cycles passed (private test).
- Ideal for medical, analytical and factory automation equipment.
- Cover (sold separately) provides clean appearance to blend in with aesthetics of machinery.

## Application



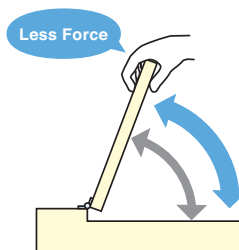
## Smoother than ever before

### Normal Torque Hinge



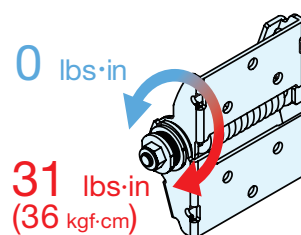
Only Retaining Torque

### Lift-assist Torque Hinge



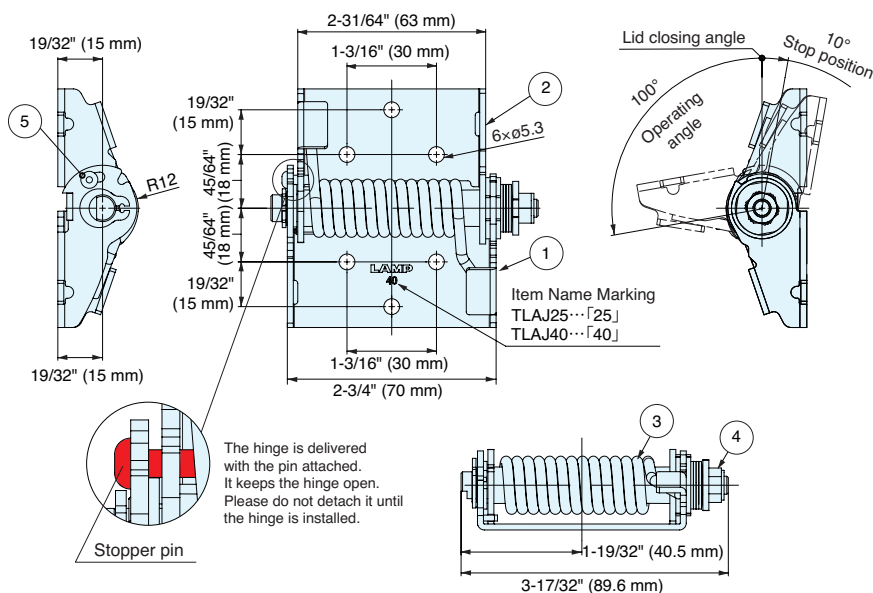
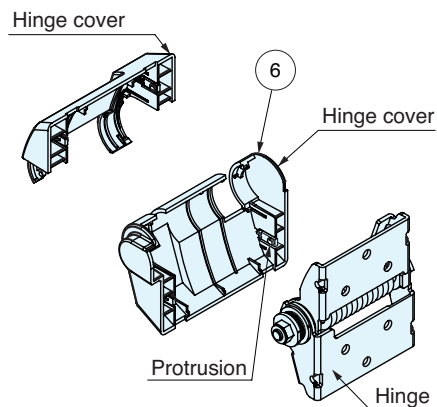
Retaining Torque + Lift-assist Force

## Retaining Torque Adjustment



A socket or wrench is needed (size: 10).  
0 lbs-in is the factory preset.

## Component Parts



No.	Part Name	Material	Finish
①	Body	304 Stainless Steel	Barrel Polished
②	Bracket	430 Stainless Steel	
③	Spring	Stainless Steel	Plain
④	Torque Adjustment Nut M6	-	
⑤	Stopper Pin	Stainless Steel	White
⑥	Hinge Cover	PBT	

## Cover Sold Separately

Item No.	Weight (g)	Box (pcs)	Carton (pcs)
HG-TLAJC	41	10	40

## Hinge

Item No.	Lift-assist Force	Retaining Torque	Weight (g)	Box (pcs)	Carton (pcs)
HG-TLAJ25	19.5 - 25.6 lbs-in (22-30 kgf-cm)	0 - 31 lbs-in (0-36 kgf-cm)	218	10	40
HG-TLAJ40	31 - 38.9 lbs-in (36-45 kgf-cm)		222	10	40



HG-TE03



HG-TE08



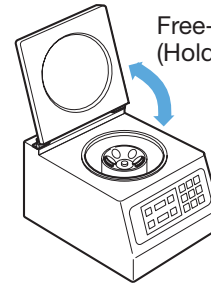
HG-TE15



With optional cover mounted

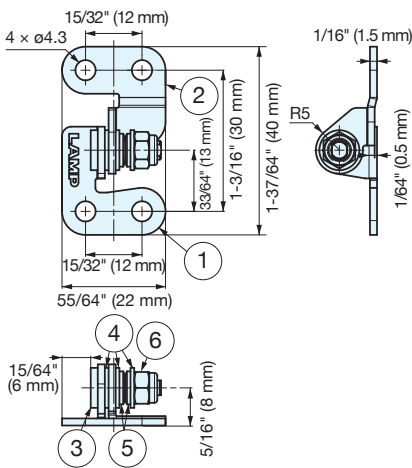
- Torque hinge that can be used for horizontal or vertical applications.
- Featuring free stop: holds lid or cover at any angle.
- Durability: successfully passed 20,000 open/close private cycle tests.
- Operating temperature 14°F (-10°C) - 122°F (50°C)
- To be surface mounted externally (outside mount only).
- Recommended for medical & analytical equipment, factory automation devices, acoustic equipment among other uses.
- Designed for small, lightweight lids.
- Cover (sold separately) hides the nut & bolt of the hinge.

Application Example

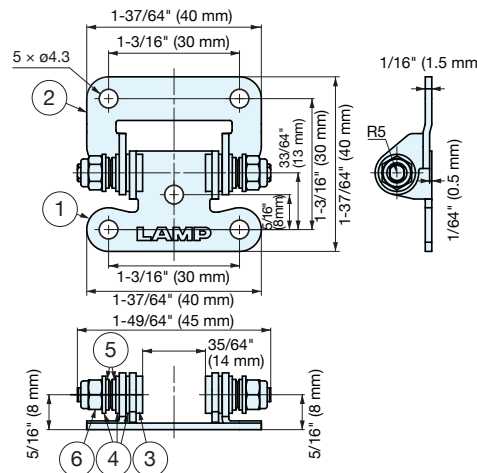


Free-stop  
(Holds lid in place at any angle)

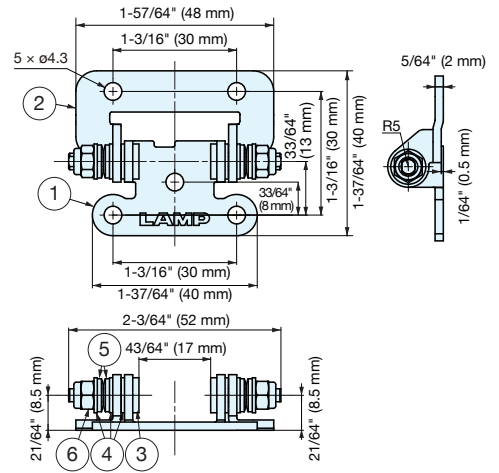
HG-TE03



HG-TE08



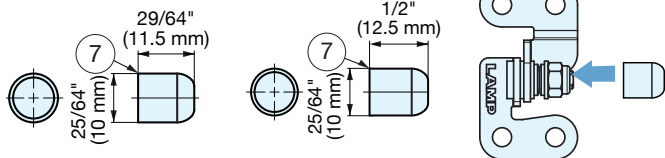
HG-TE15



Cover Installation Dimensions

HG-TEC1

HG-TEC2



Mount covering the nut and bolt

No.	Part Name	Material	Finish
①	Body A	304 Stainless Steel	Barrel Polished
②	Body B		
③	Shaft	Steel	-
④	Friction Plate	304 Stainless Steel	
⑤	Disc Spring	Steel	
⑥	Lock Nut M4	304 Stainless Steel	
⑦	Cover	PBT Resin	Grey

Item No.	Torque lbs-in	Weight (g)
HG-TE03	2.6 <sup>+40%</sup> / <sub>-20%</sub>	13
HG-TE08	7 <sup>+40%</sup> / <sub>-20%</sub>	25
HG-TE15	13.2 <sup>+40%</sup> / <sub>-20%</sub>	34

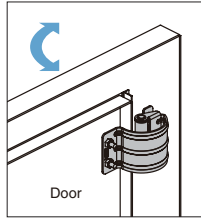
Item No.	Corresponding Hinge	Weight (g)
HG-TEC1	HG-TE03, HG-TE08	0.4
HG-TEC2	HG-TE15	



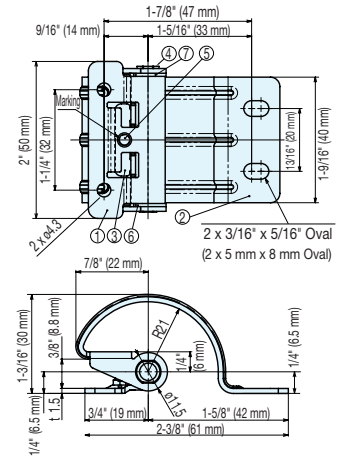
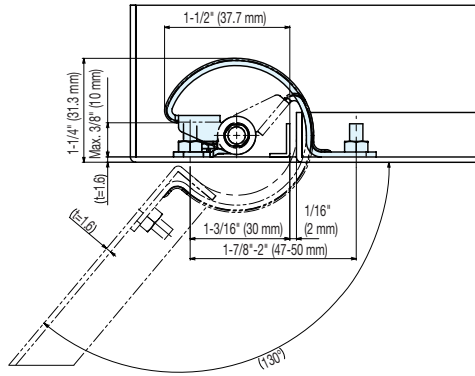
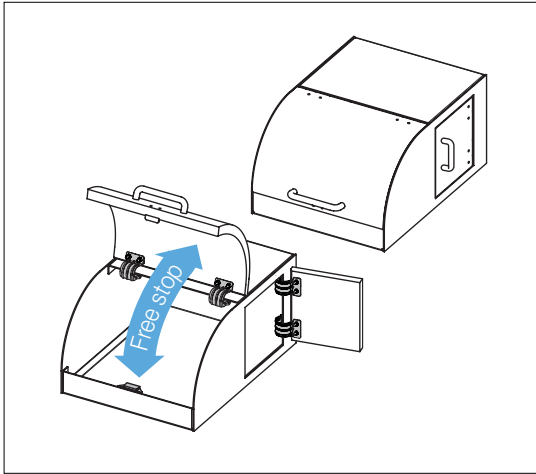
# CONCEALED TORQUE HINGE



# HG-TUWA



- High torque and wide opening angle (130°).
  - Installation on the back side or inner side of the door for a clean aesthetics and appearance.
  - Can be used horizontally or vertically.
  - When installing, ensure that both hinge shafts are aligned.
  - Successfully passed 20,000 open/close private cycle tests.
- Note:
- Initial torque may vary -20% ~ +40%.
  - Not suitable for high frequency use. Do not lubricate.



No	Part Name	Material	Finish
①	Body	304 Stainless Steel	Polished
②	Base		
③	Press Washer	303 Stainless Steel	-
④	Shaft		
⑤	Pin	Stainless Steel	-
⑥	Fixing Tube L	Plastic	Black
⑦	Fixing Tube R		

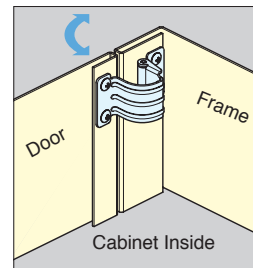
Item No.	Torque per piece (kgf-cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-TUWA07	7.1 (6.2 lbs-in)	88	20	100
HG-TUWA15	15.3 (13.2 lbs-in)			

Free-Stop Motion

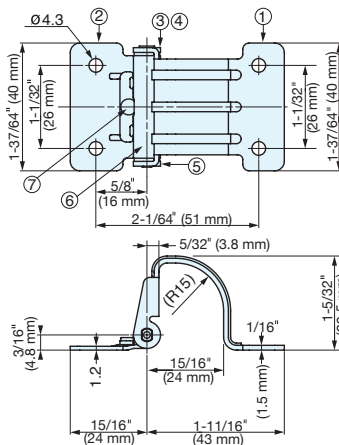
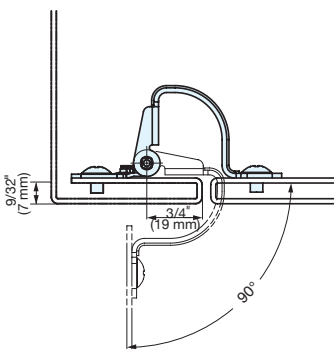
# CONCEALED TORQUE HINGE



# HG-TU



- Installation on the back side of the door.
  - Can be used both for horizontal and vertical applications.
- Note:
- Initial torque may vary -20%~+40%.
  - Do not lubricate.
  - For indoor use only.



No.	Part Name	Material	Finish
①	Body	430 Stainless Steel	Polished
②	Base		
③	Fixing Tube	Polyacetal	Black
④	Fixing Tube		
⑤	Shaft	303 Stainless Steel	-
⑥	Press Washer	430 Stainless Steel	Polished
⑦	Pin		-

Item No.	Torque per piece (kgf-cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-TU03	3.6 (3.1 lbs-in)	50	20	200
HG-TU07	7.1 (6.2 lbs-in)			

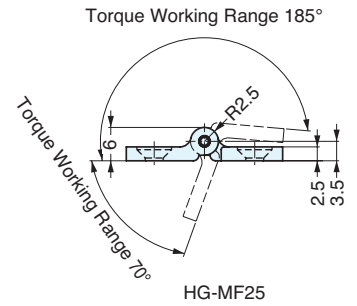
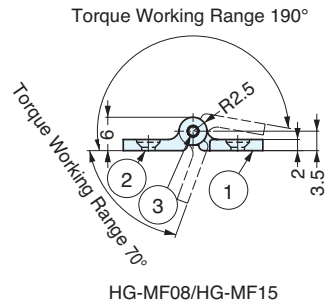
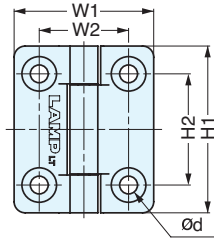
# COMPACT TORQUE HINGE



HG-MF

Free-Stop Motion

- Free stop hinge in compact profile.
- Passed 20,000 open/close cycle tests.



Item No.	Color	W <sub>1</sub>	W <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	t	ød	Torque per piece (kgf·cm)
HG-MF08-BL	Black	63/64" (25 mm)	5/8" (16 mm)	25/32" (20 mm)	25/64" (10 mm)	5/64" (2 mm)	3/32" (2.4 mm)	0.8 (0.64 lbs·in) ± 25%
HG-MF08-WT	White			1-3/16" (30 mm)	25/32" (20 mm)			
HG-MF15-BL	Black	1-7/64" (28 mm)	45/64" (18 mm)	1-37/64" (40 mm)	63/64" (25 mm)	3/32" (2.5 mm)	1/8" (3.2 mm)	2.5 (2.00 lbs·in) ± 33%
HG-MF15-WT	White			1-37/64" (40 mm)	63/64" (25 mm)			

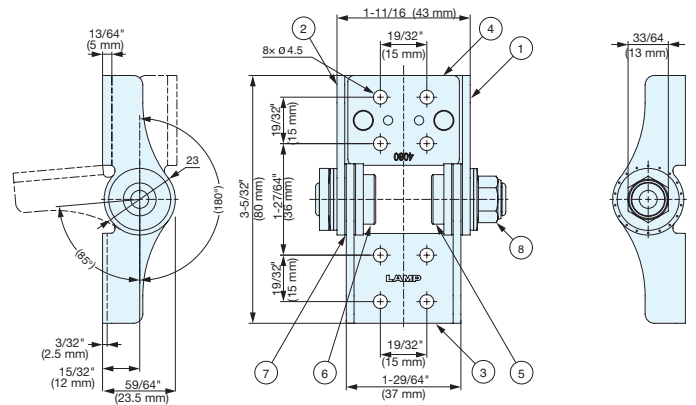
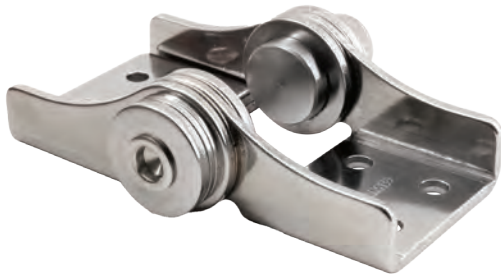
No.	Part Name	Material	Finish
①	Body A	Polyacetal	Black/White
②	Body B		
③	Shaft	304 Stainless Steel	-

# TORQUE HINGE



HG-ITJ4080

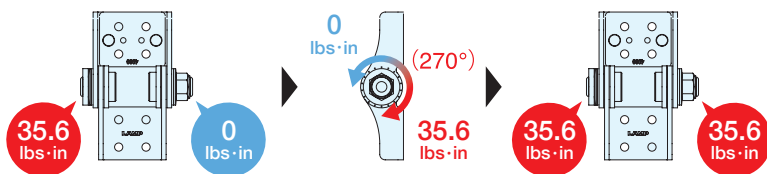
- Torque strength is adjustable.
- Hinge with friction torque holds lid/door in desired position.
- High torque in a small profile.
- 4±20% minimum torque



Min. Torque

Adjustment

Max Torque



No.	Part Name	Material	Finish
①	Bracket A	430 Stainless Steel	Mirror
②	Bracket B		
③	Bracket C		
④	Plate	Stainless Steel	Plain
⑤	Shaft A		
⑥	Shaft B	Phosphor Bronze	Polished
⑦	Washer		
⑧	Nut (Torque Adjustment)	Stainless Steel	-

Item No.	Torque per piece (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-ITJ4080	41~82 (35.6~71.2 lbs·in)	163	10	80

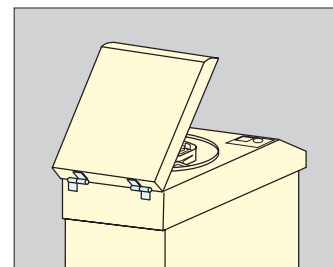
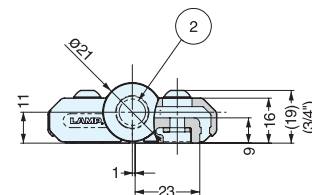
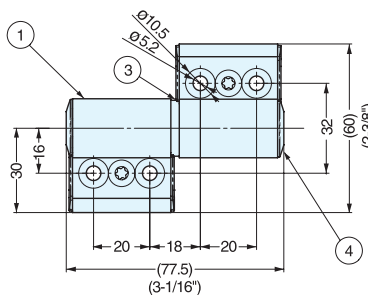
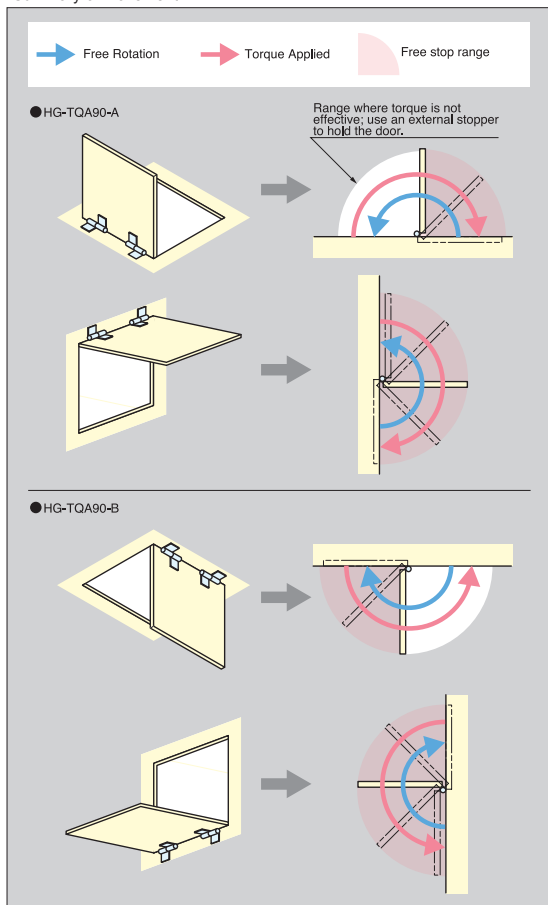


- Friction in one direction only:  
 HG-TQA90-A: free rotation when turned counterclockwise, constant torque is applied when turned clockwise.  
 HG-TQA90-B: free rotation when turned clockwise, constant is applied when turned counterclockwise.

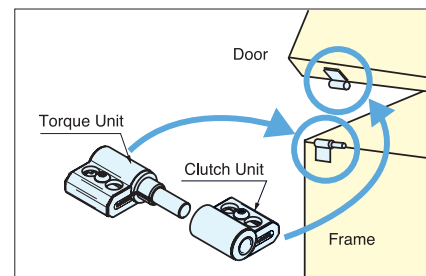
Note:

- Initial torque may vary - 20%~ + 40%.
- Not suited to vibration environment.
- Torque will be affected by temperature.
- Not suitable for high frequency use.
- Do not lubricate.
- For indoor use only.

Summary of Movement



Installation



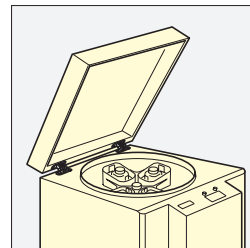
Item No.	Torque (kgf·cm)/pair	Weight (g)/pair	Box (set)	Carton (set)
HG-TQA90-A	91.8 (79.7 lbs·in)	270	10	100
HG-TQA90-B				

No.	Part Name	Material	Finish
①	Body	Aluminum Alloy	Anodized
②	Arm Shaft	Stainless Steel	Plain
③	Sleeve	Polyacetal (POM)	Black
④	Cover	Polyacetal (POM)	Black



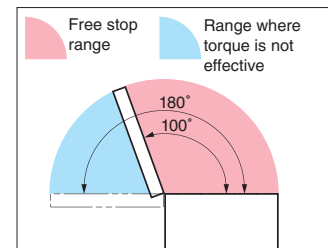
- Hinge is completely concealed when the door is closed.
- Torque decreases as the opening angle increases, making easier to open the lid, refer to: Torque Range Chart.
- Use with top-opening lids (opening angle 0°~100°) (free stop range).
- Operating temperature: 32°F~104°F (0°C~40°C)

## Application Example



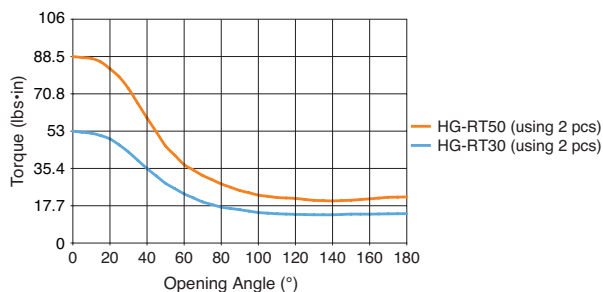
Use with top-opening lids (opening angle 0°~100°).

## Free Stop Range

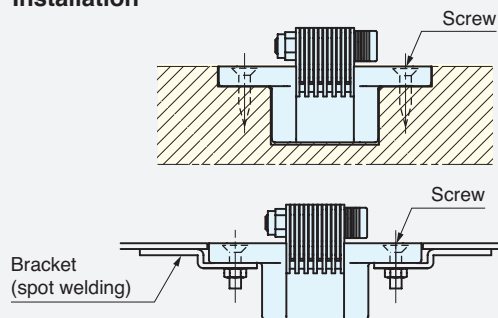


Install stopper to hold the door within the range where torque is not effective.

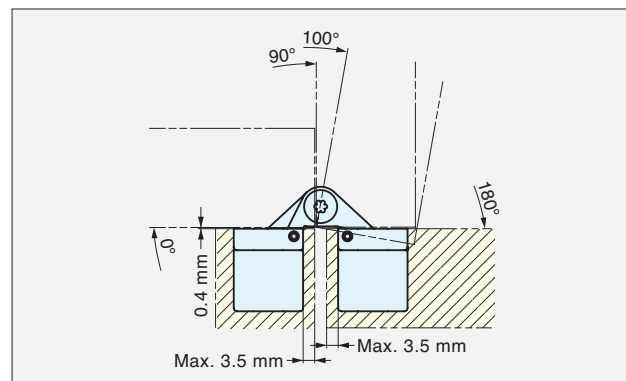
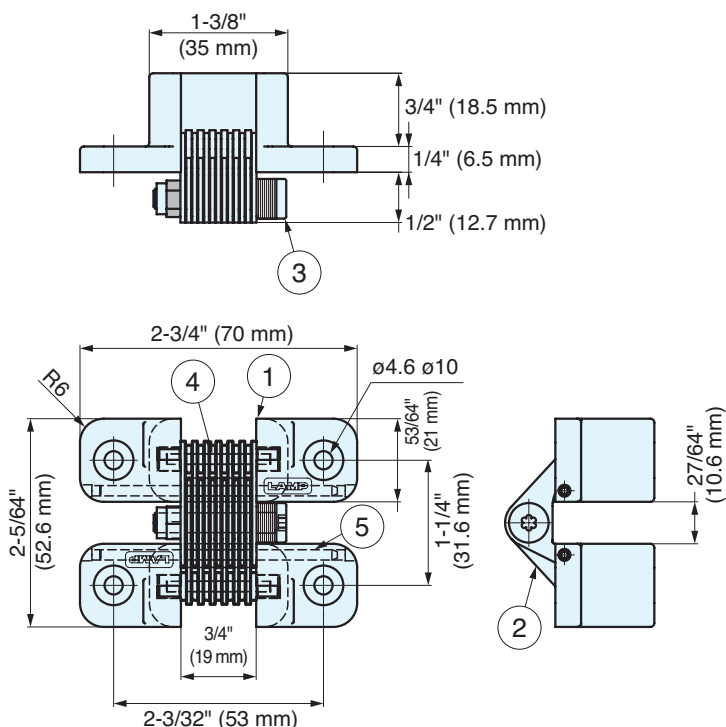
## Torque Range



## Installation



Screws and brackets not included.



No.	Part Name	Material	Finish
①	Body	Zinc Alloy (ZDC)	Satin Chrome
②	Arm	304 Stainless Steel	Plain
③	Shaft 1		
④	Shaft 2		
⑤	Shaft 3		

Item Name	Torque lbs·in/2pcs (kgf·cm) Closed Position	Opening Angle	Weight (g)
HG-RT30	26.5 (31±20%)	180°	160
HG-RT50	44.25 (51±20%)		

# ONE-WAY TORQUE HINGE (MULTI-DIRECTION)



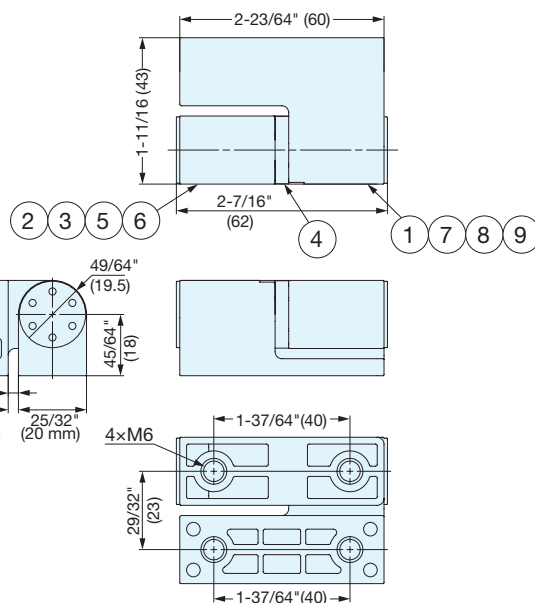
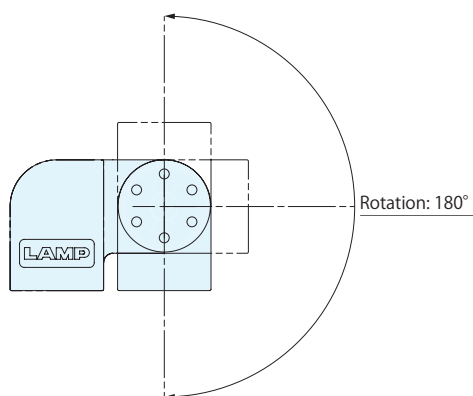
HG-TQM30

Free-Stop Motion

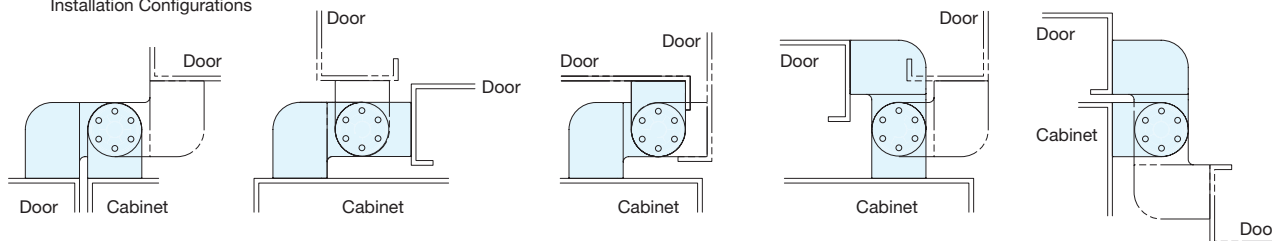


- Free Stop: will stop in place.
- Friction in one direction only: Allows for frictionless handling of the door in the opposite direction.
- Hinges can be used in different situations(ex: Surface mount, Corner mount, concealed mount).
- Back-Mount: There are no screw heads on the surface.

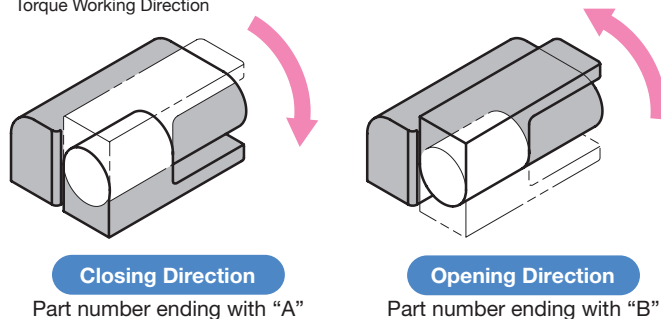
Locus Chart



Installation Configurations



Torque Working Direction



No.	Part Name	Material
①	Bracket A	Polyamide
②	Bracket B	
③	Shaft	303 Stainless Steel
④	Sleeve	Polyacetal
⑤	O-Ring	Rubber
⑥	One-Way Clutch	Polyacetal
⑦	Resin Washer	Resin
⑧	Bush Nut	304 Stainless Steel
⑨	Cover	Polyamide

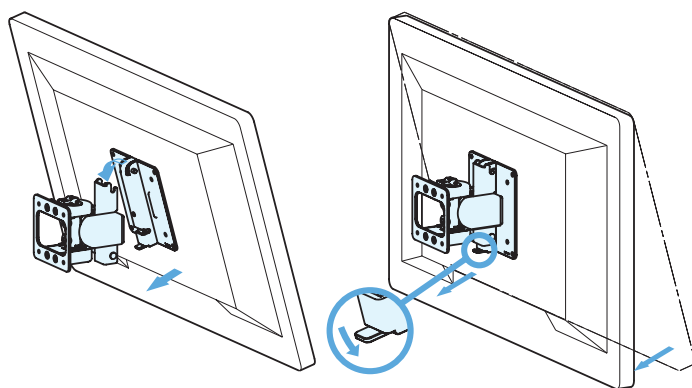
Item No.	Torque Direction	Torque kgf-cm	Weight (g)
HG-TQM30A	Closing Direction	30.6	125
HG-TQM30B	Opening Direction		





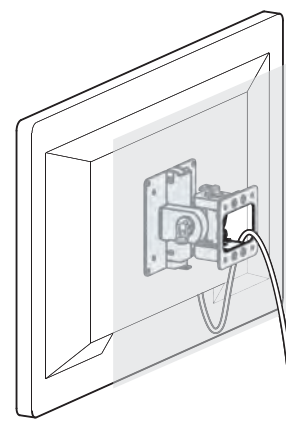
- Monitor can be easily installed and removed.
- Free stops in a range of 180° (swivel) and 40° (tilt).
- Auxiliary lock prevents monitor from sagging due to minute vibration. Also suitable for touch screens.
- Bracket holes are based on VESA standard of 75 mm x 75 mm and 100 mm x 100 mm
- For monitor sizes 12 - 22.9" weighing up to 22 lbs (10 kg)
- Free stop feature allows you to freely tilt and swivel monitors and hold in the desired position.
- Applications: LCD monitors for machine tools, OA equipment, medical equipment, etc.

### How to Install and Remove Monitor



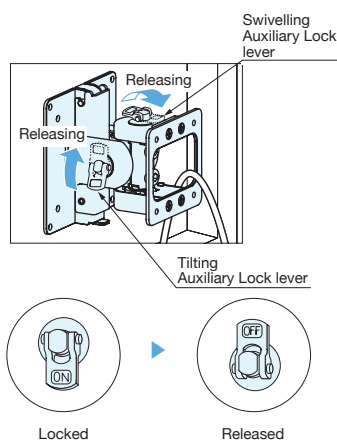
Monitor easily attaches to bracket with slot and click.

To remove the monitor, press the release lever down and tilt the monitor out of the slot.



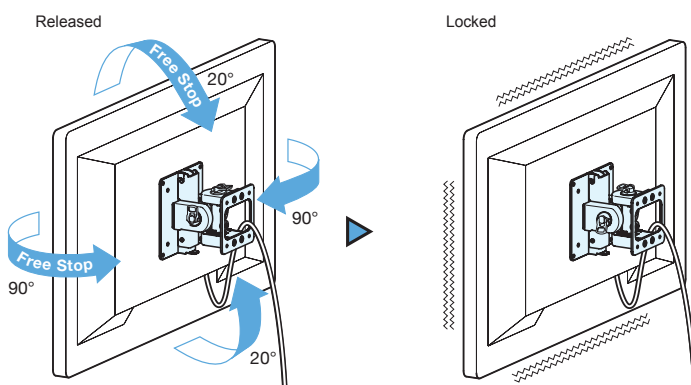
Wire hole allows you to route wires through wire access opening.

### Auxiliary Lock Operation



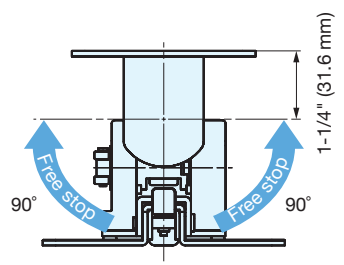
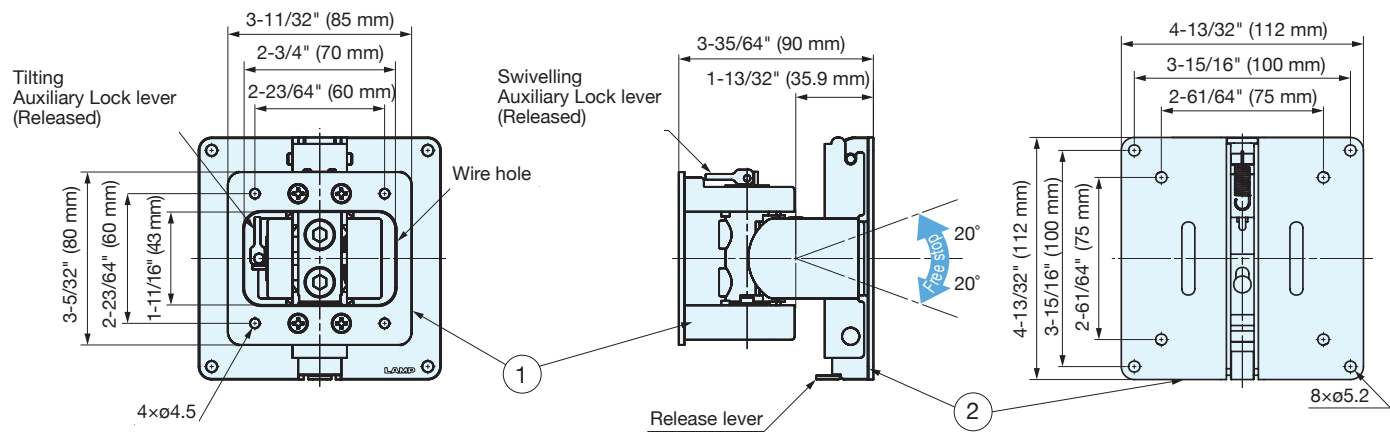
Auxiliary locks hold, tilt and swivel to a secure position. Release the lever to adjust the position.

### How to Adjust Angle



Holds at any angle within 40° up/down tilt  
Holds at any angle within 180° left/ right swivel

Monitor maintains position under vibration



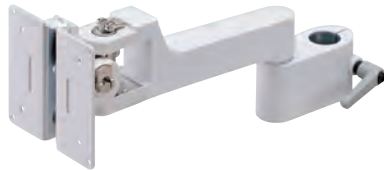
No.	Part Name	Material	Finish
①	Body	Steel/ ABS	Black
②	Base		

Item No.	Mounting	Torque (Tilting) (kgf-cm/pc)	Torque (Swivelling) (kgf-cm/pc)	Weight (kg)	Box (pcs)	Carton (pcs)
KA-T100S50	Wall Mount	88.5 lbs-in (102.0±20%)	44.2 lbs-in (51.0±20%)	1	1	12





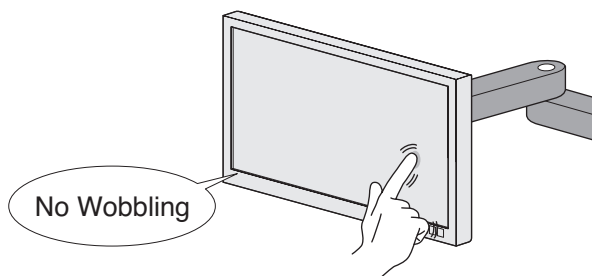
KA-T100S50-W3-BL



KA-T100S50-P2-WT

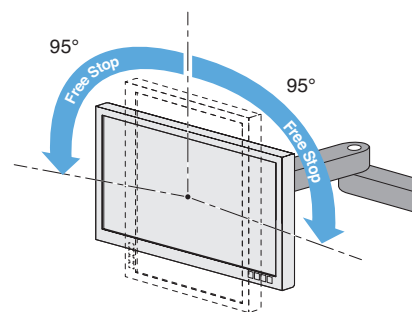
- Robust design holds monitors securely in position.
- Free stop feature allows you to freely tilt and swivel monitors and hold in desired position.
- Features an auxiliary lock mechanism which prevents sagging.
- Auxiliary lock protects monitor from unintended movement.
- VESA (75 mm x 75 mm and 100 mm x 100 mm) compliant standard.
- Supports 12" to 23" monitors weighing up to 22 lbs (10 kg)
- Applications: LCD monitors for machine tools, OA equipment, medical equipment, etc.

### Stable Operation



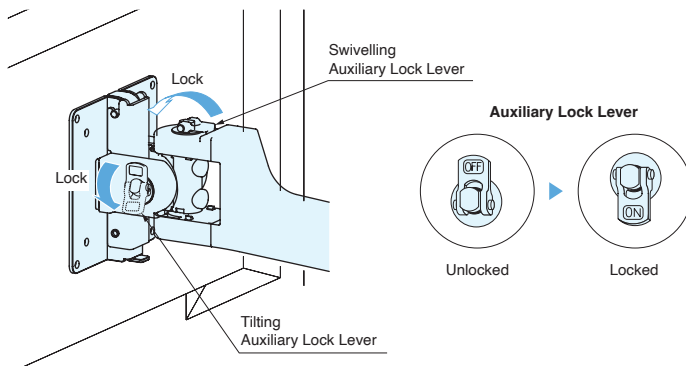
Prevents touch screens from shaking or causing unintentional inputs.

### Rotational Motion

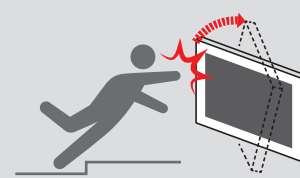


The **optional** rotation bracket allows for free stop in the rotation direction. (Free-stop range: 95° on each side)

### Auxiliary Lock Operation



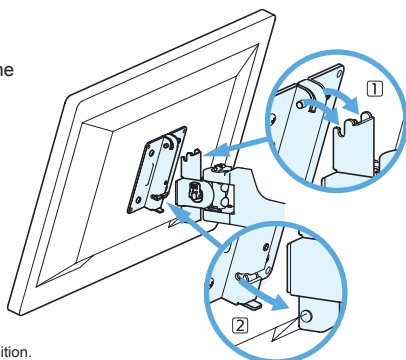
The auxiliary lock temporarily releases to avoid breakage if unintentional heavy load is applied to it.



\*Do not forcibly move monitors when locked.

### Easy to Mount

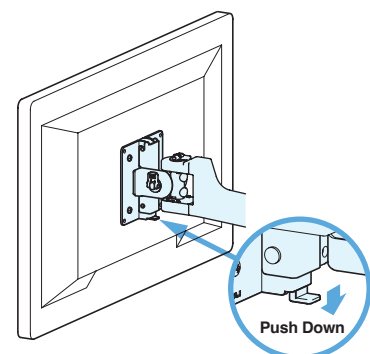
- 1) Fit the protrusion into the groove of the bracket.
- 2) Push the lower part of the mounting plate.



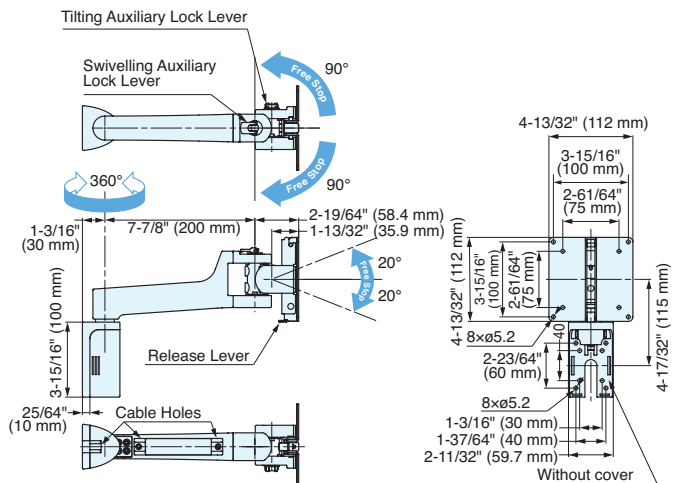
\*Make sure mark is in upward position.

### To Dismount

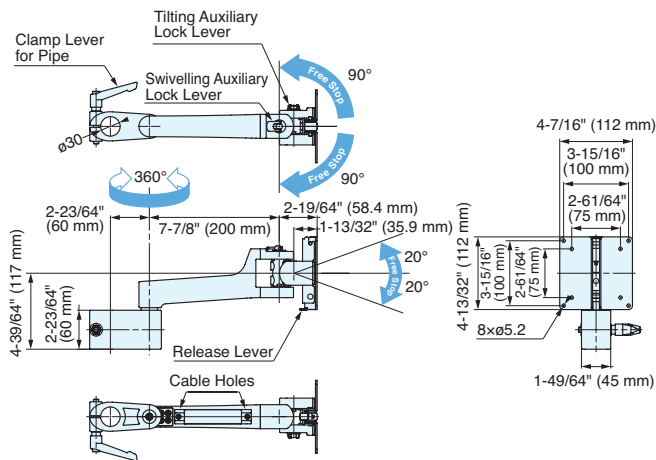
To remove, push down on the release lever and tilt the monitor.



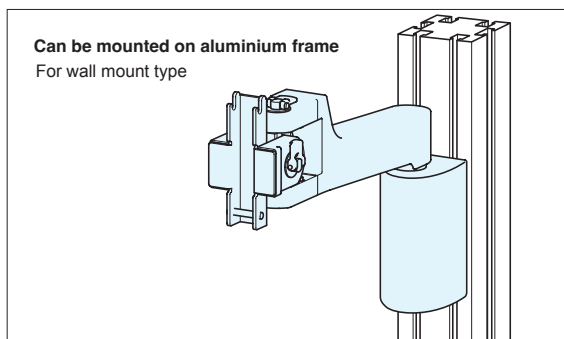
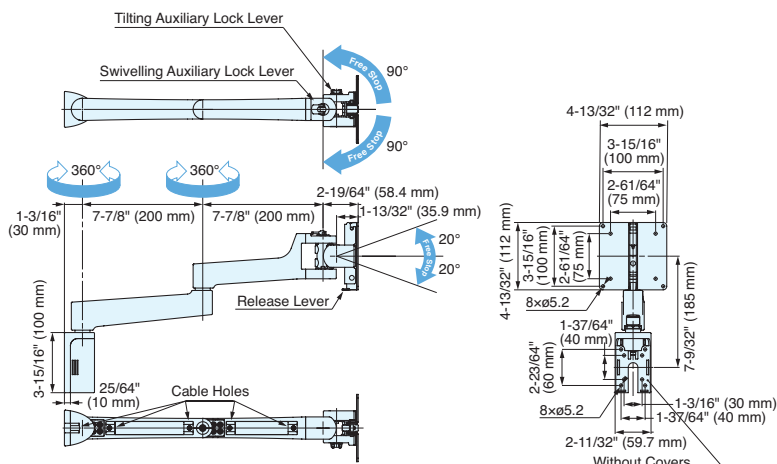
**KA-T100S50-W2 Wall Mount / Single Arm**



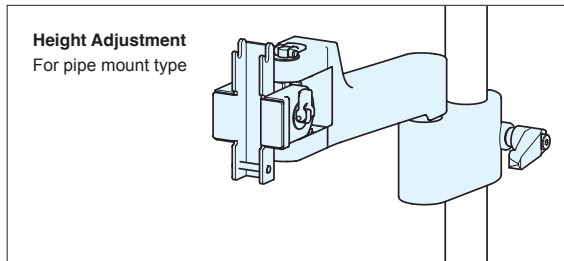
**KA-T100S50-P2 Pipe Mount (ø30) / Single Arm**



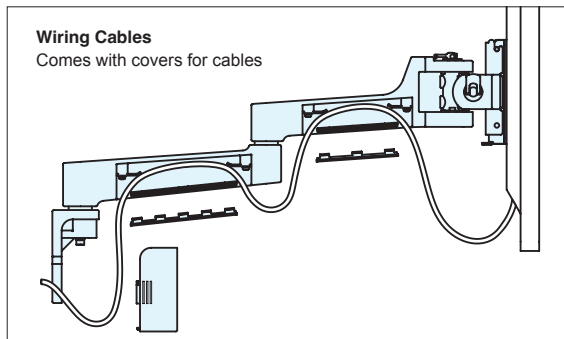
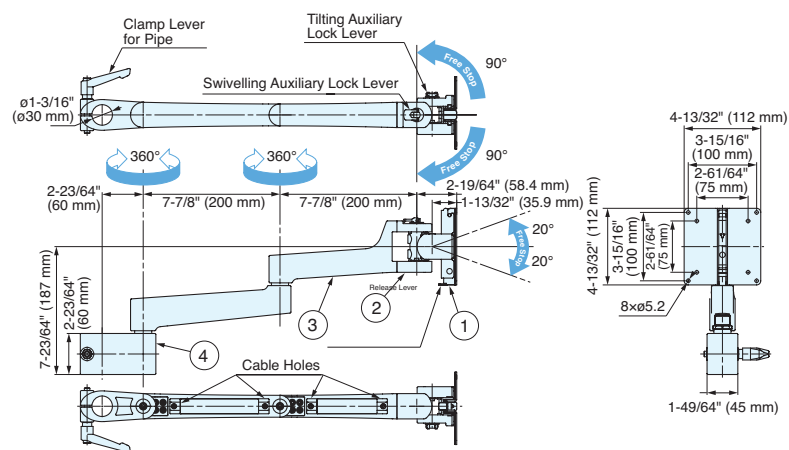
**KA-T100S50-W3 Wall Mount / Double Arms**



Available Aluminium Frame: 30 x 60 mm or 40 x 80 mm / 2 slots



**KA-T100S50-P3 Pipe Mount (ø30) / Double Arms**



Item No.	Type	Color	Torque (Tilt) (N·m)	Torque (Rotation) (N·m)			
				Monitor Part	Center Part	Mounting Part	
KA-T100S50-W2-BL	Wall Mount / Single Arm	Black	88.5 lbs-in (10±20%)	44.2 lbs-in (5.0±20%)	-	70.8 lbs-in (8.0±20%)	
KA-T100S50-W2-WT		White					
KA-T100S50-P2-BL	Pipe Mount (ø30) / Single Arm	Black					
KA-T100S50-P2-WT		White					
KA-T100S50-W3-BL	Wall Mount / Double Arms	Black					35.4 lbs-in (4.0±20%)
KA-T100S50-W3-WT		White					
KA-T100S50-P3-BL	Pipe Mount (ø30) / Double Arms	Black					
KA-T100S50-P3-WT		White					

No.	Part Name	Material	Finish
①	Mounting Plate	Steel (SPCC)	Electrodeposition
②	Body	Steel (SPCC) / ABS	
③	Arm	Aluminium Alloy / ABS	Matte Anodized
④	Base	Aluminium Alloy	

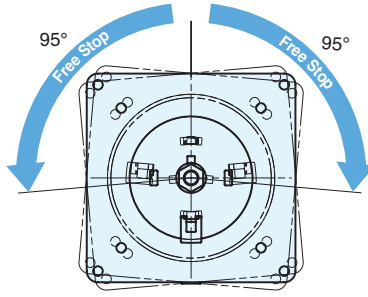
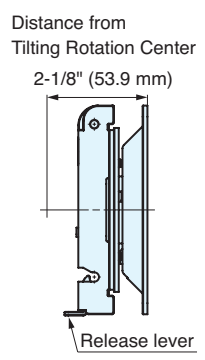
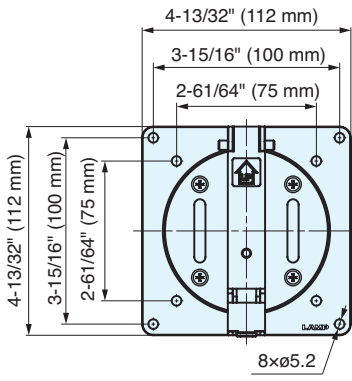
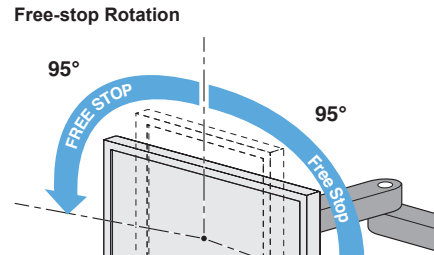


KA-T100S50-PMT-BL



KA-T100S50-PMT-WT

- Allows monitors to rotate and hold in position.
- Replace the original mounting plate (KA-T100S50) with this bracket.
- Compliant with VESA standard. (Hole pattern 75x75 mm, 100x100 mm).
- Available monitor size: 12"-23" Max weight: 17.6 lbs. (8 kg)



Item No.	Color	Torque N·m (Rotate)	Weight (g)
KA-T100S50-PMT-BL	Black	35.4 lbs·in (4.0±20%)	641
KA-T100S50-PMT-WT	White		

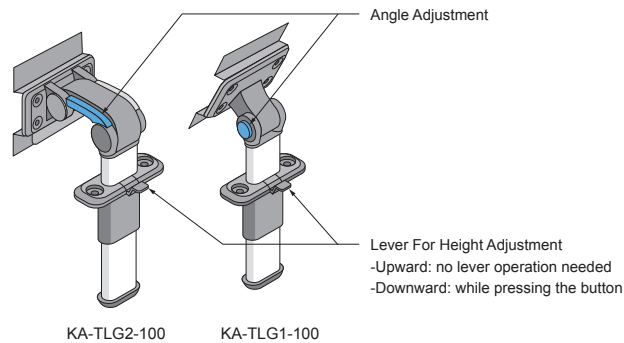
**Series Lineup** **Monitor Mount Series KA-T100S50**

	Single Arm	Double Arms	Armless	Option
<ul style="list-style-type: none"> <li>• Wall Mount</li> <li>• Aluminium Frame Mount</li> </ul>	 KA-T100S50-W2-BL KA-T100S50-W2-WT	 KA-T100S50-W3-BL KA-T100S50-W3-WT	 KA-T100S50	 KA-T100S50-PMT-BL KA-T100S50-PMT-WT
<ul style="list-style-type: none"> <li>• Pipe Mount</li> </ul>	 KA-T100S50-P2-BL KA-T100S50-P2-WT	 KA-T100S50-P3-BL KA-T100S50-P3-WT	KA-T100S50	KA-T100S50-PMT-BL KA-T100S50-PMT-WT

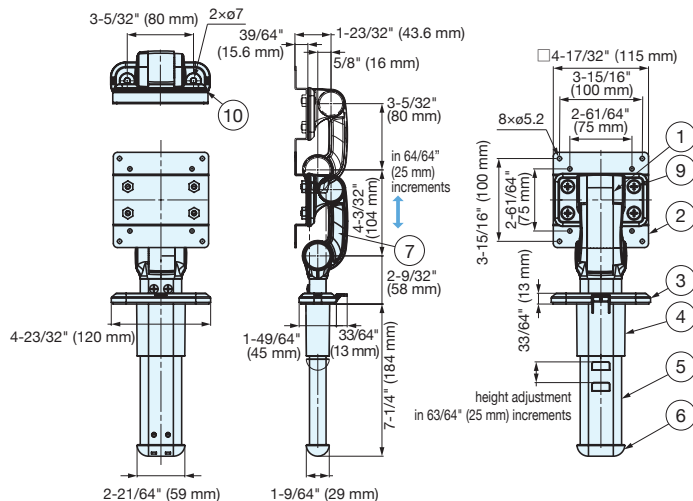




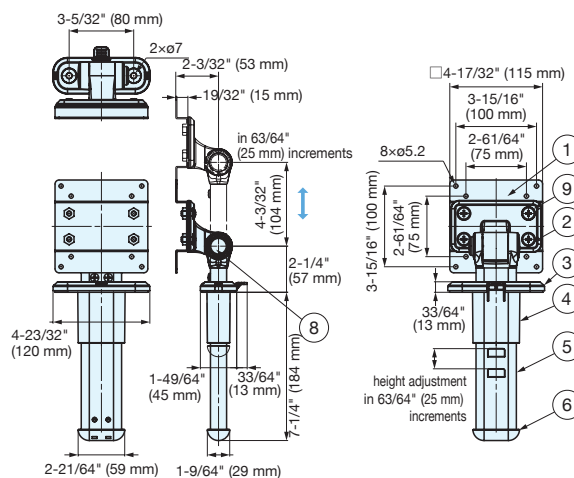
- Tilt angle can be adjusted in 10° increments while the button is pressed.
- The back lever allows for height adjustment in 1" (25 mm) increments (4 levels). Features a friction mechanism which prevents against accidental release.
- Applicable monitor size: 12" - 22.9" (304.8 mm - 581.7 mm) Weight: Max. 22 lbs (10 kg)
- Monitor mounting holes VESA compliant (75 mm x 75 mm and 100 mm x 100 mm)



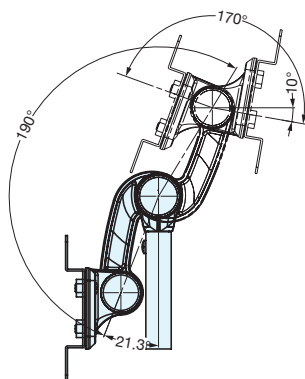
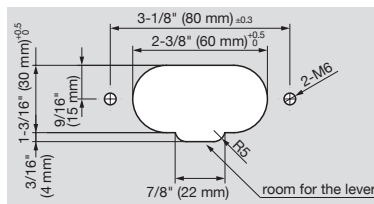
KA-TLG2-100



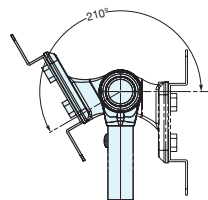
KA-TLG1-100



Cut Out Dimensions



KA-TLG2-100 (Dual Axis)



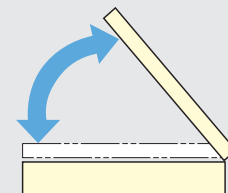
KA-TLG1-100 (Single Axis)

No.	Part Name	Material	Finish
①	Bracket	Polyamide (PA)	Black
②	Mounting Plate	Steel (SPHC)	
③	Cover	Polycarbonate	
④	Outer Pipe	ABS	Anodized
⑤	Aluminium Pipe	Aluminium Alloy	
⑥	End Cap	ABS	Black
⑦	Button	Polyamide (PA)	Grey
⑧	Button	ABS	
⑨	Cross-recessed trus head screw	Steel	Black Chromate
⑩	Packing	Nitrile Rubber (NBR)	Black

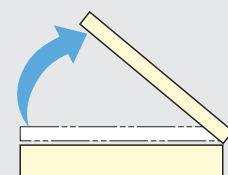
Item No.	Tilt Axis	Vertical Load Capacity (kgf)	Allowable Moment (kgf·cm)	Weight (g)	Box (pcs)
KA-TLG2-100	Dual	22.4 lbs (10.2)	132.7 lbs·in (153)	705	1
KA-TLG1-100	Single			545	



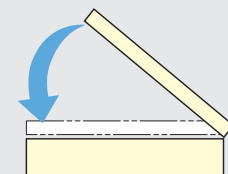
- Friction torque lid stay holds lid open at any position along its range of motion.
- Friction torque in one-way direction only.
- Torque strength adjustable
- Handed: specific left and right hand mounting.
- Can be used individually or in pairs.
- Torque Calculation:
  - Torque = Door Height x 1/2 x Door Weight

Free Stop  
Stop at any angle

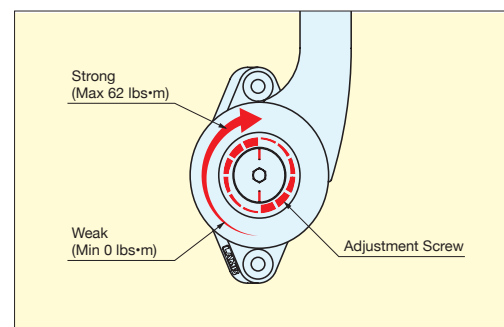
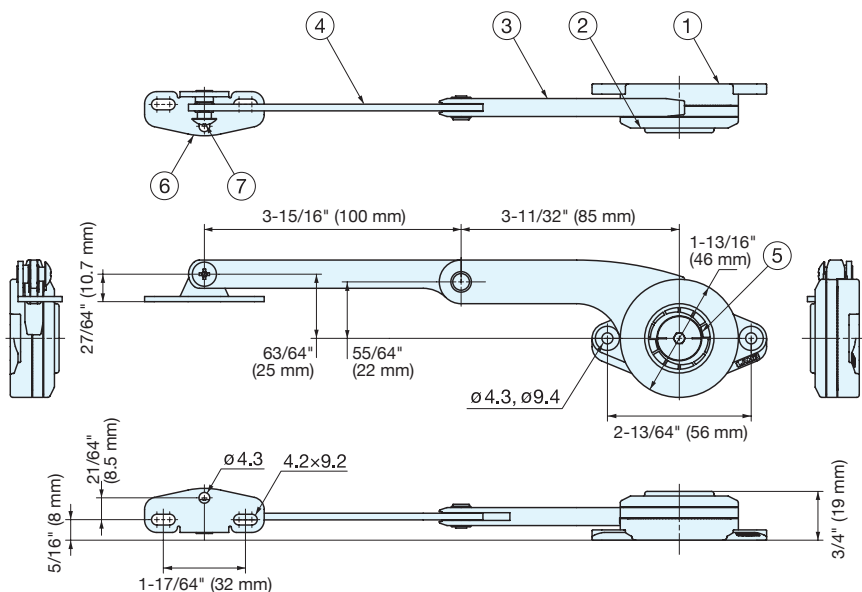
No friction when opening



One-Way Torque



Opening Direction	Feature	Torque
	Free Stop	0~71 kgf-cm (0~61.7 lbs-in)



Item No.	Type	Application	Torque per piece (kgf-cm)	Weight (g)
S-TAR-2030R	Right	Top/Upward	0-71 (0~61.7 lbs-in)	234
S-TAR-2030L	Left			
S-TAR-10R	Right	Downward		
S-TAR-10L	Left			

No.	Part Name	Material	Finish/Color
①	Body	Zinc Alloy	Nickel
②	Cover		
③	Arm A		
④	Arm B	Steel	
⑤	Adjustment screw		
⑥	Mounting Plate		
⑦	Fix Screw		

# TORQUE LID STAY (FREE STOP)

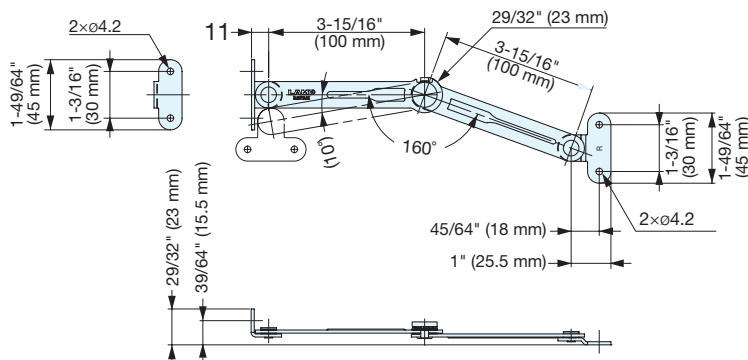


S-100T30

Free-Stop Motion



- Friction torque lid stay holds lid in desired position.
- Torque Calculation:  
Torque = Door Height x 1/2 x Door Weight
- Can be installed individually or in pairs.
- Handed: Specific left and right hand mounting.



Part	Material	Finish/Color
Body, Base & Bracket	430 Stainless Steel	Plain
Press washer & Pin	Phosphor Bronze	
Washer	Steel	

Item No.	Torque per piece	Torque per pair	Weight (g)	Box (pcs)	Carton (pcs)
S-100T30R	30.6 kgf·cm±20% (26.5 lbs·in±20%)	61.2 kgf·cm±20% (53.1 lbs·in±20%)	100	30	120
S-100T30L					

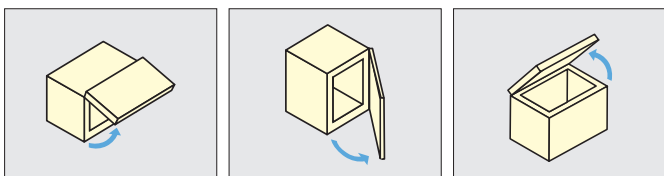
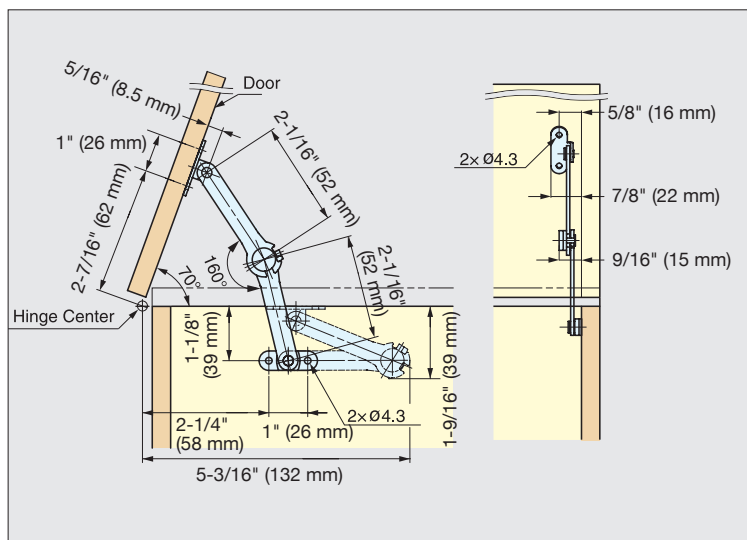
# TORQUE LID STAY (FREE STOP)



S-52T15



- Friction torque lid stay holds lid in desired position.
- Torque Calculation:  
Torque = Door Height x 1/2 x Door Weight
- Can be installed individually or in pairs.
- Handed: Specific left and right hand mounting.



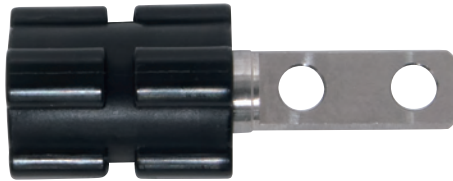
Item No.	Handing	Torque per piece	Weight (g)	Box (pcs)	Carton (pcs)
S-52T15R	Right	15.3 kg·cm ±20% (13.3 lbs·in ±20%)	40	25	250
S-52T15L	Left				

Part	Material	Finish
Body, Base & Bracket	430 Stainless Steel	Plain
Press washer & Pin	Phosphor Bronze	
Washer	Steel	

## TORQUE HINGE



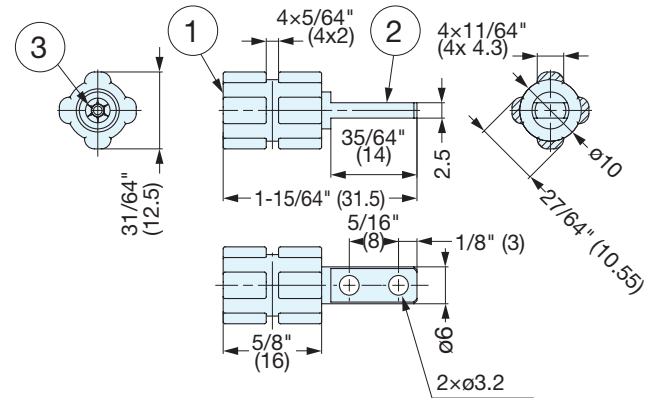
HG-TI10-2



- Greaseless Torque Hinge.
- It has a square bracket.

## Applications:

- OA equipment, medical equipment, LCD.
- 2 hinge per door/lid is recommended



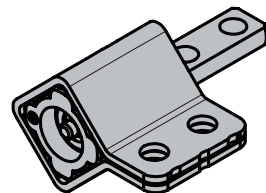
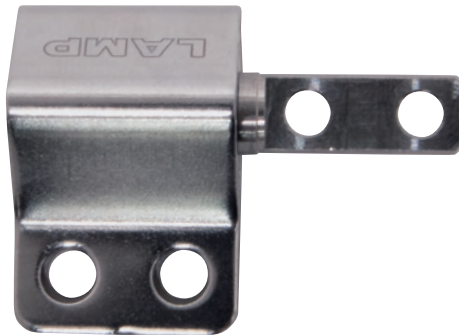
No	Part Name	Material
①	Case	Polyacetal (POM)
②	Shaft	303 Stainless Steel
③	Push Nut	304 Stainless Steel

Item No.	Torque N·m	Torque per piece (kgf·cm)	Open Angle	Weight (g)
HG-TI10-2	1.0±20%	10±20%	360°	6

## TORQUE HINGE (With Bracket)



HG-TIB10-2

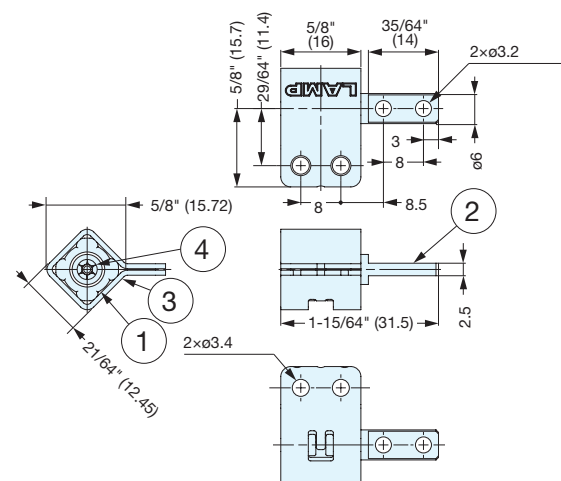


It has a square bracket.

- Greaseless Torque Hinge.
- It has a square bracket.

## Applications:

- OA equipment, medical equipment, LCD.
- 2 hinge per door/lid is recommended



No	Part Name	Material
①	Case	Polyacetal (POM)
②	Shaft	303 Stainless Steel
③	Bracket	304 Stainless Steel
④	Push Nut	304 Stainless Steel

Item No.	Torque N·m	Torque per piece (kgf·cm)	Open Angle	Weight (g)
HG-TIB10-2	1.0±20%	10±20%	360°	12

# TORQUE PIANO HINGE



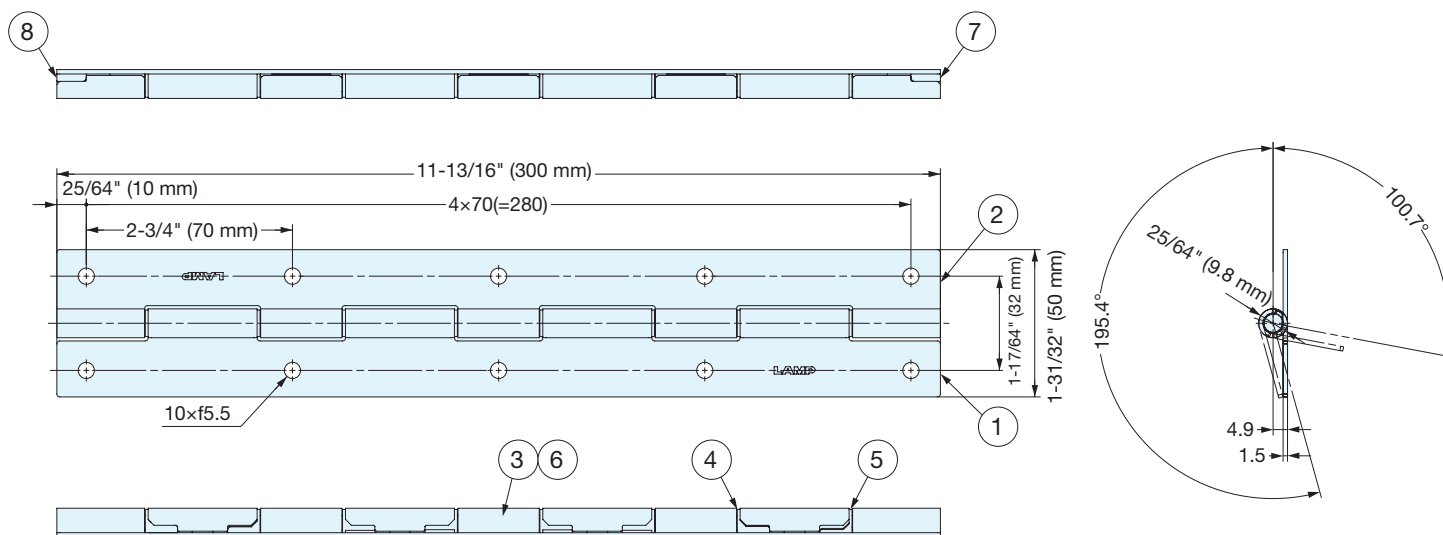
HG-TLS30-50-300

Free-Stop Motion

- Unique long type torque piano hinge.
- Free stop function maintains a safe working environment
- Reduces gaps between housing and doors for industrial equipment and shopfittings to improve security and reduce danger
- Greaseless hinge allows for water-drop level exposure
- Can be used in multiples for doors larger than 12"
- Successfully passed 30,000 private cycle tests for vertical and horizontal applications



For opening/closing of maintenance machine doors.



No.	Part Name	Material
①	Hinge A	304 Stainless Steel
②	Hinge B	
③	Shaft	POM
④	Plug L	
⑤	Plug R	
⑥	Collar	PA (Plastic)
⑦	Holder L	
⑧	Holder R	

Item No.	Torque	Weight (g)	Box (pcs)	Carton (pcs)
HG-TLS30-50-300	25 lbs•in (29 kgf•cm)	396	5	20





Chrome

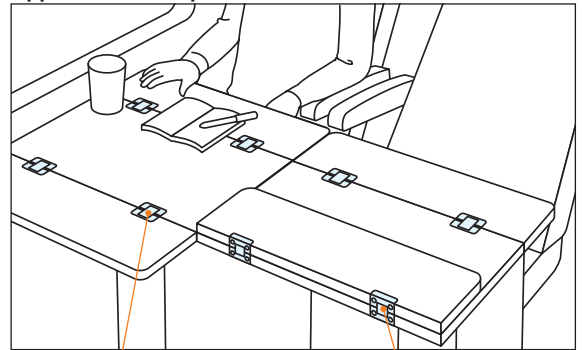
Satin Nickel

Black

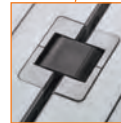


- A torque hinge that can be opened 180°.
- Shafts do not protrude when hinge is fully opened or closed.
- Easy to operate as the two shafts have different torque and move one at a time.
- Ideal for folding tables in trains, RV, van conversions, etc.

### Application Example



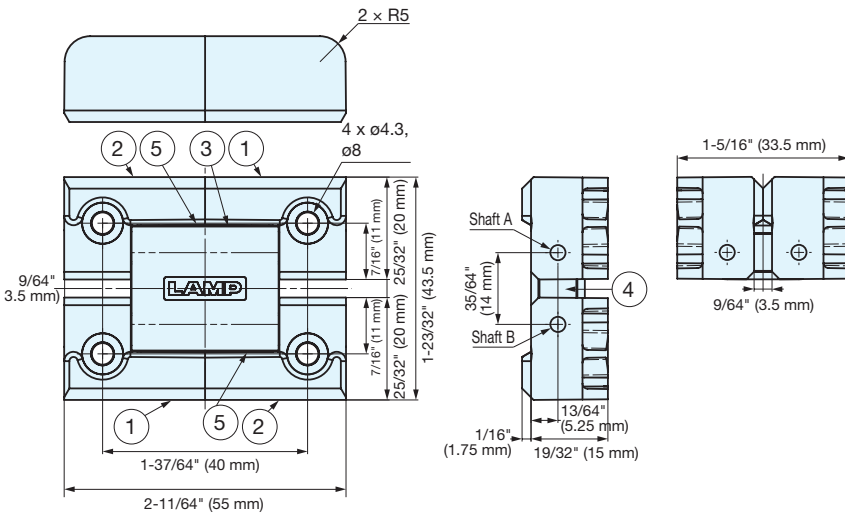
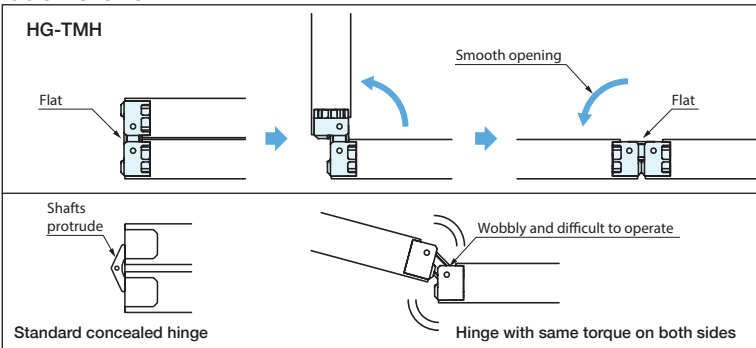
Shown in folded position.



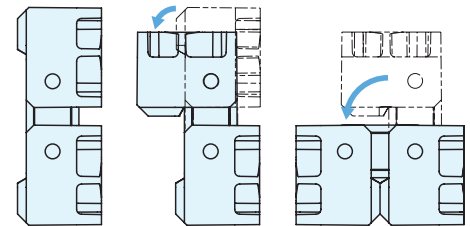
Lays flat so shafts do not protrude.

No visible screw holes when surface is extended.

### Table Movement



### Hinge Movement



Item No.	Finish	Shaft A Torque (kgf-cm)	Shaft B Torque (kgf-cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-TMH2030-CR	Chrome	20.4±20%	30.6±20%	165	10	50
HG-TMH1530-CR		15.3±20%				
HG-TMH2030-SN	Satin Nickel	20.4±20%				
HG-TMH1530-SN		15.3±20%				
HG-TMH2030-BL	Black	20.4±20%				
HG-TMH1530-BL		15.3±20%				

No.	Part Name	Material	Finish/Color
①	Main BodyA	Zinc Alloy	Chrome, Satin Nickel, Black
②	Main BodyB		
③	Intermediate Body		
④	Sleeve	Plastic (PBT)	Black
⑤	Bumper		

# For quiet movement Soft Motion



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

ELIMINATES SLAMMING NOISE

# SOFT-CLOSE HINGE

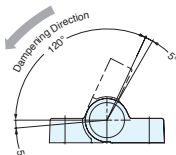


HG-JHW16S

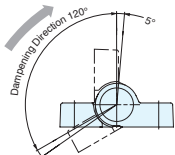
Soft Motion



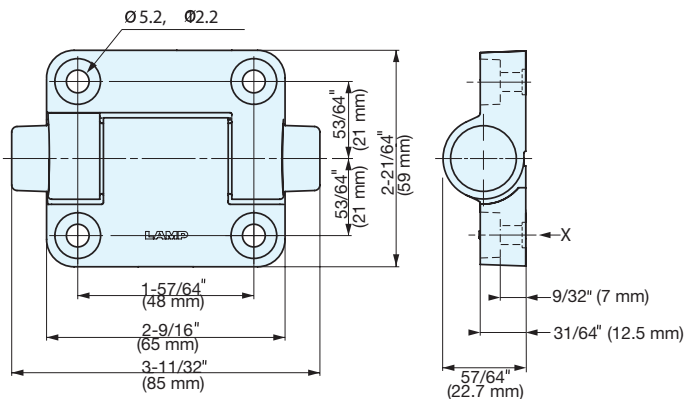
- Hinge with built-in damper to keep lid from slamming.
- Torque calculation:
- Torque = Door Height x 1/2 Door Weight.
- Passed 70,000 open/close cycle tests.



HG-JHW16S



HG-JHW16SG



Item No.	Damper Direction	Torque (kgf-cm)	Weight (g)	Box (pcs)
HG-JHW16S-34	Closing	20~35 (17~30 lbs-in)	83	30
HG-JHW16S-50		35~51 (30~44 lbs-in)		
HG-JHW16S-34G	Opening	20~35 (17~30 lbs-in)		
HG-JHW16S-50G		35~51 (30~44 lbs-in)		
HG-JHW16S-00	No Damper	-	52	

Part Name	Material	Finish/Color
Bracket	PBT plastic	Dark Grey
Cap	Polypropylene	-
Damper	304 Stainless Steel	Plain

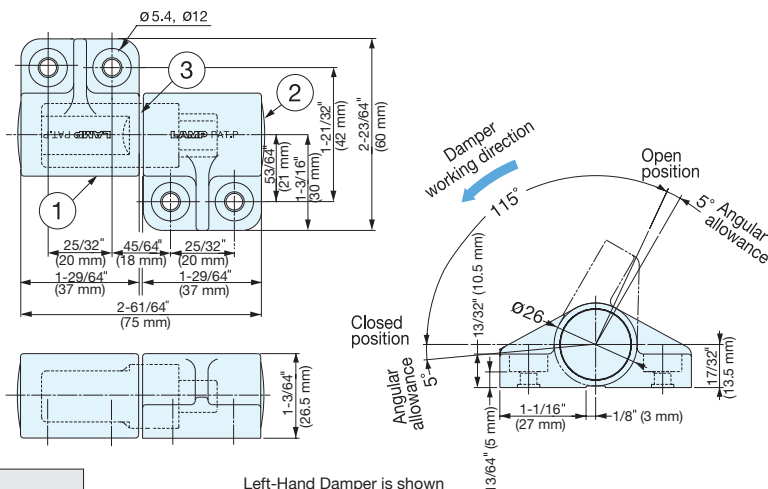
# SOFT-CLOSE DAMPENING HINGE



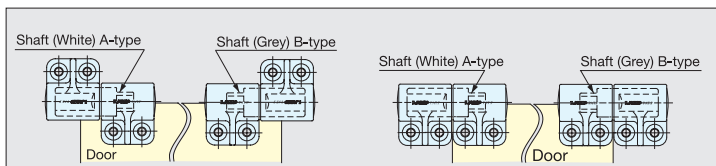
HG-JH



- Soft-Close damper keeps lid from slamming shut.
- Surface mount type.
- Operating temperature: 0~40°C (32~104°F)
- Operating angle: 115°/Dead angle 5°
- Sold in pairs.



\*A-type damper: Damper works counterclockwise.  
 \*B-type damper: Damper works clockwise.  
 \*Sold in pairs. (Each of A/B type)



Left-Hand Damper is shown

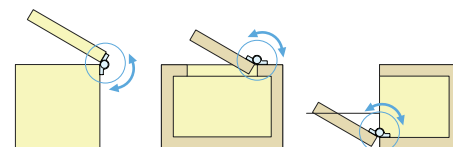
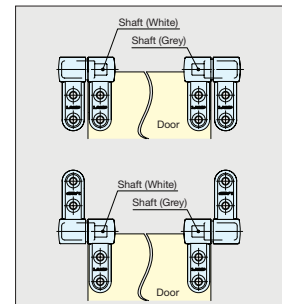
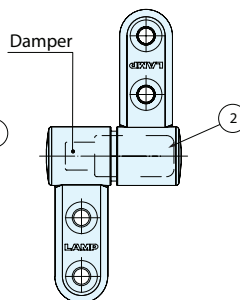
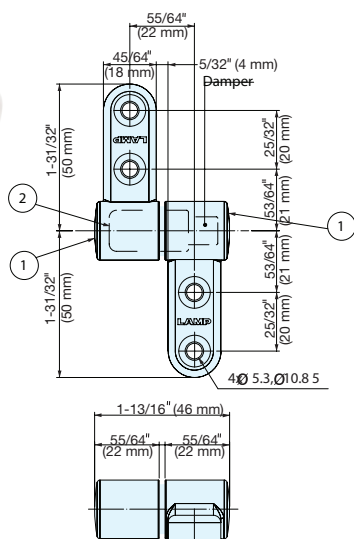
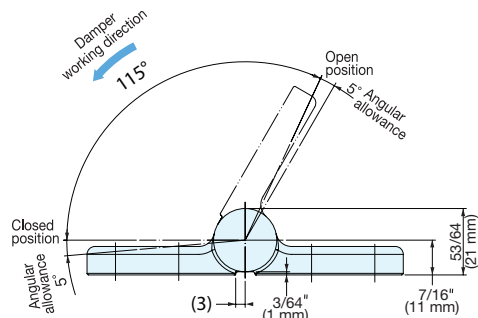
No.	Part Name	Material	Color
①	Bracket	PBT Plastic/Zinc Alloy	Dark Grey
②	Cap	Polypropylene	
③	Damper	304 Stainless Steel	Plain

Item No.	Shaft Color		Torque per piece (kgf-cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-JH25	White (A-type)	Grey (B-type)	31~51 (27~44 lbs-in)	180/pair	4	64
HG-JH35			51~71 (44~61 lbs-in)			

# STAINLESS STEEL SOFT-CLOSE DAMPENING HINGE



# HG-JH14-50



- Soft-Close damper keeps lid from slamming shut.
- Surface mount type.
- Operating temperature: 0~40°C (32~104°F)
- Operating angle: 115°/Angular allowance 5°
- Sold in pairs.

No.	Part Name	Material	Finish
①	Bracket	SCS13 Stainless Steel (Similar to SUS304)	Mirror
②	Damper	304 Stainless Steel	Plain

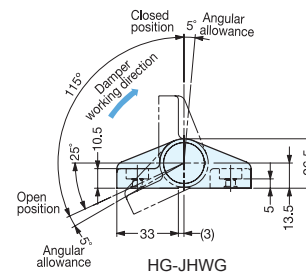
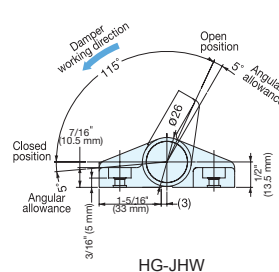
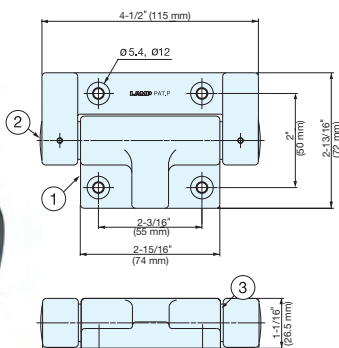
Item No.	Torque per piece (kgf-cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-JH14-50	30~51 (26~44 lbs-in)	254/pair	1	48

Soft Motion

# SOFT-CLOSE HINGE



# HG-JHW / HG-JHWG

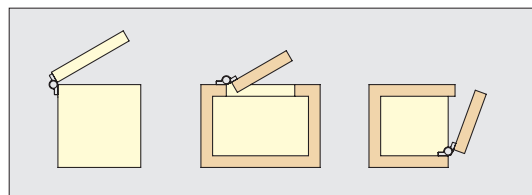


HG-JHW

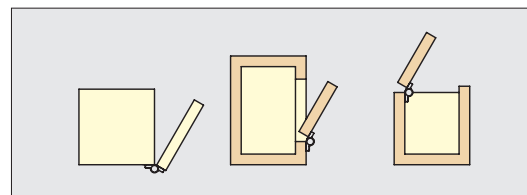
HG-JHWG

- Soft-Close damper keeps lid from slamming shut.
- Surface mount type.
- Two different damper direction available for various application.
- Operating temperature: 0~40°C (32~104°F)
- Operating angle: 115°/Dead angle 5°

HG-JHW Installation



HG-JHWG Installation



Item No.	Torque per pair (kgf-cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-JHW50	61~102(53~88 lbs-in)	200	4	64
HG-JHW70	102~143(88~124 lbs-in)			
HG-JHWG50	61~102(53~88 lbs-in)			
HG-JHWG70	102~143(88~124 lbs-in)			

No.	Part Name	Material	Color
①	Bracket	PBT Plastic/Zinc Alloy	Dark Grey
②	Cap	Polypropylene	
③	Damper	304 Stainless Steel	Plain

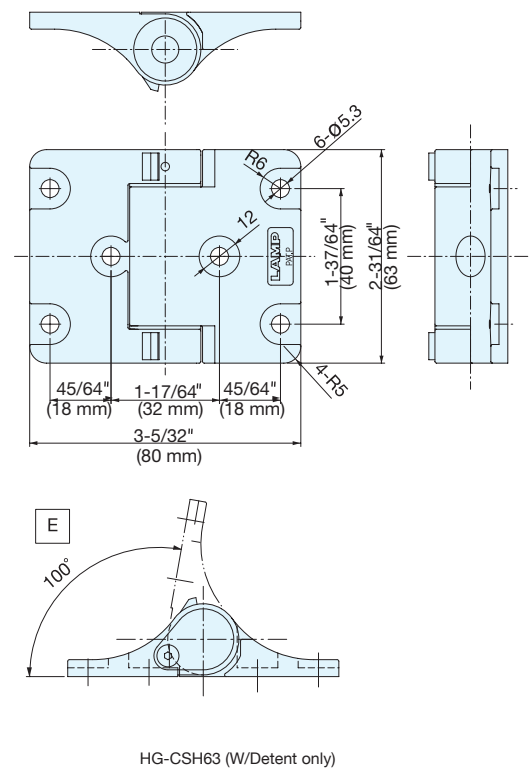
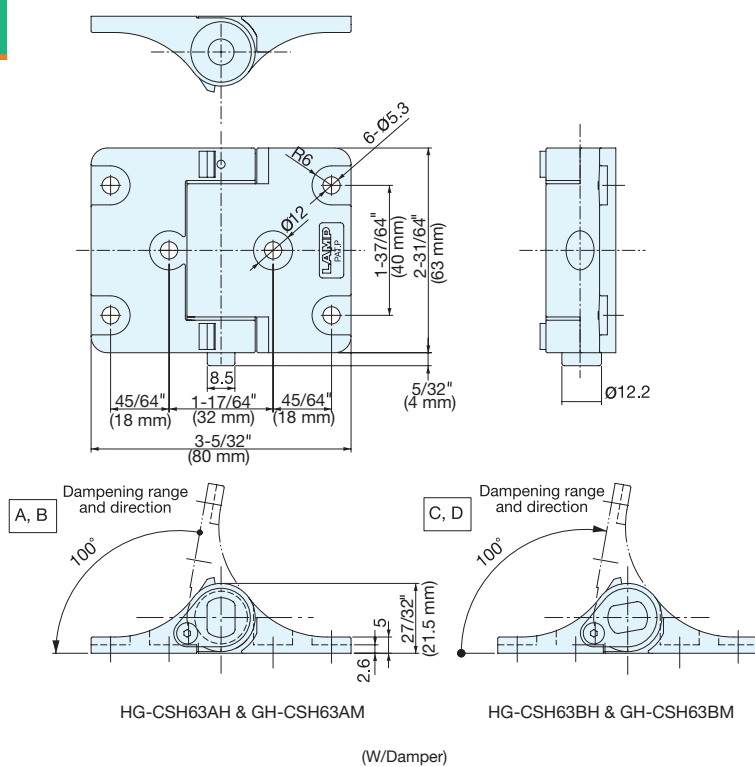
\* Sold per piece.



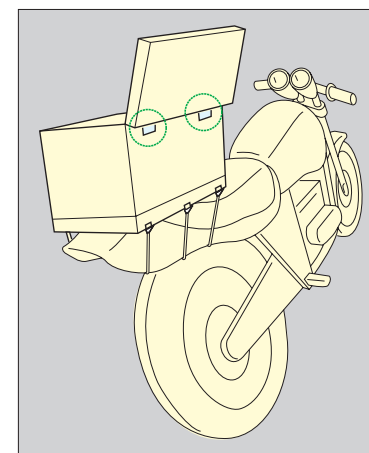
(W/Damper)

(W/Detent only)

- Detent hinge with built-in damper as an option.
- Detent will hold lid in open/closed position without secondary support, and optional damper will provide soft closing.
- Operating angle: 100°  
(Detent at both 0° and 100°)
- Detent holding force: 10.2 kgf·cm (8.8 lbs·in)
- Damper torque range: 10.2~25.5 kgf·cm (9~22 lbs·in)/pc



Item No.	Torque (kgf·cm)/pc	Dampening Direction	Type	Weight (g)	Box (pcs)	Carton (pcs)
HG-CSH63AH	17.3~25.5 (15~22 lbs·in)	Counter Clockwise	A	114.3	10	120
HG-CSH63AM	10.2~17.3 (9~15 lbs·in)		B			
HG-CSH63BH	17.3~25.5 (15~22 lbs·in)	Clockwise	C			
HG-CSH63BM	10.2~17.3 (9~15 lbs·in)		D			
HG-CSH63	-	-	E	98.7		



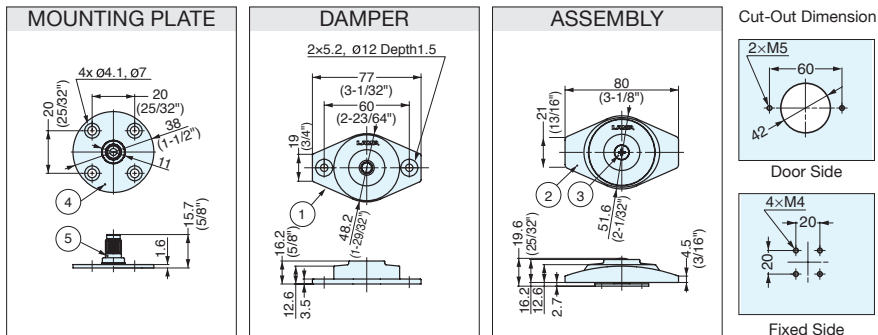
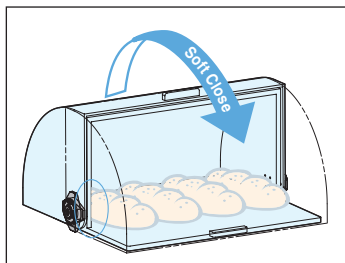
Material	Finish
Zinc Alloy	Silver



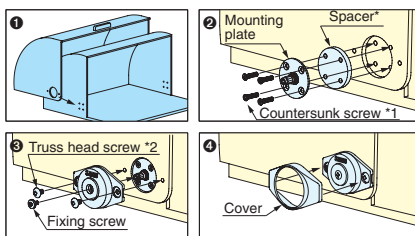
# DISK DAMPER



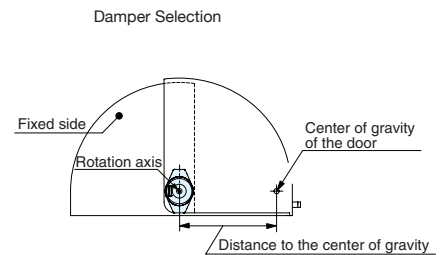
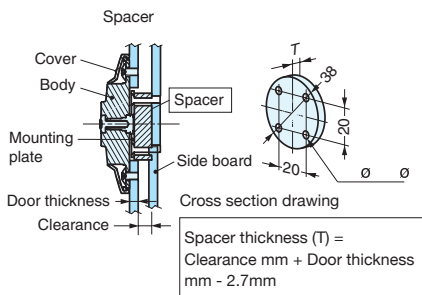
- Disc-shaped damper gently closes lid without slamming shut.
- Narrow profile for unobtrusive installation.
- Suitable for food service environments.
- Successfully passed 30,000 open/close private cycle test.
- Operating temperature: 5~35 °C (41~95°F)
- Spacer and installation screws are not included, and vary with application. Please contact customer service for more information.



**How to Install**



\*1, \*2 screws and Spacer are not included.

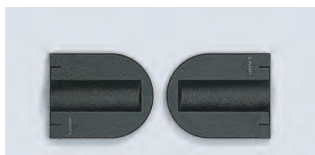


\*Torque = Distance to the center of gravity x 1/2 x Door weight

Item No.	Handing	Torque (kgf·cm)	Weight (g)	Box Qt (pcs)
UDD-S-L	Left	5.1~10.2 ( 4.4~8.9 lbs·in )	90	20
UDD-S-R	Right			
UDD-M-L	Left	10.2~20.4 ( 8.9~17.7 lbs·in )		
UDD-M-R	Right			
UDD-H-L	Left	20.4~30.6 ( 17.7~26.6 lbs·in )		
UDD-H-R	Right			

No.	Part Name	Material	Finish
①	Main Body	ABS Plastic	Light Grey
②	Cover		
③	Screws	Steel	Nickel
④	Mounting Plate		
⑤	Axis		Zinc

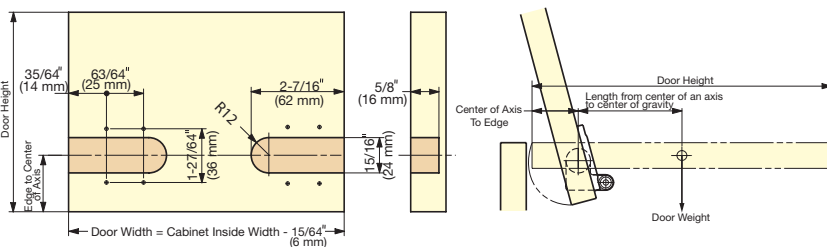
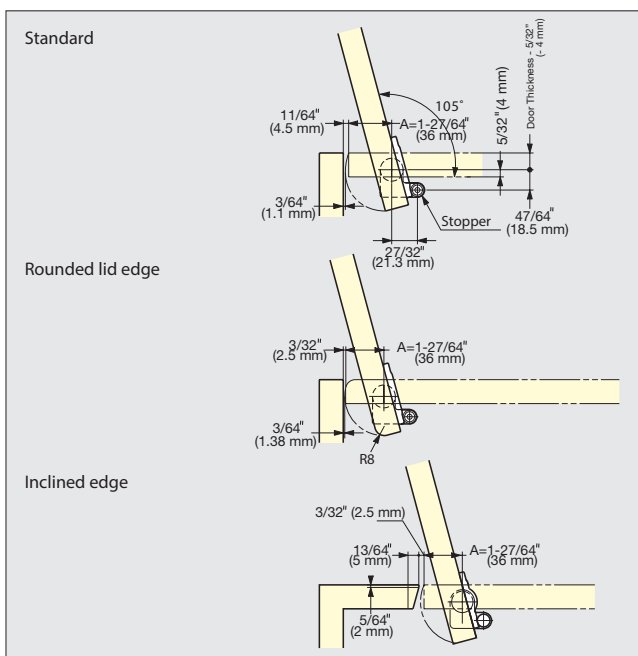




Black cover



White cover

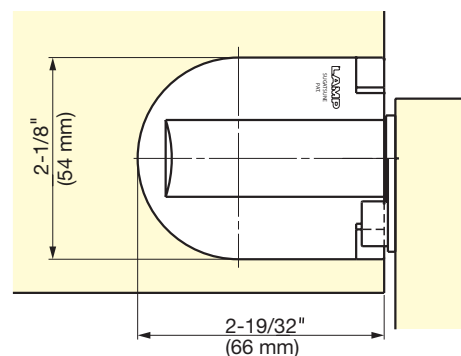
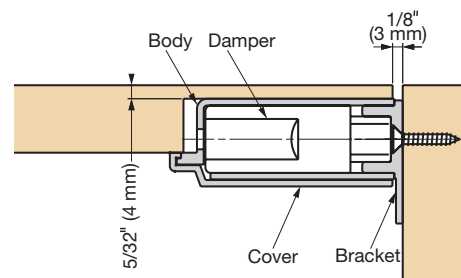
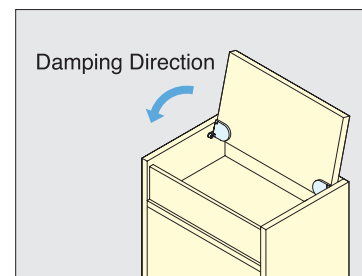
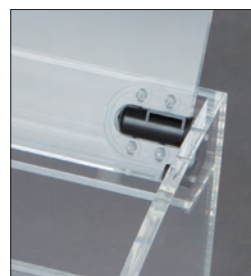


Item No.	Part Name	Color	Torque per pair (kgf-cm)	Box	Carton
HG-JHM20-80	Body	Black	61.2~81.6 (53~70.8 lbs-in)	10 pairs	90 pairs
HG-JHM20-BL	Cover	Black	-		120 pairs
HG-JHM20-WT		White	-		

- Hinge with damper built-in to keep lid from slamming shut.
- Mortise mount type.
- Ideal for small size lid.
- Sold in pairs.
- Torque Calculation:  
 $Torque = Door\ Height \times 1/2 \times Door\ Weight$   
 \* Please see diagram below for applicable torque moment.  
 \* Please specify face plate color when ordering.  
 \* Please install Left and Right Brackets on correct side.
- Smaller type HG-JHM16 available.
- Suitable for use in vanity cases, electronics panels in tables, computer terminals for reception desks, etc.



Bracket/Mounting Plate



No.	Part Name	Material	Finish/Color
①	Bracket	Polyacetal	Black
②	Mounting Plate	Aluminum	
③	Face Plate	ABS	Black/White
④	Damper	304 Stainless Steel	Plain

# DAMPER HINGE



HG-JHM20T



- Surface mount type: Easy to install without the need of recessing.
- Hinge with built-in UDH damper.
- Soft-close and smooth-open features.
- For Inset Lid.
- Cover hides mounting screws.
- Sold in pairs.
- Below torque range is the value when using a pair of hinges (left and right) per lid.
- When installing, ensure that both hinge shafts are levelled and aligned.
- Damper mechanism engages after being opened at 60° or more.

Soft Motion

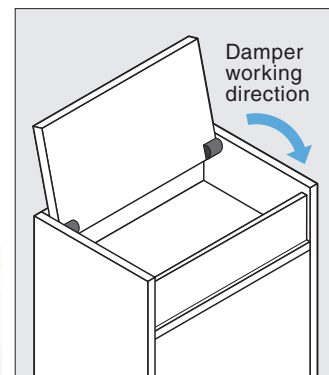
Sold in pairs.



W/ black cover



W/ white cover

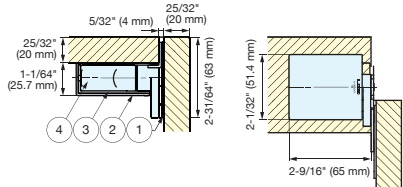


Chrome finished cover

## Front View

Top-opening lid closed

Top-opening lid opened by 90°

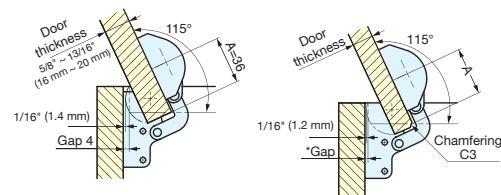


\* Right-handed type shown. Left-handed type is symmetrical.

## Installation

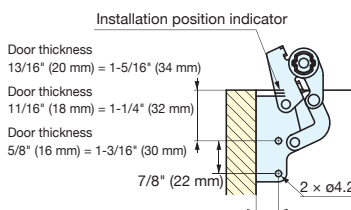
Standard

Chamfered Lid Edge

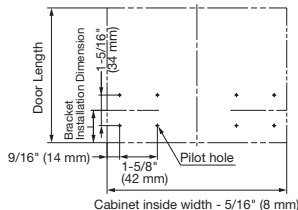


\* Gap is decreased compared with standard when chamfered.

## Hinge Plate Installation Position



## Cut Out Dimensions



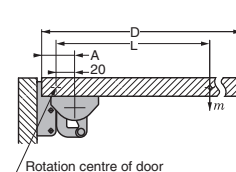
Item No.	Color	Torque per piece (kgf·cm)
HG-JHM20T-80BL	Black	61.2~81.6 (53.1~70.8 lbs-in)
HG-JHM20T-80WT	White	
HG-JHM20T-80CR	Chrome	

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

## 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)
- $L = \frac{D}{2} - A + 20$ \*

\* For heterogeneous door (e.g., attached with a mirror), please contact our technical support (support@sugatsune.com) for assistance.

- 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)

No.	Part Name	Material	Finish
①	Hinge Plate	Sttel/Zinc Alloy	Nickel
②	Bracket	POM	Black
③	Cover	ABS	Black/White/Chrome
④	Damper	-	-

# SOFT-CLOSE HINGE



HG-JHM16

Soft Motion



Black cover

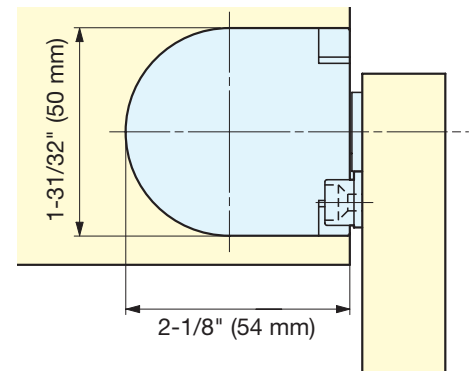
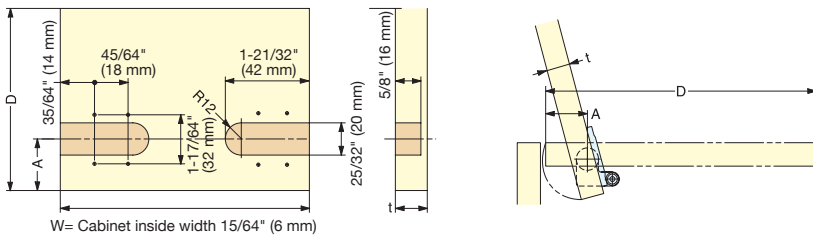
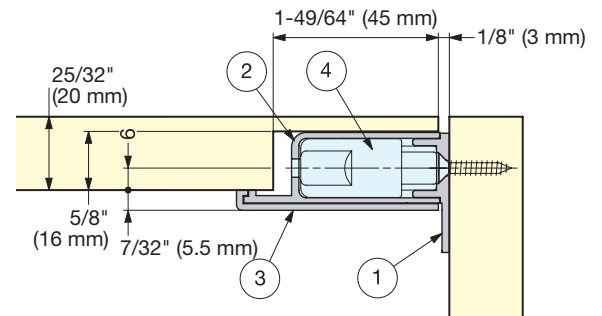
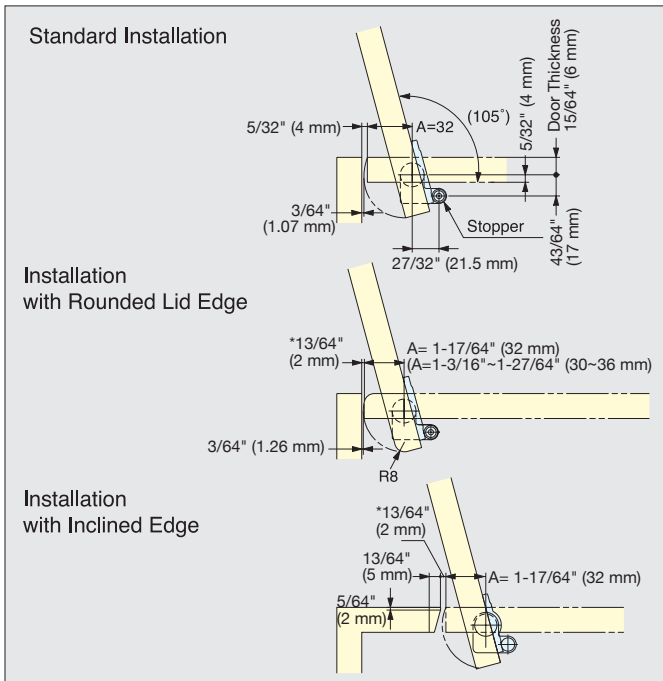
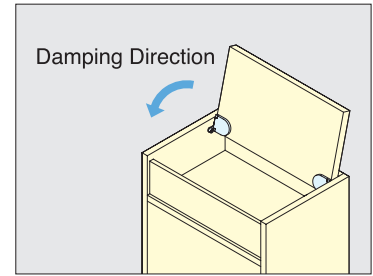


White cover

- Hinge with damper built-in to keep lid from slamming shut.
- Mortise mount type.
- Ideal for small size lid.
- Sold in pairs.
- Torque Calculation:  
 $Torque = Door\ Height \times 1/2 \times Door\ Weight$   
 \*Please see diagram below for applicable torque moment.  
 \*Please specify color of face plate (sold separately) when ordering.  
 \*Please install Left and Right brackets on correct side.



Bracket/Mounting Plate



Item No.	Part Name	Color	Torque per pair (kgf·cm)	Weight (g)	Box	Carton
HG-JHM16-34	Body	Black	20~34 (17.4~29.5 lbs·in)	91/pair	10 pairs	120 pairs
HG-JHM16-50			34~50 (29.5~43.4 lbs·in)			
HG-JHM16-BL	Cover	Black	-	12/pair		
HG-JHM16-WT		White				

No.	Part Name	Material	Color
①	Mounting Plate	Aluminum	Black
②	Damper Bracket	Polyacetal	
③	Face Plate	ABS	White, Black
④	Damper	304 Stainless Steel	Plain



# SOFT-CLOSE DAMPENING HINGE



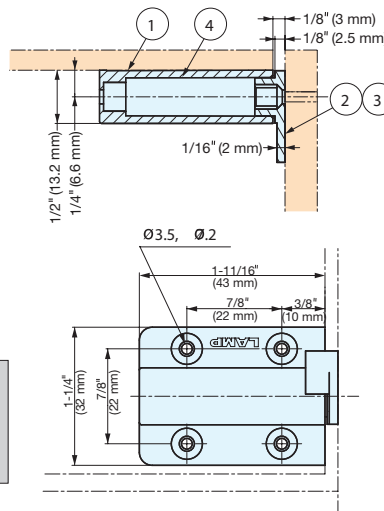
## HG-JHM9



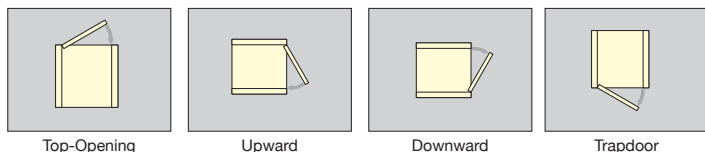
HG-JHM9-S

HG-JHM9-U

- Hinge with damper built-in to keep lid from slamming shut.
- Surface mounts into the lid.
- Side panel or under panel mounted.
- Sold as a set.



### Damping direction



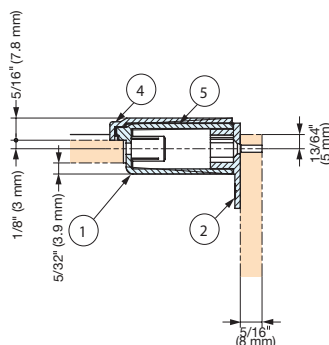
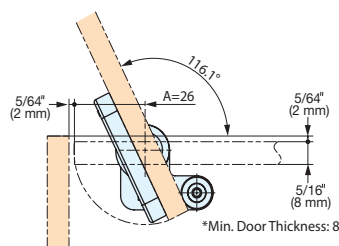
Item No.	Shaft Color	Type	Torque per pair (kgf-cm)
HG-JHM9-S-BL	Black	Side Panel Mount	0.55 ~ 0.88 (0.48 ~ 0.77 lbs-in)
HG-JHM9-S-WT	White		
HG-JHM9-U-BL	Black	Under Panel Mount	
HG-JHM9-U-WT	White		

No.	Part Name	Material	Finish
①	Bracket	Polyacetal	Black/White
②	Mounting Plate R	PBT plastic	
③	Mounting Plate L	PBT plastic	
④	Damper	Polyacetal	-

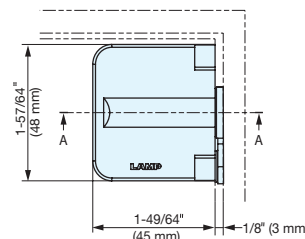
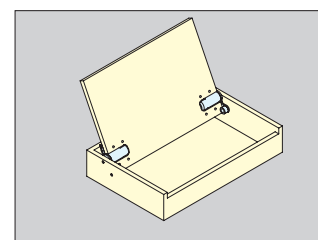
# SOFT-CLOSE DAMPENING HINGE



## HG-JHM14



- Hinge with built-in damper to keep lid from slamming shut.
- Mortise mount type.



Item No.	Color	Torque per piece (kgf-cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-JHM14-S-8BL	Black	5~8 ( 4.3~7 lbs-in )	51	20	220
HG-JHM14-S-8WT	White				
HG-JHM14-S-15BL	Black	8~15 ( 7.0~13 lbs-in )			
HG-JHM14-S-15WT	White				
HG-JHM14-S-20BL	Black	15~20 (13.0~17 lbs-in)			
HG-JHM14-S-20WT	White				

No.	Part Name	Material	Finish
①	Bracket	Polyacetal	Black/White
②	Mounting Plate R	PBT plastic	
③	Mounting Plate L	PBT plastic	
④	Face Plate	ABS plastic	
⑤	Damper	304 Stainless Steel	-



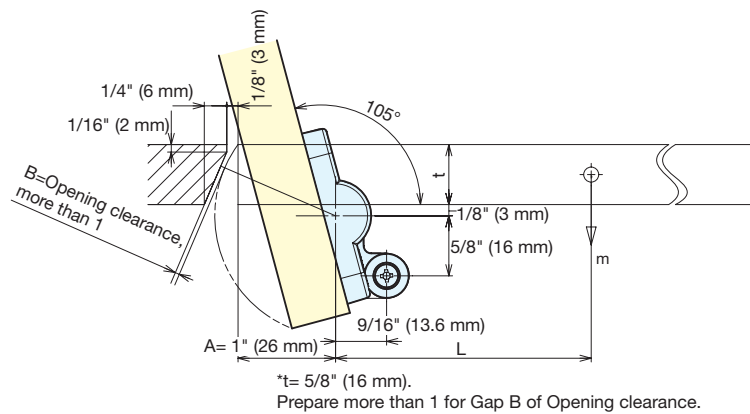
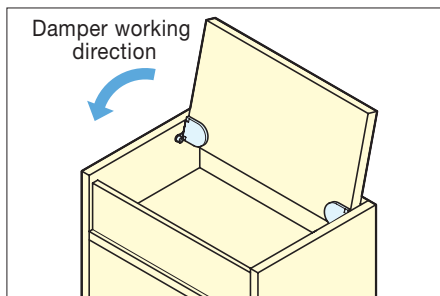


Black



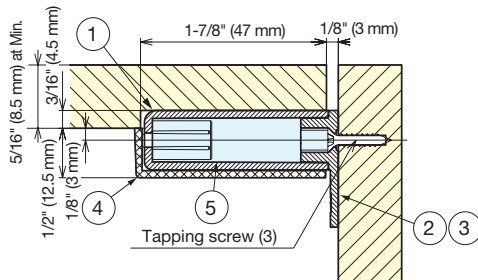
White

- Small damper hinge with self-opening function for top-opening lids. Using with a touch latch enables pop-up function of the lid.
- Inset type.
- Opening speed is adjustable with a hex key.
- Cover hides mounting screws for clean appearance.
- Easy to cut out with a router.
- Applicable into surface mount with Bracket UKZ11-BL (sold separately).



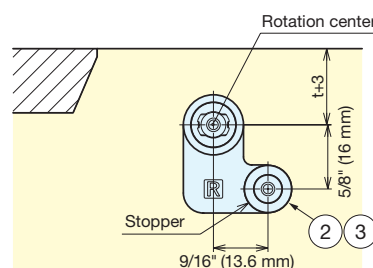
#### Installation

##### Cross-section Drawing



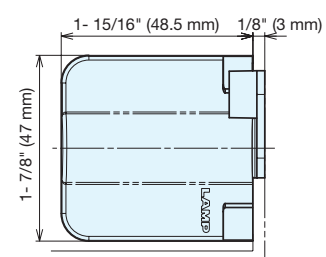
##### Installation

##### Bracket

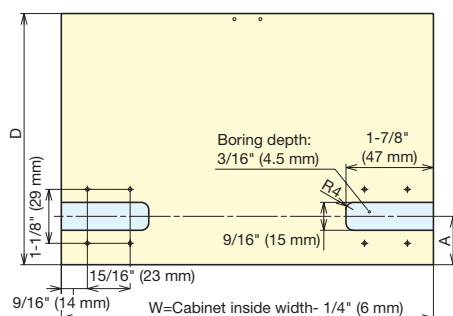


##### Top View

##### When closed door



#### Cut Out Dimensions

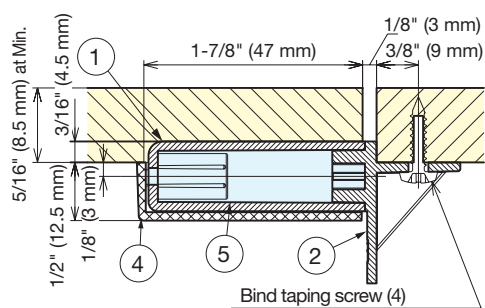
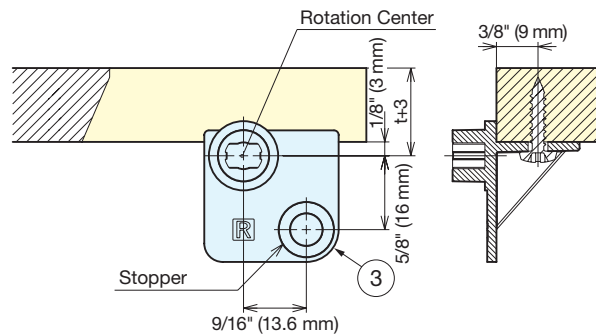


Item No.	Part Name	Material	Finish
①	Body	Polyacetal (POM)	Black
② or ③	Bracket for side mount	PBT	
④	Cover	ABS	Black/White
⑤	Damper	-	-

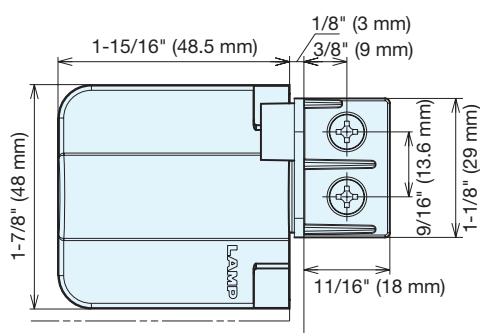
## Surface Mount Type

(Installed with Bracket for Surface Mount UKZ11-BL)

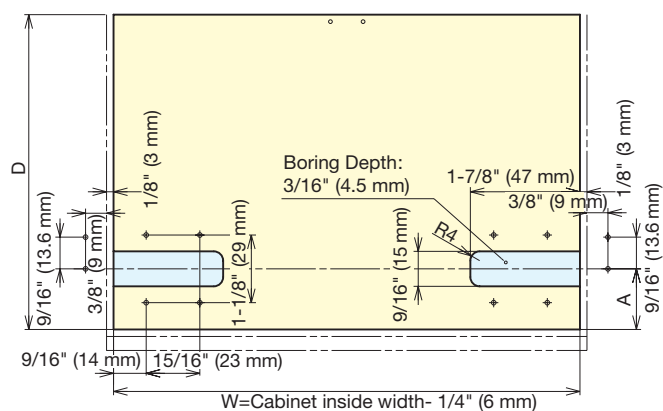
## Cross-section Drawing

Installation  
Bracket

## Top View



## Cut Out Dimensions



## Hinge

Item No.	Color	Torque (per pair)	Opening Angle	Weight (g)	Box (set)	Carton (set)
HG-JHM11-1BL	Black	0.44 - 0.89 lbs·in (0.51 - 1.02 kgf·cm)	105°	43.9	25	275
HG-JHM11-1WT	White					
HG-JHM11-2BL	Black					
HG-JHM11-2WT	White					
HG-JHM11-3BL	Black	1.77 - 2.57 lbs·in (2.04 - 2.96 kgf·cm)				
HG-JHM11-3WT	White					
HG-JHM11-4BL	Black	2.57 - 3.54 lbs·in (2.96 - 4.08 kgf·cm)	46.8			
HG-JHM11-4WT	White					



## Bracket for Surface Mount

Item No.	Color	Weight (g)	Box (set)	Carton (set)
UKZ11-BL	Black	12	50	500



Black



White

- Small damper hinge with self-opening function for top-opening lids. Using with a touch latch enables pop-up function of the lid.
- Inset type.
- Opening speed is adjustable with a hex key..
- Cover hides mounting screws for clean appearance.
- Easy to cut out with a router.
- Applicable into surface mount with Bracket UKZ11-BL (sold separately).

Calculation of maximum door moment

$$T = m \times 9.80665 \times L$$

T: Max. door torque (N/mm)

m: Door weight (kg)

L: Distance from rotation centre to door centre of gravity (mm)

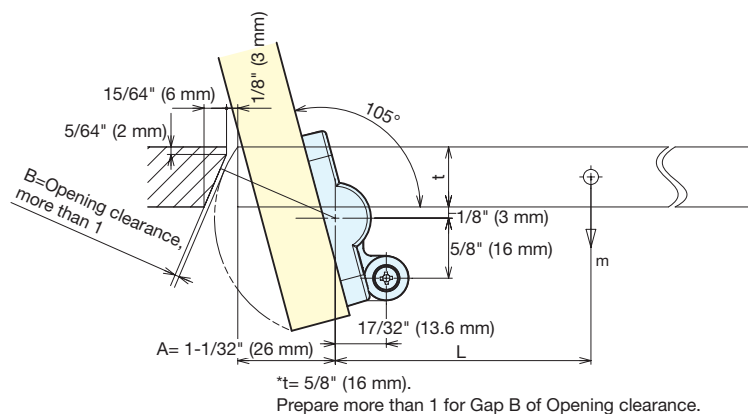
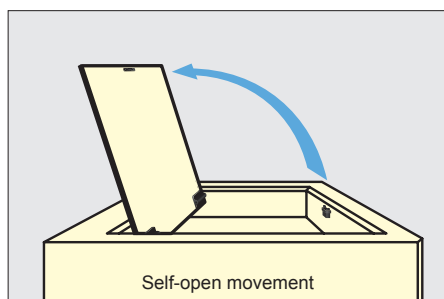
$$L = \frac{D}{2} - A \quad (\text{Formula for assuming that the centre of gravity is in the centre of door})$$

D: Door length (mm)

A: Bracket installation dimension (mm)

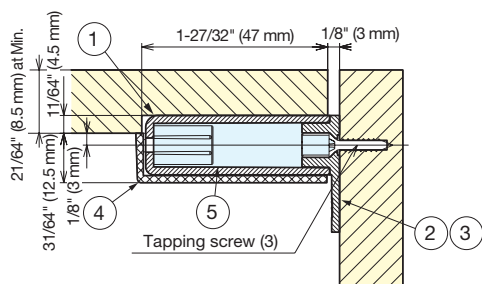
[Example] D=180 mm, A=26 mm, m=0.63kg

$$T = 0.63 \times 9.80665 \times \left( \frac{180}{2} - 26 \right) = 395 (\text{mN} \cdot \text{m}) \\ = 0.395 (\text{N} \cdot \text{m})$$



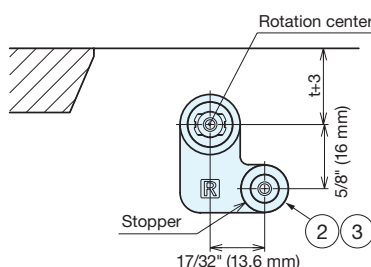
## Installation

Cross-section Drawing



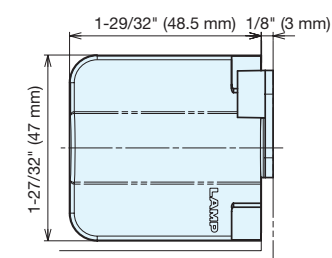
## Installation

Bracket

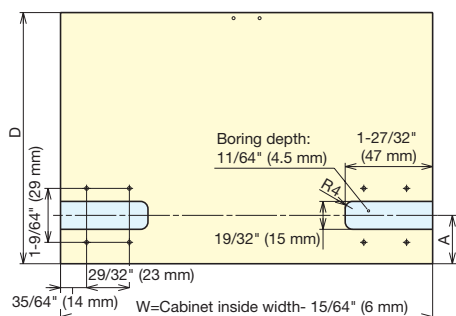


## Top View

When closed door



## Cut Out Dimensions

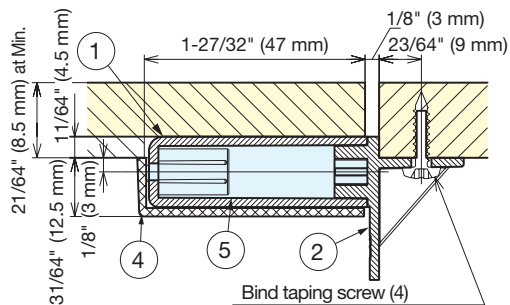


Item No.	Part Name	Material	Finish
①	Body	Polyacetal (POM)	Black
② or ③	Bracket for side mount	PBT	
④	Cover	ABS	Black/White
⑤	Damper	-	-

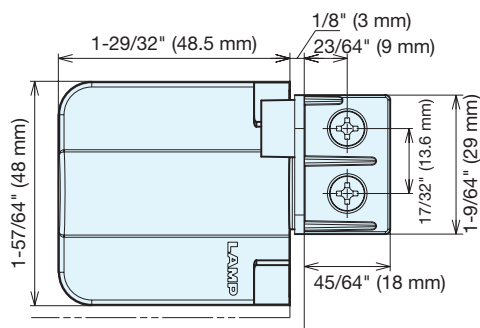
## Surface Mount Type

(Installed with Bracket for Surface Mount UKZ11-BL)

Cross-section Drawing

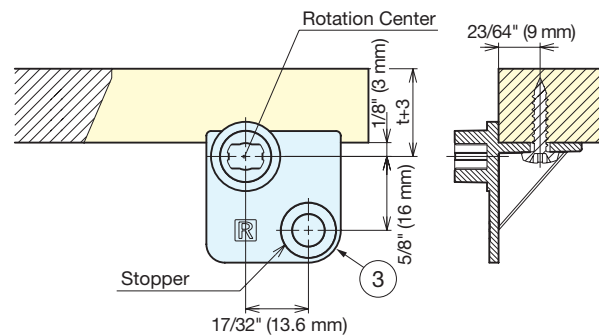


Top View

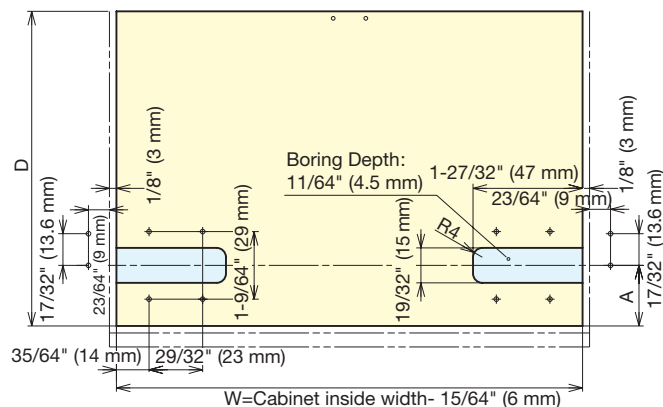


## Installation

Bracket



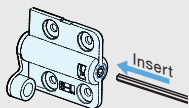
Cut Out Dimensions



## Adjustment of Lid Opening Speed

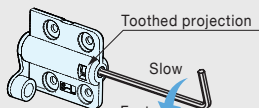
When increasing lid opening speed

1



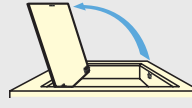
Insert a hex key (size 3) into the hole of spring unit (L side)

2



Push in the hex key until toothed projection is disengaged, while rotating counter clockwise 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 5 times) if the 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 counter clockwise following pushing in the hex key and disengaging the projection. Forced rotation may cause damage.

Item No.	Color	Torque (per pair)	Opening Angle	Weight	Box	Carton
HG-JHS11-2BL	Black	0.89 - 2.21 lbs·in (1.02 - 2.55 kgf·cm)	105°	56 g	12 Set	50 Set
HG-JHS11-2WT	White					
HG-JHS11-4BL	Black	2.21 - 3.54 lbs·in (2.55 - 4.08 kgf·cm)				
HG-JHS11-4WT	White					



## Bracket for Surface Mount

Item No.	Color	Weight	Box	Carton
UKZ11-BL	Black	12 g	50 Set	500 Set

# SOFT-OPEN DAMPENING HINGE

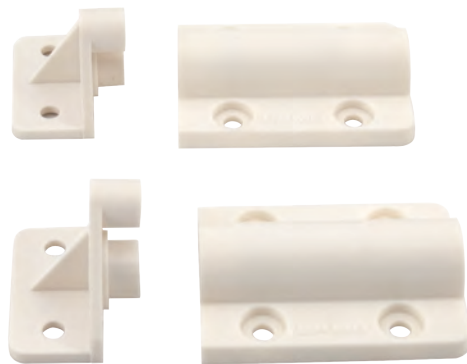


HG-JHS9

Soft Motion

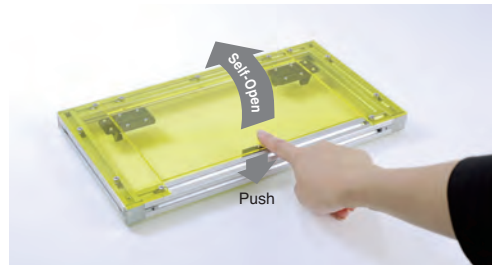


HG-JHS9-U Side Mount

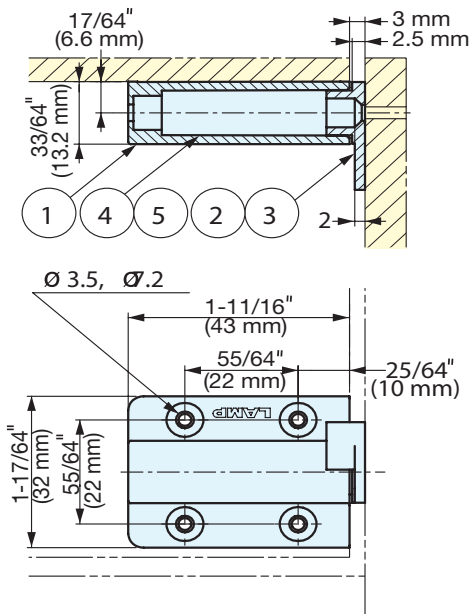
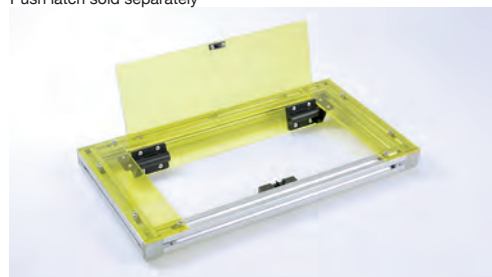


HG-JHS9-S Under Mount

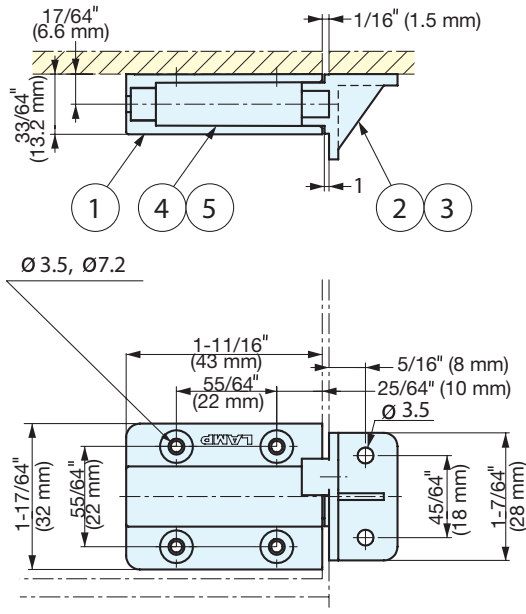
- Soft opening hinge, push latch sold separately.
- Built in damper for soft opening.
- Sold as a set.
- For inset applications.
- 105 degrees opening angle.



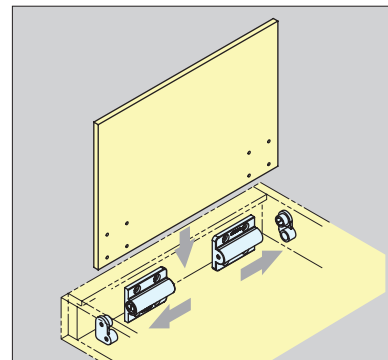
Push latch sold separately



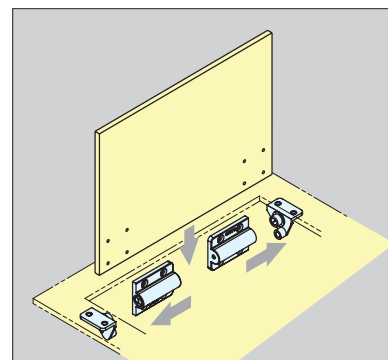
HG-JHS9-U Side Mount



HG-JHS9-S Under Mount



Side Mount



Under Mount

Item No.	Color	Type	Torque per piece (kgf·cm)
HG-JHS9-S-BL	Black	Side Panel Mount	0.28~0.44 (0.24~0.38 lbs-in)
HG-JHS9-S-WT	White		
HG-JHS9-U-BL	Black	Under Panel Mount	
HG-JHS9-U-WT	White		

No.	Part Name	Material	Finish
①	Bracket	Polyacetal	Black/White
②	Mounting Plate R	PBT plastic	
③	Mounting Plate L	PBT plastic	-
④	Damper	Polyacetal	Spring
⑤	Spring	Zinc Alloy	



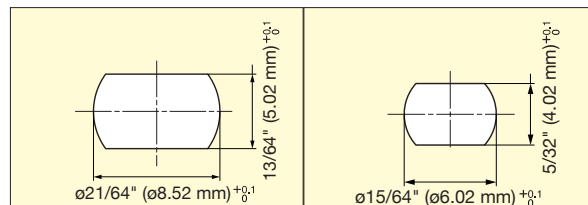
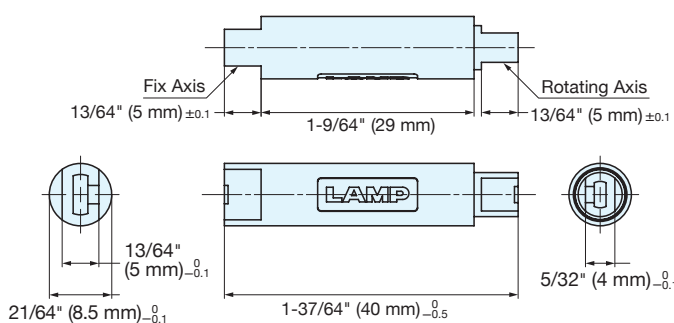
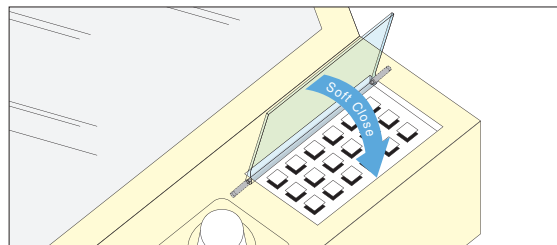
# ROTARY DAMPER



URD8-3



- 1360 degree rotary damper.
- Tube design for concealed application.
- For inset applications.



Cut-Out Dimension

Item No.	Torque per piece (kgf·cm)	Weight (g)	Material	Finish
URD8-3	0.22~0.39 (0.19~0.26 lbs-in)	2.5	Right hand	Plain

# DAMPER CATCH

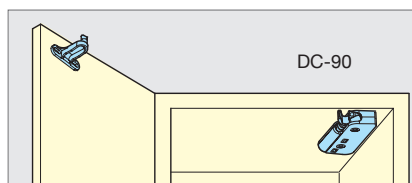


DC

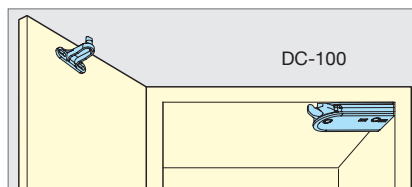


SDS-50G-CR

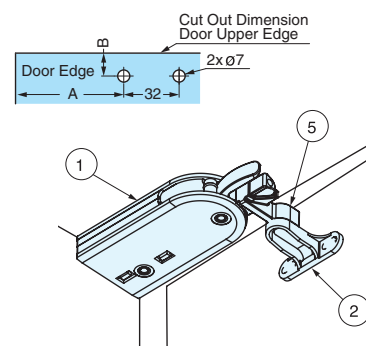
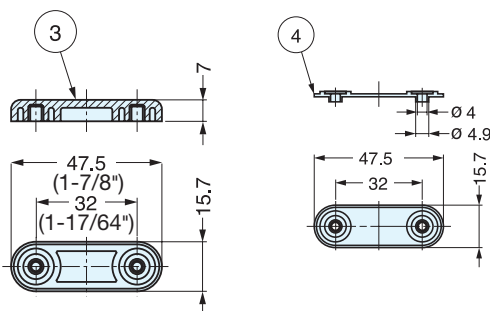
- Catch with built-in damper, closes doors smoothly.
- Slim design suitable for various inset and overlay door installations.
- Available for both wood and glass cabinet doors. Glass face plate SDS-50G sold separately.
- Includes screws.
- Non-handed: can be installed on left or right side.



DC-90



DC-100



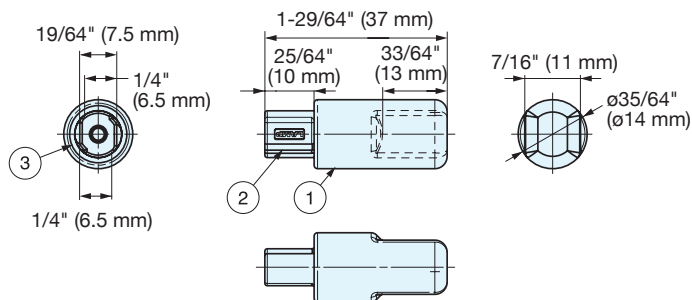
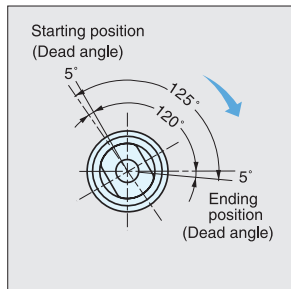
Face Plate (Sold Separately)

Item No.	Weight (g)	Box (pcs)
SDS-50G-CR	25	50

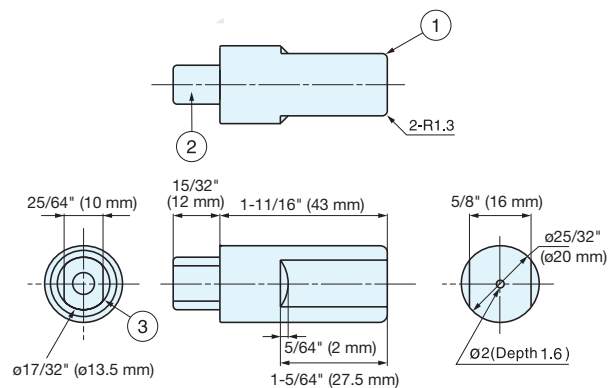
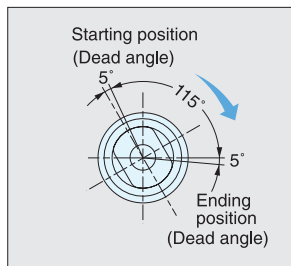
No.	Part Name	Material	Finish/Color
①	Body	Polyacetal (POW)/PBT	Dark Grey/Light Grey
②	Trigger	Polyacetal (POW)	Dark Grey
③	Face Plate	Zinc Alloy (ZDC)	Chrome
④	Spacer	ABS	Black
⑤	Trigger Installation Jig	PBT	Light Grey

Item No.	Spec.	Door With (mm)	Door Height (mm)	Door Thickness (mm)	Door Weight (kg)	Weight (g)	Box (pcs)	Carton (pcs)
DC-90	For Wooden Door	450 (17-23/32")	600 (23-5/8")	-	4 (8.8 lbs)	46	25	200
DC-90G	For Glass Door			5		71		
DC-100	For Wooden Door	600 (23-5/8")	800 (31-1/2")	-	7 (15.4 lbs)	66		
DC-100G	For Glass Door			5		91		

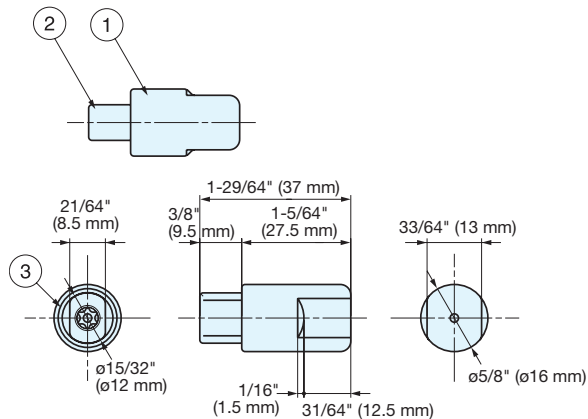
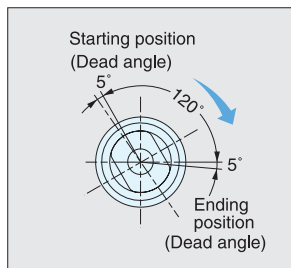
UDH-14 Type



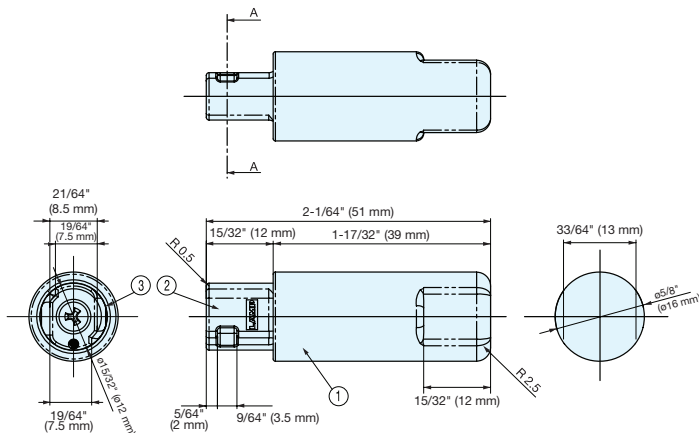
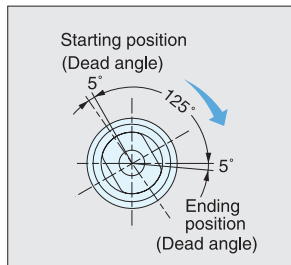
UDH Type



UDH-16 Type



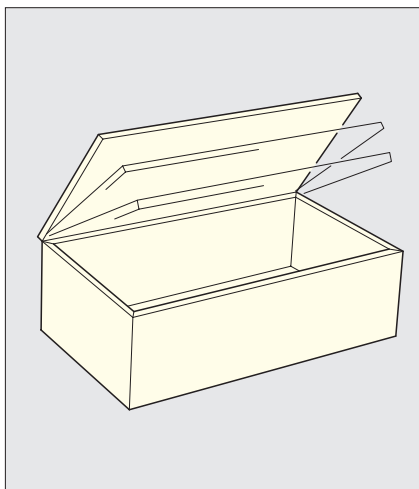
UDH-16N Type



# TORQUE DAMPER



UDH



- Keeps lids/doors from slamming shut.
- Patented technology that allows a small design to produce high torque and wider dampening angles.
- Stainless steel body keeps dampening torque stable and consistent.
- Ensures high durability and ideal for corrosive environments.
- Cycle tested at 70,000 for natural closing and 13,000 forced closing.

Soft Motion

## UDH-14 Type

No.	Part Name	Material	Finish/Color
①	Body	304 Stainless Steel	Plain
②	Shaft	PBT Plastic	A-White, B-Grey
③	Cover Ring		-

## UDH Type

No.	Part Name	Material	Finish/Color
①	Body	304 Stainless Steel	Plain
②	Shaft	PBT Plastic	A-White, B-Grey
③	Cover Ring	304 Stainless Steel	-

## UDH-16N Type

No.	Part Name	Material	Finish/Color
①	Body	304 Stainless Steel	Plain
②	Shaft	PBT Plastic	A-White B-Grey
③	Cover Ring	PPS Plastic	-

## UDH-16 Type

No.	Part Name	Material	Finish/Color
①	Body	304 Stainless Steel	Plain
②	Shaft	PBT Plastic	A-White B-Grey
③	Cover Ring		-

Item No.	Torque per piece (kgf·cm)	Dampening Direction	Color Mark	Weight (g)	Carton(pcs)
UDH-14ALS	5.1~8.2 (4.4~7.1 lbs·in)	Counter Clockwise	Purple	10	400
UDH-14BLS		Clockwise			
UDH-14AMS	8.2~15.3 7.0~13.0 lbs·in	Counter Clockwise	Blue		
UDH-14BMS		Clockwise			
UDH-14AHS	15.3~25.5 13.0~22.0 lbs·in	Counter Clockwise	Red		
UDH-14BHS		Clockwise			
UDH-AMS	15.0~25.0 13.0~21.0 lbs·in	Counter Clockwise	Blue		
UDH-BMS		Clockwise			
UDH-AHS	25.0~35.0 21.0~30.0 lbs·in	Counter Clockwise	Red	38	200
UDH-BHS		Clockwise			
UDH-AGS	35.0~40.0 30.0~34.0 lbs·in	Counter Clockwise	Yellow		
UDH-BGS		Clockwise			
UDH-16AMS	10.2~17.3 8.8~15.0 lbs·in	Counter Clockwise	Green	16	200
UDH-16BMS		Clockwise			
UDH-16AHS	17.3~25.5 15.0~22.0 lbs·in	Counter Clockwise	Black		
UDH-16BHS		Clockwise			
UDH-16N AMS	17.3~24.5 15.0~21.2 lbs·in	Counter Clockwise	Blue	20	200
UDH-16N BMS		Clockwise			
UDH-16N AHS	22.4~30.6 19.4~26.6 lbs·in	Counter Clockwise	Red		
UDH-16N BHS		Clockwise			

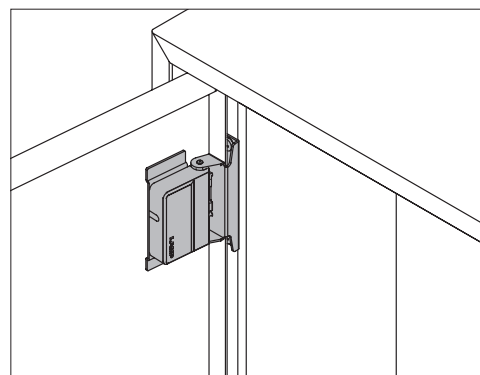
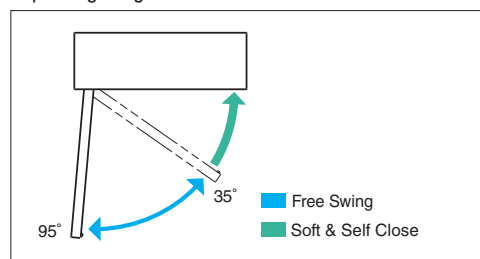
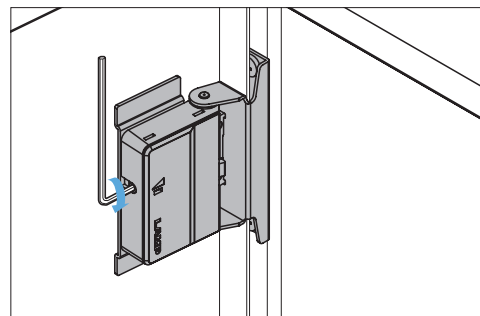
\*ROHS Compliant versions available upon request.  
\*Not NSF



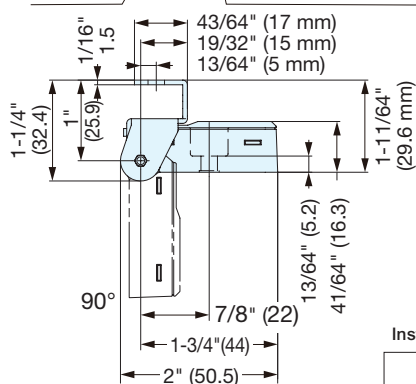
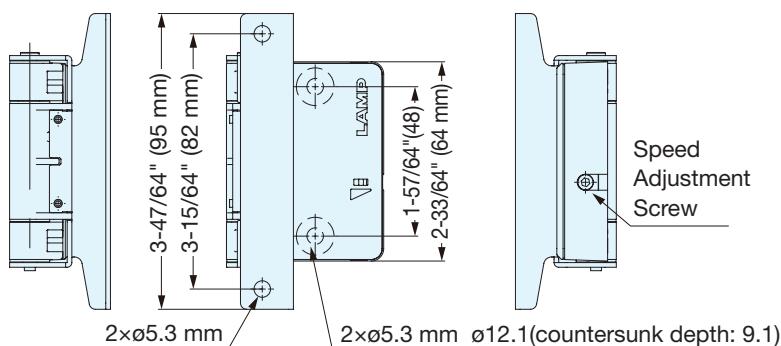
- Soft and self-closing hinge ensures quiet, safe door closure.
- Automatically and slowly closes doors from 35°.
- The hinge will be hidden from view (concealed) when the door is closed.
- Adjustable closing speed (with hex key). Allows precise, machine-friendly door movement.
- Firmly holds door closed to prevent gaps, so that machines continue to operate without interruption.
- Internally-mounted hinge is ideal for tamper-proof security cabinets (medical and pharmaceutical industry).
- Passed 50,000 open/close private cycle test.

**Note:**

- Door stopper can be set to prevent from opening over 95°.
- Operating temperature: 32 - 104°F (0 - 40 °C).
- Do not lubricate.
- For indoor use only.

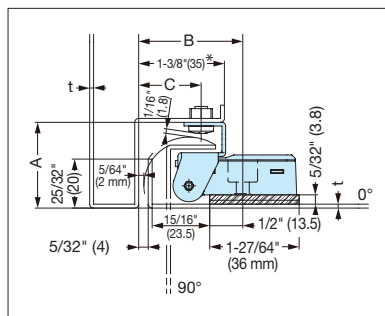
**Installation**

**Operating Range**

**Closing Speed Adjustment**


Closing speed of doors is adjustable with a hex key (size: 2.5).



Thickness	A	B	C
t = 1.6	35	42.5	25.5
t ≤ 3.2	35+(t-1.6)	42.5+(t-1.6)	25.5+(t-1.6)

No.	Part Name	Material	Finish
①	Body A	Polyamide (PA)	Light Grey
②	Body B		
③	Body Cover	Polyacetal (POM)	
④	Press Arm	304 Stainless Steel	Plain
⑤	Shaft	Steel	Nickel

**Installation and Dimensions**


\* The nut and bending section might be close depending on the thickness of the sheet metal.

Item Number	Finish	Available Door Specs				Weigh (g)	Box (pcs)	Carton (pcs)
		Width (mm)	Height (mm)	Weight /2pc	Weight /3pc			
HG-JV65-U-LGR	Light Grey	Max. 700 (27-9/16")	Max. 2400 (94-1/2")	2.2 ~ 15.4 lbs (1.0 - 7.0 kg)	15.4 ~ 26.4 lbs (7.0 - 12.0 kg)	135	10	60

## SOFT-CLOSE HINGE (HORIZONTAL OPENING)



HG-JV65-S



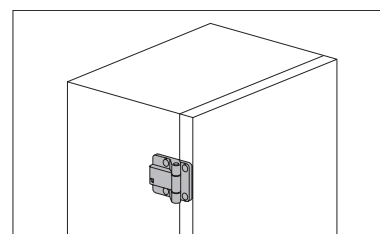
- Soft and self-closing hinge ensures quiet, safe door closure.
- Adjustable closing speed (with hex key). Allows precise, machine-friendly door movement.
- Firmly holds door closed to prevent gaps, so that machines continue to operate without interruption.
- Surface-mounted hinge saves internal machine space and helps maintain cleanliness (ideal for food equipment and medical industry).
- Can be installed on aluminum frames for machine equipment.
- Passed 50,000 cycle test (private).

## Note:

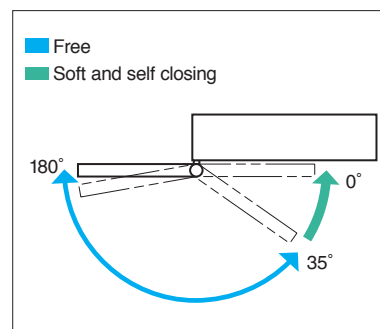
- Stoppers recommended to prevent door from over-extending past 180° opening.
- Not suitable for vibrational applications/ environments.
- Operating temperature: 32 - 104°F (0 - 40 °C).
- Do not lubricate.
- For indoor use only.

Soft Motion

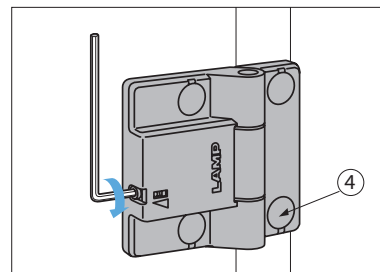
## Installation



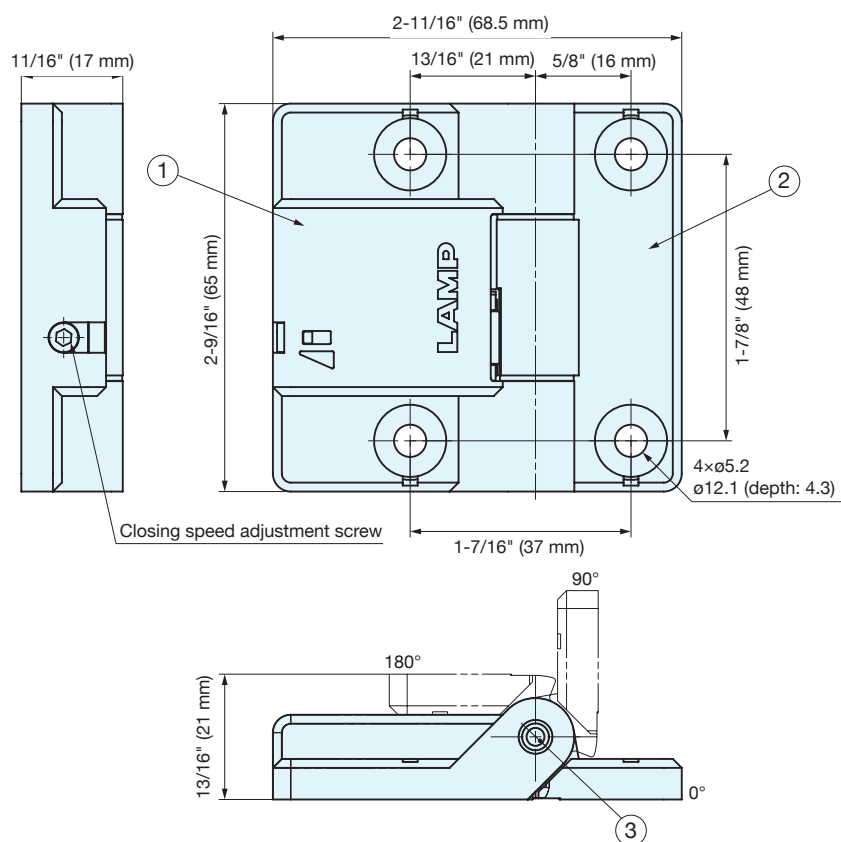
## Operating Range



## Closing Speed Adjustment



Closing speed of doors is adjustable with a hex key (size: 2.5).



No.	Part Name	Material	Finish
①	Body A	Polyamide (PA)	Black, Light Grey
②	Body B	Steel	
③	Shaft	Brass	Nickel
④	Screw Cover	Polyacetal (POM)	Black, Light Grey

Item Number	Finish	Available Door Specs				Weight (g)	Box (pcs)	Carton (pcs)
		Width (mm)	Height (mm)	Weight /2pc	Weight /3pc			
HG-JV65-S-BL	Black	Max. 700	Max. 2400	2.2~15.4 lb (1.0 - 7.0 kg)	15.4~26.4 lb (7.0 - 12.0 kg)	85	10	60
HG-JV65-S-LGR	Light Grey	(27-9/16")	(94-1/2")					





Soft-close  
Hinge  
(for upper)

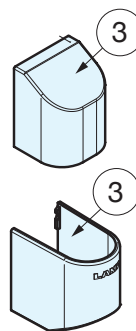


Self-close  
Hinge  
(for lower)

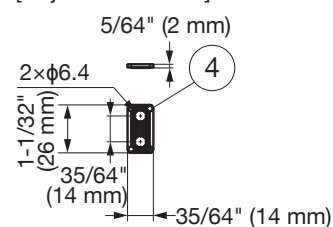


- Lift-off hinges for easy installation and removal of a door. Automatically and quietly closes the doors without additional dampers or door closers.
- Sold in pairs/sets that includes a self-closing hinge and a soft-closing hinge.
- Automatically closes doors from its 65° open angle and features an adjustable damper to control the closing speed.
- The self-close function helps reduce the loss of energy by keeping doors shut for common applications such as cold storage equipment, laboratories, and food warmers.
- Includes covers to hide the mounting screws.
- Angled surface of covers designed to prevent dust and other particles to accumulate.
- Door position can be adjusted for depth and in a horizontal direction 1/8" (± 3 mm).
- Durability: passed 50,000 open/close cycles (private test).

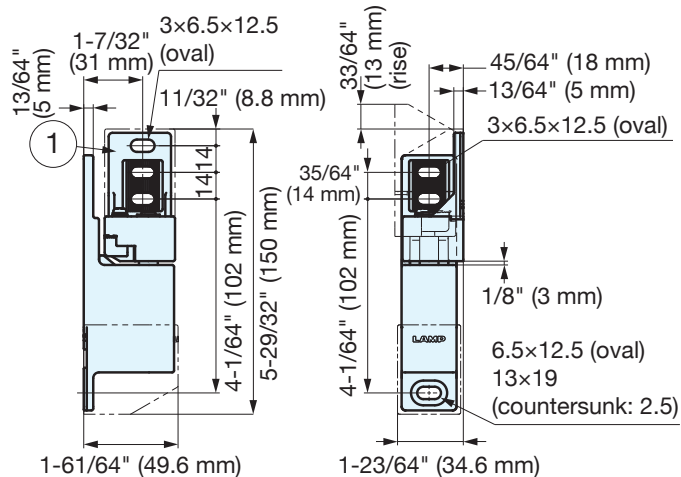
Covers



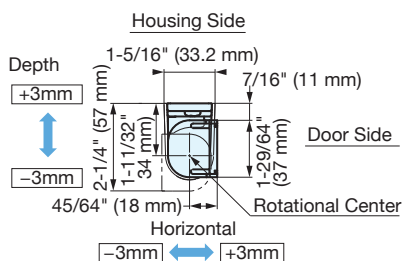
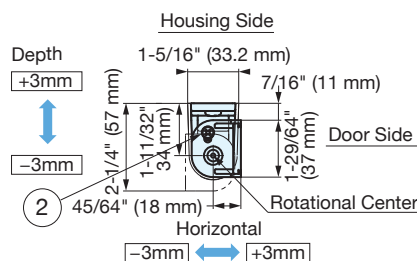
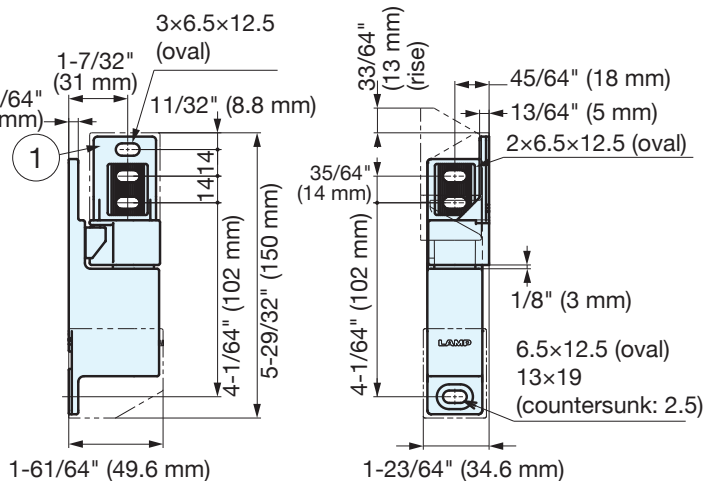
[Adjustment Plate]



Soft-Close Hinge



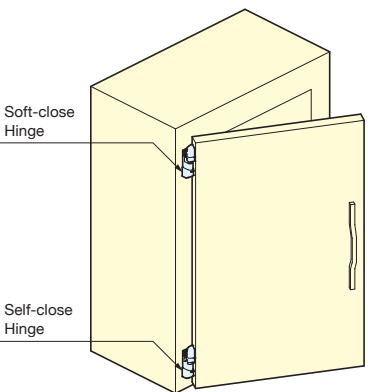
Self-Close Hinge



\* Left-handed type is shown.

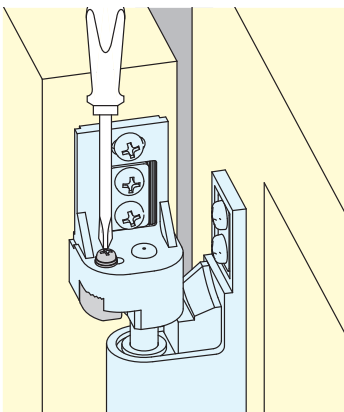


**Installation of Left-handed Type**



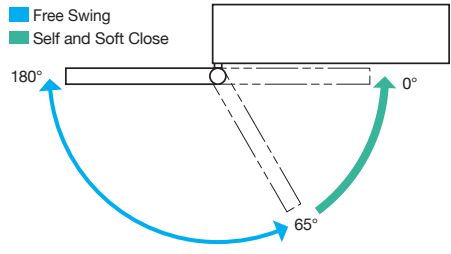
\* Pitch between hinges: Min. 47-1/4" (1200 mm)

**Speed Adjustment**



Closing speed can be adjusted with the screw of the soft-close hinge which is for the upper side.

**Door Motion**

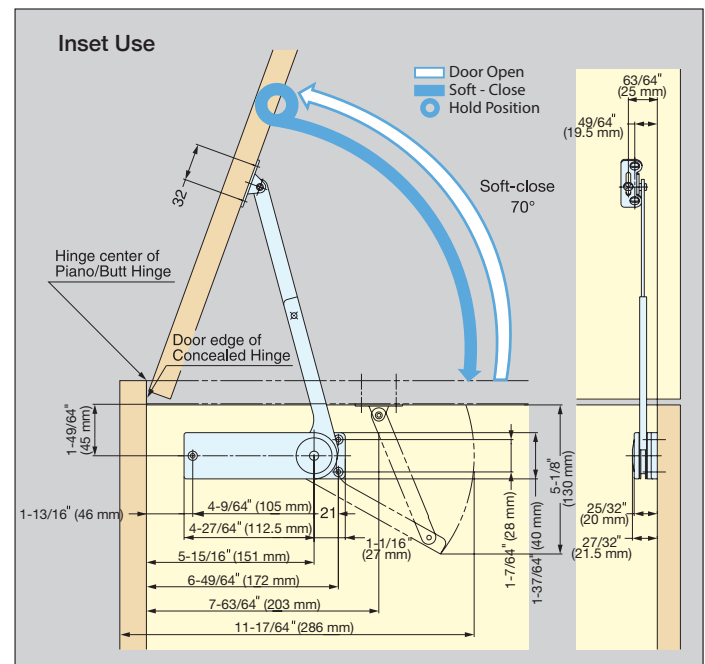
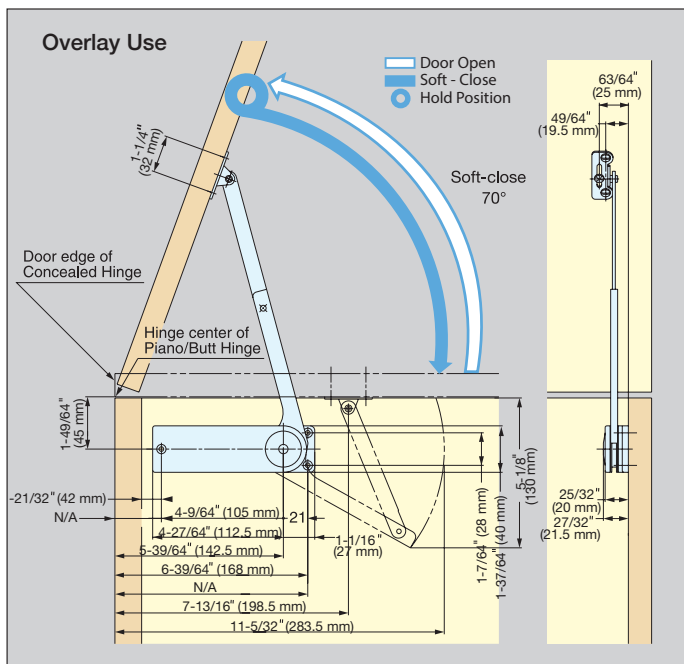


Item No.	Type	Door Width	Door Height	Load Capacity/ Set	Weight (g)	Carton (set)
HG-JG150R-CR	Right-handed	Max. 35-7/16" (900 mm)	Max. 94-31/64" (2400 mm)	22 ~ 44 lbs (10 ~ 20 kg/set)	995	10
HG-JG150L-CR	Left-handed					

No.	Part Name	Material	Finish
①	Body	Zinc Alloy	Chrome
②	Speed Adjustment Screw	Steel	Nickel
③	Cover	ABS	Chrome
④	Adjustment Plate	Zinc Alloy	



- For TOP-OPENING FLAP DOOR with concealed, piano, butt or concealed hinges.
- Used in pairs.
- HDS-20 is designed to hold door in fully opened position.
- Handed: Specific left and right hand mounting.
- Torque Calculation:
- Torque = Door Height x 1/2 x Door Weight
- K-Type (Light Duty) : 140~200kg·cm (121~173 lbs·inch)/pair
- M-Type (Medium Duty) : 200~250 kg·cm (173~216 lbs·inch)/pair
- H-Type (Heavy Duty) : 250~300 kg·cm (216~260 lbs·inch)/pair



Item No.		Type	Color	Torque (kg·cm/pair)	Weight (g)	Box (pcs)	Carton (pcs)
Left	Right						
HDS-20KL/BLK	HDS-20KR/BLK	Light Duty	Black	140~200 (121-173 lbs·in)	280	40	200
HDS-20KL/WHT	HDS-20KR/WHT		White				
HDS-20ML/BLK	HDS-20MR/BLK	Medium Duty	Black	200~250 (173-216 lbs·in)	290	40	200
HDS-20ML/WHT	HDS-20MR/WHT		White				
HDS-20HL/BLK	HDS-20HR/BLK	Heavy Duty	Black	250~300 (216-260 lbs·in)	300	40	200
HDS-20HL/WHT	HDS-20HR/WHT		White				

Material	Finish/Color
Steel	Nickel
Plastic	Black(BLK)/White(WHT)

# SELF OPENING STAY

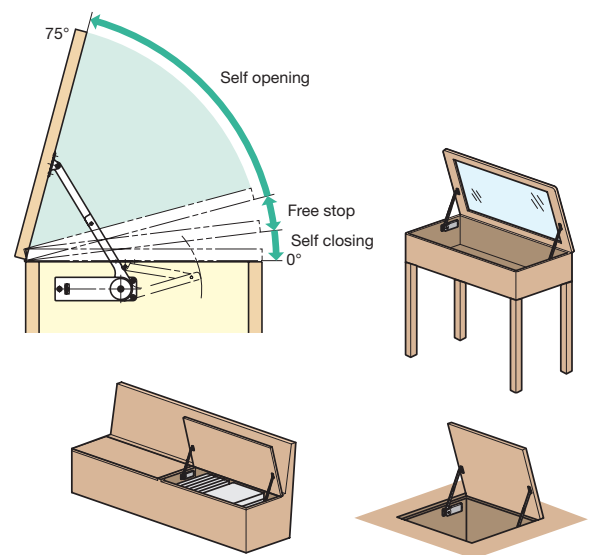


# HDS-20S

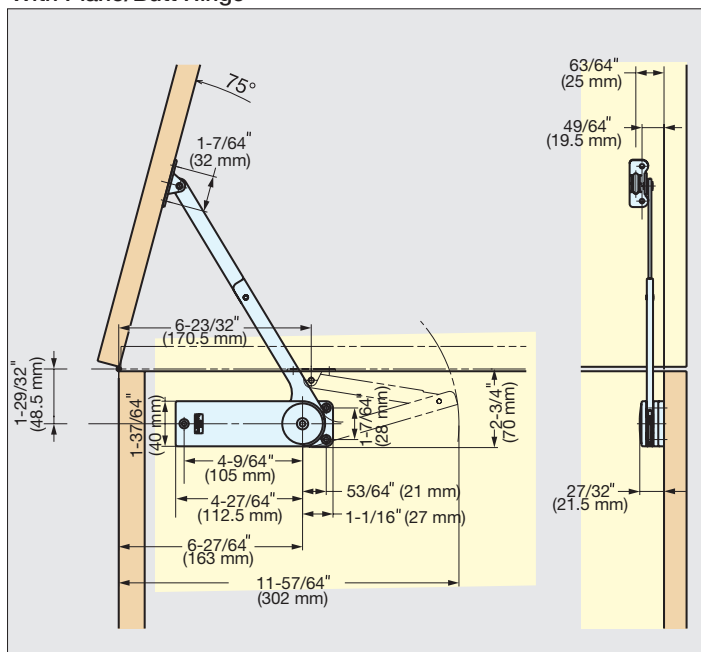
Soft Motion



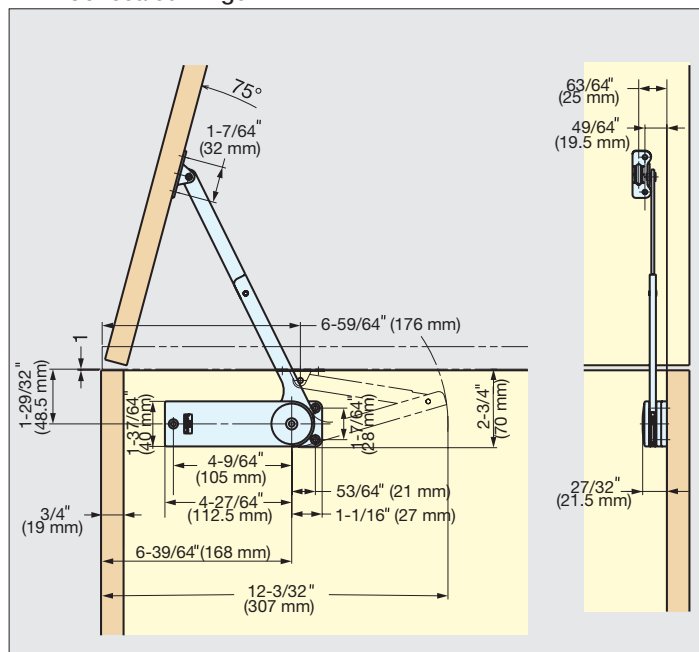
- Lid will self open past the free stop angle.
- For TOP-OPENING FLAP DOOR with piano, butt or concealed hinges.
- HDS-20S is designed to hold door in fully opened position.
- Used in pairs.
- Torque Calculation:  
 Torque = Door Height × 1/2 × Door Weight  
 H-Type : 70~110 kg·cm (61~95 lbs-in)/pair  
 S-Type : 111~150 kg·cm (96~130 lbs-in)/pair



## With Piano/Butt Hinge



## With Concealed Hinge



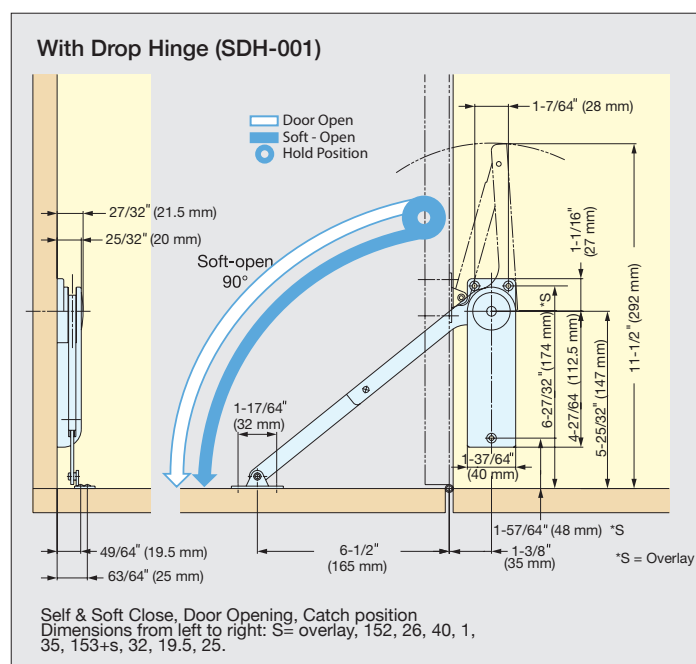
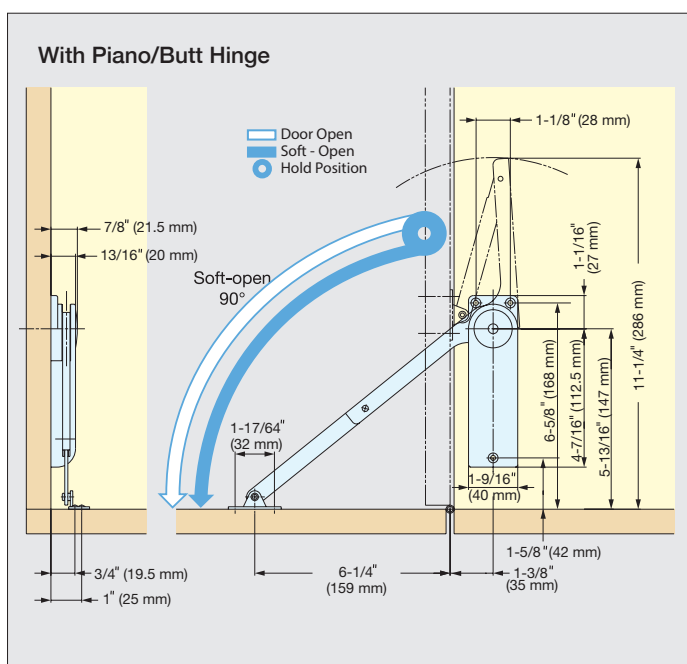
Item No.		Type	Torque (kg·cm/pair)	Weight (g)	Box (pcs)	Carton (pcs)
Left	Right					
HDS-20S/HL-BL	HDS-20S/HR-BL	H	70~110 kg·cm ( 61~87 lbs-in )	300	40	200
HDS-20S/HL-WT	HDS-20S/HR-WT					
HDS-20S/SL-BL	HDS-20S/SR-BL					
HDS-20S/SL-WT	HDS-20S/SR-WT	S	111~150 kg·cm ( 96~130 lbs-in )			

Material	Finish/Color
Steel	Nickel
Plastic	Black/White





- For DOWNWARD-OPENING FLAP DOOR with concealed, piano, butt or drop hinges.
- HDS-10 is designed to hold door in closed and opened positions.
- Used in pairs
- Handed: Specific left and right hand mounting.
- Torque Calculation:
  - Torque = Door Height x 1/2 x Door Weight
  - K-Type (Light Duty) : 140~200 kg-cm (121~173 lbs-inch)/pair
  - M-Type (Medium Duty) : 200~250 kg-cm (173~216 lbs-inch)/pair
  - H-Type (Heavy Duty) : 250~300 kg-cm (216~260 lbs-inch)/pair



Material	Finish/Color
Steel	Nickel
Plastic	Black (BLK)/White (WHT)

Item No.		Type	Color	Torque (kg-cm/pair)	Weight (g)	Box (pcs)	Carton (pcs)
Left	Right						
HDS-10KL/BLK	HDS-10KR/BLK	Light Duty	Black	140~200 (121~173 lbs-in)	290	40	200
HDS-10KL/WHT	HDS-10KR/WHT		White				
HDS-10ML/BLK	HDS-10MR/BLK	Medium Duty	Black	200~250 (173~216 lbs-in)			
HDS-10ML/WHT	HDS-10MR/WHT		White				
HDS-10HL/BLK	HDS-10HR/BLK	Heavy Duty	Black	250~300 (216~260 lbs-in)	310		
HDS-10HL/WHT	HDS-10HR/WHT		White				



# SELF CLOSE STAY



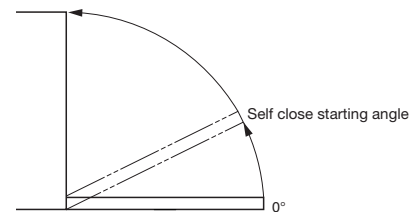
HDS-10S

Soft Motion



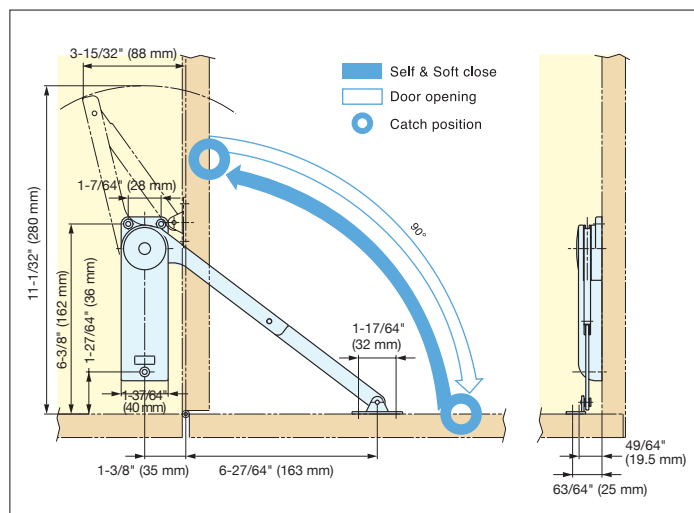
- For DOWNWARD-OPENING FLAP DOOR with piano, butt or drop hinges
- When pushed to close, HDS-10S is designed to self close and soft close
- Used in pairs
- Torque Calculation:  
 Torque = Door Height × 1/2 × Door Weight  
 K-Type: 60~95 kgf.cm (52~82 lbs. Inch)/ pair  
 M-Type: 95~130 kgf.cm (82~112 lbs. Inch)/ pair  
 H-Type: 110~160 kgf.cm (95~138 lbs. Inch)/ pair  
 S-Type: 140~180 kgf.cm (121~ 156 lbs. Inch)/ pair

### Self close starting angle

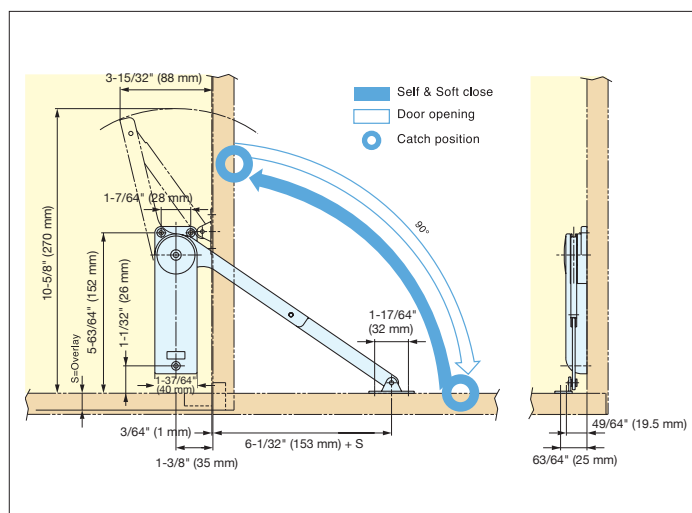


Type	Self close starting angle
K	5°~35°
M	5°~20°
H	5°~15°
S	5°~15°

### With Piano/Butt Hinge



### With Drop Hinge (SDH-001)



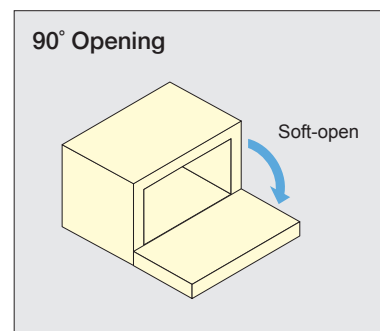
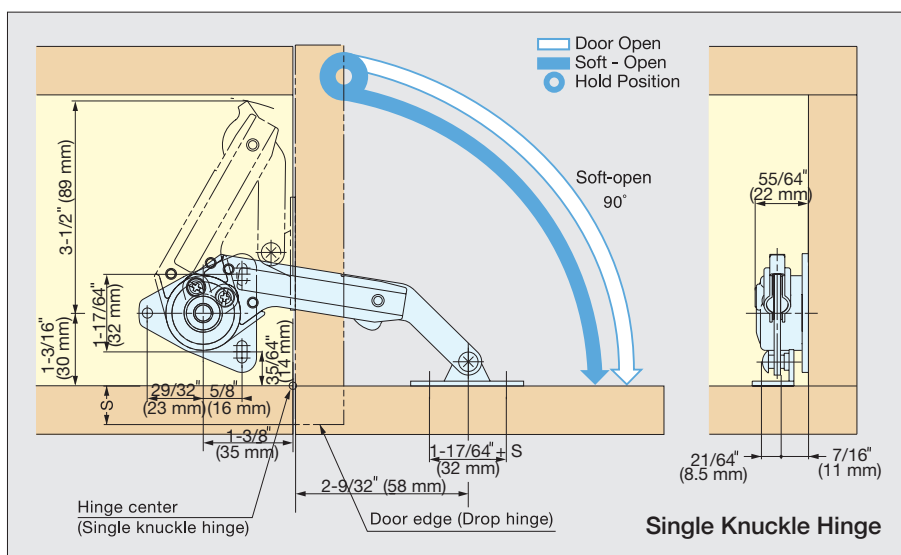
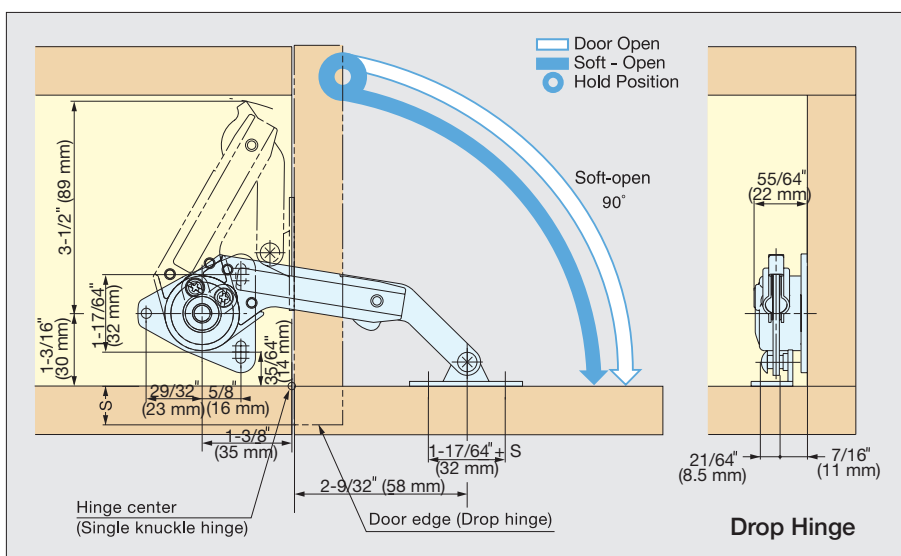
Item No.	
Left	Right
HDS-10S-KL/BL	HDS-10S-KR/BL
HDS-10S-KL/WT	HDS-10S-KR/WT
HDS-10S-ML/BL	HDS-10S-MR/BL

Item No.	Type	Torque per 2 pieces (kgf·cm)
HDS-10S-K-BL	Light	60~95 ( 52.2~ 82.6 lbs-in)
HDS-10S-K-WT		
HDS-10S-M-BL	Medium	95~130 ( 82.6~113.0 lbs-in)
HDS-10S-M-WT		
HDS-10S-H-BL	Heavy	110~160 ( 95.7~139.0 lbs-in)
HDS-10S-H-WT		
HDS-10S-S-BL	Super Heavy	140~180 (121.7~156.5 lbs-in)
HDS-10S-S-WT		

No.	Part Name	Material	Finish
①	Body	ABS plastic	Black/White
②	Arm	Steel	Nickel
③	Mounting Plate		



- For DOWNWARD-OPENING FLAP DOOR with concealed, piano, butt or drop hinges.
- Short arm type designed for shorter door height applications.
- Handed: Specific left and right hand mounting.
- Torque Calculation:
  - Torque = Door Height × 1/2 × Door Weight
  - Per Piece: 10 ~ 20 kgf·cm (8.7 ~ 17.4 lbs·in)
  - Per Pair: 20 ~ 40 kgf·cm (17.4 ~ 34.7 lbs·in)



Item No.	Material	Finish	Weight (g)	Box (pcs)	Carton (pcs)
NSDX-10RK/TV	Zinc Alloy/Steel	Nickel	143	20	80
NSDX-10LK/TV					

# ADJUSTABLE SOFT-DOWN STAY

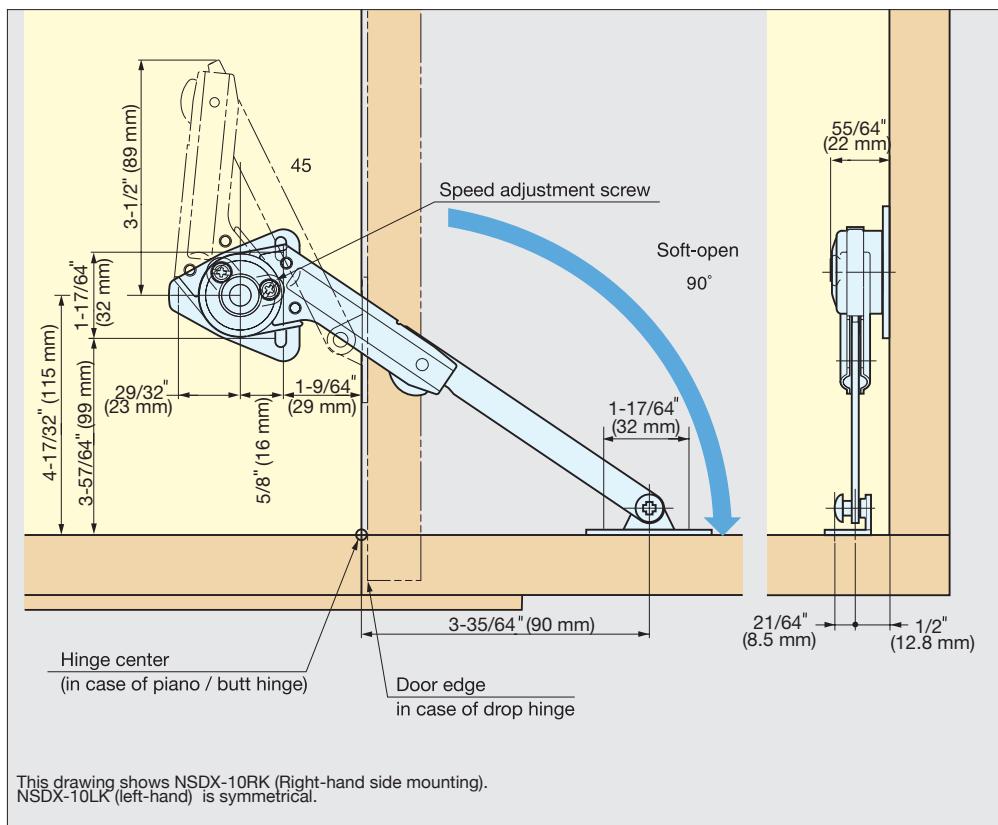


NSDX-10

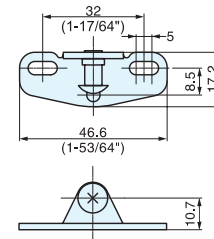
Soft Motion



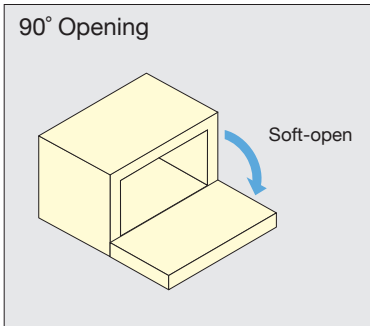
- For DOWNWARD-OPENING FLAP DOOR with concealed, piano, butt or drop hinges.
- NSDX-10 is designed to hold door in closed position.
- Speed adjustment screw located on front for easy adjustment.
- Handed: Specific left and right hand mounting.
- Torque Calculation:
  - Torque = Door Height x 1/2 x Door Weight
  - Per Piece : 20~70 kg·cm (19~60 lbs·inch)
  - Per Pair : 40~140 kg·cm (38~120 lbs·inch)
- Short-arm version (NSDX-10(R/L)K/TV) for shorter door height available.



NSDX-SZ  
<Standard>  
Mounting Plate for wooden door, Screw type



Arm Mounting Plate



Item No.		Weight (g)	Box (pcs)	Carton (pcs)
NSDX-10RK	Right	181	20	80
NSDX-10LK	Left			

Material	Finish
Zinc Alloy	Nickel
Steel	



White

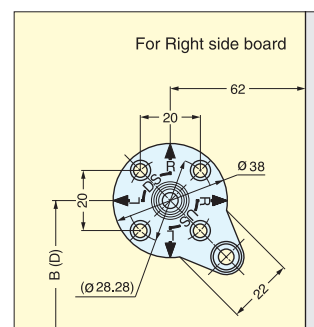
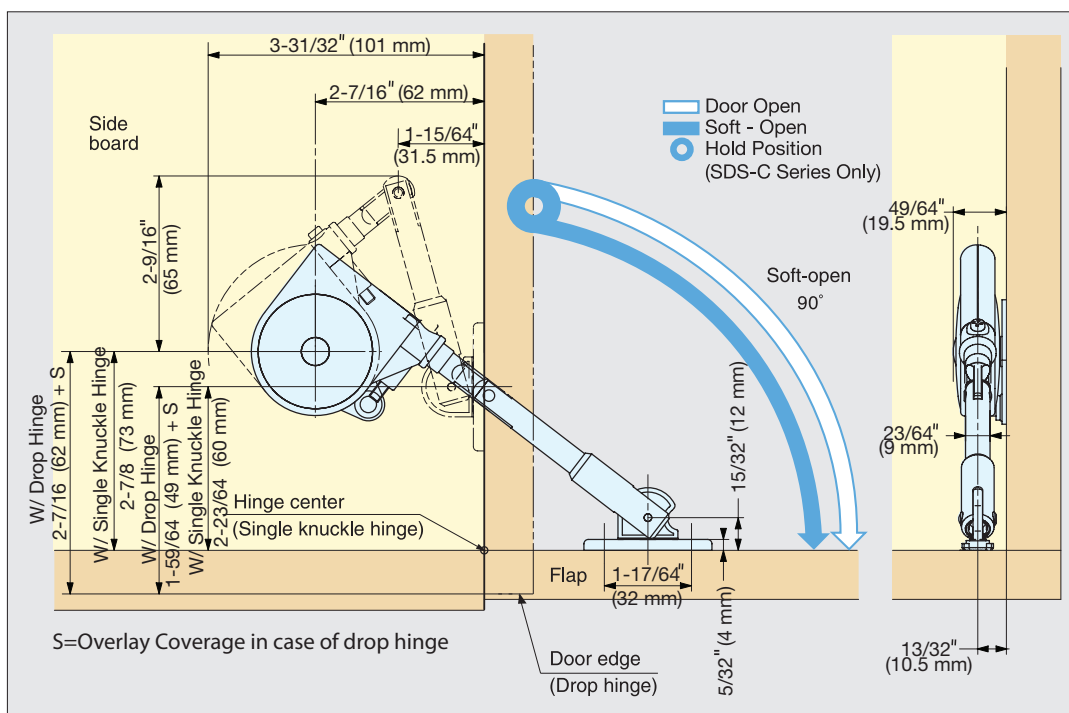


Black

- For DOWNWARD-OPENING FLAP DOOR with concealed, piano, butt or drop hinges.
- Short arm type designed for shorter door height applications.
- SDS-C100TV has a catch to hold the lid in closed position.
- SDS-100TV does not have catch feature. Designed to be used with magnetic catch or touch latch.
- Non-handed: Can be installed on left or right side.
- Torque Calculation:  
- Torque = Door Height x 1/2 x Door Weight



Mounting Plate SDS-A



Material	Finish/Color
Steel, Zinc Alloy	Nickel
Plastic	Black (BLK)/ White (WHT)

Item No.	Type	Color	Torque per piece	Torque per pair	Box (pcs)	Carton (pcs)
SDS-100W-TV	W/O Catch	White	5.0~12.0 kgf·cm (4.3 ~ 10.4 lbs·in)	10.0~24.0 kgf·cm (8.6 ~ 20.8 lbs·in)	20	100
SDS-100B-TV		Black				
SDS-C100W-TV	With Catch	White				
SDS-C100B-TV		Black				
SDS-100W-TVZ	W/O Catch	White	16.5~37.6 kgf·cm (14.3 ~ 32.6 lbs·in)	33.0~75.2 kgf·cm (28.6 ~ 65.2 lbs·in)		
SDS-100B-TVZ		Black				
SDS-C100W-TVZ	With Catch	White				
SDS-C100B-TVZ		Black				



# SOFT-DOWN STAY



# SDS-C100



- For DOWNWARD-OPENING FLAP DOOR with concealed, piano, butt or drop hinges.
- SDS-C100 (with catch) is designed to hold door in closed position.
- Non-handed: Can be installed on left or right side.
- Torque Calculation:
  - Torque = Door Height x 1/2 x Door Weight
  - Per Piece : 35~50 kg·cm (30~43 lbs·inch)
- Recommended Door Thickness : 20 mm (25/32")
- Short-arm version SDS-100TV (or C100TV) for smaller door height available. (Please see page 253 for details.)



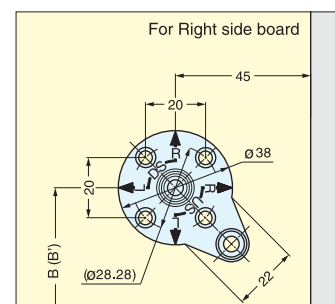
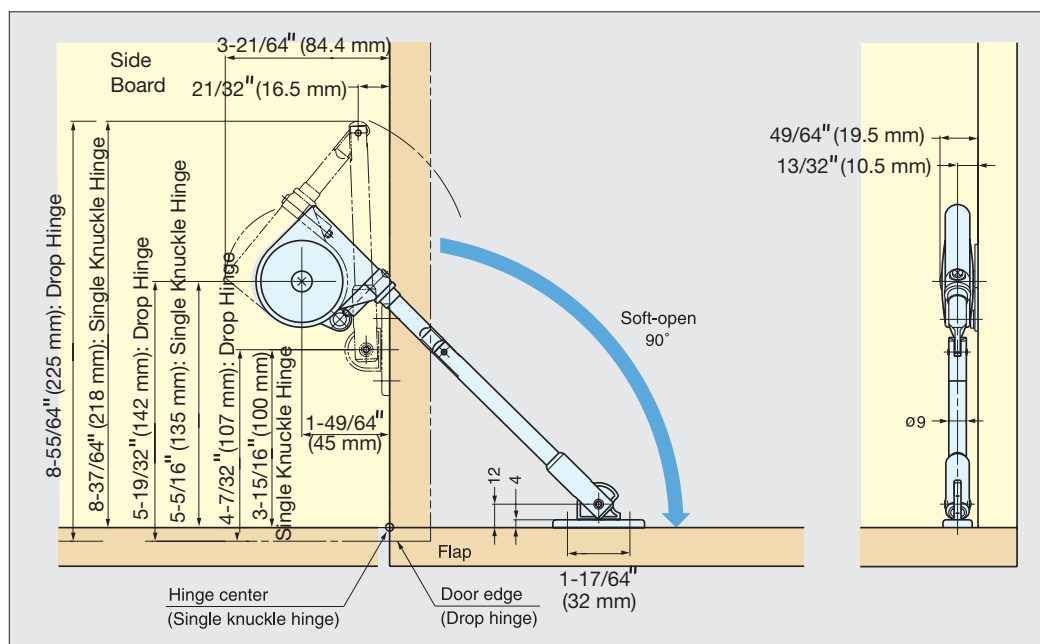
White



Black



Mounting Plate SDS-A



Item No.	Color	Weight (g)	Box (pcs)	Carton (pcs)
SDS-C100/WHT	White	167	20	100
SDS-C100/BLK	Black			

Material	Finish/Color
Steel, Zinc Alloy	Nickel
Plastic	Black (BLK)/White (WHT)





- For UPWARD-OPENING FLAP DOOR with concealed hinges.
- Used in pairs.
- HDSN-30 is designed to hold door in closed and opened position.
- Handed: Specific left and right hand mounting.
- Torque Calculation:
  - Torque = Door Height x 1/2 x Door Weight
  - In case of opening angle 90°
  - K-Type (Light Duty) : 140~179 kg·cm (122~155 lbs-in)/pair
  - M-Type (Medium Duty) : 180~219 kg·cm (156~190 lbs-in)/pair
  - H-Type (Heavy Duty) : 220~259 kg·cm (191~225 lbs-in)/pair
  - S-Type (Super Heavy Duty) : 260~300 kg·cm (226~260 lbs-in)/pair

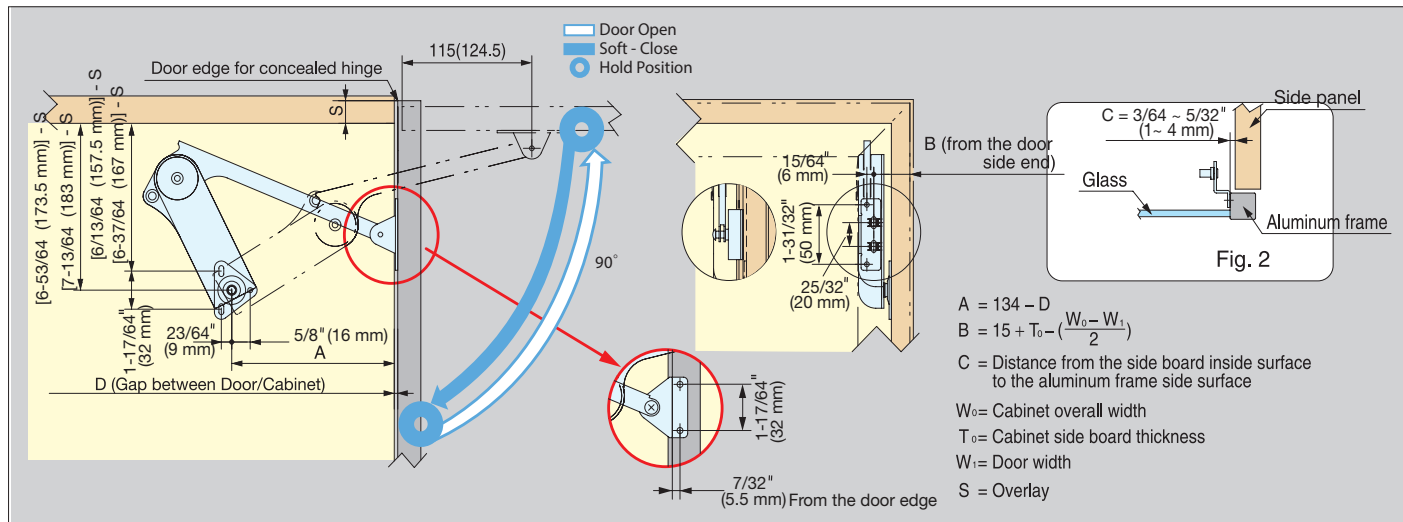


Dimensions are for 90° opening, solid wood or 45mm width aluminum frame door.

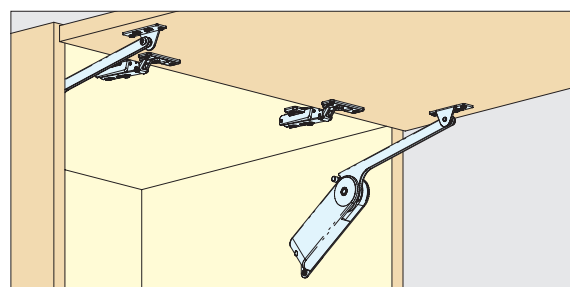
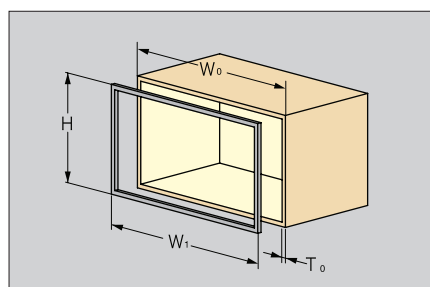
For 80° opening, please use the figures in ( ).

Fig.1 and Fig. 2 show the dimensions for 20 mm width aluminum frame door using mounting plate HDSN-AZ.

Recommended concealed hinge is overlay/105° opening/free swing type.



Material	Finish/Color
Steel	Nickel
Plastic	Light Grey



Item No.	Applicable Door
HDSN-SZ	45mm width aluminum frame door or wood door
HDSN-AZ	20mm width aluminum frame door

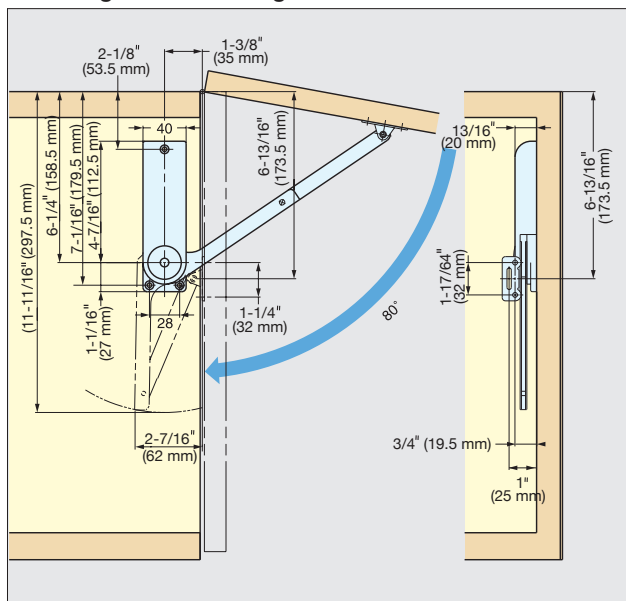
Arm Mounting Plate (Sold separately, please specify when ordering.)

Item No.	Left	Right	Type	Door torque		Box (pcs)	Carton (pcs)
				Opening angle 90°	Opening angle 80°		
HDSN-30KL		HDSN-30KR	K	140~179 kg·cm ( 122~155 lbs·in )	140~199 kg·cm ( 122~173 lbs·in )	40	200
HDSN-30ML		HDSN-30MR	M	180~219 kg·cm ( 156~190 lbs·in )	200~249 kg·cm ( 174~216 lbs·in )		
HDSN-30HL		HDSN-30HR	H	220~259 kg·cm ( 191~225 lbs·in )	250~299 kg·cm ( 217~260 lbs·in )		
HDSN-30SL		HDSN-30SR	S	260~300 kg·cm ( 226~260 lbs·in )	300~350 kg·cm ( 261~303 lbs·in )		

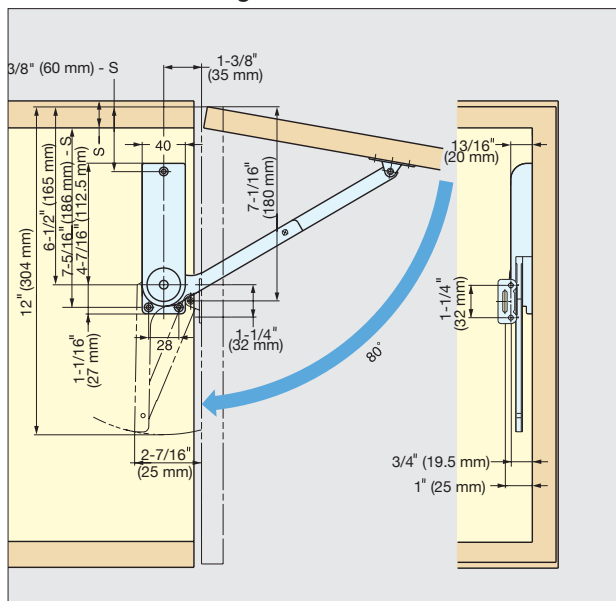


- For UPWARD-OPENING FLAP DOOR used with piano, butt or concealed Hinges.
- Used in pairs.
- HDS-30 is designed to securely latch a flap closed and hold it in the fully opened position.
- Torque Calculation:
  - Torque = Door Height × 1/2 × Door Weight
  - K-Type (Light Duty): 140~200 kg·cm (121~173 lbs-in)/pair
  - M-Type (Medium Duty): 200~250 kg·cm (173~216 lbs-in)/pair
  - H-Type (Heavy Duty): 250~300 kg·cm (216~260 lbs-in)/pair

### With Single Knuckle Hinge



### With Concealed Hinge



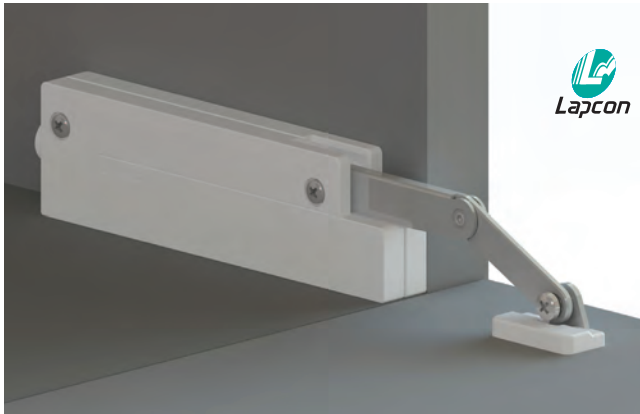
### Overlay Use

Hinge Type	A	B	C	D
Concealed Hinge	180	35	60.0-S	186.0-S
Piano/Butt Hinge	173.5	35	53.5	179.5

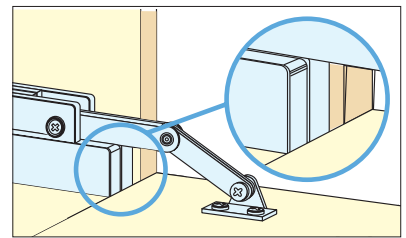
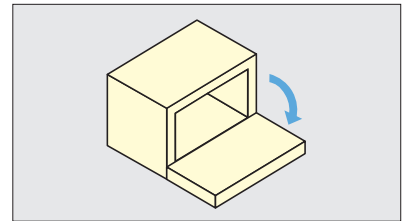
S=Overlay coverage by concealed hinge

Item No.		Type	Torque (kg·cm/pair)	Weight (g)	Box (pcs)	Carton (pcs)
Left	Right					
HDS-30KL	HDS-30KR	Light Duty	140~200	270	40	200
HDS-30ML	HDS-30MR	Medium Duty	200~250	290		
HDS-30HL	HDS-30HR	Heavy Duty	250~300	300		

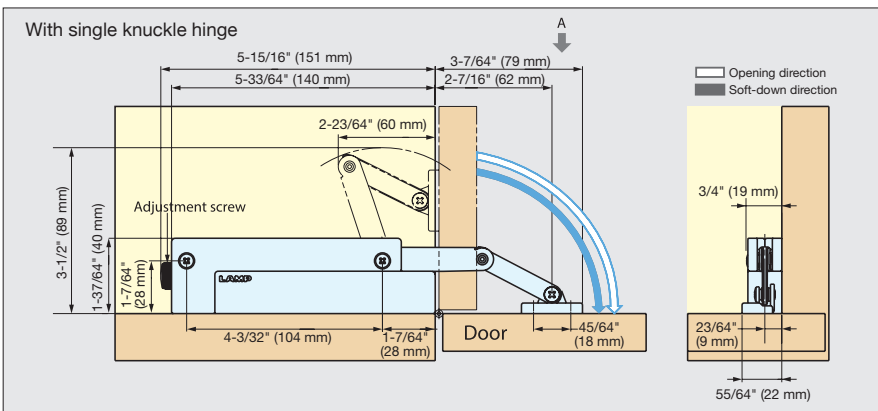
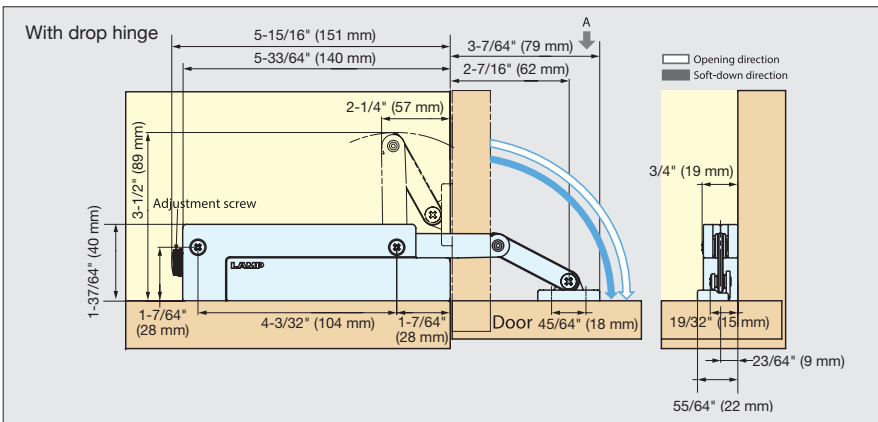
Material	Finish/Color
Steel	Nickel
Plastic	Black, White



- Soft-down stay for (DOWNWARD-OPENING FLAP DOORS) with piano, butt, or drop hinge (SDH-001).
- Easy to install by aligning the body to the edge of a cabinet.
- Designed for smaller cabinet doors in media centers or TV consoles.
- Opening speed adjustable. The adjustment screw located on back for clean appearance.
- Easy to close.
- Holds lid in closed position.
- Torque Calculation:  
 Torque = Door Height × 1/2 × Door Weight  
 - L-Type (Light Duty): 10.2~20.4 kg·cm (8.8~17.7 lbs-in)  
 - M-Type (Medium Duty): 20.4~30.6 kg·cm (17.7~26.6 lbs-in)  
 - H-Type (Heavy Duty): 30.6~40.8 kg·cm (26.6~35.4 lbs-in)

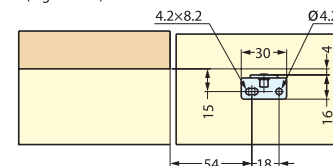


### Installation

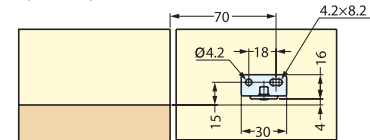


### Installation of Mounting Plate

A-view (Right hand)



A-view (Left hand)

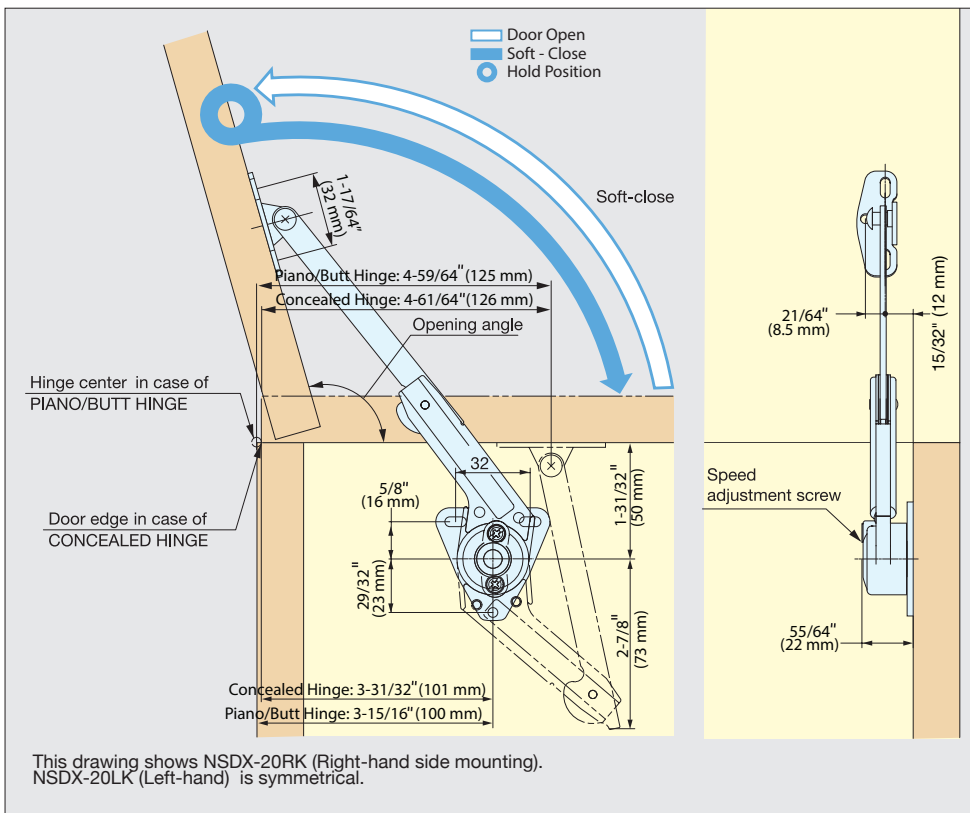


Material	Finish/Color
Steel	Nickel
Plastic	White/Black

Item No.	Type	Torque (kg·cm)	Weight (g)	Box (pcs)	Carton (pcs)
CSD-10-TV-L-WT	Light Duty	10.2~20.4 (8.8~17.7 lbs-in)	125	10	100
CSD-10-TV-L-BL					
CSD-10-TV-M-WT	Medium Duty	20.4~30.6 (17.7~26.6 lbs-in)	130		
CSD-10-TV-M-BL					
CSD-10-TV-H-WT	Heavy Duty	30.6~40.8 (26.6~35.4 lbs-in)	130		
CSD-10-TV-H-BL					



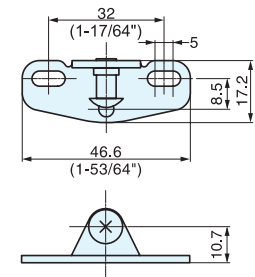
- For TOP-OPENING FLAP DOOR with piano, concealed, butt or drop hinges.
- Opening angle 70° or 105°.
- NSDX-20 is designed to hold door in fully opened position.
- Speed adjustment screw located on front for easy adjustment.
- Handed: Specific left and right hand mounting.
- Torque Calculation:
  - Torque = Door Height x 1/2 x Door Weight
  - Per Piece : 20~70 kg·cm (19~60 lbs·inch)
  - Per Pair : 40~140 kg·cm (38~120 lbs·inch)



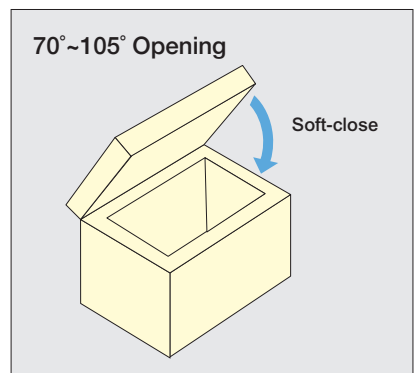
NSDX-SZ

<Standard>

Mounting Plate for wooden door, Screw type



Arm Mounting Plate



Material	Finish
Zinc Alloy	Nickel
Steel	

Item No.		Opening Angle	Hinge Type	Weight (g)	Box (pcs)	Carton (pcs)
NSDX-20RK	Right	70°	Concealed Hinge	181	20	80
			Piano/Butt Hinge			
NSDX-20LK	Left	105°	Concealed Hinge	181	20	80
			Piano/Butt Hinge			

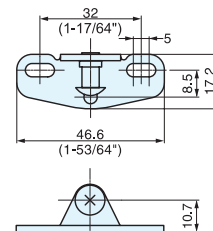


- For UPWARD-OPENING FLAP DOOR with piano, concealed butt or drop hinges.
- Opening angle 80°, 90° or 100°.
- NSDX-35 is designed to hold door in fully opened position.
- Speed adjustment screw located on front for easy adjustment.
- Handed: Specific left and right hand mounting.
- Torque Calculation:
  - Torque = Door Height x 1/2 x Door Weight
  - Per Piece : 20~70 kg·cm (19~60 lbs·inch)
  - Per Pair : 40~140 kg·cm (38~120 lbs·inch)

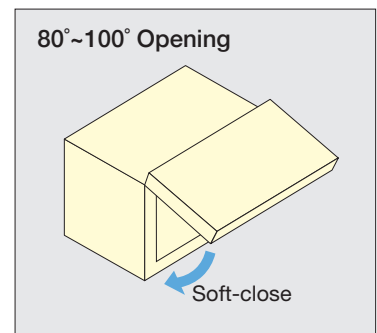
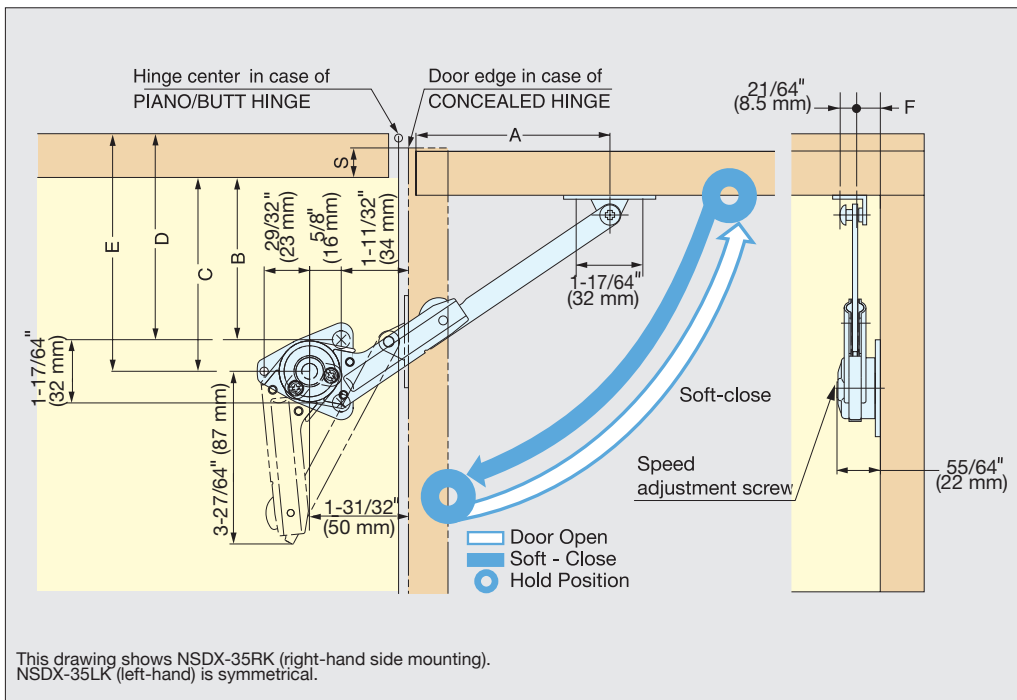


**NSDX-SZ**  
<Standard>

Mounting Plate for wooden door, Screw type



Arm Mounting Plate



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

Opening Angle	Hinge Type	A	B	C	D	E	F
80°	Concealed Hinge	4-11/64" (106 mm)	4-9/64" (105 mm)-S	4-49/64" (121 mm)-S	-	-	12
	Piano/Butt Hinge	3-15/16" (100 mm)	-	-	3-57/64" (99 mm)	4-17/32" (115 mm)	
90°	Concealed Hinge	3-35/64" (98 mm)	3-13/16" (97 mm)-S	4-29/64" (113 mm)-S	-	-	
	Piano/Butt Hinge	3-39/64" (91.5 mm)	-	-	3-9/16" (90.5 mm)	4-3/16" (106.5 mm)	
100°	Concealed Hinge	3-41/64" (92.5 mm)	3-39/64" (91.5 mm)-S	4-15/64" (107.5 mm)-S	-	-	
	Piano/Butt Hinge	3-11/32" (85 mm)	-	-	3-5/16" (84 mm)	3-15/16" (100 mm)	

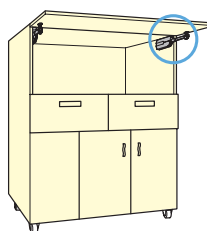
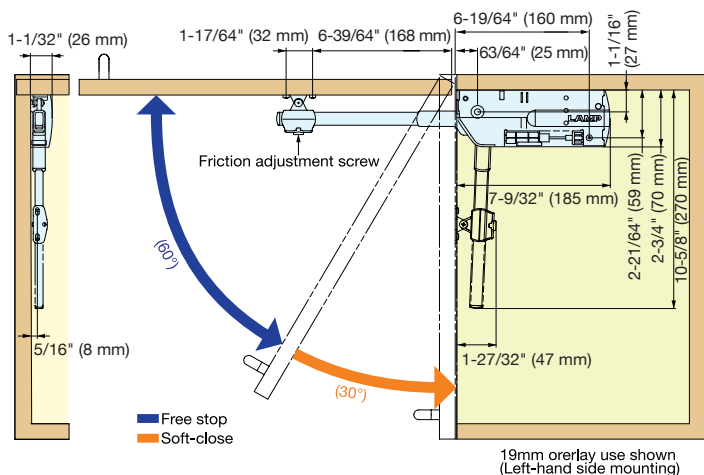
Item No.		Weight (g)	Box (pcs)	Carton (pcs)
NSDX-35RK	Right	181	20	80
NSDX-35LK	Left			

Material	Finish
Zinc Alloy	Nickel
Steel	





- For UPWARD-OPENING FLAP DOOR with concealed, piano, butt, or drop hinges.
- Designed to provide effortless opening and hold door in closed and opened position.
- Damper equipped for soft & silent closing.
- Optional bracket for aluminum frame door available.
- Single or pair use allows wide range of door size/weights.
- Handed: Specific left and right hand mounting.

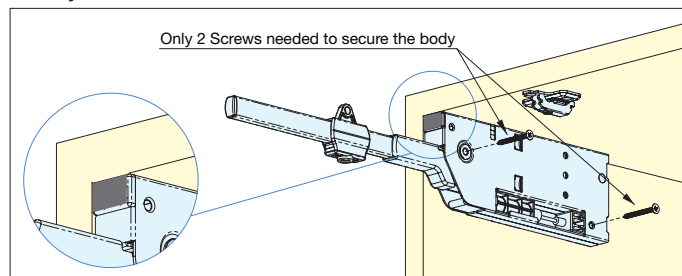


Door Weight Range Table (lbs.)

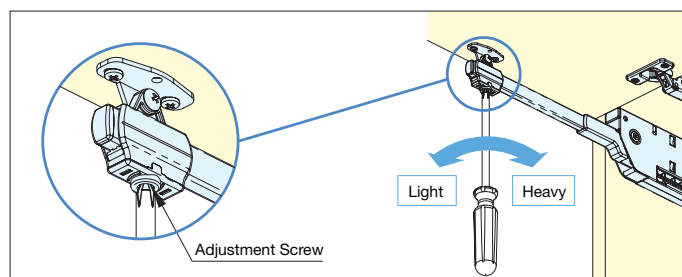
Door Height (inch)	Single use				Pair use			
	M-type		H-type		M-type		H-type	
	Min	Max	Min	Max	Min	Max	Min	Max
12"	8.0	10.8	10.8	14.5	16.0	21.7	21.7	29.0
13"	7.4	10.0	10.0	13.4	14.8	20.0	20.0	26.8
14"	6.9	9.3	9.3	12.4	13.7	18.6	18.6	24.9
15"	6.4	8.7	8.7	11.6	12.8	17.3	17.3	23.2
16"	6.0	8.1	8.1	10.9	12.0	16.3	16.3	21.8
17"	5.6	7.6	7.6	10.2	11.3	15.3	15.3	20.5
18"	5.3	7.2	7.2	9.7	10.7	14.4	14.4	19.3
19"	5.1	6.8	6.8	9.2	10.1	13.7	13.7	18.3
20"	4.8	6.5	6.5	8.7	9.6	13.0	13.0	17.4
21"	4.6	6.2	6.2	8.3	9.1	12.4	12.4	16.6
22"	4.4	5.9	5.9	7.9	8.7	11.8	11.8	15.8
23"	4.2	5.7	5.7	7.6	8.3	11.3	11.3	15.1
24"	4.0	5.4	5.4	7.3	8.0	10.8	10.8	14.5
25"	3.8	5.2	5.2	7.0	7.7	10.4	10.4	13.9
26"	3.7	5.0	5.0	6.7	7.4	10.0	10.0	13.4
27"	3.6	4.8	4.8	6.4	7.1	9.6	9.6	12.9
28"	3.4	4.6	4.6	6.2	6.9	9.3	9.3	12.4

\*Single or pair use depending on door size and weight.

### Easy Installation



### Adjustment

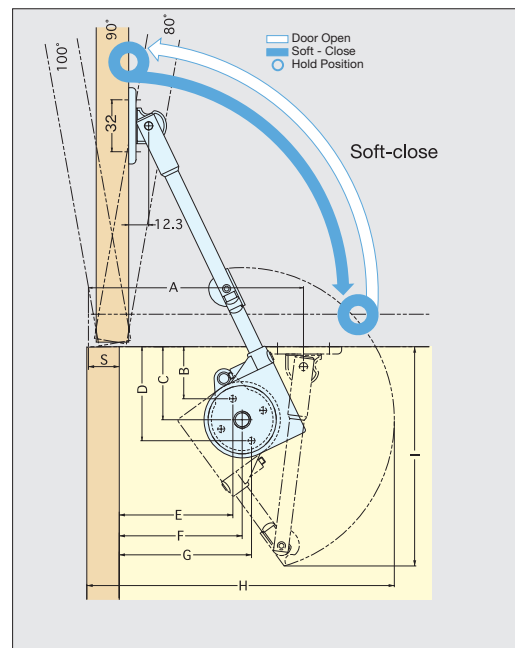


Item No.	Type	Torque per piece	Material	Finish/Color	Weight (g)	Box (pcs)	Carton (pcs)	
SLS-ELAN-MR	Right	55 ~ 75 kg·cm (48 ~ 65 lbs·in)	• Aluminum • Steel • ABS	• Anodized • Galvanized • Light Grey	600	20	100	
SLS-ELAN-ML	Left							M-type (Medium Duty)
SLS-ELAN-HR	Right	75 ~ 100 kg·cm (65~87 lbs·in)						H-type (Heavy Duty)
SLS-ELAN-HL	Left							

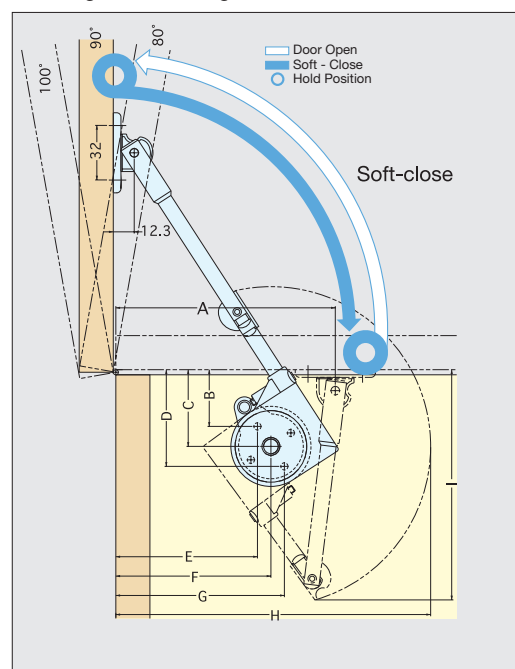


- For TOP-OPENING FLAP DOOR with concealed, piano, butt or drop hinges.
- Designed to hold door in fully opened position.
- Non-handed: Can be installed on left or right side.

With Concealed Hinge



With Single Knuckle Hinge



Concealed Hinge

S=Overlay Coverage

Opening angle	A	B	C	D	E	F	G	H	I
80°	141.0	31.9	45	58.1	98.2-S	103.5-S	108.8-S	197.5	134.8
90°	132.5	32.3		57.7	88.7-S	95.0-S	101.3-S	189.0	
100°	126.5	32.9		57.1	81.2-S	88.5-S	95.8-S	182.5	

Single Knuckle Hinge/Overlay Type

Opening angle	A	B	C	D	E	F	G	H	I
80°	138.5	32.6	45	57.4	94.1	101	107.9	195	134.8
90°	128.5	33.2		56.8	83.1	91	98.9	185	
100°	121.5	33.9		56.1	75.2	84	92.8	178	

Single Knuckle Hinge/Inset Type

Opening angle	A	B	C	D	E	F	G	H	I
80°	129.0	31.7	45	58.3	86.7	91.5	96.3	185.5	134.8
90°	118.5	32.0		58.0	75.3	81.0	86.7	175.0	
100°	111.0	32.5		57.5	67.0	73.5	80.0	167.5	

Material	Finish/Color
Steel, Zinc Alloy	Nickel
Plastic	Black (BLK)/White (WHT)

# SOFT-DOWN STAY



SDS-C301N

Soft Motion



White

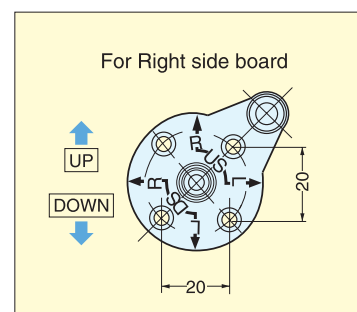


Black

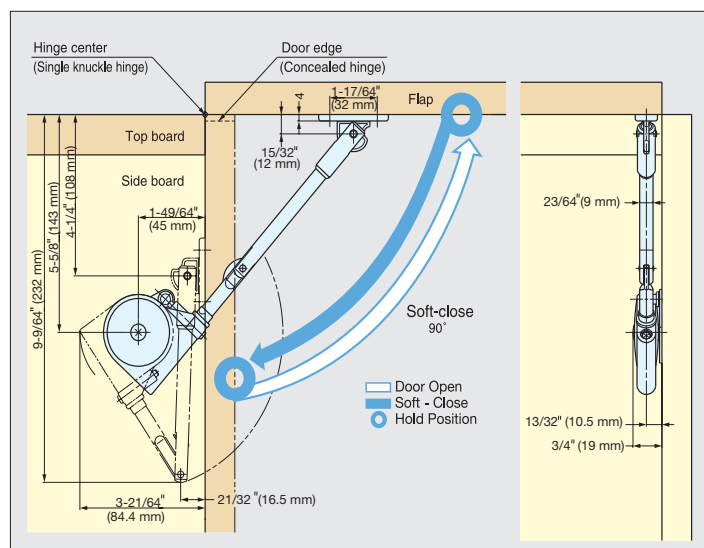
- For UPWARD-OPENING FLAP DOOR with concealed, piano, butt or drop hinges.
- SDS-C301N is designed to hold door in closed and opened position.
- Non-handed: Can be installed on left or right side.
- Torque Calculation:
  - Torque = Door Height x 1/2 x Door Weight
  - Per Piece : 40~70 kg-cm (35~60 lbs-inch)
  - Per Pair : 80~140 kg-cm (70~120 lbs-inch)
- Recommended Door Thickness : 20 mm (25/32")



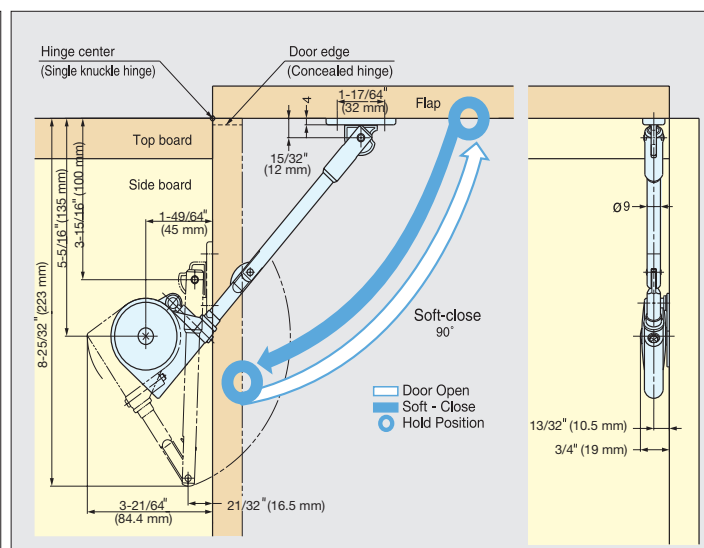
Mounting Plate SDS-A



## Concealed Hinge



## Single Knuckle Hinge



Item No.	Color	Weight (g)	Box (pcs)	Carton (pcs)
SDS-C301N/WHT	White	165	20	100
SDS-C301N/BLK	Black			

Material	Finish/Color
Steel, Zinc Alloy	Nickel
Plastic	Black (BLK)/White (WHT)

# FOLDING BRACKET

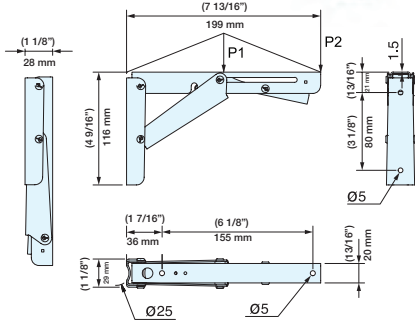
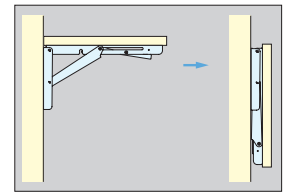
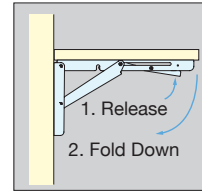


# EB SERIES

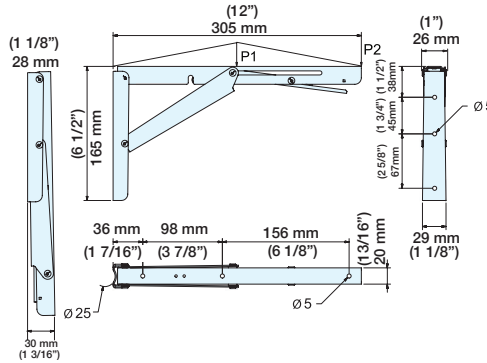
Soft Motion



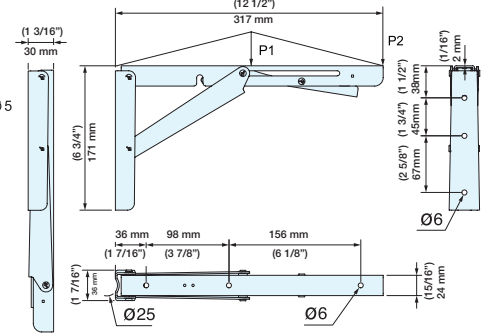
- Automatically locks when flap is in opened position.
- Press lever to release the lock.
- Bracket can be used without the need for hinges.
- Available in 3 different sizes.
- Only EB-303 is NSF.



EB-200/EP



EB-303/EP



EB-317/EP

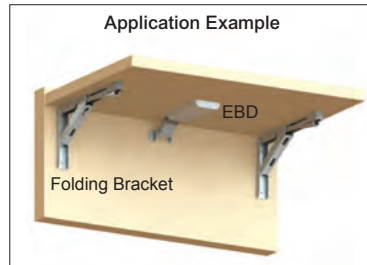
Item No.	Load Capacity P1	Load Capacity P2	Weight (g)	Carton (pcs)
EB-200/EP	385 lbs (175 kg)	198 lbs (90 kg)	330	50
EB-303/EP	330 lbs (150 kg)	165 lbs (75 kg)	515	25
EB-317/EP	440 lbs (200 kg)	220 lbs (100 kg)	750	50

Part Name	Material
Main Body	304 Stainless Steel
Plate Spring	301 Stainless Steel
Rivet	302 Stainless Steel

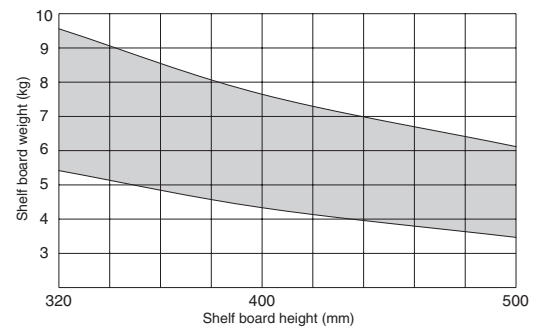
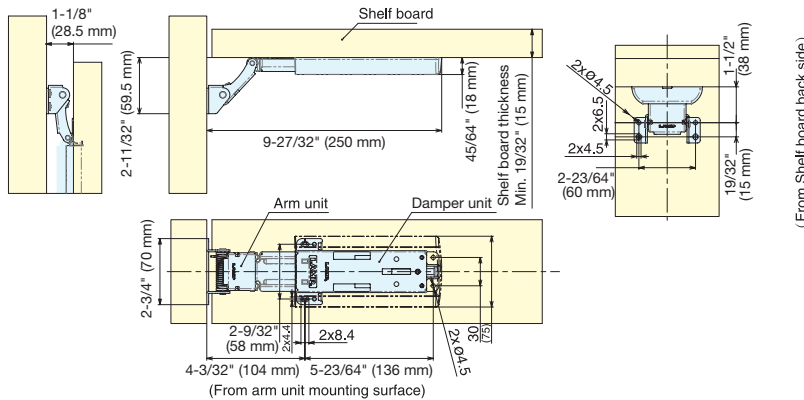
# DAMPER FOR EB FOLDING BRACKET



# EBD



- Designed to be used with folding brackets. (EB Series-sold separately)
- Lapcon technology provides soft-close downward movement.
- Easy surface-mount installation.
- Ideal for counter flaps at bars, restaurants and receptions.



Item No.	Torque (kg·cm)	Min. Panel Thickness	Weight (g)	Box (pcs)	Carton (pcs)
EBD	86.7~153.0 (75.3~132.8 lbs·in)	15 mm	400	1	20

Material	Finish/Color
ABS/POM/Steel	Gray/Zinc/Chrome



# FOLDING BRACKET WITH SOFT-CLOSE

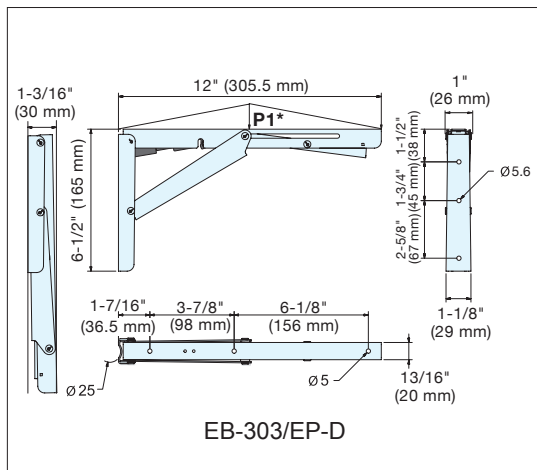
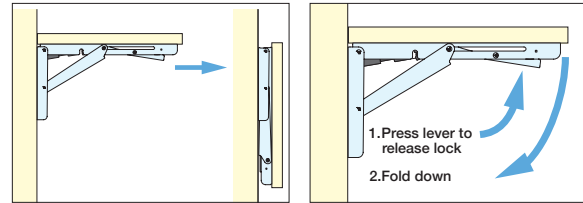


EB/EP-D

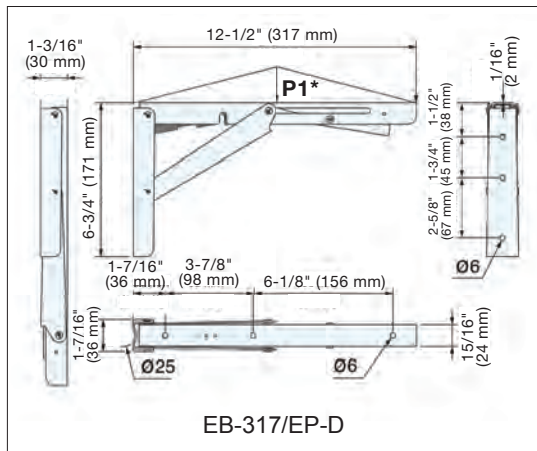
Soft Motion



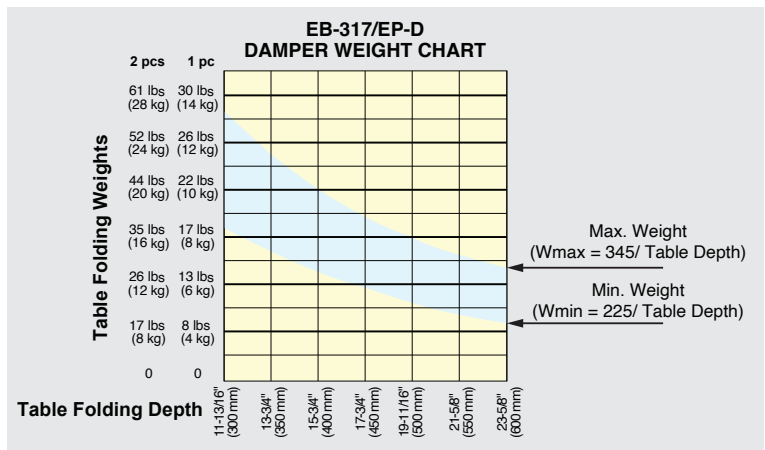
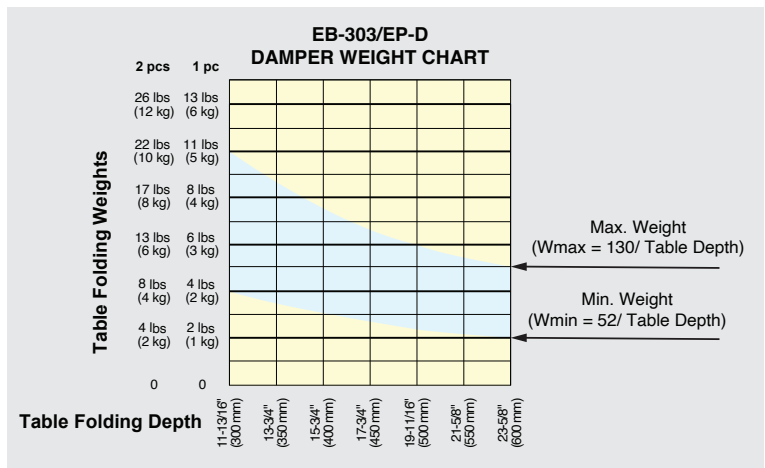
- Automatically locks when flap is in open position.
- Press lever to release the lock.
- Additional hinges not required.
- Damper unit with a soft-closing feature which makes bracket smoother and safer.
- Refer to DAMPER WEIGHT CHART below for appropriate table weight and depth when softly folding down the table.
- For panel thickness 9/16" ~ 1-3/8" (15 ~ 35 mm).
- Durability tested 50,000 cycles (private).



EB-303/EP-D



EB-317/EP-D



To find your Min./Max. table weight per single damper, please reference the formula shown next to the charts above and 18" depth examples below.

**EB-303/EP-D**  
Maximum weight 7.2 lbs = 130/18 in.  
Minimum weight 2.8 lbs = 52/18 in.

**EB-317/EP-D**  
Maximum weight 19.1 lbs = 345/18 in.  
Minimum weight 12.5 lbs = 225/18 in.

Item No.	Finish	Max Bracket Capacity (P1 Open Position)*	Max Capacity for Damper (Table Folding)	Weight (g)	Box (pcs)
EB-303/EP-D	Stainless	660 lbs/pair (300 kg)	22 lbs/pair (10 kg) at table depth 11-13/16"	515	20
EB-303/EP-BL-D	Black				
EB-317/EP-D	Stainless	880 lbs/pair (400 kg)	57 lbs/pair (26 kg) at table depth 11-13/16"	750	20
EB-317/EP-BL-D	Black				

Part Name	Material
Main Body	304 Stainless Steel
Plate Spring	
Rivet	



# FULL EXTENSION SOFT CLOSE SLIDE

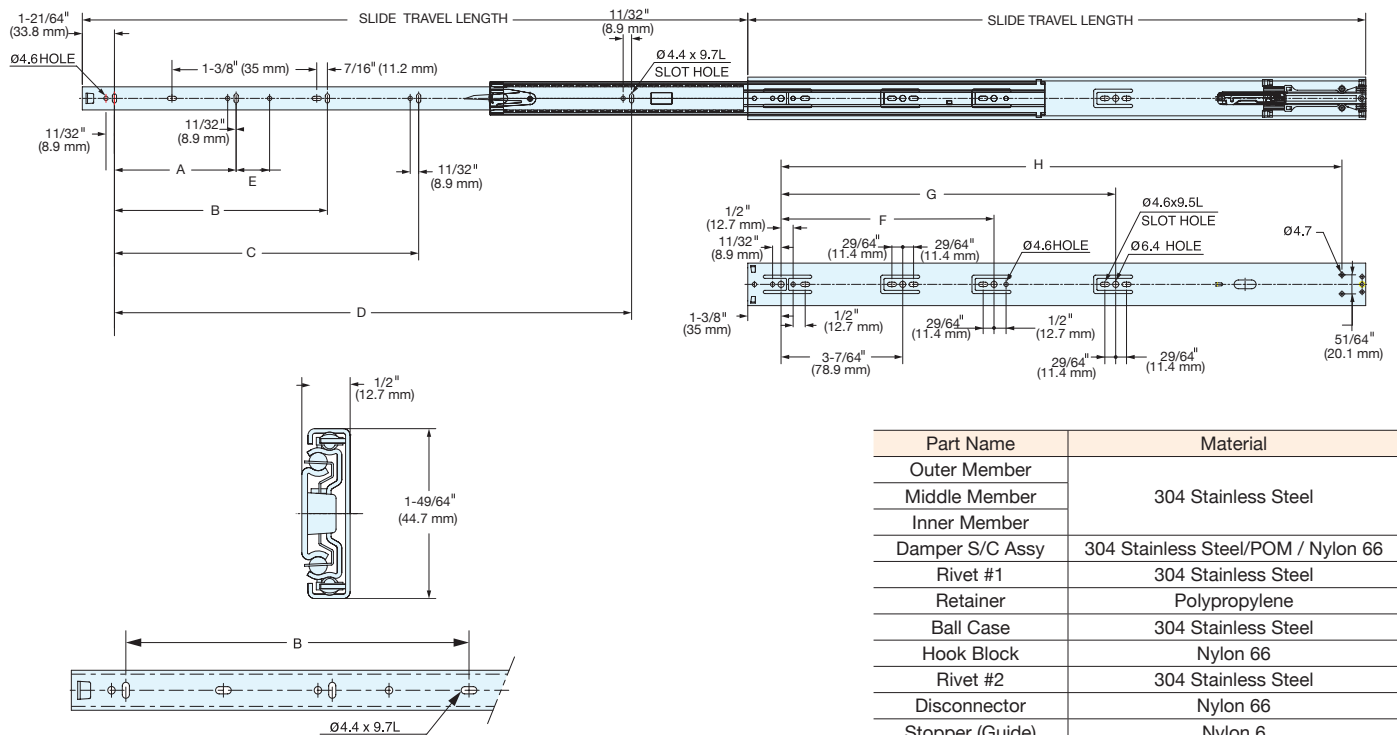
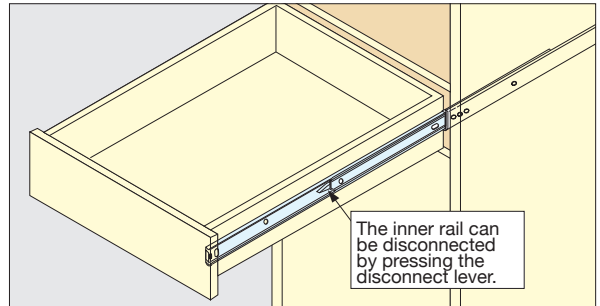


# ESR-SC4513

Soft Motion



- Full extension.
- Front disconnect.
- Positive stop.
- Hold-in detent 700 g-f (1.5 lb) max.
- Handed: specific left and right hand mounting.
- Sold in pairs.
- Inner member clearance provided for screws 8 mm x 2 mm HT.
- Outer member clearance provided for screws 8 mm x 2 mm HT.
- Mount with M4 or #8 Binding, Pan, or Truss head screws.



\* Only on ESR-SC4513-18

Part Name	Material
Outer Member	304 Stainless Steel
Middle Member	
Inner Member	
Damper S/C Assy	304 Stainless Steel/POM / Nylon 66
Rivet #1	304 Stainless Steel
Retainer	Polypropylene
Ball Case	304 Stainless Steel
Hook Block	Nylon 66
Rivet #2	304 Stainless Steel
Disconnecter	Nylon 66
Stopper (Guide)	Nylon 6
Balls	304 Stainless Steel
Grease	H1 Grade

Item No.	Slide Length	Travel Length	A	B	C	D	E	F	G	H	Load Rating (kg/pair)	Weight (g)	Box (Pair)
ESR-SC4513-16	15-3/4" (400 mm)	15-3/4" (400 mm)	5-3/64" (128 mm)	-	-	-	1-25/64" (35.2)	8-13/16" (224)	13-55/64" (352)	13-25/64" (340)	37 (82 lbs)	996	10
ESR-SC4513-18	17-23/32" (450 mm)	17-23/32" (450 mm)		8-3/8" (212.8 mm)	-	-				15-23/64" (390)	36 (79 lbs)	1153	
ESR-SC4513-20	19-11/16" (500 mm)	19-11/16" (500 mm)		-	-	13-11/32" (339 mm)				17-21/64" (440)	35 (77 lbs)	1303	
ESR-SC4513-22	21-21/32" (550 mm)	21-21/32" (550 mm)		-	-	15-1/8" (384 mm)				19-19/64" (490)	34 (75 lbs)	1472	
ESR-SC4513-24	23-5/8" (600 mm)	23-5/8" (600 mm)		8-13/16" (224 mm)	11-11/32" (288 mm)	16-3/8" (416 mm)				21-17/64" (540)	33 (73 lbs)	1623	
ESR-SC4513-26	25-19/32" (650 mm)	25-19/32" (650 mm)		12-19/32" (320 mm)	19-17/32" (496 mm)	23-15/64" (590)				32 (70 lbs)	1779		
ESR-SC4513-28	27-9/16" (700 mm)	27-9/16" (700 mm)		21-27/64" (544 mm)	25-13/64" (640)	31 (68 lbs)				1940			

# RECESSED HOOK (W/SOFT CLOSE)



**LOAD CAPACITY**  
9.1 kg  
20 lbs

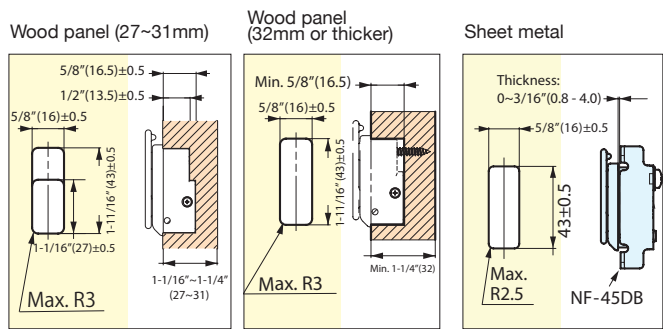
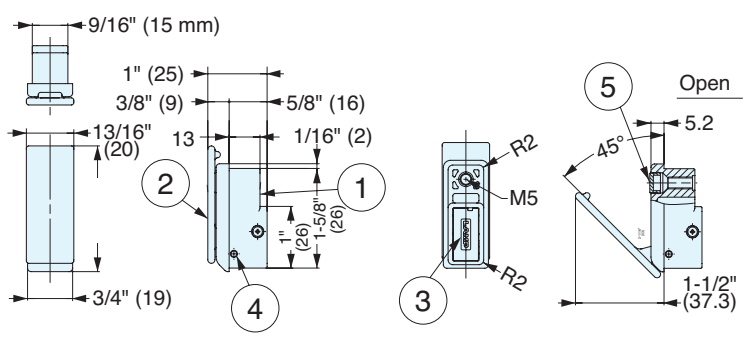
NF-45D

Soft Motion



NF-45D-GR    NF-45D-BL    NF-45D-SSL    NF-45D-WT

- A modern, clean hook solution with Motion Design Technology.
- Hook is spring loaded to retract and soft close.
- Ideal for vibration or shock applications.
- Panel Thickness:
  - Wood: Min. 27~31 mm (1-1/16~1-1/4")
  - Sheet metal: 0.8~4.0 mm
- Hook bracket (NF-45DB) for sheet metal sold separately.



Cut Out Dimensions

No.	Part Name	Material	Finish
①	Body	Aluminum Alloy	Grey/Black/Silver White
②	Arm		
③	Cover	Polyacetal	
④	Pin	304 Stainless Steel	Plain
⑤	Spring		
⑥	Bumper	Rubber	Black/White

Item No.	Color	Load Capacity of Arm (kgf)	Load Capacity of Base (kgf)	Weight (g)	Box (pcs)	Carton (pcs)
NF-45D-GR	Grey	9.5 (21 lbs-f)	51 (112 lbs-f)	32	10	200
NF-45D-BL	Black					
NF-45D-SSL	Silver					
NF-45D-WT	White					

# RECESSED HOOK BRACKET

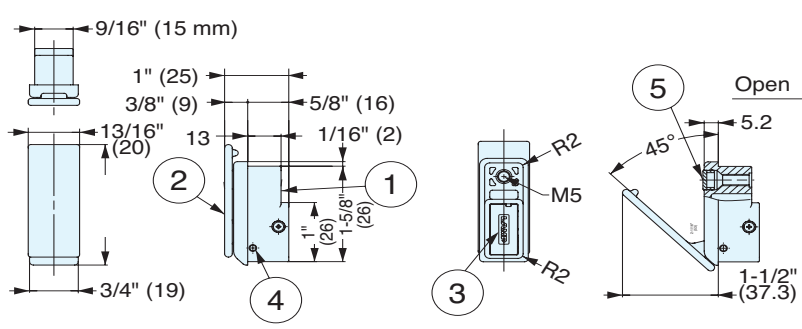


NF-45DB



NF-45DB

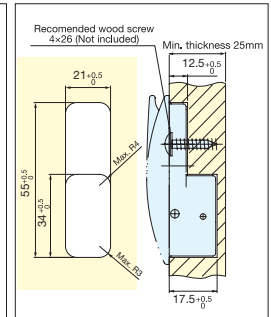
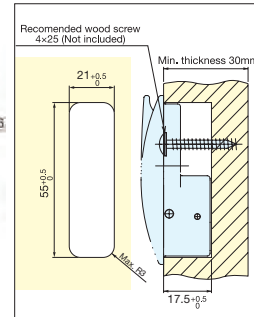
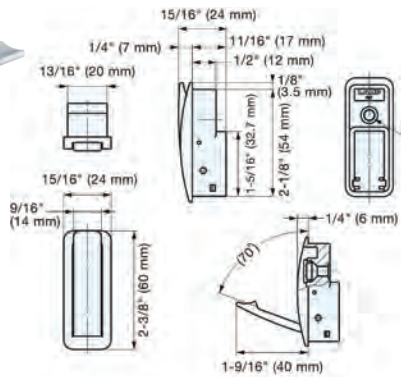
- Allows for the NF-45D hook to be mounted onto sheet metal.
- Can be mounted from both front and back sides.
- Has flanges for double-sided tape, which allows for temporary fixing before mounting.



Item No.	Material	Finish	Box (pcs)	Carton (pcs)
NF-45DB	Steel	Yellow Zinc Chromate	40	40



- Hook is spring loaded to retract with a soft closing action.
- Ideal for vibration or shock applications.
- Panel Thickness:
  - Wood: Min. 25 mm (1")
  - Sheet metal: 0.8~1.6 mm with optional bracket NF-50, sold separately.



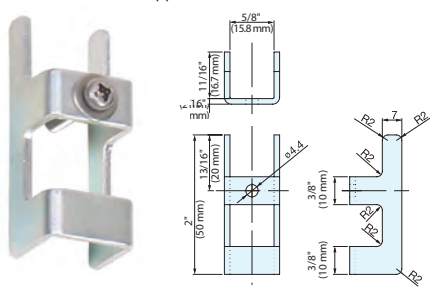
Bore Dimensions  
(For thickness over 30 mm)

Bore Dimensions  
(For thickness 25~29 mm)

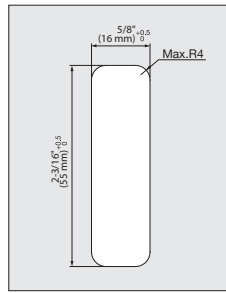
Part Name	Material	Finish
Body	Aluminum	Grey/Silver Metallic Silver
Pin/Spring	304 Stainless Steel	Plain
Rubber	Polychloroprene	Black
Rear Cover	POM	Grey

Item No.	Finish	Load Capacity (kg)	Weight (g)	Box (pcs)	Carton (pcs)
NF-60D/GR	Grey	30 (66 lbs)	49	10	200
NF-60D/SL	Silver				
NF-60D/MSL	Metallic Silver				

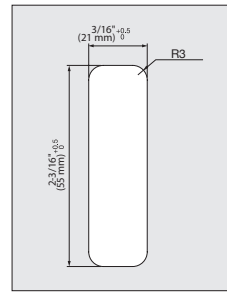
Bracket for sheet metal application



Supplied with M4x14 Stainless steel screw.

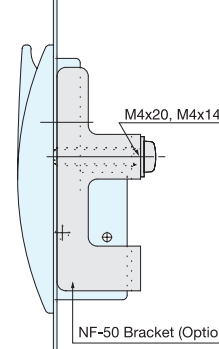


Cut Out Dimensions for NF-60



Cut Out Dimensions for NF-60D

Sheet metal thickness 1/32"~1/16"  
(0.8~1.6 mm)



NF-50 Bracket (Option)

Item No.	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
NF-50	22	20	400	Steel	Yellow Zinc Chromate



# MULTI-PURPOSE LID W/DAMPER



# AZ-GD231-HL

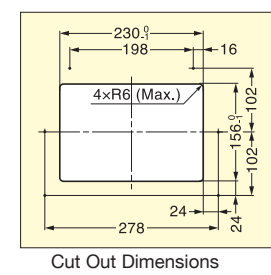
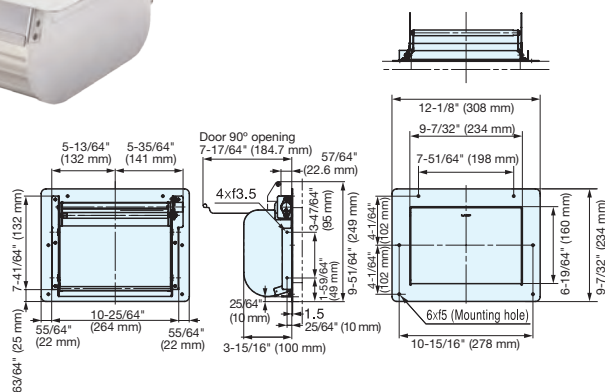
Soft Motion



- Installed from the inside of the waste box for clean appearance.
- With damper to keep the lid from slamming shut.
- Integrated with anti-pinching plates.
- Corrosion resistant.
- Guide sold separately (AZ-SLP)



Application Example



Material	Finish
304 Stainless Steel	Satin

Item No.	L	H	D	Weight (g)	Box (pcs)	Carton (pcs)
AZ-GD231-HL	12-1/8" (308 mm)	9-3/16" (234 mm)	3-15/16" (100 mm)	1486	1	10

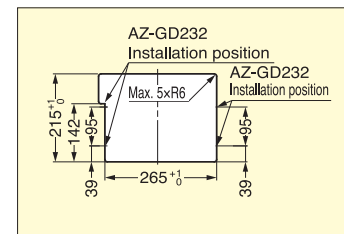
# MULTI-PURPOSE LID W/DAMPER



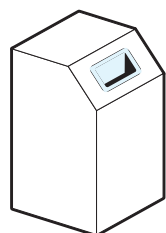
# AZ-GD232-HL



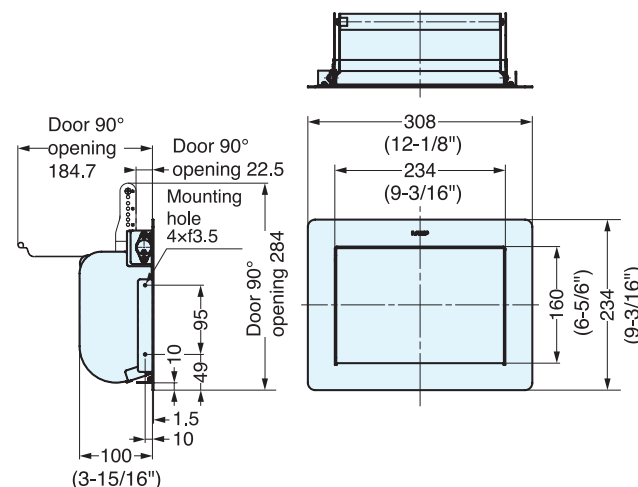
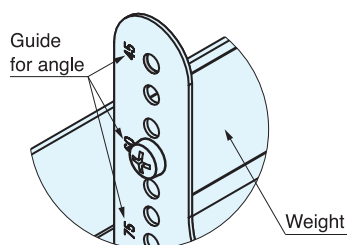
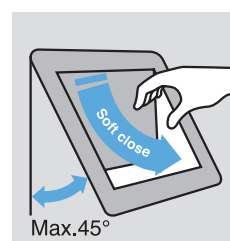
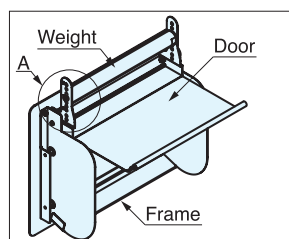
- Able to install the lid up to 45°.
- Inclined mount.
- Easy to adjust angle by changing the weight position.
- Integrated anti-pinching plates.
- Corrosion resistant.
- Guide sold separately.



[Installation]



[How to Adjust Angle]



Item No.	L	H	D	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
AZ-GD232-HL	12-1/8" (308 mm)	9-3/16" (234 mm)	3-15/16" (100 mm)	2200	1	10	304 Stainless Steel	Satin



# MULTI-PURPOSE LID W/DAMPER



AZ-GD

Soft Motion

- Built in damper to keep the lid from slamming shut.
- Integrated anti-pinching plates.
- Vertical use only.
- Corrosion resistant.
- Guide sold separately.



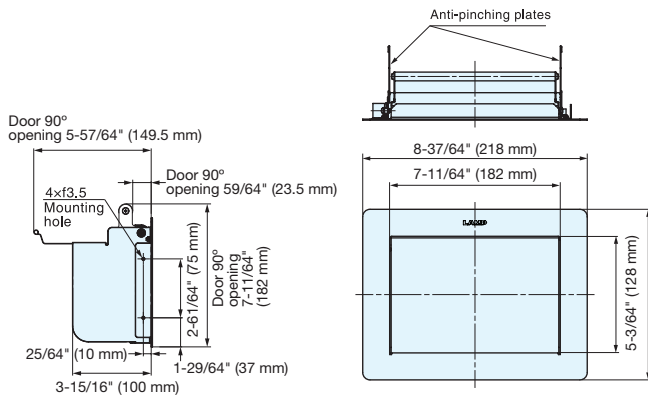
AZ-GD180-HL



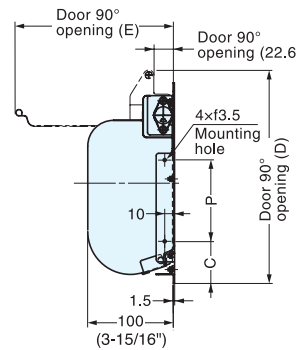
AZ-GD230-HL



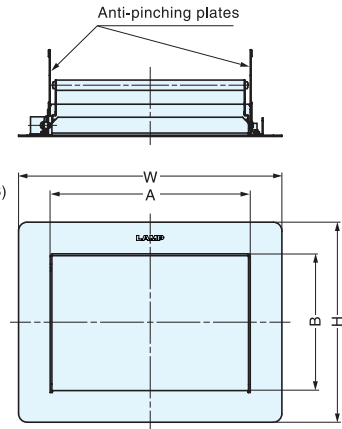
AZ-GD310-HL



AZ-GD180-HL



AZ-GD230-HL  
AZ-GD310-HL



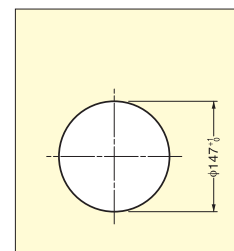
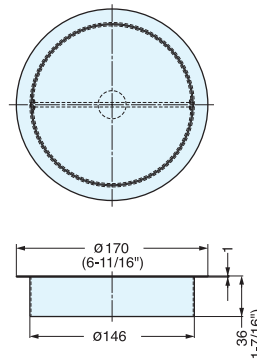
Material	Finish
304 Stainless Steel	Satin

Item No.	A	B	W	H	C	D	E	P	Weight (g)	Box (pcs)	Carton (pcs)
AZ-GD180-HL	7-11/64" (182 mm)	5-3/64" (128 mm)	8-37/64" (218 mm)	6-29/64" (164 mm)	1-29/64" (37 mm)	7-11/64" (182 mm)	5-57/64" (149.5 mm)	2-61/64" (75 mm)	1042	1	10
AZ-GD230-HL	9-7/32" (234 mm)	6-19/64" (160 mm)	12-1/8" (308 mm)	9-7/32" (234 mm)	1-59/64" (49 mm)	9-51/64" (249 mm)	7-17/64" (184.7 mm)	3-47/64" (95 mm)	1486		
AZ-GD310-HL	12-13/64" (310 mm)	8-21/32" (220 mm)	15-1/8" (384 mm)	11-37/64" (294 mm)	2-33/64" (64 mm)	12-13/64" (310 mm)	9-41/64" (244.7 mm)	5-33/64" (140 mm)	2236		
AZ-GD400-HL	15-3/4" (400 mm)	8-21/32" (220 mm)	17 23/32" (450 mm)	10-5/8" (270 mm)	1-47/64" (44 mm)	12-9/32" (312 mm)	9-29/64" (240 mm)	6-37/64" (167 mm)	2236		

# MULTI-PURPOSE LID

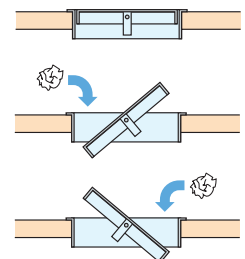


AD-DH015-HL



Cut Out Dimensions

- Self-leveling lid.
- Horizontal use only.



Item No.	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
AD-DH015-HL	554	1	10	304 Stainless Steel	Satin



# MULTI-PURPOSE LID W/DAMPER

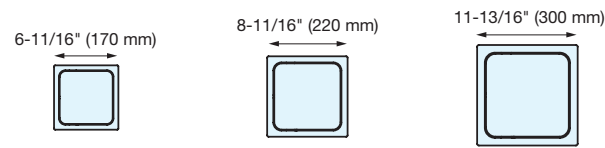


AD-KH

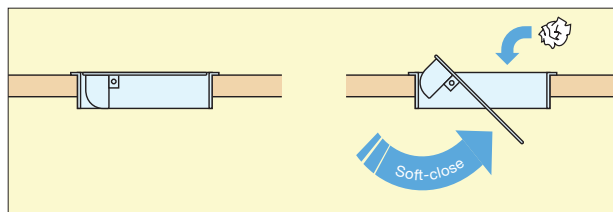
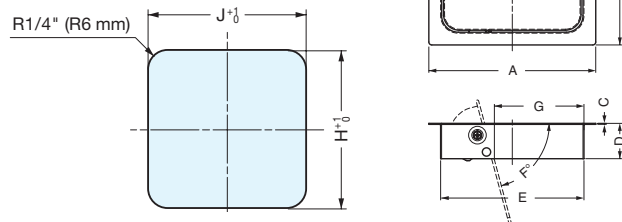
Soft Motion



- Features damper to keep lid from slamming shut.
- Made of stainless steel for corrosion resistance.
- Wide opening.
- Balance weight restores lid to horizontal position.
- Operating temperature: 32°F-104°F.



AD-KH015-HL      AD-KH020-HL      AD-KH028-HL

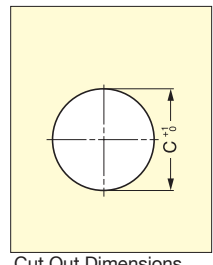
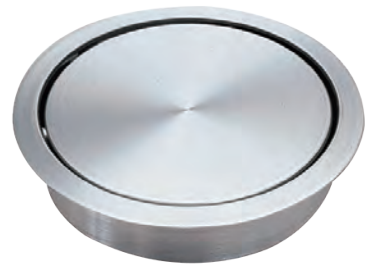


Item No.	Material	Finish	A	B	C	D	E	F	G	H	J	Weight (g)
AD-KH015-HL	4304 Stainless Steel	Satin	6-11/16" (170 mm)	6-11/16" (170 mm)	1/16" (1.2 mm)	1-7/16" (36 mm)	5-3/4" (146 mm)	80°	3-11/16" (93 mm)	5-13/16" (147 mm)	5-13/16" (147 mm)	970
AD-KH020-HL			8-11/16" (220 mm)	8-11/16" (220 mm)	1/16" (1.2 mm)	2" (50 mm)	7-3/4" (196 mm)	77°	5" (127 mm)	7-3/4" (197 mm)	7-3/4" (197 mm)	1400
AD-KH028-HL			11-13/16" (300 mm)	11-13/16" (300 mm)	1/16" (1.2 mm)	2-13/16" (72 mm)	10-7/8" (276 mm)	80°	7-1/2" (191 mm)	10-15/16" (277 mm)	10-15/16" (277 mm)	2700

# MULTI-PURPOSE LID (SOFT CLOSE)

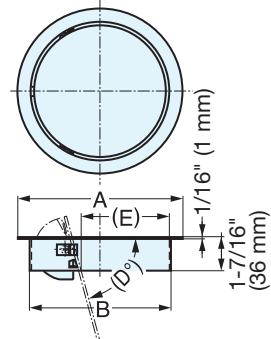
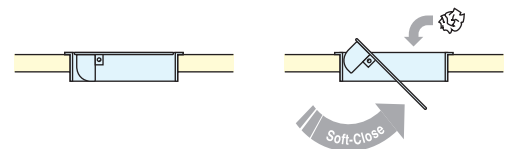


AD-GD



Cut Out Dimensions

- Soft and slow closing movement with a built-in damper mechanism.
- Wide opening, self-leveling lid.
- Stainless steel for corrosion resistance.
- Operating temperature: 32°F - 104°F (0°C - 40°C)
- Horizontal use only.



Material	Finish
304 Stainless Steel	Satin
303 Stainless Steel	
Polyacetal	
Steel	
CRC	
NBR (Rubber)	

Item No.	Old Item No.	A	B	C	D	E	Weight (g)	Box (pcs)	Carton (pcs)
AD-GD011-HL	AD-DH011-HL	5-3/8" (136 mm)	4-3/16" (106 mm)	4-3/16" (107 mm)	3-7/16" (87 mm)	2-7/16" (62 mm)	460	1	10
AD-GD015-HL	AD-DH017-HL	6-11/16" (170 mm)	5-3/4" (146 mm)	5-13/16" (147 mm)	2-15/16" (75 mm)	3-9/16" (90 mm)	1000		6
AD-GD020-HL	-	8-11/16" (220 mm)	7-3/4" (196 mm)	7-13/16" (198 mm)	3-1/8" (80 mm)	5-1/16" (128 mm)	1060		4
AD-GD028-HL	-	11-13/16" (300 mm)	10-7/8" (276 mm)	10-15/16" (278 mm)	3" (77 mm)	7-5/16" (186 mm)	1840		

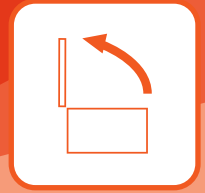
Sugatsune's wide range of specialty magnetic catches are perfect for maintaining a minimalistic look with maximum strength. The magnetic efficiency of our hardware is suitable for food equipment, medical equipment, manufacturing equipment, clean rooms, and storage carts.

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# Specialty Magnetic Catches

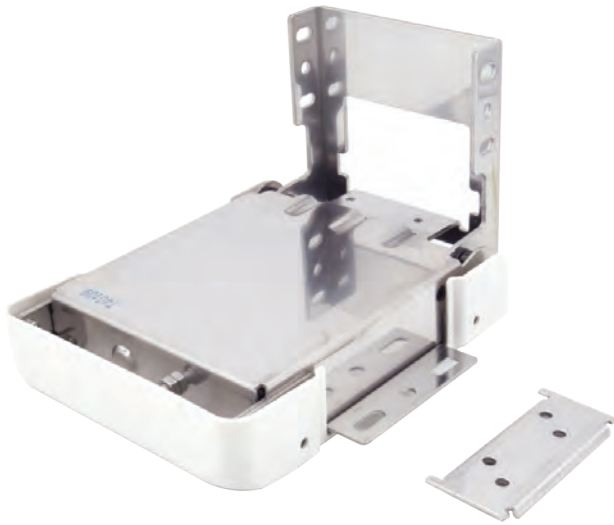


Helps you open  
**Power Assist  
Motion**

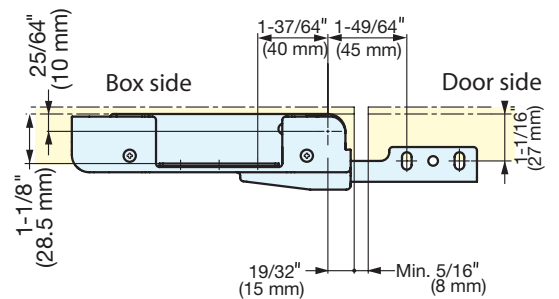
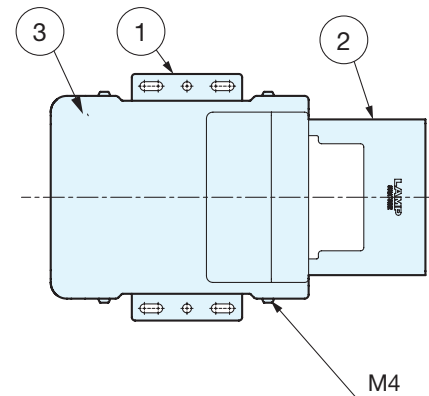
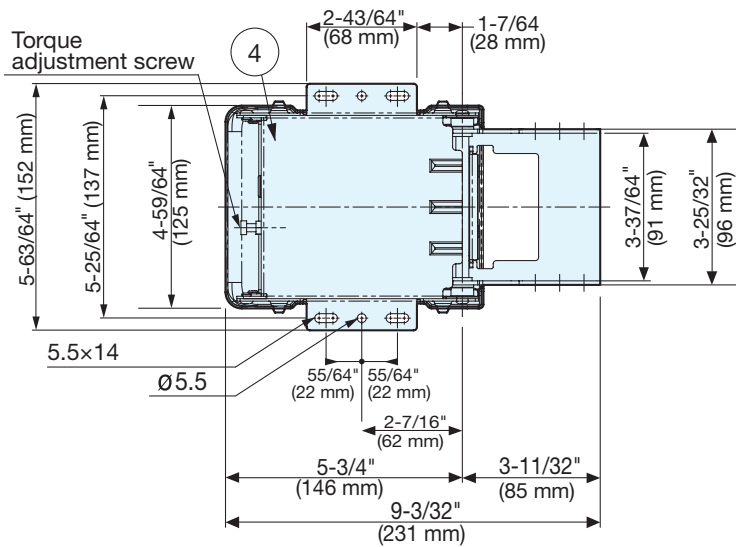
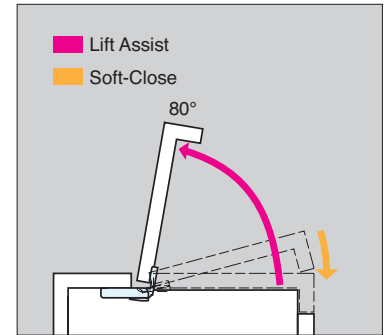


A gentle and controlled way to assist in opening and/or closing heavy doors, lids or covers

**MAKES LIFTING EFFORTLESS**



- Power assist hinge to reduce the effort to open the lid/door.
- Internal under mounted.
- Soft closing.
- Torque adjustable ( $\pm 11\%$ ).
- Two optional opening angles at 55 degrees or 80 degrees.



Item No.	Max Torque Angle	Torque per piece (kgf·cm)	Weight (g)
HG-PA230-15	20°	153 ± 10% (133 ± 10 % lbs·in)	1,296
HG-PA230-20		204 ± 10% (177 ± 10 % lbs·in)	
HG-PA230-25		255 ± 10% (222 ± 10 % lbs·in)	
HG-PA231-15	35°	153 ± 10% (133 ± 10 % lbs·in)	
HG-PA231-20		204 ± 10% (177 ± 10 % lbs·in)	
HG-PA231-25		255 ± 10% (222 ± 10 % lbs·in)	

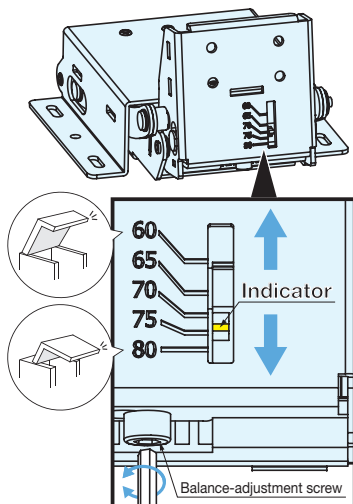
No.	Part Name	Material	Finish
①	Base A	430 Stainless Steel	-
②	Base B	430 Stainless Steel	-
③	Cover	Polypropylene	Light Grey
④	Case	430 Stainless Steel	-
-	Angle stopper	430 Stainless Steel	-
-	Slider	Polyacetal	-
-	Spring	Steel	-



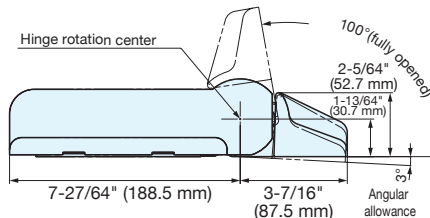
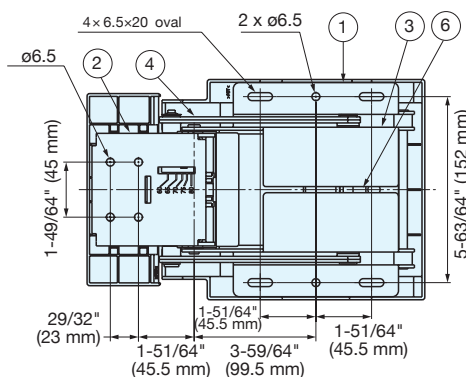
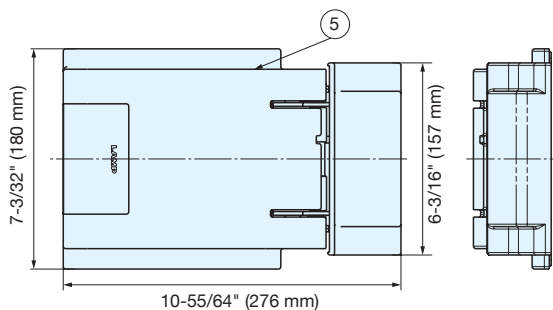


- Mitigates effort needed to lift heavy lids and doors.
- Balance adjustment allows for use in a wider range of lifts than conventional lift-assist hinges.
- Soft closing.
- External surface mounted.
- Torque adjustable ( $\pm 10\%$ ).
- Features durable plastic cover for clean appearance.
- Applications: Medical equipment, analytical instruments, semiconductor equipment.

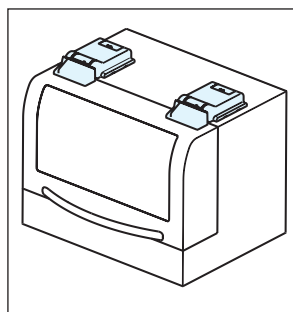
Balance Adjustment



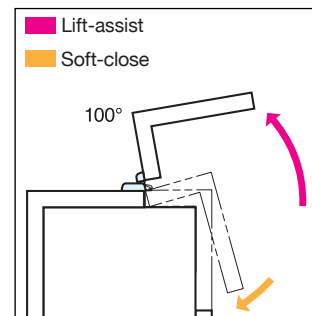
Angle of peak torque is adjustable with hex key 5 mm (13/64"). This feature allows for position adjustment to change the center of gravity.



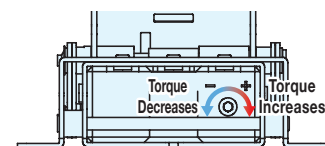
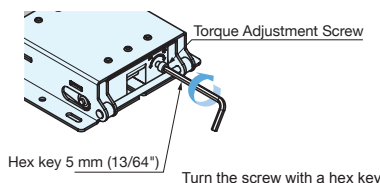
Installation



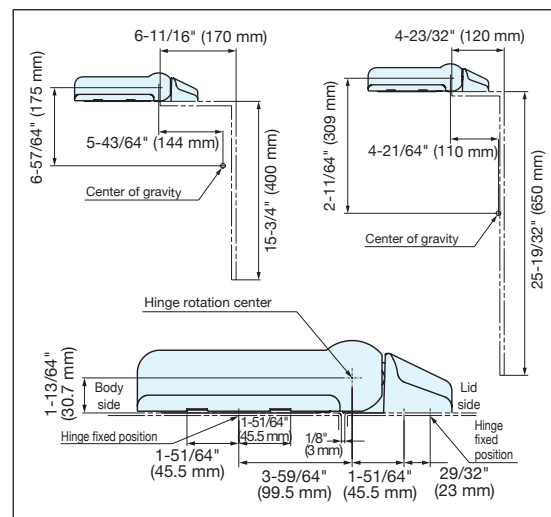
Working range



Torque Adjustment



Installation Example



No.	Part Name	Material	Finish
①	Base A	430 Stainless Steel	-
②	Base B		
③	Case		
④	Link Arm		
⑤	Plastic Cover	PBT Plastic	Light Grey
⑥	Slider	Polyacetal	-
⑦	Spring	Steel	-

Item No.	Peak Torque Angle	Torque per piece	Weight (g)	Box (pcs)	Carton (pcs)
HG-PA300-15	60° - 80°	133±10 % lbs-in (153±10% kgf-cm )	3400	1	-



# POWER ASSIST HINGE

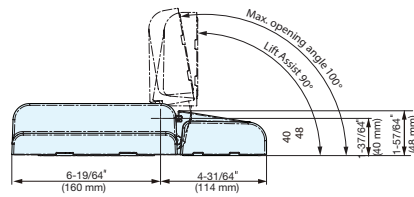
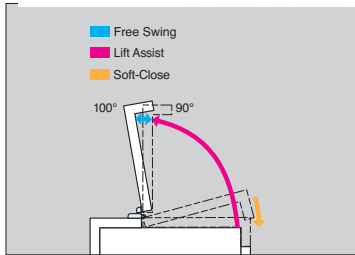
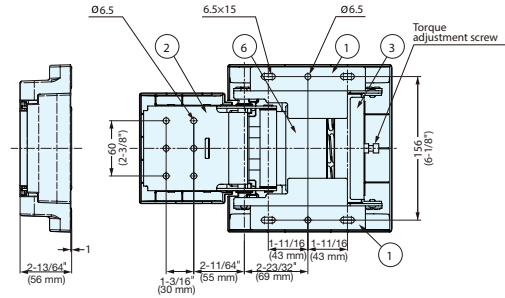
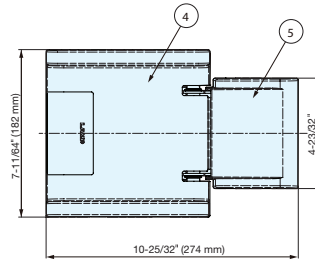


HG-PA270

Power Assist Motion



- Power assist hinge to reduce the effort to open the lid/door.
- External surface mounted.
- Soft closing.
- Torque adjustable ( $\pm 5\%$ ).



Item No.	Torque per piece (kgf·cm)	Weight (g)
HG-PA270-35	357 $\pm$ 10% (310 $\pm$ 10 % lbs-in)	2,500
HG-PA270-45	459 $\pm$ 10% (400 $\pm$ 10 % lbs-in)	

No.	Part Name	Material	Finish
①	Base A	430 Stainless Steel	Plain
②	Base B		
③	Case	PBT plastic	Light Grey
④	Plastic Cover A		
⑤	Plastic Cover B	Polyacetal	-
-	Slider	Steel	-

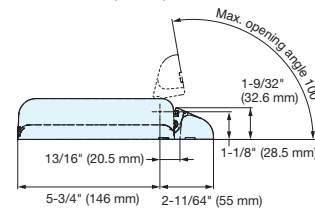
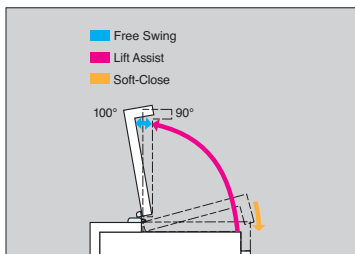
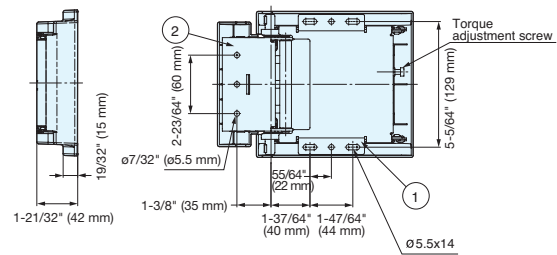
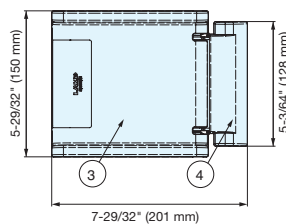
# POWER ASSIST HINGE



HG-PA200, HG-PA201



- Power assist hinge to reduce the effort to open the lid/door.
- External surface mounted.
- Soft closing.
- Torque adjustable ( $\pm 5\%$ ).



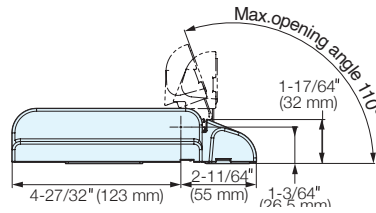
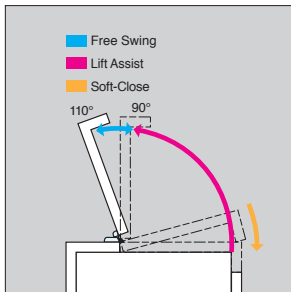
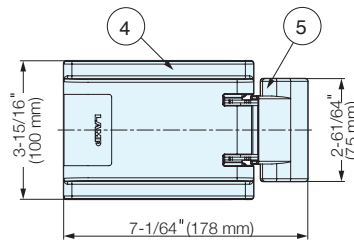
Item No.	Max Torque Angle	Torque per piece (kgf·cm)	Weight (g)
HG-PA200-15	20°	153 $\pm$ 10% (133 $\pm$ 10 % lbs-in)	1,385
HG-PA200-20		204 $\pm$ 10% (177 $\pm$ 10 % lbs-in)	
HG-PA200-25		255 $\pm$ 10% (222 $\pm$ 10 % lbs-in)	
HG-PA201-15	35°	153 $\pm$ 10% (133 $\pm$ 10 % lbs-in)	
HG-PA201-20		204 $\pm$ 10% (177 $\pm$ 10 % lbs-in)	
HG-PA201-25		255 $\pm$ 10% (222 $\pm$ 10 % lbs-in)	

No.	Part Name	Material	Finish
①	Base A	430 Stainless Steel	Plain
②	Base B		
③	Plastic Cover A	PBT plastic	Light Grey
④	Plastic Cover B		
-	Slider	Polyacetal	-
-	Spring	Steel	-

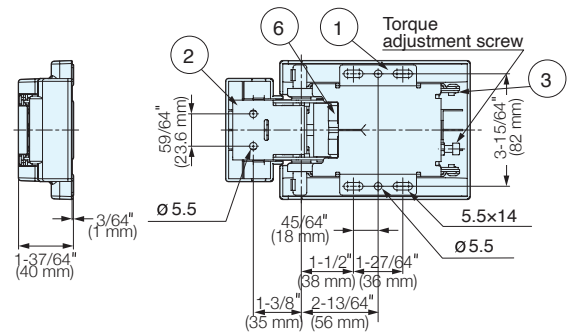
# POWER ASSIST HINGE



## HG-PA180-9



- Power assist hinge to reduce the effort to open the lid/door.
- External surface mounted.
- Soft closing.
- Torque adjustable ( $\pm 11\%$ ).



No.	Part Name	Material	Finish
①	Base A	430 Stainless Steel	Plain
②	Base B		
③	Case		
④	Plastic Cover A	PBT plastic	Light Grey
⑤	Plastic Cover B	PBT plastic	Light Grey
⑥	Slider	Polyacetal	-
-	Spring	Steel	-

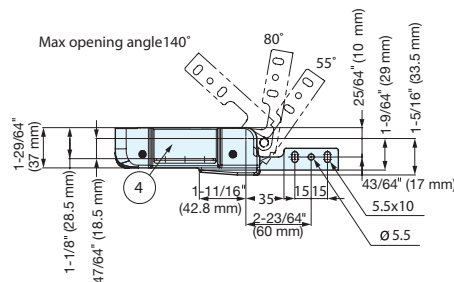
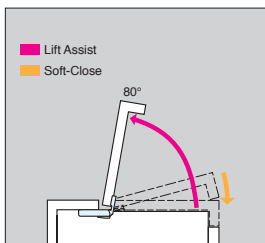
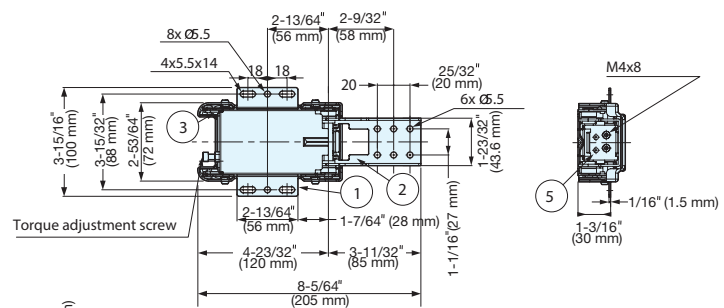
Item No.	Torque per piece (kgf-cm)	Weight (g)
HG-PA180-9	91 $\pm$ 10% (79 $\pm$ 10% lbs-in)	800

Power Assist Motion

# POWER ASSIST HINGE



## HG-PA210-9



- Power assist hinge to reduce the effort to open the lid/door.
- Internal under mounted.
- Soft closing
- Torque adjustable ( $\pm 11\%$ ).
- Two optional opening angles at 55 degrees or 80 degrees.

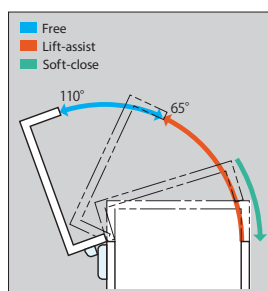
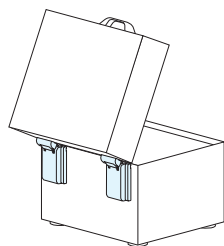
No.	Part Name	Material	Finish
①	Base A	430 Stainless Steel	-
②	Base B		
③	Case		
④	Plastic Cover A	Polypropylene	Light Grey
⑤	Angle stopper	430 Stainless Steel	-
-	Slider	Polyacetal	-
-	Spring	Steel	-

Item No.	Torque per piece (kgf-cm)	Weight (g)
HG-PA210-9	91 $\pm$ 10% (79 $\pm$ 10% lbs-in)	770

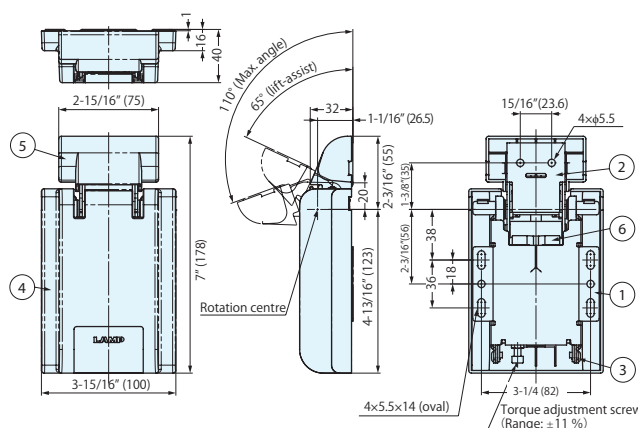
## POWER ASSIST HINGE


**STAINLESS**  
**430**  
**STEEL**

HG-PA182-9



- Power assist hinge to reduce the effort to open the lid/door.
- External surface mounted to save space inside the application.
- Soft closing function to prevent slamming of the lid/door.
- Torque adjustable ( $\pm 11\%$ ).
- Ideal for medical and machine equipment.



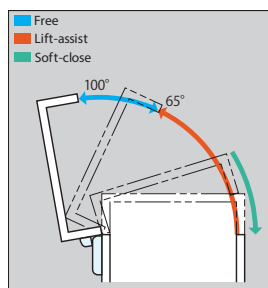
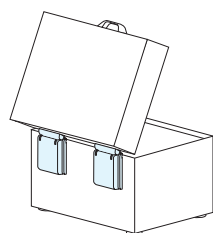
No.	Part Name	Material	Finish
①	Base A	430 Stainless Steel	Plain
②	Base B		
③	Case		
④	Plastic Cover A	PBT plastic	Light Grey
⑤	Plastic Cover B		
⑥	Slider	Polyacetal	-
-	Spring	Steel	-

Item No.	Torque per piece (kgf-cm)	Weight (g)
HG-PA182-9	91 $\pm 10\%$ (79 $\pm 10\%$ lbs-in)	800

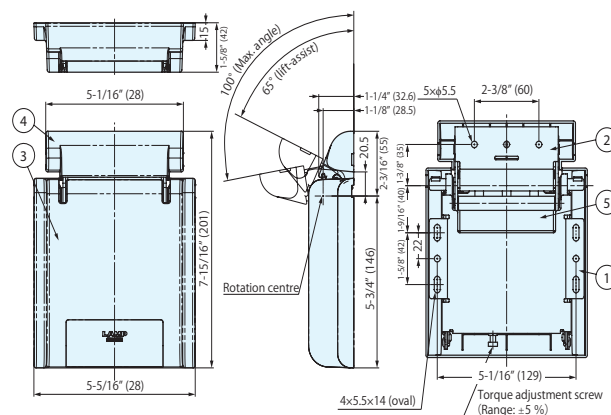
## POWER ASSIST HINGE


**STAINLESS**  
**430**  
**STEEL**

HG-PA202



- Power assist hinge to reduce the effort to open the lid/door.
- External surface mounted to save space inside the application.
- Soft closing function to prevent slamming of the lid/door.
- Torque adjustable ( $\pm 5\%$ ).
- Ideal for medical and machine equipment.



No.	Part Name	Material	Finish
①	Base A	430 Stainless Steel	Plain
②	Base B		
③	Case		
④	Plastic Cover A	PBT plastic	Light Grey
⑤	Plastic Cover B		
⑥	Slider	Polyacetal	-
-	Spring	Steel	-

Item No.	Torque per piece (kgf-cm)	Weight (g)
HG-PA202-15	153 $\pm 10\%$ (133 $\pm 10\%$ lbs-in)	1385
HG-PA202-20	204 $\pm 10\%$ (177 $\pm 10\%$ lbs-in)	
HG-PA202-25	255 $\pm 10\%$ (221 $\pm 10\%$ lbs-in)	

# HEAVY DUTY SPRING LOADED LID STAY



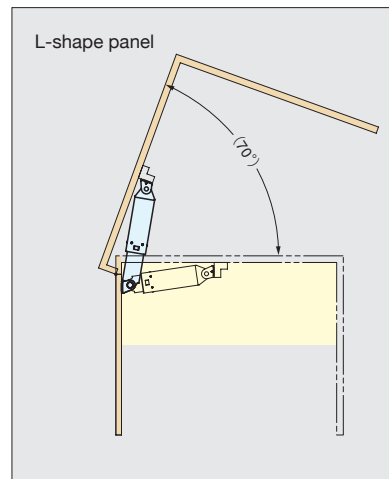
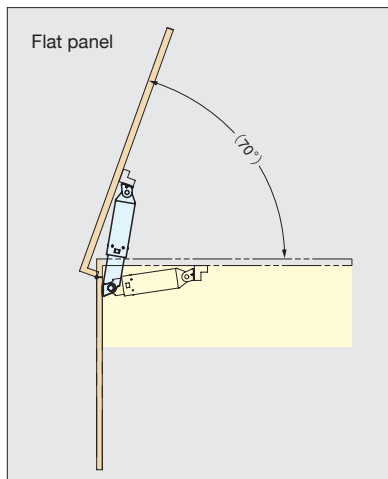
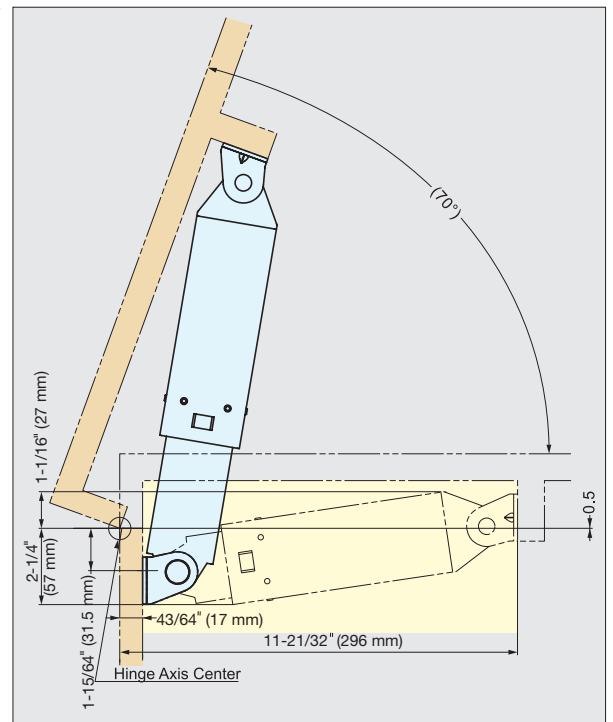
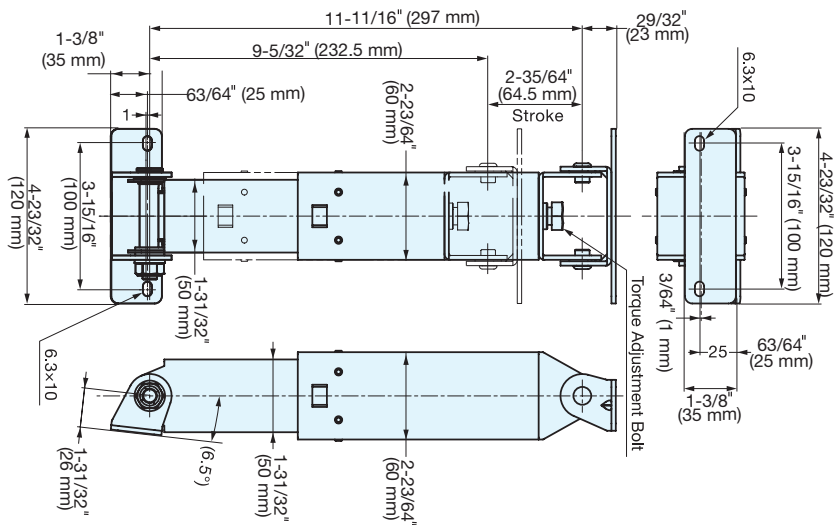
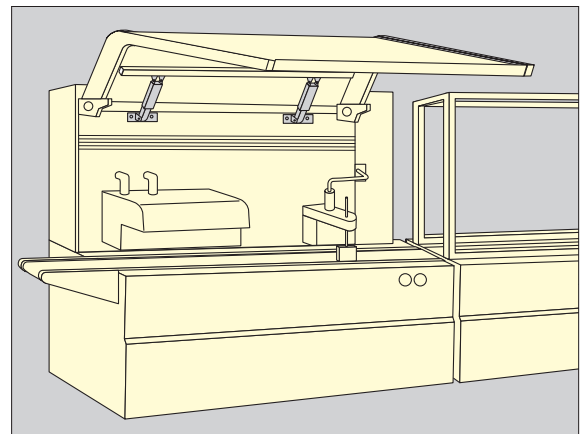
S-ATH



- For heavy top covers
- 2 types of stays available for different lid shapes.
- Lift assist can be adjusted.



Power Assist Motion



Item No.	Panel Shape	Finish	Max. Torque per piece (kgf-cm)	Weight (g)	Carton (pcs)	Material
S-ATH-60S	Flat	Satin	610 (530.0 lbs-in)	2,500	1	304 Stainless Steel
S-ATH-70S	L-shape		710 (617.0 lbs-in)			

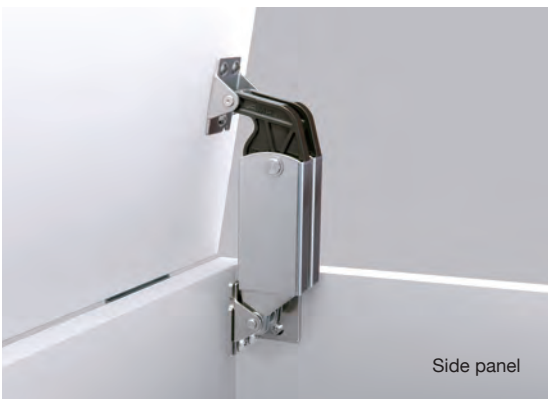
# HEAVY DUTY SPRING LOADED LID STAY

STAINLESS  
430  
STEEL

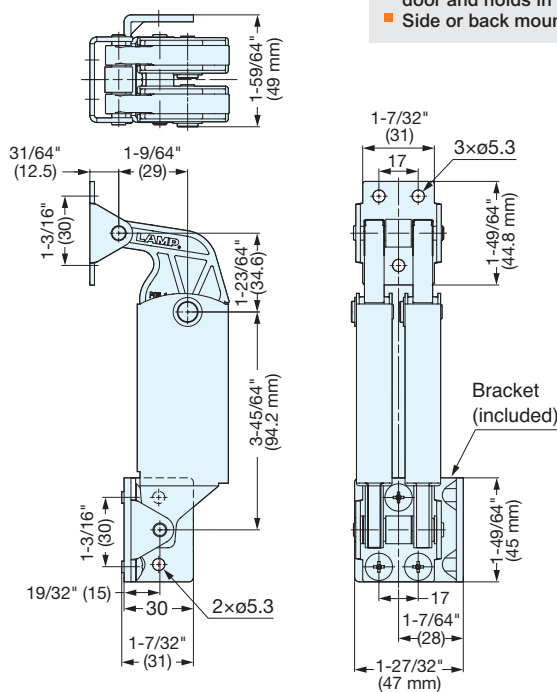
NO SCREW

S-AT02W

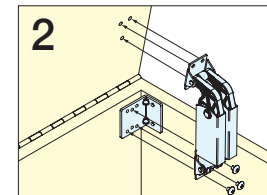
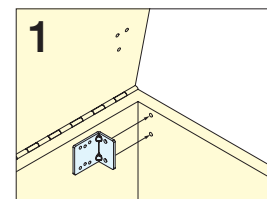
Power Assist Motion



- Heavy duty spring mechanism assists in lifting door and holds in open position (10°-80°).
- Side or back mount type.



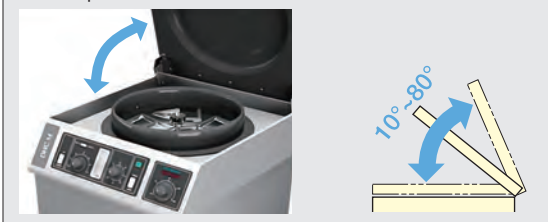
Installation: Side Panel



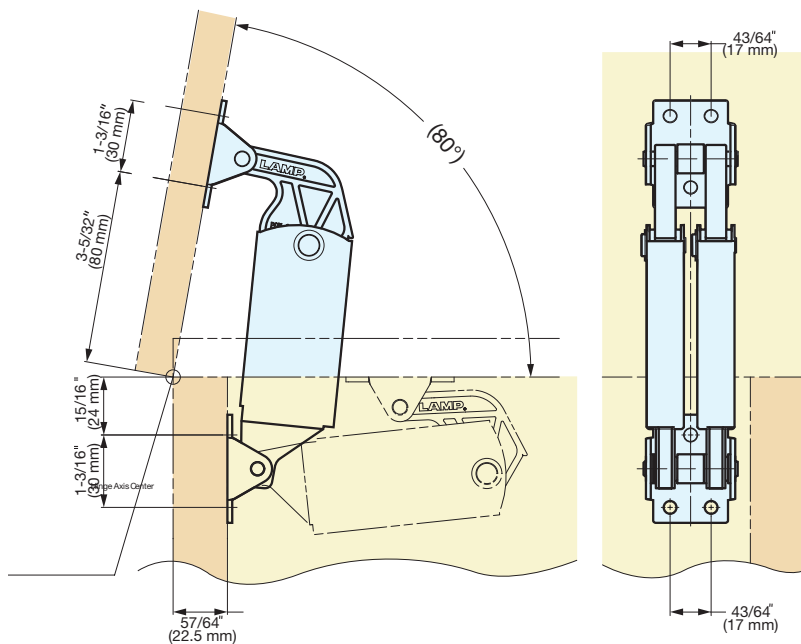
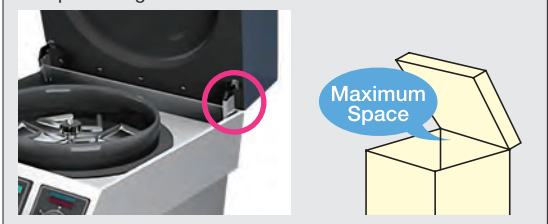
Easy operation with power assist



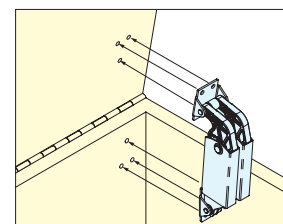
Free stop



Compact design



Installation: Back Panel



Item No.	Material	Finish	Max. Torque per piece (kgf·cm)		Weight (g)	Box (pcs)	Carton (pcs)
			Side Mount	Back Mount			
S-AT02W	430 Stainless Steel/Steel/Polyacetal	Plain	Side Mount	180~214 (156.5~186.1 lbs·in)	490	1	10
			Back Mount	153~168 (133.0~146.1 lbs·in)			



# HEAVY DUTY SPRING LOADED LID STAY

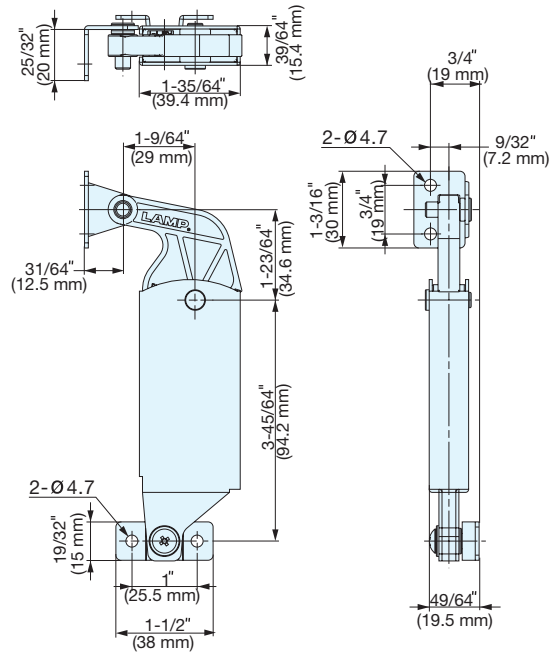
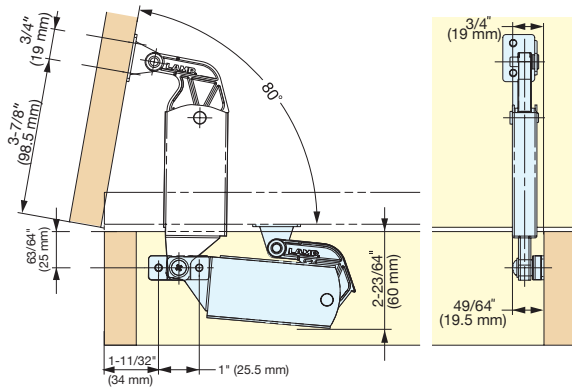


# S-AT01, S-AT02

Power Assist Motion



- Side wall mounted.
- Spring mechanism assists in lifting door and holds in open position (10°~80°).
- Can be installed individually or in pairs.
- Non-Handed: Can be installed on left or right side.
- Does not work with concealed hinges.



Item No.	Material	Finish	Max. Torque per piece (kgf·cm)	Box (pcs)	Carton (pcs)
S-AT01	430 Stainless Steel/ Steel/Polyacetal	Plain	90 (78 lbs-in)	10	50
S-AT02			120 (104 lbs-in)		

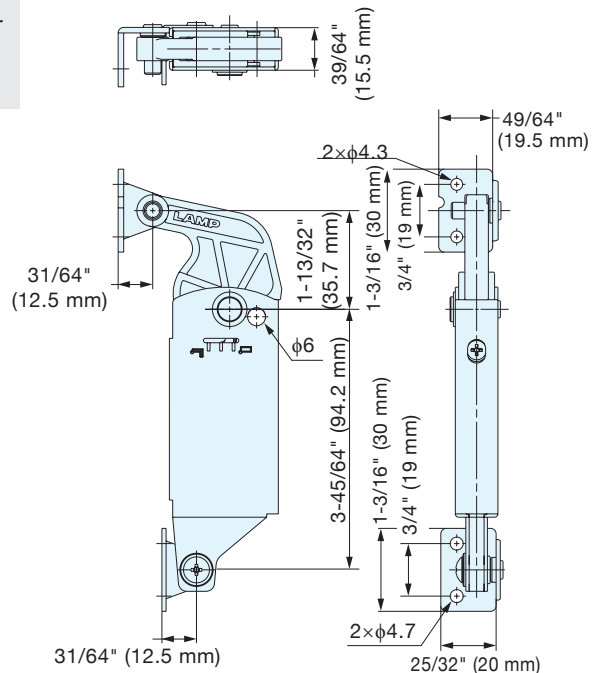
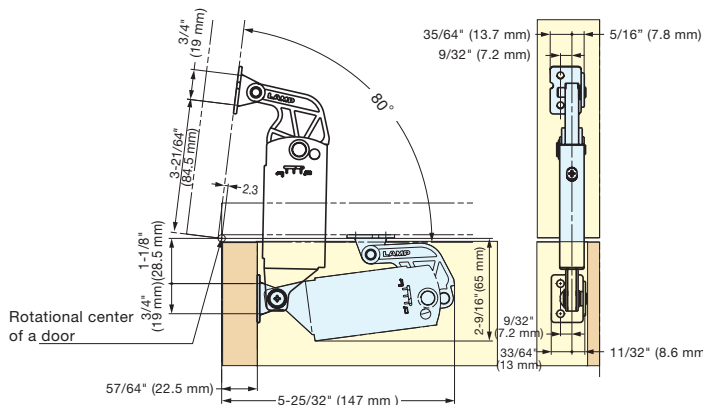
# HEAVY DUTY SPRING LOADED LID STAY



# S-AT01S, S-AT02S



- Back panel mounted.
- Spring mechanism assists in lifting door and holds in open position (10°~80°).
- Can be used individually or in multiples.
- Does not work with concealed hinges.



Item No.	Material	Finish	Max. Torque per piece (kgf·cm)	Box (pcs)	Carton (pcs)
S-AT01S	430 Stainless Steel/ Steel/Polyacetal	Plain	90 (78 lbs-in)	10	50
S-AT02S			120 (104 lbs-in)		

# BALANCE ADJUSTABLE SPRING LOADED LID STAY

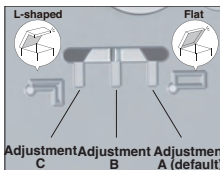
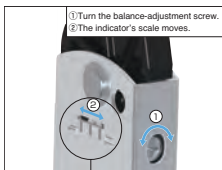


# S-ATJ

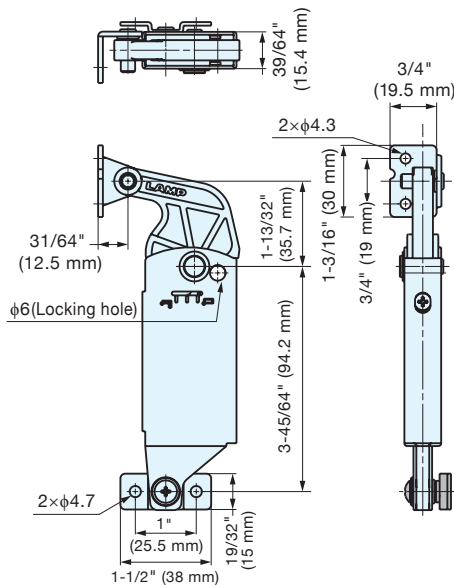
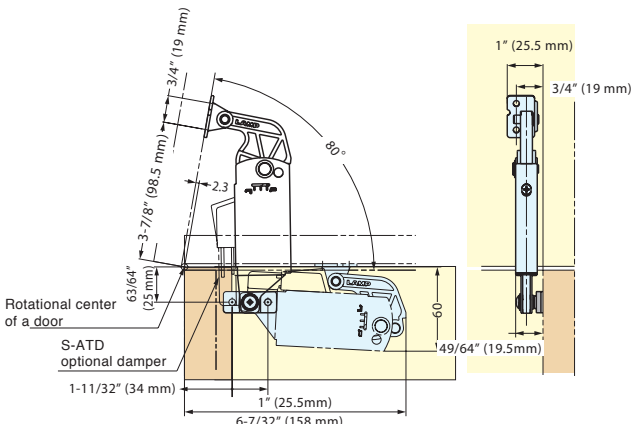
Power Assist Motion



### Balance Adjustment



- Side wall mounted.
- Spring mechanism assists in lifting door and holds in open position (10°-80°).
- The balance adjustment allows for use in wider range of lids.
- Can be installed individually or in pairs.
- Non-Handed: Can be installed on left or right side.
- Does not work with concealed hinges.
- Optional add on damper S-ATD.



Item No.	Material	Finish	Max. Torque per piece (kgf·cm)	Box (pcs)	Carton (pcs)
S-ATJ01	430 Stainless Steel/Steel	Plain	90 (78 lbs·in)	10	50
S-ATJ02	Steel/Polyacetal	Plain	120 (104 lbs·in)		

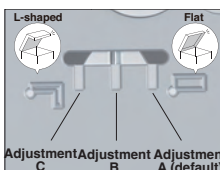
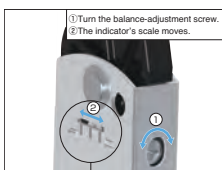
# BALANCE ADJUSTABLE SPRING LOADED LID STAY



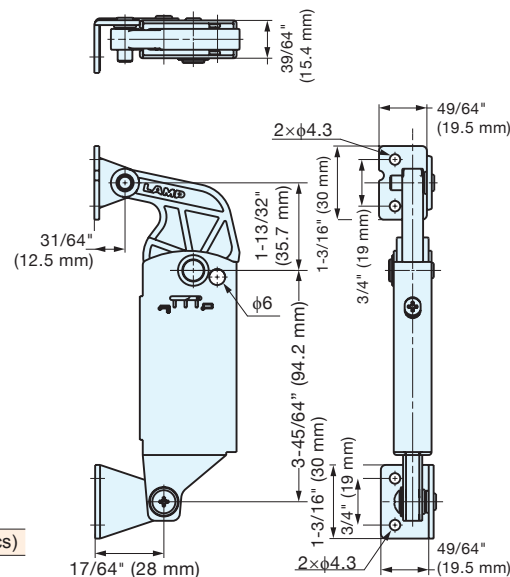
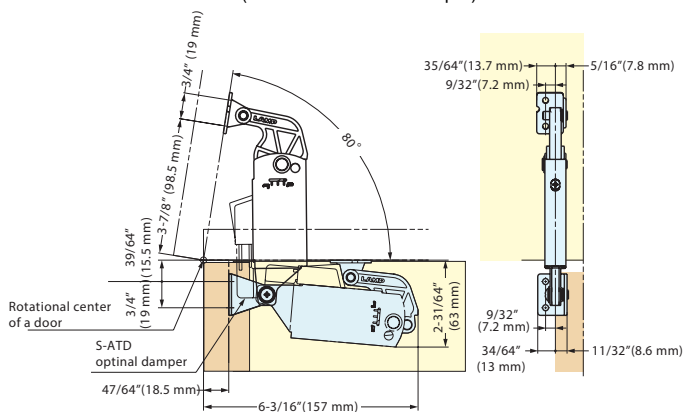
# S-ATJD



### Balance Adjustment



- Back panel mounted.
- Spring mechanism assists in lifting door and holds in open position (10°-80°).
- The balance adjustment allows for use in wider range of lids.
- Can be used individually or in multiples.
- Does not work with concealed hinges.
- Optional add on damper S-ATD.



Item No.	Material	Finish	Max. Torque per piece (kgf·cm)	Box (pcs)	Carton (pcs)
S-ATJ01D	430 Stainless Steel/Steel	Plain	90 (78 lbs·in)	10	50
S-ATJ02D	Steel/Polyacetal	Plain	120 (104 lbs·in)		

# BALANCE ADJUSTABLE SPRING LOADED LID STAY

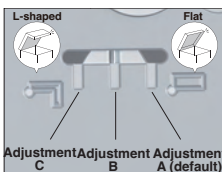
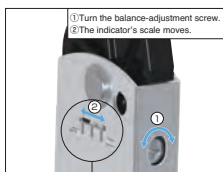


# S-ATJS

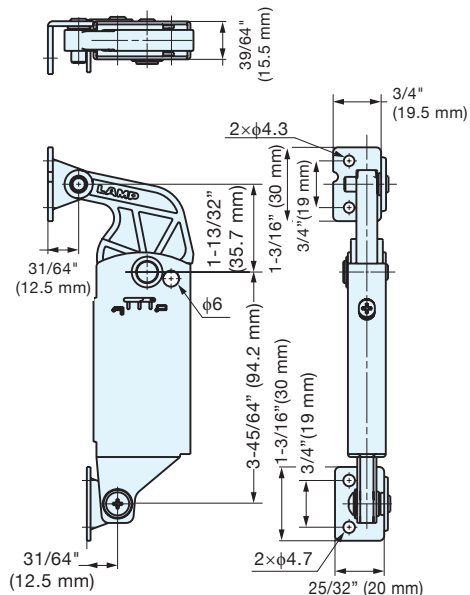
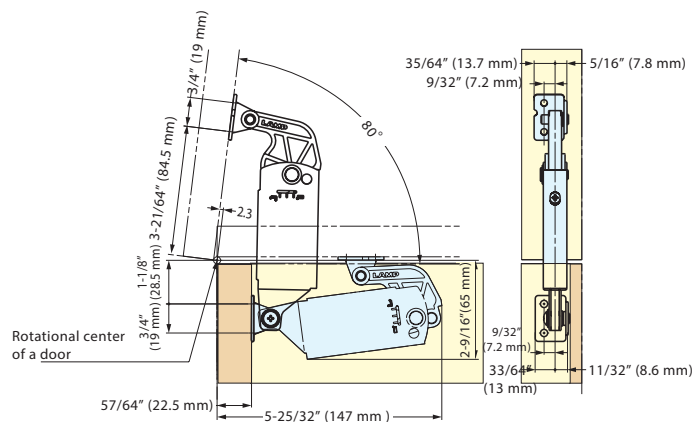
Power Assist Motion



### Balance Adjustment



- Back panel mounted.
- Spring mechanism assists in lifting door and holds in open position (10°~80°).
- The balance adjustment allows for use in wider range of lids.
- Can be used individually or in multiples.
- Does not work with concealed hinges.
- Damper option not available.



Item No.	Material	Finish	Max. Torque per piece (kgf·cm)	Box (pcs)	Carton (pcs)
S-ATJ01S	430 Stainless Steel/	Plain	90 (78 lbs·in)	10	50
S-ATJ02S	Steel/Polyacetal		120 (104 lbs·in)		

# DAMPER FOR S-ATJ & S-ATJD

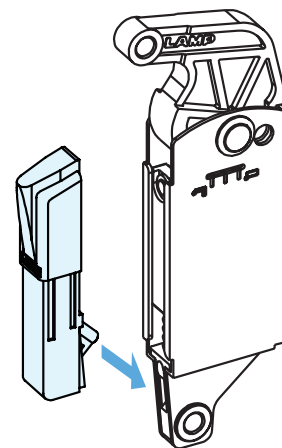
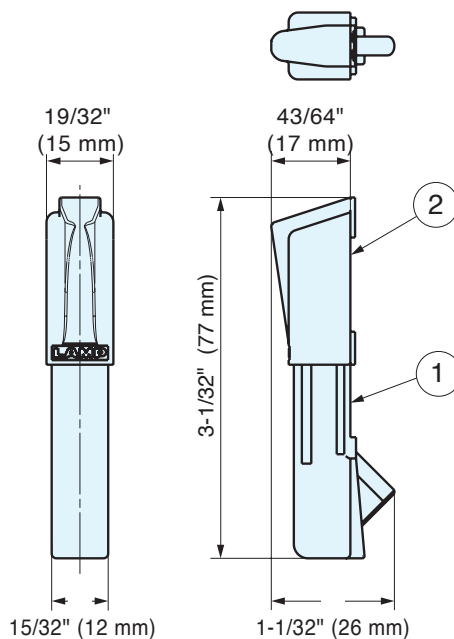


# S-ATD-30

- Soft-close damper designed for use with the S-ATJ & S-ATJD.
- Easy to install.



(When attached to S-ATJD)

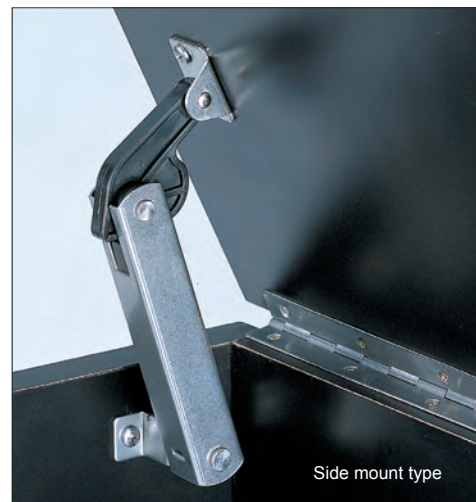


Item No.	Weight (g)	Box (pcs)	Carton (pcs)
S-ATD-30	15	50	-

No.	Part Name	Material	Finish
①	Damper Case	Polyacetal	Black
②	Slider	Plastic (PBT)	

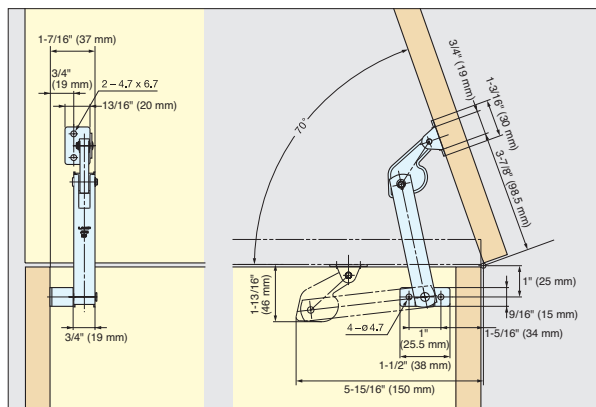
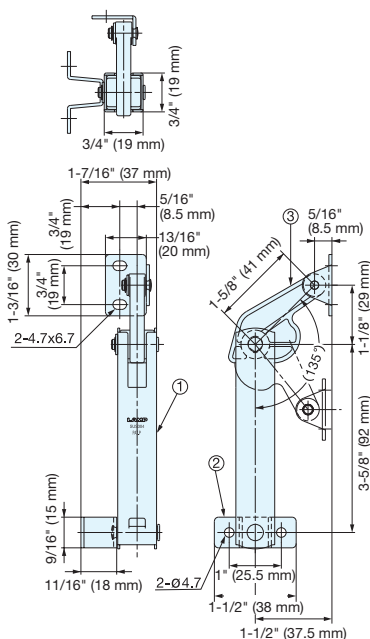
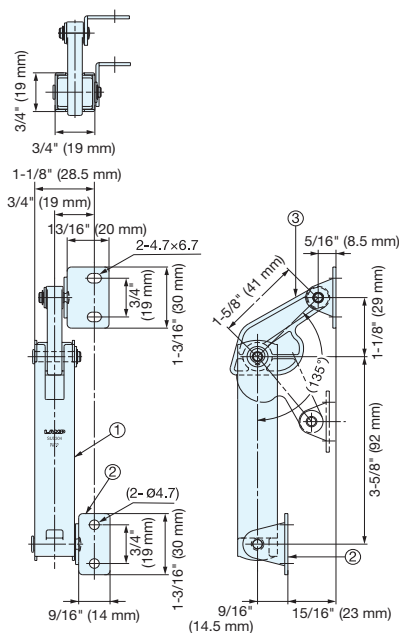


- Spring mechanism assists in lifting door and holds in open position.
- Handed: Specific left and right hand mounting.



Back panel mount type

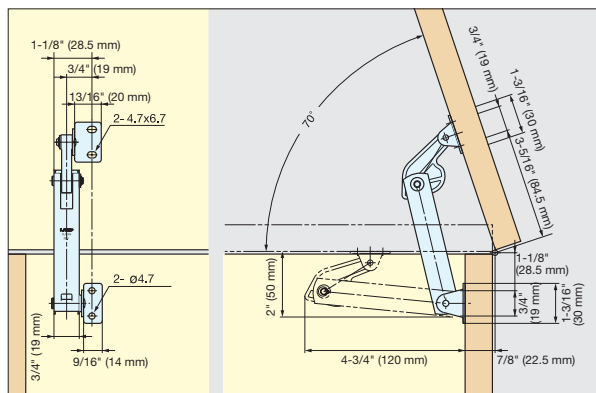
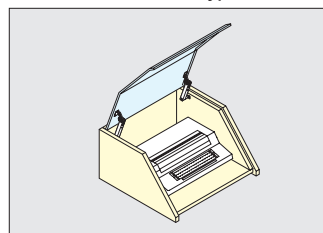
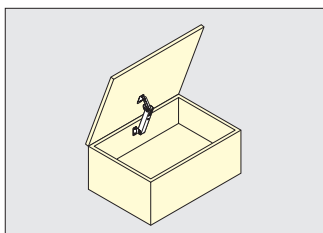
Side mount type  
(Left handed shown)



For side mount type

Back panel mount type

Side mount type



For back panel mount type

No.	Part Name	Material	Finish
①	Body	304 Stainless Steel	Plain
②	Bracket		
③	Arm	Polyacetal	-

Item No.		Spring Tension	Mounting Type	Max. Torque (kgf-cm)	Weight (g)	Box (pcs)	Carton (pcs)
Left	Right						
S-YT01L	S-YT01R	Soft	Side	30 (26 lbs-in)	118	10	100
S-YT02L	S-YT02R	Hard		40 (34 lbs-in)			
S-YT01S		Soft	Back Panel	30 (26 lbs-in)			
S-YT02S		Hard		40 (34 lbs-in)			

# STAINLESS STEEL LIFT ASSIST HINGE



HG-JH210



- Spring assists in opening heavy doors.
- Built-in damper keeps lid from slamming shut.
- Passed private 30,000 open/close cycle tests.
- Maximum torque: 210 kgf·cm (182 lbs-in) per piece.

### Moment Formula and Graph

**Door Moment**  $M_t = W \times \frac{L}{2} \times \cos \theta$

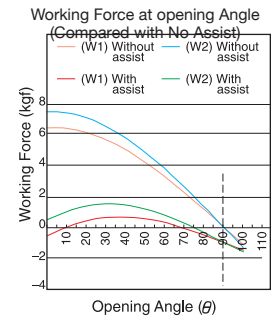
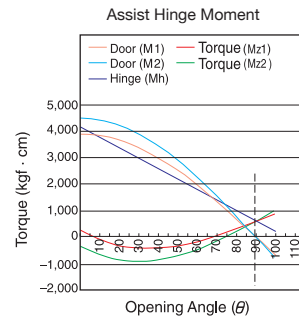
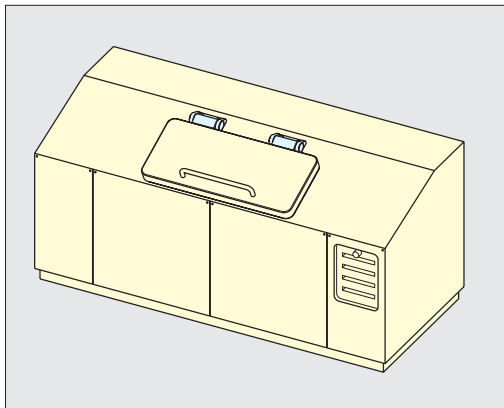
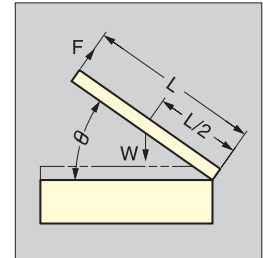
**Hinge Moment**  $M_h = M_m \times (1 - \frac{\theta}{115})$

**Torque to lift door**  $M_z = M_h - M_t$

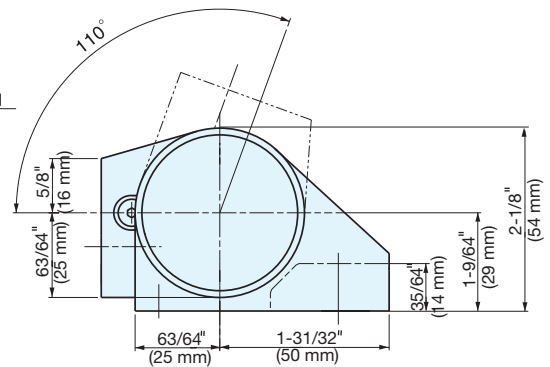
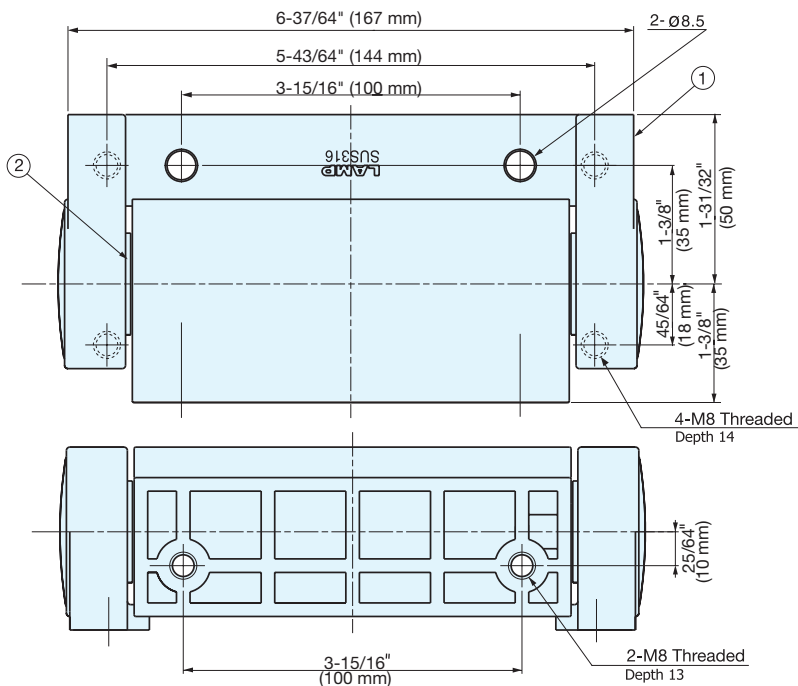
**Force to lift door**  $F = \frac{M_t - M_h}{L}$

W : Door Weight    θ : Opening Angle  
L : Door Length    M<sub>m</sub> : Torque of Assist Hinge

When M<sub>z</sub> is:  
"-" shows closing force. "+" shows opening force.



\*In case of HG-JH210 used in pair. (L: 60cm, W1: 13kg, W2:15kg)



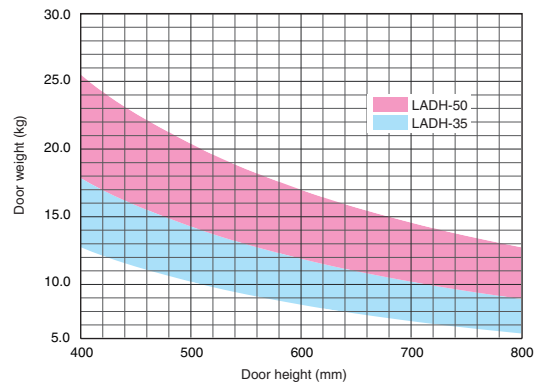
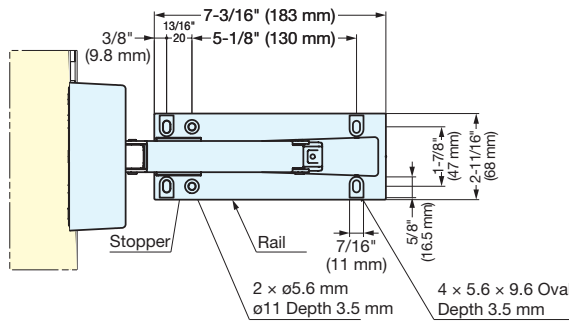
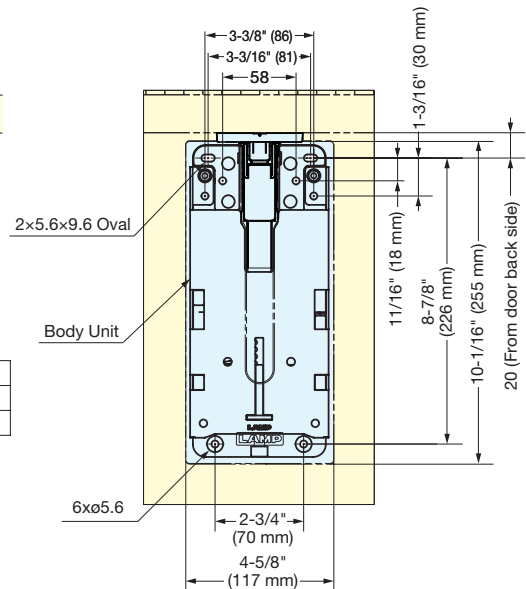
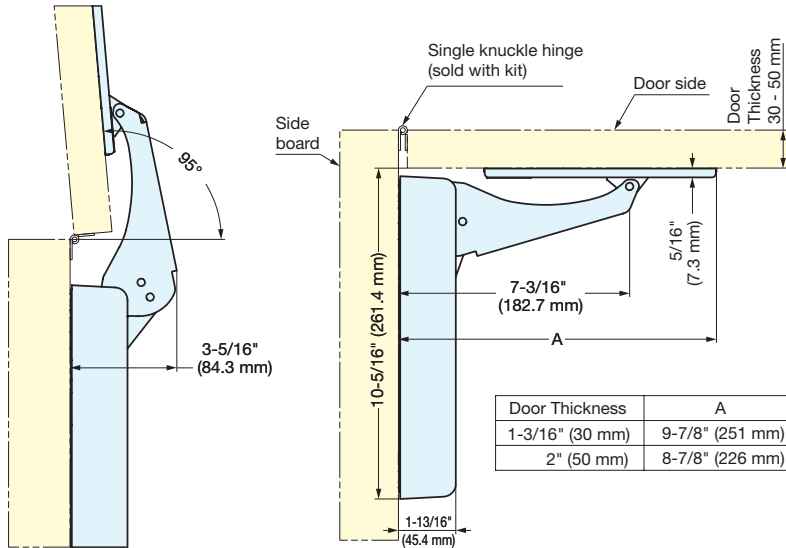
Item No.	Torque per piece (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-JH210	210 (182 lbs-in)	2.4	1	10

No.	Part Name	Material	Finish
①	Body	316 Stainless Steel	Mirror
②	Built-In Damper	304 Stainless Steel + PBT Plastic	-





- Add a smooth soft-close to counter tops in restaurants, bars and reception desks to prevent slamming.
- Lift-Assist feature helps users lift countertop
- Holds door open at 95 degrees.
- Easy installation - surface mounted and can be retrofitted
- Stainless steel piano hinge included (see next page for details)



Item No.	Max. Torque per piece (lbs·in)	Panel Thickness	Wt (g)	Box (pcs)	Material	Finish
LADH-35	221 ~ 309	30 ~ 50 mm (1-3/16" ~ 2")	2,000	1	Steel (SPCC)/ Polyacetal (POM) ABS	Arm: Nickel Chrome Body: Dark Brown/ White Other Parts: Nickel Plating
LADH-35WT						
LADH-50	309 ~ 442					
LADH-50WT						



# LIFT ASSIST DAMPER (W/ANGLE STOPPER)

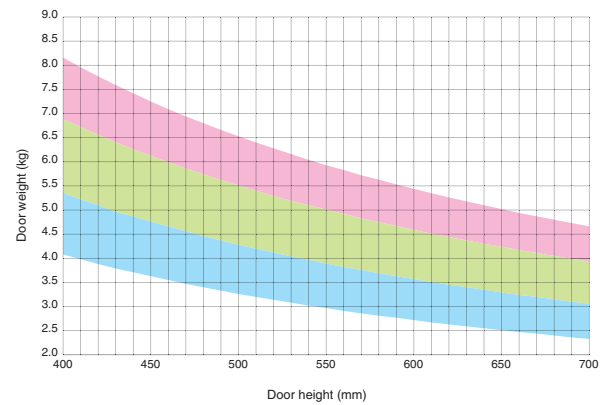
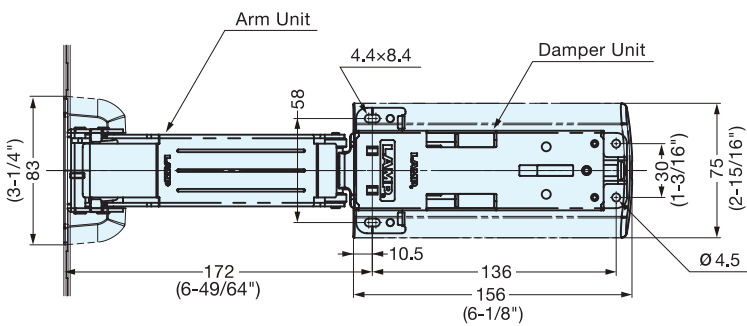
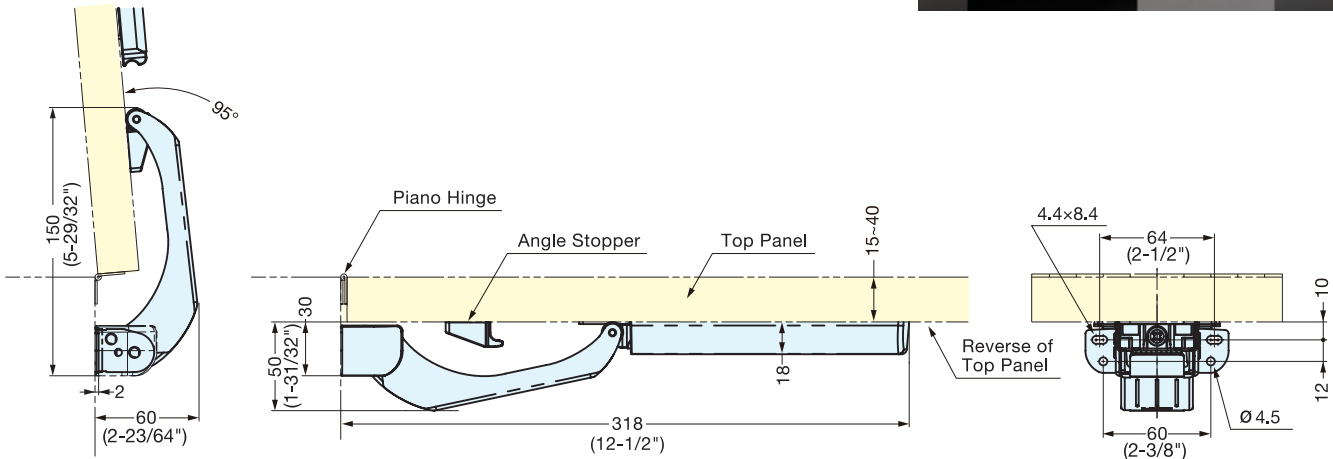
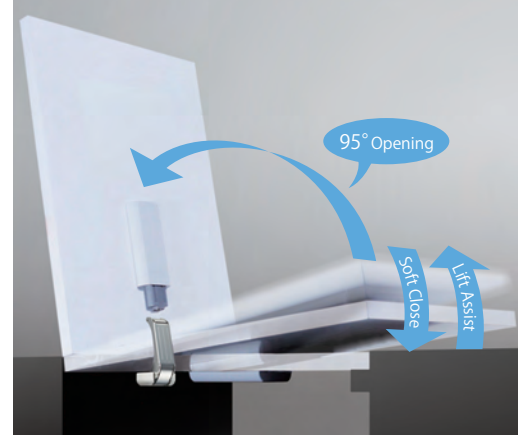


LAD-ST

Power Assist Motion



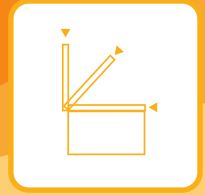
- Ideal for bar and countertop applications.
- Angle stopper designed to hold open at 95°.
- Damper equipped for soft closing.
- Simple surface mount installation.
- Brackets, spacers and mounting plate accessories available (sold separately)



Item No.	Max. Torque per piece (kgf·cm)	Panel Thickness	Weight (g)	Carton (pcs)	Material	Finish
LAD-ST-L	81.6~107.1 (70.1 ~ 93.1 lbs-in)	15 ~ 40 mm (9/16" ~ 1-9/16")	750	1	ABS/Polyacetal/ Steel/Zinc Alloy	Off White/ Chrome/ Nickel
LAD-ST-M	107.1~137.7 (93.1 ~ 119.7 lbs-in)					
LAD-ST-H	137.7~163.2 (119.7 ~ 141.9 lbs-in)					



# Snap and Stop Click Motion

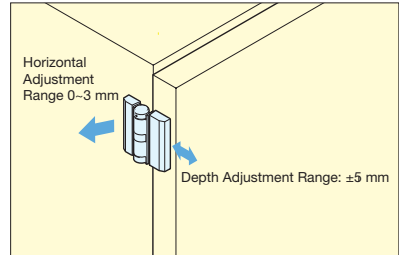
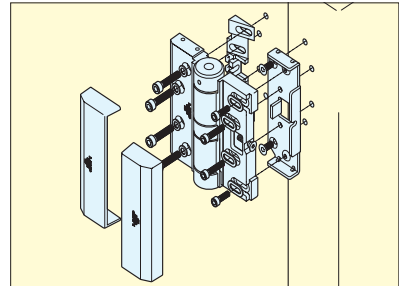
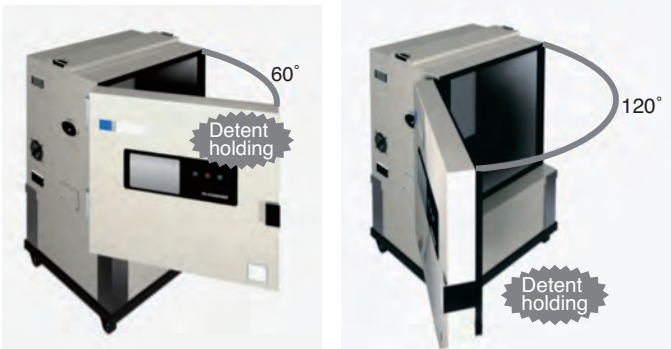
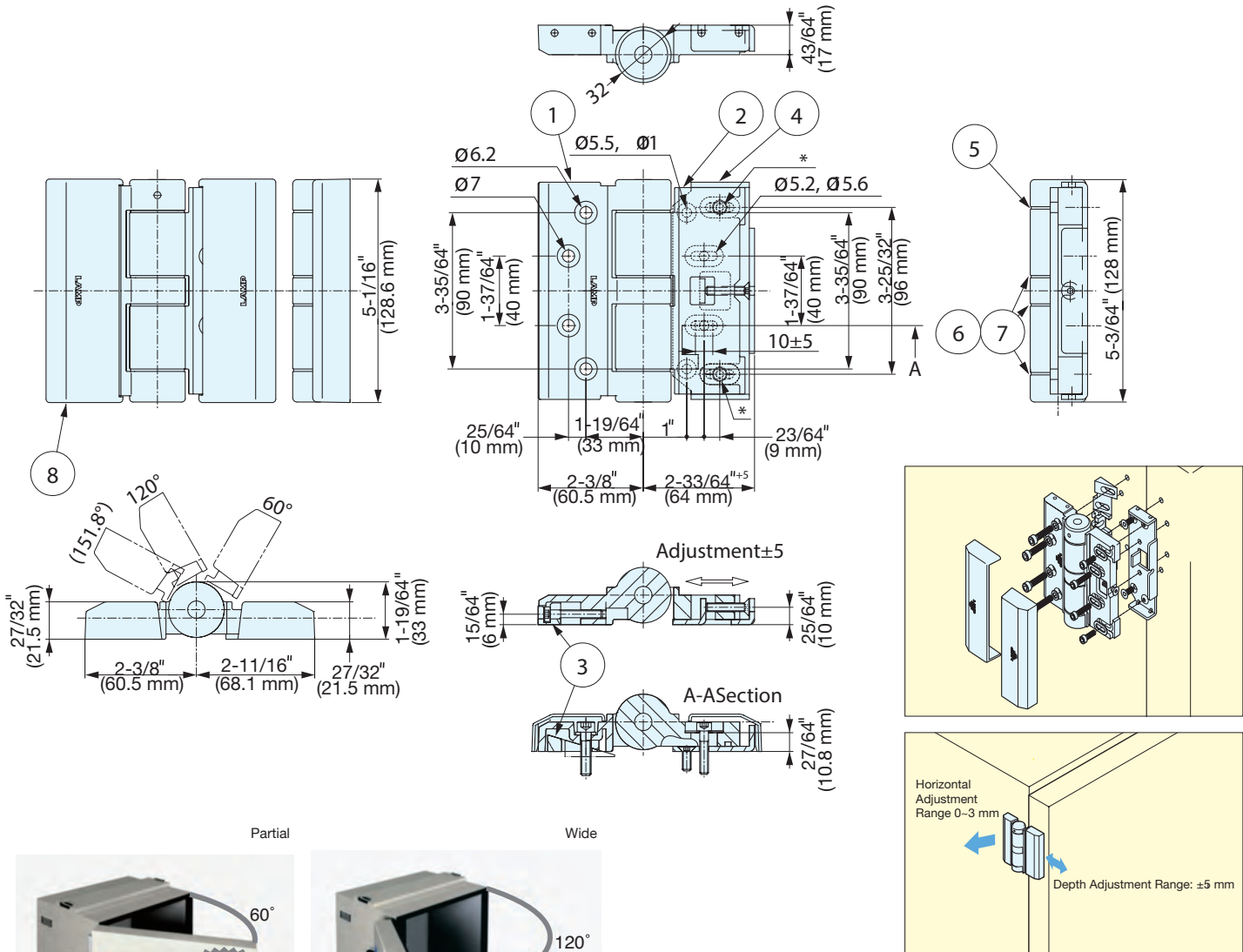


Temporarily holds door, lid or cover during opening and/or closing at a certain angle

ONE HINGE MANY ANGLES



- Ideal for doors which need to be compressed.
- Horizontally adjustable for better compression.
- Holds doors at 60° and 120°  
Max. Open: 152°
- Plastic washer provides smooth movement.
- Recommended door specification:  
Width: 600~900 mm (24~36")  
Height: 900~1200 mm (36~48")  
Weight: maximum 40 kg (90 lbs) for 2 hinges
- Retaining Force: 102 kgf·cm (88.5 lbs·in)



No.	Part Name	Material	Finish
①	Body A	Zinc Alloy	Satin Nickel
②	Body B		Nickel
③	Bracket A	304 Stainless Steel	Polished
④	Bracket B		Polished
⑤	Washer	PFTE, Piyacetal, Polyacetal	-
⑦			
⑧	Cover	AES Plastic	Silver

Item No.	Door Weight (kg / 2 pcs)	Detent Torque (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-FH128	Max. 40 (88 lbs)	102 (88.5 lbs·in)	1,500	2	10



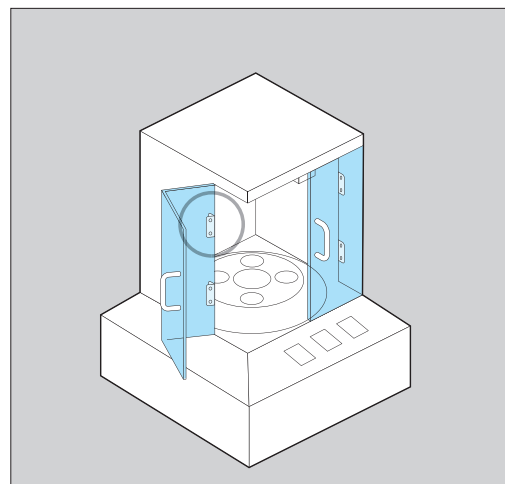
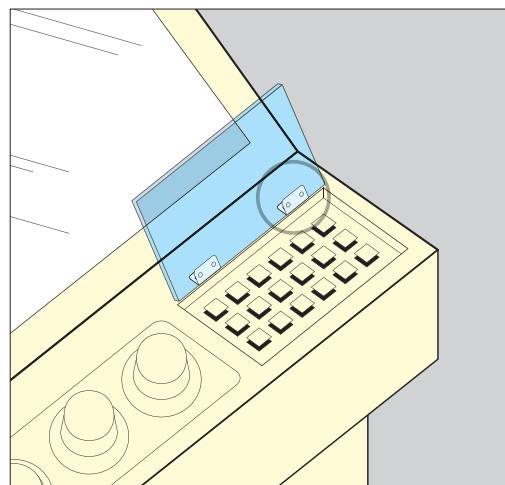
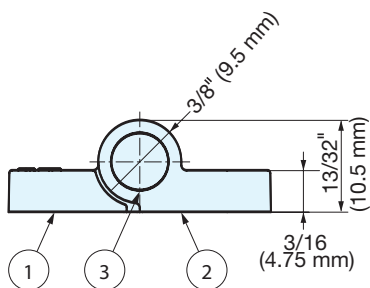
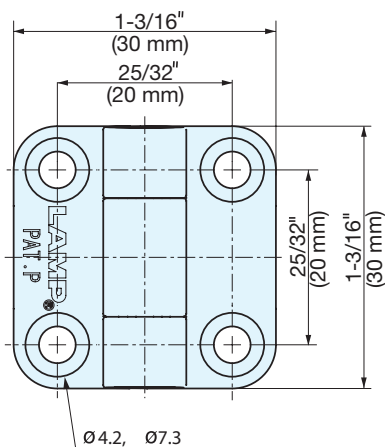
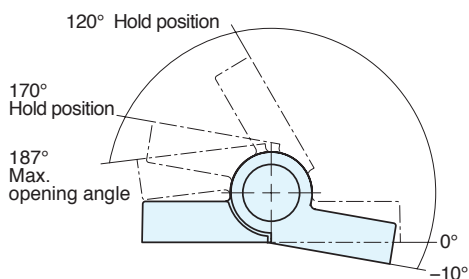
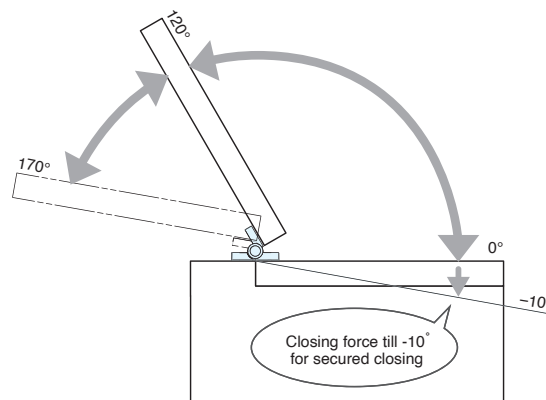


White



Black

- Plastic hinge holds doors at 3 different positions (-10°, 120°, 170°).
- Door weight: Max 1.0kg/pair (2.2lbs/pair).
- Ideal for small equipment with light weight doors such as measuring devices, medical equipment, etc.
- Additional stopper recommended at 0° and 170°.



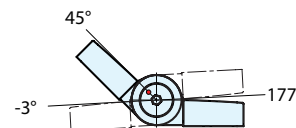
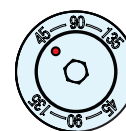
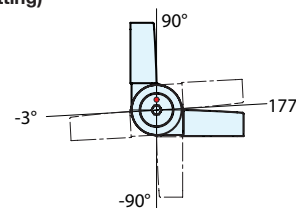
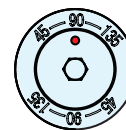
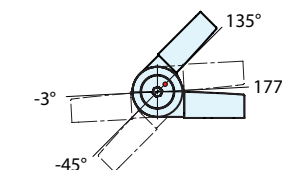
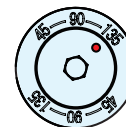
Item No.	Weight (g)	Box (pcs)	Carton (pcs)
HG-MPS2-BL	6.9	20	200
HG-MPS2-WT			

No.	Part Name	Material	Finish
①	Body A	PBT	White/Black
②	Body B		
③	Cap	ABS	



- Holds at 4 angles:  $-3^\circ$ ,  $-90^\circ$ ,  $90^\circ$  and  $177^\circ$  (factory setting).
- The holding angle of  $90^\circ$  can be switched to  $45^\circ$  or  $135^\circ$ .
- Can be used both vertically and horizontally.
- Ideal for environmental test equipment or laboratory equipment.
- Adjustments of angles must be made when hinge is in opened position.
- Use  $\varnothing 5\text{mm}$  hex key for tension adjustment screw.

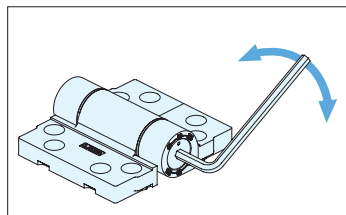
## Available Detent Angles

•  $45^\circ$ •  $90^\circ$  (Factory Setting)•  $135^\circ$ 

(Without Covers)



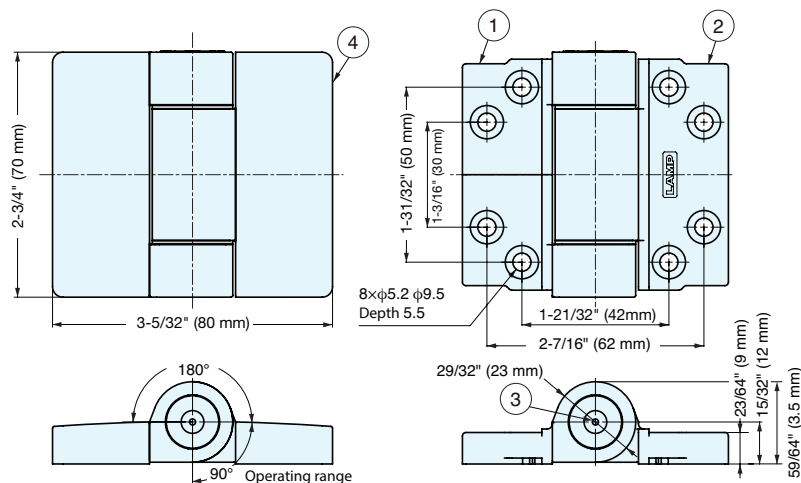
Application Example



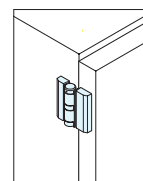
Can be adjusted by a hex key



Application Example

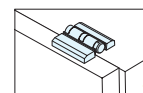


## Lateral Opening



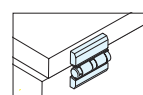
Weight: Max. 17.64 lbs (8 kg)  
Width: Max. 19-11/16" (500 mm)  
Height: Max. 39-3/8" (1,000 mm)

## Upward Opening



Torque: Max. 15.05 lbs-in  
Height: Max. 9-27/32" (250 mm)

## Top Opening



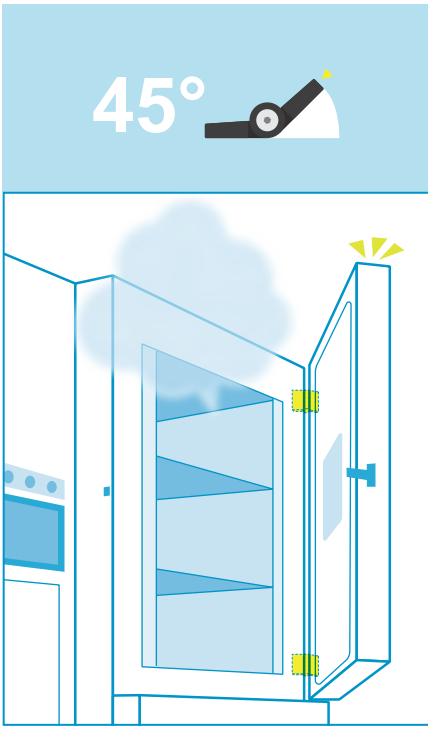
Torque: Max. 21.24 lbs-in  
Height: Max. 11-13/16" (300 mm)

Item No.	Color	Retaining Torque (kgf·cm)	Weight (g)	Box (pcs)	Carton (pcs)
HG-CHJ70BL	Black	20.4 (17.71 lbs-in)	115	10	80
HG-CHJ70WT	White				

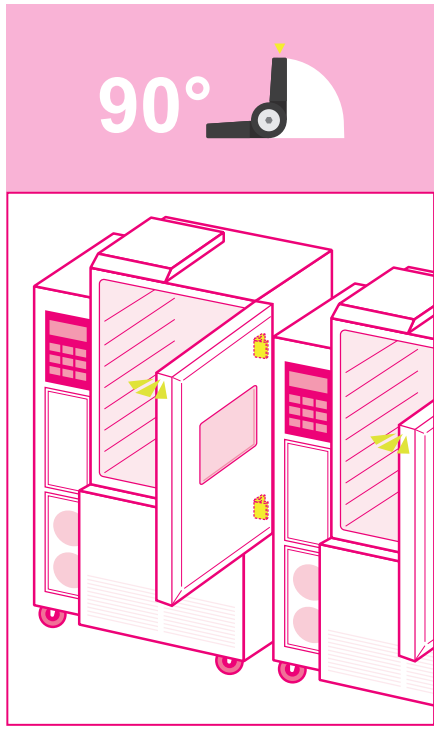
No.	Part Name	Material
①	Fixed Bracket	POM (Plastic)
②	Movable Bracket	
③	Shaft	Stainless Steel
④	Cover	ABS (Plastic)

# You can change the temporary holding angle!

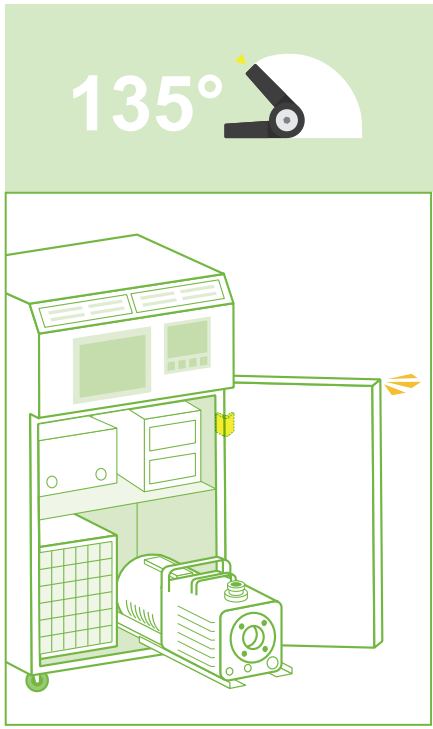
## All 3 angles available in one hinge



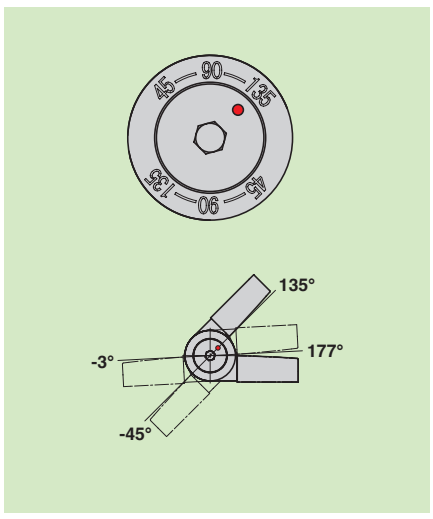
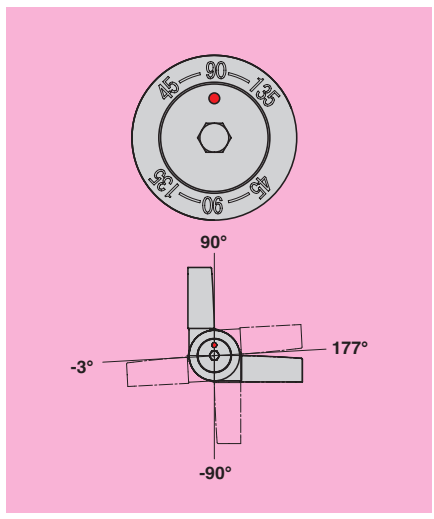
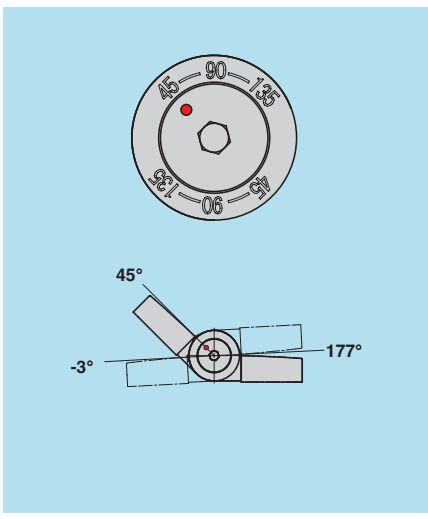
When maintaining temperatures is crucial, 45° opening keeps cold or hot temperatures from escaping.



The 90° opening setting keeps doors from interfering with adjacent equipment.



At 135° setting the opening allows full clearance and complete access.



# DETENT HINGE

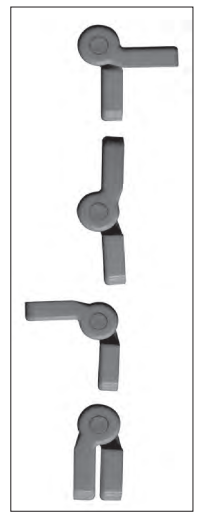


HG-YJ50

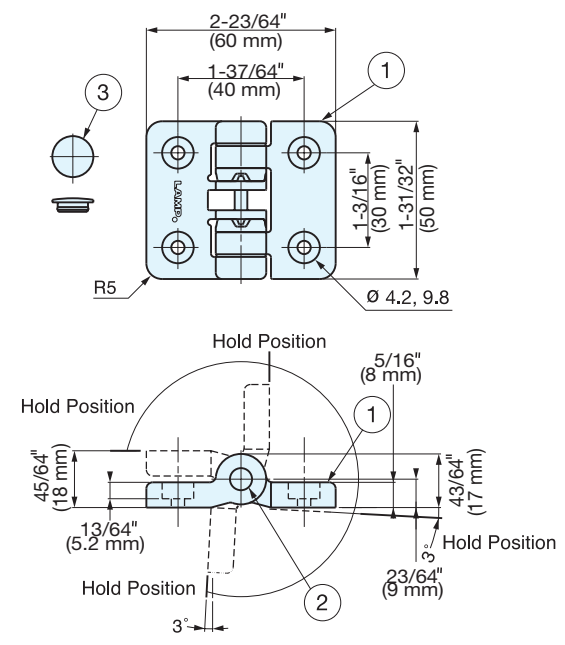
Click Motion



- Plastic hinge holds doors at 4 different positions (90° each) without secondary support.
- Ivory or Black available.
- Door sizes Max. W400 × H500 mm/pair (W15-3/4" × 19-11/16"/pair)
- Door weight: Max. 1.2 kg/pair (2.6 lbs/pair)



Holds at 4 positions, 90° each.



No.	Part Name	Material	Finish
①	Body	Polyacetal	Ivory/Black
②	Hinge Pin	303 Stainless Steel	Plain
③	Cap	Polypropylene	Ivory/Black

Item No.	Weight (g)	Box (pcs)	Carton (pcs)
HG-YJ50/IV	30	20	200
HG-YJ50/BL			

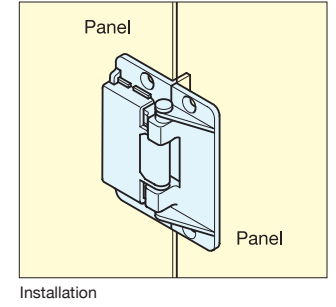
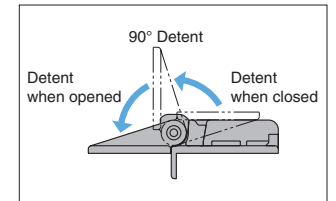
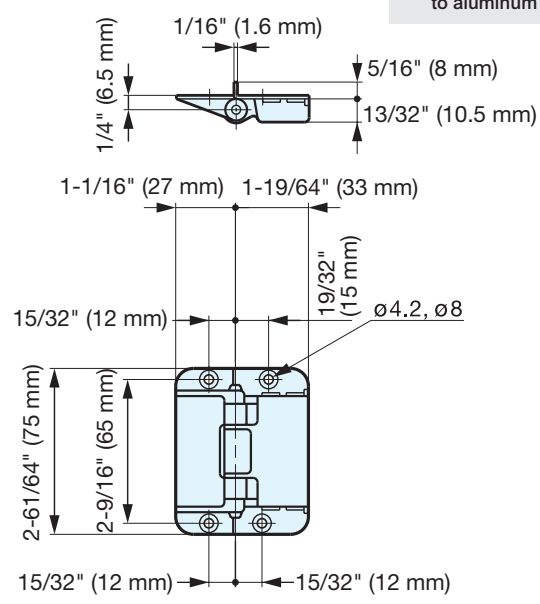
# CENTER HINGE FOR FOLDING DOORS



CH-75



- 180° opening with detent function (up to 90°).
- Hinge snaps in at open and closed positions.
- Ideal for folding doors in furniture, folding screens, light duty partitions, and similar applications.
- Removable hinge pin allows for easy installation.
- Designed for use with solid wood and MDF. Can also install to aluminum frame with AS-CH-75 parts set (sold separately).



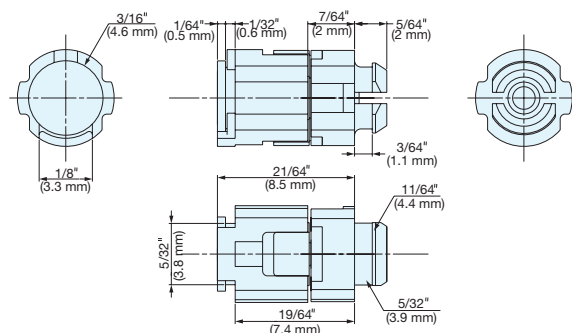
Item No.	Weight (g)	Box (pcs)	Carton (pcs)
CH-75/GB	100	42	168
CH-75/NI			

Material	Finish
Zinc Alloy	Bronze (GB) Nickel (NI)
Polyacetal	
Polyamide	

## MPH-20-5



- Ultra compact detent hinge suitable for clamshell type cell phones, PDA and other foldable devices.
- Small diameter of  $\varnothing 5$  for space-saving and downsizing of casing.
- Designed for 160 degrees opening, and detent catch in open and closed position.
- Easy snap-in for quick assembly.
- Passed 100,000 open/close private cycle test.



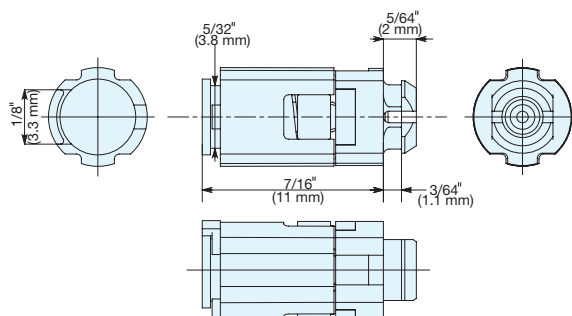
Item No.	Weight (g)	Carton (pcs)
MPH-20-5	0.46 (0.02 oz)	4000

Part Name	Material	Finish
Body	Polycetal	Grey
Spindle	Steel	Clear Zinc Chromate

## MPH-22



- Ultra compact detent hinge suitable for clamshell type cell phones, PDA and other foldable devices.
- Designed for 160 degrees opening, and detent catch in open and closed position.
- Easy snap-in for quick assembly.
- Passed 100,000 open/close private cycle test.



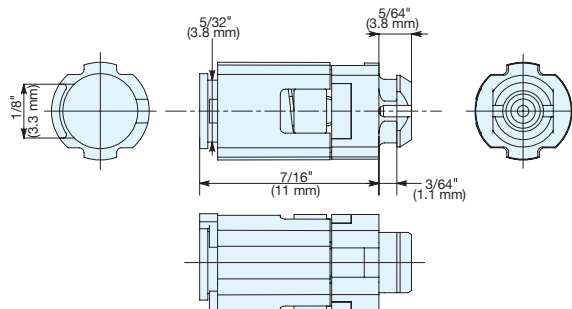
Item No.	Weight (g)	Carton (pcs)
MPH-22	0.62 (0.02 oz)	4000

Part Name	Material	Finish
Body	Polycetal	Grey
Spindle	Steel	Colored Zinc Chromate

## MPH-30



- 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 degrees opening, and detent catch in open and closed position.
- Easy snap-in for quick assembly.
- Passed 100,000 open/close private cycle test.



Item No.	Weight (g)	Carton (pcs)
MPH-30	1.01 (0.04 oz)	4000

Part Name	Material	Finish
Body	Polycetal	Black
Spindle	Steel	Clear Zinc Chromate





Click Motion

With locking lever

Without non-locking lever



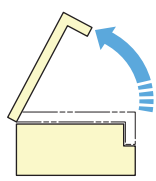
Left-handed

Right-handed

Left-handed

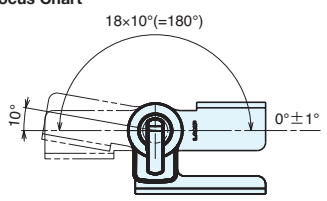
Right-handed

- Lock allows the hinge to be held in position from 0° to 180° in 10° increments. (Available without lock)
- Easily adjusts the flap angle by toggling the lever.
- 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.
- Ideal for medical equipment, analytical instruments, semiconductor equipment.

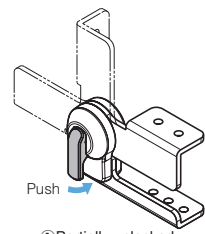


Holds in position at angles in 10° increments

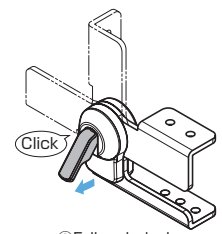
Locus Chart



Two Ways To Unlock

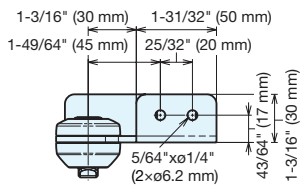
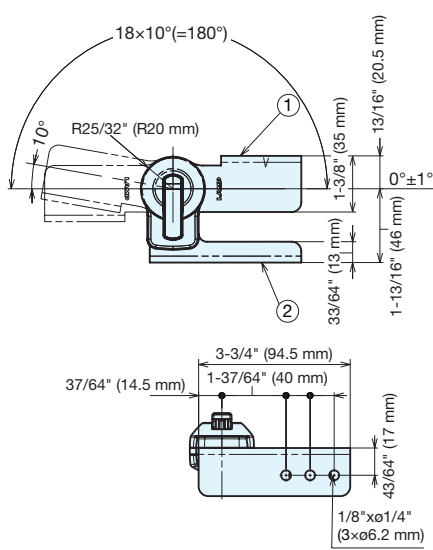


① Partially unlocked  
The flap is temporarily unlocked while the lever is pushed.

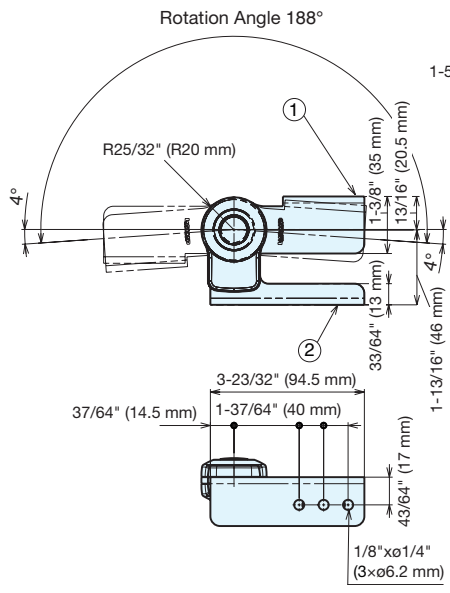
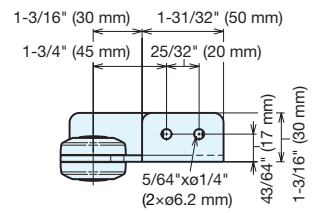


② Fully unlocked  
The flap stays unlocked when the lever is lifted.

HG-MA95A-L



HG-MA95AF-L



Left-handed shown. Right-handed is symmetrical.

No.	Part Name	Material	Finish
①	Bracket	Steel	Nickel
②	Base		
③	Plastic Cover	PC	Black
④	Pin	ABS	
⑤	Lever	PA	Light Gray

Item No.	Position	Type	Max Torque lb.in / pc	Weight (g)
HG-MA95A-L	Left-handed	With locking lever	398.3	351
HG-MA95A-R	Right-handed			
HG-MA95AF-L	Left-handed	Without non-locking lever	Free Swinging	
HG-MA95AF-R	Right-handed			

# MULTI ANGLE LOCKING HINGE



HG-MA95B

Click Motion

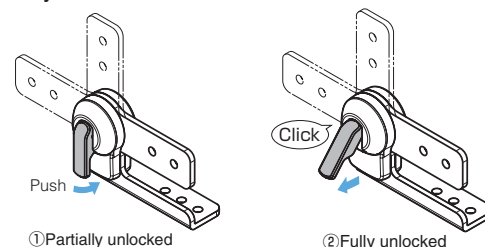
With locking lever

Without non-locking lever



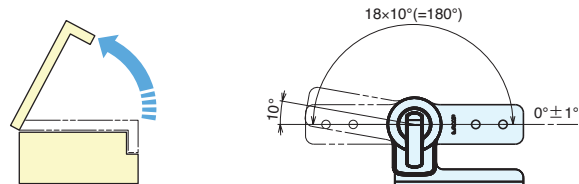
- Lock allows the hinge to be held in position from 0° to 180° in 10° increments. (Available without lock)
- Easily adjusts the flap angle by toggling the lever.
- The flap is temporarily unlocked while the lever is pushed.
- The flap stays unlocked when the lever is lifted.
- Both hinge types can be used together.
- Ideal for medical equipment, analytical instruments, semiconductor equipment.

Two Ways To Unlock



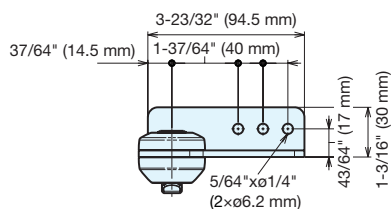
The flap is temporarily unlocked while the lever is pushed.  
The flap stays unlocked when the lever is lifted.

Locus Chart

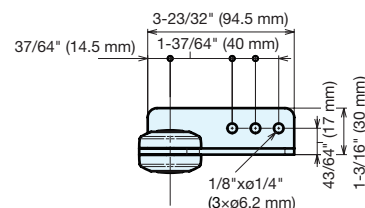


Holds in position at angles in 10° increments

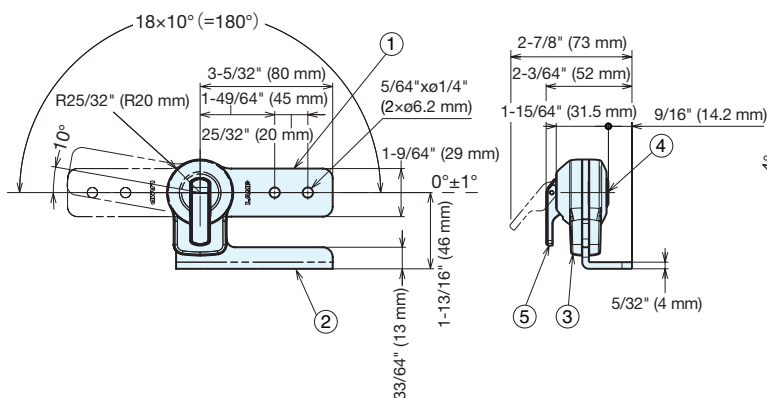
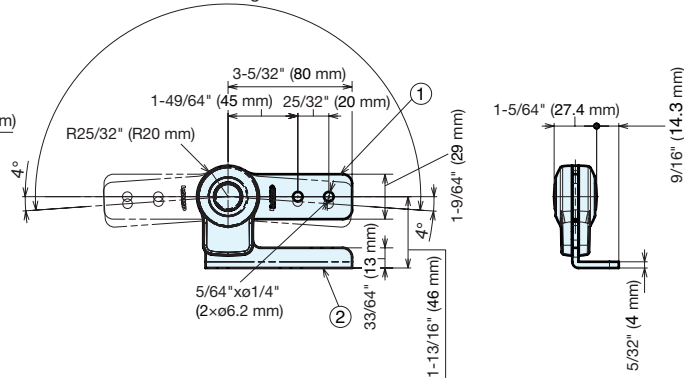
HG-MA95B-L



HG-MA95BF-L



Rotation Angle 188°



Left-handed shown. Right-handed is symmetrical.

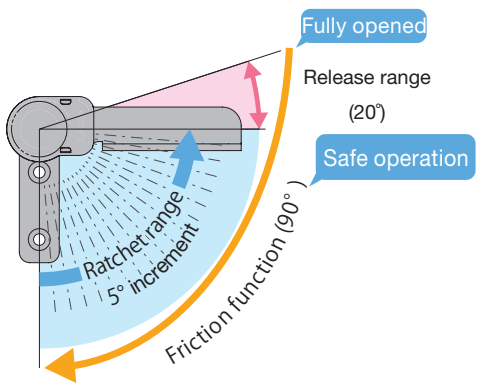
No.	Part Name	Material	Finish
①	Bracket	Steel	Nickel
②	Base		
③	Plastic Cover	PC	Black
④	Pin	ABS	
⑤	Lever	PA	Light Gray

Item No.	Position	Type	Max Torque lb.in / pc	Weight (g)
HG-MA95B-L	Left-handed	Locking with lever	398.3	305
HG-MA95B-R	Right-handed			
HG-MA95BF-L	Left-handed	Non-locking without lever	Free Swinging	
HG-MA95BF-R	Right-handed			

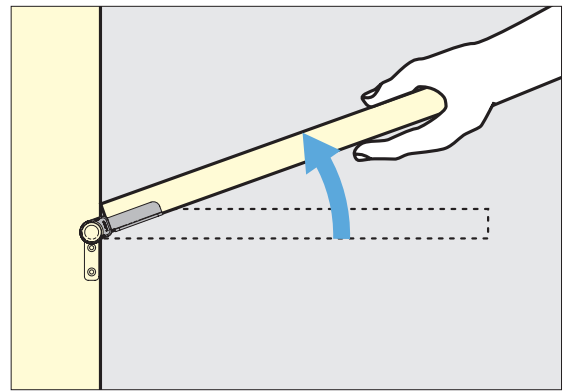
Click Motion



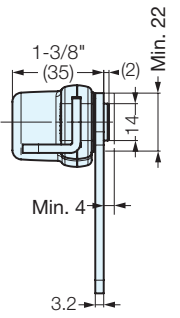
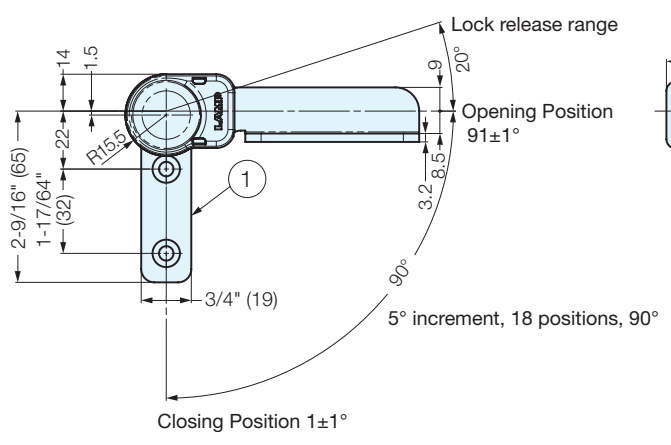
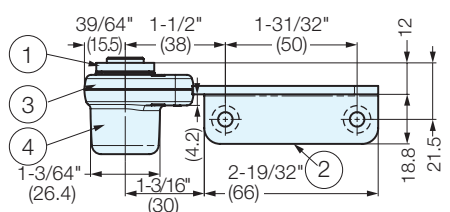
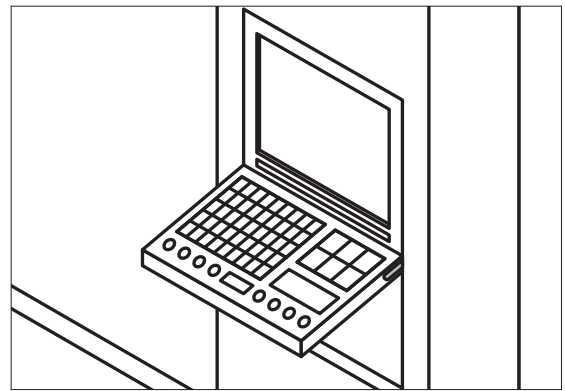
- Ratchet hinge holds at 18 angles in 5° increments from the closed position to the 90° max opened position.
- Lift up to the fully open position 108° to release the ratchet mechanism.
- The friction (resistance) function works when released for safe operation.
- Ideal for adjustable work surfaces such as keyboard trays or desks.
- Max. torque: 354 lbs·in/pair (408kgf·cm/pair).
- Each hinge requires 4 No. 12 (M5.5) flathead countersunk screws for installation (Screws not included).
- Sold in pairs.



### Lock Release



### Application Example



Item No.	Max Torque (kgf·cm/pair)	Weight (g)	Box (pair)	Carton (pair)
HG-RCT12-C	408 (354 lbs·in/pair)	350/pair	8	32

No.	Part Name	Material	Finish
①	Bracket	Steel	Nickel
②	Arm		
③	Cover	Polycarbonate	Light Gray
④	Cover		

# DETENT SWIVEL HINGE



HG-S15-16C



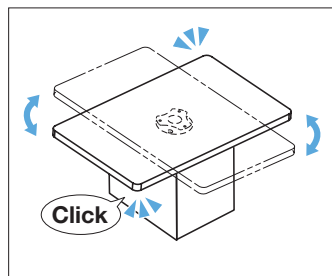
Horizontal: Cycle Test 20,000 times

Vertical: Cycle Test 10,000 times

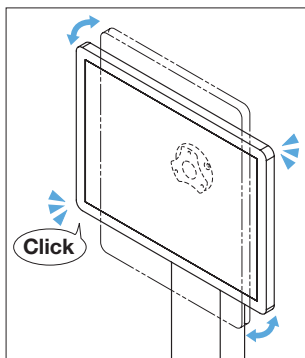
- Rotation angle: 360° Detent Hinge.
- 2 types: Holds at each 30° or Holds at each 90°
- Centre hole for cable management.
- The friction function works when non-click section.
- Operating temperature: 0°C~40°C.
- Tablet stand or Operation panel of machine tools, LCD, etc.
- M4 countersunk screws(3 pcs), M4 Screws(3 pcs).

Click Motion

## Application Examples



Horizontal mounting: on a table, etc.

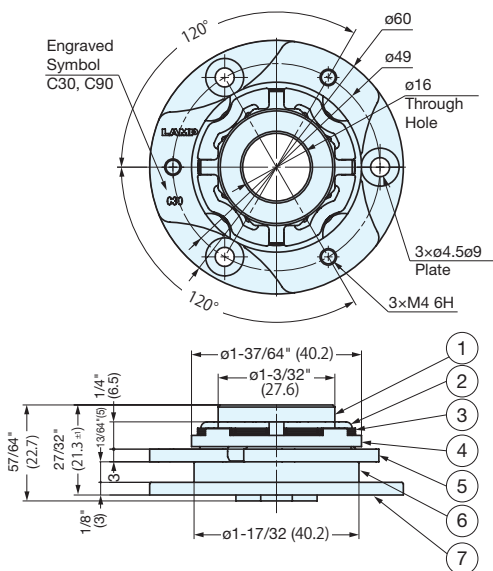


Vertical mounting: for adjusting the angle of the monitor, etc.

\*Reference load capacity: 1.5kg (at the position of 20mm offset load)

## Mounting Direction Examples

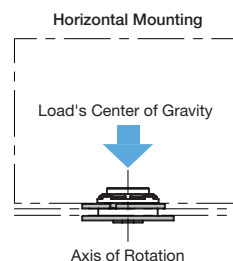
Attach the plate B side first, then attach the plate A side.



## Mounting direction and allowable vertical load/allowable moment

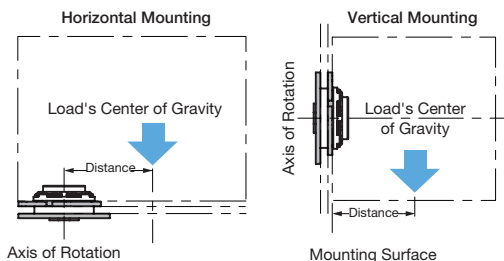
### Vertical Load Capacity

(The center of gravity of the load and the axis of rotation are the same).

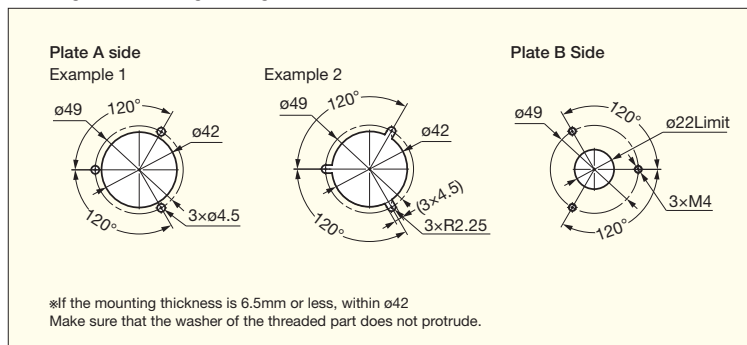


### Allowable Movement

(The center of gravity of the load and the axis of rotation do not match)



## Mounting hole machining drawing



\*if the mounting thickness is 6.5mm or less, within ø42  
Make sure that the washer of the threaded part does not protrude.

Item No.	Click Angle	Click Release Torque N·m	Torque N·m	Allowable moment N·m		Weight (g)
				Horizontal	Vertical	
HG-S15-16C30	30°	3.3±15%	1.5±15%	1.47	0.29	150
HG-S15-16C90	90°					

No.	Part Name	Material	Finish
1	Shaft	303 Stainless Steel	Plain
2	Spring Base	430 Stainless Steel	Polished
3	Spring Plate	Stainless Steel	
4	Ball Holder	Polyacetal (POM)	-
5	Plate A	430 Stainless Steel	Gloss Polished
6	Resin Washer	Polyacetal (POM)	-
7	Plate B	430 Stainless Steel	Gloss Polished

# Stainless Steel Handles.



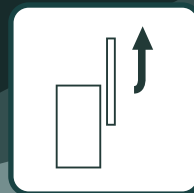
Compliment our **Motion Design Tec®** Soft Motion Hinges with many of our high quality stainless steel handles available in many designs, finishes, sizes and functions.

Our Handles range from 304 stainless steel to the highly corrosive resistant 316 stainless steel. Many of our stainless steel handles are RoHS compliant and NSF Components.

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# New openings Unique Motion



Expand variations of openings and closings locus

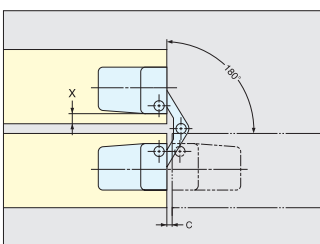
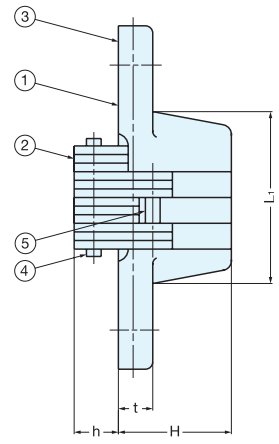
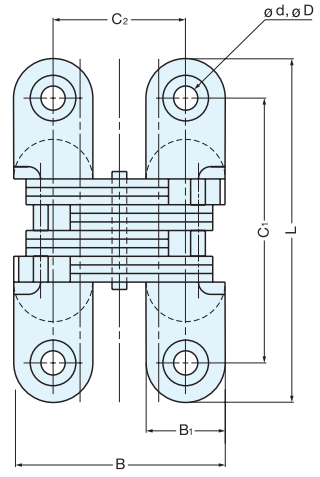
# CONCEALED HINGE



## R SERIES

Unique Motion

■ Door size: Max. W17-23/32" x H27-9/16" x t53/64" (W450 mm x H700 mm x t21 mm)

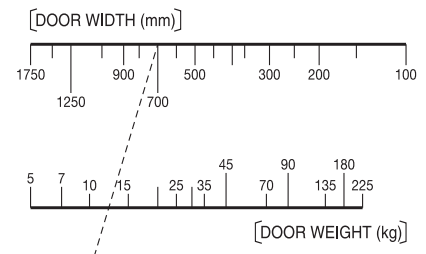


Distance between door edge and hinge must be less than the figures shown in column "X" of the dimension table below.

To determine the number of hinges required for each door:

• Using the chart to the right, locate the correct door width (upper scale) and door weight (lower scale). Draw a line connecting these 2 points to the chart below (point "a"). Then draw a vertical line through the lower chart to find the number and type of hinges required.

• Check door thickness requirements.



Item No.	Required Number Of Hinges (pcs)				Min. Door Thickness
	"a"				
R-43	2	3	4		13mm
R-45	2	3	4		19mm
R-60	2	3	4		19mm
R-70	2	3	4		25mm
R-100	2	3	4		29mm

Item No.	No. of Hinges (pcs)
R-43	3
R-45	3
R-60	3
R-70	2
R-100	2

In case of door width, 700mm and door weight, 15kg

No.	Part Name	Material	Finish
①	Body	Zinc Alloy	Stain Chrome
②	Link Arm	304 Stainless Steel	
③	Pin A	R-43~70 304 Stainless Steel	Plain
		R-100, Steel	
④	Pin B	304 Stainless Steel	
⑤	Pin C	R-43~70 304 Stainless Steel	
		R-100, Steel	

Item No.	L	L <sub>1</sub>	B	B <sub>1</sub>	C <sub>1</sub>	C <sub>2</sub>	H	h	t	D	d	C	X	Arm (qty)	Weight (g)	Box (pcs)	Carton (pcs)	Screw
R-43	1-11/16" (43 mm)	55/64" (22 mm)	1-9/64" (29 mm)	7/16" (11 mm)	1-17/64" (32 mm)	45/64" (18 mm)	33/64" (13 mm)	13/64" (5 mm)	13/64" (5 mm)	1/4" (6.2 mm)	9/64" (3.5 mm)	1/32" (0.8 mm)	3/32" (2.3)	12	37	30	300	3.1×16
R-45	1-25/32" (45 mm)	3/4" (19 mm)	1-13/32" (35.7 mm)	33/64" (13 mm)	1-17/64" (32 mm)	57/64" (22.7 mm)	47/64" (18.5 mm)	15/64" (6 mm)	13/64" (5 mm)	9/32" (7 mm)	9/64" (3.5 mm)	1/32" (0.8 mm)	1/8" (3)	8	56	20	200	3.1×20
R-60	2-23/64" (60 mm)	1-19/64" (33 mm)	1-25/64" (35.2 mm)	33/64" (13 mm)	1-27/32" (47 mm)	7/8" (22.2 mm)	47/64" (18.5 mm)	1/4" (6.5 mm)	1/4" (6.5 mm)	21/64" (8.3 mm)	11/64" (4.3 mm)	3/64" (1 mm)	1/8" (3)	12	94	10	100	3.5×20
R-70	2-3/4" (70 mm)	1-3/8" (35 mm)	1-43/64" (42.6 mm)	41/64" (16.1 mm)	2-3/32" (53 mm)	1-3/64" (26.6 mm)	29/32" (23 mm)	23/64" (9 mm)	9/32" (7.3 mm)	23/64" (9.1 mm)	3/16" (4.6 mm)	3/64" (1.2 mm)	9/64" (3.5)	12	157	10	100	4.0×25
R-100	3-15/16" (100 mm)	2-3/64" (52 mm)	2-3/32" (53.2 mm)	25/32" (20 mm)	3-5/32" (80 mm)	1-5/16" (33.2 mm)	1-5/64" (27.5 mm)	3/8" (9.5 mm)	3/8" (9.5 mm)	25/64" (10 mm)	13/64" (5.3 mm)	5/64" (1.8 mm)	3/16" (4.8)	16	342	10	60	4.5×32

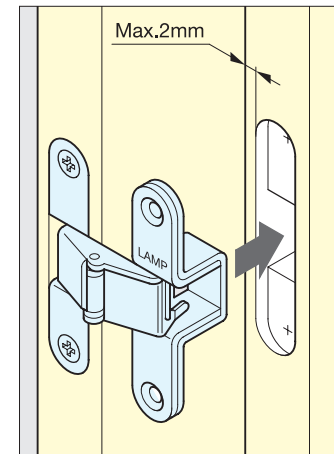
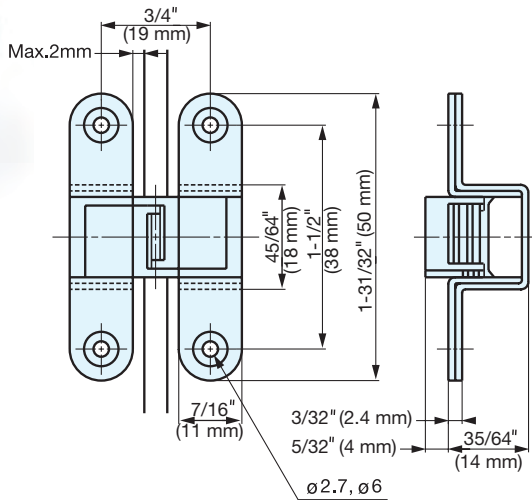
# CONCEALED HINGE



RK-50



- Door Size Max: W17-23/32" x H27-9/16" (W450 mm x H700 mm)
- Door Weight Max: 5.7 lbs/pair (2.6 kg/pair)
- Door thickness: 19/32" ~ 53/64" (15 mm ~ 21 mm)



Unique Motion

Item No.	Weight (g)	Box (pcs)	Carton (pcs)
RK-50	28	24	240

Material	Finish
304 Stainless Steel	Stain

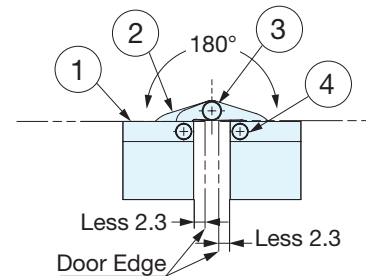
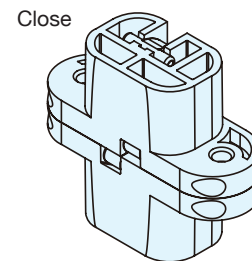
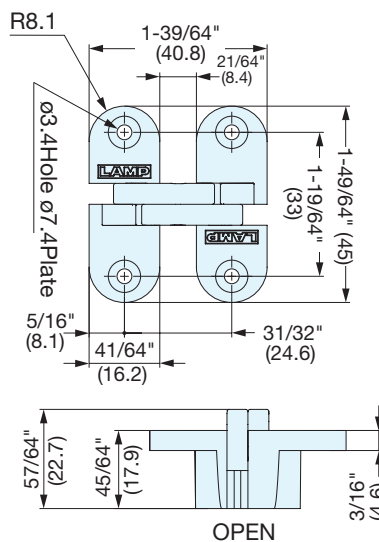
# CONCEALED HINGE



RK-45



- Opening angle is 180 degrees.
- No additional catch required.



Item No.	Finish	Open Angle	Weight (g)
RE-45-BL	Black	180°	17.1
RE-45-WT	White		

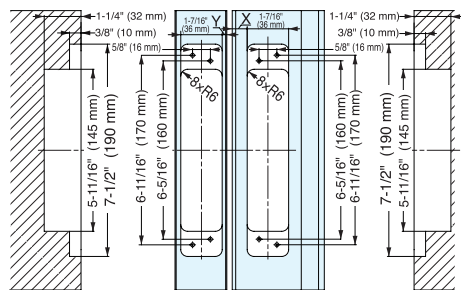
No.	Part Name	Material	Finish
①	Body	PA	-
②	Arm	Zinc Alloy	Chrome Nickel
③	Shaft	304 Stainless Steel	-
④			



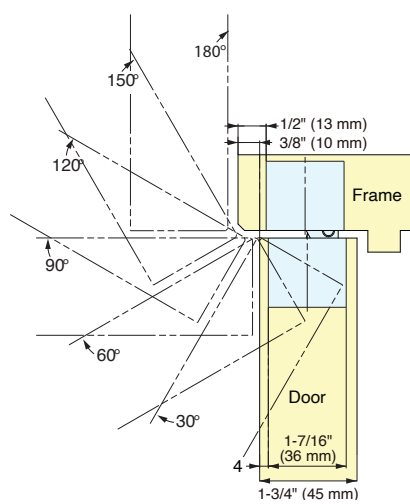
HES3D-W190DC-UL HES3D-W190DN-UL HES3D-W190WT HES3D-W190PB HES3D-W190PN HES3D-W190BL-UL

- Has a long arm for a wider throw, allowing 3/8" (10 mm) clearance for flush installation or 1/2" (13 mm) clearance for installation with a molding. Opens to 180 degrees.
- Features 3-way adjustability (vertical, horizontal and depth).
- UL Rated, up to 3 Hours (DC, DN, and BL models only)
- Flanges come apart for the door to be provisionally hung for making adjustments. This provides a quick and easy installation when ready for fixing screws.
- Successfully passed 300,000 open/close private cycle tests
- Replacement screw covers available for all finishes.
- Only the HES3D-W190PN model includes metal cover plates\*, all other models include plastic cover plates.

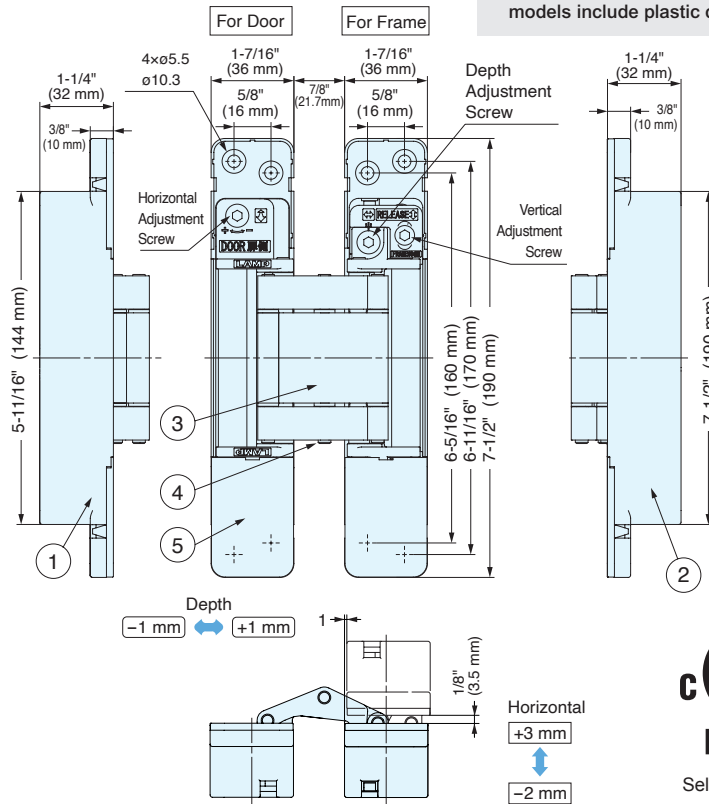
Cut Out Dimension



Please drill prepared holes for the tapping screws if the optional jig (HES3D-W190-TMP) is not used.



The example drawing shows the case that there is a step of 10 mm between the door and the frame.



Select models only

No.	Part Name	Material	Finish/Color					
			DC	DN	BL	PN	WT	PB
1	Body	Zinc Alloy (ZDC)	Satin	Nickel	Enamel Black	Nickel	Enamel White	Brass
2	Base Frame							
3	Arm	Aluminium Alloy	Plain	Plain	Plain	Plain	Plain	Plain
4	Shaft	Stainless Steel	Plain	Plain	Plain	Plain	Plain	Plain
5	Screw Cover	ABS/Stainless Steel*	Silver	Dull Nickel	Black	Nickel	White	Brass

Item Name	Finish	Door Size			Door Weight		Opening Angle	Weight (g)	Box (pcs)	Carton (pcs)
		Width	Height	Thickness	2 pcs	3 pcs				
HES3D-W190DC-UL	Dull Chrome	Max. 36" (915 mm)	Max. 96-1/16" (2440 mm)	Min. 1-5/8" (42 mm)	Max. 220 lbs (100 kg)	Max. 275 lbs (125 kg)	180°	-	2	12
HES3D-W190DN-UL	Dull Nickel								2	12
HES3D-W190BL-UL	Black								2	12
HES3D-W190PN	Polished Nickel								2	12
HES3D-W190WT	White								2	12
HES3D-W190PB	Polished Brass								2	12

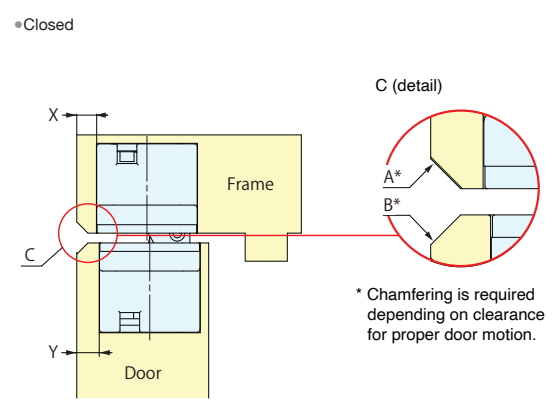
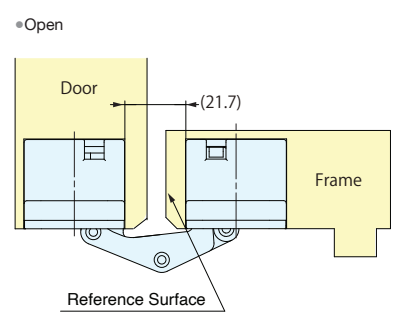
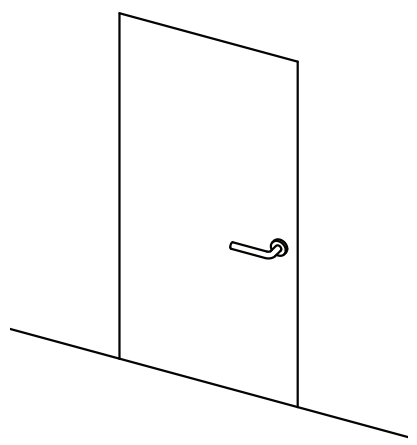
# 3-WAY ADJUSTABLE CONCEALED HINGE (FOR CLADDED DOORS)



## HES3D-W190

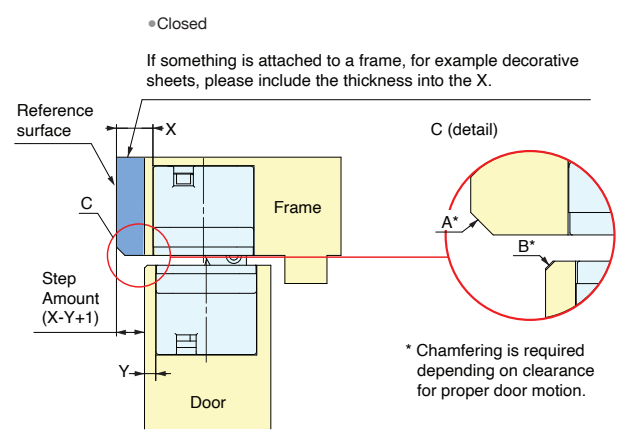
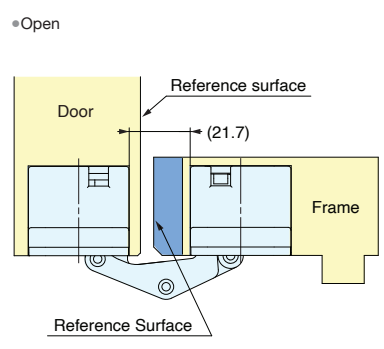
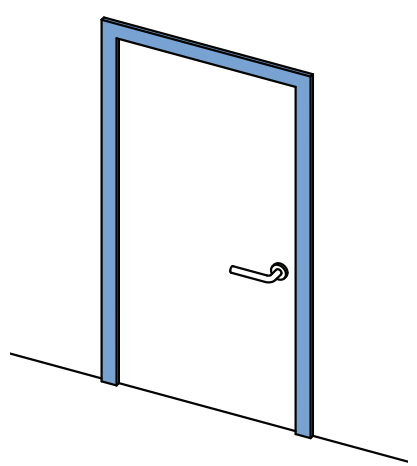
Unique Motion

### Flush Installation



Y	B	X	A
Door Clearance	Door Chamfering	Frame Clearance	Frame Chamfering
4 and under	0	3 and under	0
5	1	4	1
6	2	5	2
7	3	6	3
8	4	7	4
9	6	8	6

### Installation with Molding



Available on doors which are not aligned flush to the wall or frame.

Y	B	X	A	X-Y+1
Door Clearance	Door Chamfering	Frame Clearance	Frame Chamfering	Step Amount
3	0	3 to 12	0	1 to 10
		13	1	11
		14	2	12
		15	4	13
4	1	3 to 10	0	0 to 7
		11	1	8
		12	2	9
		13	3	10
5	2	3 to 6	0	-1 to 2
		7	1	3
		8	2	4
		9	3	5
5	3	10	4	6
		11	4	7
		12	5	8
		13	6	9

Y	B	X	A	X-Y+1
Door Clearance	Door Chamfering	Frame Clearance	Frame Chamfering	Step Amount
6	3	3 to 6	0	-2 to 1
		7	1	2
		8	2	3
		9	3	4
6	4	10	4	5
		11	5	6
		12	6	7
		3 to 6	0	-3 to 0
7	5	7	1	1
		8	2	2
		9	3	3
		10	5	4
7	5	11	7	5
		3 to 6	0	-4 to -1
		7	1	0
		8	3	1
8	6	9	5	2
		10	7	3

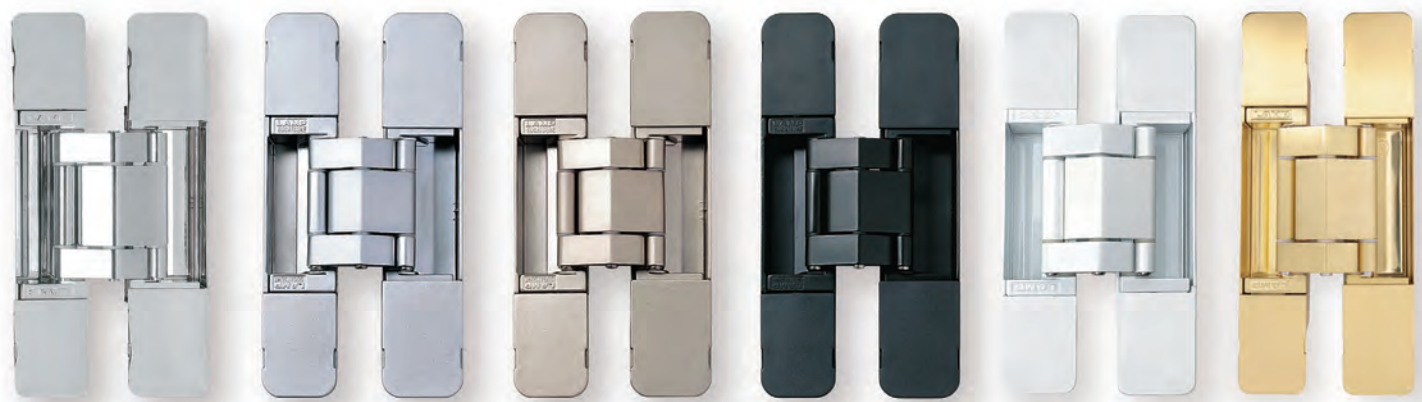


# 3-WAY ADJUSTABLE CONCEALED HINGE



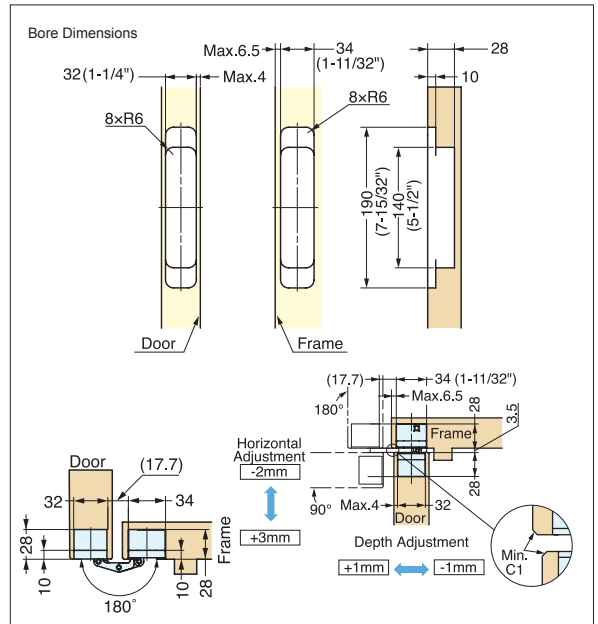
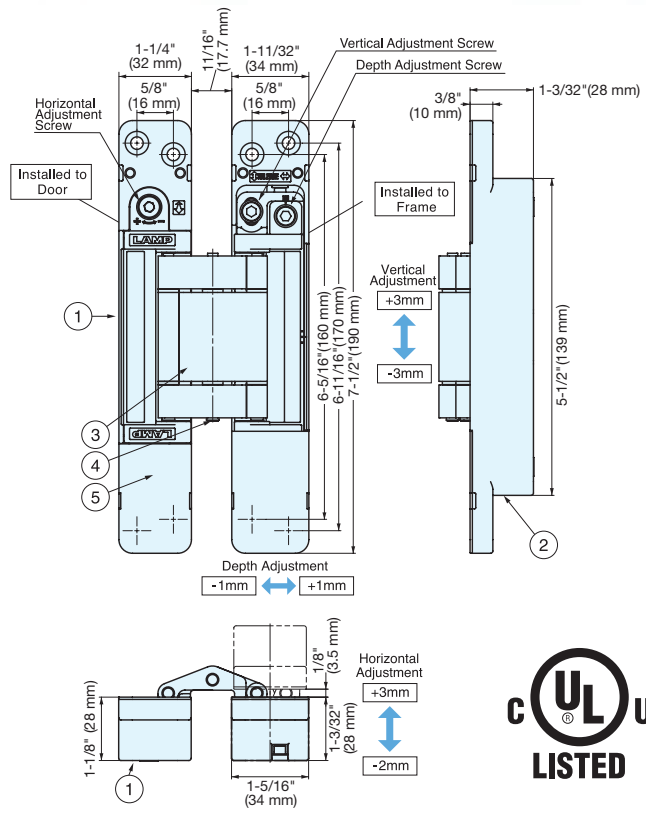
HES3D-E190

Unique Motion



HES3D-E190PN-UL    HES3D-E190DC-UL    HES3D-E190DN-UL    HES3D-E190BL-UL    HES3D-E190WT-UL    HES3D-E190BB-UL

- 3-WAY adjustment function allows vertical, horizontal, and depth adjustment after hinge installed.
- Easy installation with LIFT-OFF FEATURE: can be split into two parts (one for the frame and one for the flap), can temporarily be hung and hold position without being affixed with screws.
- Successfully passed 300,000 open/close private cycle tests.
- UL Rated, up to 3 Hours
- Supplied with steel flat head screw.
- Covers hide all screw heads for clean appearance.
- Door weight max: 220 lbs (100 kg)/2 pcs, 275 lbs (125 kg)/3 pcs.
- Door thickness min: 1-1/2" (38 mm).
- Max. door size: H 94-1/2" (2400 mm) × W 35-7/16" (900 mm).
- Bracket for sheet metal doors and frames available (sold separately).
- Metal cover plates (HES3D-E190PN-CM) sold separately for Polished Nickel (PN) finish.
- Metal cover plates included with Bright Brass (BB) finish.



No.	Part Name	Material	Finish/Color
①	Body	Zinc Alloy	Polished Nickel (PN) Dull Chrome (DC) Dull Nickel (DN) Matte Black (BL), White (WT) Bright Brass (BB)
②	Base Frame	Zinc Alloy	Polished Nickel (PN) Dull Chrome (DC) Dull Nickel (DN) Matte Black (BL), White (WT) Bright Brass (BB)
③	Arm	Aluminum Alloy	Polished Nickel (PN) Dull Chrome (DC) Dull Nickel (DN) Matte Black (BL), White (WT) Bright Brass (BB)
④	Pin	304 Stainless Steel	-
⑤	Cover	ABS	Polished Nickel (PN) Dull Chrome (DC) Dull Nickel (DN) Matte Black (BL), White (WT) Bright Brass (BB)

Item No.	Finish/Color	Weight (g)	Box (pcs)	Carton (pcs)
HES3D-E190PN-UL	Polished Nickel	1050	2	12
HES3D-E190DC-UL	Dull Chrome			
HES3D-E190DN-UL	Dull Nickel			
HES3D-E190BL-UL	Matte Black			
HES3D-E190WT-UL	White			
HES3D-E190BB-UL	Bright Brass			

# 3-WAY ADJUSTABLE CONCEALED HINGE



# HES3D-E160

Unique Motion

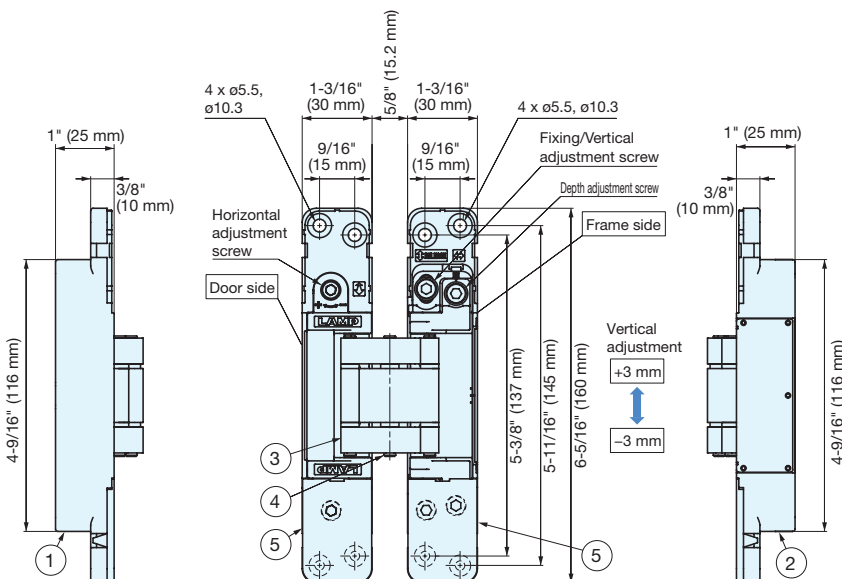


HES3D-E160DC

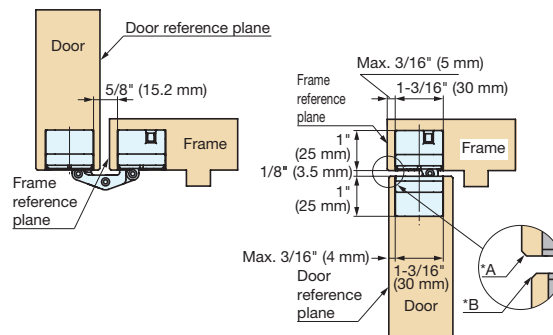
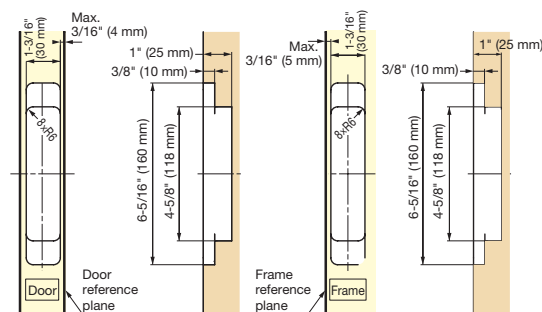
HES3D-E160DN

HES3D-E160BL

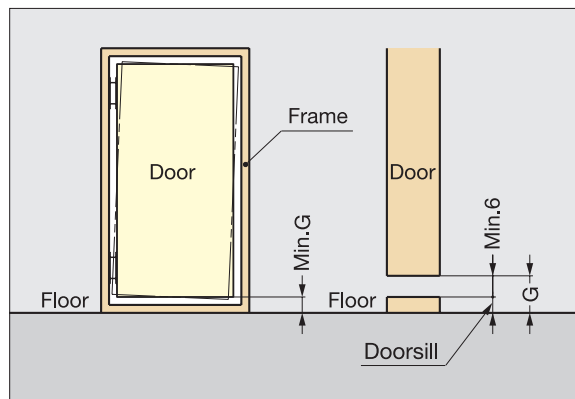
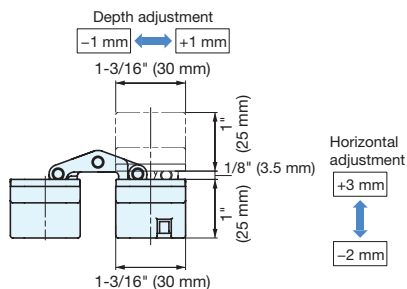
- Easy installation with symmetrical leaves and lift-off feature.
- 3-WAY adjustment function allows vertical, horizontal, and depth adjustment after hinge installed.
- Door weight max: 121 lbs (55 kg)/2 pcs, 154 lbs (70 kg)/3 pcs
- Door thickness min: 1-3/8" (35 mm)
- Max. door size: H 94-1/2" x W 35-7/16" (H 2400 mm x W 900 mm)
- Successfully passed 300,000 open/ close private cycle tests.



### Bore Dimensions



\*Chamfer the marked part with C1, R1 or a larger value.



To determine the door and frame dimension, (G) must be taken into account.  
G = Min. 6 mm + doorsill

No.	Part Name	Material	Finish/Color
①	Body	Zinc Alloy	Dull Chrome (DC), Dull Nickel (DN), Black (BL)
②	Base Frame		
③	Arm	Aluminum	
④	Pin	304 Stainless Steel	-
⑤	Cover	ABS	Dull Chrome (DC), Dull Nickel (DN), Black (BL)

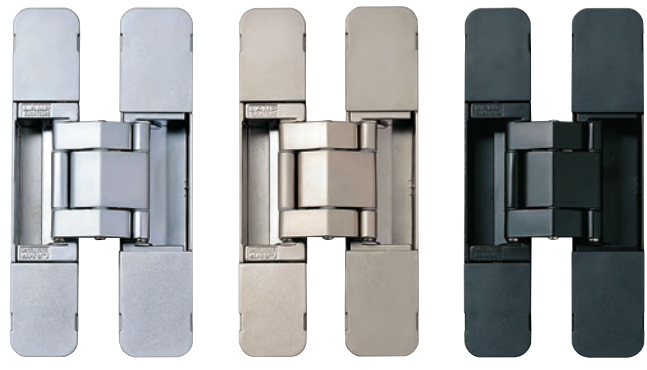
Item No.	Finish Color	Weight (g)	Box (pcs)	Carton (pcs)
HES3D-E160DC	Dull Chrome	760	2	12
HES3D-E160DN	Dull Nickel			
HES3D-E160BL	Matte Black			

# 3-WAY ADJUSTABLE CONCEALED HINGE



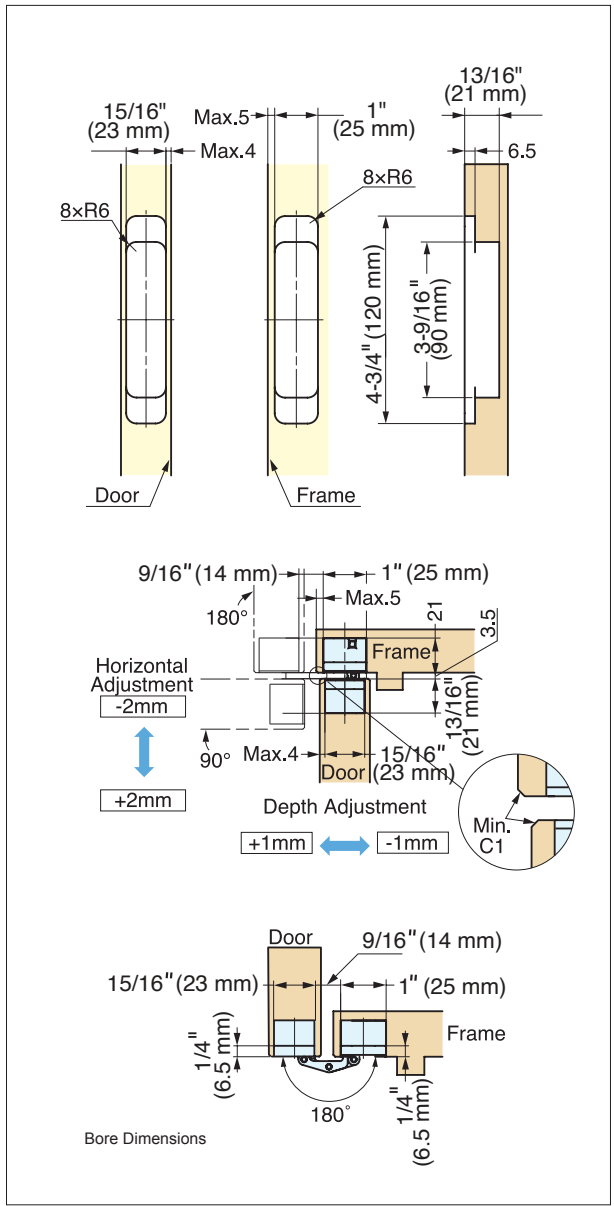
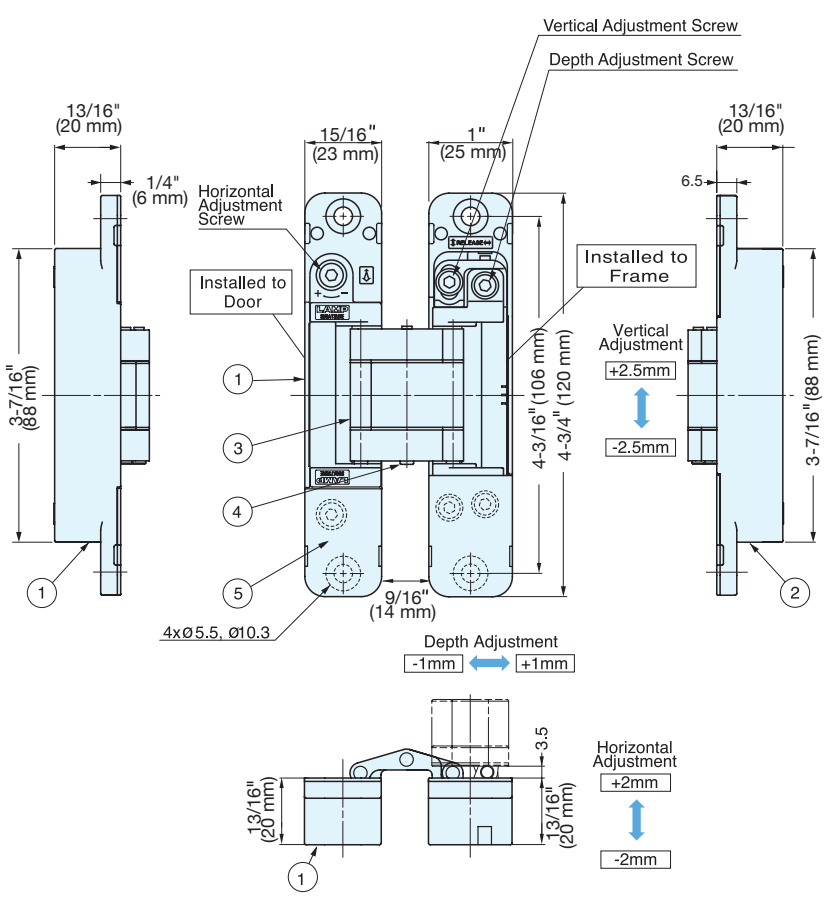
HES3D-120

Unique Motion



HES3D-120DC      HES3D-120DN      HES3D-120BL

- 3-WAY adjustment function allows vertical, horizontal, and depth adjustment after hinge installed.
- Easy installation and adjustment.
- Successfully passed 300,000 open/close private cycle tests.
- Supplied with steel flat head screw.
- Covers hide all screw heads for clean appearance.
- Door weight max: 66 lbs (30 kg)/2 pcs, 88 lbs (40 kg)/3 pcs
- Door thickness min: 1-1/8" (29 mm)
- Max. door size: H 94-1/2" (2400 mm) × W 35-7/16" (900 mm)
- Bracket for sheet metal available.



No.	Part Name	Material	Finish/Color
①	Body	Zinc Alloy	Dull Chrome (DC)
②	Base Frame		Dull Nickel (DN)
③	Arm		Black (BL)
④	Pin		304 Stainless Steel
⑤	Cover	ABS	Dull Chrome (DC) Dull Nickel (DN) Black (BL)

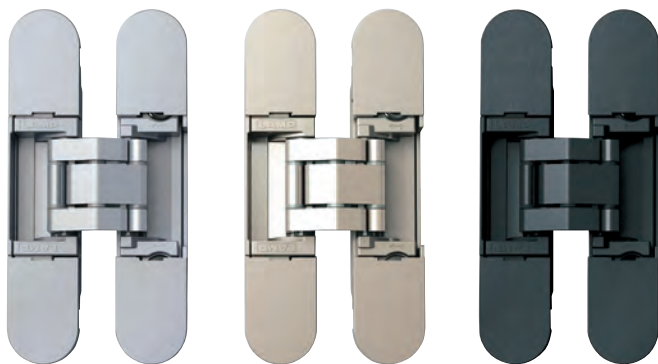
Item No.	Finish/Color	Weight (g)	Box (pcs)	Carton (pcs)
HES3D-120DC	Dull Chrome	380	2	24
HES3D-120DN	Dull Nickel			
HES3D-120BL	Black			

# 3-WAY ADJUSTABLE CONCEALED HINGE



# HES3D-90

Unique Motion

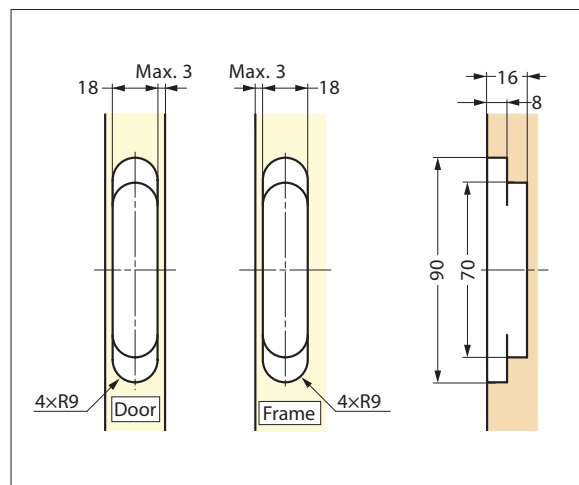
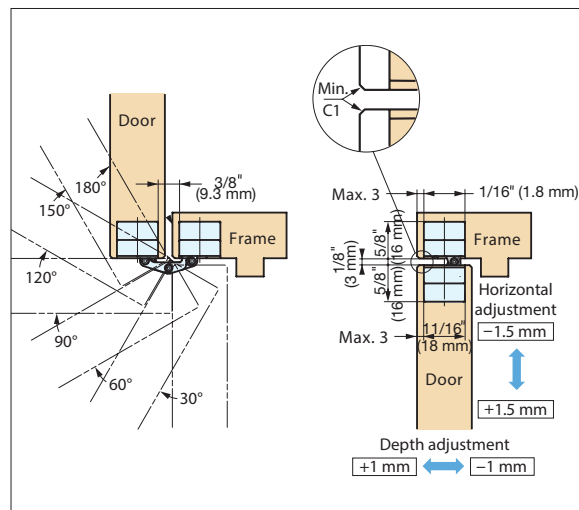
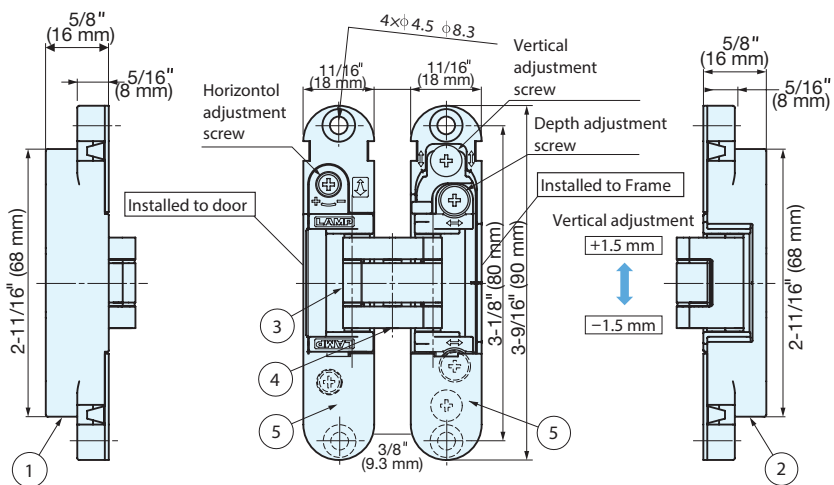


HES3D-90DC

HES3D-90DN

HES3D-90BL

- 3-WAY adjustment function allows vertical, horizontal, and depth adjustment.
- Covers hide all screw heads for clean appearance.
- Hinge leaves separate for easy installation and adjustment.
- Door weight max: 26 lbs (12 kg)/2 pcs, 35 lbs (16 kg)/3 pcs
- Door thickness min: 15/16" (23 mm)
- Max door size: H 59-1/16" (1500 mm) × W 23-5/8" (600 mm)
- Includes steel countersunk wood screws.



Cut Out Dimensions

No.	Part Name	Material	Finish/Color		
			DC	DN	BL
①	Body	Zinc Alloy	Dull Chrome	Dull Nickel	Black
②	Base Frame				
③	Arm				
④	Shaft	Stainless Steel	-	-	-
⑤	Cover	ABS	Dull Chrome	Dull Nickel	Black

Item No.	Finish	Min. Door Thickness	Weight (g)	Box (pcs)	Carton (pcs)
HES3D-90DC	Dull Chrome	23 (15/16")	198	2	48
HES3D-90DN	Dull Nickel				
HES3D-90BL	Black				

# 3-WAY ADJUSTABLE CONCEALED HINGE



HES3D-70

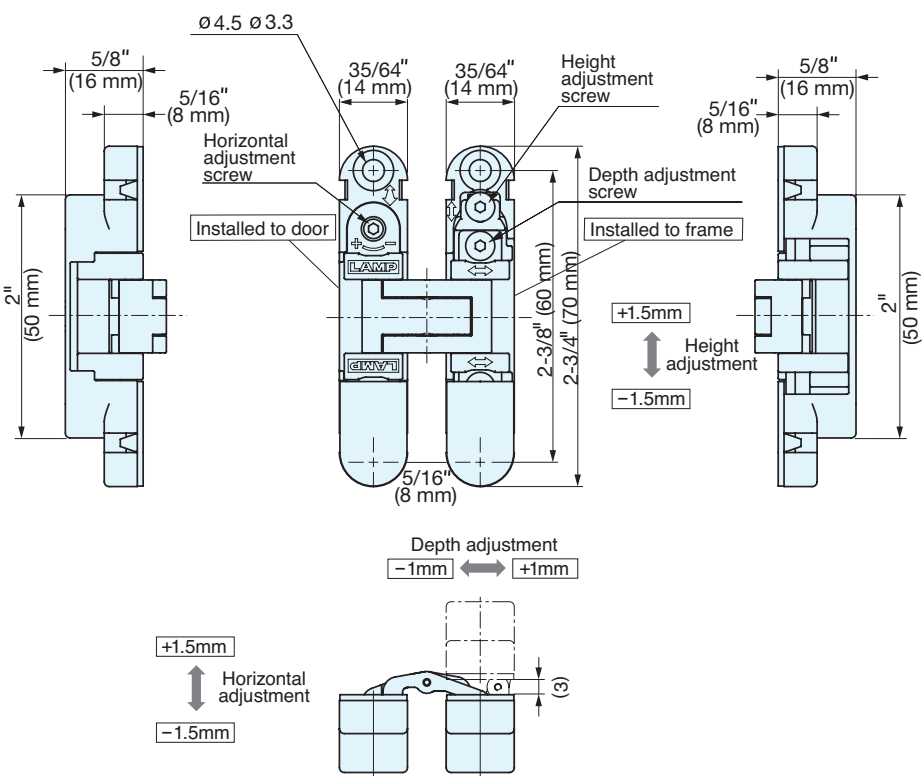
Unique Motion



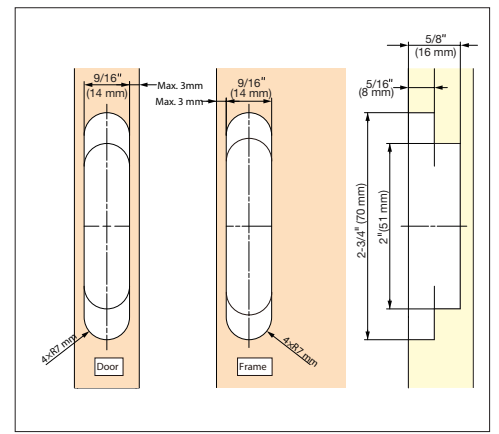
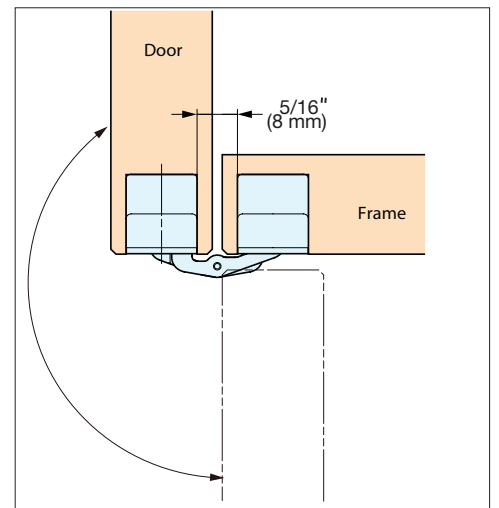
HES3D-70DC

HES3D-70DN

HES3D-70BL



- 3-WAY adjustment function allows vertical, horizontal and depth adjustment after installation.
- Hinge leaves separate for easy installation.
- Covers hide screw heads for clean appearance.
- Includes steel countersunk wood screws.
- Door weight max: 19.8 lbs (9 kg)/2 pcs, 26.4 lbs (12 kg)/3 pcs.
- Door thickness min: 3/4" (19 mm).
- Max. door size: 47-1/4" x 23-5/8" (H 1200 mm x W 600 mm).



Bore Dimensions

Item No.	Finish	Min. Door Thickness	Weight (g)	Box (pcs)	Carton (pcs)
HES3D-70DC	Dull Chrome	19 (3/4")	95	2	48
HES3D-70DN	Dull Nickel				
HES3D-70BL	Black				

Part Name	Material
Body	Zinc Alloy
Base Frame	
Arm	Stainless Steel
Shaft (Pin)	
Cover	ABS



# 3-WAY ADJUSTABLE STAINLESS STEEL CONCEALED HINGE



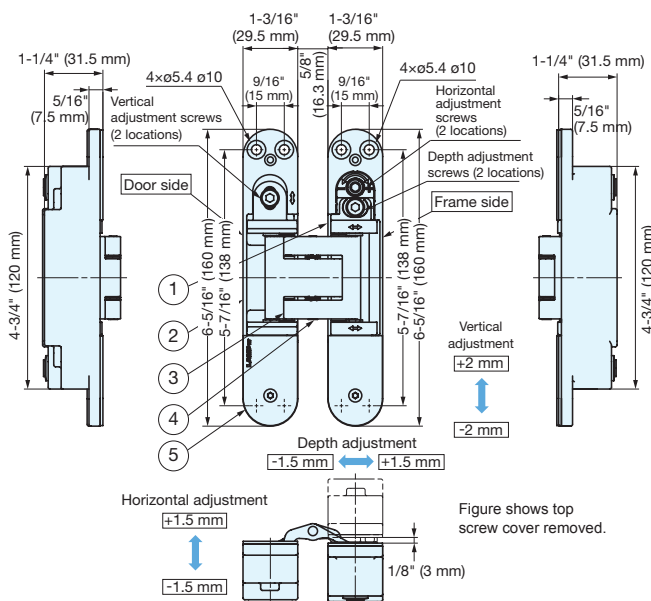
# HGS3D-S160SH

Unique Motion

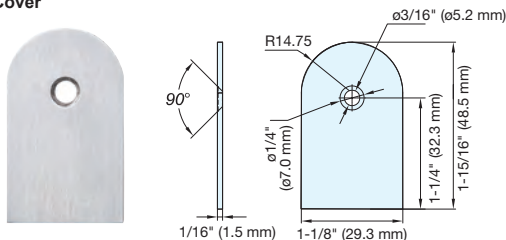


With square screw cover (optional)

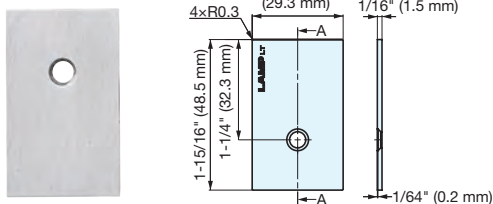
- 304 stainless steel construction for excellent resistance to corrosion.
- 3-way adjustable allowing for vertical, horizontal and depth adjustments after installation.
- Hinge leaves are designed to separate and features a temporary hold function making it easier to hang doors.
- Durability: successfully passed 300,000 open/close cycle test (private).
- Includes covers for a clean finish. Optional square shaped covers are available (HGS3D-S160SH-SQPLATE)
- 3 hinges can support doors up to 35-7/16" x 94-1/2" weighing up to 220 lbs.



### Round Screw Cover



### Optional Square Screw Cover



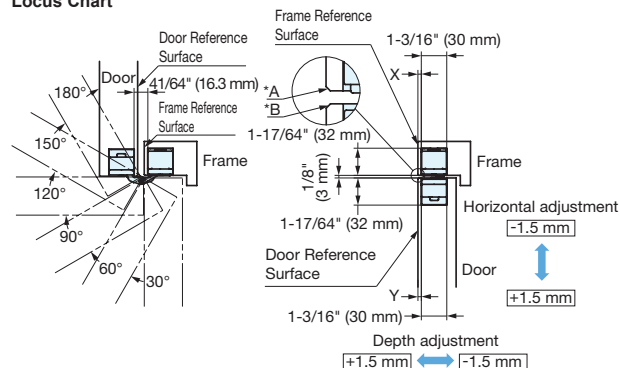
### Body

Item No.	Finish	Door Specs			Load Capacity		Opening Angle
		Width	Height	Thickness	2 pcs	kgf/3 pcs	
HGS3D-S160SH	Satin	Max. 35-7/16" (900 mm)	Max. 94-31/64" (2400 mm)	Min. 1-27/64" (36 mm)	176 lbs (80 kg)	220 lbs (100 kg)	180°

### Square Screw Cover (Optional) Sold as a set (4 pcs)

Item No.	Material	Finish
HGS3D-S160SH-SQPLATE	304 Stainless Steel	Satin

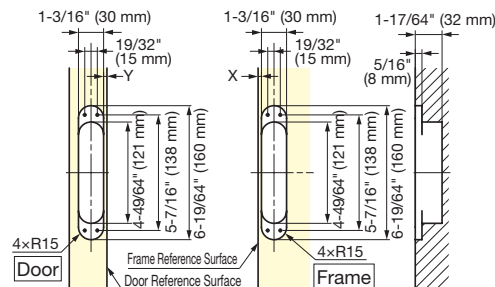
### Locus Chart



\*The door and frame must be chamfered in accordance with the machining margin, in order to open and close the door.

Y: Door Machining Margin	B: Door Chamfering	X: Frame Machining Margin	A: Frame Chamfering
4 or below	1	5 or below	1
	2	6	2
5	3	7	3
		5 or below	4

### Cut Out Dimensions



\*When using the optional square screw cover, drill the first oval hole in both the door and the frame as a square hole of width 1-3/16" (30 mm) x length 6-19/64" (160 mm) x depth 5/16" (8 mm).

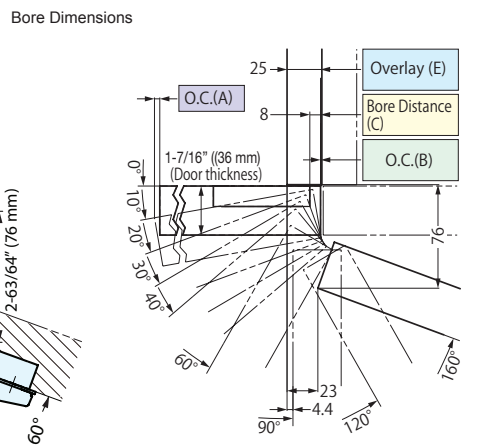
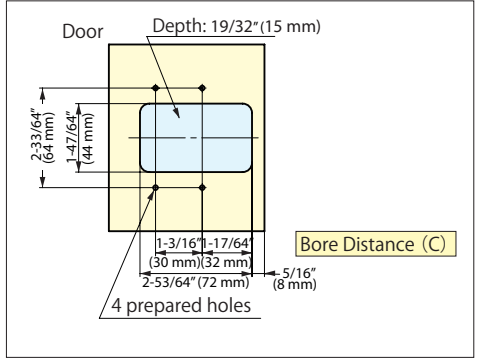
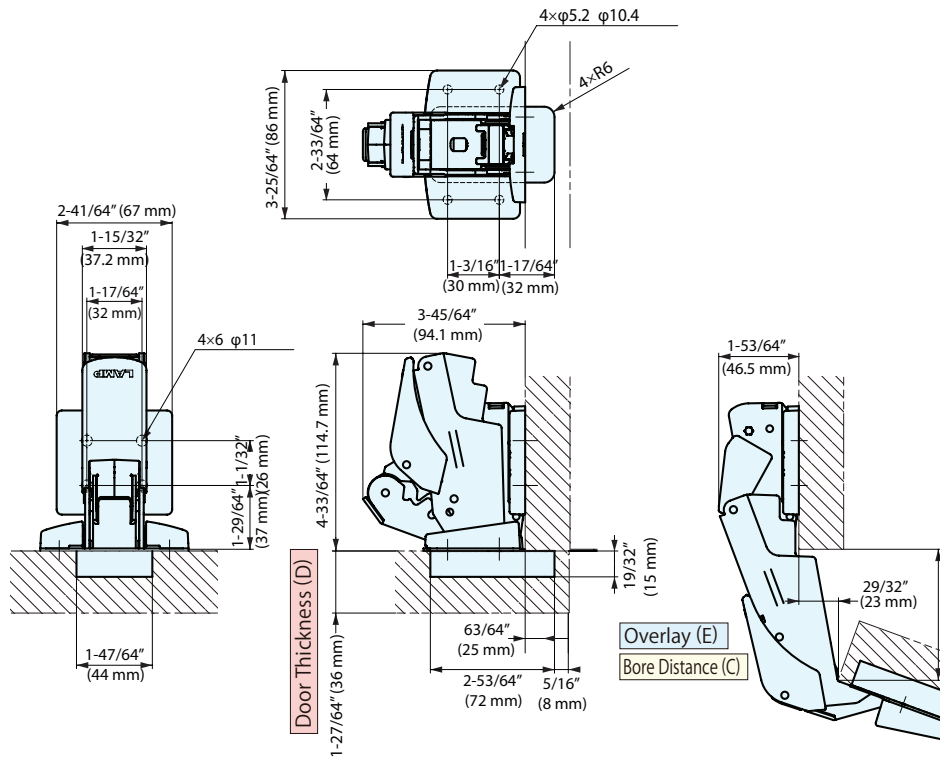
No.	Part Name	Material	Finish
①	Body	304 Stainless Steel	Plain
②	Base Frame		
③	Arm		
④	Rotating Shaft		
⑤	Screw Cover (Round Type)		Satin



Unique Motion



- 3-way adjustability with built-in damper.
- Load capacity: 55 lbs (25 kg)/2 pcs, 88 lbs (40 kg)/3 pcs.
- Maximum door width: 31-1/2" (800 mm)/2 pcs, 35-7/16" (900 mm)/3 pcs.
- Wide-opening hinge allowing 160° opening.
- Successfully passed 50,000 open/close private cycle test.
- Recommended door thickness: 11/16"-1-7/16" (18~36 mm).
- Includes mounting plates and screw covers.
- Built in damper allows doors to soft-close.



■ Door edge to bore edge distance (C) and Overlay distance (E) Table-1

Door edge to bore edge distance (C)	1/8"(3)	5/32"(4)	13/64"(5)	15/64"(6)	9/32"(7)	15/16"(8)
Overlay distance (E)	25/32"(20)	53/64"(21)	55/64"(22)	29/32"(23)	15/16"(24)	63/64"(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.

■ Hinge side opening clearance chart Table-2

Door Thickness (D)*	Door edge to bore edge distance (C)					
	1/8"(3)	5/32"(4)	13/64"(5)	15/64"(6)	9/32"(7)	15/16"(8)
1-11/32"(34) and under	0.1 and under					
1-27/64"(36)	1/64"(0.2)	1/64"(0.2)	1/64"(0.2)	1/64"(0.2)	1/64"(0.2)	1/64"(0.2)
1-1/2"(38)*	1/64"(0.5)	1/64"(0.5)	1/64"(0.5)	1/64"(0.5)	1/32"(0.6)	1/32"(0.6)
1-37/64"(40)*	3/64"(1.0)	3/64"(1.0)	3/64"(1.1)	3/64"(1.2)	3/64"(1.3)	1/16"(1.4)
Hinge side O.C. (B)						

\*Please refer to the locus chart if door thickness is over 36 mm. (O.C. (B) can be made smaller by R chamfering (round chamfer) or C chamfering (chamfer plane) on the door)

Table-3

Door Thickness (D)*	Door Width						
	11-13/16" (300 mm)	15-3/4" (400 mm)	19-11/16" (500 mm)	23-5/8" (600 mm)	27-9/16" (700 mm)	31-1/2" (800 mm)	35-7/16" (900 mm)
25/32"(20)	1/16"(1.6)	3/64"(1.2)	3/64"(1.0)	1/32"(0.8)	1/32"(0.7)	1/32"(0.6)	1/64"(0.5)
1-3/16"(30)	5/64"(1.9)	1/16"(1.4)	3/64"(1.2)	3/64"(1.0)	1/32"(0.8)	1/32"(0.7)	1/32"(0.7)
1-27/64"(36)	5/64"(1.9)	1/16"(1.5)	3/64"(1.2)	3/64"(1.0)	1/32"(0.8)	1/32"(0.7)	1/32"(0.7)
O.C. (A)							

Material	Finish
Steel, Zinc Alloy (ZDC), Glass Filled Polyamide (PA)	Nickel (NI), Black Nickel (BN)

Item No.	Weight (g)	Box (pcs)	Carton (pcs)
J160-D22-25T-NI	710	1	12
J160-D22-25T-BN			



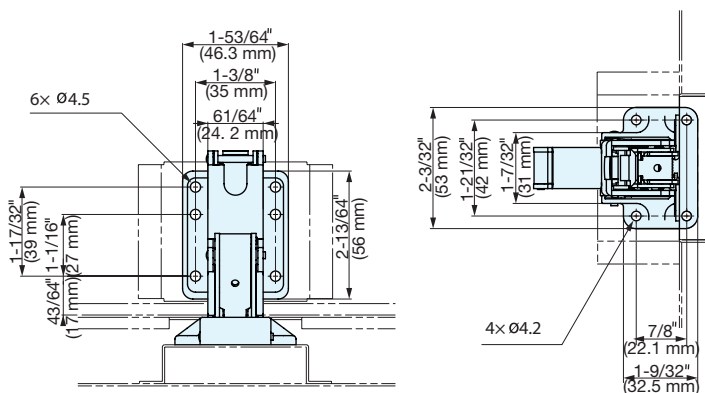
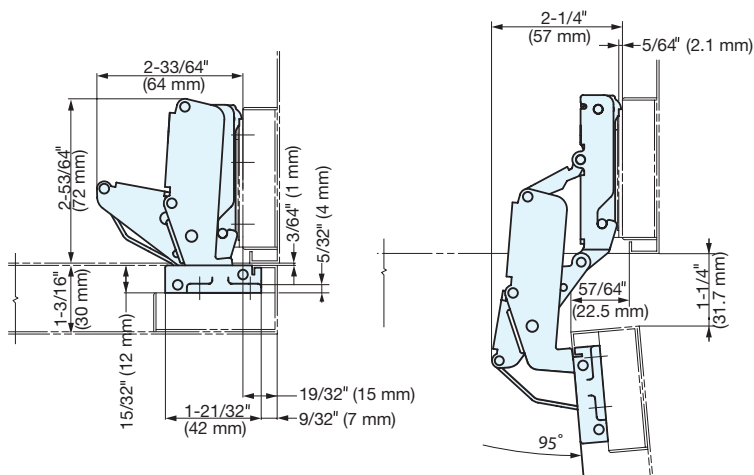
# CONCEALED HINGE



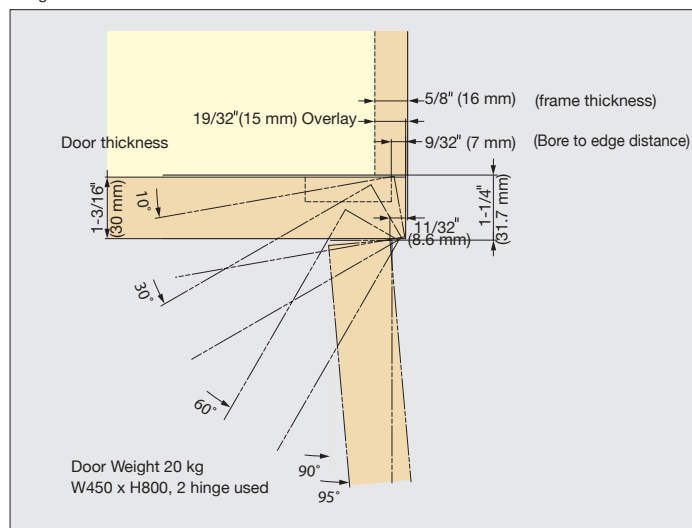
HT-160V2

Unique Motion

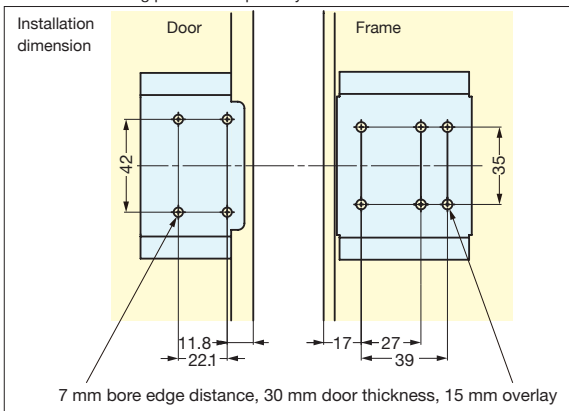
- For use with sheet metal applications.
- Overlay adjustment from 1-3 mm.
- Ideal for when 2 doors are close together.



Range of motion



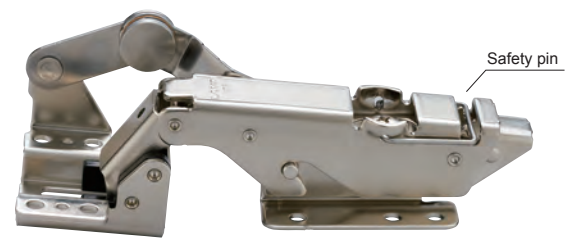
HT-160TZ mounting plate sold separately



Item No.	Weight (g)	Part Name	Material	Finish
HT-160V2	253	Plate	Zinc Alloy	Nickel
		Body	Steel	
		Spacer	Polyacetal	Black

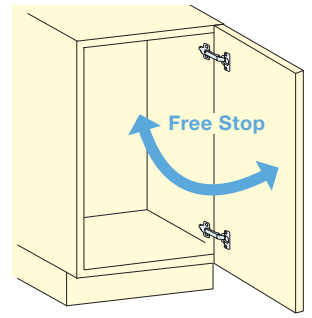


Unique Motion



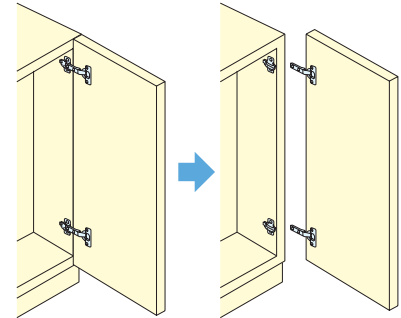
- Torque concealed hinge with free stop holds door open at any position up to 95° opening (prevents slamming).
- Door opens without interfering with side cabinets, wall, or other adjacent objects.
- Ideal for door maintenance in limited spaces: gaming industry, vending machines, kiosks, contiguous swing doors.
- Simple clip-on installation and detachment: hinge can be easily fixed onto the mounting plate by pressing down.
- The safety pin prevents accidental unlocking.
- Durability: 10,000 open/close cycles passed (private test).
- Mounting plate (H95TSZ) sold separately.

### Torque Mechanism

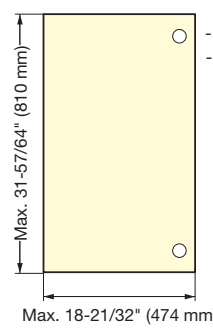


Holds in position even if the door is inclined.

### Easy Installation and Detachment

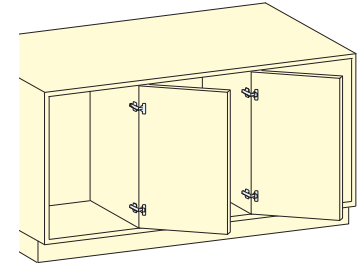


### Example Door Spec



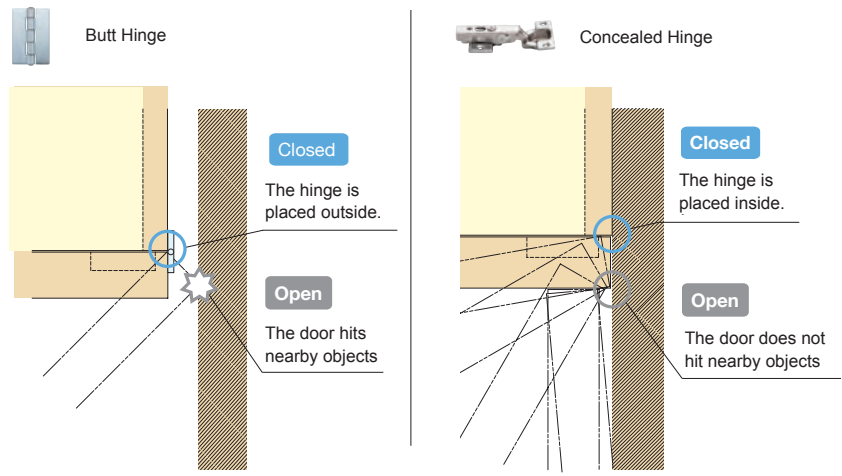
- Height: Max. 31-57/64" (810 mm)
- Width: Max. 18-21/32" (474 mm)
- Thickness: Max. 3-5/8" (92 mm)
- Weight: Max. 44 lbs. (20 kg)
- \* 2 hinges used with 2 mounting plates

### Alternative Installations

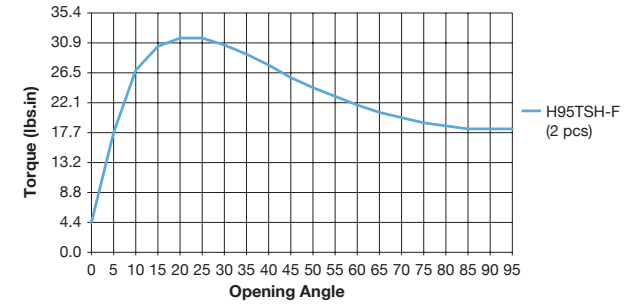


Can be used on doors lined up side by side.

### Door Locus Comparison



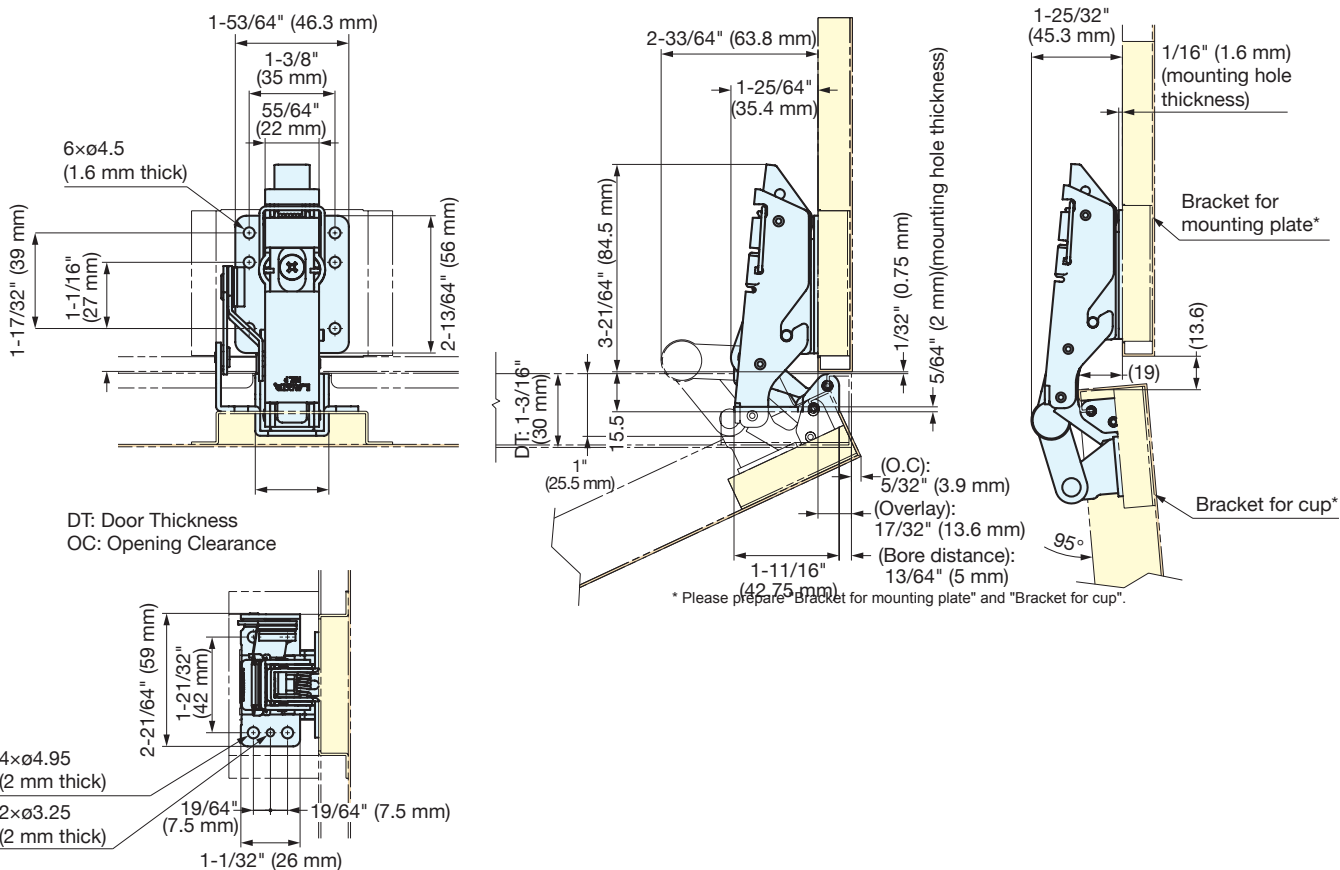
### Torque Graph



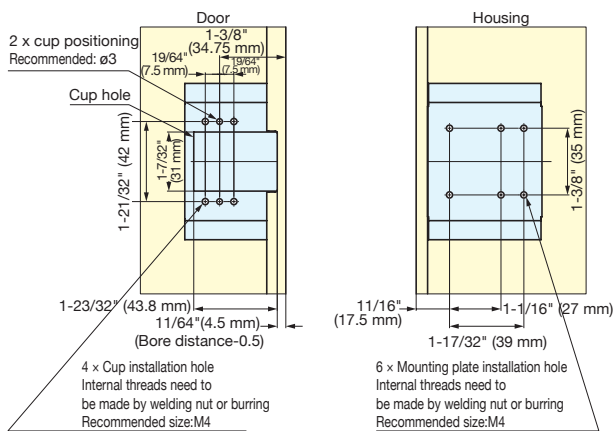
Although the torque will be released to prevent "spring-back" at a nearly closed angle, the door will not be firmly kept closed. If detent function is needed, please use with catches.

### Changes in Torque Strength

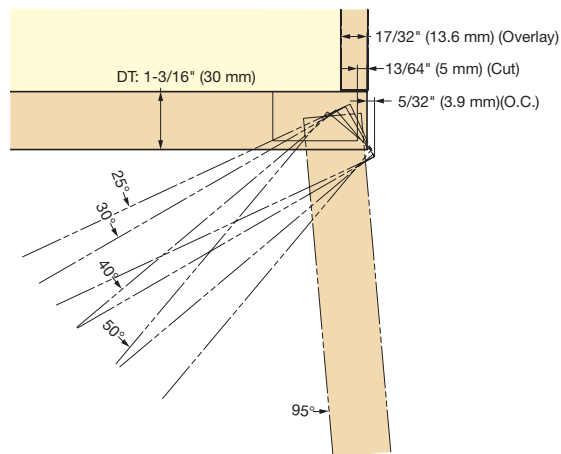
- 4.4 lbs-in at 0° opening angle
- 31 lbs-in at 20° to 25° opening angle
- 17.7 lbs-in at max 95° opening angle



**Cut Out Dimensions**



**Locus Chart**



The drawing shows the installation position in the conditions below:

- Bore distance : 13/64" (5 mm)
- Door thickness : 1-3/16" (30 mm)
- Overlay : 17/32" (13.6 mm)

Reference door weight: 44 lbs (20 kg)  
(In case of door size W 17-23/32" (450 mm) x H 31-1/2" (800 mm),  
pitch 21-21/32" (550 mm), vertical use)

**Hinge**

Item No.	Main Material	Finish	Load Capacity per Pair	Weight (g)	Box (pcs)
H95TSH-F	Steel	Nickel	44 lbs (20 kg)*	180	60

**Mounting Plate (Sold Separately)**

Item No.	Main Material	Finish	Load Capacity per Pair	Weight (g)	Box (pcs)
H95TSZ	Steel	Nickel	44 lbs (20 kg)*	94	100

\*Load Capacity rated using 2 hinges with 2 mounting plates.



# CONCEALED HINGE (CLIP-ON)

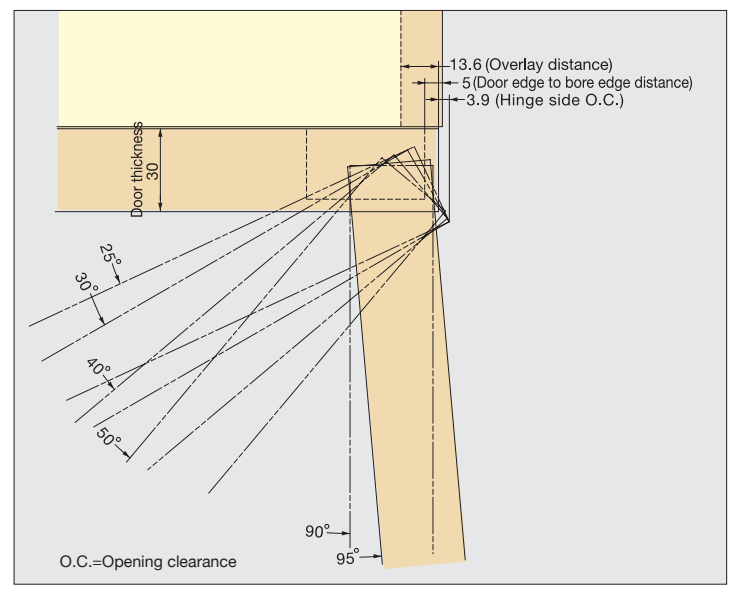
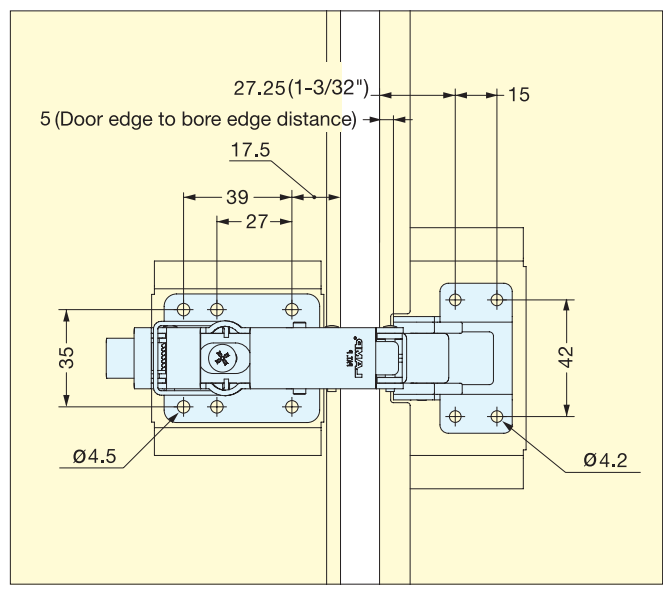
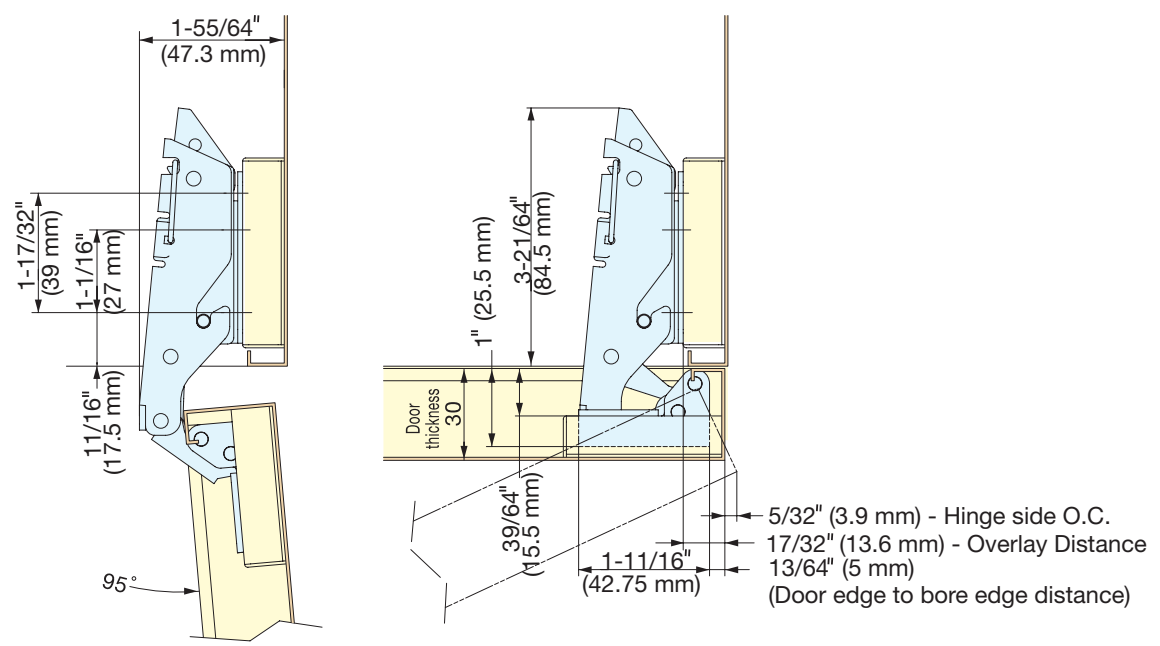


## H95TS

Unique Motion



- 95° opening concealed hinge.
- Clip-on feature allows easy door installation/removal.
- SAFETY LOCK FEATURE.
- Door opens without interfering side cabinets.
- Ideal when 2 doors are close together.
- Hinge body and mounting plate sold separately.



Item No.	Weight (g)	Carton (pcs)
H95TSH	149	100
H95TSZ	94	

Item No.	Part Name	Material	Finish
H95TSH	Body	Steel	Nickel
H95TSZ	Mounting Plate		

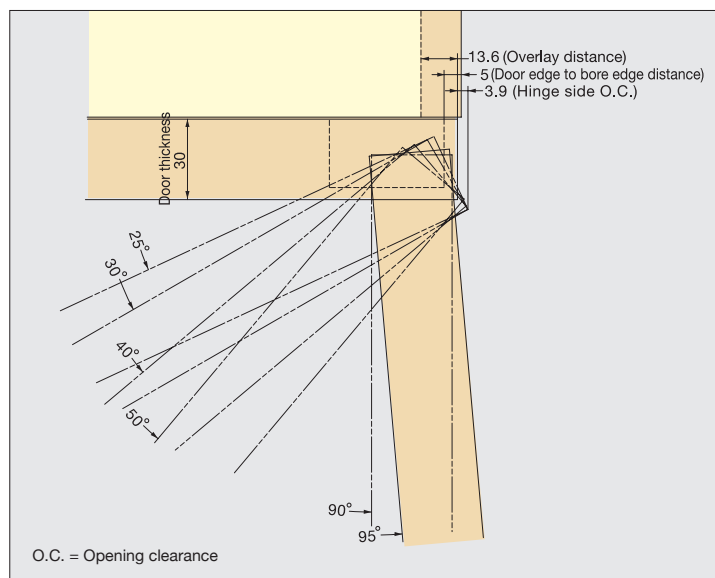
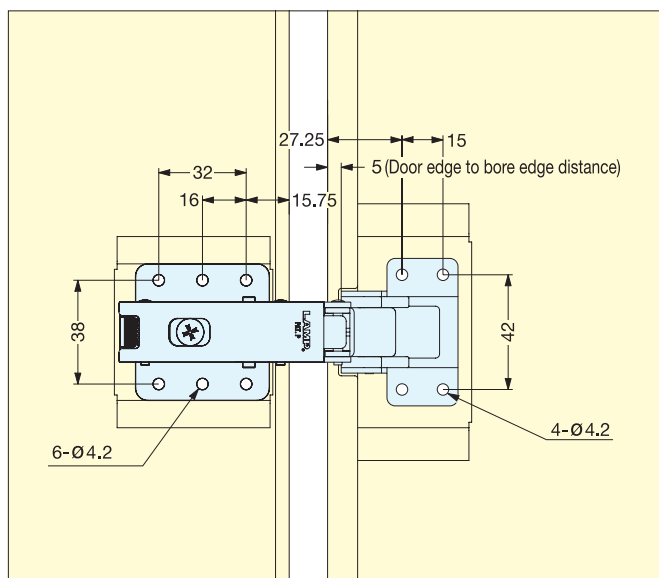
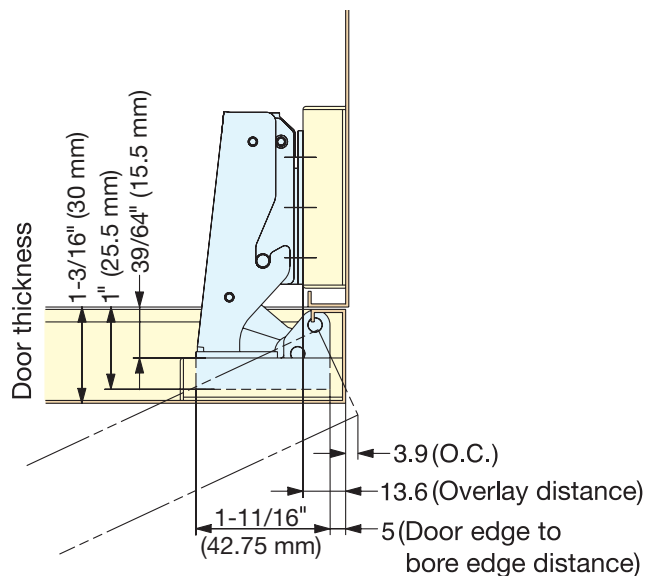
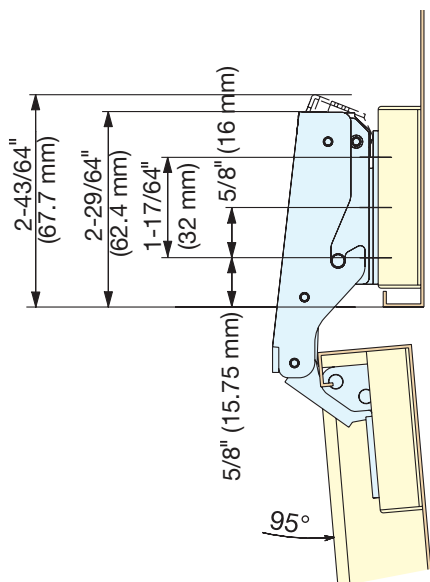
# CONCEALED HINGE (CLIP-ON)



H95TM

Unique Motion

- 95° opening concealed hinge.
- Clip-on feature allows easy door installation/removal.
- Door opens without interfering side cabinets.
- Ideal when 2 doors are close together.
- Hinge body and mounting plate sold separately.

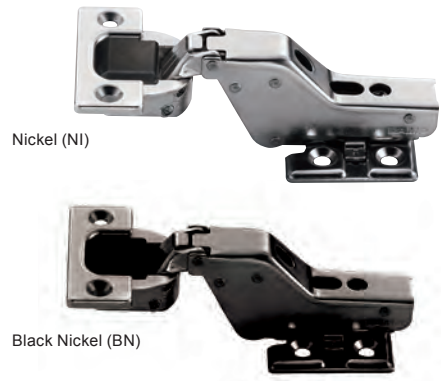


Item No.	Weight (g)	Carton (pcs)
H95TMH	138	100
H95TMZ	81	

Item No.	Part Name	Material	Finish
H95TMH	Body	Steel	Nickel
H95TMZ	Mounting Plate		

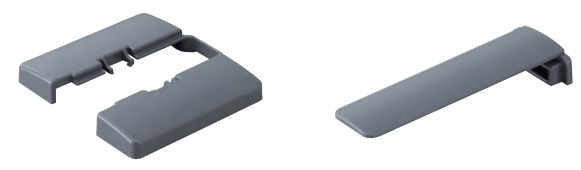


Unique Motion

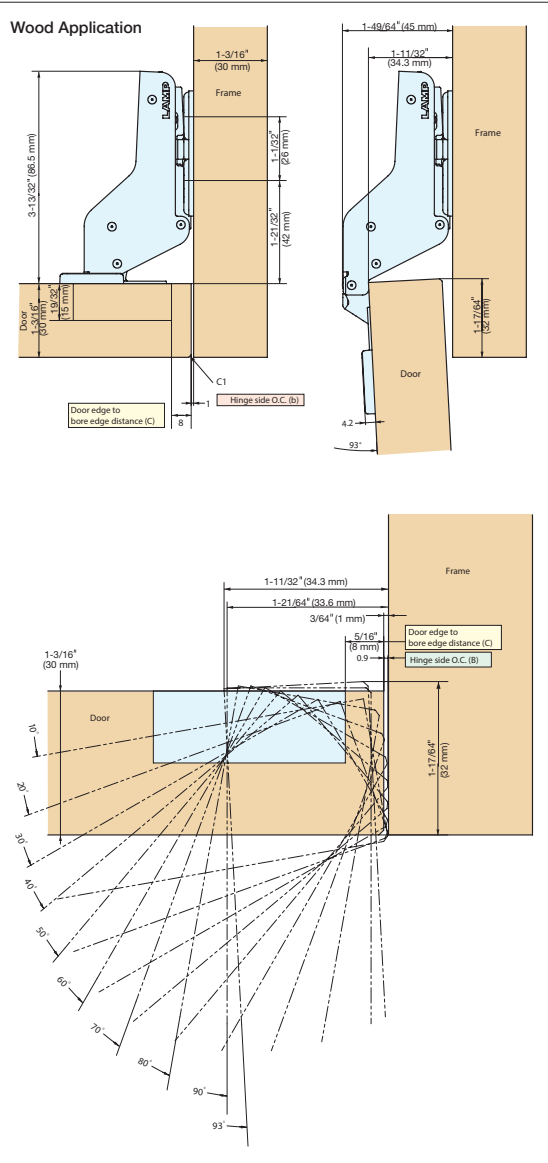


- Load capacity: 55 lbs (25 kg)/2pcs, 88 lbs (40 kg)/3pcs.
- Max. door width: 31-1/2" (800 mm)/2 pcs, 35-7/16" (900 mm)/3 pcs.
- Clip on type for easy installation.
- 3-way adjustment with door installed.
- Requires 6 M5 or equivalent (US#10) screws: 2 pcs for each hinge, and 4 pcs for each mounting plate.
- Optional hinge cover and mounting plate cover available (see pgs. 148-149).
- Glass face plate (GH-J95FP) also available (see pgs. 148-149).

\*Requires J95-P6T Mounting plate sold separately



Mounting Plate Cover and Safety Cover Sold Separately. See Pages 48-49 for full selection



■ Door edge to bore edge distance (C) and Hinge side O.C. (b) Table 1.

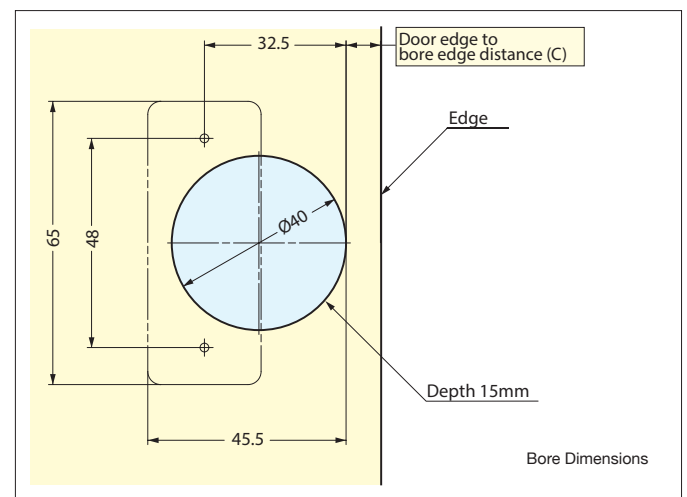
Door edge to bore edge distance (C)	3	4	5	6	7	8
Hinge side O.C. (b)	6	5	4	3	2	1

■ Hinge side opening clearance chart Table 2.

Door thickness (D)	Door edge to bore edge distance (C)					
	3	4	5	6	7	8
18	0	0	0	0	0	0
20	0	0	0	0	0	0
22	0.1	0.1	0.1	0.1	0.1	0.1
24	0.1	0.1	0.1	0.1	0.1	0.1
26	0.3	0.3	0.3	0.3	0.3	0.3
28	1.7	1.1	0.6	0.5	0.5	0.5
30	3.5	2.9	2.3	1.8	1.0	0.9
32	5.4	4.7	4.1	3.6	3.0	2.5
34	7.3	6.0	6.0	5.4	4.8	4.3

Hinge side O.C. (B)

\*If the door thickness is over 30mm (1-3/16") the door will need to be chamfered.



\*Requires J95-P6T Mounting plate sold separately

Item No.	Type	Weight (g)	Box (pcs)	Carton (pcs)	Finish
J95-24/OT-NI	Free Swing	148	10	50	Nickel (NI)
J95-C24/OT-NI	Self-Closing	160			Black Nickel (BN)
J95-24/OT-BN	Free Swing	148			
J95-C24/OT-BN	Self-Closing	160			

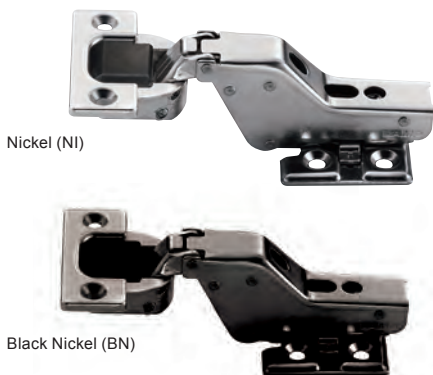
Part Name	Materials
Cup	Zinc Alloy
Body	Steel

# HEAVY DUTY CONCEALED HINGE (INSET)



# J95-24/0T, J95-C24/0T

Unique Motion



- Load capacity: 55 lbs (25 kg)/2 pcs, 77 lbs (35 kg)/3 pcs.
- Max. door width: 31-1/2" (800 mm)/2 pcs, 35-7/16" (900 mm)/3 pcs.
- Clip on type for easy installation.
- 3-way adjustment with door installed.
- Requires 6 M5 or equivalent (US#10) screws: 2 pcs for each hinge, and 4 pcs for each mounting plate.
- Optional hinge cover and mounting plate cover available (see pgs. 148-149).
- Glass face plate required for glass door application (see pgs. 148-149).

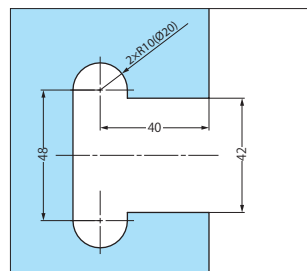
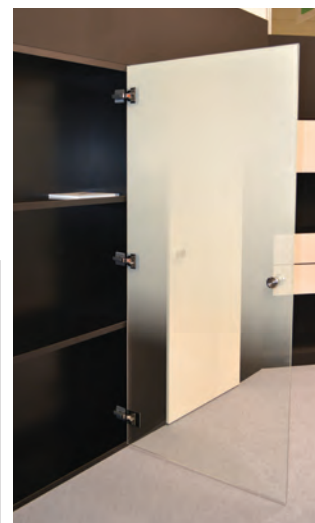
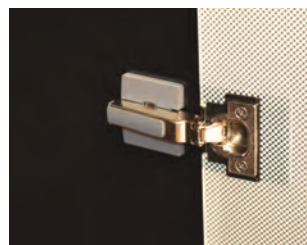
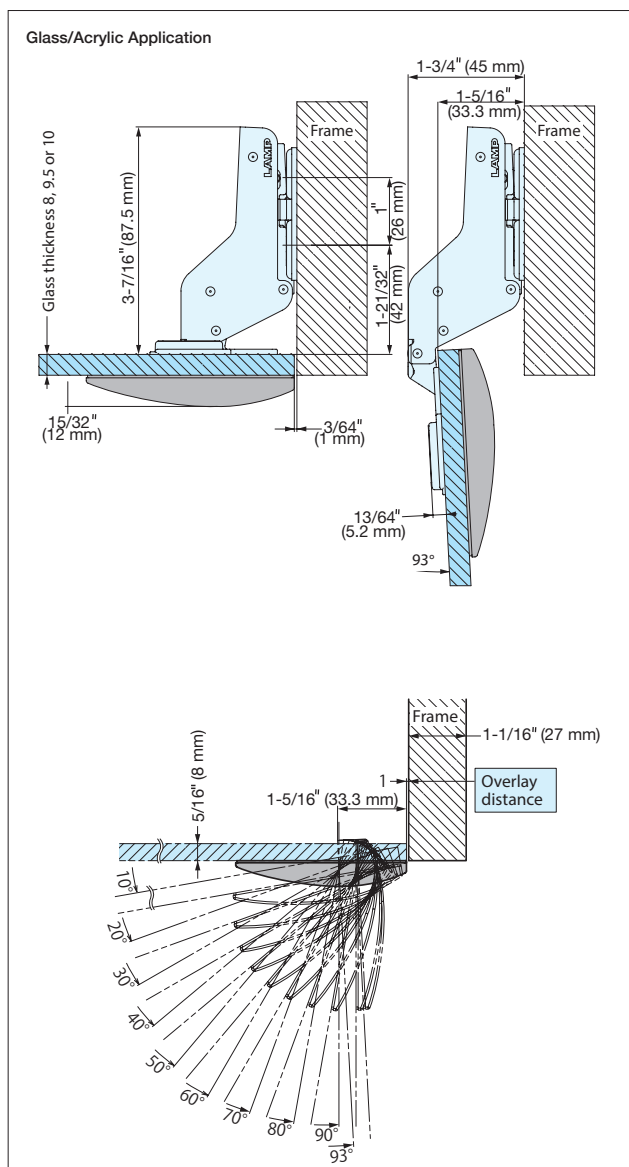
\*Requires J95-P6T Mounting plate sold separately



Mounting Plate Cover and Safety Cover  
Sold Separately. See Pages 48-49 for full selection

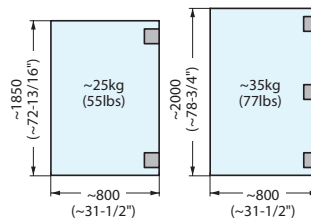
■ Hinge side opening clearance chart

Glass thickness (D)	Hinge side O.C.
8	0
9.5 (3/8")	0
10	0

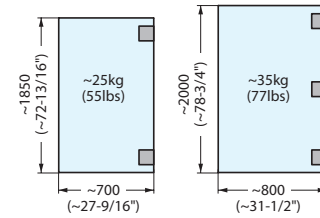


Bore Dimensions

■ Glass thickness 8mm



■ Glass thickness 10mm



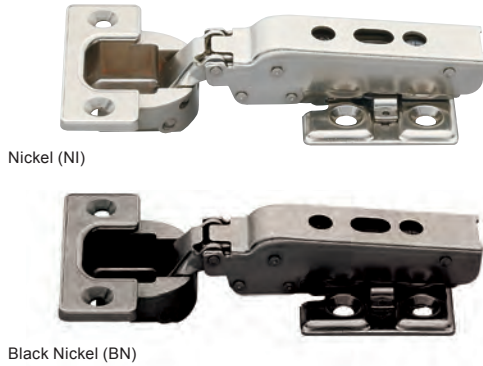
\*Requires J95-P6T Mounting plate sold separately

Item No.	Type	Weight (g)	Box (pcs)	Carton (pcs)	Finish
J95-24/0T-NI	Free Swing	148	10	50	Nickel (NI)
J95-C24/0T-NI	Self-Closing	160			
J95-24/0T-BN	Free Swing	148			Black Nickel (BN)
J95-C24/0T-BN	Self-Closing	160			

Part Name	Materials
Cup	Zinc Alloy
Body	Steel

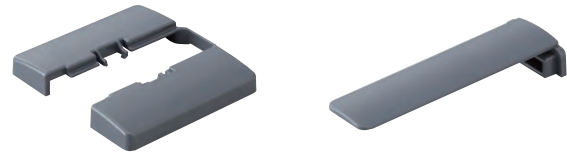


Unique Motion

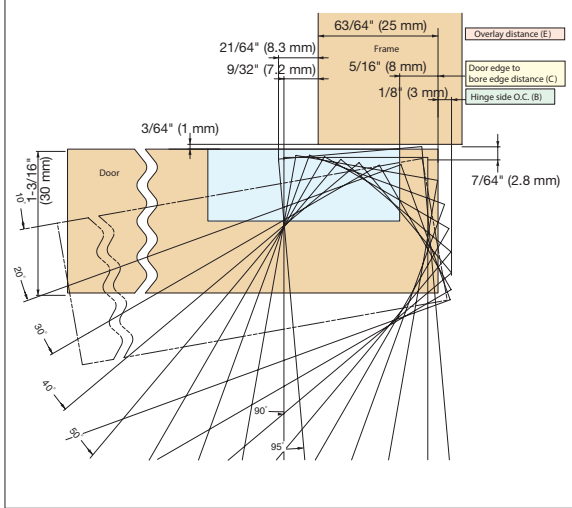
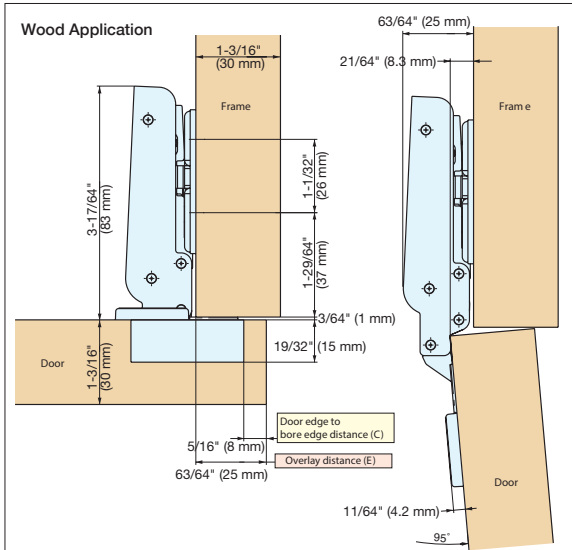


- Load capacity: 55 lbs (25 kg)/2pcs, 88 lbs (40 kg)/3pcs.
- Max. door width: 31-1/2" (800 mm)/2 pcs, 35-7/16" (900 mm)/3 pcs.
- Clip on type for easy installation.
- 3-way adjustment with door installed.
- Requires 6 M5 or equivalent (US#10) screws: 2 pcs for each hinge, and 4 pcs for each mounting plate.
- Optional hinge cover and mounting plate cover available (see pgs. 148-149).
- Glass face plate (GH-J95FP) also available (see pgs. 148-149).

\*Requires J95-P6T Mounting plate sold separately



Mounting Plate Cover and Safety Cover  
Sold Separately. See Pages 48-49 for full selection



■ Door edge to bore edge distance (C) and Overlay distance (E)

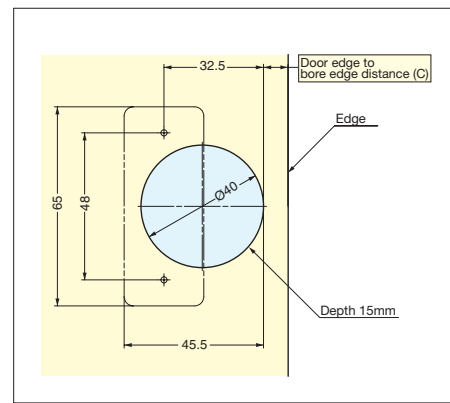
Door edge to bore edge distance (C)	3	4	5	6	7	Table 1.
Overlay distance (E)	20	21	22	23	24	25

■ Hinge side opening clearance chart

Door thickness (D)	Door edge to bore edge distance (C) Table 2.					
	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	1.1
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

Hinge side O.C. (B)

\*Mounting Plate sold separately.  
\*If the door thickness is over 30mm (1-3/16") the door will need to be chamfered.



Bore Dimensions

Item No.	Type	Weight (g)	Box (pcs)	Carton (pcs)	Finish
J95-24/25T-NI	Free Swing	131	10	50	Nickel (NI)
J95-C24/25T-NI	Self-Closing	143			
J95-24/25T-BN	Free Swing	131			Black Nickel (BN)
J95-C24/25T-BN	Self-Closing	143			

Part Name	Materials
Cup	Zinc Alloy
Body	Steel



# HEAVY DUTY CONCEALED HINGE (25mm OVERLAY)



# J95-24/25T, J95-C24/25T

Unique Motion



Nickel (NI)



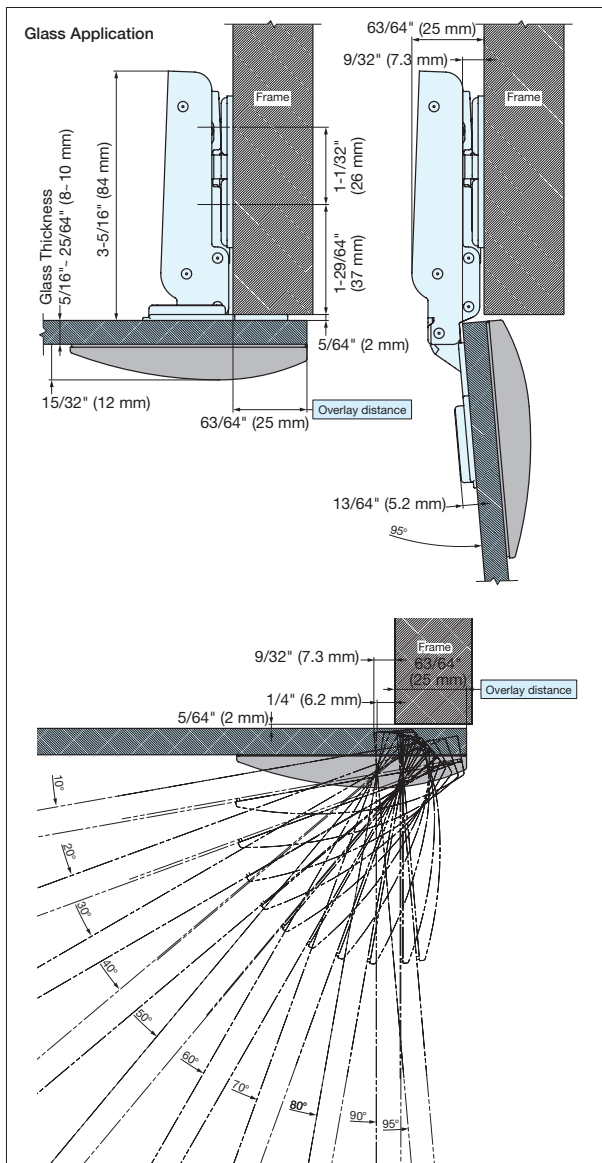
Black Nickel (BN)

- Load capacity: 55 lbs (25 kg)/2pcs, 88 lbs (40 kg)/3pcs.
- Max. door width: 31-1/2" (800 mm)/2 pcs, 35-7/16" (900 mm)/3 pcs.
- Clip on type for easy installation.
- 3-way adjustment with door installed.
- Requires 6 M5 or equivalent (US#10) screws: 2 pcs for each hinge, and 4 pcs for each mounting plate.
- Optional hinge cover and mounting plate cover available (see pgs. 148-149).
- Glass face plate required for glass door application (see pgs. 148-149).

\*Requires J95-P6T Mounting plate sold separately

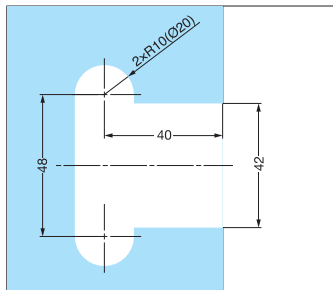
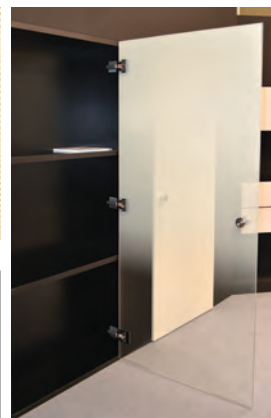


Mounting Plate Cover and Safety Cover  
Sold Separately. See Pages 48-49 for full selection

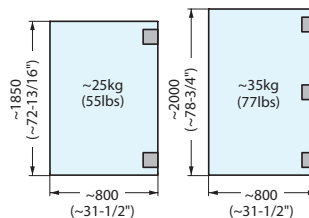


■ Hinge side opening clearance chart

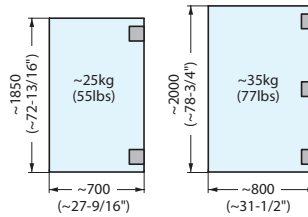
Glass thickness (D)	Hinge side O.C.
8	0
9.5 (3/8")	0
10	0



■ Glass thickness 8mm

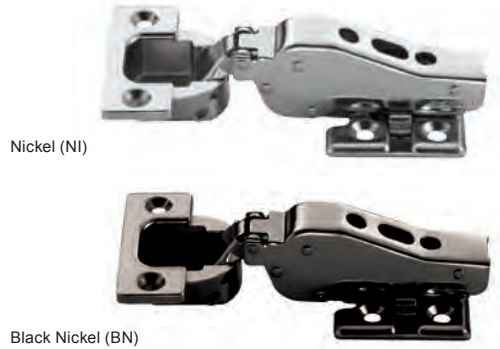


■ Glass thickness 10mm



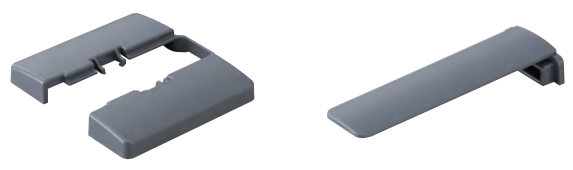
Item No.	Type	Weight (g)	Box (pcs)	Carton (pcs)	Finish
J95-24/25T-NI	Free Swing	131	10	50	Nickel (NI)
J95-C24/25T-NI	Self-Closing	143			
J95-24/25T-BN	Free Swing	131			Black Nickel (BN)
J95-C24/25T-BN	Self-Closing	143			

Part Name	Materials
Cup	Zinc Alloy
Body	Steel

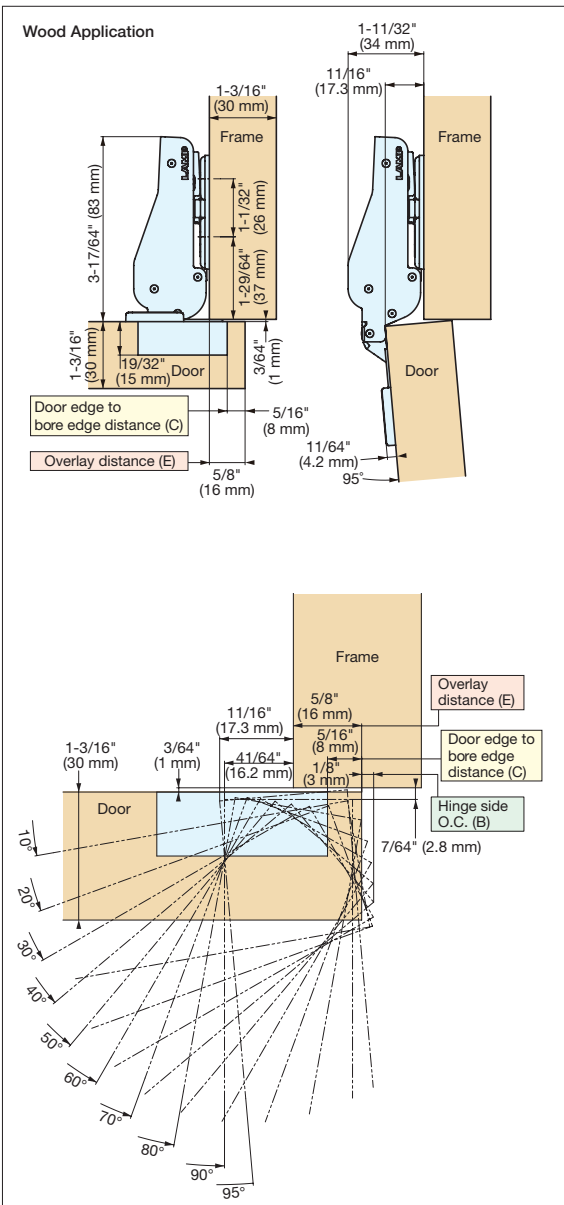


- Load capacity: 55 lbs (25 kg)/2pcs, 88 lbs (40 kg)/3pcs.
- Max. door width: 31-1/2" (800 mm)/2 pcs, 35-7/16" (900 mm)/3 pcs.
- Clip on type for easy installation.
- 3-way adjustment with door installed.
- Requires 6 M5 or equivalent (US#10) screws: 2 pcs for each hinge, and 4 pcs for each mounting plate.
- Optional hinge cover and mounting plate cover available (see pgs. 148-149).
- Glass face plate (GH-J95FP) also available (see pgs. 148-149).

\*Requires J95-P6T Mounting plate sold separately



Mounting Plate Cover and Safety Cover Sold Separately. See Pages 48-49 for full selection



Door edge to bore edge distance (C) and Overlay distance (E) Table 1.

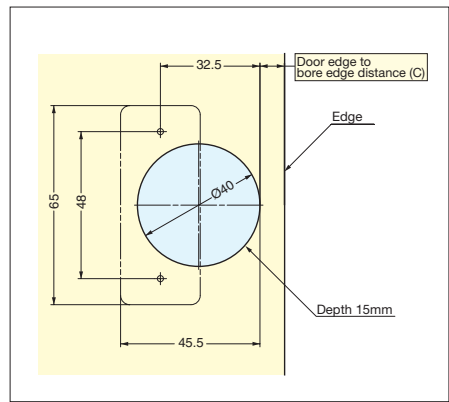
Door edge to bore edge distance (C)	3	4	5	6	7	8
Overlay distance (E)	11	12	13	14	15	16

Hinge side opening clearance chart Table 2.

Door thickness (D)	Door edge to bore edge 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	1.1
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

Hinge side O.C. (B)

\*Mounting Plate sold separately.  
\*If the door thickness is over 30mm (1-3/16") the door will need to be chamfered.



Bore Dimensions

Item No.	Type	Weight (g)	Box (pcs)	Carton (pcs)	Finish
J95-24/16T-NI	Free Swing	131	10	50	Nickel (NI)
J95-C24/16T-NI	Self-Closing	143			
J95-24/16T-BN	Free Swing	131			Black Nickel (BN)
J95-C24/16T-BN	Self-Closing	143			

Part Name	Materials
Cup	Zinc Alloy
Body	Steel

# HEAVY DUTY CONCEALED HINGE (16mm OVERLAY)



# J95-24/16T, J95-C24/16T

Unique Motion



Nickel (NI)



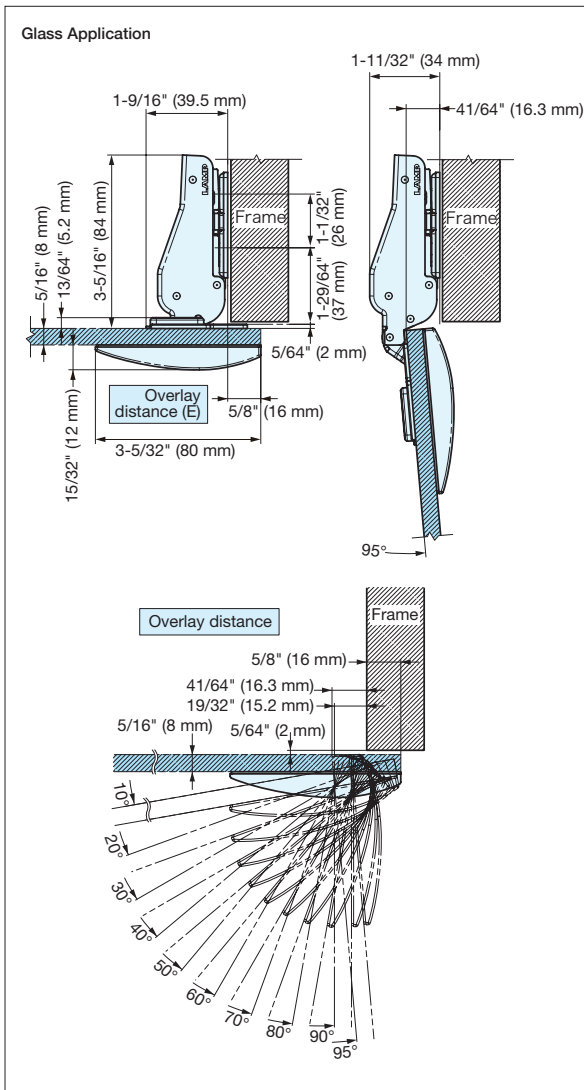
Black Nickel (BN)

- Load capacity: 55 lbs (25 kg)/2pcs, 88 lbs (40 kg)/3pcs.
- Max. door width: 31-1/2" (800 mm)/2 pcs, 35-7/16" (900 mm)/3 pcs.
- Clip on type for easy installation.
- 3-way adjustment with door installed.
- Requires 6 M5 or equivalent (US#10) screws: 2 pcs for each hinge, and 4 pcs for each mounting plate.
- Optional hinge cover and mounting plate cover available (see pgs. 148-149).
- Glass face plate required for glass door application (see pgs. 148-149).

\*Requires J95-P6T Mounting plate sold separately

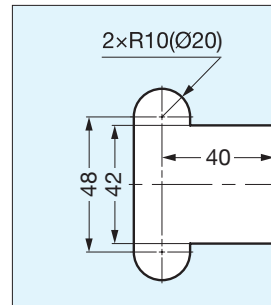
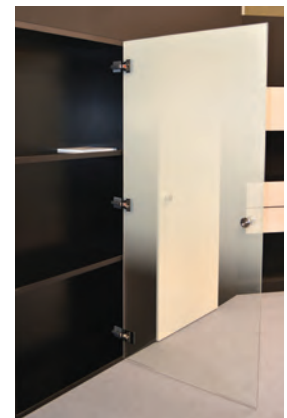


Mounting Plate Cover and Safety Cover  
Sold Separately. See Pages 48-49 for full selection



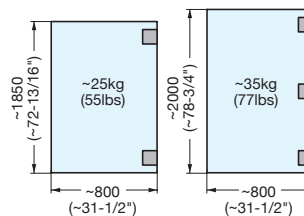
Hinge side opening clearance chart

Glass thickness (D)	Hinge side O.C.
8	0
9.5 (3/8")	0
10	0

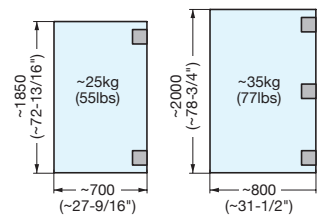


Bore Dimensions

■ Glass thickness 8mm



■ Glass thickness 10mm



Item No.	Type	Weight (g)	Box (pcs)	Carton (pcs)	Finish
J95-24/16T-NI	Free Swing	131	10	50	Nickel (NI)
J95-C24/16T-NI	Self-Closing	143			
J95-24/16T-BN	Free Swing	131			Black Nickel (BN)
J95-C24/16T-BN	Self-Closing	143			

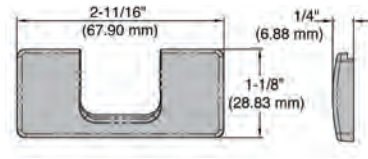
Part Name	Materials
Cup	Zinc Alloy
Body	Steel

# CUP COVER FOR J95 SERIES

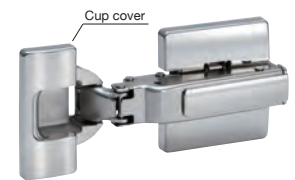


## J95CC

Unique Motion



- Special cover for J95 hinges to hide the screws.
- Comes with a double-sided tape to bond the cover and hinge.
- Please make sure that the surface is clean before taping.



Item No.	Weight (g)	Box (pcs)	Carton (pcs)
J95CC-GR	3.2	50	1000
J95CC-NI			
J95CC-BC			

Material	Finish/Color
Plastic (ABS)	Grey (GR), Nickel (NI), Black Chrome (BC)

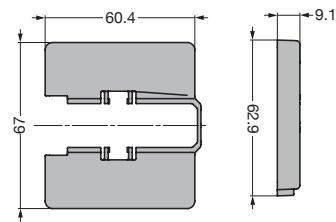
# MOUNTING PLATE COVER



## J95ZC



Grey (GR)      Black Chrome (BC)      Nickel (NI)



- Mounting plate cover for J95 series.
- Specify finish when ordering.



Nickel cover cap shown

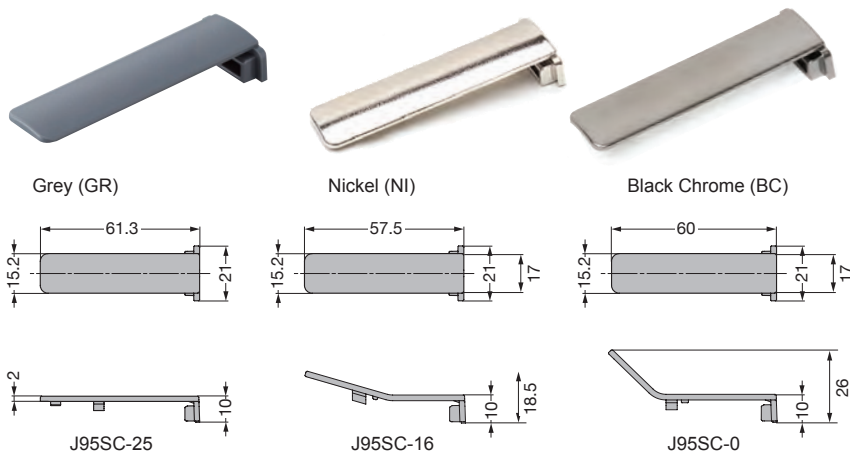
Item No.	Weight (g)	Box (pcs)	Carton (pcs)
J95ZC-GR	9	100	1000
J95ZC-NI			
J95ZC-BC			

Material	Finish/Color
Plastic (ABS)	Grey (GR), Nickel (NI), Black Chrome (BC)

# SAFETY COVER

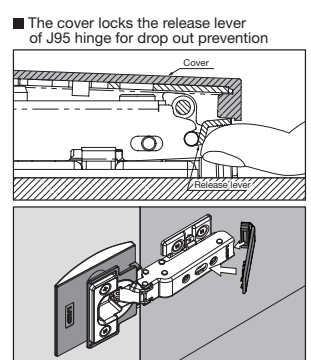


## J95SC



Grey (GR)      Nickel (NI)      Black Chrome (BC)

- Hinge safety cover for J95 series.
- Specify finish when ordering.



Item No.	Weight (g)	Box (pcs)	Carton (pcs)
J95SC-25GR    J95SC-25NI    J95SC-25BC	3	100	1000
J95SC-16GR    J95SC-16NI    J95SC-16BC			
J95SC-0GR    J95SC-0NI    J95SC-0BC			

Material	Finish/Color
Plastic (ABS)	Grey (GR), Nickel (NI), Black Chrome (BC)

# GLASS FACEPLATE FOR J95 SERIES

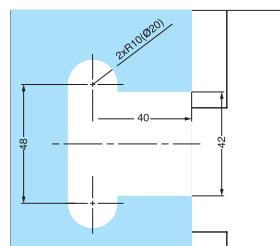
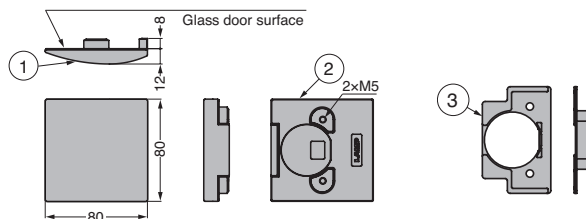


## GH-J95FP



Chrome (CR)      Satin Nickel (SN)      Black (BL)

- Glass faceplates for J95 series.
- Specify finish when ordering.



Bore Dimensions



Item No.	Weight (g)	Box (pcs)	Carton (pcs)
GH-J95FP/CR	320	1	20
GH-J95FP/SN			
GH-J95FP/BL			

No.	Part Name	Material	Finish
①	Face Plate	ZDC	Chrome (CR), Satin Nickel (SN), Black (BL)
②	Face Plate Spacer	Plastic (POM)	
③	Socket Spacer		Black

# GLASS FACEPLATE FOR J95 SERIES

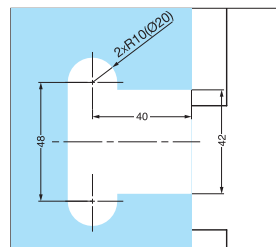
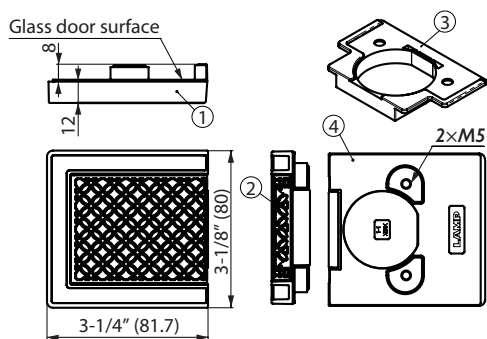


## GH-J95FP-Q1



Silver (SL)      Gold (GL)      Brass (BR)      Black (BL)

- Glass faceplates for J95 series.
- Customizable design.
- Specify finish when ordering.



Bore Dimensions



Item No.	Weight (g)	Box (pcs)	Carton (pcs)
GH-J95FP-Q1/SL	347	1	20
GH-J95FP-Q1/GL			
GH-J95FP-Q1/BR			
GH-J95FP-Q1/BL			

No.	Part Name	Material	Finish
①	Face Plate	Zinc Alloy	Silver (SL), Gold (GL), Brass (BR), Black (BL)
②	Decorative Plate	Brass	
③	Socket Spacer	Plastic (POM)	Black
④	Face Plate Spacer		



A NEW STEP FOR HINGE TECHNOLOGY

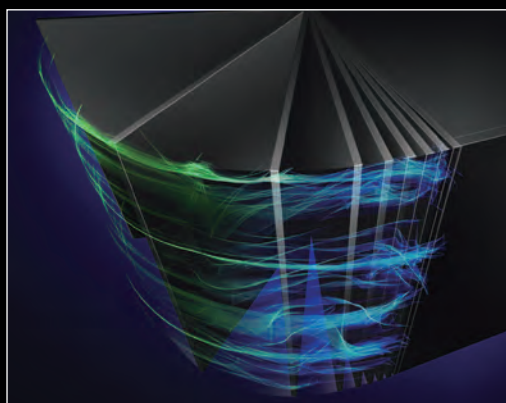
# OLYMPIA

360 POWERED BY  Lapcon.

Concealed Hinge with  
Adjustable Soft-Close



 Lapcon®



5-speed adjustable soft-close.  
The first Sugatsune concealed hinge  
ever built with Lapcon technology.

This is the first time Sugatsune's unique Lapcon technology has ever been used inside a concealed hinge. The innovative rotary damper is not only extremely compact with a sleek overall design, but its force can also be adjusted to perfection in 5 steps, regardless of the door size or weight.

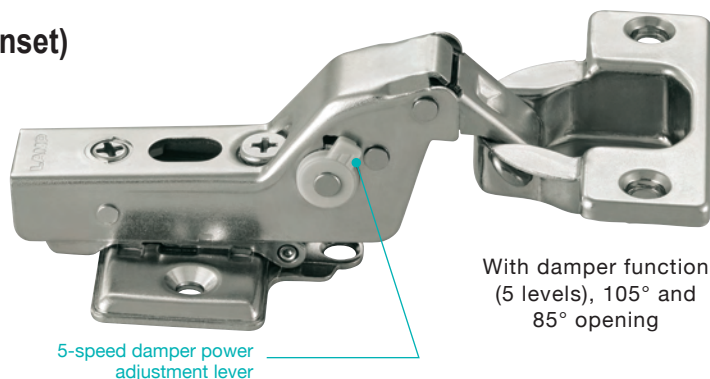
[sugatsune.com](http://sugatsune.com)

 SUGATSUNE

1.888.557.5267



(Inset)

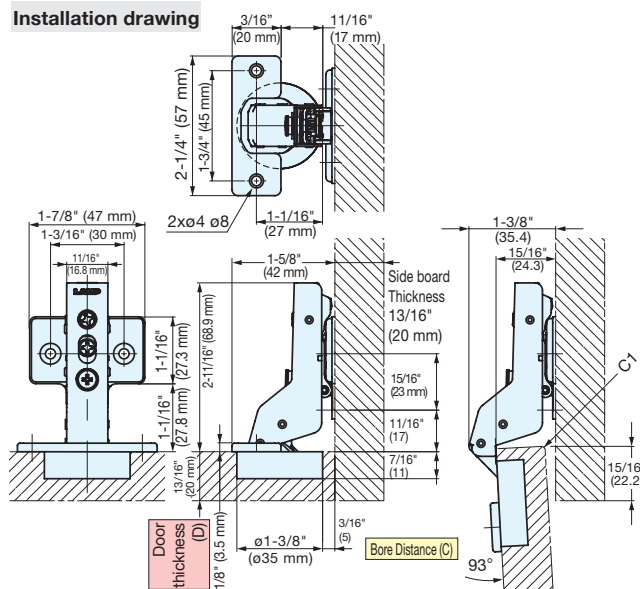


With damper function (5 levels), 105° and 85° opening

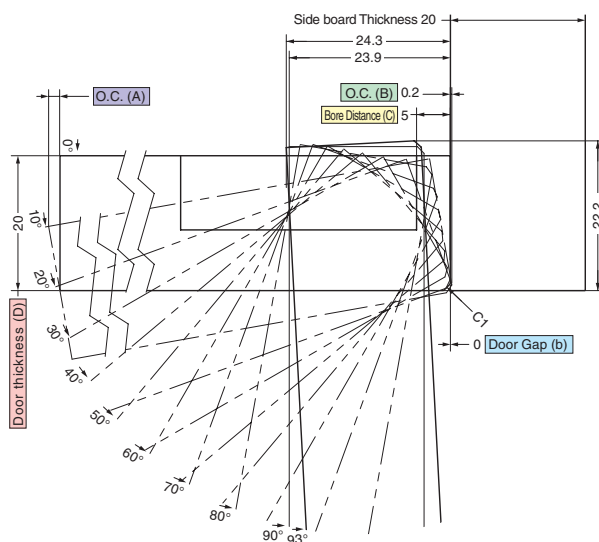
- Featuring 5-speed adjustable damper.
- Load capacity: 13.2 lbs (6 kg)/2 pcs, 22 lbs (10 kg)/3 pcs.
- Max. door width: 23-5/8" (600 mm).
- Max. door thickness: 13/16" (20 mm)
- Clip on type for easy installation.
- 3-way adjustment with door installed.
- Mounting plate sold separately.
- Successfully passed 200,000 cycles test.
- Face frame cabinet bracket (FFCB-HG-1) not designed to work with Olympia inset hinge.



Installation drawing



Locus chart S=1/1



Drawings show a hinge, face plate and 360-P4W-30T mounting plate (sold separately).

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.

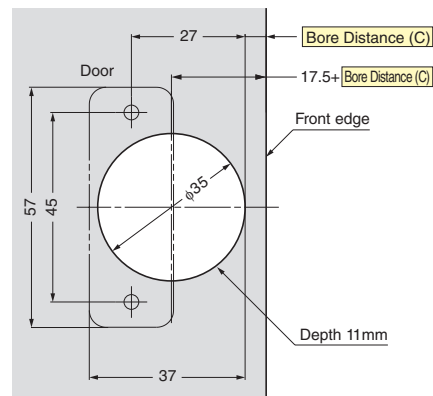
Opening clearance (B), door thickness (D) and bore distance (C) relationship

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.

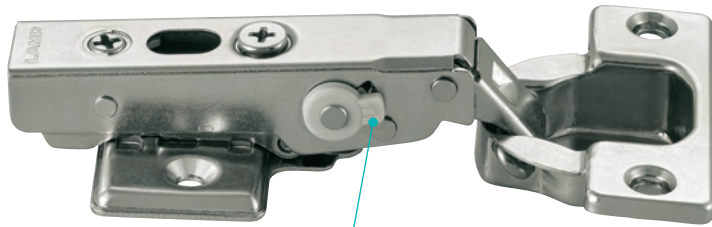
Cut out dimensions (wooden doors)



Item No	Opening angle	Type	Material	Finish	Carton
360-D26-OT	93°	Soft close (5 levels)	Steel	Nickel	100pcs
360-26-OT		Free swinging			
360-C26-OT		Self-closing			200pcs
360-U26-OT		Self-opening			



(19 mm overlay)

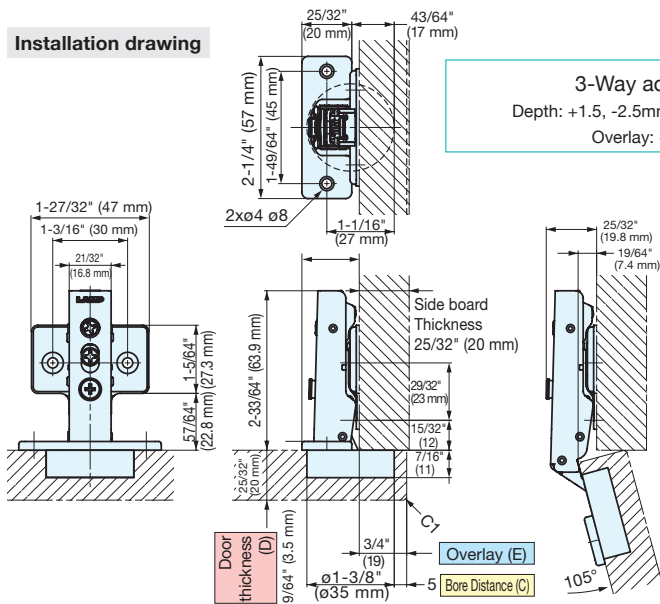


5-speed damper power adjustment lever

With damper function (5 levels), 105° and 85° opening

- Featuring 5-speed adjustable damper.
- Load capacity: 13.2 lbs (6 kg)/2 pcs, 22 lbs (10 kg)/3 pcs.
- Max. door width: 23-5/8" (600 mm).
- Max. door thickness: 13/16" (20 mm)
- Clip on type for easy installation.
- 3-way adjustment with door installed.
- Mounting plate sold separately.
- Successfully passed 200,000 cycles test.
- Face frame cabinet bracket (FFCB-HG-1) required to install 360 Olympia overlay hinge on face frame cabinets. 1 bracket per hinge needed.
- FFCB-HG-1 is sold separately per piece.

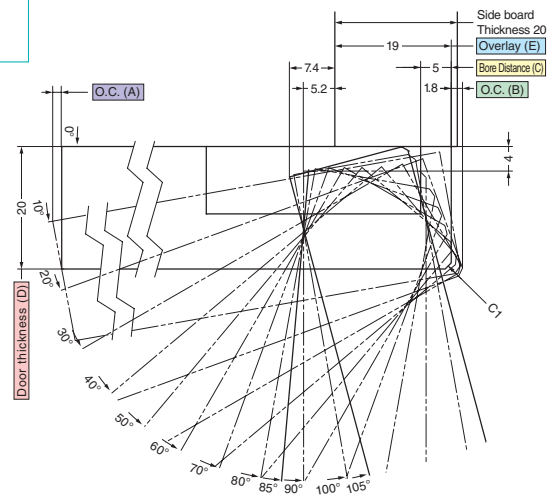
Installation drawing



3-Way adjustment  
Depth: +1.5, -2.5mm, Vertical: ±2.5mm, Overlay: +0, -4mm



Locus chart S=1/1



Drawings show a hinge, face plate and 360-P4W-30T mounting plate (sold separately).

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.

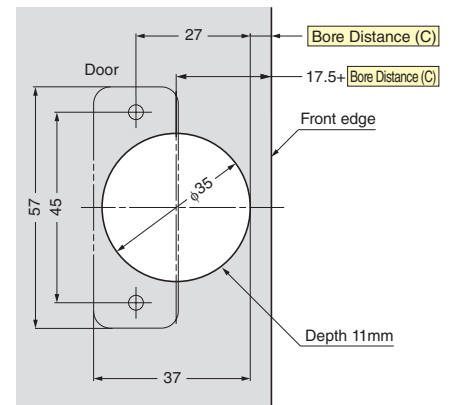
Opening clearance (B), door thickness (D) and bore distance (C) relationship

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.

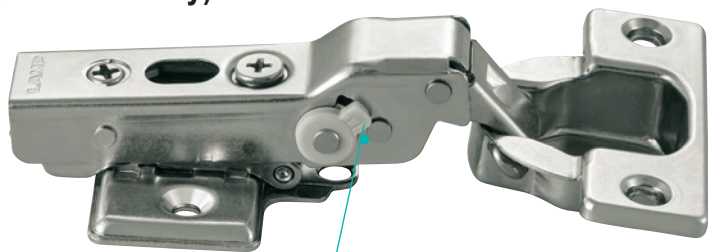
Cut out dimensions (wooden doors)



Item No	Opening angle	Type	Material	Finish	Carton
360-D26-19T	105°	Soft close (5 levels)	Steel	Nickel	100pcs
360-26-19T		Free swinging			200pcs
360-C26-19T		Self-closing			
360-U26-19T		Self-opening			
360-D26-19T85	85°	Soft close (5 levels)			100pcs
360-26-19T85		Free swinging			200pcs
360-C26-19T85		Self-closing			



(14 mm overlay)



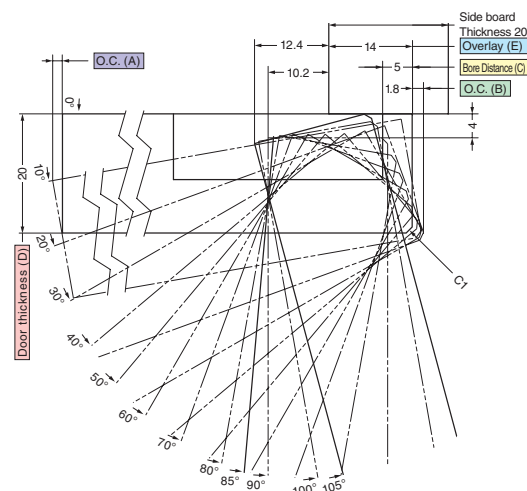
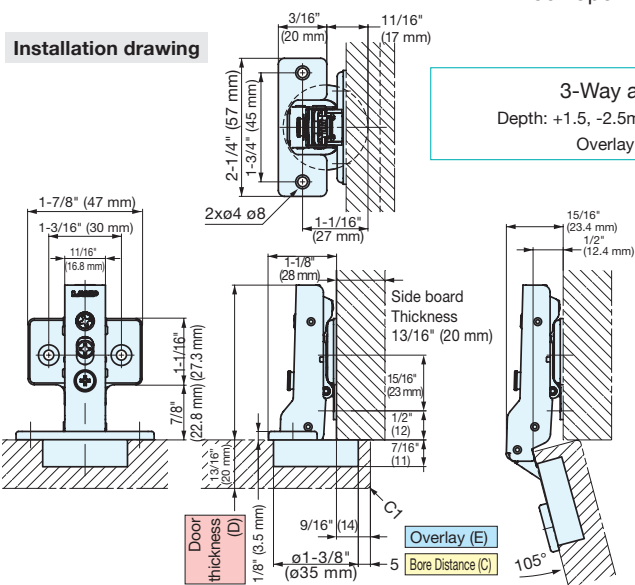
5-speed damper power adjustment lever

With damper function (5 levels), 105° and 85° opening

- Featuring 5-speed adjustable damper.
- Load capacity: 13.2 lbs (6 kg)/2 pcs, 22 lbs (10 kg)/3 pcs.
- Max. door width: 23-5/8" (600 mm).
- Max. door thickness: 13/16" (20 mm)
- Clip on type for easy installation.
- 3-way adjustment with door installed.
- Mounting plate sold separately.
- Successfully passed 200,000 cycles test.
- Face frame cabinet bracket (FFCB-HG-1) required to install 360 Olympia overlay hinge on face frame cabinets. 1 bracket per hinge needed.
- FFCB-HG-1 is sold separately per piece.



Locus chart S=1/1



Drawings show a hinge, face plate and 360-P4W-30T mounting plate (sold separately).

**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.

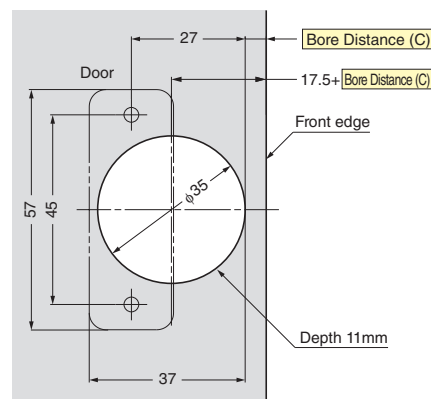
**Opening clearance (B), door thickness (D) and bore distance (C) relationship**

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
<b>O.C. (B)</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.

**Cut out dimensions (wooden doors)**



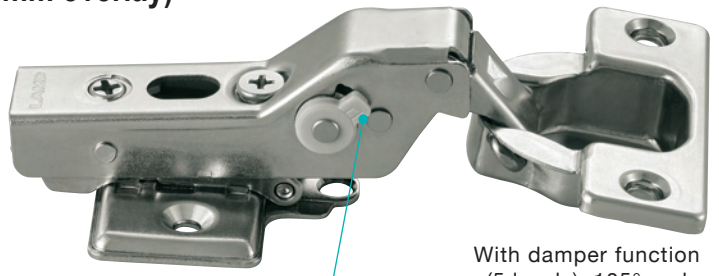
Item No	Opening angle	Type	Material	Finish	Carton	
360-D26-14T	105°	Soft close (5 levels)	Steel	Nickel	100pcs	
360-26-14T		Free swinging			200pcs	
360-C26-14T		Self-closing				
360-U26-14T	Self-opening	100pcs				
360-D26-14T85	85°				Soft close (5 levels)	200pcs
360-26-14T85					Free swinging	
360-C26-14T85		Self-closing				





Unique Motion

(9 mm overlay)



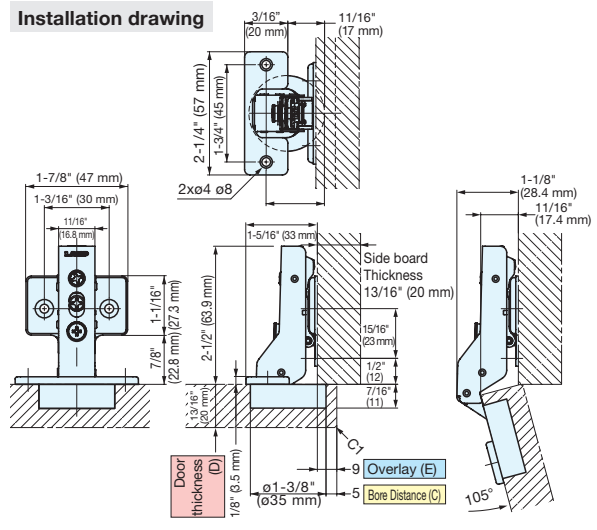
5-speed damper power adjustment lever

With damper function (5 levels), 105° and 85° opening

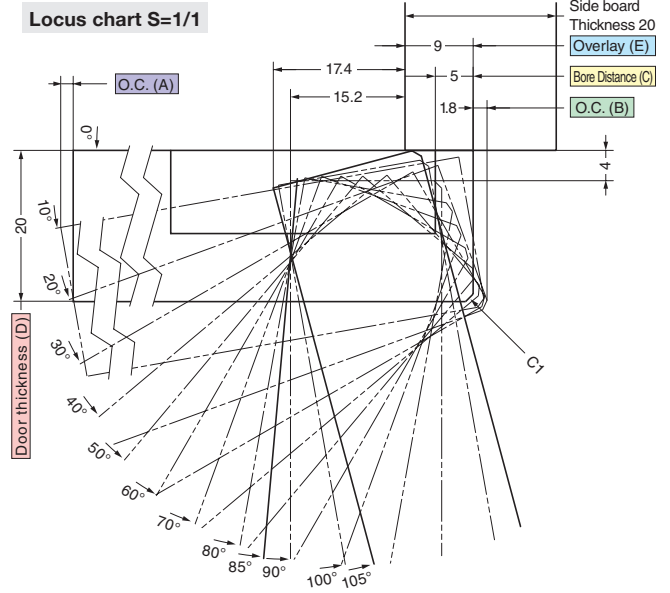
- Featuring 5-speed adjustable damper.
- Load capacity: 13.2 lbs (6 kg)/2 pcs, 22 lbs (10 kg)/3 pcs.
- Max. door width: 23-5/8" (600 mm).
- Max. door thickness: 13/16" (20 mm)
- Clip on type for easy installation.
- 3-way adjustment with door installed.
- Mounting plate sold separately.
- Successfully passed 200,000 cycles test.
- Face frame cabinet bracket (FFCB-HG-1) required to install 360 Olympia overlay hinge on face frame cabinets. 1 bracket per hinge needed.
- FFCB-HG-1 is sold separately per piece.



Installation drawing



Locus chart S=1/1



Drawings show a hinge, face plate and 360-P4W-30T mounting plate (sold separately).

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.

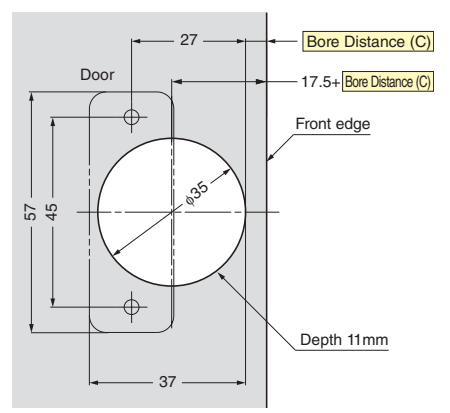
Opening clearance (B), door thickness (D) and bore distance (C) relationship

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.

Cut out dimensions (wooden doors)



Item No	Opening angle	Type	Material	Finish	Carton
360-D26-9T	105°	Soft close (5 levels)	Steel	Nickel	100pcs
360-26-9T		Free swinging			
360-C26-9T		Self-closing			200pcs
360-U26-9T		Self-opening			
360-D26-9T85	85°	Soft close (5 levels)	Steel	Nickel	100pcs
360-26-9T85		Free swinging			200pcs
360-C26-9T85		Self-closing			



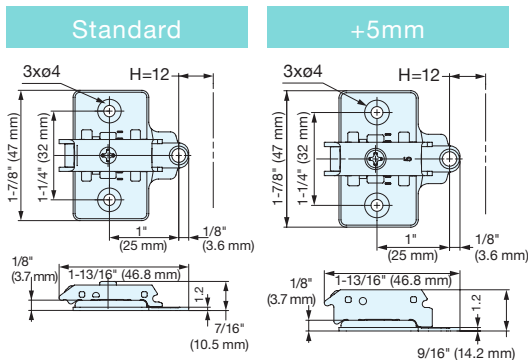
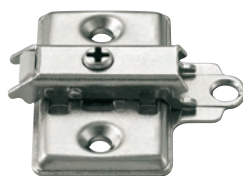
# MOUNTING PLATES



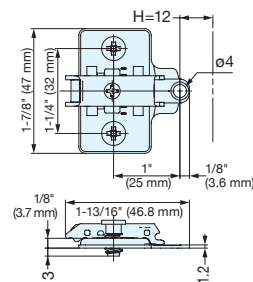
## 360-P4W-32T

Unique Motion

OLYMPIA



Pre-mounted screw  
(holes ø5, min. 8.5 depth)



screw size 6.5x12

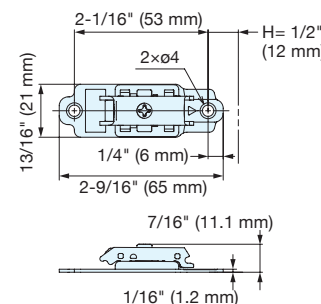
Item No.	Type	Height Adjust	Material	Finish	Carton
360-P4W-32T	Standard	±2.5mm	Steel	Nickel	400pcs
360-P4W-32T+5	+5mm				
360-P4W-32T-DS	Pre-mounted screw				

- Value of H for inset installation is "door thickness + 17 mm".
- When using with the GH-360FP, value of H is "door thickness + 19 mm"

# MOUNTING PLATE (STRAIGHT TYPE)



## 360-P3W-53T



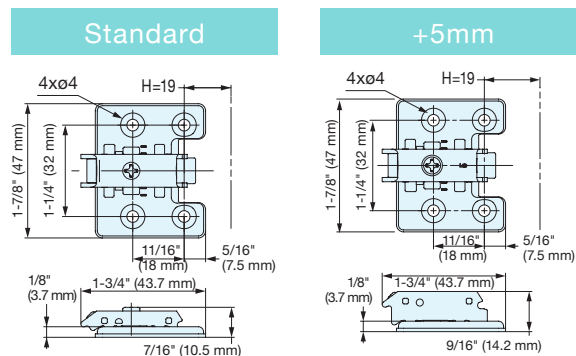
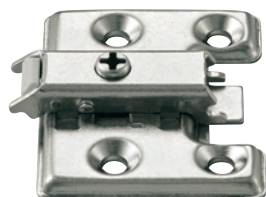
- The slim design gives a sleek look.
- When used with two H360 hinges, door specs should be:  
Door width Max: 17-3/4" 450 mm  
Door weight Max: 15.4 lb (7 kg)

Item No.	Material	Finish
360-P3W-53T	Steel	Nickel Plating

# MOUNTING PLATES 4 HOLES



## 360-P6WT



- For the standard and +5mm types:
- Value of H for inset installation is "door thickness + 24 mm".
  - When using with the GH-360FP, value of H is "door thickness + 26 mm"
- For the +7.5mm type:
- Value of H for inset installation is "door thickness + 16.5 mm".
  - When using with the GH-360FP, value of H is "door thickness + 18.5 mm".

Item name	Type	Height Adjust	Material	Finish	Carton
360-P6WT	Standard	±2.5mm	Steel	Nickel	400pcs
360-P6WT+5	+5mm				

# CONCEALED HINGE (19MM OVERLAY)



# 304B-46/19, C46/19

Unique Motion



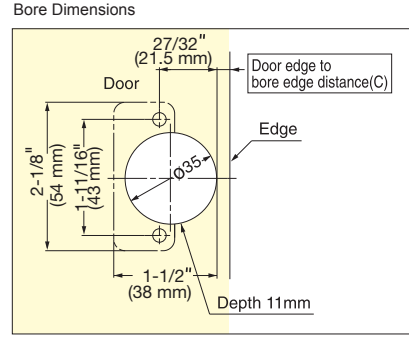
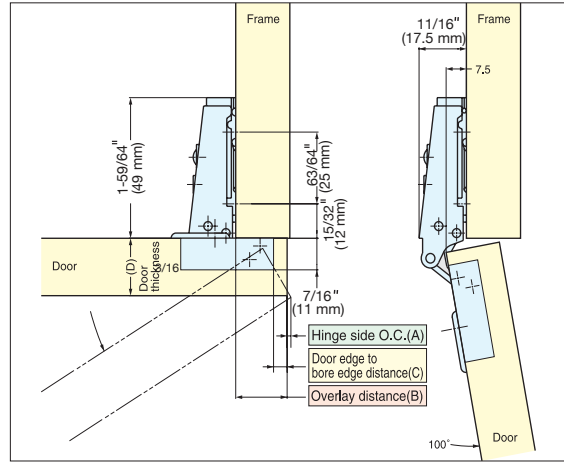
Door edge to bore edge distance (C)	3	4	5
Overlay distance (B)	17	18	19

■ Hinge side opening clearance chart Table 2.

Door thickness (D)	Door edge to bore edge distance (C)		
	3	4	5
15	0.5	0.5	0.5
16	0.7	0.7	0.7
17	0.8	0.8	0.8
18	1.0	1.0	1.0
19	1.2	1.2	1.2
20	1.4	1.4	1.4

Hinge side O.C. (A)

\*Mounting Plate sold separately. See P.297



Item No.	Type	Weight (g)	Carton (pcs)
304B-46/19	Free Swinging	60	200
304B-C46/19	Self-Closing		

Material	Finish
304 Stainless Steel	Polished

# CONCEALED HINGE (14MM OVERLAY)



# 304B-46/14, C46/14



■ Door edge to bore edge distance (C) and Overlay distance (B) Table 1.

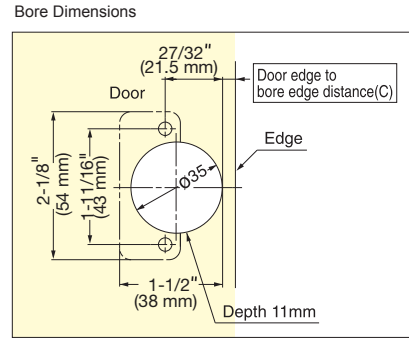
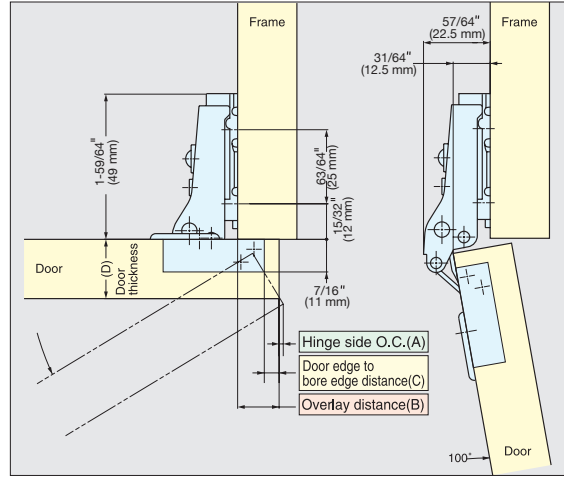
Door edge to bore edge distance (C)	3	4	5
Overlay distance (B)	12	13	14

■ Hinge side opening clearance chart Table 2.

Door thickness (D)	Door edge to bore edge distance (C)		
	3	4	5
15	0.5	0.5	0.5
16	0.7	0.7	0.7
17	0.8	0.8	0.8
18	1.0	1.0	1.0
19	1.2	1.2	1.2
20	1.4	1.4	1.4

Hinge side O.C. (A)

\*Mounting Plate sold separately. See P.297



Item No.	Type	Weight (g)	Carton (pcs)
304B-46/14	Free Swinging	60	200
304B-C46/14	Self-Closing		

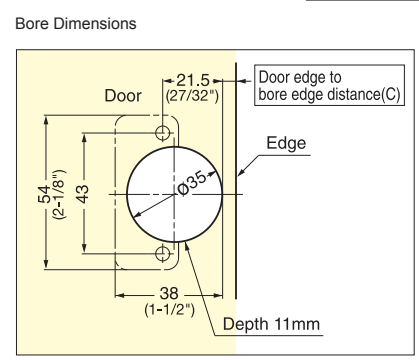
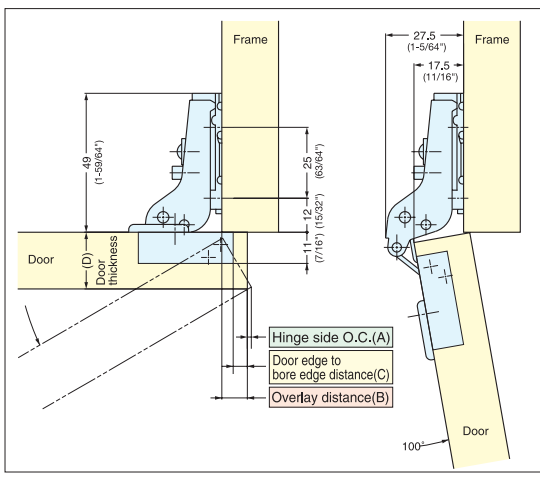
Material	Finish
304 Stainless Steel	Polished

# CONCEALED HINGE (9MM OVERLAY)



304B-46/9, C46/9

Unique Motion



■ Door edge to bore edge distance (C) and Overlay distance (B) Table 1.

Door edge to bore edge distance (C)	3	4	5
Overlay distance (B)	7	8	9

■ Hinge side opening clearance chart Table 2.

Door thickness (D)	Door edge to bore edge distance (C)		
	3	4	5
15	0.5	0.5	0.5
16	0.7	0.7	0.7
17	0.8	0.8	0.8
18	1.0	1.0	1.0
19	1.2	1.2	1.2
20	1.4	1.4	1.4

Hinge side O.C. (A)

\*Mounting Plate sold separately. See P.297

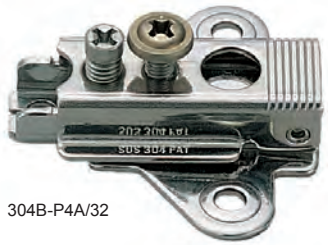
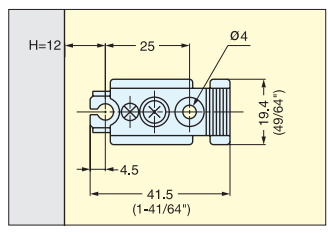
Item No.	Type	Weight (g)	Carton (pcs)
304B-46/9	Free Swinging	60	200
304B-C46/9	Self-Closing		

Material	Finish
304 Stainless Steel	Polished

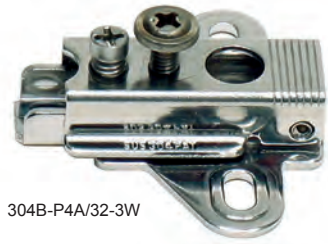
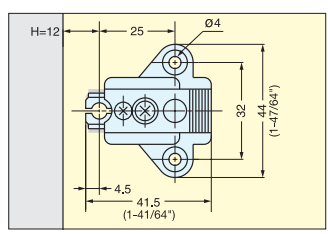
# MOUNTING PLATE FOR 304B SERIES HINGES



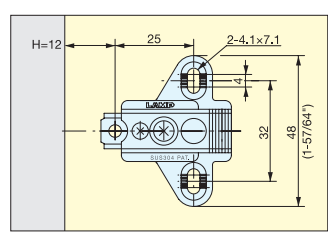
304B-P3A



304B-P4A/32

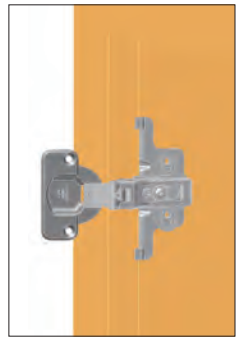


304B-P4A/32-3W



Installation

• Mounting plate for 304B hinges.



Face Frame Bracket for 304B-P4A/32 and 304B-P4A/32-3W. See P.344 (Sold separately)

Material	Finish
304 Stainless Steel	Polished

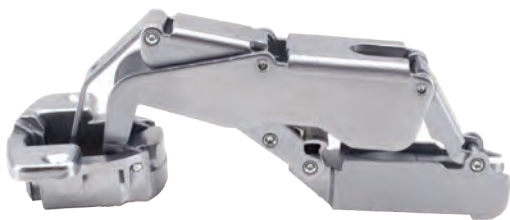
Item No.	Weight (g)	Carton (pcs)
304B- P3A	40	400
304B- P4A/32		
304B- P4A/32-3W		



# CONCEALED HINGE (18MM OVERLAY)



# H160-34/18, H160-C34/18



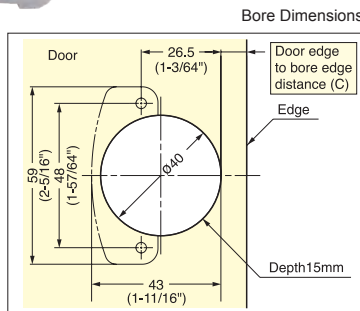
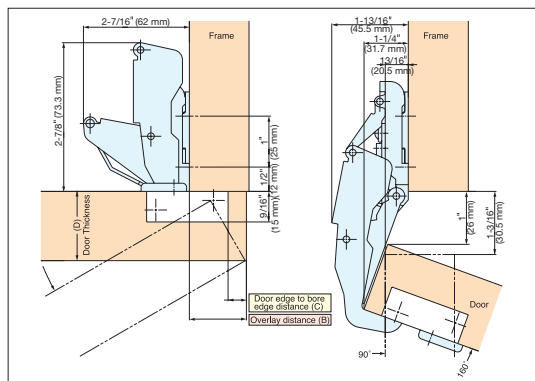
■ Door edge to bore edge distance (C) and Overlay distance (B) Table 1.

Door edge to bore edge distance (C)	5	6	7	8	9
Overlay distance (B)	14	15	16	17	18

\*Mounting Plate sold separately.

■ Hinge side opening clearance chart Table 2.

Door Thickness (D)	Door edge to bore edge distance (C)				
	5	6	7	8	9
33	0.2				
34	0.3	0.3	0.3	0.3	0.3
35	0.7	0.7	0.7	0.6	0.5
36	2.7	2.3	1.6	1.3	0.9
37	3.8	3.2	2.6	2.1	1.6
38	4.8	4.2	3.5	2.9	2.4
39	5.7	5.1	4.4	3.9	3.3
40	6.6	6.0	5.4	4.7	4.2
Hinge side O.C. (B)					



Item No.	Type	Weight (g)	Carton (pcs)
H160-34/18	Free Swinging	205	100
H160-C34/18	Self-Closing		

Unique Motion

# CONCEALED HINGE (INSET)



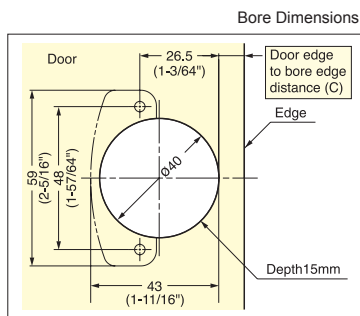
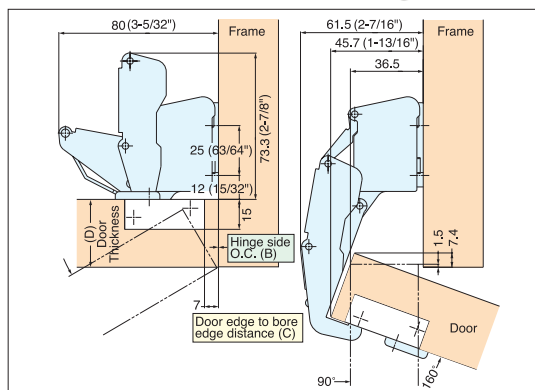
# H160-34/0, H160-C34/0



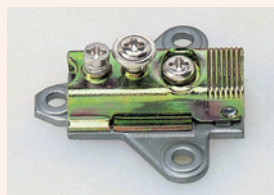
■ Hinge side opening clearance chart

Door thickness (D)	Door edge to bore edge distance (C)				
	3	4	5	6	7
30	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
Hinge side O.C. (B)					

\*Mounting Plate sold separately.



Item No.	Type	Weight (g)	Carton (pcs)
H160-34/0	Free Swinging	250	100
H160-C34/0	Self-Closing		



## MOUNTING PLATE 100-04A-W-32

- 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).
- Size 3.5 tapping screw or wood screw

Item Name	Material	Finish	Weight (g)
100-04A-W-32	Zinc Alloy (ZDC)/Steel	Satin Chrome/Coloured Zinc Chromate	32.4



## MOUNTING PLATE 100-06

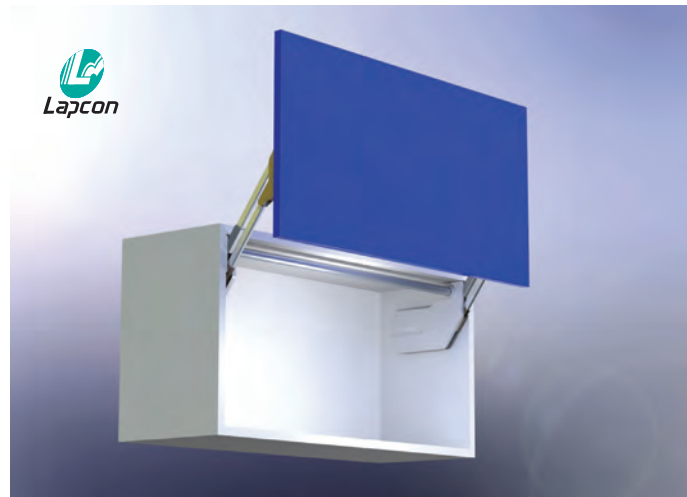
- Standard height: 0mm
- Value of H: Door thickness + 24mm in use of INSET type (Door thickness + 19mm in use of INSET type of H160 or 170 hinge).
- Size 3.1 countersunk head screw

Item Name	Material	Finish	Weight (g)
100-P3A	Steel	Satin Chrome/Coloured Zinc Chromate	21.4

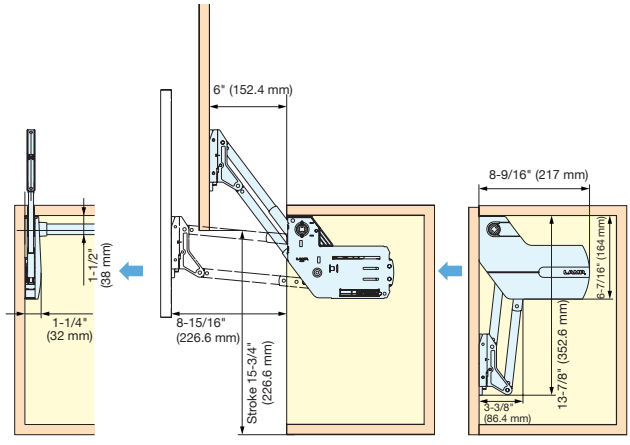


# SWING LIFT-UP STAY

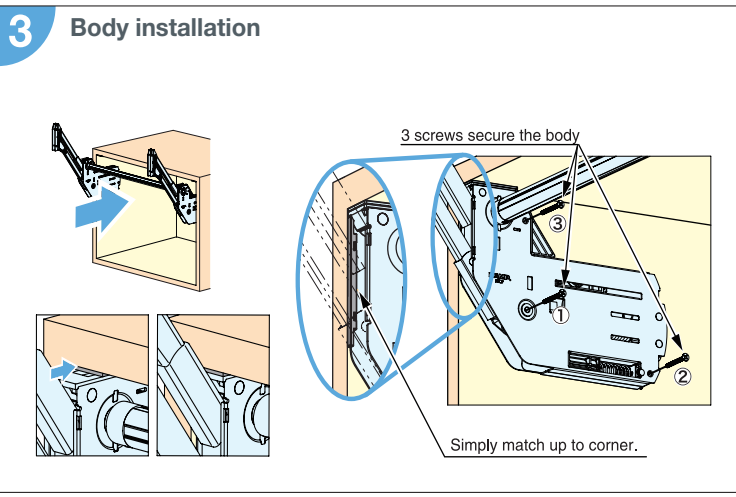
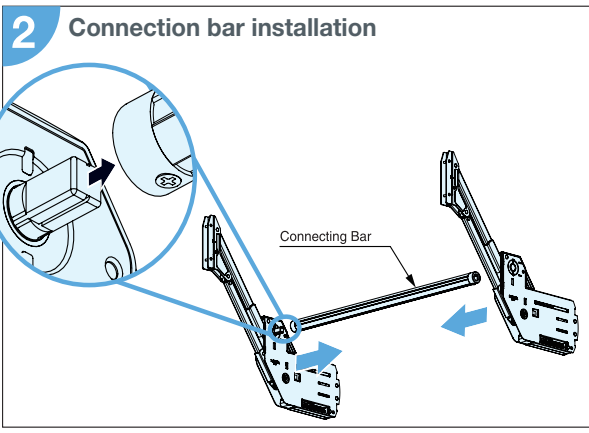
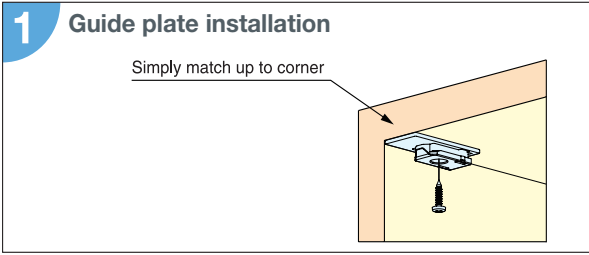
Unique Motion



- Lapcon stay for SWING LIFT-UP DOORS.
- Lift-assist mechanism for extra light-opening.
- Free stop feature.
- Damper equipped for soft & quiet closing at the end.
- Simple installation by mounting guide plate and sliding in main body.
- No hinges are required.
- Connecting bar stays on in a fixed location for maximum space inside cabinet.
- Recommended door size and weight :
  - Max. width: 59" (1500 mm)
  - Height: 15-3/8" ~ 19-11/16" (390 ~ 500 mm)/Door
  - Weight: 11 ~ 24.2 lbs (5 ~ 11 kg)/Door



### Simple Installation



Item No.	Door Weight (kg)	Door Height (mm)	Max. Door Width (mm)	Box	Carton
SLU-ELAN-S4	5.0 - 6.5 (11.0~14.3 lbs)	15-3/8" ~ 19-11/16" (390 ~ 500 mm)*	59" (1500 mm)	1 set	5 set
SLU-ELAN-L4	6.5 - 8.0 (14.3~17.6 lbs)				
SLU-ELAN-M4	8.0 - 9.5 (17.6~20.9 lbs)				
SLU-ELAN-H4	9.5-11.0 (20.9~24.2 lbs)				

\*Min. inside cabinet height is 360mm (14-3/16")  
 \*Door weight includes handle.

### ■ Connecting Bar (Sold separately)

Item No.	Cabinet Width (mm)	Inside Dimensions (mm)
ELB-480	23-5/8" (600 mm)	21-7/8" ~ 22-1/4" (556 - 566 mm)
ELB-780	35-1/2" (900 mm)	33-3/4" ~ 34-1/8" (856- 866 mm)
ELB-1080	47-1/4" (1200 mm)	45-1/2" ~ 45-7/8" (1156-1166 mm)
ELB-1380	59" (1500 mm)	57-5/16" ~ 57-3/4" (1456-1466 mm)

\*Please specify the compartment width when ordering.

# VERTICAL SWING DOWN MECHANISM

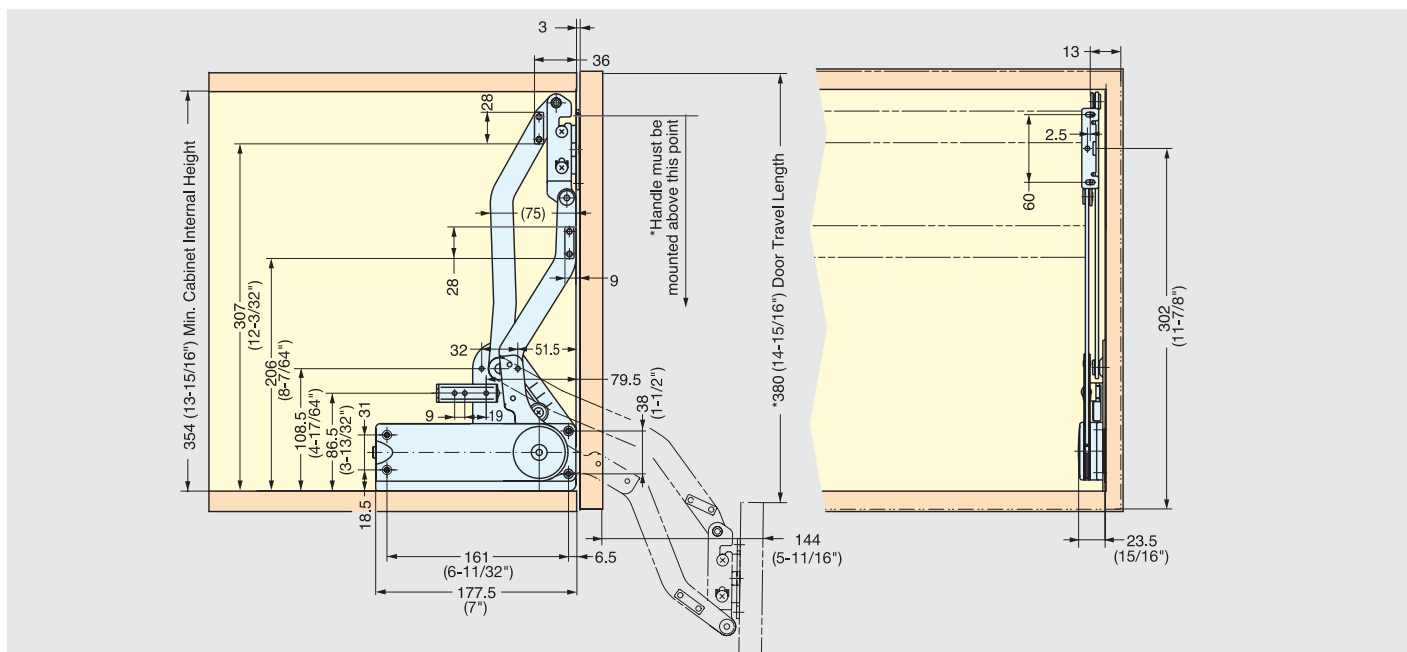
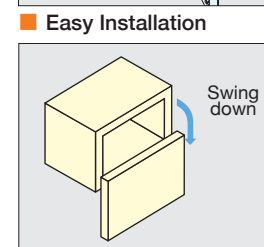
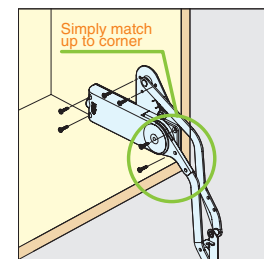
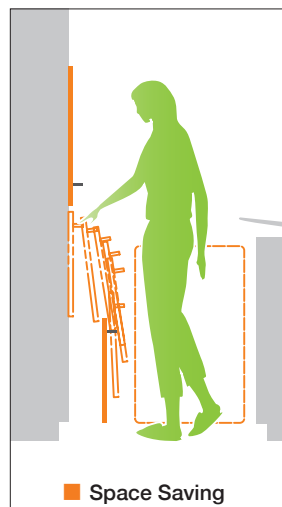


SLD

Unique Motion



- Patented LAPCON technology provides a smooth and quiet motion
- Unique swing down mechanism will hold doors at the open position.
- Sleek & compact design.
- Easy installation.
- Adjustable arm mounting plate.
- Successfully passed 30,000 open/close private cycle tests.
- Recommended door size and weight:
  - Width: 23-5/8" ~ 35-7/16" (600 ~ 900 mm)
  - Height: 14-1/8" ~ 15-3/4" (360 ~ 400 mm)
  - Weight: 6.6 ~ 13.2 lbs (3 ~ 6 kg)



Material	Finish/Color
Steel	Nickel
Plastic	Grey

Item No	Door Weight (kg)	Box (set)	Carton (set)
SLD-3	3~4 ( 6.6~ 8.8 lbs)	5	50
SLD-4	4~5 ( 8.8~11.0 lbs)		
SLD-5	5~6 (11.0~13.2 lbs)		

Guide Bar Length

Door Type	Cabinet Width (mm)	
	600 (23-5/8")	900 (35-7/16")
Solid Wood Door	535 (21-1/16")	835 (32-7/8")
Frame Door	551 (21-3/4")	851 (33-1/2")

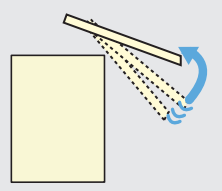
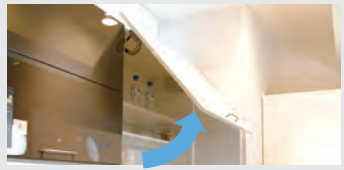
\*SLUB-835 (835 mm (32-7/8")) included unless specified.



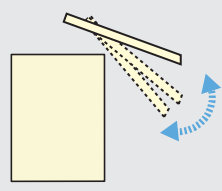
- Lapcon stay for UPWARD-OPENING FLAP DOORS.
- Door opens over the cabinet.  
(Space of 4-5/16" is required over cabinet)
- Lift-assist mechanism for extra light-opening.
- Door stays in any desired position.
- Damper equipped for soft & silent closing at the end.
- Slim design and installed location maximizes space inside of cabinet.
- Simple installation by aligning body to edge of cabinet.
- No hinges/connecting bar needed.
- Door height adjustable. (Horizontal  $\pm 1/16"$ , Vertical  $\pm 1/16"$ )
- Successfully passed 30,000 open/close private cycle tests.
- Recommended door size and weight:
  - Max. width: 47-1/4" (1200 mm)
  - Height: 19-11/16" ~ 29-1/2" (500~750 mm)/Door
  - Weight: 11 ~ 27.5 lbs (5 ~ 12.5 kg)/Door
- Sold in pairs.

### 3 functions on 1 stay

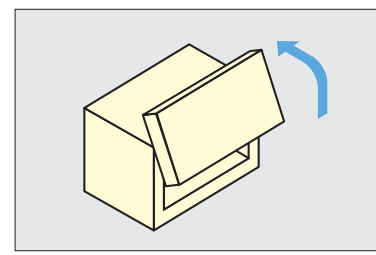
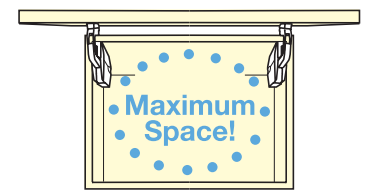
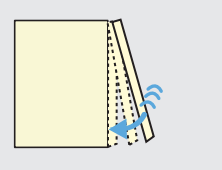
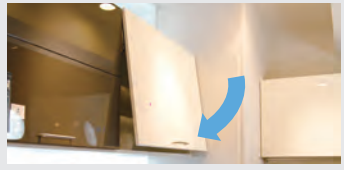
#### 1. Lift-assist



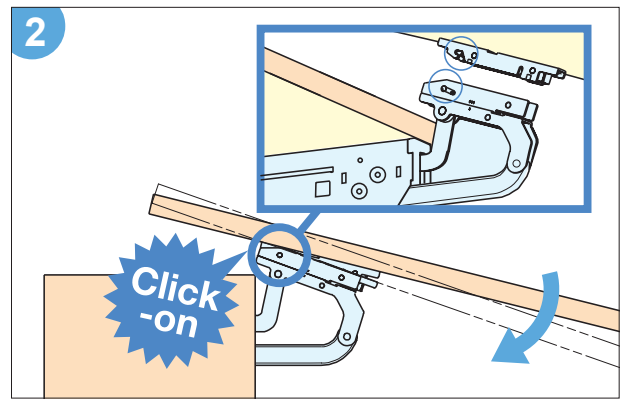
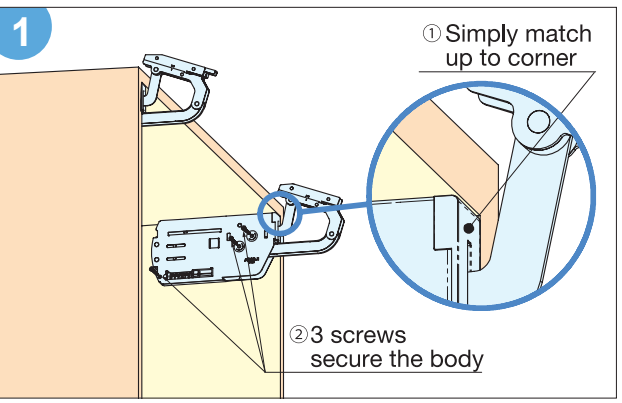
#### 2. Free stop

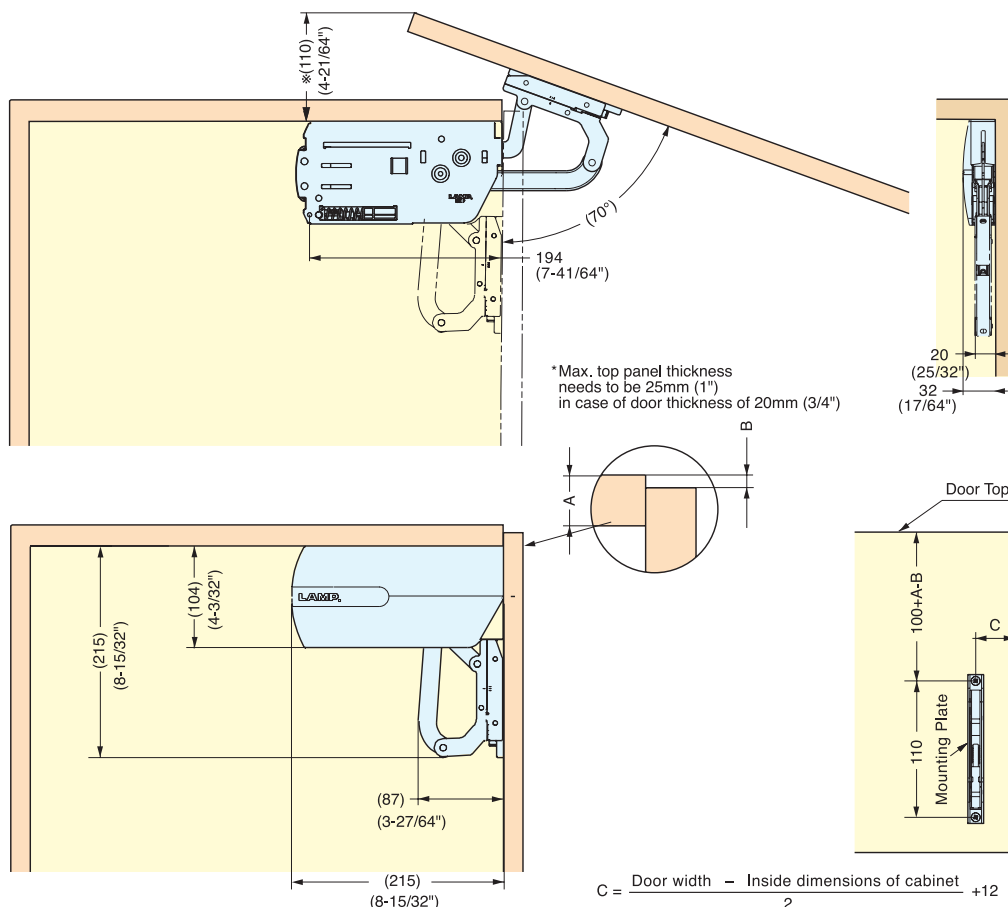


#### 3. Soft-close



### Easy Installation





■ Door Weight Range Table (lbs.) Per Pair

Door Height (Inches)	EZS-ELAN-LL		EZS-ELAN-ML		EZS-ELAN-MM		EZS-ELAN-HM		EZS-ELAN-HH	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
19	10.7	15.7	15.7	21.0	21.0	26.5	26.5	29.9	29.9	36.8
20	10.3	15.0	15.0	20.0	20.0	25.3	25.3	28.5	28.5	35.0
21	9.8	14.3	14.3	19.1	19.1	24.1	24.1	27.2	27.2	33.4
22	9.4	13.7	13.7	18.3	18.3	23.0	23.0	26.0	26.0	31.9
23	9.0	13.2	13.2	17.5	17.5	22.1	22.1	24.9	24.9	30.6
24	8.7	12.7	12.7	16.8	16.8	21.2	21.2	23.9	23.9	29.3
25	8.4	12.2	12.2	16.2	16.2	20.4	20.4	23.0	23.0	28.2
26	8.1	11.8	11.8	15.6	15.6	19.7	19.7	22.2	22.2	27.2
27	7.9	11.4	11.4	15.1	15.1	19.0	19.0	21.4	21.4	26.2
28	7.6	11.0	11.0	14.6	14.6	18.3	18.3	20.6	20.6	25.3
29	7.4	10.7	10.7	14.1	14.1	17.7	17.7	20.0	20.0	24.4
30	7.2	10.3	10.3	13.7	13.7	17.2	17.2	19.3	19.3	23.7
31	7.0	10.0	10.0	13.3	13.3	16.6	16.6	18.7	18.7	22.9
32	6.8	9.8	9.8	12.9	12.9	16.2	19.2	18.2	18.2	22.3

■ Lifting power

Door height (inch) x (Door weight (lbs) -1)

Item No.	Lifting Power (lbs-in)
EZS-ELAN-LL	185~280
EZS-ELAN-ML	280~380
EZS-ELAN-MM	380~485
EZS-ELAN-HM	485~550
EZS-ELAN-HH	550~680

Item No.	Weight (g)	Box (pcs)
EZS-ELAN-LL	2245 (4.9 lbs)	5
EZS-ELAN-ML	2316 (5.0 lbs)	
EZS-ELAN-MM	2387 (5.25 lbs)	
EZS-ELAN-HM	2431 (5.35 lbs)	
EZS-ELAN-HH	2475 (5.45 lbs)	

Material	Finish/Color
Steel, ABS	Light Grey, Nickel

# HBFN

## HORIZONTAL BI-FOLDING DOOR MECHANISM

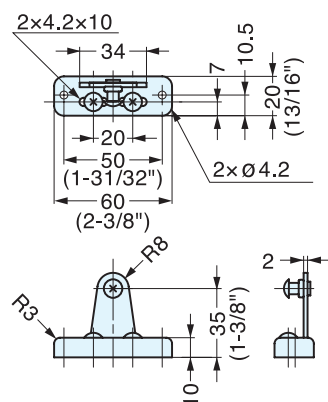


- HBFN's unique bi-fold door mechanism will assist in opening and closing doors in a smooth motion.
- The mechanism is compact, with no tracks or guides.
- Easy installation.
- Patented Lapcon technology offers smooth and quiet motion.
- Successfully passed 30,000 open/close private cycle tests.

Designed to operate at room temperature 0°~40°C (32°~104°F).



### MOUNTING PLATES FOR HBFN HBFN-SZ



■ Included with HBFN Series hardware.

Item No	Application	Weight (g)	Box (set)
HBFN-SZ	Wood Doors, Aluminum Frame Doors, Width 1-3/4" (45 mm)	44	100

Part Name	Material	Finish/Color
Plates, Screws	Steel	Nickel
Bumper	-	Grey

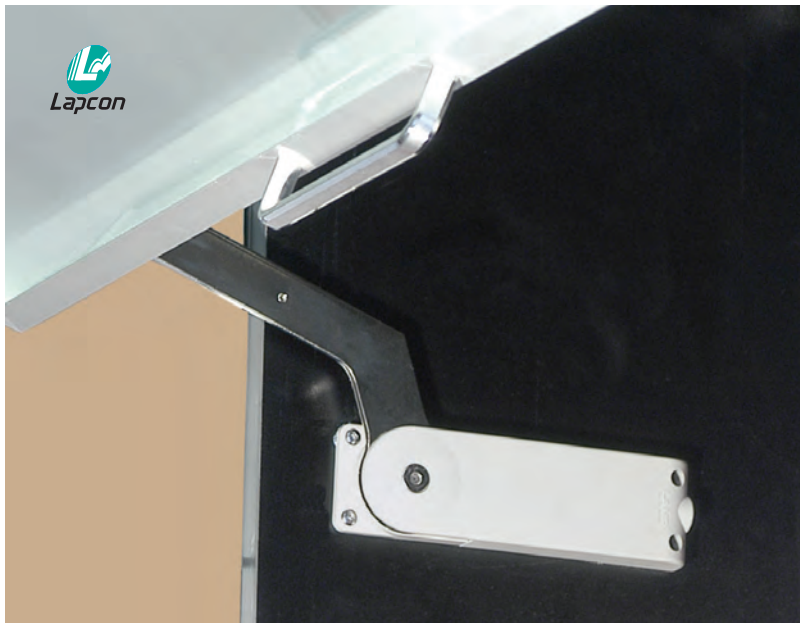


# HORIZONTAL BI-FOLDING DOOR MECHANISM

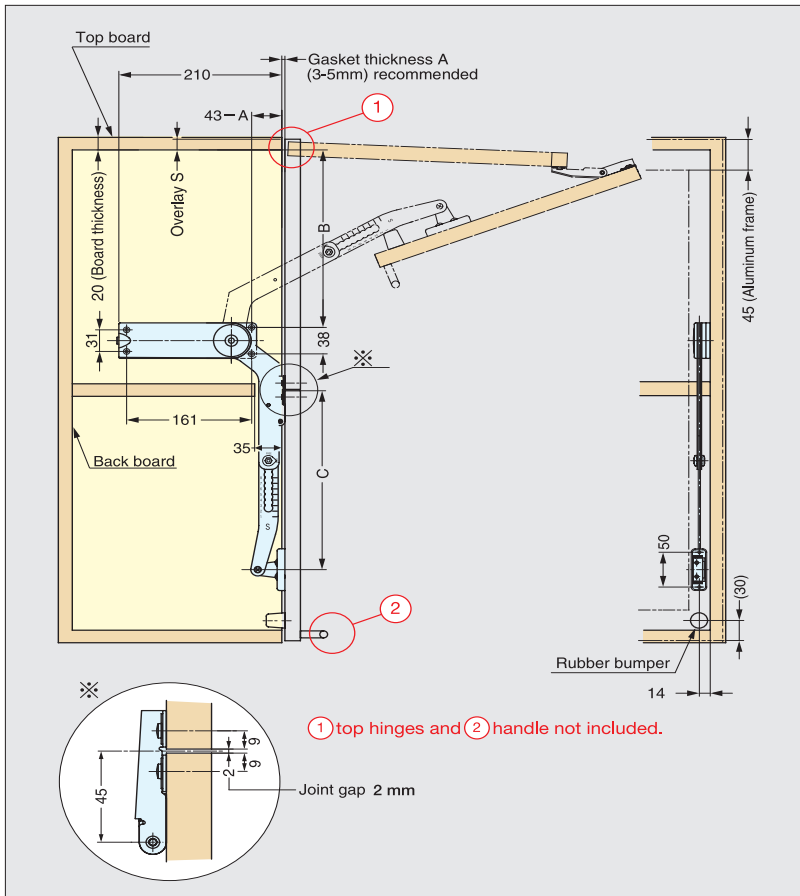
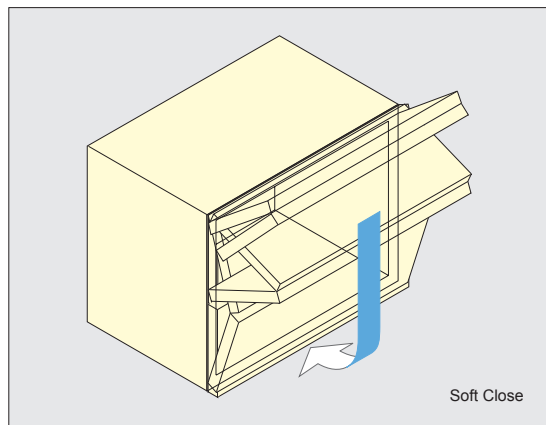


HBFN

Unique Motion



- Unique new bi-fold door mechanism will assist in opening and closing doors in a smooth motion.
- No tracks or guides required.
- Handle position can be at the bottom of the door.
- Arm length adjustable for various door sizes.
- Patented LAPCON technology provides very smooth and quiet motion.
- Recommended Door Size and Weight:  
 Width, 450~900 mm (17-23/32"~35-7/16")  
 Height, 320~370mm (12-19/32"~14-9/16")/ea door  
 Weight, 2.5~5.5 kg (5.5~12.1 lbs)/ea door



S = Overlay (Top Board)

Type	Door Height (mm)	Opening Angle 90°			Opening Angle 105°		
		Arm Position	B	C	Arm 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

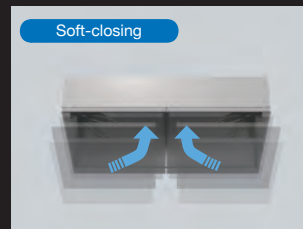
Item No	Door Height / door	Door Weight (kg/door)	Box (set)	Carton (set)
HBFN-2M	12-19/32" ~ 14-9/16" (320~370 mm)	2.5~3.5 (5.5~7.7 lbs)	10	100
HBFN-3M		3.6~4.5 (7.9~9.9 lbs)		
HBFN-4M		4.6~5.5 (9.9~12.1 lbs)		

Material	Finish
Steel	Nickel
Plastic	Light Grey

Unique Motion



# MonoFlat LIN-X hinge™

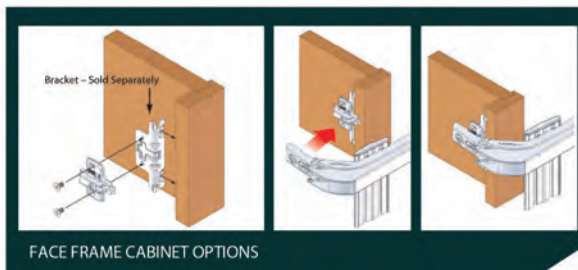


Item No.	LIN-X450	LIN-X600
Door Width	15-3/4" ~ 19-11/16" (400 ~ 500 mm)	21-5/8" ~ 25-9/16" (550 ~ 650 mm)
Door Height	23-5/8" ~ 94-1/2" (600 ~ 2400 mm)	
Door Thickness	5/8" ~ 15/16" (15 ~ 24 mm)	
Door Weight	*Max 37.4 lbs (17 kg)	*Max 52.8 lbs (24 kg)

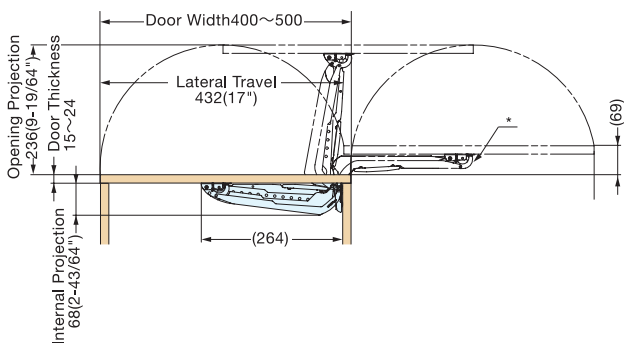
\*Max door weight will vary depending on number of hinges used.

- **Lateral Swing Mechanism**  
Allows doors to swing out laterally in a small radius, ideal for tight front space application.
- **Full Access to Cabinet**  
Door will not get in the way when fully opened providing full access to the cabinet.
- **Free Swing & Soft-close**
- **Easy Installation**  
Designed for standard 32 mm system mounting, with snap-on hinge.
- **4-Way Adjustable**  
3-way adjustable like concealed hinges and also with parallel adjustment.
- **Various Applications**  
Can be used in single or double door configuration. Ideal for cabinets in kitchen, bathroom, laundry room etc. \*For overlay use.

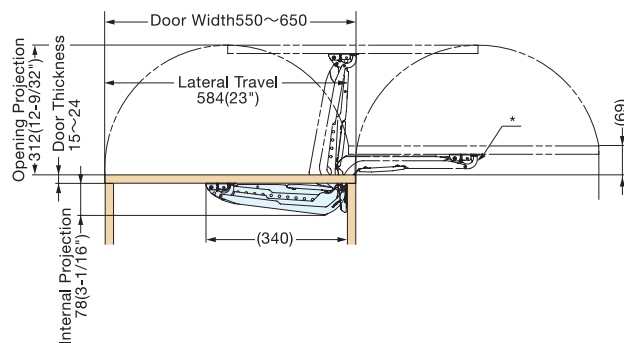
## INSTALLATION



### ■ LIN-X450



### ■ LIN-X600



### Application

Kitchen Corner (Inside)



Kitchen Corner (Outside)



Kitchen



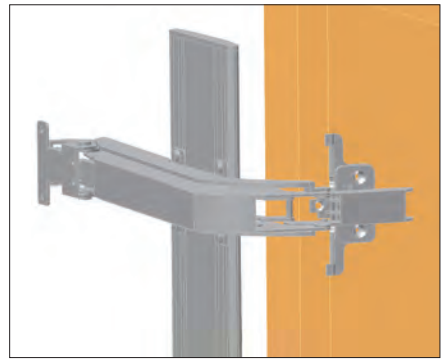
TV Base Cabinet



TV Cabinet

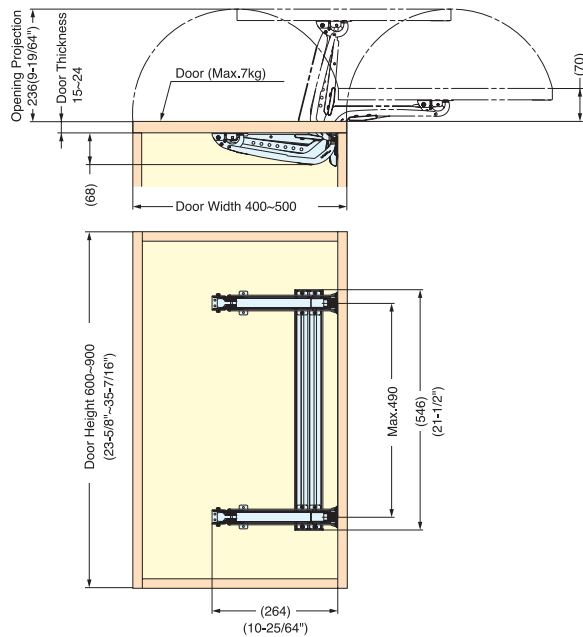
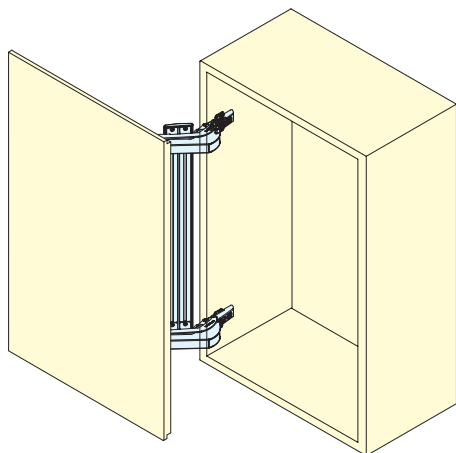


### Face Frame Bracket



Item No.	Material
FFCB-HG-1	304 Stainless Steel

Standard Kit



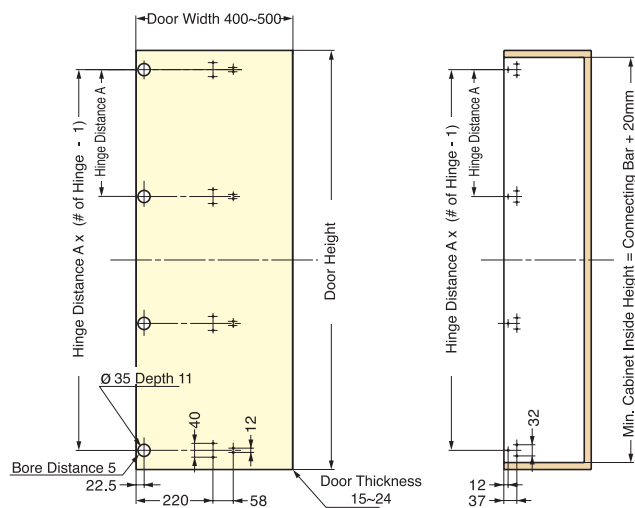
Door Width	15-3/4" ~ 19-11/16" (400 ~ 500 mm)
Door Height	23-5/8" ~ 35-7/16" (600 ~ 900 mm)
Door Thickness	5/8" ~ 15/16" (15 ~ 24 mm)
Door Weight	Max. 15.4 lbs (7 kg) / Door

\*Can be used on heavier / taller doors by adding hinge arms. Please see below for details.

Item No.	Overlay	Material	Finish
LIN-X450	3/4" (19 mm)	Steel/Aluminum	Nickel/Anodized
LIN-X450+5	35/64" (14 mm)		

Individual Parts for Tall / Heavy Door

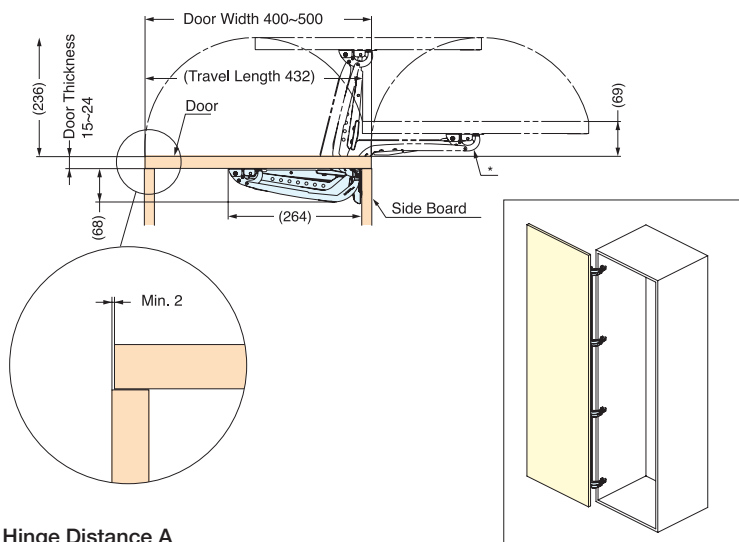
Door Preparation



Hinge in middle should be positioned at or equally distributed from center of door.

Door Width	15-3/4" ~ 19-11/16" (400 ~ 500 mm)
Door Height	23-5/8" ~ 94-1/2" (600 ~ 2400 mm)
Door Thickness	5/8" ~ 15/16" (15 ~ 24 mm)
Door Weight	Max. 37.4 lbs (17 kg)

Cabinet Preparation



Hinge Distance A

# of Hinges	Length of Connecting Bar (mm)					
	540	840	1140	1440	1740	2040
2 pcs	490.0	790.0	1090.0	-	-	-
3 pcs	245.0	395.0	545.0	695.0	845.0	-
4 pcs	-	263.3	363.3	463.3	563.3	663.3
5 pcs	-	-	272.5	347.5	422.5	497.5

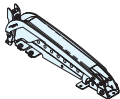
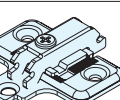
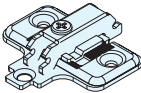
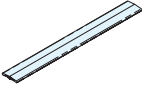
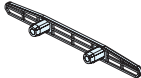
## Individual Parts - Ordering Chart

### Ordering Info

Use corresponding letter in below table, and see "Parts Breakdown Table" for parts to be ordered.

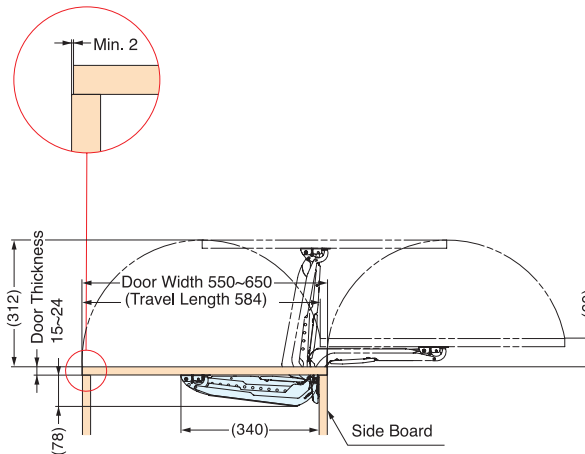
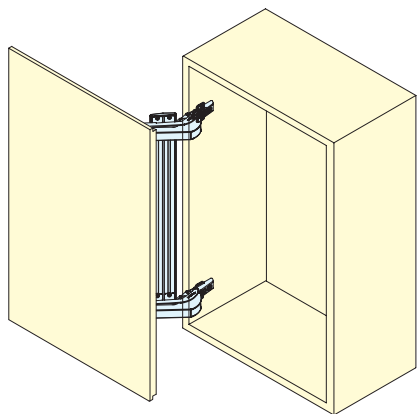
Door Height	Door Weight					Connecting Bar / Cover Cap
	~15.5 lbs (~7.0 kg)	15.6~23.0 lbs (7.1~10.5 kg)	23.1~31 lbs (10.6~14.0 kg)	31.1~37.4 lbs (14.1~17.0 kg)	44.3~52.8 lbs (20.1~24.0 kg)	
23-5/8"~35-7/16" (600~900 mm)	LIN-X450 Standard Set Connecting Bar & Cover included	B				LIN-X450-L540 1 pc LIN-X450C 2 pcs
35-7/16"~47-1/4" (901~1200 mm)	A	B	B			LIN-X450-L840 1 pc LIN-X450C 2 pcs
47-1/4"~59-3/64" (1201~1500 mm)	A	B	B	C		LIN-X450-L1140 1 pc LIN-X450C 2 pcs
59-3/64"~70-7/8" (1501~1800 mm)	B	B	B	C	D	LIN-X450-L1440 1 pc LIN-X450C 2 pcs
70-7/8"~82-11/16" (1801~2100 mm)	B	B	B	C	D	LIN-X450-L1740 1 pc LIN-X450C 2 pcs
82-11/16"~94-1/2" (2101~2400 mm)	C	C	C	C	D	LIN-X450-L2040 1 pc LIN-X450C 2 pcs

### Parts Breakdown Table

Item Number	Description		Qty Required			
			A	B	C	D
LIN-X450ACD	Single Arm ( with Damper )		2	3	3	3
LIN-X450A	Single Arm ( without Damper )		-	-	1	2
230-P4W-32T (for 19 mm overlay) or 230-P4W-32T+5 (for 14 mm overlay)	Mounting Plate *Requires 3 pcs of TAP3515NI Screw 3.5 × 15NI (Sold separately) per Mounting Plate		2	3	4	5
LIN-X450-L540	Connecting Bar L=540 mm		See table above			
LIN-X450-L840	Connecting Bar L=840 mm					
LIN-X450-L1140	Connecting Bar L=1140 mm					
LIN-X450-L1440	Connecting Bar L=1440 mm					
LIN-X450-L1740	Connecting Bar L=1740 mm					
LIN-X450-L2040	Connecting Bar L=2040 mm					
LIN-X450C	End Cap for Connecting Bar		2			



Standard Kit



Please note handle position on other doors before installation, so that hinges will not interfere with the handles.

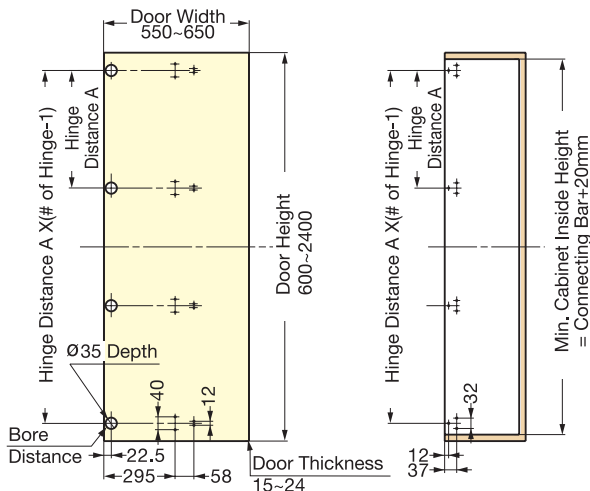
Door Width	21-5/8" ~ 25-9/16" (550 ~ 650 mm)
Door Height	23-5/8" ~ 35-7/16" (600 ~ 900 mm)
Door Thickness	5/8" ~ 15/16" (15 ~ 24 mm)
Door Weight	MAX. 19.8 lbs (9 kg) / Door

Item No.	Overlay	Material	Finish
LIN-X600	19 mm (3/4")	Steel, Aluminum	Nickel, Anodized

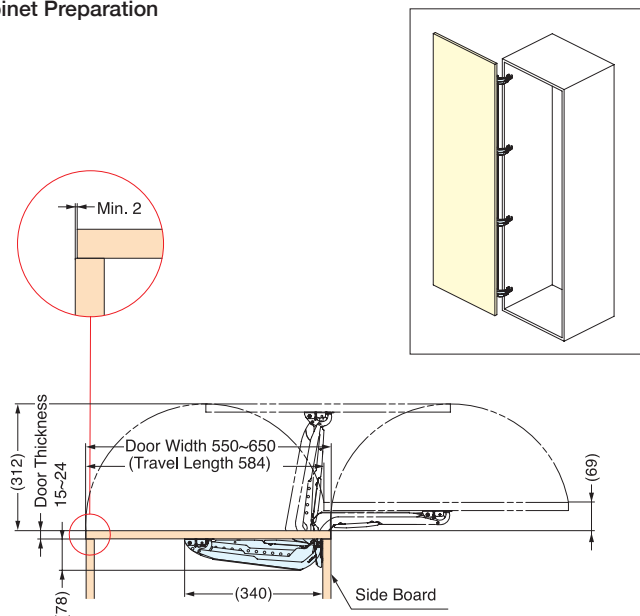
Included Parts: 2 each of Hinge Arms, Mounting Plates, Cup Covers, Bar End Caps and 1 Connecting Bar.

Individual Parts for Tall / Heavy Door

Door Preparation



Cabinet Preparation



Please note handle position on other doors before installation, so that hinges will not interfere with the handles.

Hinge Distance A

# of Hinges	Length of Connecting Bar (mm)					
	540	840	1140	1440	1740	2040
2 pcs	490.0	790.0	-	-	-	-
3 pcs	245.0	395.0	545.0	695.0	845.0	-
4 pcs	-	-	363.3	463.3	563.3	663.3
5 pcs	-	-	-	347.5	422.5	497.5

Door Width	21-5/8" ~ 25-9/16" (550 ~ 650 mm)
Door Height	23-5/8" ~ 94-1/2" (600 ~ 2400 mm)
Door Thickness	5/8" ~ 15/16" (15 ~ 24 mm)
Door Weight	Max. 52.8 lbs (24 kg)

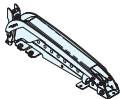
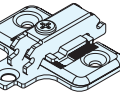
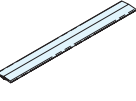
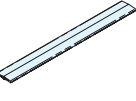
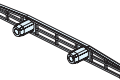
## Individual Parts - Ordering Chart

### Ordering Info

Use corresponding letter in below table, and see "Parts Breakdown Table" for parts to be ordered.

Door Height	Door Weight					Connecting Bar / Cover Cap
	~19.9 lbs (~9.0 kg)	20.0~26.5 lbs (9.1~12.0 kg)	26.6~35.4 lbs (12.1~16.0 kg)	35.5~44.2 lbs (16.1~20.0 kg)	44.3~52.8 lbs (20.1~24.0 kg)	
23-5/8"~35-7/16" (600~900 mm)	LIN-X600 Standard Set Connecting Bar & Cover included	B				LIN-X60-L540 1 pc LIN-X60C 2 pcs
35-7/16"~47-1/4" (901~1200 mm)		B	B			LIN-X60-L840 1 pc LIN-X60C 2 pcs
47-1/4"~59-3/64" (1201~1500 mm)		B	B	C		LIN-X60-L1140 1 pc LIN-X60C 2 pcs
59-3/64"~70-7/8" (1501~1800 mm)		B	B	C	D	LIN-X60-L1440 1 pc LIN-X60C 2 pcs
70-7/8"~82-11/16" (1801~2100 mm)		B	B	C	D	LIN-X60-L1740 1 pc LIN-X60C 2 pcs
82-11/16"~94-1/2" (2101~2400 mm)			C	C	D	LIN-X60-L2040 1 pc LIN-X60C 2 pcs

### Parts Breakdown Table

Item Number	Description		Qty Required			
			A	B	C	D
LIN-X600ACD	Single Arm ( with Damper )		2	3	3	3
LIN-X600A	Single Arm ( without Damper )		-	-	1	2
230-P4W-32T (for 19 mm overlay)	Mounting Plate *Requires 3 pcs of TAP3515NI Screw 3.5 × 15NI (Sold separately) per Mounting Plate		2	3	4	5
LIN-X60-L540	Connecting Bar L=540 mm		See table above			
LIN-X60-L840	Connecting Bar L=840 mm					
LIN-X60-L1140	Connecting Bar L=1140 mm					
LIN-X60-L1440	Connecting Bar L=1440 mm					
LIN-X60-L1740	Connecting Bar L=1740 mm					
LIN-X60-L2040	Connecting Bar L=2040 mm					
LIN-X60C	End Cap for Connecting Bar		2			

Unique Motion

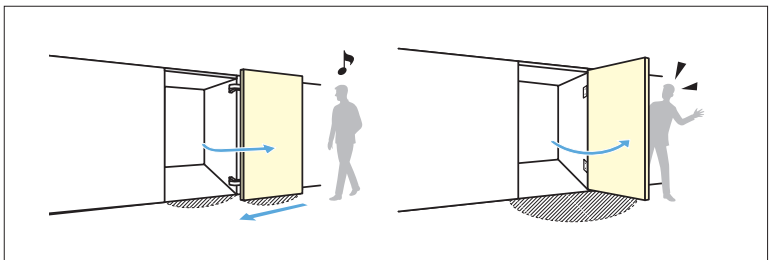


- **Lateral Opening Mechanism:** Allows doors to swing out laterally in a small radius, ideal for tight front space application.
- **4-Way Adjustable:** Vertical, horizontal, depth and parallel adjustment.
- **Smooth Movement:** Built-in dampers provide a smooth soft-closing movement.
- **Use in various applications:** Ideal for closet entryways, large pantry doors, storage, hidden rooms, etc. Can also be used on L shaped corner spaces.
- **Hardware is non-handed:** can be used for left- or right-opening doors.
- **Designed for overlay installation,** but can be installed flush with the surrounding cabinet or wall. Please contact customer service for details on inset installations.



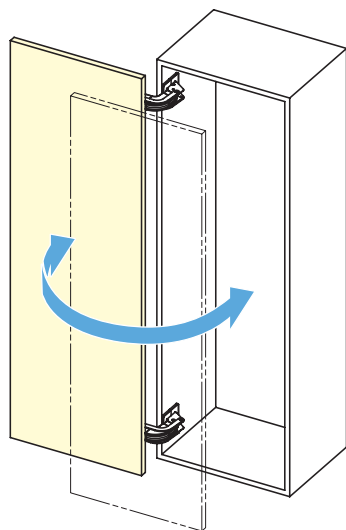
Minimize opening clearance required with LIN-X800, compared to traditional swinging doors. When closed, the LIN-X door can be flush with the surrounding walls.

Minimize opening clearance required with LIN-X1000, compared to traditional swinging doors. When closed, the LIN-X door can be flush with the surrounding walls.



Item No.	Material	Weight (kg)	Finish
LIN-X800-WT-S	Steel, Aluminum	40lbs (18kg)	White
LIN-X800-BL-S			Black
LIN-X800H-WT-S		44lbs (18.7kg)	White
LIN-X800H-BL-S			Black

	LIN-X800	LIN-X800H
Door Width	29-1/2" ~ 33-7/16" (750 ~ 850 mm)	
Max. Door Height	94-1/2" (2400 mm)	117-5/16" (2980 mm)
Door Thickness	15/16" ~ 1-9/16" (24 ~ 40mm)	
Max. Door Weight	88 lbs (40kg) / door	

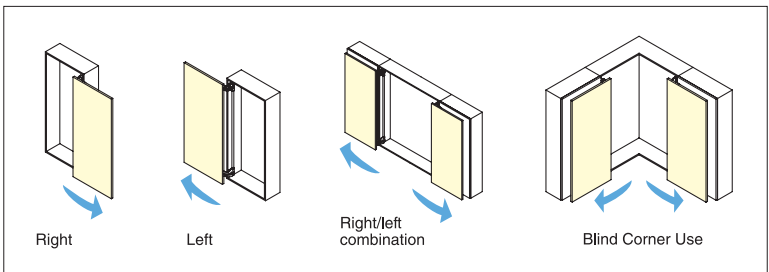


**Adjustability**

<p>Vertical adjustment ±7 mm</p>	<p>Horizontal adjustment ±7 mm</p>	<p>Depth adjustment ±5 mm</p>	<p>Parallel adjustment ±3°</p>
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Adjustable in vertical, horizontal, depth and parallel directions.

**Installation Examples**

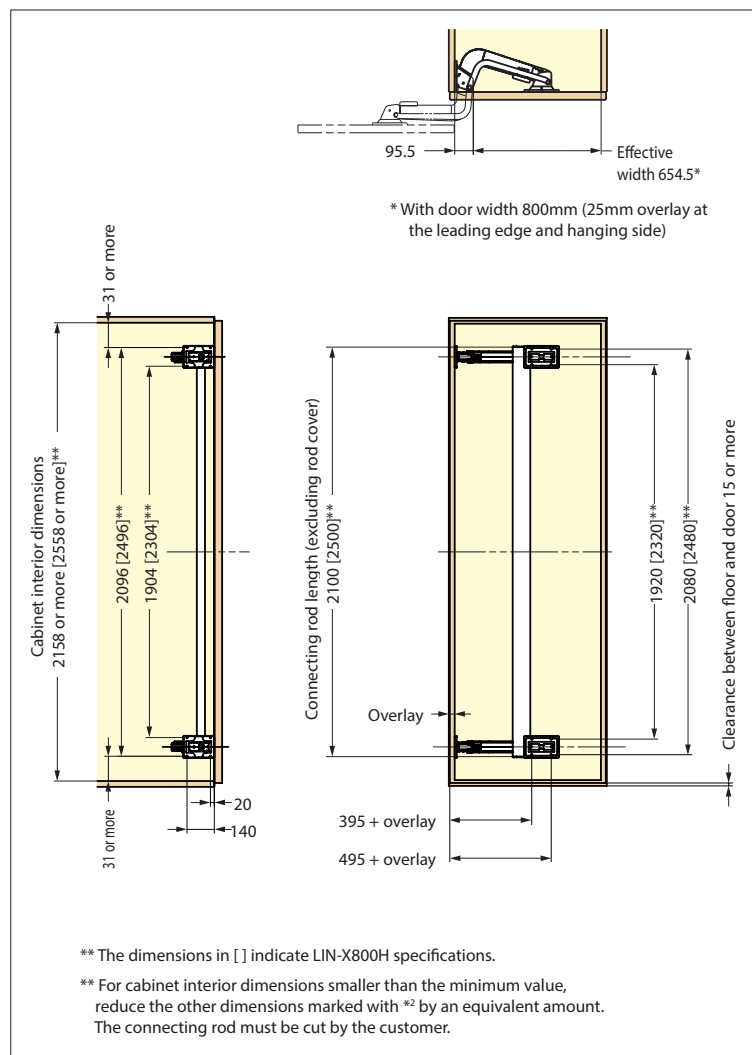


No.	Qty.	Parts in Set	Dimensions	Material
1	A · B 1 each	Hinge A		Steel, Plastic (POM) Finish: White, Matte Black
		Hinge B		

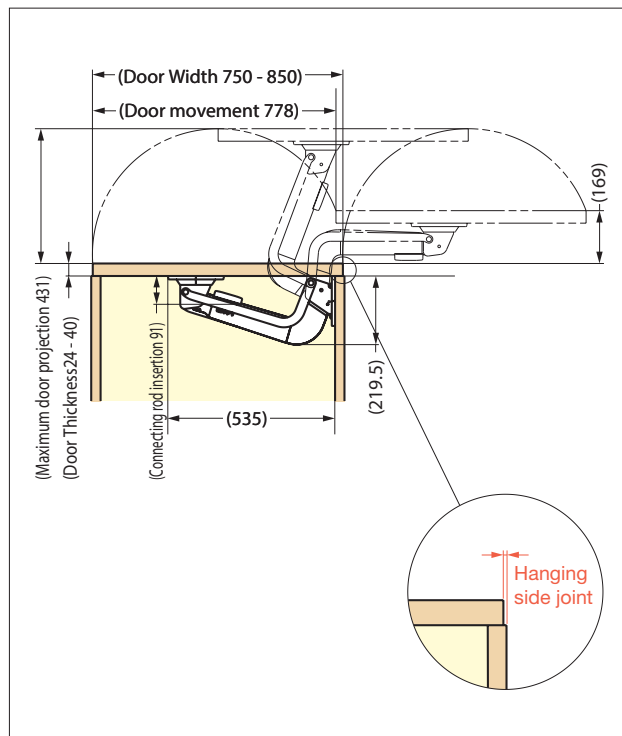
No.	Qty.	Parts in Set	Dimensions	Material
2	4 pcs	Washer cover (hanging side)		Plastic (ABS)
3	4 pcs	Washer cover (leading edge)		Plastic (ABS)
4	2 pcs	Rod cover		Plastic (POM)

No.	Qty.	Parts in Set	Dimensions	Material
5	1	Connecting Rod		Aluminium Alloy Finish: Anodised: Black/silver
				Aluminium Alloy Finish: Anodised: Black/silver

Detailed Drawing



Range of Motion



Unique Motion



- Lateral Opening Mechanism: Allows doors to swing out laterally in a small radius, ideal for tight front space application.
- Heavy Duty: Max. weight 198 lbs.
- 4-Way Adjustable: Vertical, horizontal, depth and parallel adjustment.
- Smooth Movement: Built-in dampers provide a smooth soft-closing movement.
- Use in various applications: Ideal for closet entryways, large pantry doors, storage, hidden rooms, etc.
- Hardware is non-handed: can be used for left- or right-opening doors.
- Designed for overlay installation, but can be installed flush with the surrounding cabinet or wall. Please contact customer service for details on inset installations.

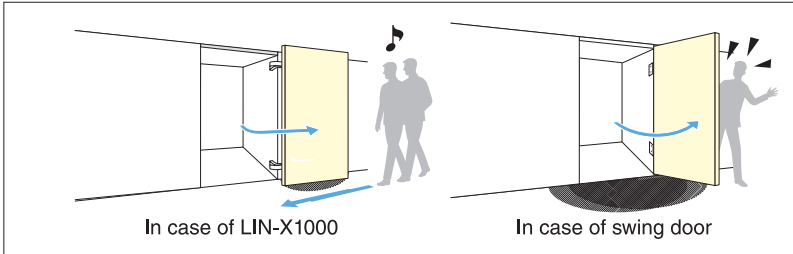
Innovative design internationally recognized with the following awards:



reddot award 2017 winner

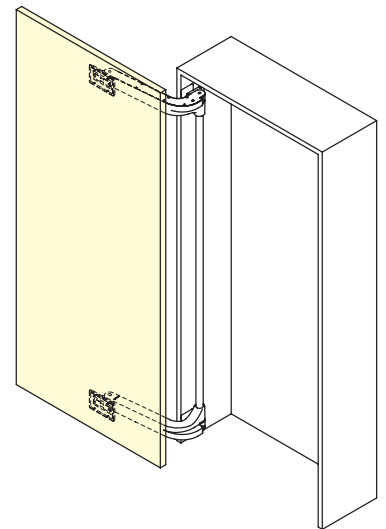


Minimize opening clearance required with LIN-X1000, compared to traditional swinging doors. When closed, the LIN-X door can be flush with the surrounding walls.

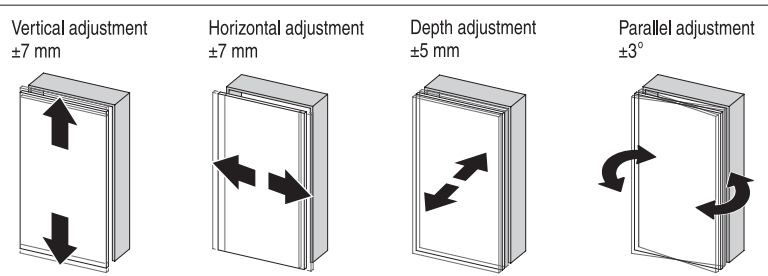


Item No.	Overlay	Material	Finish
LIN-X1000/WT-S	3/4" (19 mm)	Steel, Aluminum	White
LIN-X1000/BL-S			Black

Door Width	29-1/2" ~ 43-5/16" (750 ~ 1100 mm)
Max. Door Height	117-5/16" (2980 mm)
Door Thickness	15/16" ~ 1-9/16" (24~40 mm)
Max. Door Weight	198 lbs (90 kg/door)

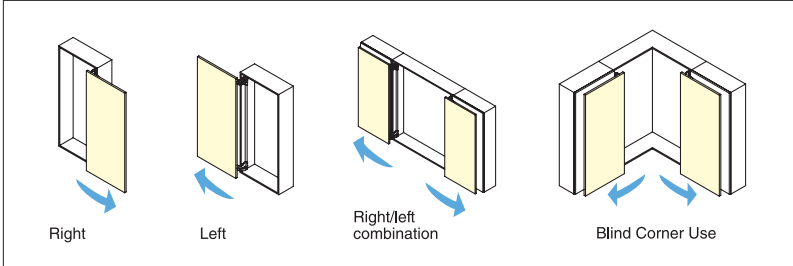


### Adjustability



Adjustable in vertical, horizontal, depth and parallel directions.

### Installation Examples





# LIN-X1000 COMPONENT DETAILS

No.	Qty	Dimensions	Description	No.	Qty	Dimensions	Description
1	1 pc		Material: Aluminum Alloy Finish: White/Black Powder Coated	4	4 pcs		Material: ABS Finish: White/Black
2	1 pc		Material: Aluminum Alloy Finish: White/Black Powder Coated	5	1 pc		Material: PBT Finish: White/Black
3	4 pcs		Material: ABS Finish: White/Black				
6	1 pc		Material: Aluminum Alloy Finish: White Anodized/Black Anodized				

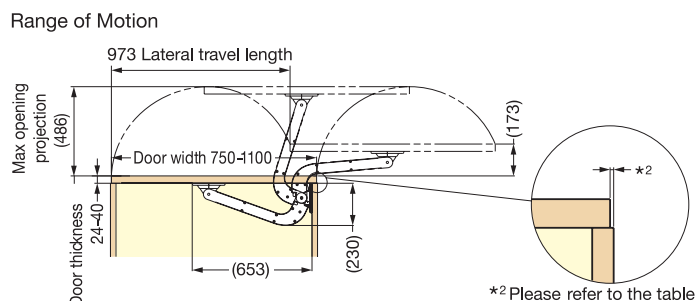
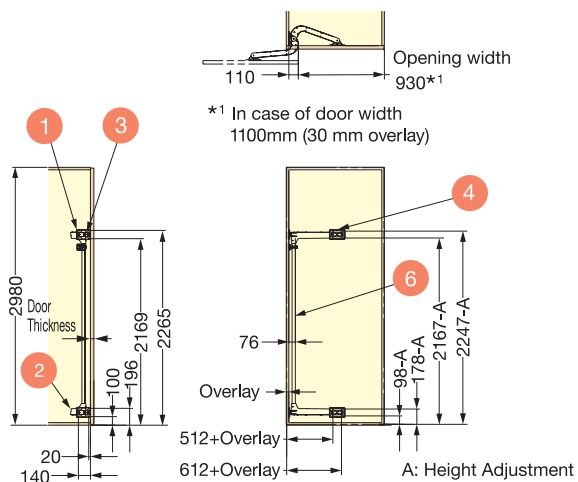


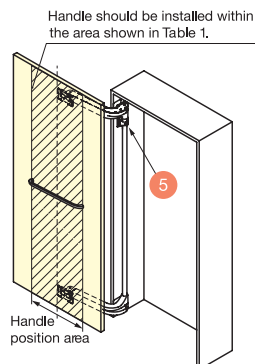
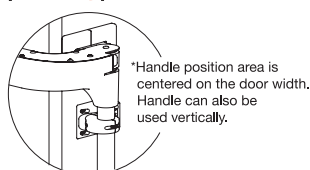
Table 1: Handle position area (for door thickness 40 mm)

Door width	Hinge side clearance		
	10 mm	15 mm	20 mm
750 mm - 900 mm	Max. 300 mm	Max. 350 mm	Max. 500 mm
900 mm - 1000 mm	Max. 200 mm	Max. 250 mm	Max. 400 mm
1000 mm - 1100 mm	Max. 100 mm	Max. 150 mm	Max. 300 mm

Table 2: Please follow Height Adjustment (A) based on the following table so that the door will not contact the floor.

Door weight	Height Adjustment
20 kg	2.0 mm
30 kg	3.5 mm
40 kg	5.0 mm
50 kg	6.5 mm
60 kg	8.0 mm
70 kg	9.5 mm
80 kg	11.0 mm
90 kg	12.5 mm

[Details of 5]



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Scan QR CODE to see a digital version of this catalog.



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

# Sasuga-kun can address such concerns!!

There are lots of products  
Which one is suitable?

Wow, it's already this time!!  
I want to inquire but the business  
hours are over :

I would like to close doors  
slowly  
and stop it exactly but :

Give it a **TRY!**

**S** Motion Design Tech Products  
**Selection Tool "Sasuga-kun"**

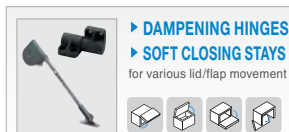
## What is... Sasuga-kun

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

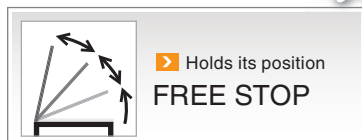
※For some products, there is also a simulation tool that can check the movement of a door by displaying a graph instead of selection.  
The selection is the result of calculation and for reference only. Be sure to confirm by real equipment or test machine before making a use decision.



### 1 Select kind of movement

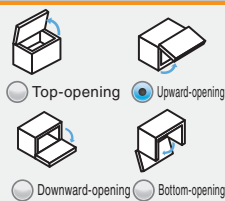


Go to selection tool page



### 2 Input conditions

#### step 1 Select lid/flap movement



#### step 2 Input lid/flap conditions

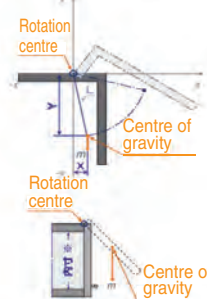
Based on lid/flap centre of gravity and weight

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  $g=9.80665 \text{ m/s}^2$

Based on lid/flap centre of gravity and weight



#### step 3 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	<input type="radio"/>
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!

# Inch to Metric Conversion Table

# Metric to Inch Conversion

	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"	12"	
0/0	0.0	25.4	50.8	76.2	101.6	127.0	152.4	177.8	203.2	228.6	254.0	279.4	304.8
1/64	0.4	25.8	51.2	76.6	102.0	127.4	152.8	178.2	203.6	229.0	254.4	279.8	305.2
1/32	0.8	26.2	51.6	77.0	102.4	127.8	153.2	178.6	204.0	229.4	254.8	280.2	305.6
3/64	1.2	26.6	52.0	77.4	102.8	128.2	153.6	179.0	204.4	229.8	255.2	280.6	306.0
1/16	1.6	27.0	52.4	77.8	103.2	128.6	154.0	179.4	204.8	230.2	255.6	281.0	306.4
5/64	2.0	27.4	52.8	78.2	103.6	129.0	154.4	179.8	205.2	230.6	256.0	281.4	306.8
3/32	2.4	27.8	53.2	78.6	104.0	129.4	154.8	180.2	205.6	231.0	256.4	281.8	307.2
7/64	2.8	28.2	53.6	79.0	104.4	129.8	155.2	180.6	206.0	231.4	256.8	282.2	307.6
1/8	3.2	28.6	54.0	79.4	104.8	130.2	155.6	181.0	206.4	231.8	257.2	282.6	308.0
9/64	3.6	29.0	54.4	79.8	105.2	130.6	156.0	181.4	206.8	232.2	257.6	283.0	308.4
5/32	4.0	29.4	54.8	80.2	105.6	131.0	156.4	181.8	207.2	232.6	258.0	283.4	308.8
11/64	4.4	29.8	55.2	80.6	106.0	131.4	156.8	182.2	207.6	233.0	258.4	283.8	309.2
3/16	4.8	30.2	55.6	81.0	106.4	131.8	157.2	182.6	208.0	233.4	258.8	284.2	309.6
13/64	5.2	30.6	56.0	81.4	106.8	132.2	157.6	183.0	208.4	233.8	259.2	284.6	310.0
7/32	5.6	31.0	56.4	81.8	107.2	132.6	158.0	183.4	208.8	234.2	259.6	285.0	310.4
15/64	6.0	31.4	56.8	82.2	107.6	133.0	158.4	183.8	209.2	234.6	260.0	285.4	310.8
1/4	6.4	31.8	57.2	82.5	108.0	133.4	158.8	184.2	209.6	235.0	260.4	285.8	311.2
17/64	6.7	32.1	57.5	82.9	108.3	133.7	159.1	184.5	209.9	235.3	260.7	286.1	311.5
9/32	7.1	32.5	57.9	83.3	108.7	134.1	159.5	184.9	210.3	235.7	261.1	286.5	311.9
19/64	7.5	32.9	58.3	83.7	109.1	134.5	159.9	185.3	210.7	236.1	261.5	286.9	312.3
5/16	7.9	33.3	58.7	84.1	109.5	134.9	160.3	185.7	211.1	236.5	261.9	287.3	312.7
21/64	8.3	33.7	59.1	84.5	109.9	135.3	160.7	186.1	211.5	236.9	262.3	287.7	313.1
11/32	8.7	34.1	59.5	84.9	110.3	135.7	161.1	186.5	211.9	237.3	262.7	288.1	313.5
23/64	9.1	34.5	59.9	85.3	110.7	136.1	161.5	186.9	212.3	237.7	263.1	288.5	313.9
3/8	9.5	34.9	60.3	85.7	111.1	136.5	161.9	187.3	212.7	238.1	263.5	288.9	314.3
25/64	9.9	35.3	60.7	86.1	111.5	136.9	162.3	187.7	213.1	238.5	263.9	289.3	314.7
13/32	10.3	35.7	61.1	86.5	111.9	137.3	162.7	188.1	213.5	238.9	264.3	289.7	315.1
27/64	10.7	36.1	61.5	86.9	112.3	137.7	163.1	188.5	213.9	239.3	264.7	290.1	315.5
7/16	11.1	36.5	61.9	87.3	112.7	138.1	163.5	188.9	214.3	239.7	265.1	290.5	315.9
29/64	11.5	36.9	62.3	87.7	113.1	138.5	163.9	189.3	214.7	240.1	265.5	290.9	316.3
15/32	11.9	37.3	62.7	88.1	113.5	138.9	164.3	189.7	215.1	240.5	265.9	291.3	316.7
31/64	12.3	37.7	63.1	88.5	113.9	139.3	164.7	190.1	215.5	240.9	266.3	291.7	317.1
1/2	12.7	38.1	63.5	88.9	114.3	139.7	165.1	190.5	215.9	241.3	266.7	292.1	317.5
33/64	13.1	38.5	63.9	89.3	114.7	140.1	165.5	190.9	216.3	241.7	267.1	292.5	317.9
17/32	13.5	38.9	64.3	89.7	115.1	140.5	165.9	191.3	216.7	242.1	267.5	292.9	318.3
35/64	13.9	39.3	64.7	90.1	115.5	140.9	166.3	191.7	217.1	242.5	267.9	293.3	318.7
9/16	14.3	39.7	65.1	90.5	115.9	141.3	166.7	192.1	217.5	242.9	268.3	293.7	319.1
37/64	14.7	40.1	65.5	90.9	116.3	141.7	167.1	192.5	217.9	243.3	268.7	294.1	319.5
19/32	15.1	40.5	65.9	91.3	116.7	142.1	167.5	192.9	218.3	243.7	269.1	294.5	319.9
39/64	15.5	40.9	66.3	91.7	117.1	142.5	167.9	193.3	218.7	244.1	269.5	294.9	320.3
5/8	15.9	41.3	66.7	92.1	117.5	142.9	168.3	193.7	219.1	244.5	269.9	295.3	320.7
41/64	16.3	41.7	67.1	92.5	117.9	143.3	168.7	194.1	219.5	244.9	270.3	295.7	321.1
21/32	16.7	42.1	67.5	92.9	118.3	143.7	169.1	194.5	219.9	245.3	270.7	296.1	321.5
43/64	17.1	42.5	67.9	93.3	118.7	144.1	169.5	194.9	220.3	245.7	271.1	296.5	321.9
11/16	17.5	42.9	68.3	93.7	119.1	144.5	169.9	195.3	220.7	246.1	271.5	296.9	322.3
45/64	17.9	43.3	68.7	94.1	119.5	144.9	170.3	195.7	221.1	246.5	271.9	297.3	322.7
23/32	18.3	43.7	69.1	94.5	119.9	145.3	170.7	196.1	221.5	246.9	272.3	297.7	323.1
47/64	18.7	44.1	69.5	94.9	120.3	145.7	171.1	196.5	221.9	247.3	272.7	298.1	323.5
3/4	19.1	44.5	69.9	95.2	120.7	146.1	171.5	196.9	222.3	247.7	273.1	298.5	323.9
49/64	19.4	44.8	70.2	95.6	121.0	146.4	171.8	197.2	222.6	248.0	273.4	298.8	324.2
25/32	19.8	45.2	70.6	96.0	121.4	146.8	172.2	197.6	223.0	248.4	273.8	299.2	324.6
51/64	20.2	45.6	71.0	96.4	121.8	147.2	172.6	198.0	223.4	248.8	274.2	299.6	325.0
13/16	20.6	46.0	71.4	96.8	122.2	147.6	173.0	198.4	223.8	249.2	274.6	300.0	325.4
53/64	21.0	46.4	71.8	97.2	122.6	148.0	173.4	198.8	224.2	249.6	275.0	300.4	325.8
27/32	21.4	46.8	72.2	97.6	123.0	148.4	173.8	199.2	224.6	250.0	275.4	300.8	326.2
55/64	21.8	47.2	72.6	98.0	123.4	148.8	174.2	199.6	225.0	250.4	275.8	301.2	326.6
7/8	22.2	47.6	73.0	98.4	123.8	149.2	174.6	200.0	225.4	250.8	276.2	301.6	327.0
57/64	22.6	48.0	73.4	98.8	124.2	149.6	175.0	200.4	225.8	251.2	276.6	302.0	327.4
29/32	23.0	48.4	73.8	99.2	124.6	150.0	175.4	200.8	226.2	251.6	277.0	302.4	327.8
59/64	23.4	48.8	74.2	99.6	125.0	150.4	175.8	201.2	226.6	252.0	277.4	302.8	328.2
15/16	23.8	49.2	74.6	100.0	125.4	150.8	176.2	201.6	227.0	252.4	277.8	303.2	328.6
61/64	24.2	49.6	75.0	100.4	125.8	151.2	176.6	202.0	227.4	252.8	278.2	303.6	329.0
31/32	24.6	50.0	75.4	100.8	126.2	151.6	177.0	202.4	227.8	253.2	278.6	304.0	329.4
63/64	25.0	50.4	75.8	101.2	126.6	152.0	177.4	202.8	228.2	253.6	279.0	304.4	329.8

mm	Inches
0.1	0.0039
0.2	0.0079
0.3	0.0118
0.4	0.0157
0.5	0.0197
0.6	0.0236
0.7	0.0276
0.8	0.0315
0.9	0.0354
1	0.0394
2	0.0787
3	0.1181
4	0.1575
5	0.1969
6	0.2362
7	0.2756
8	0.3150
9	0.3543
10	0.3937
11	0.4331
12	0.4724
13	0.5118
14	0.5512
15	0.5906
16	0.6299
17	0.6693
18	0.7087
19	0.7480
20	0.7874
21	0.8268
22	0.8661
23	0.9055
24	0.9449
25	0.9843
26	1.0236
27	1.0630
28	1.1024
29	1.1417
30	1.1811
31	1.2205
32	1.2598
33	1.2992
34	1.3386
35	1.3780
36	1.4173
37	1.4567
38	1.4961
39	1.5354
40	1.5748
41	1.6142
42	1.6535
43	1.6929
44	1.7323
45	1.7717
46	1.8110
47	1.8504
48	1.8898
49	1.9291
50	1.9685
51	2.0079
52	2.0472
53	2.0866
54	2.1260
55	2.1654



# Measurement Conversions

## LENGTH

cm	mm	inch	feet
1	10	0.394	0.0328
0.1	1	0.0394	0.00328
2.54	25.4	1	0.083
30.48	304.8	12	1

inch = mm ÷ 25.4

mm = inch x 25.4

## WEIGHT

g	kg	oz	lb
1	0.001	0.0353	0.0022
1000	1	35.27	2.205
28.4	0.0284	1	0.0625
453.6	0.454	16	1

lb = kg x 2.205

kg = lb ÷ 2.205

## FORCE

N	kgf	lbf
1	0.10197	0.225
9.807	1	2.205
4.448	0.454	1

lbf = kgf x 2.205      N = kgf x 9.807

kgf = lbf ÷ 2.205      kgf = N ÷ 9.807

## MOMENT

N · m	kgf · cm	lbs · in
1	10.197	8.85
0.0981	1	0.868
0.113	1.152	1

lbs · in = kgf · cm x 0.868

kgf · cm = lbs · in ÷ 0.868

N · m = kgf · cm x 0.0981

kgf · cm = N · m ÷ 0.0981

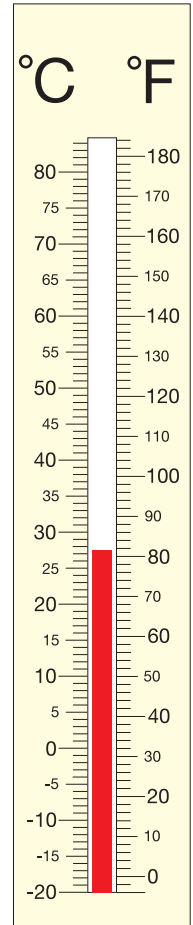
\*All tools and figures are for reference only.

## TEMPERATURE

°C	°F
0	32
-17.77	0

°C = (°F - 32) x 5 ÷ 9

°F = °C ÷ 5 x 9 + 32



## [Metric]



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