No.500



Stylishly subtle hardware **highlights displays**





SUGATSUNE

Since 1930

Manufacturer of LAMP® brand products

Furniture & Architectural Hardware



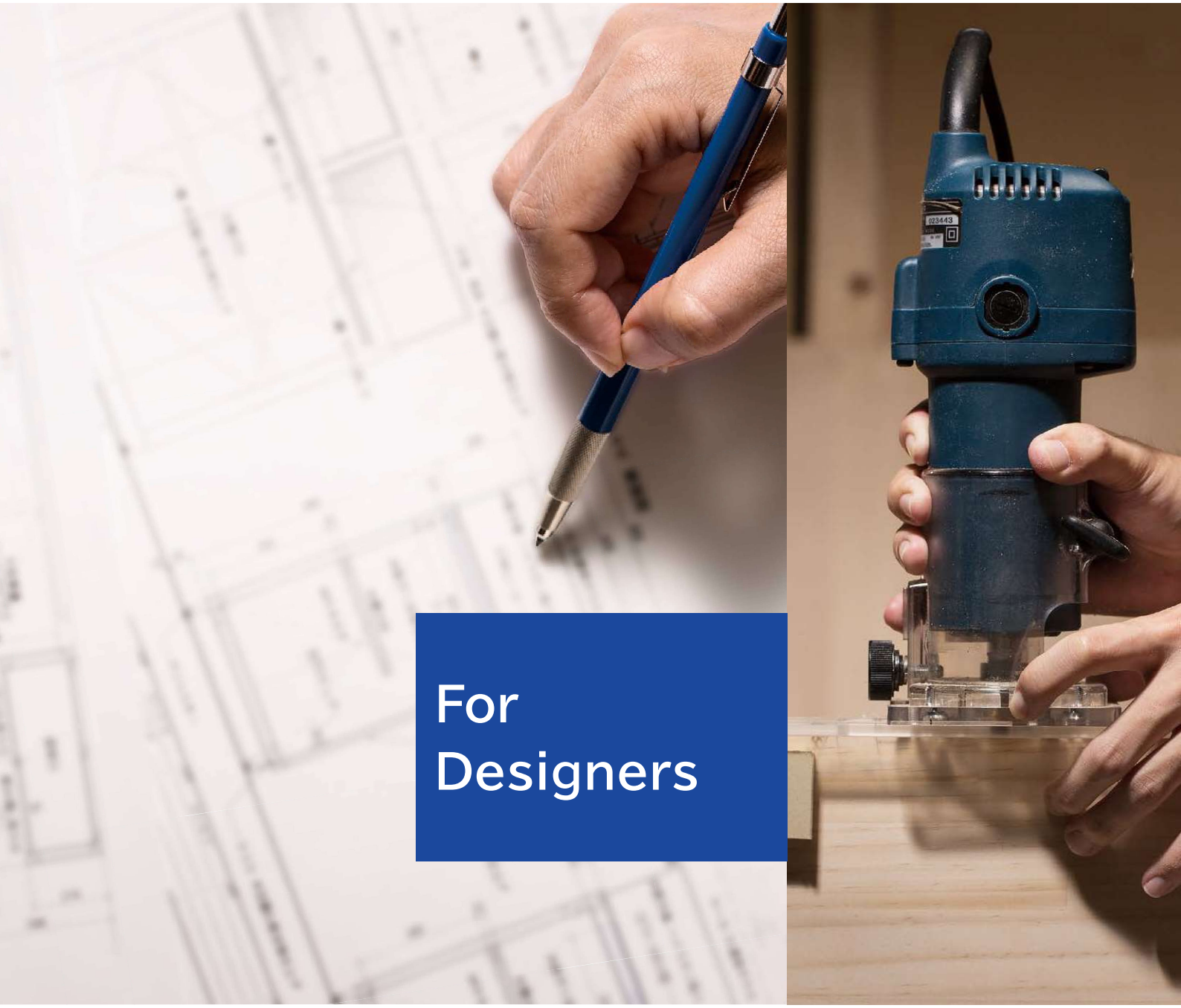
Hinges **integrated** with thin door frames





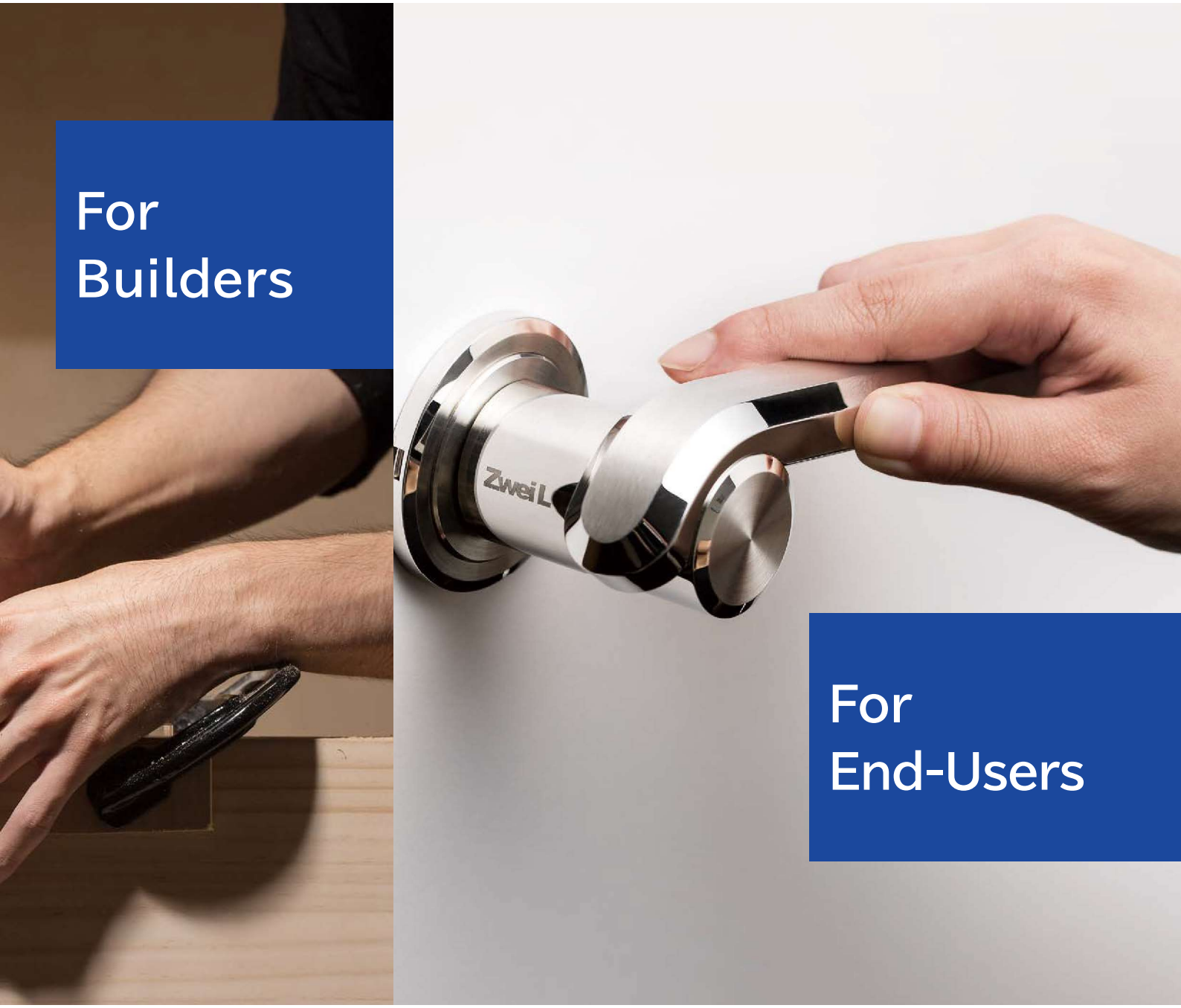
Innovation beyond expectation

Because Details Matter



For
Designers

Realising Your Vision with Diversity and Expertise



Sugatsune connects the ideas and aspirations of various people by expanding the potential of hardware and meticulously designing each product.
We meet the demands of furniture and architectural projects with unmatched functionality, quality, and service. Sugatsune' s unwavering dedication remains steadfast now and in the future.

LAMP®

High-Quality Products, Expertly Designed in Japan

September 2024

Enriching the meaning of “Manufacturing”

Product Development

The creativity and ability to create new products



Sugatsune recognises originality as a key component to creating products that are long time favourites in the market and that can also drive sales. With enhancing originality comes increasing difficulty to conceptualise and make original products. But by challenging these hurdles, a new and tailored market can be conceived.

Core Technology

A legacy of expertise



Sugatsune’s Motion Design Tec delivers specialised movements solutions such as “free stop motion,” “soft motion,” and “assist motion” for a better user experience. Cultivated over the decades, Sugatsune can provide highly original, reliable, and quality products with Motion Design Tec technologies worldwide.

Expanding Globally with Partners in Over 80 Countries

Please enquire about custom-made products!

- Finish change
- Dimension change
- Processing
- Function addition
- Specification change
- Development

Our Factory

Sugatsune has it's own exclusive factory and within its facilities is a development research centre specializing in motion design. It is here that Sugatsune's new and unique technologies emerge.



Design

Commitment to Functional Design



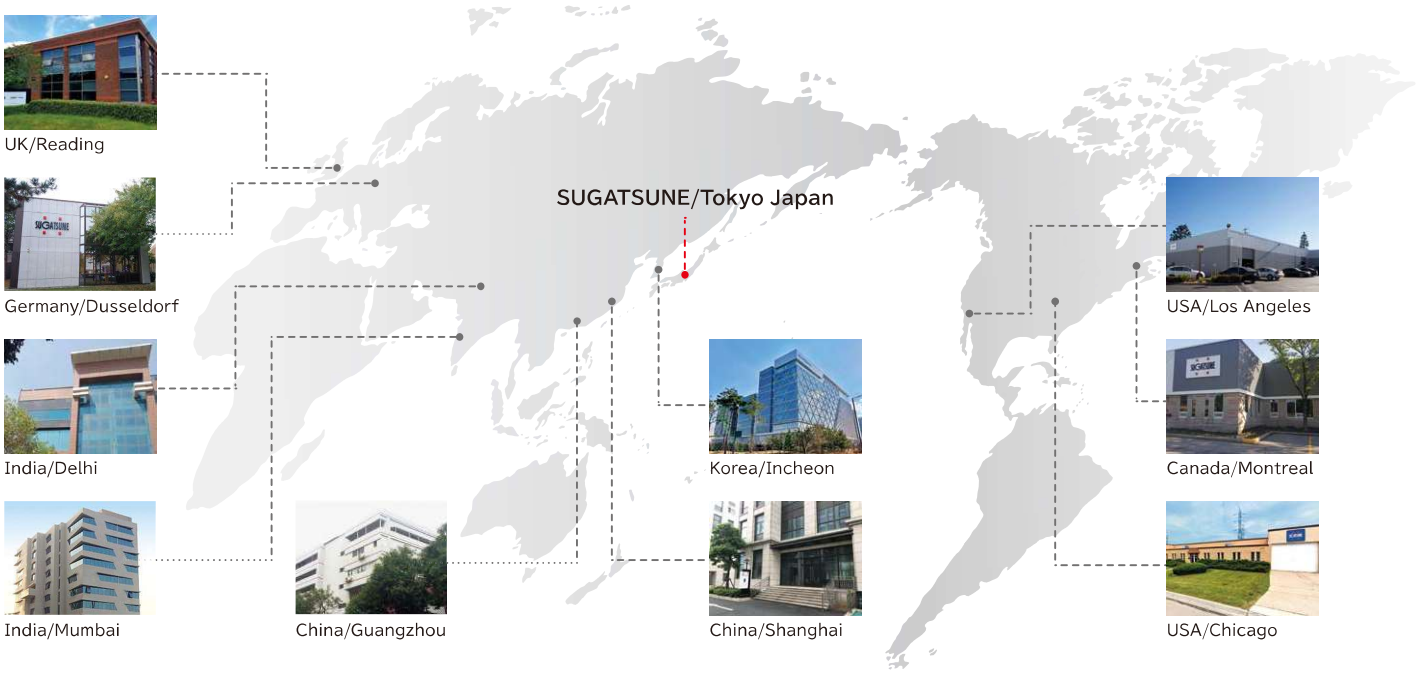
Design is no longer just about shape and colour. To deepen the meaning of "design," practicality and functionality have become integral elements in the Sugatsune manufacturing development process. Without ignoring the traditional design approach, resulting products undoubtedly possess a distinct visually appealing quality.

Product Variety

A product lineup to meet all needs



With over 30,000 products in its lineup, Sugatsune can quickly and accurately meet the needs of its customers. Moreover, support for specialised custom made items is also available.





Zwei Lichter

[Two Lights]

High precision polish, artfully sculpted shine

Flawless, distortion free lines. Stainless steel surfaces polished to the smoothness of a mirror juxtaposed seamlessly against a soft metallic satin finish creating a stately radiance.

Zwei L®



Exquisite Distortion-free Straight Lines

Beauty, lives in the finer details.

“The pursuit of the essential and the ideal” is Sugatsune Kogyo’s vow, given form in Zwei L.

With its dual gleams of light, premium interiors are enhanced with a lustrous glow.

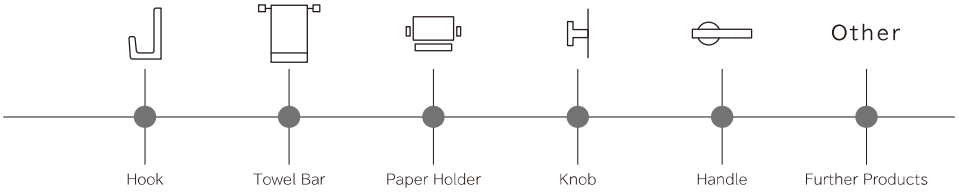








LINE UP





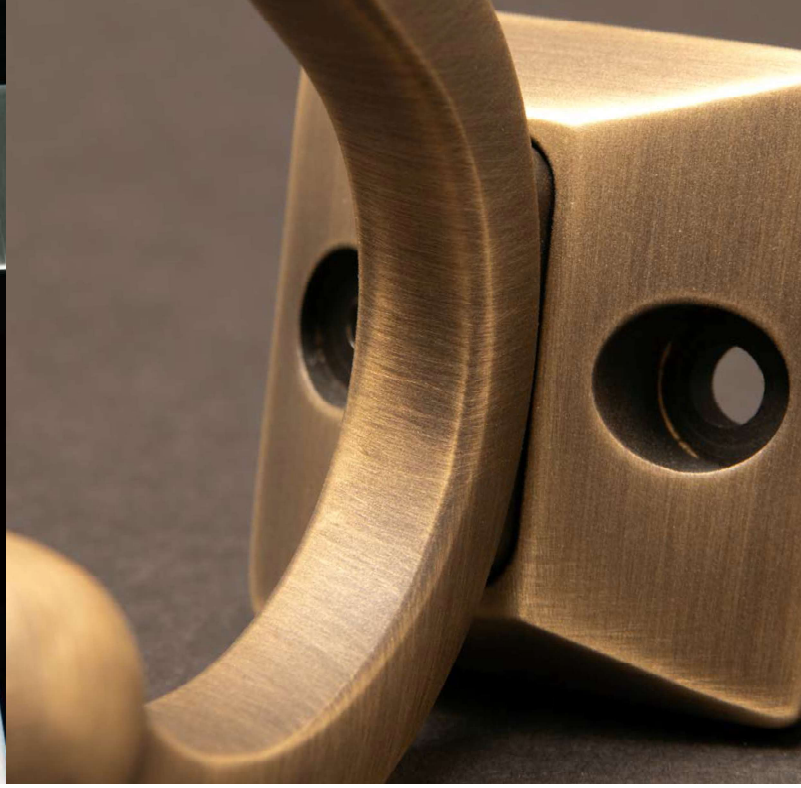
LAMP®

An original brand of Sugatsune quality

LAMP brand represents our answers to numerous manufacturing challenges and Sugatsune's commitment to quality and function is evident in the design, construction, material selection, finishing, and quality control of our products.







Confidence in our quality

Due to our “manufacturing by pursuing the ideal” strategy, which includes stringent quality control, a reliable testing system, and a dedication to exquisite finishes, you can use LAMP products with confidence for a long time. This ensures a consistent supply of goods of high calibre.

Specialised mechanisms

The components of LAMP are symbolised by their unique mechanisms, which are the outcome of our creative vision. By choosing the best mechanism for the project during the design phase, we maximise the potential of the components and produce a product of a quality that our clients can rely on.

The art of attention to detail

Design is an integral part of our hardware. With this in mind, we make no compromises with materials and finishes. Sugatsune’s dedication is demonstrated by the stunning finishes and exquisite craftsmanship of our products, which are like works of art.





MonoFlat UNISON MFU1200 Flush Sliding Door System





The MFU1200 Flush Sliding Door System by Sugatsune offers a sleek and integrated design, effortlessly blending with your wall for a concealed appearance. This system supports a maximum door mass of 70 kg and features a two-way damper, ensuring doors open and close smoothly and quietly, enhancing your space's luxurious feel.
Installation is straightforward with a minimal number of parts and no need for floor rail or groove processing. The door pushes open, eliminating the need for a handle on the front side, creating a perfectly flat surface when closed.

Seamlessly Blends with Any Interiors







No lower rail or grooving is required on the floor.

MonoFlat UNISON

Concealed Hinge The HES Series



The HES series offers superb hinges that are virtually invisible from the outside.
It discreetly enhances the beauty of doors without obstructing original designs.
Various interior styles look better with the HES hinges.
For example, the HES1F seamlessly integrates into door frames
and it enhances the overall aesthetic of interior spaces.

Enhance the Interior Space You Design







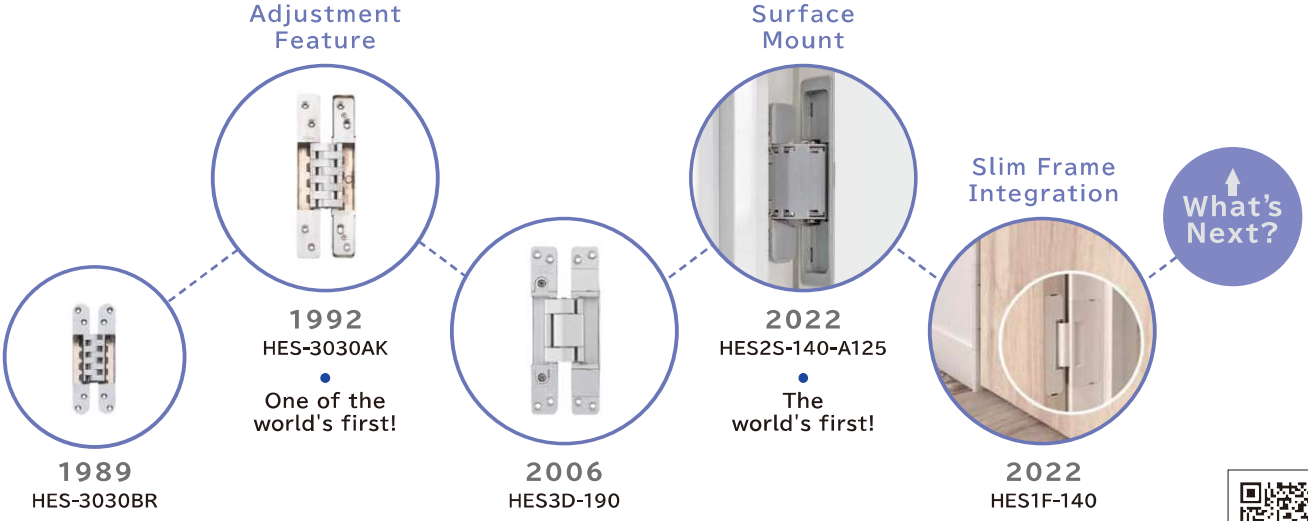
HES1F



HES2S



HES3D



HES Series Milestones at a Glance

MonoFlat LIN-X Hinge For Heavy Doors



When closed, the LIN-X Series doors seamlessly align with the wall, creating a clean and sophisticated space. This system can accommodate large doors with a width of up to 1100 mm and a weight of 90 kg. With a wide opening of 930 mm, it also allows for easy wheelchair access.

Elegant Flush Design for Compact & Functional Spaces

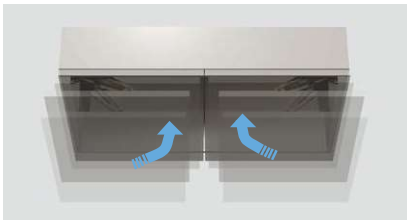
LAMP

Simple & High Quality-Design













MonoFlat LIN-X hinge

GS-G Series Glass Showcase Hardware




Silver


Gold


Black

Crafted with sleek, modern lines, this showcase hardware enhances your exhibited pieces without stealing the spotlight.



Premium Stainless Steel Solutions for Modern and Durable Design

Stainless steel products are favoured for all applications due to their modern finish, durability, and non-corrosive quality. This material is also known for being low-maintenance, making it easy to care for while offering great aesthetic appeal. Sugatsune offers a wide range of stainless steel products, from simple decorative hardware to complex functional hardware. Choose Sugatsune's quality stainless steel for a long-lasting, simple, and modern design.



SUGATSUNE HELP HUB

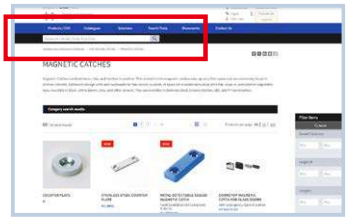
Build Better with Sugatsune!

Explore Our Comprehensive Support Resources

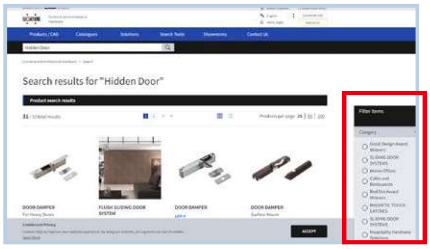


Keyword Search & Product Filters

Search for products by keyword and utilize our product filters. Access comprehensive information including our online catalogue, CAD data and instruction manuals!



Find relevant products with fuzzy search strings like "Hidden Door"!

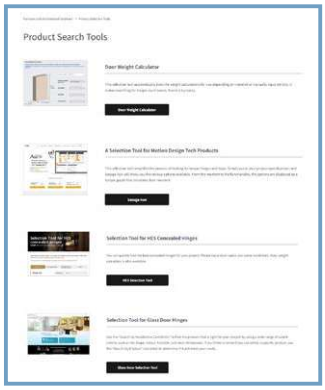


Filter by size, colour, or material as well!

Product Search Tools

The product search tools allow you to choose products tailored to your installation conditions, such as damper stays, damper hinges, torque hinges, torque stays, and more. With moment calculation and operation force simulation, you can easily identify the products that best meet your product requirements.

- Selection Tool for Motion Design Tech Products (Damper stays and hinges, Free stop hinges, etc.)
- Selection Tool for HES Concealed Hinges
- Selection Tool for Glass Door Hinges
- Selection Tool for Pocket Door System



Customer Solutions Case Studies

Our case studies introduce our products and demonstrate how they have been used to solve customer project issues.



Hardware Basics

Discover the basics of our products here. Learn about hinge and stay mechanisms, as well as the differences between various product types.



Official Sugatsune Global Channel

/@SugatsuneGlobal

Videos explain product characteristics and installation methods. Watching the product in action promotes deeper understanding.





B

LID SUPPORTS

These components assist furniture door opening and closing and control the opening angle.
Our range includes products that incorporate friction, resistance, and spring tension to provide functions such as door stopping, soft closing, and easy opening.

Selection Guide for Stays and Horizontal Pocket Door Fittings

Select by Series

SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

Damper Stays

**Doors and lids can be opened and closed smoothly and gradually.
Different types of damper stays support various opening types.**



SDS P.248, 264, 269, 271, 275

Features a rounded design.



NSDX P.249, 265, 270, 272

Features a sleek, mechanical design with defined edges.



HDS P.250, 251, 266, 267, 273, 274

Designed for heavy flaps.



CSD P.268

Compact and easy to mount.

Torque Stays



S-TAR, S-52T15, S-100T30 P.294, 296, 297

Friction allows door flap to be held in place at desired angle.

Lift-Assist Stays

NEW



S-AT P.298, 300, 302, 305, 307

The built-in powerful springs can helps open heavy lids effortlessly.

SELECTION TOOL
MDT MOTION DESIGN TEC PRODUCTS

In addition to damper stays, the tool also supports the selection of torque stays and lift-assist stays.

Use the handy online tool to select a damper stay!



ELAN **P.262, 280, 285, 286**

Provides soft-close, lift-assist for easy door opening, and a free-stop function to hold the door at any position.



AILERON **P.246, 260**

Smooth door movement. Integrated design combines a concealed hinge and lid stay.



LAD **P.254**

Quiet and safe near the closed position, preventing slamming and risk of injury.



INSET RECEDING DOOR MECHANISM **P.288**

Flap door retracts inside cabinet.

Lid Stays



L-FS350A **P.310 -**

Door flap can be locked at multiple angles.



S-21 **P.320 -**

SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

Select by Opening Types & Door/Lid Moment

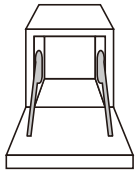
Opening Types

Top-opening | Upward-opening | Downward-opening | Bottom-opening | Lift-up | Lift-down

Up & over | Bifolding | Inset receding | Over the top | Swing door

Left/Right Reference

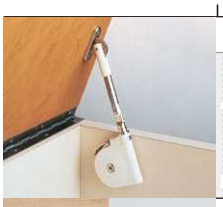
Viewed from the door opening side, the right side is for right-mounting (R) and the left side for left-mounting (L).



Refer to P.242 for door and lid moment calculation.

Top-opening

Damper Stays — Slow close

Product	Lid Max. Moment (0 Unit (N·m) 10 20 30 40 50)	Features
	**SDS-200, SDS-201, SDS-210** P.248 1 pc 3.43 - 4.9 N·m 2 pcs 6.86 - 9.8 N·m	Glass available
	**ARN-2 NEW** P.246 1 pc 4.0 - 8.0 N·m	–
	**NSDX-20(R/L)** P.249 1 pc 1.96 - 6.86 N·m 2 pcs 3.92 - 13.72 N·m	Glass available SPEED ADJUSTABLE
	**HDS-20** P.250 2 pcs 13.7 - 29.4 N·m	–
	**LAD** P.254 1 set 8.0 - 16.0 N·m 2 sets 16.0 - 32.0 N·m	–
	**LAD-ST** P.256 1 set 8.0 - 16.0 N·m	–
	**LADH** P.258 1 set 25 - 50 N·m	–

Damper Stays — Slow open

Product	Lid Max. Moment (0 Unit (N·m) 10 20 30 40 50)	Features
	**HDS-20S** P.251 2 pcs 6.9 - 14.7 N·m	–

Torque Stays — Stops at any position

Product	Torque (0 Unit (N·m) 10 20 30 40 50)	Features
	**S-52T15** P.296 1 pc 1.5 ±20% N·m 2 pcs 3.0 ±20% N·m	–
	**S-100T30** P.297 1 pc 3 ±20% N·m 2 pcs 6 ±20% N·m	–
	**S-TAR** P.294 1 pc 0 - 7 N·m 2 pcs 0 - 14 N·m	Glass available TORQUE ADJUSTABLE

Lift Assist Stays

Opens lightly and easily

Product	Lid Max. Moment (0 Unit (N·m) 10 20 30 40 50)	Features
	**S-AT** P.298 1 pc 4.1 - 11.8 N· m 2 pcs 8.2 - 23.6 N· m	–
	**S-ATJ, S-ATJD, S-ATJS NEW** P.300 - 1 pc 6.1 - 11.8 N· m *Differs according to the lid centre of gravity position, stay mounting position, and adjustment position.	–
	**S-AT02W** P.307 1 pc 15.0 - 16.5 N· m (with back panel), 17.6 - 21.0 N· m (with side panel) 2 pcs 30.0 - 33.0 N· m (with back panel), 35.2 - 42.0 N· m (with side panel)	–
	**S-YT** P.309 1 pc Approx. 3.92 N· m or below	–

Lid Stays

Holds Door in Position

Product	Compressive Load (P.319)	Features
	**L-SL140** P.311 1 pc 147 N 1 pc : OK 2 pcs : NO	–
	**L-FS140** P.313 1 pc 58.8 N 1 pc : OK 2 pcs : OK	–
	**LK-222 LK-335 LK-380** P.314 –	–
	**LSP-195B LSP-270B** P.318 1 pc 294 N 1 pc : OK 2 pcs : NO	–
	**L-FS350A** P.319 1 pc 294 N 1 pc : OK 2 pcs : OK	–

Other Stays

Product	Tension Force	Features
	**S-6, S-16** P.321 S-6 318 N/1 pc S-16 336 N/1 pc	–
	**S-19** P.322 425 N/1 pc	–
	**S-23** P.322 298 N/1 pc	–
	**S-21** P.323 309 N/1 pc	–
	**S-20** P.323 410 N/1 pc	–

SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

Upward-opening

Damper Stays — Slow close

Product	Door Max. Moment (0 Unit (N·m) 10 20 30 40 50)	Features
 **ARN-3 NEW** P.260	1 pc 4.0 - 8.0 N·m 2 pcs 8.0 - 16.0 N·m	–
 **SLS-ELAN** P.262	1 pc 4.90 - 9.80 N·m 2 pcs 9.80 - 19.60 N·m	–
 **SDS-C301N** P.264	1 pc 3.92 - 6.86 N·m 2 pcs 7.84 - 13.72 N·m	Glass available
 **HDS-30** P.266	2 pcs 13.7 - 29.4 N·m	–
 **NSDX-35(R/L)** P.265	1 pc 1.96 - 6.86 N·m 2 pcs 3.92 - 13.72 N·m	Glass available
 **NSDX-35(R/L)2S** P.265	1 pc 1.96 - 4.9 N·m 2 pcs 3.92 - 9.8 N·m	Glass available SPEED ADJUSTABLE
 **HDSN-30** P.267	2 pcs 13.7 - 34.3 N·m	–

Torque Stays — Stops at any position

Product	Torque (0 Unit (N·m) 10 20 30 40 50)	Features
 **S-52T15** P.296	1 pc 1.5 ±20% N·m 2 pcs 3.0 ±20% N·m	–
 **S-100T30** P.297	1 pc 3 ±20% N·m 2 pcs 6 ±20% N·m	–
 **S-TAR** P.294	1 pc 0 - 7 N·m 2 pcs 0 - 14 N·m	Glass available TORQUE ADJUSTABLE

Lid Stays — Holds Door in Position

Product	Compressive Load (P.319)	Features
 **L-100S L-140S** P.310	1 pc 58.8 N 1 pc : OK 2 pcs : NO	–
 **L-SL140** P.311	1 pc 147 N 1 pc : OK 2 pcs : NO	–
 **L-200P** P.312	1 pc 147 N 1 pc : OK 2 pcs : NO	–
 **L-FS140** P.313	1 pc 58.8 N 1 pc : OK 2 pcs : OK	–
 **LK-222 LK-335 LK-380** P.314	–	–
 **L-195 L-270** P.315	1 pc 147 N 1 pc : OK 2 pcs : NO	–
 **LB-215 LB-290** P.316	1 pc 147 N 1 pc : OK 2 pcs : OK	–
 **LB-200A LB-350A LB-500A** P.317	1 pc 294 N/245 N/196 N 1 pc : OK 2 pcs : OK	–
 **LSP-195B LSP-270B** P.318	1 pc 294 N 1 pc : OK 2 pcs : NO	–
 **L-FS350A** P.319	1 pc 294 N 1 pc : OK 2 pcs : OK	–

Downward-opening

Damper Stays — Slow open

Product	Door Max. Moment (0 Unit (N·m) 10 20 30 40 50)	Features
 **CSD-10-TV** P.268	1 pc 1.0 - 4.0 N· m 2 pcs 2.0 - 8.0 N· m	Glass available SPEED ADJUSTABLE
 **SDS-100-TV, SDS-C100-TV** P.269	1 pc 0.49 - 1.18, 1.62 - 3.68 N· m 2 pcs 0.98 - 2.36, 3.24 - 7.36 N· m	Glass available
 **NSDX-10(R/L)K-TV** P.270	1 pc 0.98 - 1.96 N· m 2 pcs 1.96 - 3.92 N· m	Glass available SPEED ADJUSTABLE
 **SDS-100, SDS-C100** P.271	1 pc 3.43 - 4.9 N· m 2 pcs 6.86 - 9.8 N· m	Glass available
 **NSDX-10(R/L)** P.272	1 pc 1.96 - 6.86 N· m 2 pcs 3.92 - 13.72 N· m	Glass available SPEED ADJUSTABLE
 **HDS-10** P.273	2 pcs 13.7 - 29.4 N· m	–

*Varies according to the damper type and quantity.

Damper Stays — Slow close

Product	Door Max. Moment (0 Unit (N·m) 10 20 30 40 50)	Features
 **HDS-10S** P.274	2 pcs 5.9 - 17.6 N· m	–

Torque Stays — Stops at any position

Product	Torque (0 Unit (N·m) 10 20 30 40 50)	Features
 **S-52T15** P.296	1 pc 1.5 ±20% N· m 2 pcs 3.0 ±20% N· m	–
 **S-100T30** P.297	1 pc 3 ±20% N· m 2 pcs 6 ±20% N· m	–
 **S-TAR** P.294	1 pc 0 - 7 N· m 2 pcs 0 - 14 N· m	Glass available TORQUE ADJUSTABLE

Other Stays

Product	Tension Force	Features
 **S-34** P.320	–	–
S-35 P.320	–	–
 **S-24, S-27, S-25** P.321	Tensile Load S-24 326N S-27 325N S-25 287N	–
HS P.324	–	–

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DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

Bottom-opening

Damper Stays — Slow open

Product	Door Max. Moment	Features
	0 Unit (N·m) 10 20 30 40 50	
	SDS-400-W P.275	
	1 pc 3.43 - 4.9 N· m 2 pcs 6.86 - 9.8 N· m	Glass available

Lift-up

Damper Stays — Slow close

Product	Door Width	Height	Door weight	Features
	**SLUL** NEW			P.278
	600 - 900	550 - 900	5 - 11 kg	–
	**SLU-ELAN**			P.280
	Max. 1800	390 - 500	5 - 11 kg	–
	**SLUN-N**			P.281
	600 - 900	390 - 450	2.8 - 5.8 kg	–

Lift-down

Damper Stays — Slow close

Product	Door Width	Height	Door weight	Features
	**SLDL** NEW			P.282
	600 - 900	420 - 450	3 - 6.5 kg	–
	**SLD**			P.284
	600 - 900	360 - 400	3 - 6 kg	–

Up & over

Damper Stays — Slow close

Product	Door Width	Height	Door weight	Features
	**EZS-ELAN**			P.286
	Max. 1200	500 - 750	5 - 12.5 kg	–

Bifolding

Damper Stays — Slow close

Product	Door Width	Height	Door weight	Features
	**HBF-ELAN**			P.285
	Max. 1200	320 - 370	2.5 - 6.5 kg	–

Inset receding

Damper Stays

Product	Door Width	Door Thickness	Door Max. Moment	Features
			0 Unit (N·m) 10 20 30	
	**IF**			P.288
	Max. 1200	15 - 30	1 pc 1.96 - 6.86 N· m 2 pcs 3.9 - 13.7 N· m	SPEED ADJUSTABLE

Other Stays and Tracks

Product	Door Width	Height	Door Thickness	Door weight	Features
	**ALT-3H**				P.290
	Max. 870	Max. 600	18 - 23	Max. 5 kg	–

Over the top

Damper Stays

Product	Door Width	Door Thickness	Door Max. Moment	Features
	**OV-1**			P.292
	700 - 1400	350 - 450	5.9 - 9.8 N· m (2 pcs)	SPEED ADJUSTABLE

Swing door

Torque Stays

Stops at any position

Product	Torque	Features
	0 Unit (N·m) 10 20 30 40 50	
	**S-52T15** P.296 1 pc 1.5 ±20% N·m 2 pcs 3.0 ±20% N·m	–
	**S-100T30** P.297 1 pc 3 ±20% N·m 2 pcs 6 ±20% N·m	–

Lid Stays

Product	Compressive Load (P.319)	Features
	**L-FS140** P.313 1 pc 58.8 N 1 pc : OK 2 pcs : OK	–
	**LSP-195B LSP-270B** P.318 1 pc 294 N 1 pc : OK 2 pcs : NO	–
	**L-FS350A** P.319 1 pc 294 N 1 pc : OK 2 pcs : OK	–

Precautions for Use

Lapcon Stays (Damper Stays)

·Ensure the specified dimensions and degrees of horizontality and verticality are followed for cabinet and door design, as well as the product mounting position. When using multiple products on one door, inconsistent mounting positions can cause uneven load distribution, potentially affecting product lifespan and function.
·Incorrect mounting dimensions can cause the door to malfunction and damage the product and hinges.
·Mount the product on a strong and rigid cabinet. A weak cabinet will negatively affect door movement.
·Do not disassemble or modify the product.
·Calculate the door moment by including the weight of the door and handle.
·If the door moment or weight is near the specified upper or lower limits, verify the motion with the actual product.
·When using thread adhesive, ensure it does not corrode the resin parts.
·Operate the door manually for opening and closing.
·Do not manually push the stay's arm down before mounting.
·Avoid opening the door beyond its fully open position or using excessive force to open or close it.

Lift-Assist Stays and S-ATD

·Follow the specified dimensions and degrees of horizontality and verticality for cabinet and door design, as well as product mounting position.
·Conduct prototype verification before use.
·When using S-ATDs together, be aware that the door closing speed may vary depending on the specific product and usage conditions.

SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

How Moment is Calculated

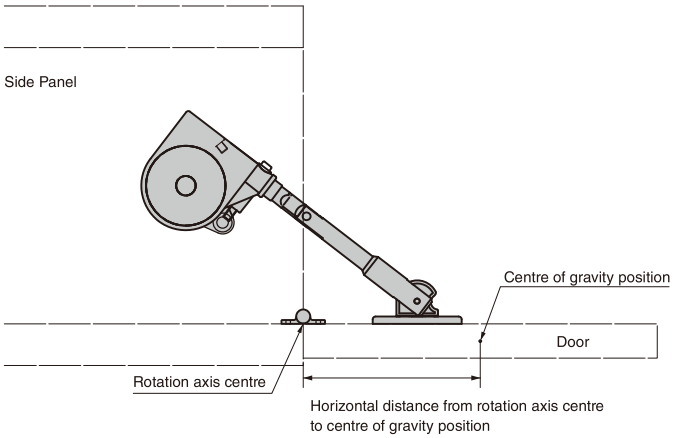
When choosing between Soft Close, Free Stop, and Lift-Assist stays, use the door or lid moment as a reference. The moment refers to the force that attempts to rotate an object around a given point. If the door or lid moment matches the supported moment of the stay, then the stay is suitable for use.

Moment Formulae

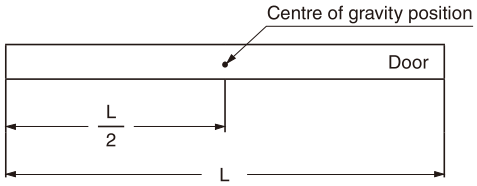
Door/lid moment (N· m)	=	Door/lid weight (kg)	×	9.80665	×	Horizontal distance from rotation centre to centre of gravity (m)

Moment is calculated with the “horizontal distance” to the centre of gravity; because its value changes according to the opening angle, the formula for maximum moment is as below.

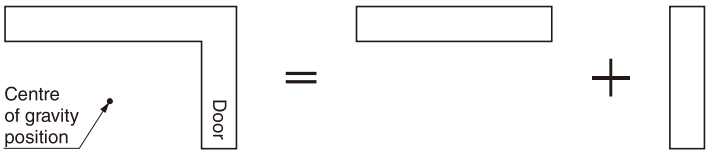
Door/lid max. moment (N·m)	=	Door/lid weight (kg)	×	9.80665	×	Largest value of horizontal distance from rotation centre to centre of gravity (m)



Calculating the Centre of Gravity Position



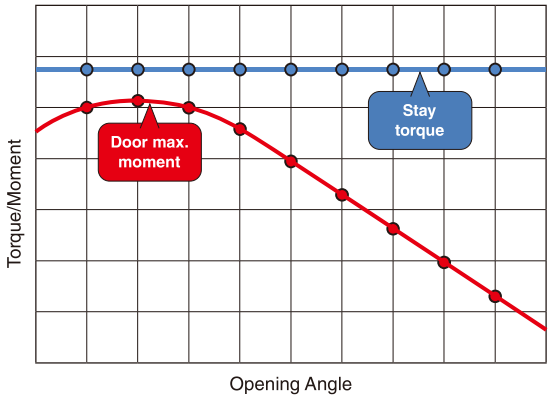
For a door or lid in a uniform position, the centre of gravity is at the midpoint. The distance from the rotation axis centre to the centre of gravity is L/2.
Note: This applies when the door or lid is thin.



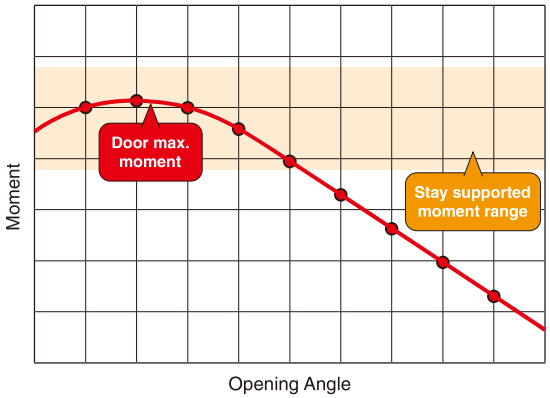
For complex shapes like L-shapes, break them down into simple shapes as shown above. Calculate the centre of gravity for each part, then find the total centre of gravity by combining them. The same method applies when attaching a mirror to a wooden panel. The “SASUGA-kun” selection tool can be used to assist with this calculation.

Relationship between Usable Stays and Door Moment

For Torque Stays (Free-Stop):
Usable when the stay torque exceeds the door’s maximum moment.



For Damper Stays (Soft Motion):
Usable when the door’s maximum moment is within the range of moments supported by the stay.



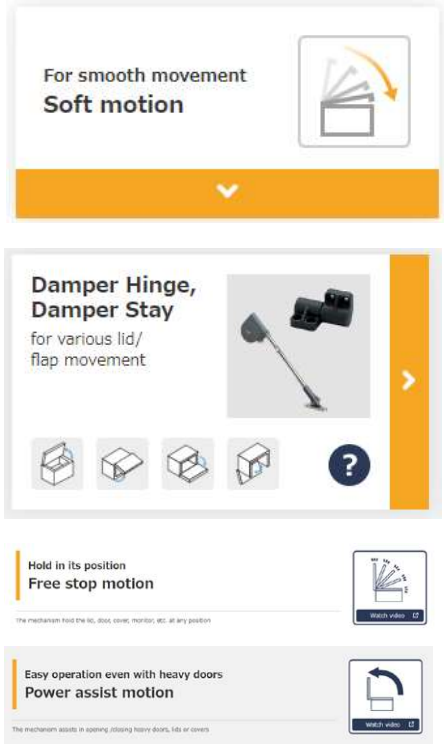
Notes:
·The door moment indicated for each product is based on the mounting dimensions provided in the catalogue.
·Torque refers to the force acting around the rotation axis, and moment refers to the force causing the door or lid to rotate around a given point.

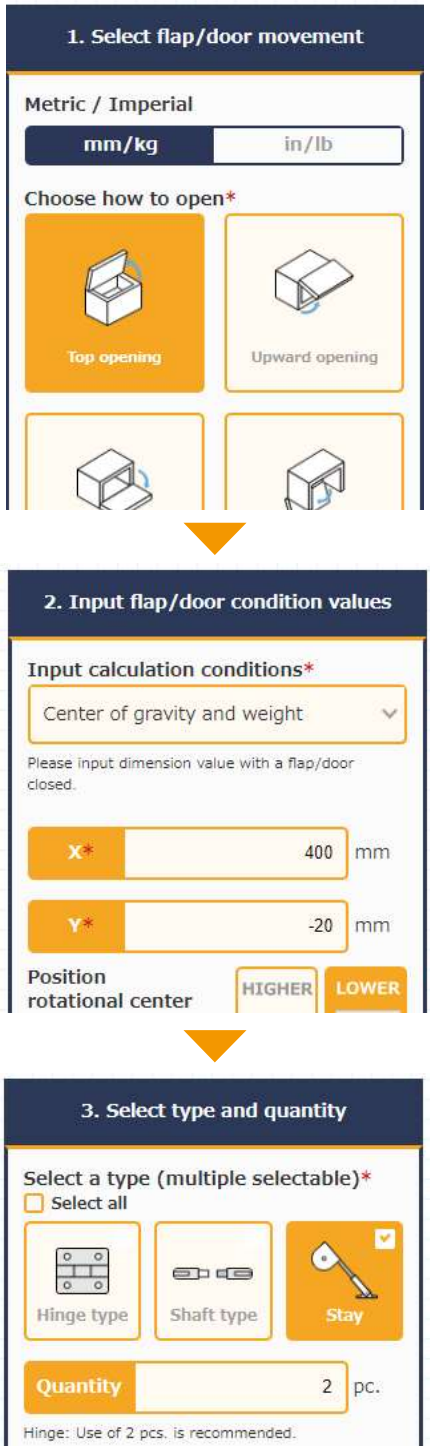
A tool for easily selecting soft-close, free stop and lift assist stays now available online!

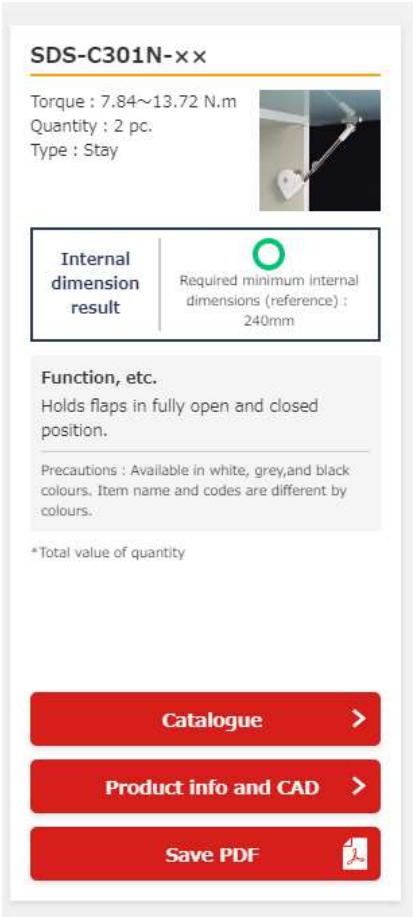
MDT MOTION DESIGN TEC SELECTION TOOL

Simply by inputting the movement, size, weight and centre of gravity of the door or lid to be used, the torque required can be automatically calculated and suitable stay can be selected.

1. Select kind of movement below → **2. Enter specs of a flap** → **3. Select the product**





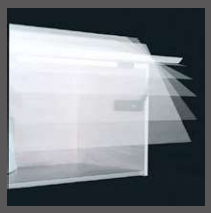


SELECTION GUIDE
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LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

Lapcon comes from LAMP CONTROL

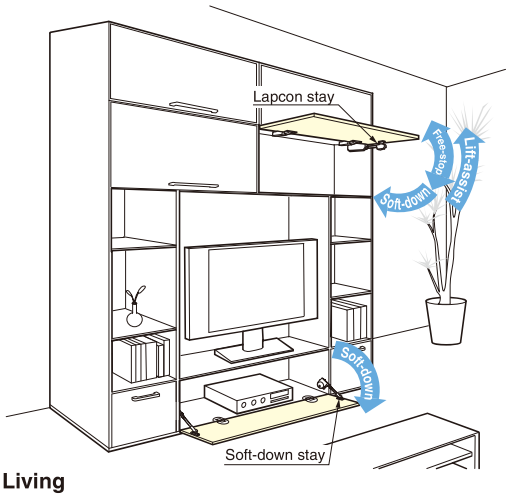


Lapcon series products provide the smoothest opening and closing system imaginable, equipped with Sugatsune's build-in patented dampening device. As a Lapcon opens and closes, it moves with quiet assurance. Lapcon products also provide safety to your application with its revolutionary damper. Doors and lids will come down slowly and softly which eliminates slamming doors or pinched fingers.



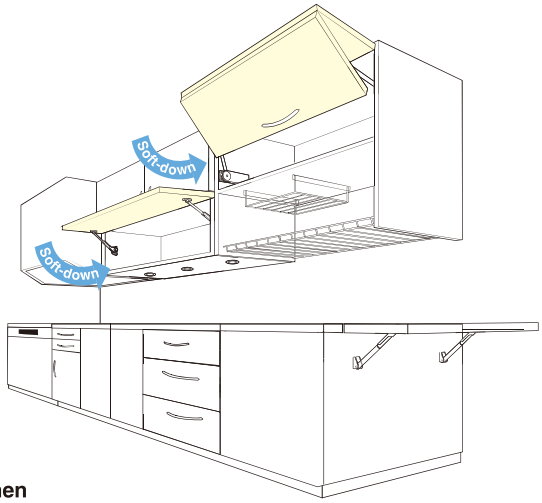


Lapcon



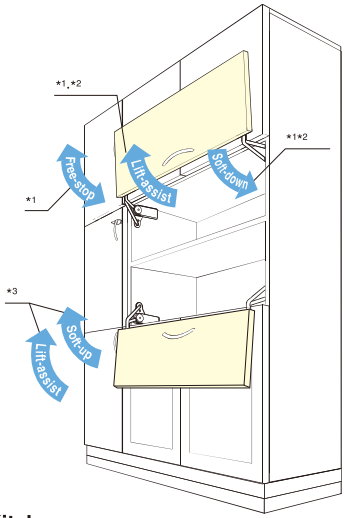
Living

- Soft-down
  - SDS-100 (P.271)
  - SDS-100-TV (P.269)
  - NSDX-10 (R/L) (P.272)
- Lapcon stay
  - SLS-ELAN (P.262)



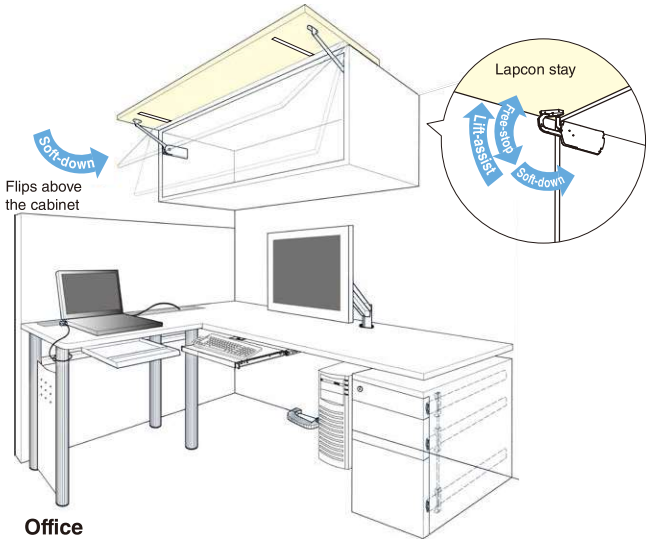
Kitchen

- Soft-down
  - SDS-C301N (P.264)
  - NSDX-35 (R/L) (P.265)
  - HDS-30 (P.266)
  - HDSN-30 (P.267)
- Horizontal bi-folding
  - HBF-ELAN (P.285)



Kitchen

- Swing lift-up
  - *1: SLU-ELAN (P.280)
  - *2: SLUN-N (P.281)
  - *2: SLUL (P.278)
- Swing lift-down
  - *3: SLD (P.284)
  - *3: SLDL (P.282)



Office

- Flips above the cabinet
  - OV-1 (P.292)
- Lapcon stay
  - EZS-ELAN (P.286)

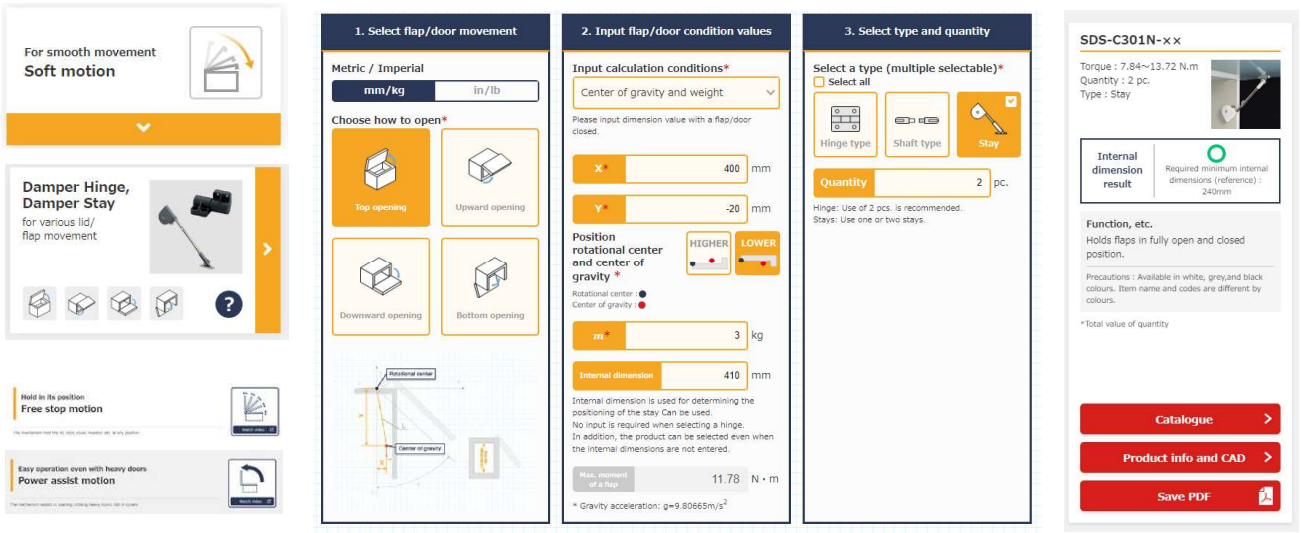
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

A tool for easily selecting damper stays now available online!

MDT MOTION DESIGN TEC SELECTION TOOL

Simply by inputting the movement, size, weight and centre of gravity of the door or lid to be used, the torque required can be automatically calculated and suitable stay can be selected.

① Select kind of movement below ② Enter specs of a flap ③ Select the product



Selection Tool
Damper Stay

CUSTOMIZE COLOUR OF LAPCON STAYS

Possible to make custom colours for special requirements.





This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP AILERON STAY FOR OLYMPIA ARN-2 Top-opening Model NEW

Latest Info



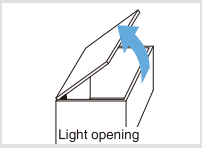
Opening Direction	Features	Non-handed	Type	Maximum Door Moment
	Lift-assist Soft-close Free-stop	Yes	M	4.0~6.0 N·m/pc (40.8~61.2 kgf·cm/pc)
			H	6.0~8.0 N·m/pc (61.2~81.6 kgf·cm/pc)

- Smooth door movement. It is specially designed for use with the OLYMPIA concealed hinge (360-D26-19 / H360-D26-26T).
- The lift-assist function allows for light opening of doors.
- The force of lift-assist is adjustable.
- The soft-close function makes doors close gently (0°–30° degrees).
- Integrated design combines a concealed hinge and lid stay.
- The free-stop function enables doors to hold in position.
- Closing speed of doors is adjustable.

INSTRUCTION SCREW

Door Movements

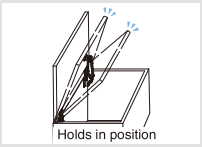
Lift-assist
Allows for light opening of doors



Soft-close
OLYMPIA's damper makes doors close slowly. (0° - 30°)



Free-stop
Enables doors to hold in position.



Specifications

- Operating temperature: 0°~40°C

Parts Included

- Door-side mounting plate
- Countersunk head tapping screw 3.5 × 1.5 (for attaching the mounting plate to AILERON)
- Binding head tapping screw 3.5 × 1.5 (for attaching the door-side mounting plate, mounting plate for AILERON, and AILERON)

Optional Parts

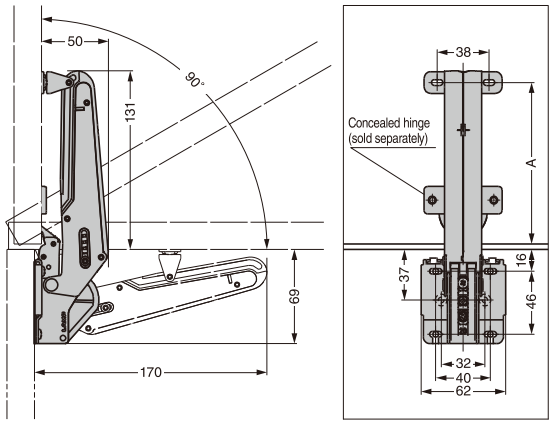
- Hinge spacer 360-BCS
- Aileron spacer ARN-DP

Sold Separately

- Mounting plate for AILERON
- OLYMPIA concealed hinge
- Mounting plate for OLYMPIA

Feature Feature Selection Tool
Damper Stay

Installation



Please see pages of Olympia hinges for installation dimensions.

Hinge Used	A
360-D26-19T	118
H360-D26-26T	116

Application Example



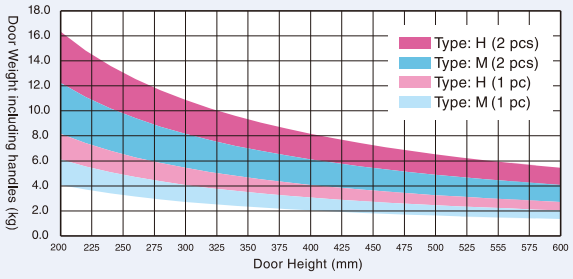
Aileron Stay (Sold singly)

Item Code	Item Name	Material	Finish / Colour	Type	Max. Door Moment N·m/pc	Max. Door Moment kgf·cm/pc	Box	Carton
180-043-945	ARN-2-M-GR	Steel (SPCC) / POM	Nickel plating / Grey	M	4.0~6.0	40.8~61.2	1 pc	20 pcs
180-043-946	ARN-2-H-GR			H	6.0~8.0	61.2~81.6	1 pc	20 pcs
180-049-501	ARN-2-M-BL		Nickel plating / Black	M	4.0~6.0	40.8~61.2	1 pc	20 pcs
180-049-502	ARN-2-H-BL			H	6.0~8.0	61.2~81.6	1 pc	20 pcs

Standard Set Including parts (Sold Separately)

Item Code	Item Name	Door Width	Max. Door Moment N·m	Max. Door Moment kgf·cm	Set Contents	Box	Carton
180-045-661	ARN-2-M-GR-S	450~900	4.0~6.0	40.8~61.2	Aileron stay, Mounting plate for Aileron stay, Olympia hinge, Mounting plate for Olympia hinge, Screws	1 pc	10 pcs
180-045-662	ARN-2-H-GR-S		6.0~8.0	61.2~81.6		1 pc	10 pcs
180-049-505	ARN-2-M-BL-S		4.0~6.0	40.8~61.2		1 pc	10 pcs
180-049-506	ARN-2-H-BL-S		6.0~8.0	61.2~81.6		1 pc	10 pcs

Selection Graph (upward and top-opening models)



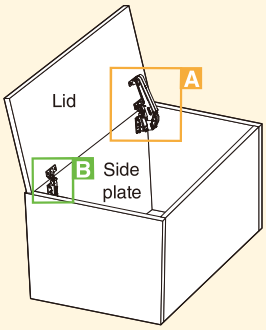
Maximum Door Moment	Type	Number of AILERON
4.0–6.0	M	1 pc
6.0–8.0	H	
8.0–12.0	M	2 pcs
12.0–16.0	H	

As a guide for model selection, please refer to the graph on the left .
For use with doors outside of the scope of this graph, use the calculation below.
(The door weight includes attached decorations such as handles.)

- The selection should be based on Max. door moment. (Two types are available.)
- Maximum Door Moment (N·m) =
  Door weight (kg) × 9.80665 × Distance from rotation centre to door centre of gravity (m)

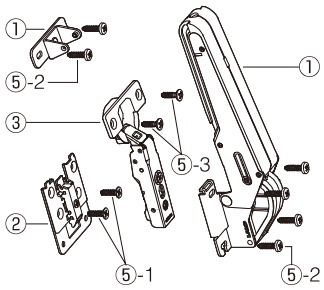
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

Components for one lid

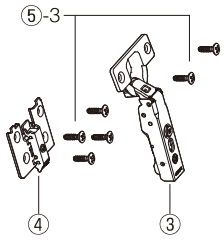


The hinges are integrated,
so the parts can be aggregated on one lid and side plate surface.

A With AILERON



B No AILERON



Required parts for one lid (A+B)

The required quantity depends on lid width and maximum moment.

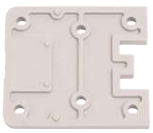
			Item Code	Item Name	Lid width [mm] 450~900 / Lid max. moment [N·m] 4.0~6.0	6.0~8.0	8.0~12.0	12.0~16.0	900~1600 4.0~6.0	6.0~8.0	8.0~12.0	12.0~16.0	1600~2000 4.0~6.0	6.0~8.0	8.0~12.0	12.0~16.0
AILERON	① Body	 Grey / Black Including: - Binding tapping screws x6 - Countersunk head tapping screw x2	180-043-945 or 180-049-501	ARN-2-M-GR or ARN-2-M-BL	Standard Set 1	-	2	-	1	-	2	-	1	-	2	-
			180-043-946 or 180-049-502	ARN-2-H-GR or ARN-2-H-BL	-	1	-	2	-	1	-	2	-	1	-	2
	② Washer		180-043-949	ARN-SZ	1		2		1		2		1		2	
OLYMPIA CONCEALED HINGE	③ Body		160-026-840 or 160-029-084	360-D26-19T or H360-D26-26T (damper built-in)	2 *3		3		2		3		2		3	
			160-026-836 or 160-029-081	360-26-19T or H360-26-26T (no catch)	-		-		1		-		2		-	
			160-026-832 or 160-029-078	360-C26-19T or H360-C26-26T (with catch)	-		-		-				-		1	
	④ Washer		160-026-846 *1	360-P6WT (System 32/4 holes)	1		1		2		1		3		2	
	⑤ Screw		160-070-030	TAP3515NI	8 *2		10*2		14 *2		10*2		20*2		16 *2	

*1 For ④ Washer, 360-P4W-32T (Item Code: 160-026-845) and 360-P4W-30T (Item Code: 160-026-844) can also be used.
*2 Quantity when using ④ Washer 360-P6WT. When using 360-P4W-32T or 360-P4W-30T, the required quantity is reduced by one for each washer.
*3 The 360-D26-19T is included in the standard set.

LAMP AILERON SPACER ARN-DP 2 and 5 mm Thick NEW

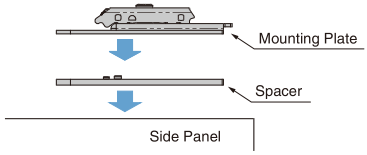
Latest Info


ARN-DP2 (2 mm)


ARN-DP5 (5 mm)

- Specially designed for use with the AILERON stay (P.246,P.260).
- The ARN-DP2 decreases overlay of outset doors by 2 mm.
- The ARN-DP5 decreases overlay of outset doors by 5 mm.
- The ARN-DP2 can be doubled for 4 mm thickness.

How to Use



Set the spacer between the mounting plate and side panel.

Available Mounting Plate

- ARN-SZ (P.247)

Remarks

- The included screws are for fixing the spacer (ARN-DP5) and mounting plate (ARN-SZ).
- Please use the optional screws if two ARN-DP2 are used.

Parts Included

- Cross-recessed binding head tapping screw 3.5×20
  (Only the ARN-DP5 comes with these screws.)

Spacer

Item Code	Item Name	Colour	Type	Material	Box (pcs)	Carton (pcs)
180-046-667	ARN-DP2	Grey	+ 2 mm	POM	80	640
180-047-915	ARN-DP5		+ 5 mm (screw included)		80	640

Optional screw when using two ARN-DP2

Item Code	Item Name
180-046-669	TAP3520NI

Sold in sets of 4 screws.

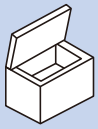
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

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

Latest Info





Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN With Catch (SDS-200 and SDS-201) CLOSE Soft-down	Wood Glass	3.43~4.9 N·m/pc

- For top-opening flap doors.
- Built-in damper causes flap to close gently preventing slamming.
- Non-handed.
- Built-in catch holds flap in fully open position.
- 3 types available:
  -SDS-200: Opens 70°, works with single axis hinges.
  -SDS-201: Opens 70°, works with multi axes hinges.
  -SDS-210: Opens 105°, can be used with either single or multi axes hinges.

Feature
Selection Tool
Damper Stay

INSTRUCTION SCREW

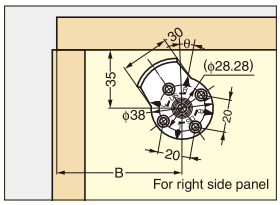
Torque
- With 1 stay
  Torque = 3.43 - 4.9 N·m (35 - 50 kgf·cm)
- With 2 stays, the torque will be doubled.

Parts Included
- Mounting plate
- Countersunk head tapping screw 3.5×14

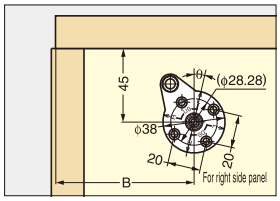
Sold Separately
- Concealed hinge OLYMPIA 360-26-19T, 360-26-0T

Mounting Plate

SDS-200, SDS-201



SDS-210

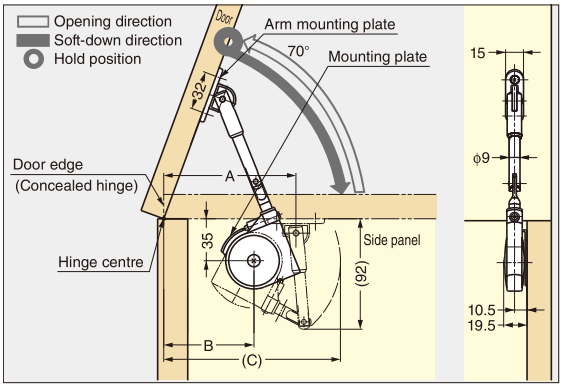




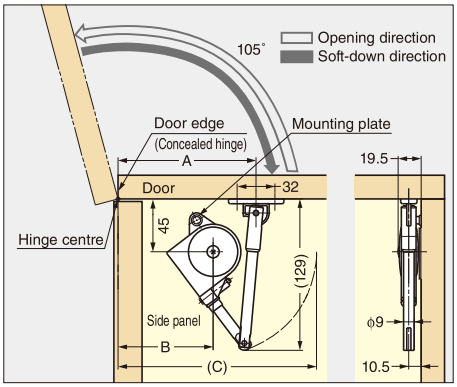

Mounting plate SDS-A for SDS-210


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

Installation SDS-200 and SDS-201 (Opening Angle 70˚)



Installation SDS-210 (Opening Angle 105˚)



Note: For opening angle of 80˚, 90˚ and 100˚, please use SDS-C301N.
For installation details, please contact your local dealer.

Full Overlay

Item Name	A	B	C	θ
SDS-200	110	75	147	(0˚)
SDS-201	109	74	146	(0˚)
SDS-210	117.5	81	169	(5˚)
	123.5	87	175	(12˚)

Inset

Item Name	A	B	C	θ
SDS-200	98.5	63.5	135	(10˚)
SDS-201	114	79	151	(0˚)
SDS-210	108.3	70	157.3	(15˚)

Incase door thickness 20 mm.

Material	Finish/Colour
ABS/Steel	Nickel/ White (W) Grey (G) Umber (U)

Body

Item Code	Item Name	Opening Angle	Hinge	Torque Moment/piece	Weight	Box	Carton
180-100-268	SDS-200-W	70˚	Butt Hinge	3.43 - 4.9 N·m (35 - 50 kgf·cm)	153 g	20 pcs	100 pcs
180-100-269	SDS-200-G				153 g	20 pcs	100 pcs
180-100-270	SDS-200-U				153 g	20 pcs	100 pcs
180-100-271	SDS-201-W		Concealed Hinge		153 g	20 pcs	100 pcs
180-100-272	SDS-201-G				153 g	20 pcs	100 pcs
180-100-273	SDS-201-U				153 g	20 pcs	100 pcs
180-100-274	SDS-210-W	105˚	Butt Hinge/ Concealed Hinge		159 g	20 pcs	100 pcs
180-100-275	SDS-210-G				159 g	20 pcs	100 pcs
180-100-276	SDS-210-U				159 g	20 pcs	100 pcs

SDS Face Plate (Sold Separately)

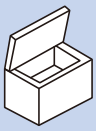
Item Code	Item Name	Material	Finish/Colour	Weight	Box	Carton
180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	25 g	50 pcs	200 pcs
180-928-046	SDS-50G-BL	Zinc Alloy (ZDC)/ABS	Black/Black	25 g	50 pcs	200 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

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

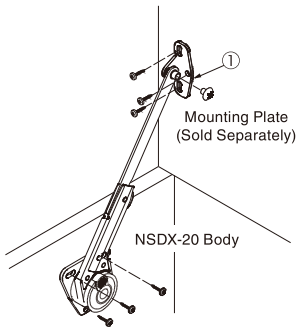
Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN With Catch CLOSE Soft-down(Adjustable) With Catch	Wood Glass	1.96~6.86 N·m/pc (20~70 kgf·cm/pc)

- For top-opening flap doors.
- Built-in damper causes flap to close gently preventing slamming.
- Built-in catch holds flap in fully opened position.
- Can also be used with concealed, piano, or butt hinges.
- Depending on installation position, opening angle can be set to either 70˚or 105˚.
- Closing speed adjustable.





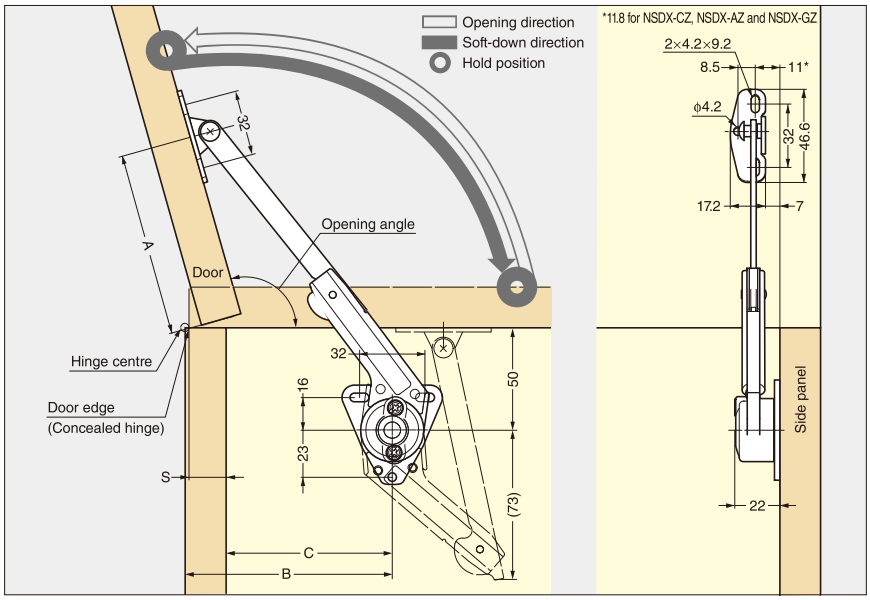
Torque

- With 1 stay
  Torque = 1.96 - 6.86 N·m (20 - 70 kgf·cm)
- With 2 stays, the torque will be doubled.
  Torque = Door weight (kg)×9.8×Length from the axis to the centre of gravity of the door (m)

Sold Separately

①Mounting plate NSDX-SZ (below)
②Mounting plate NSDX-CZ (P.276)
③Mounting plate NSDX-AZ for 20 mm aluminium frame (P.276)
④Mounting plate NSDX-GZ for glass door (P.276)
⑤SDS-50G for glass door (P.276)

Installation (Opening Angle 105˚)



Hinge Type		A	B	C
70˚opening	Concealed Hinge	126	–	101–S
	Single Knuckle Hinge	125	100	–
105˚opening	Concealed Hinge	103	–	78–S
	Single Knuckle Hinge	97	72	–

S = Overlay

Body

Item Code	Item Name	L/R	Material	Finish	Torque Moment /piece	Catch Function		Weight	Box	Carton
						Opened Position	Closed Position			
180-109-481	NSDX-20R	Right	Zinc Alloy (ZDC), Steel	Nickel	1.96 - 6.86 N·m (20 - 70 kgf·cm)	○	○	181 g	20 pcs	80 pcs
180-109-480	NSDX-20L	Left	Zinc Alloy (ZDC), Steel	Nickel		○	○	181 g	20 pcs	80 pcs

Mounting Plate (Sold Separately)

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

SDS Face Plate (Sold Separately)

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

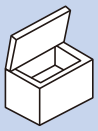
*Please use with NSDX-GZ mounting plate.

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP HEAVY DUTY SOFT-DOWN STAY HDS-20

Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN With Catch CLOSE Soft-down	Wood	13.7~29.4 N·m/2pcs

- For top-opening flap doors.
- Built in damper to prevent slamming during closing.
- Built in catch holds flap in fully open position.
- Can also be used with concealed, piano, or butt hinges.
- Use in pairs.

INSTRUCTION SCREW

Applicable Range

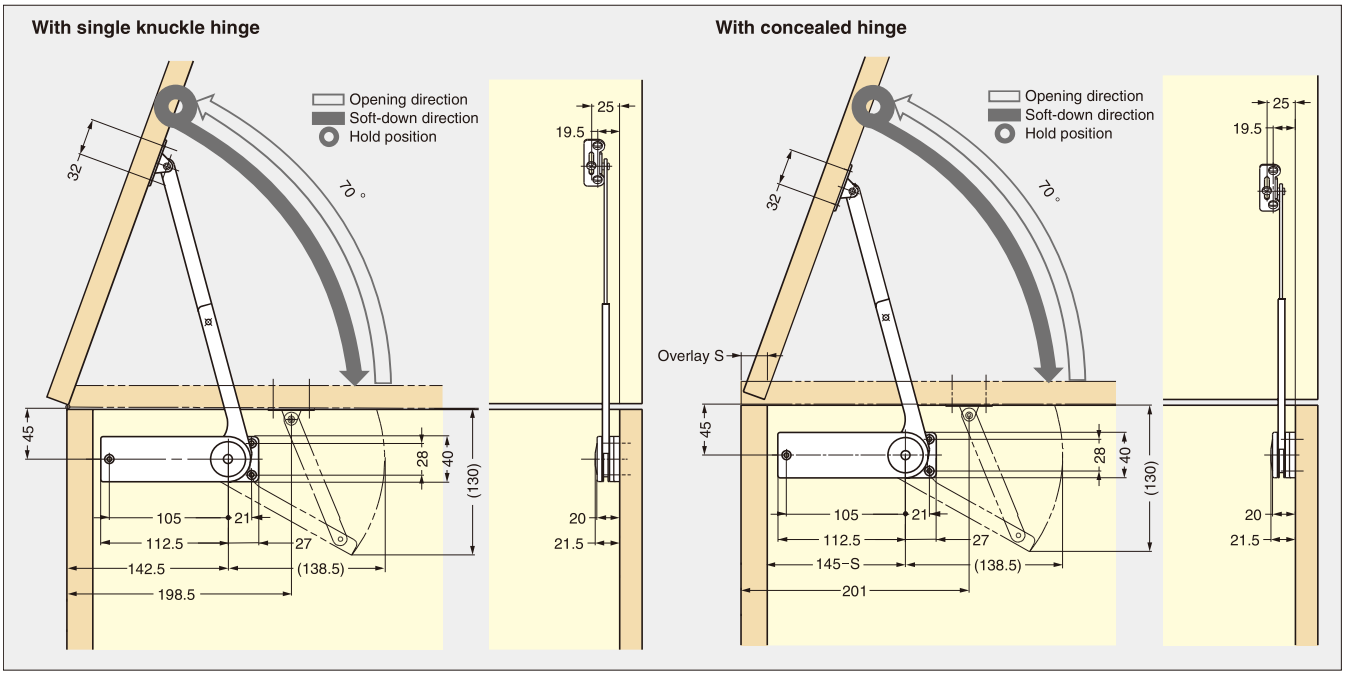
Torque	Model	Qty
13.7 - 19.5 N·m	K	1 pair
19.6 - 24.4 N·m	M	1 pair
24.5 - 29.4 N·m	H	1 pair
39 - 41 N·m	XH	1 pair

Parts Included

- Mounting plate
- Binding head tapping screw 3.5×15

Feature Selection Tool Damper Stay

Installation (Opening Angle 70˚)



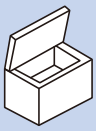
Item Code	Item Name	Type	Material	Finish/Colour	Model	Torque Moment/pair	Weight	Carton
180-109-237	HDS-20KL-BL	Left	ABS/Steel	Nickel/Black	K	13.7 - 19.5 N·m (140 - 199 kgf·cm)	284 g	40 pcs
180-109-236	HDS-20KR-BL	Right	ABS/Steel	Nickel/Black	K		284 g	40 pcs
180-109-243	HDS-20KL-WT	Left	ABS/Steel	Nickel/White	K		284 g	40 pcs
180-109-242	HDS-20KR-WT	Right	ABS/Steel	Nickel/White	K		284 g	40 pcs
180-109-239	HDS-20ML-BL	Left	ABS/Steel	Nickel/Black	M	19.6 - 24.4 N·m (200 - 249 kgf·cm)	288 g	40 pcs
180-109-238	HDS-20MR-BL	Right	ABS/Steel	Nickel/Black	M		288 g	40 pcs
180-109-245	HDS-20ML-WT	Left	ABS/Steel	Nickel/White	M		288 g	40 pcs
180-109-244	HDS-20MR-WT	Right	ABS/Steel	Nickel/White	M		288 g	40 pcs
180-109-241	HDS-20HL-BL	Left	ABS/Steel	Nickel/Black	H	24.5 - 29.4 N·m (250 - 300 kgf·cm)	299 g	40 pcs
180-109-240	HDS-20HR-BL	Right	ABS/Steel	Nickel/Black	H		299 g	40 pcs
180-109-247	HDS-20HL-WT	Left	ABS/Steel	Nickel/White	H		299 g	40 pcs
180-109-246	HDS-20HR-WT	Right	ABS/Steel	Nickel/White	H		299 g	40 pcs
180-043-093	HDS-20XHL-BL	Left	ABS/Steel	Nickel/Black	XH	39 - 41 N·m (397 - 418 kgf·cm)	–	40 pcs
180-043-094	HDS-20XHR-BL	Right	ABS/Steel	Nickel/Black	XH		–	40 pcs
180-043-095	HDS-20XHL-WT	Left	ABS/Steel	Nickel/White	XH		–	40 pcs
180-043-096	HDS-20XHR-WT	Right	ABS/Steel	Nickel/White	XH		–	40 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP SELF-OPENING STAY HDS-20S

Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN Self & Soft-open CLOSE With Catch	Wood	6.9~14.7 N·m/2pcs

- Opens automatically if flap is pulled open slightly.
- Built-in damper causes flap to open gently, preventing slamming.
- Built in catch to hold flap when fully closed.
- Can also be used with single axis hinges like concealed, piano or butt hinges.

INSTRUCTION | SCREW

Applicable Range

Torque Moment	Model	Qty
6.9 - 10.8 N·m	H	1 pair
10.9 - 14.7 N·m	S	1 pair

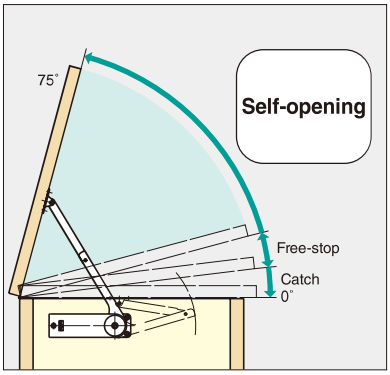
Feature | Feature

Remarks

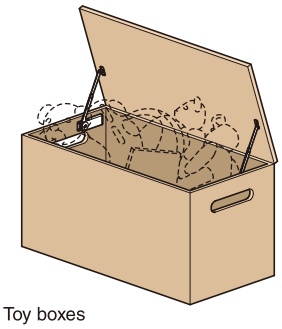
- Used in pairs.

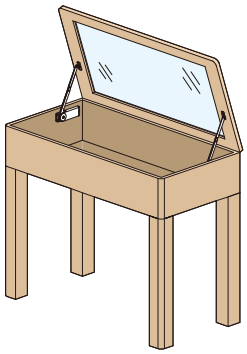
Parts Included

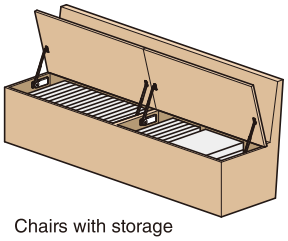
- Mounting plate
- Binding tapping screw 3.5×15

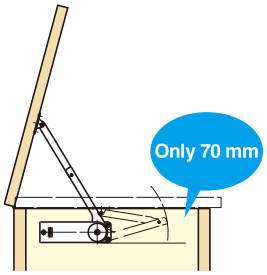


Application Example


Toy boxes

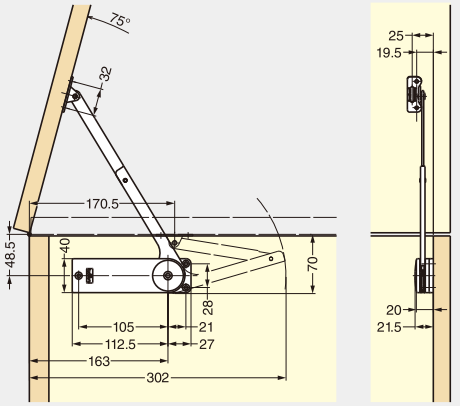

Display cabinets


Chairs with storage

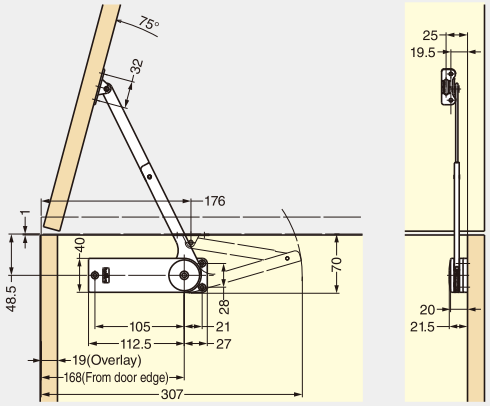


Installation

With a piano hinge



With a concealed hinge



Item Code	Item Name	Type	Material	Finish/Colour	Model	Torque Moment/pair	Weight	Carton
180-029-751	HDS-20S-HL-BL	Left	ABS/Steel	Nickel/Black	H	6.9 - 10.8 N·m (70 - 110 kgf·cm)	298 g	40 pcs
180-029-752	HDS-20S-HR-BL	Right						
180-029-753	HDS-20S-HL-WT	Left		Nickel/White				
180-029-754	HDS-20S-HR-WT	Right						
180-029-755	HDS-20S-SL-BL	Left		Nickel/Black	S	10.9 - 14.7 N·m (111 - 150 kgf·cm)	311 g	40 pcs
180-029-756	HDS-20S-SR-BL	Right						
180-029-757	HDS-20S-SL-WT	Left		Nickel/White				
180-029-758	HDS-20S-SR-WT	Right						

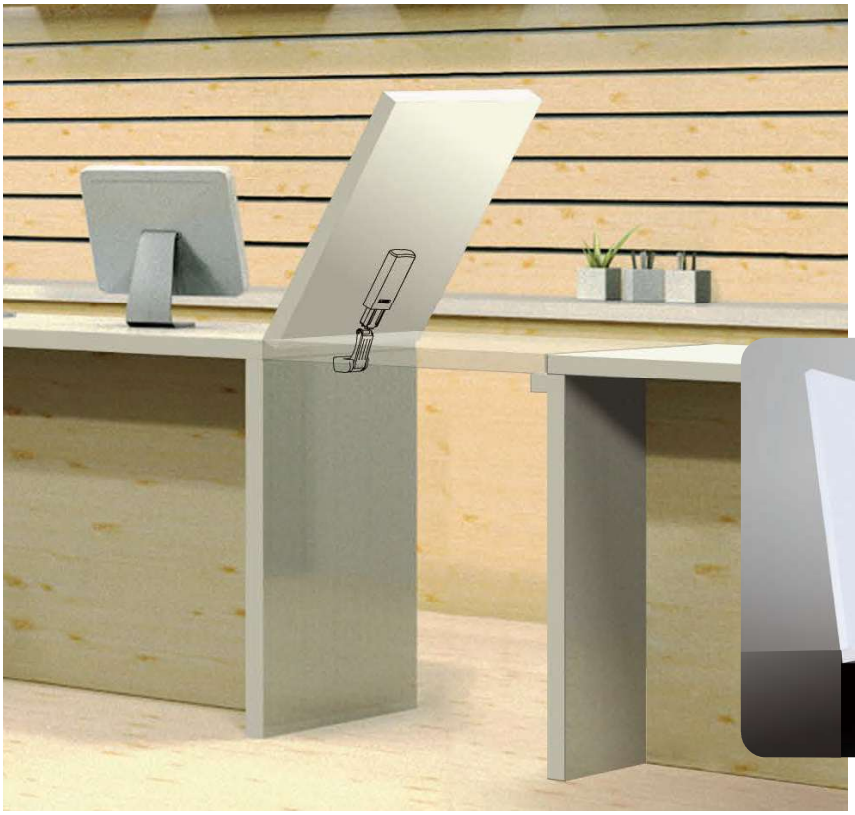
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

Easy opening, quiet closing.

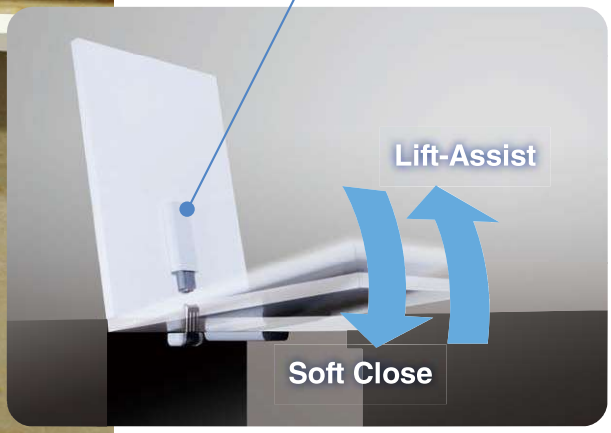
Damper equipped with a Lift-Assist mechanism and Lapcon function takes the stress out of counter top panel opening/closing. Because the top panel maximum moment is 50N·m, wide top panels can be mounted.

Supports up to 50N·m!



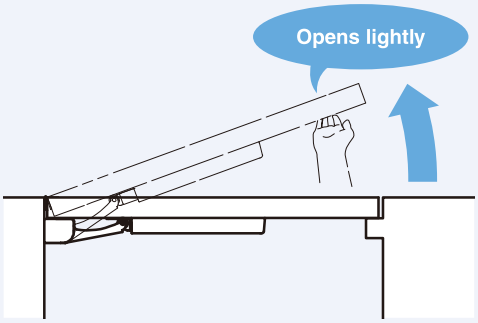


LAD



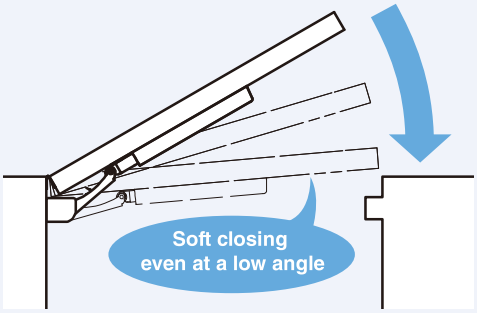
Lift-Assist

Top panel opens easily.



Soft Close

When the flap is lowered, the damper activates to ensure a smooth and quiet closing, preventing it from slamming.



This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

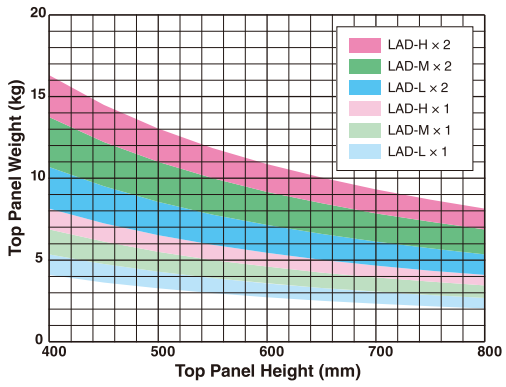
Model		Non Handed	Stopper Angle	Door Max. Moment	Page
	**LAD**	✓	None	8.0 - 16.0N·m (81.6 - 163.2kgf·cm)	P.254
	**LAD-ST**	✓	95°	8.0 - 16.0N·m (81.6 - 163.2kgf·cm)	P.256
	**LADH**	✓	95°	25.0 - 50.0N·m (254.9 - 509.9kgf·cm)	P.258

•Usable with two sets. The top panel maximum moment range is twice that when using one set.
[Precautions when using two sets]
· Use products with the same Item Name.
· Mount so that the top panel will hit both stoppers simultaneously when fully opened.
· Mount in a horizontally symmetrical position, so that the force applied to the top panel will be applied uniformly.
· Adjust with the adjustment screws so that the amount of adjustment is equal between the two products.
•Not available for use with three sets or more.

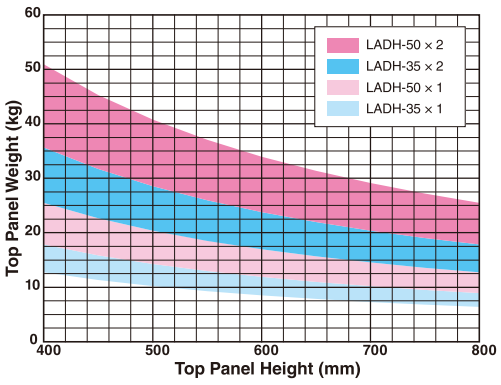
Model Selection Graph

Use the table below as a guideline for model selection.

LAD



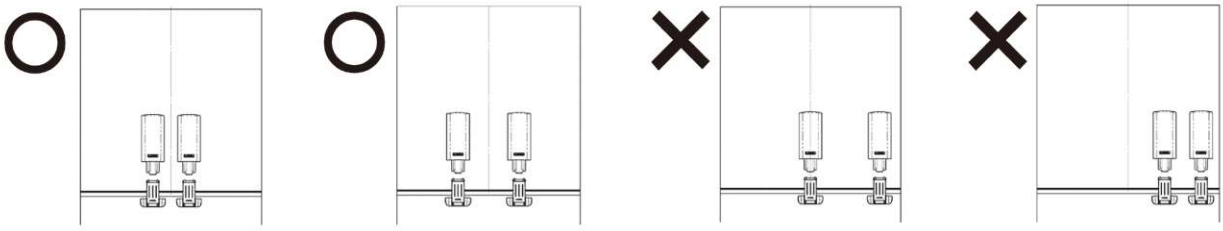
LADH



When using top panel sizes not shown in this table, calculate their moment with the formula below.
Top panel weight should include any decorations to be mounted thereon as well.
Top panel max. moment (N· m) = top panel weight (kg) × 9.80665 × distance from rotation axis centre to centre of gravity position (m)

*For the centre of gravity position and the distance from the rotation axis centre, see P.242

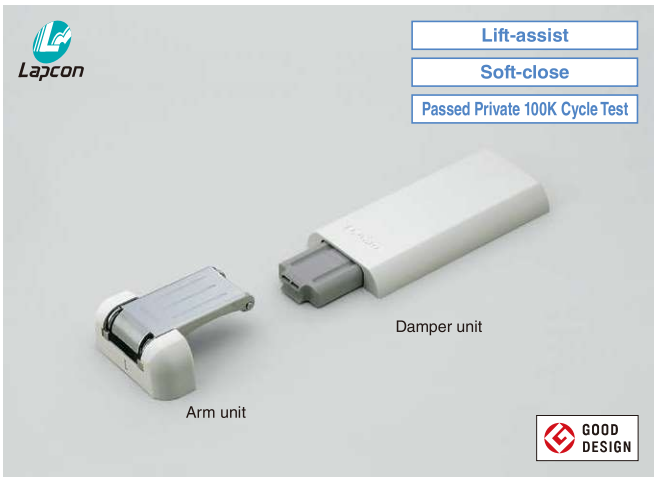
Mounting position for 2 pcs

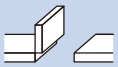


This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. LIFT-ASSIST DAMPER LAD

Latest Info



Opening Direction	Features	Door Material	Item Name	Maximum Door Moment
	Lift-assist Soft-close	Wood	LAD-L	8.0~10.5 N·m/pc (81.6~107.1 kgf·cm/pc)
			LAD-M	10.5~13.5 N·m/pc (107.1~137.7 kgf·cm/pc)
			LAD-H	13.5~16.0 N·m/pc (137.7~163.2 kgf·cm/pc)

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

INSTRUCTION SCREW

Specifications

- Operating temperature: 0°C~40°C

Remarks

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

Parts Included

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

Feature

Selection Tool
Damper Stay

Recommended Hinge

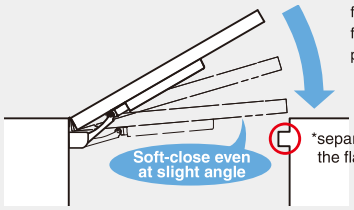
- Concealed hinge R (P.196)

Application Example



• Soft-Close

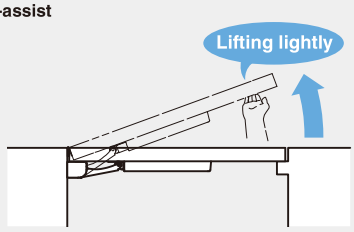
Damper works just before flap closes, preventing it from slamming shut and pinching fingers.



*separate holder to support the flap required.

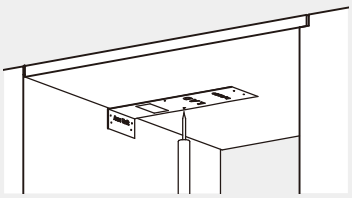
• Lift-assist

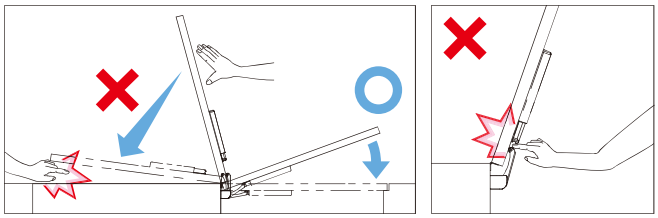
Top panel can be lifted lightly.



• Easy post-installation

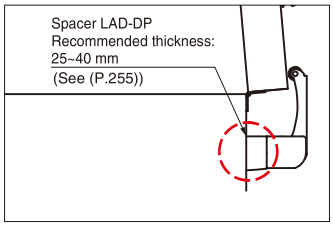
Can be post-installed to existing counters without processing. Simply by pressing against the supplied mounting template, installation position can be easily determined.

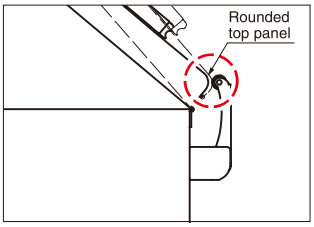




For Door Thickness More Than 25 mm

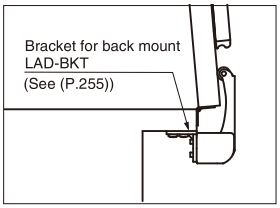
When door thickness exceeds 25 mm, you may be able to use this product by using with spacer (sold separately) (P.255) or rounding the flap (figure below).





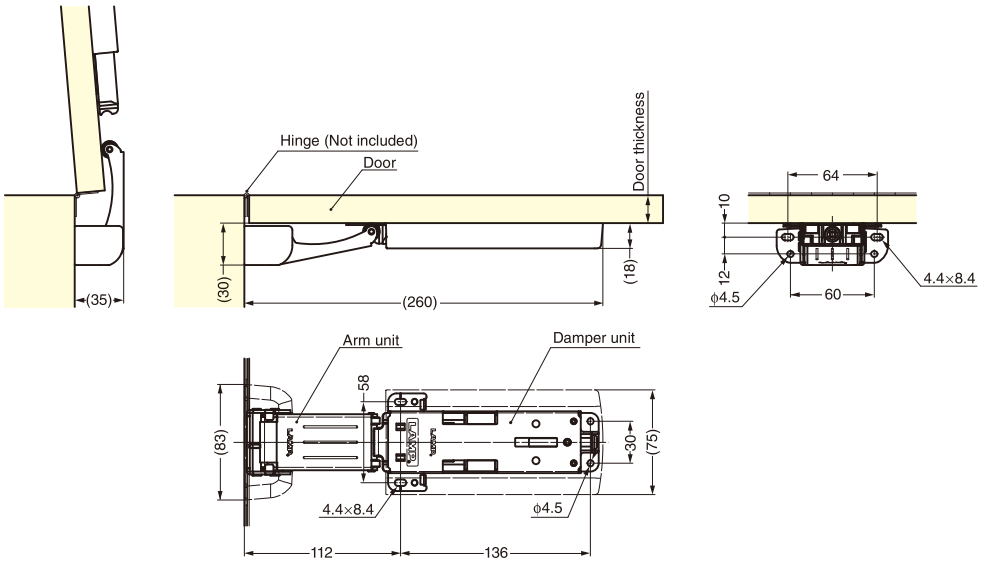
For Installing on Horizontal Surface

When installing on a horizontal surface, please use bracket for back mount (sold separately) (P.255).

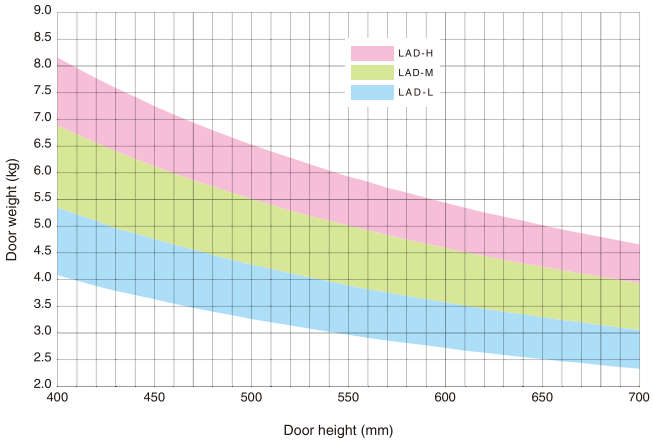


SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.



Door Size Ranges: 1 pc Use (*2 pcs use possible. Torque moment becomes double.)

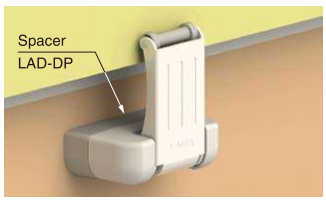


Item Code	Item Name	Material	Finish	Torque Moment/piece	Door Thickness	Weight	Carton
170-025-804	LAD-L	ABS/ Polyacetal (POM)/ Steel	Zincing/Nickel Chrome	8.0 - 10.5 N·m (81.6 - 107.1 kgf·cm)	15 - 25	545 g	20 pcs
170-025-805	LAD-M			10.5 - 13.5 N·m (107.1 - 137.7 kgf·cm)		568 g	
170-025-806	LAD-H			13.5 - 16.0 N·m (137.7 - 163.2 kgf·cm)		571 g	

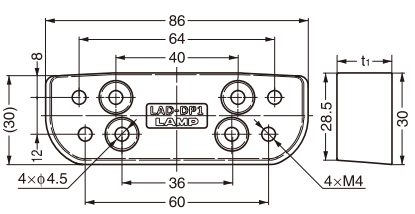
LAMP SPACER LAD-DP

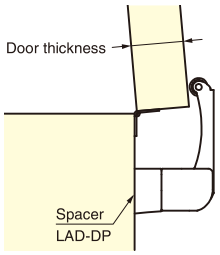
Latest Info

For over 25 mm thickness door.



- For counter flaps with a thickness greater than 25mm.

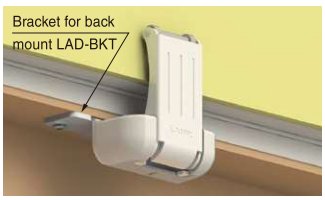




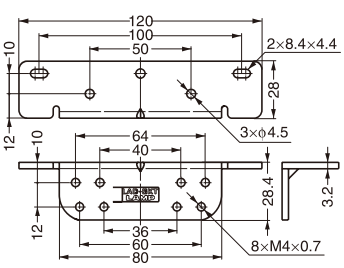
Item Code	Item Name	t_1	Door Thickness	Material	Colour
170-028-234	LAD-DP1	18	25 - 35	Polyacetal (POM)	Grey
170-028-235	LAD-DP2	25	30 - 40		

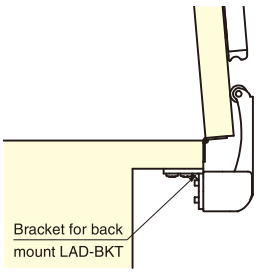
LAMP BRACKET FOR BACK MOUNT LAD-BKT

Latest Info



- Allows the LAD to be mounted on a horizontal surface. Can be used together with the LAD-DP.





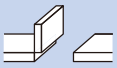
Item Code	Item Name	Material	Colour
170-028-236	LAD-BKT	Steel (SPCC)	Nickel

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. LIFT-ASSIST DAMPER (WITH STOPPER) LAD-ST

Latest Info

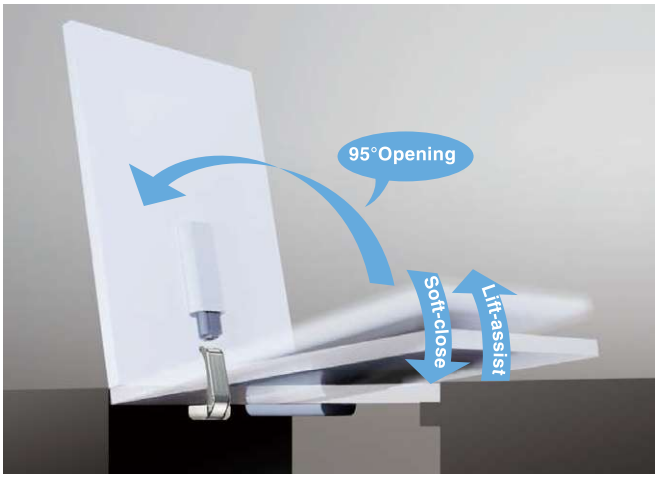


Opening Direction	Features	Door Material	Item Name	Maximum Door Moment
	Lift-assist Soft-close	Wood	LAD-ST-L	8.0 - 10.5 N·m/pc (81.6 - 107.1 kgf·cm/pc)
			LAD-ST-M	10.5 - 13.5 N·m/pc (107.1 - 137.7 kgf·cm/pc)
			LAD-ST-H	13.5 - 16.0 N·m/pc (137.7 - 163.2 kgf·cm/pc)

- Ideal solution for counter flaps at bars, restaurants, and reception counters.
- Smooth and soft close movement near closing radius prevents flaps from slamming. Damper function works even if the flap is only opened slightly.
- Lift-assist mechanism with light opening.
- Stops flap at 95° opening with stopper.
- Suitable for flap thickness of 15 - 40 mm.
- Can be attached to already installed counters without extra processing.
- Installation position can be easily determined with the supplied template.

INSTRUCTION SCREW

Application Example



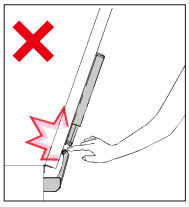
Specifications

- Operating temperature: 0˚C - 40˚C

Selection Tool
Damper Stay

Remarks

- Make sure to have sufficient hinge strength and panel strength at the side from which the flap is suspended (rotates).
- Cannot use more than two sets on a single flap.
- While open, the flap is not held firmly in position.
- Use a single axis hinge on the suspended (rotating) side of the flap. Another possibility is to use the R series concealed hinges for combined use.
- Do not use kitchen concealed hinges.
- Closed flap will not be held in place with this product alone. Please install some type of catch on the side of the flap that lifts up.
- Do not use more force than is necessary to open or close the flap.

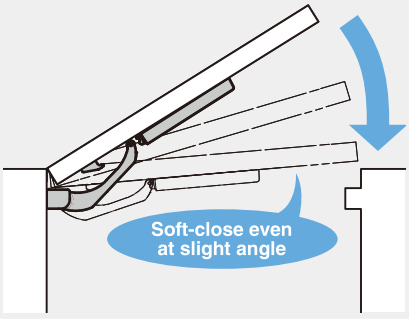


- Ensure that the distance from mounting surface of damper unit and stopper to flap surface is 15 - 40 mm (see drawing).
- Be careful not to get fingers caught between arm unit and damper unit.
- Do not use in combination with spacer LAD-DP (for thick door) and bracket for back mount LAD-BKT (for horizontal installation).

Parts Included

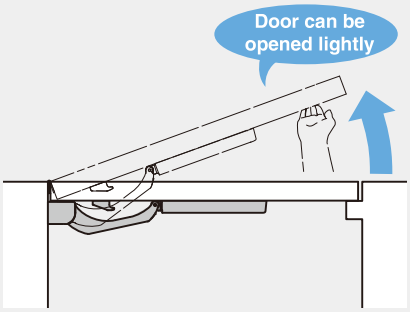
- Binding head tapping screw 4 × 16
- Template for positioning

Soft-close



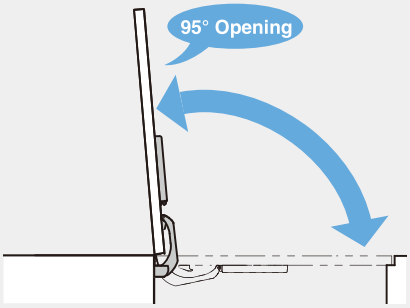
Damper works just before flap closes, preventing it from slamming shut and pinching fingers.

Lift-assist



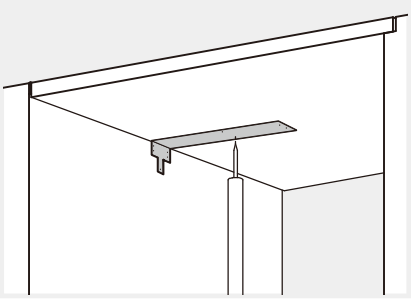
Lift-assist mechanism with light opening.

With stopper



Stops flap at 95°opening.

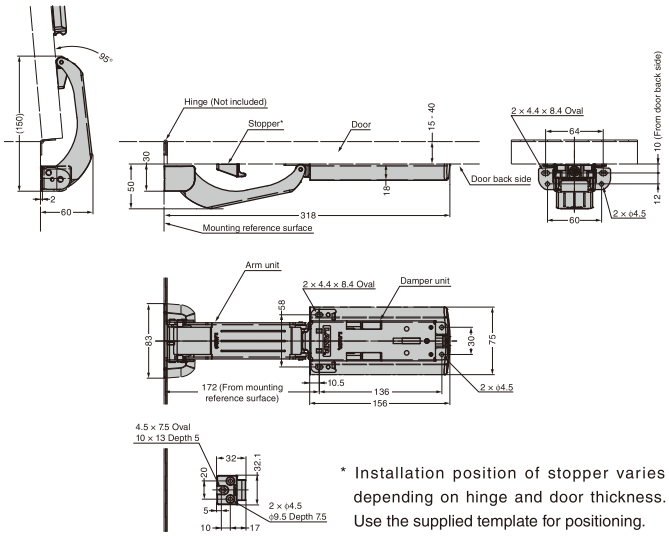
Easy post-installation



Can be retro-fitted to existing counters without processing. Simply by pressing against the supplied mounting template, installation position can be easily determined.

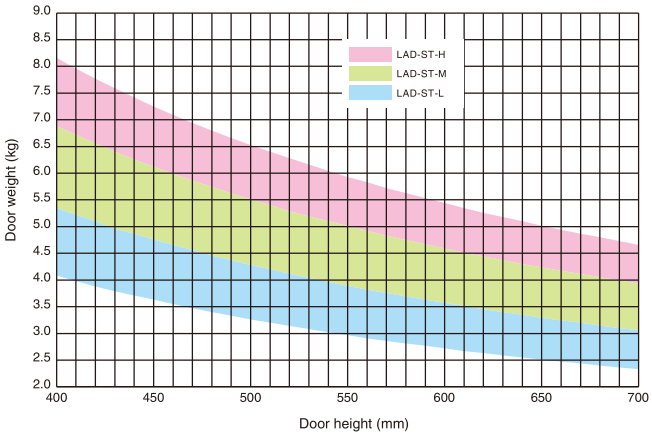
SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.



* Installation position of stopper varies depending on hinge and door thickness. Use the supplied template for positioning.

Door Size Ranges 1pc use only



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

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

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

LAMP MOUNTING PLATE FOR LAD LAD-SPT

Latest Info



- A plate to reinforce the surface where the LAD Lift-Assist Damper or LAD-ST Arm Unit is mounted.

INSTRUCTION | SCREW

Remarks
- Use the single-side type when the lateral plate thickness is 20 mm or greater, and the double-sided type if the thickness is 15 - 19 mm.
- Two plates are required when using the double-sided type.
- Cannot be used with the LAD-DP Spacer for thick plates or the LAD-BKT Bracket for Back Mount.

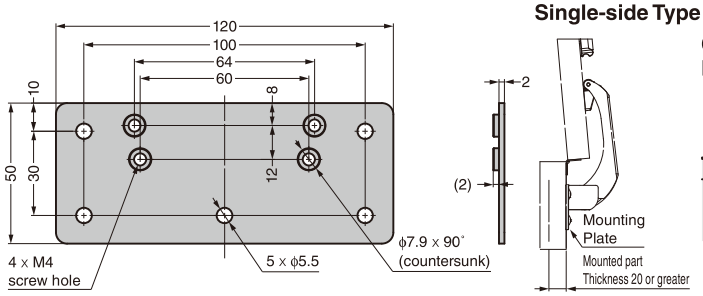
Parts Included
- Size M4 x 8 binding screws

Recommended Screw
- Single-side type: Size 5 x 20 or larger cross-recessed truss tapping screws
- Double-sided type: Size M5 cross-recessed truss screws and flat washers, spring washers and nuts for M5 screws

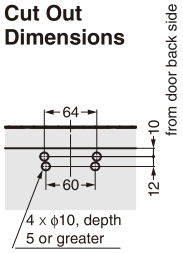
Application Example



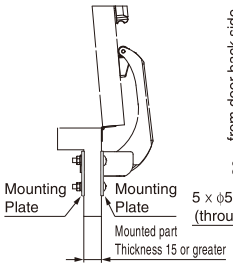
Single-side Type



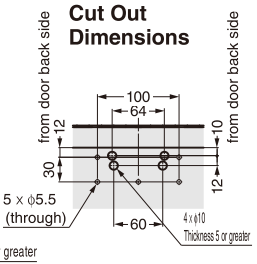
Cut Out Dimensions



Double-sided Type



Cut Out Dimensions



Item Code	Item Name	Material	Weight (g)	Box (pcs)	Carton (pcs)
170-034-754	LAD-SPT	Stainless Steel	130	10	50

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

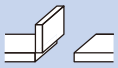
LAMP. LIFT-ASSIST DAMPER (FOR HEAVY DUTY) LADH

Latest Info

Lapcon

Passed Private 100K Cycle Test



Opening Direction	Features	Door Material	Item Name	Maximum Door Moment
	Lift-assist Soft-close	Wood	LADH-35	25 - 35 N·m/pc (254.9 - 356.9 kgf·cm/pc)
			LADH-50	35 - 50 N·m/pc (356.9 - 509.9 kgf·cm/pc)

- Ideal for counter flaps at bars, restaurants, and reception counters.
- Smooth and soft close movement near closing radius prevents flaps from slamming. Damper function works even if the flap is only opened slightly.
- Lift-assist mechanism with light opening.
- Stops flap at 95° opening with stopper.
- Installation position can be easily determined with the supplied template.
- Can be attached to already installed counters without extra processing.
- Can be used in pair. Max. moment of the lid will be twice as 1pc use.

INSTRUCTION SCREW

Application Example



Remarks

- While open, the flap is not held firmly in position
- Make sure to have sufficient hinge strength and panel material strength at the side from which the flap is suspended (rotates).
- Do not use in combination with multi-axis hinges.
- Closed flap will not be held in place with this product alone. Please install some type of catch on the side of the flap that lifts up.
- Do not use more than 2 pcs per flap.

Remarks When Using 2 pcs

- Use the same items.
- Make sure the two stoppers contact the lid at the same time when it fully opens.
- Make sure the load is evenly distributed to the two items.
- Make sure the damper adjustment of the two items is the same.

Parts Included

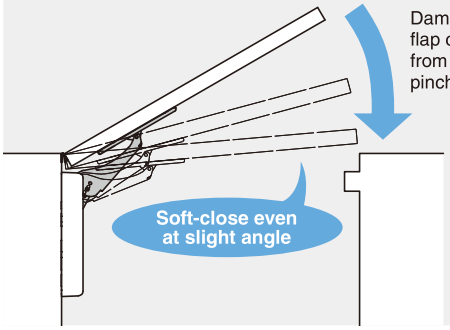
- Binding head tapping screw 5.1 × 20
- Paper template

Recommended Hinge

- Stainless steel piano hinge LSN-C (P.219)

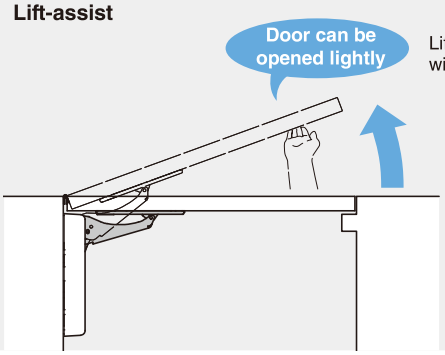
Feature Feature Selection Tool
Damper Stay

Soft-close



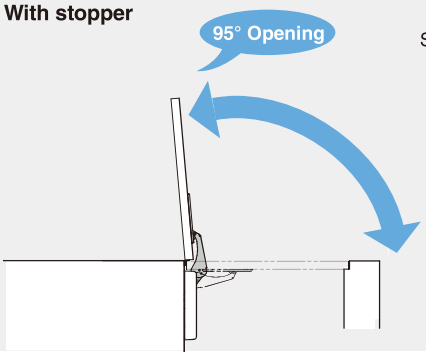
Damper works just before flap closes, preventing it from slamming shut and pinching fingers.

Lift-assist



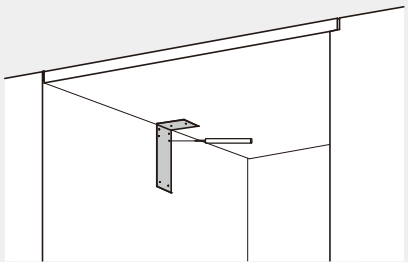
Lift-assist mechanism with light opening.

With stopper



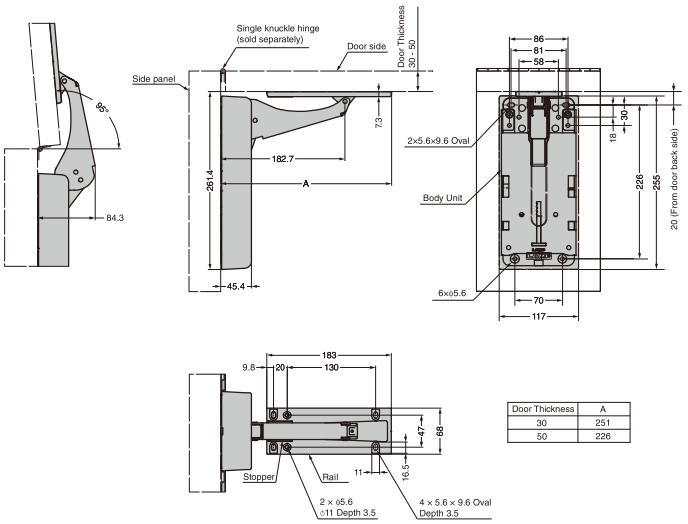
Stops flap at 95° opening.

Easy post-installation



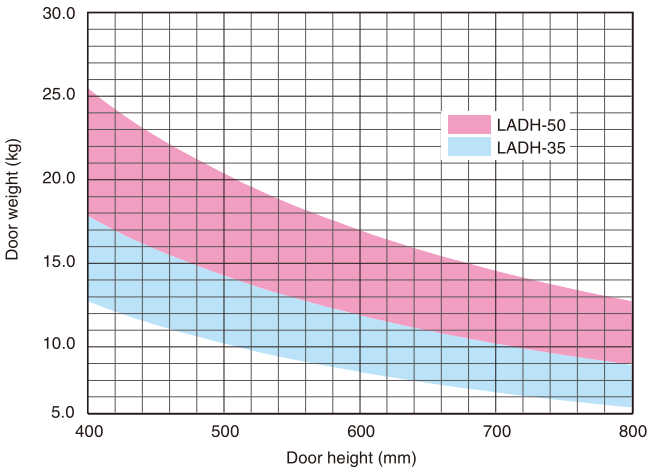
Can be retro-fitted to existing counters without processing. Simply by pressing against the supplied mounting template, installation position can be easily determined.

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.



Door Thickness	A
30	251
50	226

Door Size Ranges



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

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

When using 2 pcs per flap, the available specs will be twice.

Item Code	Item Name	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Recommended Thickness (mm)	Weight (kg)	Box (pcs)	Carton (pcs)
170-034-868	LADH-35	Steel (SPCC)/ Polyacetal (POM)/ ABS	Nickel Plating/ Nickel Chrome/ Dark Brown	25 - 35	254.9 - 356.9	30 - 50	2	1	4
170-034-869	LADH-50			35 - 50	356.9 - 509.9			1	4
170-052-559	LADH-35WT			25 - 35	254.9 - 356.9			1	4
170-052-560	LADH-50WT			35 - 50	356.9 - 509.9			1	4

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP AILERON STAY FOR OLYMPIA ARN-3 Upward Opening Model NEW

Latest Info

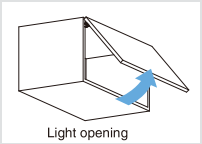


Opening Direction	Features	Door Material	Type	Maximum Door Moment
	Lift-assist Soft-close Free-stop	Wood	M	4.0 - 6.0 N·m/pc (40.8~61.2 kgf·cm/pc)
			H	6.0 - 8.0 N·m/pc (61.2~81.6 kgf·cm/pc)

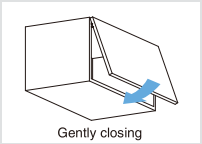
- Smooth door movement. It is specially designed for use with the OLYMPIA concealed hinge (360-D26-19 / H360-D26-26T).
- The lift-assist function allows for light opening of doors.
- The force of lift-assist is adjustable.
- The soft-close function makes doors close gently (0°–30° degrees).
- Integrated design combines a concealed hinge and lid stay.
- The free-stop function enables doors to hold in position.
- Closing speed of doors is adjustable.

Door Movements

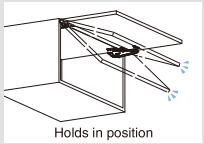
Lift-assist
Allows for light opening of doors



Soft-close
OLYMPIA's damper makes doors close slowly. (0° - 30°)



Free-stop
Enables doors to hold in position.



INSTRUCTION SCREW

Specifications

- Operating temperature: 0°C~40°C

Parts Included

- Door-side mounting plate
- Countersunk head tapping screw 3.5 × 1.5 (for attaching the mounting plate to AILERON)
- Binding head tapping screw 3.5 × 1.5 (for attaching the door-side mounting plate, mounting plate for AILERON, and AILERON)

Optional Parts

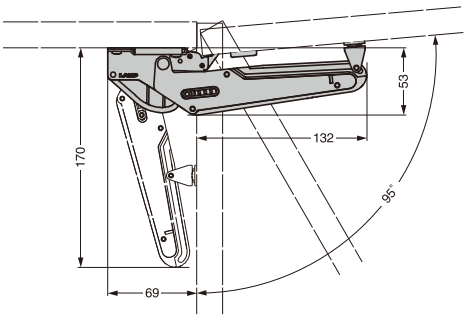
- Hinge spacer 360-BCS
- Aileron spacer ARN-DP

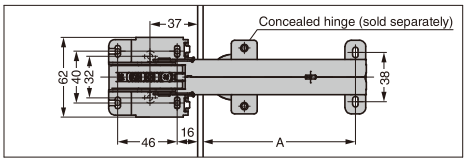
Sold Separately

- Mounting plate for AILERON
- OLYMPIA concealed hinge
- Mounting plate for OLYMPIA

Feature Feature Selection Tool
Damper Stay

Installation





Please see pages of Olympia hinges for installation dimensions.

Hinge Used	A
360-D26-19T	118
H360-D26-26T	116

Application Example



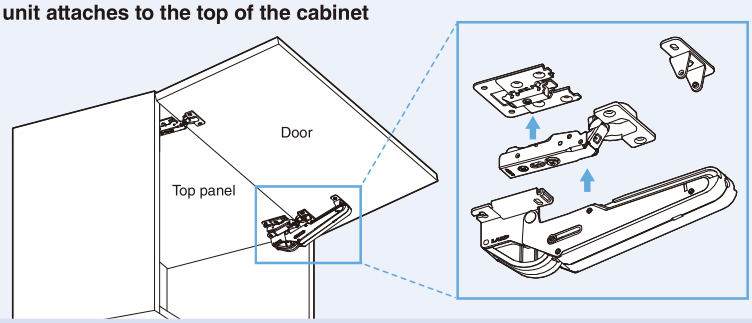
Aileron Stay Sold singly

Item Code	Item Name	Material	Finish / Colour	Type	Max. Door Moment N·m/pc	Max. Door Moment kgf·cm/pc	Box (pc)	Carton (pc)
180-043-947	ARN-3-M-GR	Steel (SPCC) / POM	Nickel plating / Grey	M	4.0~6.0	40.8~61.2	1	20
180-043-948	ARN-3-H-GR			H	6.0~8.0	61.2~81.6	1	20
180-049-503	ARN-3-M-BL		Nickel plating / Black	M	4.0~6.0	40.8~61.2	1	20
180-049-504	ARN-3-H-BL			H	6.0~8.0	61.2~81.6	1	20

Standard Set Including parts sold separately

Item Code	Item Name	Door Width	Max. Door Moment N·m	Max. Door Moment kgf·cm	Set Contents	Box (pc)	Carton (pc)
180-045-659	ARN-3-M-GR-S	450~900	4.0~6.0	40.8~61.2	Aileron stay, Mounting plate for Aileron stay, Olympia hinge, Mounting plate for Olympia hinge, Screws	1	10
180-045-660	ARN-3-H-GR-S		6.0~8.0	61.2~81.6		1	10
180-049-507	ARN-3-M-BL-S		4.0~6.0	40.8~61.2		1	10
180-049-508	ARN-3-H-BL-S		6.0~8.0	61.2~81.6		1	10

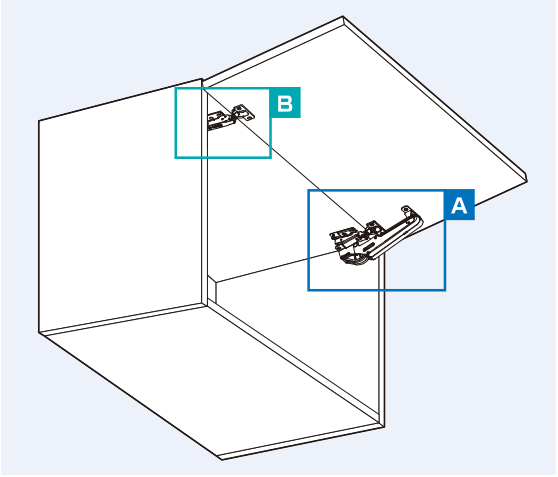
Combined unit attaches to the top of the cabinet



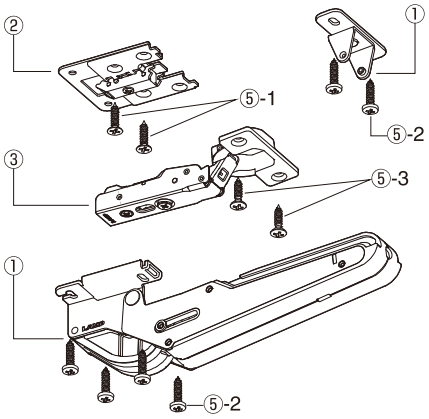
Simple installation only requires AILERON to be placed on OLYMPIA with a mounting plate designed for AILERON

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

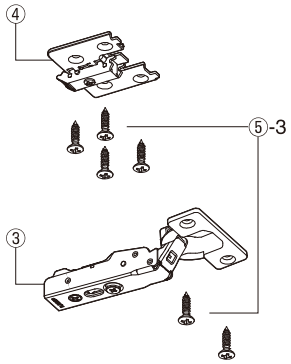
Components for a single door



A AILERON side



B Opposite side



Necessary parts per door (A + B)

[Notes]
The required quantity depends on door width and moment.

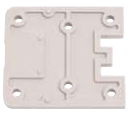
			Item Code	Item Name	Door Width [mm] 450~900 / Door Moment [N·m] 4.0~6.0	6.0~8.0	8.0~12.0	12.0~16.0	900~1600 / 4.0~6.0	6.0~8.0	8.0~12.0	12.0~16.0	1600~2000 / 4.0~6.0	6.0~8.0	8.0~12.0	12.0~16.0
AILERON	① Stay	 Grey / Black / Including: - Binding tapping screws ×6 - Countersunk head tapping screw ×2	180-043-947/ 180-049-503	ARN-3-M-GR/ ARN-3-M-BL	Standard Set 1	-	2	-	1	-	2	-	1	-	2	-
			180-043-948/ 180-049-504	ARN-3-H-GR/ ARN-3-H-BL	-	1	-	2	-	1	-	2	-	1	-	2
	② Plate		180-043-949	ARN-SZ	1		2		1		2		1		2	
OLYMPIA	③ Hinge		160-026-840/ 160-029-084	360-D26-19T/ H360-D26-26T (Built-in damper)	2*3		3		2		3		2		3	
			160-026-836/ 160-029-081	360-26-19T/ H360-26-26T (Without catch)	-		-		1		-		2		-	
			160-026-832/ 160-029-078	360-C26-19T/ H360-C26-26T (With catch)	-		-		-				-		1	
	④ Plate		160-026-846 *1	360-P6WT (System 32·4 holes)	1		1		2		1		3		2	
	⑤ Screw		160-070-030	TAP3515NI	8*2		10*2		14*2		10*2		20*2		16*2	

*1 ④Other available plates : 360-P4W-32T / 360-P4W-30T
*2 This is the required quantity when using with the 360-P6WT. The required number of screws is reduced by one for each unit of 360-P4W-32T or 360-P4W-30T that is used.
*3 The 360-D26-19T is included in the standard set.

LAMP AILERON SPACER ARN-DP 2 and 5 mm Thick NEW

Latest Info

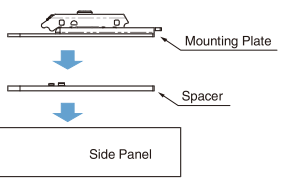

ARN-DP2
(2 mm)


ARN-DP5
(5 mm)

- Specially designed for use with the AILERON stay (P.260).
- The ARN-DP2 decreases overlay of outset doors by 2 mm.
- The ARN-DP5 decreases overlay of outset doors by 5 mm.
- The ARN-DP2 can be doubled for 4 mm thickness.

SCREW

How to Use



Set the spacer between the mounting plate and side panel.

Available Mounting Plate
- ARN-SZ (P.261)

Remarks
- The included screws are for fixing the spacer (ARN-DP5) and mounting plate (ARN-SZ).
- Please use the optional screws if two ARN-DP2 are used.

Parts Included
- Cross-recessed binding head tapping screw 3.5 × 20 (Only the ARN-DP5 comes with these screws.)

Spacer

Item Code	Item Name	Colour	Type	Material	Box (pcs)	Carton (pcs)
180-046-667	ARN-DP2	Grey	+ 2 mm	POM	80	640
180-047-915	ARN-DP5		+ 5 mm (screw included)		80	640

Optional screw when using two ARN-DP2

Item Code	Item Name
180-046-669	TAP3520NI

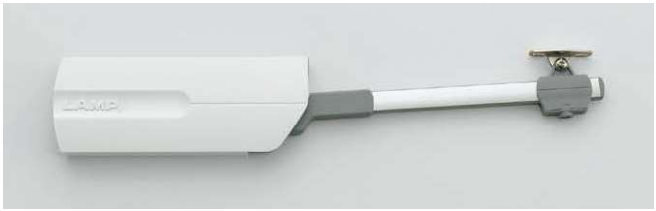
Sold in sets of 4 screws.

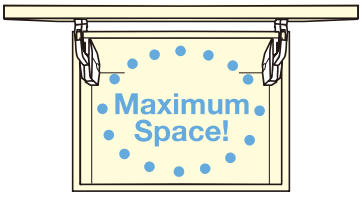
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP EASY LIFT-UP STAY SLS-ELAN

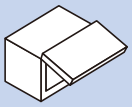
Latest Info







GOOD DESIGN

Opening Direction	Features	Door Material	Maximum Door Moment
	Lift-assist Free-stop Soft-down	Wood	4.9~9.8 N·m/pc

- For upward-opening flap doors.
- Equipped with:
  -Lift assist (to make flap doors feel lighter)
  -Free stop (holds position at any angle from 30° to fully open)
  -Soft-closing (slows down closing speed to prevent slamming between 0° and 30°)
- Recognized by LGA for 40,000 cycles
- Easy alignment: When doing an 19mm overlay install, simply press the body to the top of the interior of the cabinet and align the front plate flush with the cabinet.
- Easy installation: Can be installed on both sides from the front.
- Can be used singly or in pairs to accomodate a wide range of door sizes/weights
- Bracket (sold separately) available for aluminium frame flap doors.
- Please contact us directly for information about what types of hinges can be used with SLS-ELAN

INSTRUCTION SCREW

Parts Included

- Mounting plate for wooden door
- Countersunk head tapping screw 3.5×35 for main body (2 pcs)
- Binding head tapping screw 3.5×15 for mounting plate (2 pcs)
- Truss head screw M4×5 for mounting plate (1 pc)

Remarks

- Hinge is not included.

Sold Separately

- Mounting plate SLS-ELAN-AZ for aluminium frame
- Possible to cover the original logo “LAMP” on the body with ELAN-LP (Item Code: 180-018-225) at surcharge.
- Slider (for maintenance)

Feature
Selection Tool
SLS-ELAN

3 Functions in 1 Stay

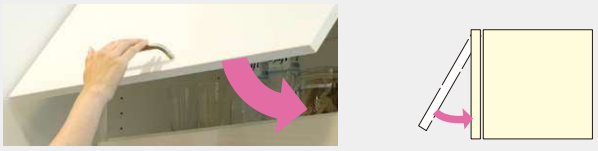
1. Lift-assist



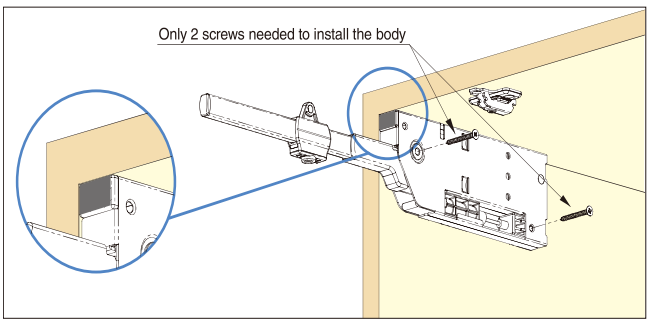
2. Free-stop



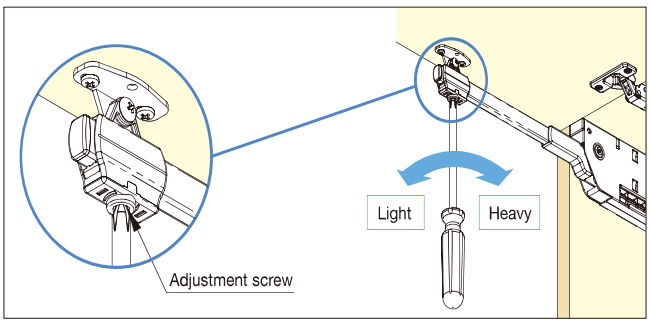
3. Soft-close



Easy Installation



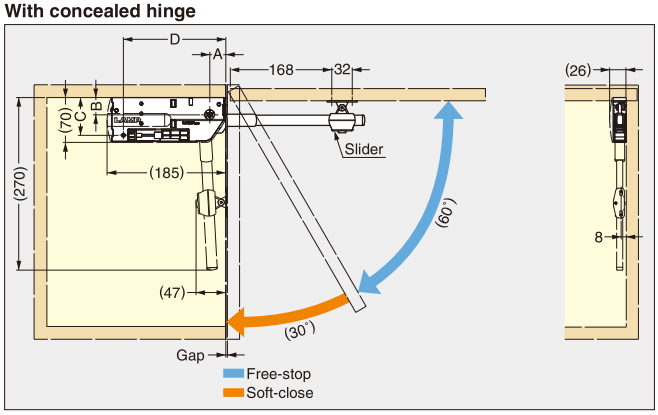
Adjustment of Lift-assisting Force



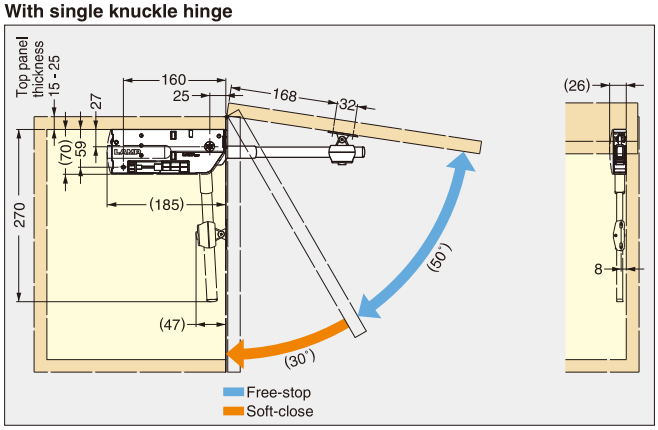
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

Installation (Right Side)

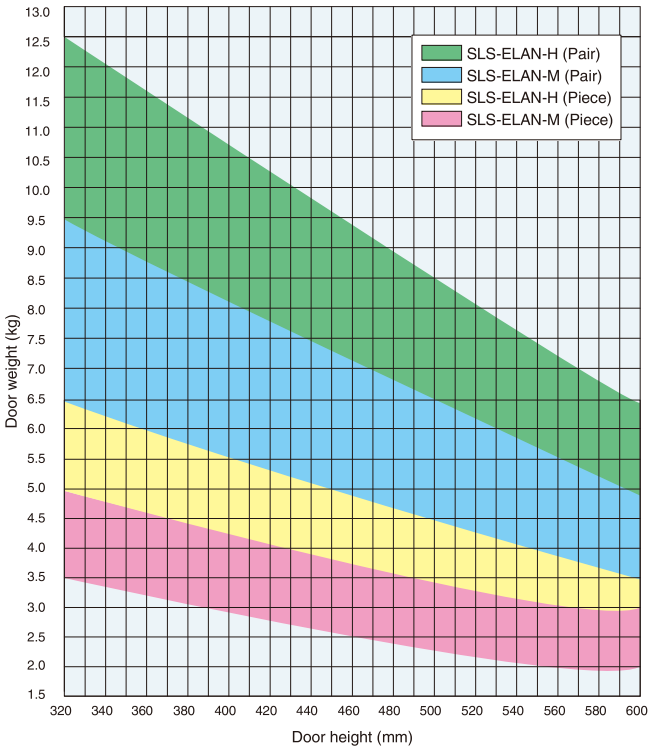
With concealed hinge



With single knuckle hinge

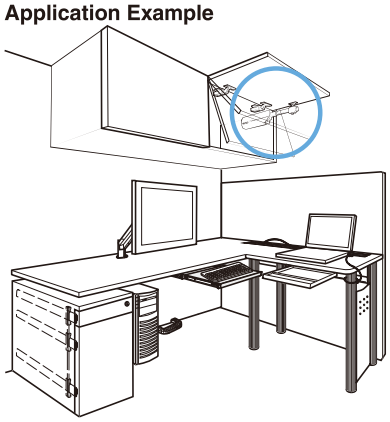


Door Size Ranges



For heavier flap application,
please contact your local dealer or sugatsune office.

Application Example





Slider for Maintenance

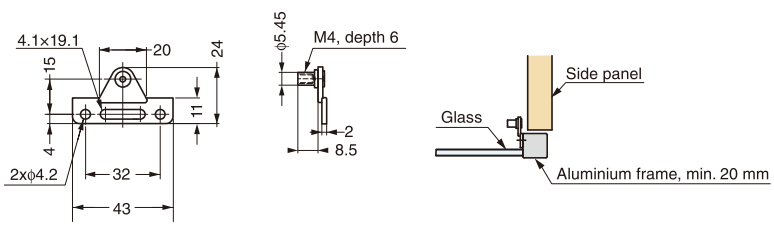
Item Code	Item Name	Weight	Carton
180-016-498	SLS-ELAN SLIDER	10 g	20 pcs

Item Code	Item Name	Type	Material	Finish/Colour	Model	Torque Moment/piece	Weight	Carton
180-015-491	SLS-ELAN-MRS	Right	Aluminium Alloy/ABS	Anodized/Light Grey	M	4.90 - 7.35 N·m (50 - 75 kgf·cm)	600 g	20 pcs
180-015-490	SLS-ELAN-MLS	Left	Aluminium Alloy/ABS	Anodized/Light Grey	M		600 g	20 pcs
180-015-493	SLS-ELAN-HRS	Right	Aluminium Alloy/ABS	Anodized/Light Grey	H	7.35 - 9.80 N·m (75 - 100 kgf·cm)	600 g	20 pcs
180-015-492	SLS-ELAN-HLS	Left	Aluminium Alloy/ABS	Anodized/Light Grey	H		600 g	20 pcs

LAMP. MOUNTING PLATE FOR ALUMINIUM FRAME DOOR SLS-ELAN-AZ

Latest Info





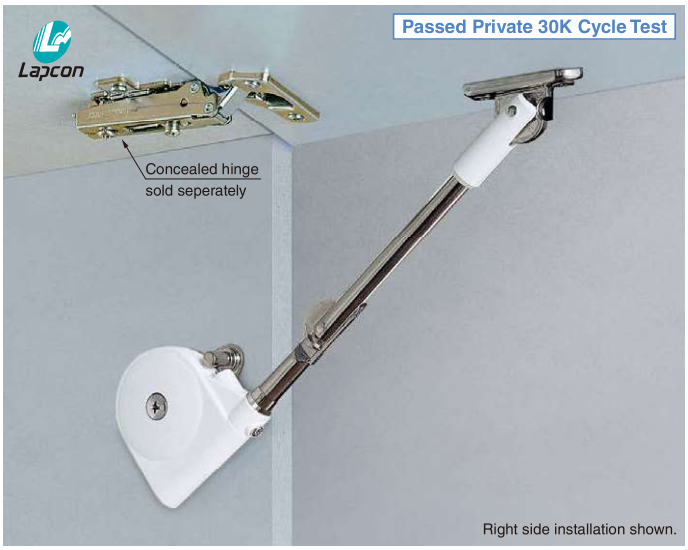
Mounting Plate for Aluminium Frame Door (Sold Separately)

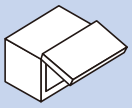
Item Code	Item Name	Part Name	Weight	Box
180-017-647	SLS-ELAN-AZ	Body	11 g	320 pcs
180-018-555	SLS-ELAN-AZS	Screw Set	5 g	800 sets

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP SOFT-DOWN STAY SDS-C301N

Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN With Catch CLOSE Soft-down With Catch	Wood	3.92~6.86 N·m/pc

- For upward-opening flap doors.
- Built-in damper causes flap to close gently preventing slamming.
- Non-handed
- Can also be used with single axis hinges like concealed, piano or butt hinges.

INSTRUCTION | SCREW

Torque

- With 1 stay
  Torque = 3.92 - 6.86 N·m (40 - 70 kgf·cm)
- With 2 stays, the torque will be doubled.

Parts Included

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

Sold Separately

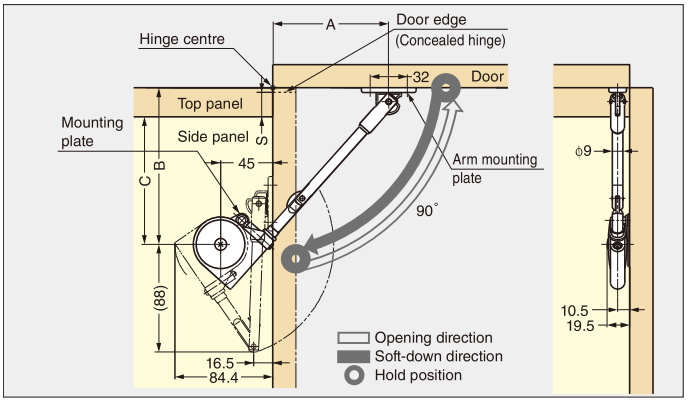
- Concealed hinge OLYMPIA 360-26-19T

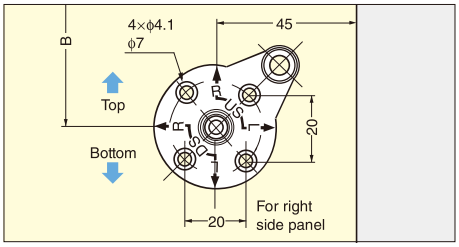
Feature | Selection Tool

Damper Stay



Installation (Opening Angle 90˚)





Overlay	Hinge Type	A	B	C
Full Overlay	Single Knuckle Hinge	100	135	–
Full Overlay	Concealed Hinge 360-26-19T	108	–	143–S
Inset	Single Knuckle Hinge	97*	132*	–

*In case the door thickness is 20 mm.

S = Overlay

Body

Item Code	Item Name	Material	Finish/Colour	Torque Moment/piece	Weight	Box	Carton
* 180-012-151	SDS-C301NW	ABS/Steel	Nickel/White	3.92 - 6.86 N·m (40 - 70 kgf·cm)	165 g	20 pcs	100 pcs
180-100-284	SDS-C301NG	ABS/Steel	Nickel/Grey		165 g	20 pcs	100 pcs
180-100-285	SDS-C301NBL	ABS/Steel	Nickel/Black		165 g	20 pcs	100 pcs

* Item code has been revised. (Old item code : 180-100-283)

SDS Face Plate (Sold Separately)

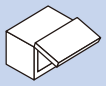
Item Code	Item Name	Material	Finish/Colour	Weight	Box	Carton
180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	25 g	50 pcs	200 pcs
180-928-046	SDS-50G-BL	Zinc Alloy (ZDC)/ABS	Black/Black	25 g	50 pcs	200 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP ADJUSTABLE SOFT-DOWN STAY NSDX-35 (R/L), NSDX-35(R/L)-2S

NSDX-35 (R/L) NSDX-35 (R/L)-2S

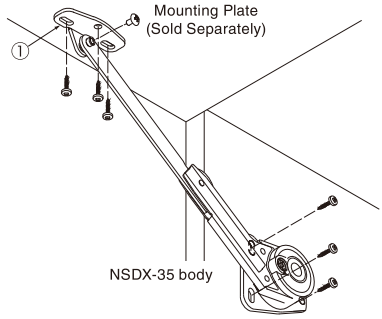


Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN With Catch CLOSE Soft-down With Catch	Wood Glass	1.96~6.86 N·m/pc (20~70 kgf·cm/pc)

- For upward-opening flap doors.
- Built-in damper causes flap to close gently preventing slamming.
- Built-in catch holds flap in fully opened position position.
- Can also be used with concealed, piano, or butt hinges.
- Depending on installation position, opening angle can be set to 80˚, 90° or 100˚.
- Two stop version also available (adds another stop at either 60°, 65°or 70° depending on installation position)
- Closing speed adjustable.







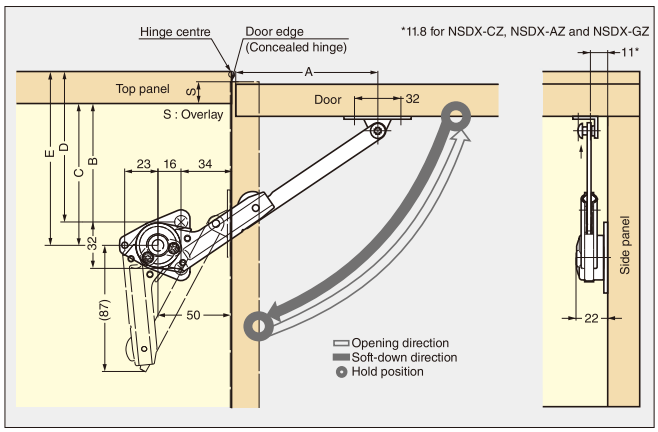
Torque

- With 1 stay
  Torque = 1.96 - 6.86 N·m (20 - 70 kgf·cm)
- With 2 stays, the torque will be doubled.

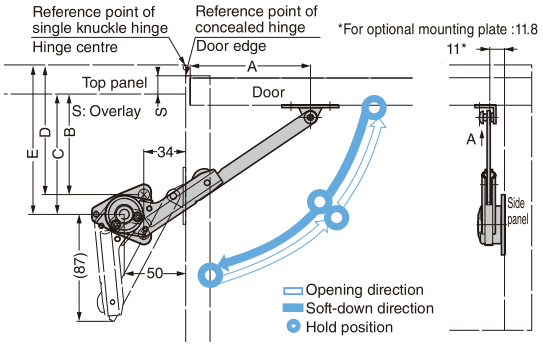
Sold Separately

①Mounting plate NSDX-SZ (below)
②Mounting plate NSDX-CZ (P.276)
③Mounting plate NSDX-AZ for 20 mm aluminium frame (P.276)
④Mounting plate NSDX-GZ for glass door (P.276)
⑤SDS-50G for glass door (P.276)

Installation NSDX-35(R/L)



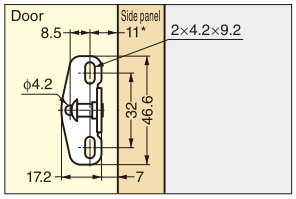
Installation NSDX-35(R/L)-2S



Hinge Type		A	B	C	D	E
80˚/60˚	Concealed Hinge	106	105 –S	121 –S	–	–
opening	Single Knuckle Hinge	100	–	–	99	115
90˚/65˚	Concealed Hinge	98	97 –S	113 –S	–	–
opening	Single Knuckle Hinge	91.5	–	–	90.5	106.5
100˚/70˚	Concealed Hinge	92.5	91.5–S	107.5–S	–	–
opening	Single Knuckle Hinge	85	–	–	84	100

S = Overlay

Installation for Mounting Plate



Body

Item Code	Item Name	L/R	Material	Finish	Torque Moment /piece	Catch Function			Weight	Box	Carton
						Opened	60°/65°/70°	Closed			
180-109-028	NSDX-35R	Right	Zinc Alloy (ZDC), Steel	Nickel	1.96 - 6.86 N·m (20 - 70 kgf·cm)	○	–	○	181 g	20 pcs	80 pcs
180-109-029	NSDX-35L	Left	Zinc Alloy (ZDC), Steel	Nickel		○	–	○	181 g	20 pcs	80 pcs
180-109-026	NSDX-35R2S	Right	Zinc Alloy (ZDC), Steel	Nickel	1.96 - 4.9 N·m (20 - 50 kgf·cm)	○	○	○	181 g	20 pcs	80 pcs
180-109-027	NSDX-35L2S	Left	Zinc Alloy (ZDC), Steel	Nickel		○	○	○	181 g	20 pcs	80 pcs

Mounting Plate (Sold Separately)

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

SDS Face Plate (Sold Separately)

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

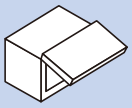
*Please use with NSDX-GZ mounting plate.

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP HEAVY DUTY SOFT-DOWN STAY HDS-30

Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN With Catch CLOSE Soft-down With Catch	Wood	13.7~29.4 N·m/2pcs

- For upward-opening flap doors.
- Built in damper to prevent slamming during closing.
- Built in catch holds flap closed.
- Can also be used with concealed, piano, or butt hinges.
- Use in pairs.

INSTRUCTION SCREW

Applicable Range

Torque	Model	Qty
13.7 - 19.5 N·m	K	1 pair
19.6 - 24.4 N·m	M	1 pair
24.5 - 29.4 N·m	H	1 pair

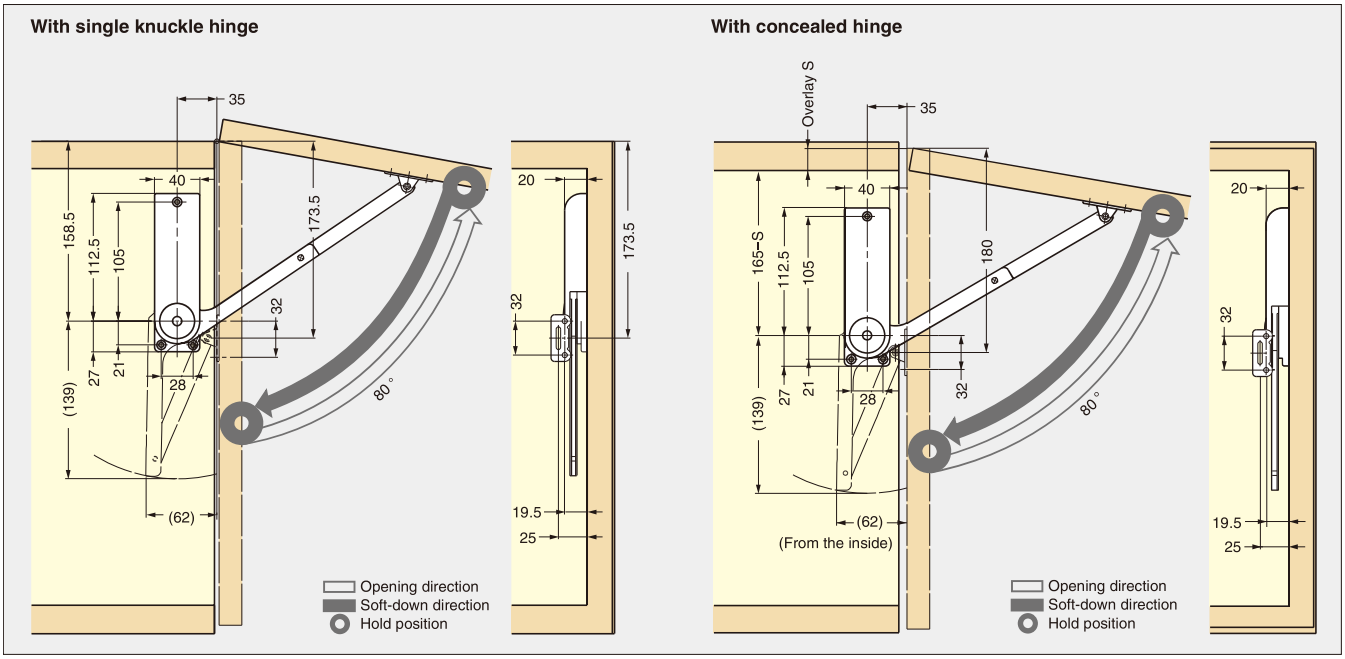
Parts Included

- Mounting plate
- Binding head tapping screw 3.5×15

Feature

Selection Tool
Damper Stay

Installation (Opening Angle 80˚)

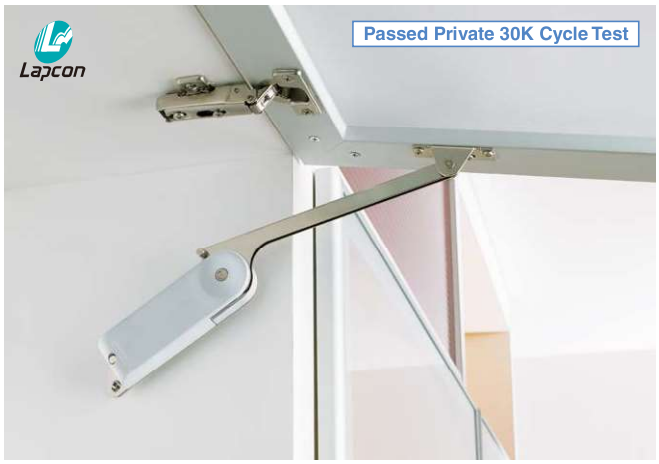


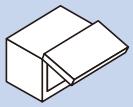
Item Code	Item Name	Type	Material	Finish/Colour	Model	Torque Moment/pair	Weight	Carton
180-104-079	HDS-30KL-BL	Left	ABS/Steel	Nickel/Black	K	13.7 - 19.5 N·m (140 - 199 kgf·cm)	276 g	40 pcs
180-104-078	HDS-30KR-BL	Right	ABS/Steel	Nickel/Black	K		276 g	40 pcs
180-109-271	HDS-30KL-WT	Left	ABS/Steel	Nickel/White	K		276 g	40 pcs
180-109-270	HDS-30KR-WT	Right	ABS/Steel	Nickel/White	K		276 g	40 pcs
180-104-081	HDS-30ML-BL	Left	ABS/Steel	Nickel/Black	M	19.6 - 24.4 N·m (200 - 249 kgf·cm)	294 g	40 pcs
180-104-080	HDS-30MR-BL	Right	ABS/Steel	Nickel/Black	M		294 g	40 pcs
180-109-273	HDS-30ML-WT	Left	ABS/Steel	Nickel/White	M		294 g	40 pcs
180-109-272	HDS-30MR-WT	Right	ABS/Steel	Nickel/White	M		294 g	40 pcs
180-104-083	HDS-30HL-BL	Left	ABS/Steel	Nickel/Black	H	24.5 - 29.4 N·m (250 - 300 kgf·cm)	300 g	40 pcs
180-104-082	HDS-30HR-BL	Right	ABS/Steel	Nickel/Black	H		300 g	40 pcs
180-109-275	HDS-30HL-WT	Left	ABS/Steel	Nickel/White	H		300 g	40 pcs
180-109-274	HDS-30HR-WT	Right	ABS/Steel	Nickel/White	H		300 g	40 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. HEAVY DUTY SOFT-DOWN STAY HDSN-30

Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN With Catch CLOSE Soft-down With Catch	Wood	13.7~34.3 N·m/2pcs

- For upward-opening flap doors.
- Built in damper causes flap doors to close gently and prevents slamming.
- Built in catch to hold flap when fully opened and when fully closed.
- Efficiently uses spaces: enough space left to install shelves.
- Snap-in installation to mounting plate.
- Mounting plate option for aluminium frame installation (sold separately).
- Can also be used with single axis hinges like concealed, piano or butt hinges.
- Use in pairs.

INSTRUCTION SCREW

Applicable Range

Torque		Model	Qty
Opening Angle 90˚	Opening Angle 80˚		
13.7 - 17.5 N·m	13.7 - 19.5 N·m	K	1 pair
17.6 - 21.5 N·m	19.6 - 24.4 N·m	M	1 pair
21.6 - 25.4 N·m	24.5 - 29.3 N·m	H	1 pair
25.5 - 29.4 N·m	29.4 - 34.3 N·m	S	1 pair

Parts Included

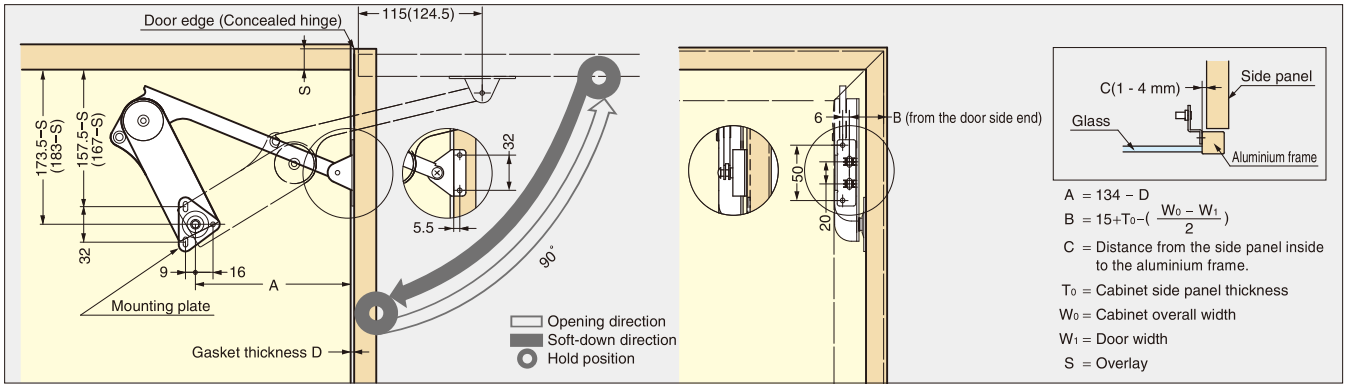
- Mounting plate
- Binding head tapping screw 3.5×15

Feature Selection Tool Damper Stay

Sold Separately

- Arm mounting plate HDSN-SZ (below)
- Arm mounting plate HDSN-AZ for 20 mm aluminium frame (below)

Installation with HDSN-SZ (Opening Angle 90˚)

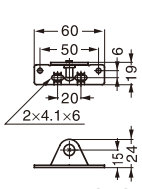


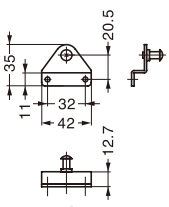
Item Code	Item Name	Type	Material	Finish/Colour	Model	Torque Moment/pair		Weight	Carton
						Opening Angle 90˚	Opening Angle 80˚		
180-109-601	HDSN-30KL	Left	ABS/Steel	Nickel/Light Grey	K	13.7 - 17.5 N·m (140 - 179 kgf·cm)	13.7 - 19.5 N·m (140 - 199 kgf·cm)	366 g	40 pcs
180-109-602	HDSN-30KR	Right	ABS/Steel	Nickel/Light Grey	K			366 g	40 pcs
180-109-603	HDSN-30ML	Left	ABS/Steel	Nickel/Light Grey	M	17.6 - 21.5 N·m (180 - 219 kgf·cm)	19.6 - 24.4 N·m (200 - 249 kgf·cm)	415 g	40 pcs
180-109-604	HDSN-30MR	Right	ABS/Steel	Nickel/Light Grey	M			415 g	40 pcs
180-109-605	HDSN-30HL	Left	ABS/Steel	Nickel/Light Grey	H	21.6 - 25.4 N·m (220 - 259 kgf·cm)	24.5 - 29.3 N·m (250 - 299 kgf·cm)	415 g	40 pcs
180-109-606	HDSN-30HR	Right	ABS/Steel	Nickel/Light Grey	H			415 g	40 pcs
180-109-607	HDSN-30SL	Left	ABS/Steel	Nickel/Light Grey	S	25.5 - 29.4 N·m (260 - 300 kgf·cm)	29.4 - 34.3 N·m (300 - 350 kgf·cm)	415 g	40 pcs
180-109-608	HDSN-30SR	Right	ABS/Steel	Nickel/Light Grey	S			415 g	40 pcs

LAMP. ARM MOUNTING PLATE FOR HDSN HDSN-SZ, HDSN-AZ

Latest Info







Parts Included

- Binding head tapping screw 3.5×15 (for HDSN-SZ)

Recommended Screw

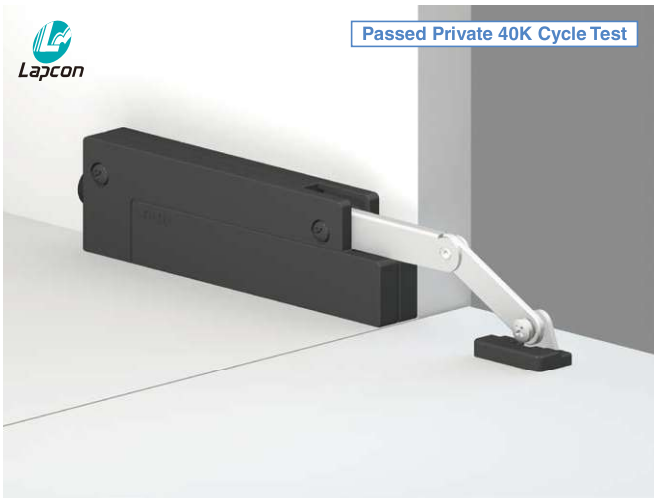
- M4 Screw (HDSN-AZ)

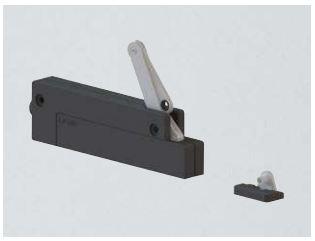
Item Code	Item Name	Application	Included Screw	Material	Finish	Weight	Box
180-109-609	HDSN-SZ	For Wood Door/Aluminium Frame more than 45 mm	Yes	Steel	Nickel	24 g	120 pcs
180-109-610	HDSN-AZ	For 20 mm width Aluminium Frame	No	Steel	Nicke	25 g	120 pcs

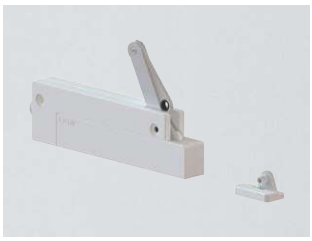
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

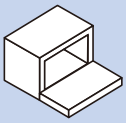
LAMP COMPACT SOFT-DOWN STAY CSD-10-TV

Latest Info




Black


White

Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN Soft-open (Soft-down/Adjustable) CLOSE With Catch	Wood Glass	1~4 N·m/pc

- Soft-down stay for downward-opening flap doors. Works well with short flap doors.
- Simply installation by just aligning the stay with the sides and fastening with screws. (For single axis hinges and drop hinges)
- Template makes installing the mounting plate easy.
- When closing the flap, the damper provides no resistance and also has a lift assist function for easy lifting and operation (Type M and H only)
- Non handed.
- Placed at the bottom of interior of the cabinet, significantly reducing dead space.
- By using the cover, both the body and the mounting plate will have the same color.

INSTRUCTION SCREW

Parts Included

- Mounting plate and cover
- Binding head tapping screw 3.5×30 (for main body)
- Binding head tapping screw 3.5×15 (for mounting plate)

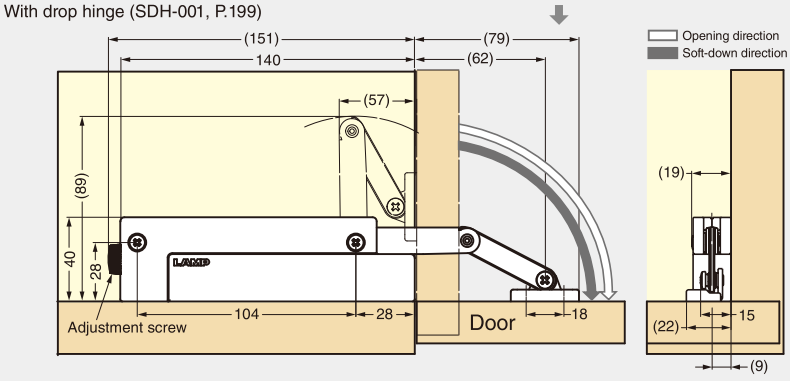
Sold Separately

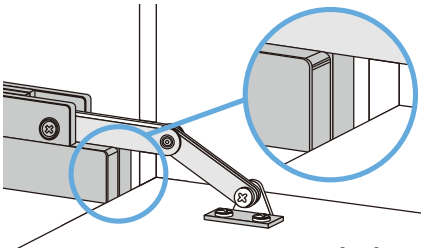
- Butt hinge
- Drop hinge SDH-P, SDH-001
- Drop hinge for glass door SDH-G
- Face plate for glass door SDH-FP, SDS-50G
- Mounting plate for glass door NSDX-GZ

Feature Selection Tool
Damper Stay

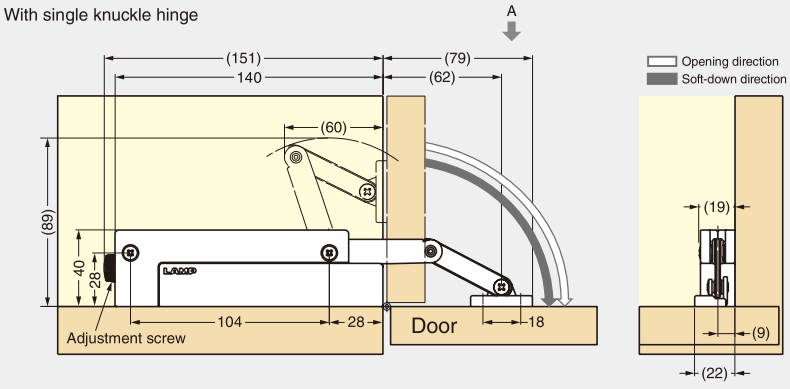
Installation

With drop hinge (SDH-001, P.199)



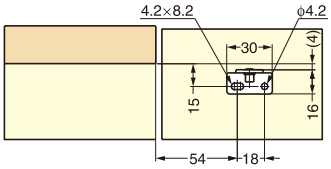

*Cannot be installed with concealed hinges

With single knuckle hinge

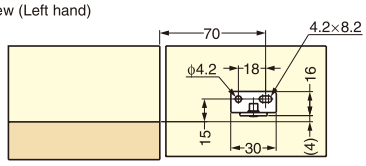


Installation of Mounting Plate

A-view (Right hand)



A-view (Left hand)



Item Code	Item Name	Material	Finish/Colour	Torque Moment/piece	Weight	Box	Carton
180-033-207	CSD-10-TV-L-WT	ABS/Steel	Nickel/White	1.0 - 2.0 N·m (10.2 - 20.4 kgf·cm)	125 g	10 pcs	100 pcs
180-033-208	CSD-10-TV-L-BL	ABS/Steel	Nickel/Black		125 g	10 pcs	100 pcs
180-033-209	CSD-10-TV-M-WT	ABS/Steel	Nickel/White	2.0 - 3.0 N·m (20.4 - 30.6 kgf·cm)	130 g	10 pcs	100 pcs
180-033-210	CSD-10-TV-M-BL	ABS/Steel	Nickel/Black		130 g	10 pcs	100 pcs
180-033-211	CSD-10-TV-H-WT	ABS/Steel	Nickel/White	3.0 - 4.0 N·m (30.6 - 40.8 kgf·cm)	130 g	10 pcs	100 pcs
180-033-212	CSD-10-TV-H-BL	ABS/Steel	Nickel/Black		130 g	10 pcs	100 pcs

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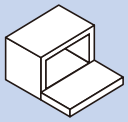
LAMP SHORT ARM SOFT-DOWN STAY SDS-100-TV, SDS-C100-TV

Latest Info







Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN Soft-down CLOSE With Catch or None	Wood Glass	0.49~3.68 N·m/pc

- For downward-opening flap doors. Works well with short flap doors.
- Built-in damper causes flap to open gently near fully open radius.
- Non-handed.
- SDS-C100-TV has a built-in catch to hold the door in a closed position.
- SDS-100-TV does not have a catch and needs to have one installed separately.

INSTRUCTION | SCREW

Torque

- With 1 stay
  Torque = 0.49 - 1.18 N·m (5 - 12 kgf·cm) : TV type
  1.62 - 3.68 N·m (16.5 - 37.6 kgf·cm) : TVZ type
- With 2 stays, the torque will be doubled.

Parts Included

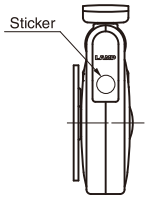
- Mounting plate SDS-A
- Countersunk head tapping screw 3.5 × 14

Sold Separately

- Face plate for glass doors SDS-50G (P.276)

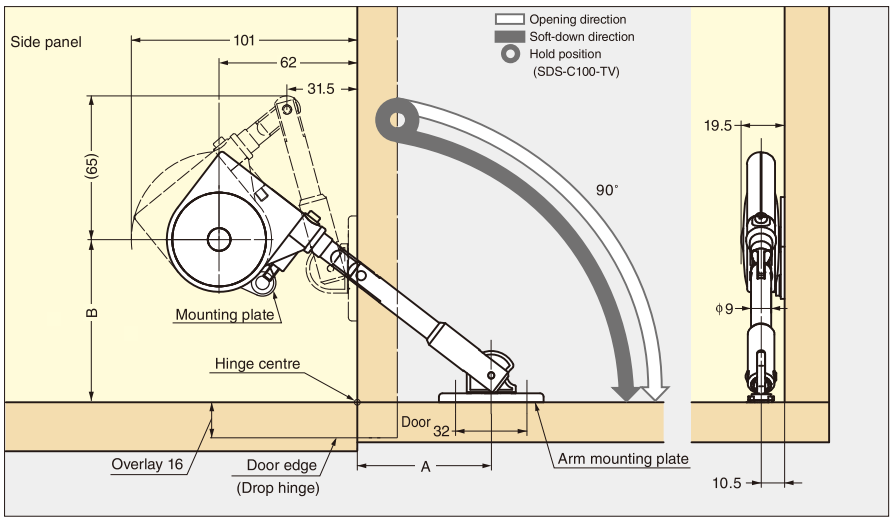
Feature Feature

Selection Tool
Damper Stay

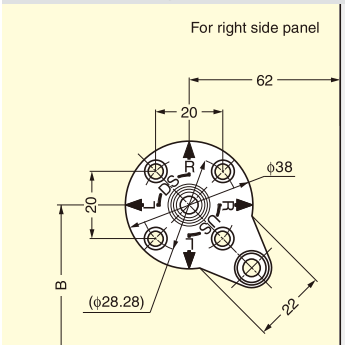


The TVZ model comes with a sticker that shows the model difference.

Installation (Opening Angle 90˚)



Mounting Plate SDS-A



Hinge Type	A	B
Single Knuckle Hinge	60	73
Drop Hinge (SDH-001)	65*1	62
Drop Hinge (SDH-P)	66*2	60

*1: In case overlay 16 mm
*2: In case overlay 19 mm

Body

Item Code	Item Name	Type	Colour	Torque Moment/piece	Weight	Box	Carton
180-100-258	SDS-100W-TV	Without Catch	White	0.49 - 1.18 N·m (5 - 12 kgf·cm)	145 g	20 pcs	100 pcs
180-100-259	SDS-100B-TV	Without Catch	Black		145 g	20 pcs	100 pcs
180-100-006	SDS-C100W-TV	With Catch	White		154 g	20 pcs	100 pcs
180-109-263	SDS-C100B-TV	With Catch	Black		154 g	20 pcs	100 pcs
180-014-181	SDS-100W-TVZ	Without Catch	White	1.62 - 3.68 N·m (16.5 - 37.6 kgf·cm)	147 g	20 pcs	100 pcs
180-014-182	SDS-100B-TVZ	Without Catch	Black		147 g	20 pcs	100 pcs
180-014-183	SDS-C100W-TVZ	With Catch	White		154 g	20 pcs	100 pcs
180-014-184	SDS-C100B-TVZ	With Catch	Black		154 g	20 pcs	100 pcs

SDS Face Plate (Sold Separately)

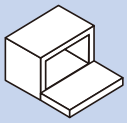
Item Code	Item Name	Material	Finish/Colour	Weight	Box	Carton
180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	25 g	50 pcs	200 pcs
180-928-046	SDS-50G-BL	Zinc Alloy (ZDC)/ABS	Black/Black	25 g	50 pcs	200 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

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

Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN Soft-down (Adjustable) CLOSE With Catch	Wood Glass	0.98~1.96 N·m/pc

- Soft-down stay for downward-opening flap doors. Works well with short flap doors.
- Can also be used with piano, butt, or drop hinges.
- Built-in catch holds flap in closed position.
- Opening speed adjustable.

INSTRUCTION SCREW

Torque

- With 1 stay
  Torque = 0.98 - 1.96 N·m (10 - 20 kgf·cm)
- With 2 stays, the torque will be doubled.

Parts Included

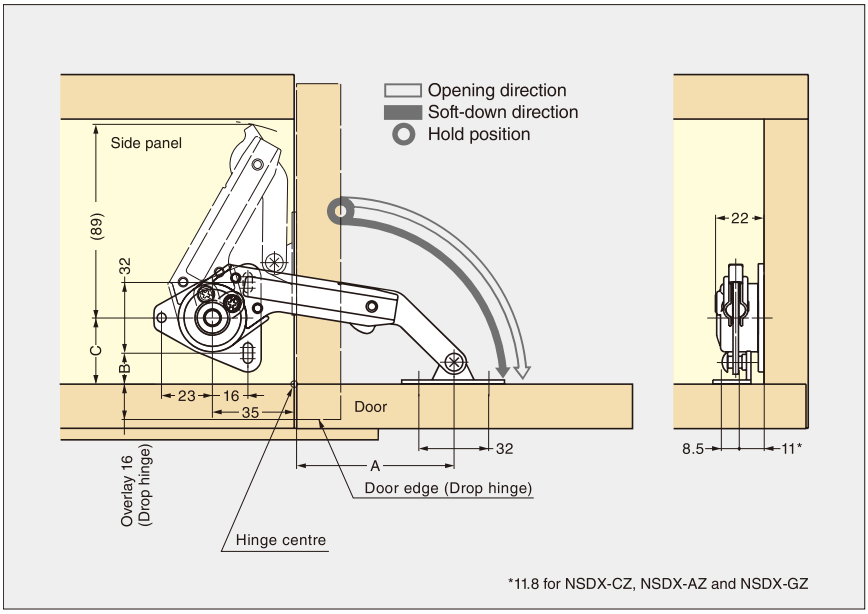
- Mounting plate NSDX-SZ
- Binding head tapping screw 3.5×15

Optional Parts

- Mounting plate NSDX-CZ (P.276)
- Mounting plate NSDX-AZ for 20 mm aluminium frame (P.276)
- Mounting plate NSDX-GZ for glass door (P.276)
- SDS-50G for glass door (P.276)

Feature Feature Selection Tool
Damper Stay

Installation (Opening Angle 90˚)

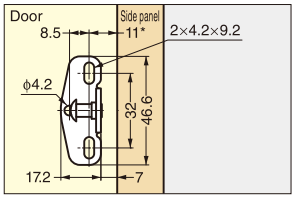


*11.8 for NSDX-CZ, NSDX-AZ and NSDX-GZ

Hinge Type	A	B	C
Drop Hinge (SDH-001)	74˚	14	30
Single Knuckle Hinge	71	27	43

- *In case overlay 16 mm.

Installation for Mounting Plate



Body

Item Code	Item Name	L/R	Material	Finish	Torque Moment /piece	Catch Function		Weight	Box	Carton
						Closed Position	Opened Position			
180-016-425	NSDX-10RK-TV	Right	Zinc Alloy (ZDC), Steel	Nickel	0.98 - 1.96 N·m (10 - 20 kgf·cm)	○	×	143 g	20 pcs	80 pcs
180-016-424	NSDX-10LK-TV	Left	Zinc Alloy (ZDC), Steel	Nickel		○	×	143 g	20 pcs	80 pcs

Mounting Plate (Optional Parts)

Item Code	Item Name	Type
180-109-460	NSDX-CZ	Clip-on
180-109-019	NSDX-AZ	Clip-on for 20 mm width Alumi Frame
180-109-459	NSDX-GZ	Clip-on for Glass Door

SDS Face Plate (Optional Parts)

*Please use with NSDX-GZ mounting plate.

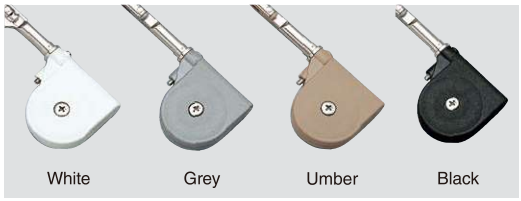
Item Code	Item Name	Material	Finish/Colour	Weight	Box	Carton
180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	25 g	50 pcs	200 pcs
180-928-046	SDS-50G-BL	Zinc Alloy (ZDC)/ABS	Black	25 g	50 pcs	200 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

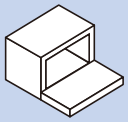
LAMP SOFT-DOWN STAY SDS-100, SDS-C100

Latest Info







Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN Soft-down CLOSE With Catch or None	Wood Glass	3.43~4.9 N·m/pc

- For downward-opening flap doors.
- Built-in damper causes flap to open gently near fully open radius.
- Non-handed.
- SDS-C100 has a built-in catch to hold the door in a closed position.
- SDS-100 does not have a catch and needs to have one installed separately.

INSTRUCTION | SCREW

Torque

- With 1 stay
  Torque = 3.43 - 4.9 N·m (35 - 50 kgf·cm)
- With 2 stays, the torque will be doubled.

Parts Included

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

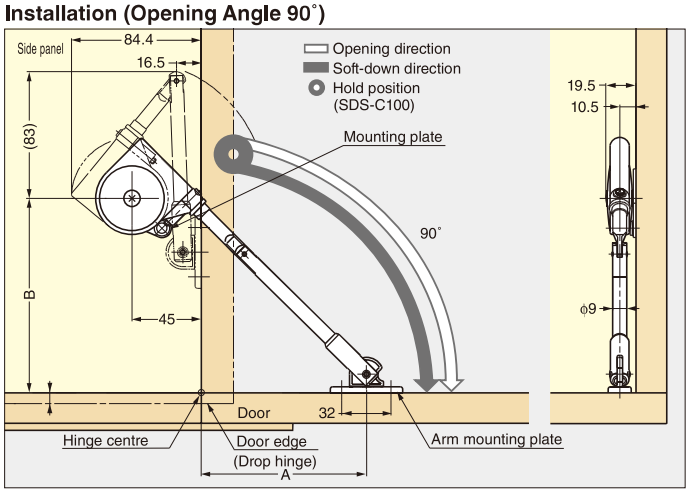
Sold Separately

- Face plate for glass doors SDS-50G (P.276)

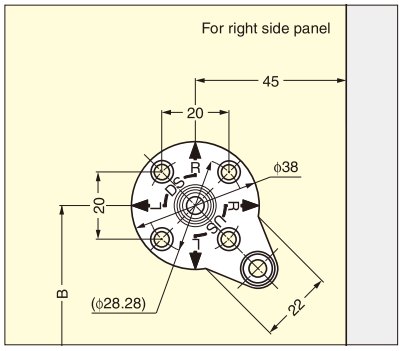
Feature | Selection Tool

Damper Stay

Installation (Opening Angle 90˚)



Mounting Plate SDS-A



Hinge Type	Arm Mounting Plate Position	Mounting Plate Position
	A	B
Single Knuckle Hinge	100	135
Drop Hinge (SDH-001)	107*	126

*In case overlay 16 mm

Body

Item Code	Item Name	Type	Material	Finish/Colour	Torque Moment/piece	Weight	Box	Carton
180-100-261	SDS-100W	Without Catch	ABS/Steel	Nickel/White	3.43 - 4.9 N·m (35 - 50 kgf·cm)	167 g	20 pcs	100 pcs
*1 180-014-892	SDS-C100-W	With Catch	ABS/Steel	Nickel/White		167 g	20 pcs	100 pcs
180-100-262	SDS-100G	Without Catch	ABS/Steel	Nickel/Grey		167 g	20 pcs	100 pcs
180-100-266	SDS-C100-G	With Catch	ABS/Steel	Nickel/Grey		167 g	20 pcs	100 pcs
180-100-263	SDS-100U	Without Catch	ABS/Steel	Nickel/Umber		167 g	20 pcs	100 pcs
180-100-267	SDS-C100-U	With Catch	ABS/Steel	Nickel/Umber		167 g	20 pcs	100 pcs
180-027-278	SDS-100-B	Without Catch	ABS/Steel	Nickel/Black		167 g	20 pcs	100 pcs
*2 180-014-891	SDS-C100-B	With Catch	ABS/Steel	Nickel/Black		167 g	20 pcs	100 pcs

*1 Item Code has been revised. (Old item code : 180-100-265)
*2 Item Code has been revised. (Old item code : 180-100-264)

SDS Face Plate (Sold Separately)

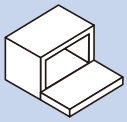
Item Code	Item Name	Material	Finish/Colour	Weight	Box	Carton
180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome/Black	25 g	50 pcs	200 pcs
180-928-046	SDS-50G-BL	Zinc Alloy (ZDC)/ABS	Black/Black	25 g	50 pcs	200 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

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

Latest Info



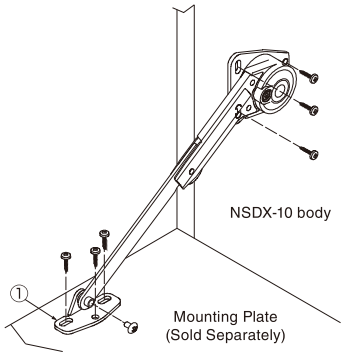
Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN Soft-down (Adjustable) CLOSE With Catch	Wood Glass	1.96~6.86 N·m/pc (20~70 kgf·cm/pc)

- For downward-opening flap doors.
- Can also be used with piano, butt, or drop hinges.
- Built-in catch holds flap in closed position.
- Opening speed adjustable.

Torque

- With 1 stay
  Torque = 1.96 - 6.86 N·m (20 - 70 kgf·cm)
- With 2 stays, the torque will be doubled.

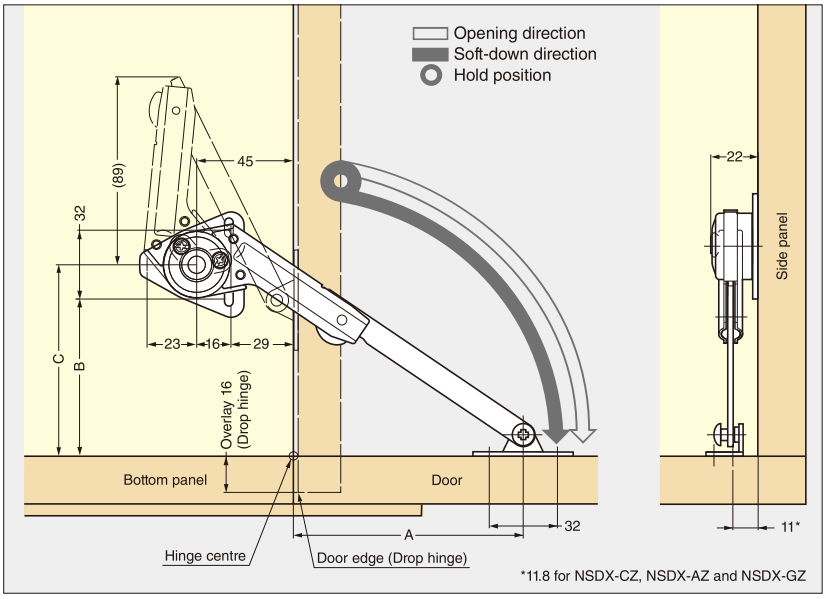




Sold Separately

①Mounting plate NSDX-SZ (below)
②Mounting plate NSDX-CZ (P.276)
③Mounting plate NSDX-AZ for 20 mm aluminium frame (P.276)
④Mounting plate NSDX-GZ for glass door (P.276)
⑤SDS-50G for glass door (P.276)

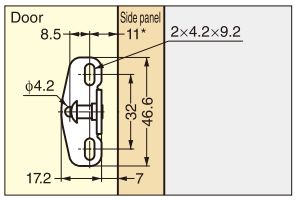
Installation (Opening Angle 90˚)



Hinge Type	A	B	C
Drop Hinge (SDH-001)	97*1	91	107
Drop Hinge (SDH-P)	98*2	88	104
Single Knuckle Hinge	90	99	115

- *1:In case overlay 16 mm.
- *2:In case overlay 19 mm.

Installation for Mounting Plate



Body

Item Code	Item Name	L/R	Material	Finish	Torque Moment /piece	Catch Function		Weight	Box	Carton
						Opened Position	Closed Position			
180-109-008	NSDX-10R	Right	Zinc Alloy (ZDC), Steel	Nickel	1.96 - 6.86 N·m (20 - 70 kgf·cm)	×	○	181 g	20 pcs	80 pcs
180-109-009	NSDX-10L	Left	Zinc Alloy (ZDC), Steel	Nickel		×	○	181 g	20 pcs	80 pcs

Mounting Plate (Sold Separately)

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

SDS Face Plate (Sold Separately)

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

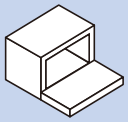
*Please use with NSDX-GZ mounting plate.

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. HEAVY DUTY SOFT-DOWN STAY HDS-10

Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN Soft-down CLOSE With Catch	Wood	13.7~29.4 N·m/2pcs

- For downward-opening flap doors.
- Built in damper slows down near 90° opening radius to prevent slamming.
- Built in catch holds flap in closed position.
- Can be used with concealed, piano, or butt hinges.
- Use in pairs.

INSTRUCTION SCREW

Applicable Range

Torque	Model	Qty
13.7 - 19.5 N·m	K	1 pair
19.6 - 24.4 N·m	M	1 pair
24.5 - 29.4 N·m	H	1 pair

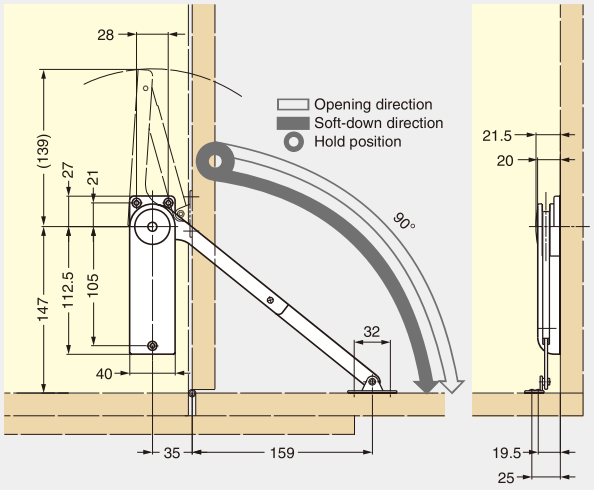
Parts Included

- Mounting plate
- Binding head tapping screw 3.5×15

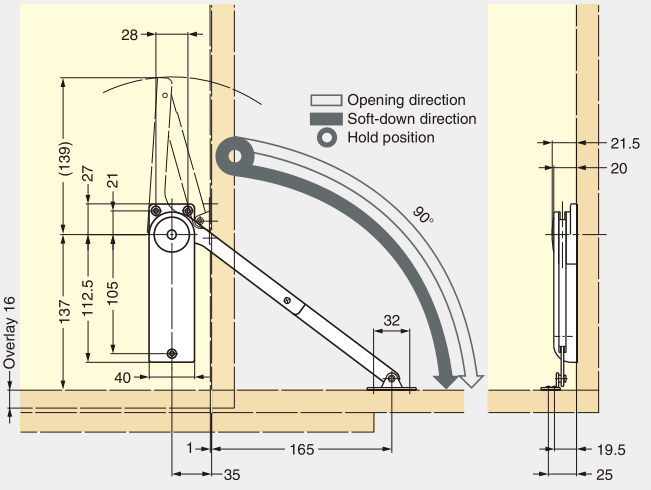
Feature Selection Tool
Damper Stay

Installation (Opening Angle 90°)

With single knuckle hinge



With drop hinge



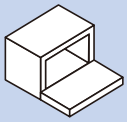
Item Code	Item Name	Type	Material	Finish/Colour	Model	Torque Moment/pair	Weight	Carton
180-104-067	HDS-10KL-BL	Left	ABS/Steel	Nickel/Black	K	13.7 - 19.5 N·m (140 - 199 kgf·cm)	292 g	40 pcs
180-104-066	HDS-10KR-BL	Right	ABS/Steel	Nickel/Black	K		292 g	40 pcs
180-104-073	HDS-10KL-WT	Left	ABS/Steel	Nickel/White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

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP SELF-CLOSE STAY HDS-10S

Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN With Catch CLOSE Self & Soft-close With Catch	Wood	5.9~17.6 N·m/2pc

- For downward opening flap doors.
- Self closes if given a small push in opened position.
- Equipped with damper to close gently and prevent slamming.
- Built in catch to hold flap when fully opened and when fully closed. Flap will not lift up during installation.
- Use in pairs.

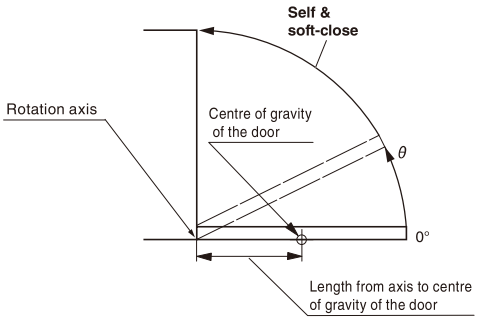
INSTRUCTION SCREW

Feature Feature

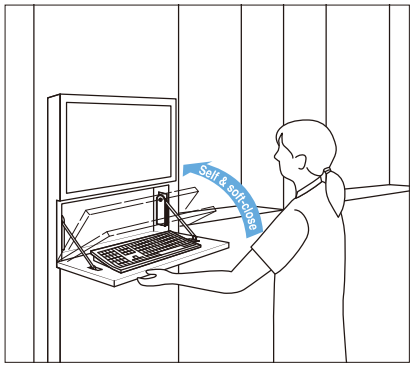
Parts Included
- Mounting plate
- Binding head tapping screw 3.5×15

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

Self & Soft-close Starting Angle

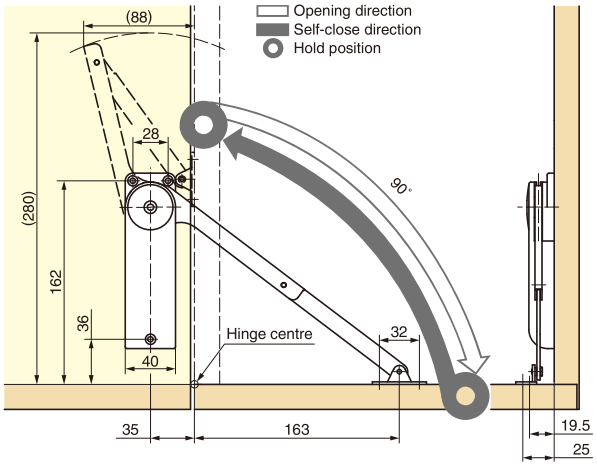


Application Example

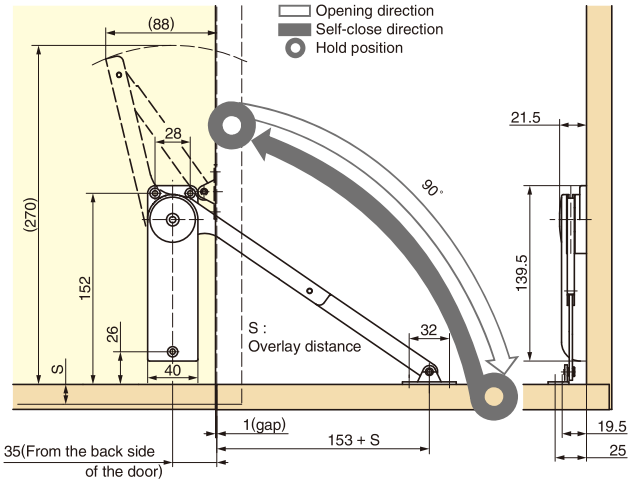


Installation

With Piano-Butt Hinge



With Drop Hinge (SDH-001)



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

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP SOFT-DOWN STAY SDS-400-W

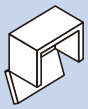
Latest Info



Right side installation shown. (SDS-400-W)


White


Mounting plate SDS-B

Opening Direction	Features	Door Material	Maximum Door Moment
	OPEN Soft-down CLOSE With Catch	Wood Glass	3.43~4.9 N·m/pc (35~50 kgf·cm/pc)

- For bottom-opening doors.
- Suitable for glove box, etc.
- Non-handed: Can be installed either on left or right side.
- Piano/butt hinge is suitable.
- When using hinges other than specified, please contact local representatives.

INSTRUCTION | SCREW

Feature

Specifications
- Operating temperature: 0°C~40°C

Remarks
- Be sure to read the “Cautions” (P.241).
- Customer should provide a catch to hold the door in fully closed position.
- Do not push the door down more than opening angle 70°. Also do not forcibly push the door up when closing.

Parts Included
- Mounting plate SDS-B
- Countersunk head tapping screw 3.5×14

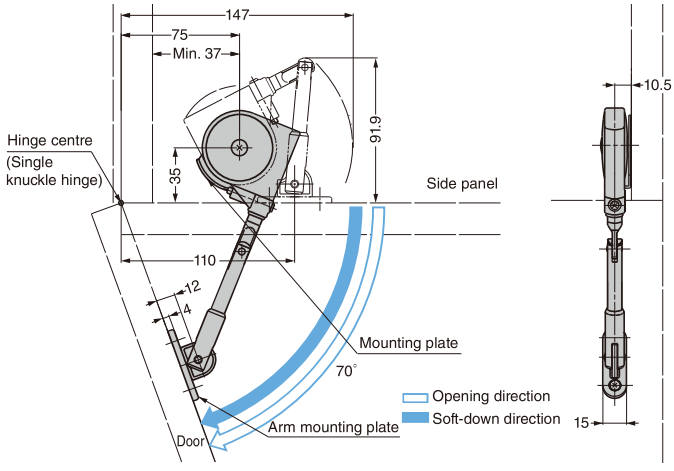
Sold Separately
- SDS face plate and spacer for glass door (P.276)

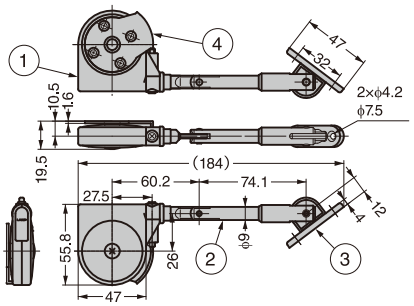
Selection Tool
Damper Stay

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

Installation **Right side installation for bottom-opening 70°. Left side installation is symmetrical.**

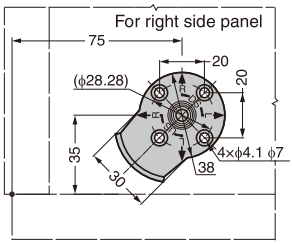
Comes down slowly and softly in opening direction.Installation with piano/butt hinge shown below.





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

Installation for Mounting Plate



(SDS-400 is marked with DS.)
For right side panel, install with the “→” mark of R at DS side directly upwards.
For left side panel, install with the “→” mark of L at DS side directly upwards.

Body

Item Code	Item Name	Material	Finish/Colour	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
180-100-286	SDS-400-W	ABS/Steel	Nickel/White	3.43~4.9	35~50	146	20	100

Mounting Plate Sold Separately (P.276)

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

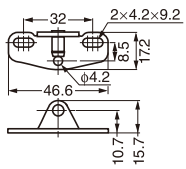
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

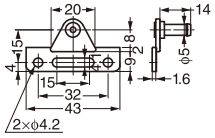
LAMP. MOUNTING PLATE FOR NSDX NSDX-CZ, NSDX-AZ, NSDX-GZ

Latest Info

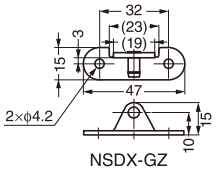




NSDX-CZ



NSDX-AZ

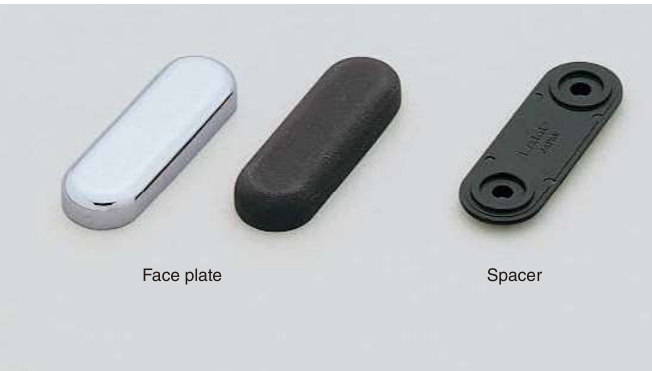


NSDX-GZ

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

LAMP. FACE PLATE FOR GLASS DOOR SDS-50G

Latest Info



- Can be used with SDS or NSDX-GZ.

SCREW

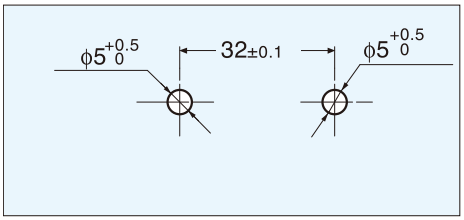
Specification
- Glass Thickness: 4~5mm

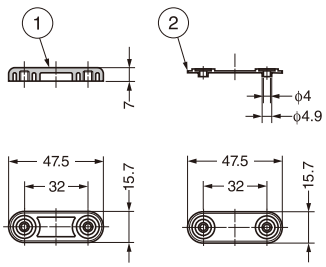
Parts Included
- Countersunk head screw M4×14

Remarks
- Consider using tempered glass depending on the glass size and application.

No.	Part Name	Material	Finish/Colour	Carton
①	Face Plate	Zinc Alloy (ZDC)	Chrome (CR), Black (BL)	1 pc
②	Spacer	ABS	Black	2 pcs

Cut Out Dimensions





Item Code	Item Name	Weight	Box	Carton
180-100-260	SDS-50G-CR	25 g	50 pcs	200 pcs
180-928-046	SDS-50G-BL	25 g	50 pcs	200 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

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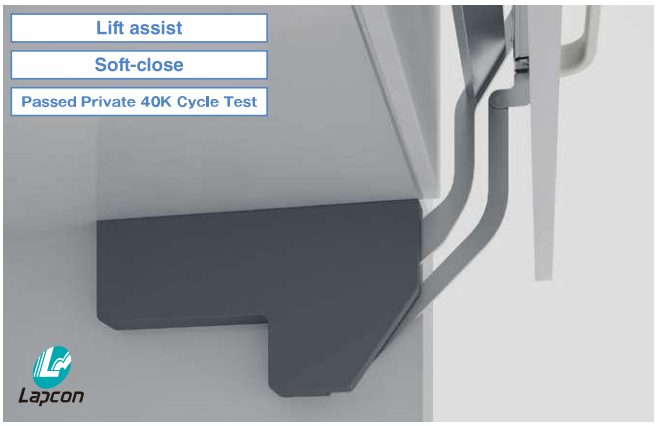
sugatsune global Search

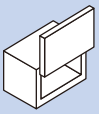
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- Installation Instructions
- New Product Information
- CAD Data (2D, 3D)
- Customer Solution Case Studies
- Product Videos
- Hardware Basics
- Selection Tools

LAMP SWING LIFT UP SLUL NEW

Latest Info



Opening Direction	Features	Door Material	Door Weight
	OPEN Lift Assist CLOSE Soft-Close	Wood	5~11 kg (Per 1 set)

- For upward-opening flap doors.
- Soft close feature slows down closing speed and prevents slamming.
- After pulling the flap forward 120 - 150mm, a spring will help gently lift the flap.
- When installing, easily position the SLUL by aligning its front with the edge of the side panel.
- The Lift Assist strength can be adjusted to accommodate varying door weights.
- Post-installation, the door can be minutely adjusted vertically, horizontally, and angularly to correct small mounting position inaccuracies.

INSTRUCTION SCREW

Body



Body Cover (Sold separately)



Specifications

- Operating temperature: 0°C-40°C.

Parts Included

- Cross Recessed Countersunk Tapping Screw 3.5x45 (For Body Mounting)
- Bind head tapping screw 3.5x15 (for mounting plate attachment)

Sold Separately

- Body Cover SLUL-C
- Connecting Bar SLUL-B

Remarks

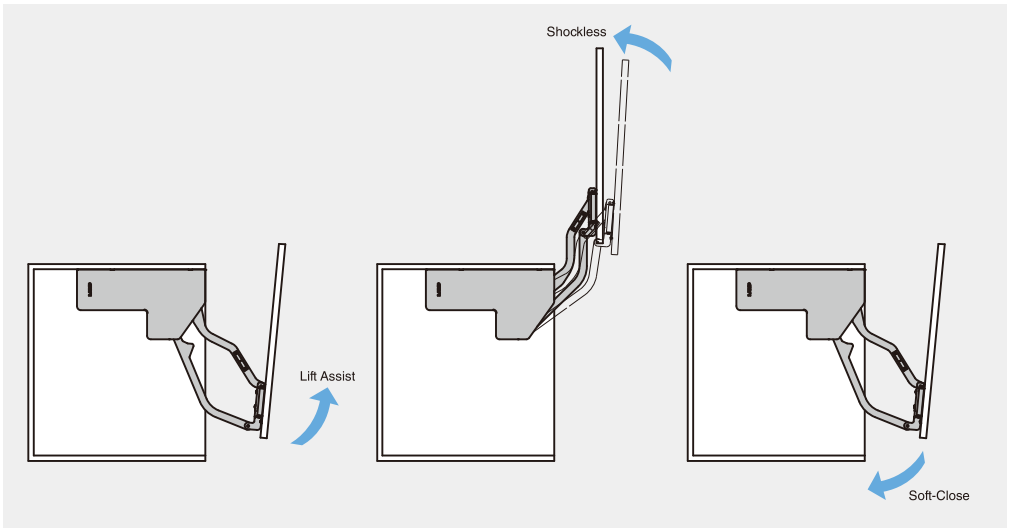
- Be sure to read the cautions (P.241).
- 1 connecting bar SLUL-B is necessary for 1 set of SLUL.
- Attach the handle (sold separately) at the centre of the door's width for optimal placement. Install it within 700mm from the top edge of the door to ensure convenient opening.

Application Example



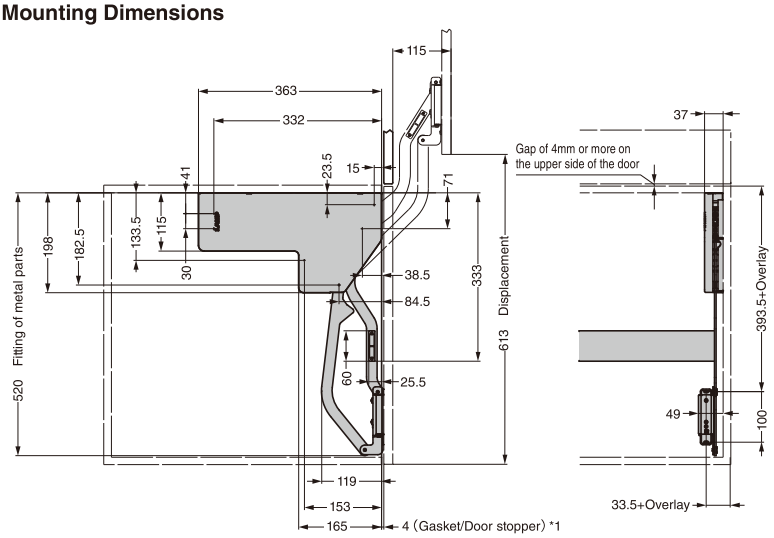
Use in combination with SLDL (P.282).

Image of Movement



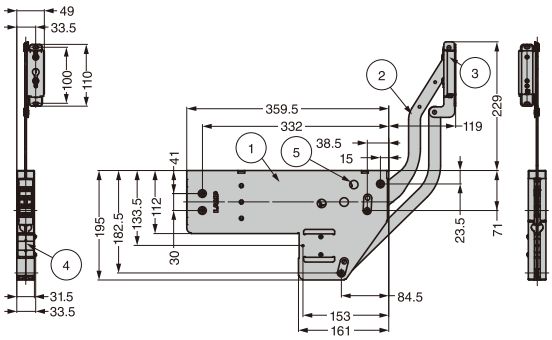
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

Mounting Dimensions



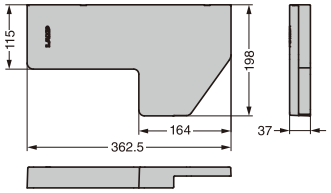
*1: If not using a gasket/door stopper, please shift the body 4 mm towards the back panel.
*2: The maximum door protrusion when opening and closing is approximately 343 mm.
*3: Ensure there is sufficient space above the cabinet for the door to open upward. The required space is calculated as follows: Required Space = 613 mm (door travel) + door height + 50 mm (safety clearance)

Body

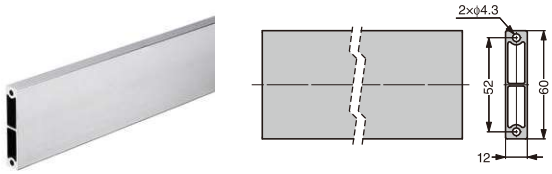


No.	Part Name	Material	Finish/Colour
①	Body	Steel (SPCC)	Nickel
②	Arm		
③	Mounting plate		
④	Damper Holder	Polyacetal (POM)	Natural
⑤	Adjustment Screw	Steel (SWRM)	Bright Chromate

Body Cover (Sold separately)



Connecting Bar (Sold separately)



- The Connecting Bar comes in three lengths, for door widths of 600mm, 750mm, and 900mm.
- Use the standard length Connecting Bar when the door overlay on the side panel is 15 mm. For door overlays exceeding 15 mm, cut the Connecting Bar to length using the calculation formula provided below.

Length of the Connecting Bar = Door width - (Overlay x 2) - 35
Or, please calculate as follows below.
Length of the Connecting Bar = Cabinet internal width - 35

[Parts Included]
- Truss Head Tapping Screw 4.5x16 (4 pieces) for Connecting Bar Fixation

Body

This product is sold as 1 set. The order quantity is "1", which includes one piece for the left side and one for the right side.

Item Code	Item Name	Main Material	Finish	Door Width	Door Height	Door Weight(kg)	Box (pcs)
180-054-943	SLUL-8	Steel	Nickel	Max. 900	550~900	5~ 8	1
180-054-944	SLUL-11					8~11	1

Body Cover (Sold separately)

This product is sold as 1 set. The order quantity is "1", which includes one piece for the right side.

Item Code	Item Name	Material	Colour
180-054-947	SLUL-C-WT	ABS	White
180-054-948	SLUL-C-DGR		Dark Grey

Connecting Bar (Sold separately)

Item Code	Item Name	Specifications	Material	Finish	Length
180-054-949	SLUL-B535	For Door Width 600	Aluminium Alloy	Anodised	535
180-054-950	SLUL-B685	For Door Width 750			685
180-054-951	SLUL-B835	For Door Width 900			835

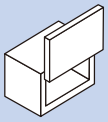
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP SWING LIFT-UP STAY SLU-ELAN

Latest Info





Opening Direction	Features	Door Material	Door Weight
	Lift-assist Free stop Soft-down	Wood	5~11 kg/set

- For upward-opening flap doors.
- Equipped with:
  -Lift assist (to make flap doors feel lighter)
  -Free stop (holds position at any angle with a certain range)
  -Soft-closing (slows down closing speed to prevent slamming near closing radius)
- Placed at the top of interior of the cabinet, significantly reducing dead space and not getting in the way when installing shelves.
- Easy alignment
- Fast and easy installation: Body is attached to mounting plate (on flap) by simply snapping it in.

INSTRUCTION SCREW

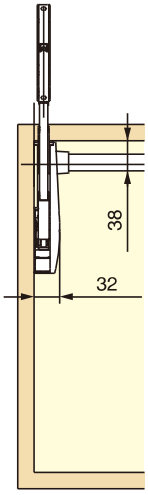
Parts Included

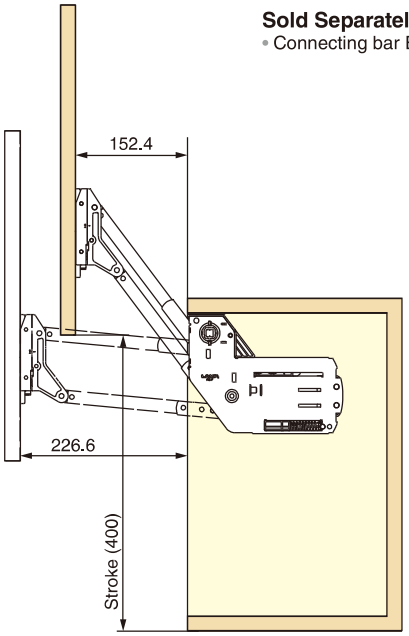
- Mounting plate for main body (2 pcs)
- Guide plate (2 pcs)
- Countersunk head tapping screw 3.5×38 for main body (6 pcs)
- Binding head tapping screw 3.5×15 for mounting plate (6 pcs)

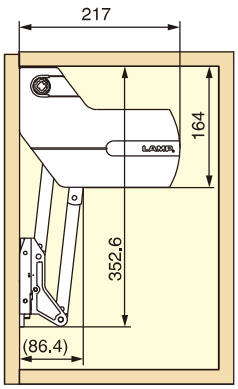
Sold Separately

- Connecting bar ELB (below)

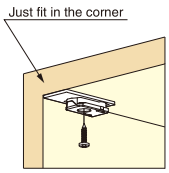
Feature



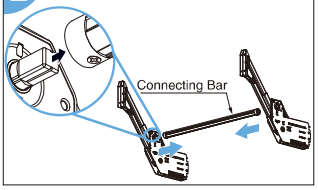




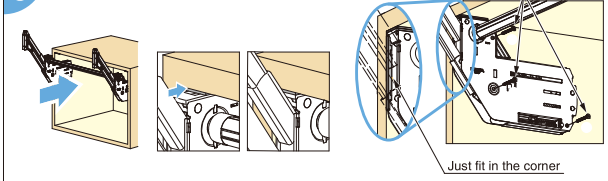
1 Guide plate installation



2 Installation preparation



3 Body installation



Item Code	Item Name	Door Width*1	Door Height*2	Door Weight	Material	Finish/Colour	Weight	Carton
180-022-312	SLU-ELAN-S4	Max. 1800	390 - 500	5.0- 6.5 kg	Steel, ABS	Anodized, Light Grey	3.0 kg	5 sets
180-022-313	SLU-ELAN-L4	Max. 1800	390 - 500	6.5- 8.0 kg	Steel, ABS	Anodized, Light Grey	3.0 kg	5 sets
180-022-314	SLU-ELAN-M4	Max. 1800	390 - 500	8.0- 9.5 kg	Steel, ABS	Anodized, Light Grey	3.1 kg	5 sets
180-022-315	SLU-ELAN-H4	Max. 1800	390 - 500	9.5-11.0 kg	Steel, ABS	Anodized, Light Grey	3.2 kg	5 sets

*1 Inside cabinet height is Min. 360 mm / *2 Door weight includes handle.

Connecting Bar (Sold Separately)

Item Code	Item Name	Cabinet Width	Cabinet Inside Width	Weight	Carton
180-022-319	ELB-480	600 mm	556- 566 mm	184 g	5 pcs
180-022-320	ELB-780	900 mm	856- 866 mm	298 g	5 pcs
180-022-321	ELB-1080	1200 mm	1156-1166 mm	411 g	5 pcs
180-022-322	ELB-1380	1500 mm	1456-1466 mm	526 g	5 pcs
180-026-323	ELB-1680	1800 mm	1756-1766 mm	650 g	5 pcs

*For other dimensions, the bar can be cut on site.

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

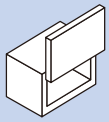
LAMP SWING LIFT-UP STAY SLUN-N

Latest Info





A combination of SLUN-N and SLD

Opening Direction	Features	Door Material	Door Weight
	OPEN Lift-assist CLOSE Soft-close	Wood	2.8~5.8 kg/set

- For upward-opening flap doors.
- After pulling the flap forward 50 - 70mm, a spring will help gently lift the flap.
- Soft close feature slows down closing speed and prevents slamming.
- Placed at the top of interior of the cabinet, significantly reducing dead space and not getting in the way when installing shelves.

INSTRUCTION SCREW

Remarks

- 1 connecting bar SLUB is necessary for 1 set of SLUN-N.
- Glass frame width should be more than 75 mm.

Parts Included

- Binding head tapping screw 3.5 × 15 for body
- Countersunk head tapping screw 3.5 × 20 for damper
- Truss head tapping screw 4.5 × 12 for connecting bar

Feature

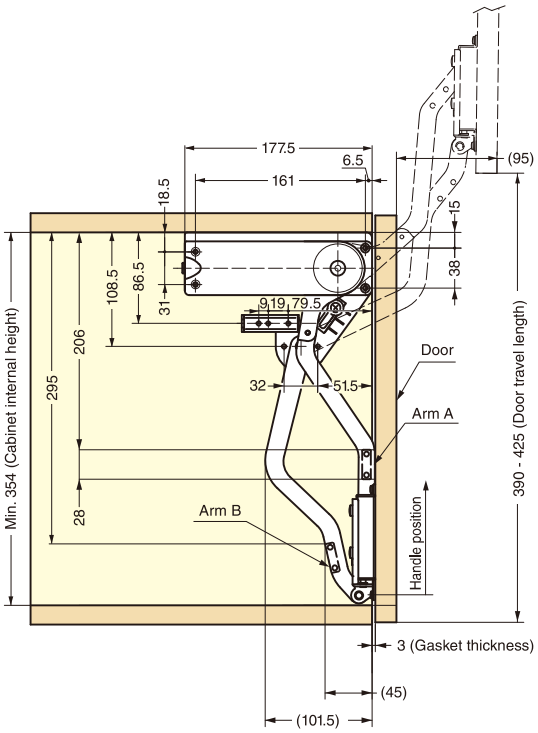
Sold Separately

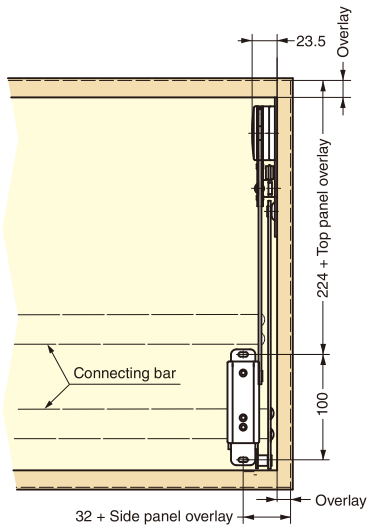
- Connecting bar SLUB

· 1pc/set
· 2pcs/set for horizontal reinforcement.

- If the side panel thickness is over 15 mm, the connecting bar should be cut according to the below formula.

Arm A: Connecting bar length = Overall cabinet width - (Side panel thickness ×2) - 35
Arm B: Connecting bar length = Overall cabinet width - (Side panel thickness ×2) - 19





Body (1 set)

Item Code	Item Name	Material	Finish/Colour	Door Width	Door Height	Door Weight	Weight	Carton
180-020-832	SLUN-3N	ABS/Steel	Chrome/Grey	600 - 900	390 - 450	2.8 - 3.8 kg	2.0 kg	5 sets
180-020-833	SLUN-4N	ABS/Steel	Chrome/Grey	600 - 900	390 - 450	3.8 - 4.8 kg	2.0 kg	5 sets
180-020-834	SLUN-5N	ABS/Steel	Chrome/Grey	600 - 900	390 - 450	4.8 - 5.8 kg	2.1 kg	5 sets

Connecting Bar (Sold Separately)

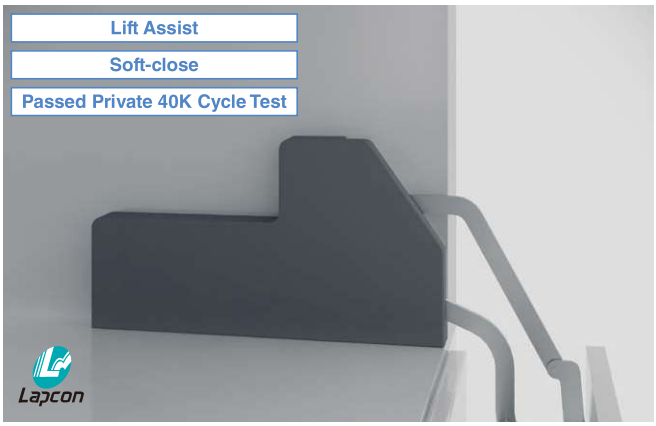
Item Code	Item Name	Applicable Door	Mounting Position	Cabinet Width*	Length	Weight	Carton
180-120-287	SLUB-535	Wooden Door	Arm A	600	535	191 g	10 pcs
180-104-088	SLUB-551	Glass Frame Door	Arm B	600	551	196 g	10 pcs
180-120-288	SLUB-835	Wooden Door	Arm A	900	835	308 g	10 pcs
180-100-131	SLUB-851	Glass Frame Door	Arm B	900	851	312 g	10 pcs

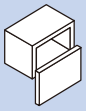
*The side panel thickness is 15 mm.

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. SWING LIFT DOWN SLDL NEW

Latest Info



Opening Direction	Features	Door Material	Door Weight
	OPEN Lift Assist CLOSE Soft-Close	Wood	3~6.5 kg (Per 1 set)

- For downward-opening flap doors.
- Unique swing down mechanism.
- Spring powered to make flap feel light and easy to close.
- Built in damper prevents slamming during closing.
- When installing, easily position the SLDL by aligning its front with the edge of the side panel.
- The Lift Assist strength can be adjusted to accommodate varying door weights.
- Post-installation, the door can be minutely adjusted vertically, horizontally, and angularly to correct small mounting position inaccuracies.

Body



Body Cover (Sold separately)



INSTRUCTION SCREW

Specifications
- Operating temperature: 0°C-40°C.

Parts Included
- Cross Recessed Countersunk Tapping Screw 3.5x45 (For Body Mounting)
- Bind head tapping screw 3.5x15 (for mounting plate attachment)

Sold Separately
- Body Cover SLUL-C
- Connecting Bar SLUL-B

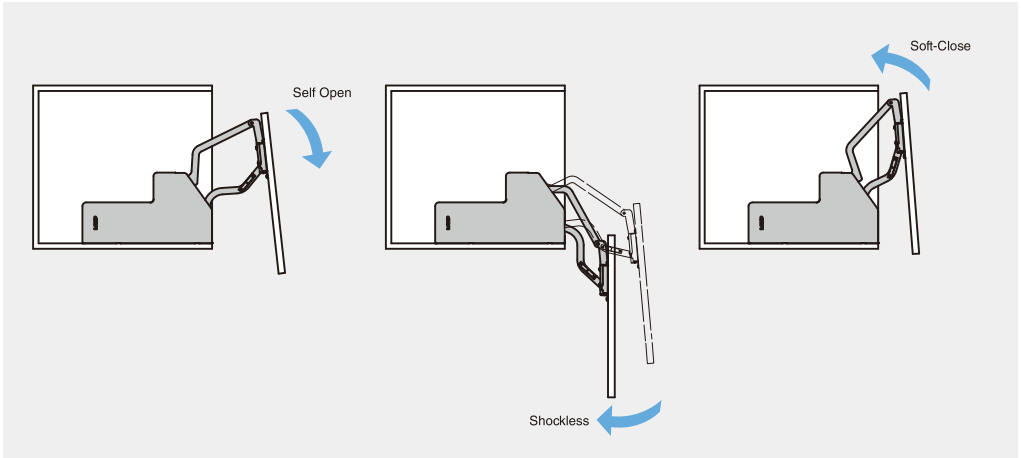
Remarks
- Be sure to read the cautions (P.241).
- 1 connecting bar SLUL-B is necessary for 1 set of SLDL.
- Attach the handle (sold separately) at the centre of the door's width for optimal placement.

Application Example



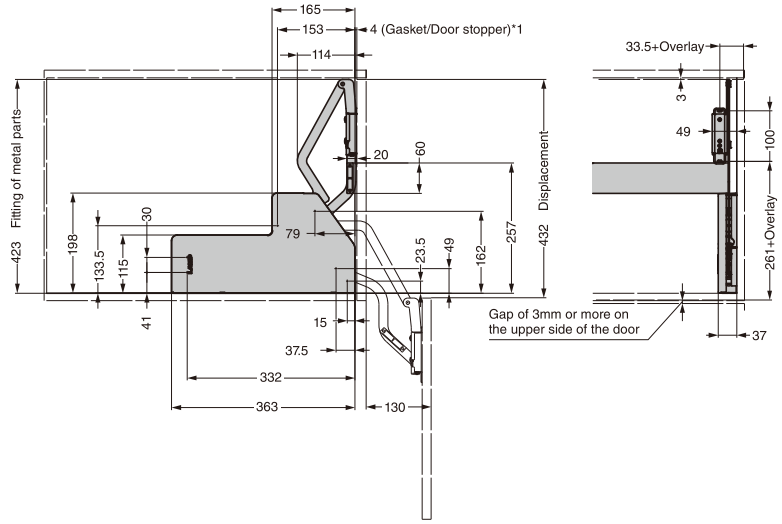
Use in combination with SLUL (P.278).

Image of Movement



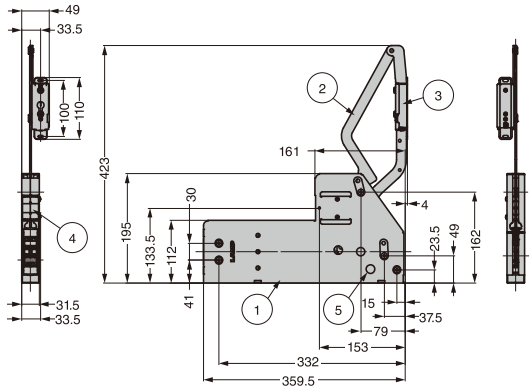
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Mounting Dimensions

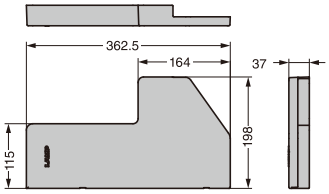


*1: If not using a gasket/door stopper, please shift the body 4 mm towards the back panel.
*2: The maximum door protrusion when opening and closing is approximately 250 mm.
*3: Ensure there is sufficient space above the cabinet for the door to open upward. The required space is calculated as follows: Required Space = 432 mm (door travel) + door height + 50 mm (safety clearance)

Body

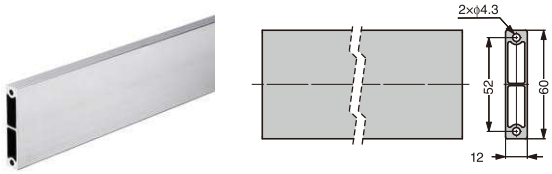


Body Cover (Sold separately)



No.	Part Name	Material	Finish/Colour
①	Body	Steel (SPCC)	Nickel
②	Arm		
③	Mounting plate		
④	Damper Holder	Polyacetal (POM)	Natural
⑤	Adjustment Screw	Steel (SWRM)	Bright Chromate

Connecting Bar (Sold separately)



- The Connecting Bar comes in three lengths, for door widths of 600mm, 750mm, and 900mm.
- Use the standard length Connecting Bar when the door overlay on the side panel is 15 mm. For door overlays exceeding 15 mm, cut the Connecting Bar to length using the calculation formula provided below.

Length of the Connecting Bar = Door width - (Overlay x 2) - 35
Or, please calculate as follows below.
Length of the Connecting Bar = Cabinet internal width - 35

[Parts Included]
- Truss Head Tapping Screw 4.5x16 (4 pieces) for Connecting Bar Fixation

Body

This product is sold as 1 set. The order quantity is "1", which includes one piece for the left side and one for the right side.

Item Code	Item Name	Main Material	Finish	Door Width	Door Height	Door Weight(kg)	Box (pcs)
180-054-945	SLDL-5	Steel	Nickel	Max. 900	420~450	3~5	1
180-054-946	SLDL-6					5~6.5	1

Body Cover (Sold separately)

This product is sold as 1 set. The order quantity is "1", which includes one piece for the left side and one for the right side.

Item Code	Item Name	Material	Colour
180-054-947	SLUL-C-WT	ABS	White
180-054-948	SLUL-C-DGR		Dark Grey

Connecting Bar (Sold separately)

Item Code	Item Name	Specifications	Material	Finish	Length
180-054-949	SLUL-B535	For Door Width 600	Aluminium Alloy	Anodised	535
180-054-950	SLUL-B685	For Door Width 750			685
180-054-951	SLUL-B835	For Door Width 900			835

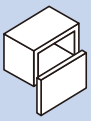
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP SWING DOWN STAY SLD

Latest Info





Opening Direction	Features	Door Material	Door Weight
	OPEN Lift-assist CLOSE Soft-close	Wood	3~6 kg/set

- For downward-opening flap doors.
- Unique swing down mechanism.
- Spring powered to make flap feel light and easy to close.
- Built in damper prevents slamming during closing.
- Placed at the bottom of interior of the cabinet, significantly reducing dead space and not getting in the way when installing shelves.

INSTRUCTION SCREW

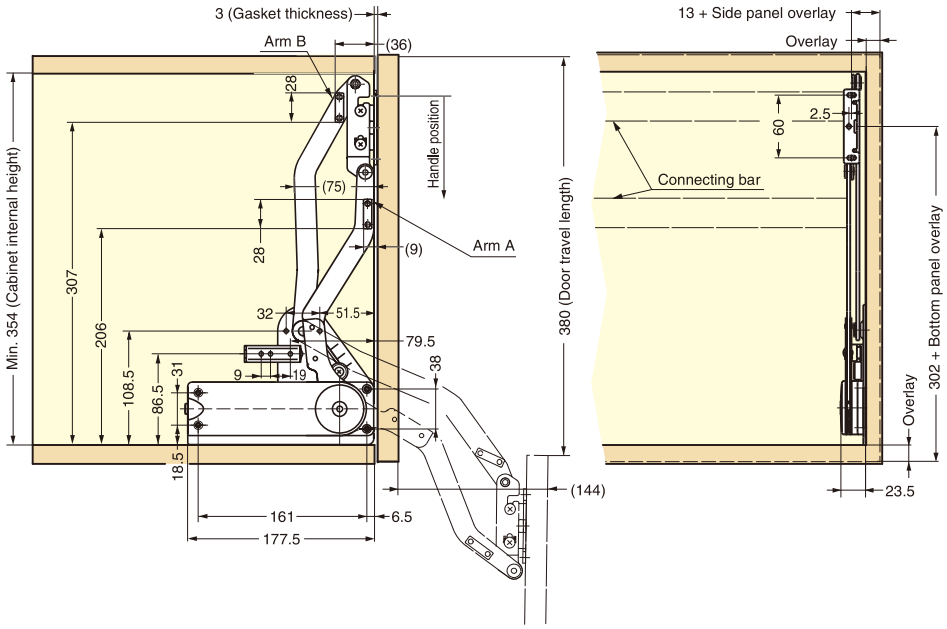
Remarks
- 1 connecting bar SLUB is necessary for 1 set of SLD.

Parts Included
- Binding head tapping screw 3.5×15 for body
- Countersunk head tapping screw 3.5×20 for damper
- Truss head tapping screw 4.5×12 for connecting bar

Sold Separately
- Connecting bar SLUB

· 1pc/set
· 2pcs/set for horizontal reinforcement.
- If the side panel thickness is over 15 mm, the connecting bar should be cut according to the below formula.

Arm A: Connecting bar length = Overall cabinet width - (Side panel thickness ×2) - 35
Arm B: Connecting bar length = Overall cabinet width - (Side panel thickness ×2) - 19



Body (1 set)

Item Code	Item Name	Material	Finish/Colour	Door Width	Door Height	Door Weight	Weight	Carton
180-020-848	SLD-3	ABS/Steel	Chrome/Grey	600 - 900	360 - 400	3 - 4 kg	1.9 kg	5 sets
180-020-849	SLD-4	ABS/Steel	Chrome/Grey	600 - 900	360 - 400	4 - 5 kg	1.9 kg	5 sets
180-020-850	SLD-5	ABS/Steel	Chrome/Grey	600 - 900	360 - 400	5 - 6 kg	2.0 kg	5 sets

Connecting Bar (Sold Separately)

Item Code	Item Name	Applicable Door	Mounting Position	Cabinet Width*	Length	Weight	Carton
180-120-287	SLUB-535	Wooden Door	Arm A	600	535	191 g	10 pcs
180-104-088	SLUB-551	Glass Frame Door	Arm B	600	551	196 g	10 pcs
180-120-288	SLUB-835	Wooden Door	Arm A	900	835	308 g	10 pcs
180-100-131	SLUB-851	Glass Frame Door	Arm B	900	851	312 g	10 pcs

*The side panel thickness is 15 mm.

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

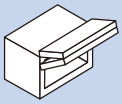
LAMP BI-FOLD LIFT ASSIST STAY HBF-ELAN

Latest Info





Feature

Opening Direction	Features	Door Material	Door Weight
	Lift-assist Free stop Soft-close	Wood	2.5~6.5 kg/set

- For upward-opening flap doors.
- Equipped with:
  -Lift assist (to make flap doors feel lighter)
  -Free stop (holds position at any angle from 50° to fully open)
  -Soft-closing (slows down closing speed to prevent slamming between 0° and 40°)
- Easy to adjust opening angle (must be used together with concealed hinge with appropriate opening degree)
- Fast installation through vertical adjustment function on mounting plate (on flap)
- Installation is simple using the template (included)

INSTRUCTION SCREW

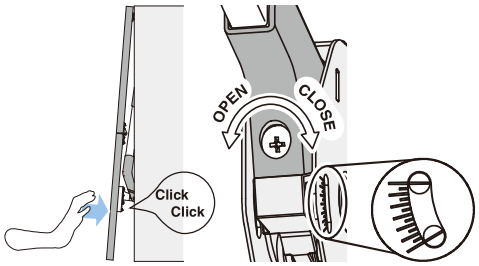
Parts Included

- Mounting plate (1 pair)
- Centre hinge (2 pcs)
- Paper template
- Countersunk head tapping screw 3.5×38 for main body (6 pcs)
- Binding head tapping screw 3.5×15 for centre hinge (12 pcs)
- Binding head tapping screw 3.5×27 for mounting plate (4 pcs)
- Truss head screw M4×5 for mounting plate (2 pcs)

Sold Separately

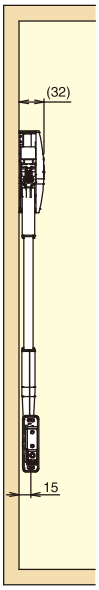
- Concealed hinge OLYMPIA 360 Series (P.78 -)

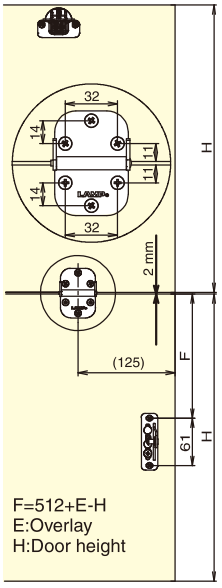
Multiple Adjustments

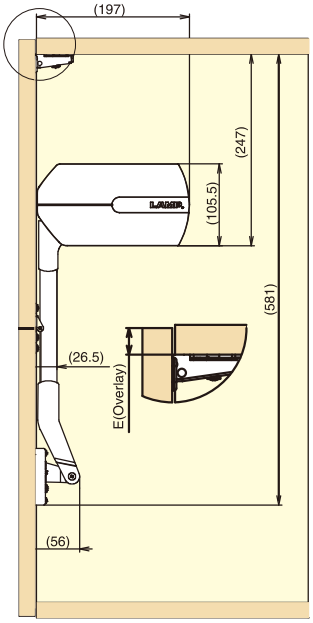


One-touch closed adjustment

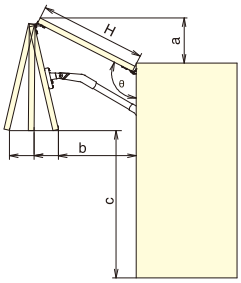
Door angle adjustment







Opening Dimensions



	H: Door Height								
	320			350			370		
Opening Angle	a	b	c	a	b	c	a	b	c
105°	58	364	341	65	348	373	69	314	399
110°	85	364	369	93	344	402	99	303	431
120°	134	359	424	148	330	459	157	270	492

Item Code	Item Name	Door Width	Door Height *1	Door Weight *2	Material	Finish/Colour	Weight	Carton
180-024-608	HBF-ELAN-LL	Max. 1200	320 - 370	2.5-3.3 kg	Aluminium Alloy, ABS	Anodized/Light Grey	2.6 kg	5 sets
180-024-609	HBF-ELAN-ML	Max. 1200	320 - 370	3.3-4.1 kg	Aluminium Alloy, ABS	Anodized/Light Grey	2.6 kg	5 sets
180-024-610	HBF-ELAN-MM	Max. 1200	320 - 370	4.1-4.9 kg	Aluminium Alloy, ABS	Anodized/Light Grey	2.6 kg	5 sets
180-024-611	HBF-ELAN-HM	Max. 1200	320 - 370	4.9-5.7 kg	Aluminium Alloy, ABS	Anodized/Light Grey	2.6 kg	5 sets
180-024-612	HBF-ELAN-HH	Max. 1200	320 - 370	5.7-6.5 kg	Aluminium Alloy, ABS	Anodized/Light Grey	2.6 kg	5 sets

*1 Inside cabinet height is Min 600 mm.
*2 Door weight includes handle.

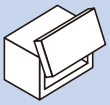
The Values above are for 1 bi-fold door.

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. LIFT-ASSIST STAY EZS-ELAN

Latest Info



Opening Direction	Features	Door Material	Door Weight
	Lift-assist Free stop Soft-close	Wood	5~12.5 kg/set

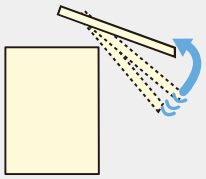
- For upward-opening flap doors.
- Equipped with:
  -Lift assist (to make flap doors feel lighter)
  -Free stop (holds position at any angle from 30° to 70°)
  -Soft-closing (slows down closing speed to prevent slamming between 0° and 20°)
- 2011 Good Design Award Winner
- Placed at the top of interior of the cabinet, significantly reducing dead space and not getting in the way when installing shelves.
- No hinges or connecting bars are needed.
- Easy alignment: Simply press the body to the top of the interior of the cabinet and align the front flush with the cabinet.
- Fast and easy installation: Body is attached to mounting plate (on flap) by simply snapping it in.
- If flap is within specification, does not require torque adjustment post-installation.

INSTRUCTION | SCREW

3 Functions in 1 Stay

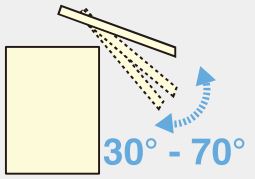
1. Lift-assist





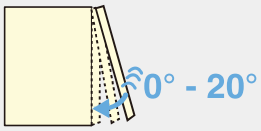
2. Free-stop





3. Soft-close





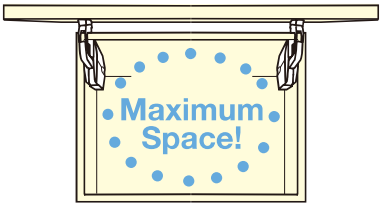
Remarks

- Used in pairs.

Parts Included

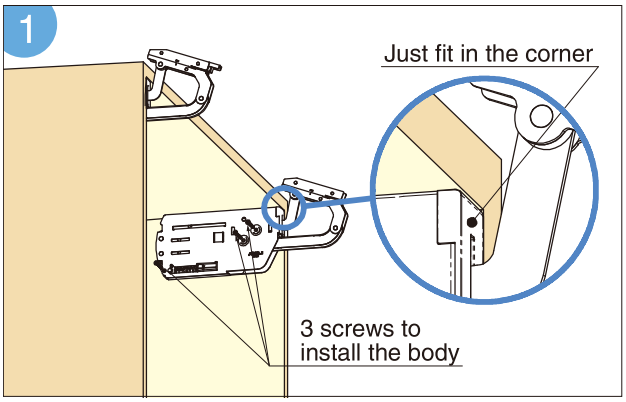
- Mounting plate (2 pcs)
- Countersunk head tapping screw 3.5×38 for main body (6 pcs)
- Binding head tapping screw 3.5×15 for mounting plate (4 pcs)

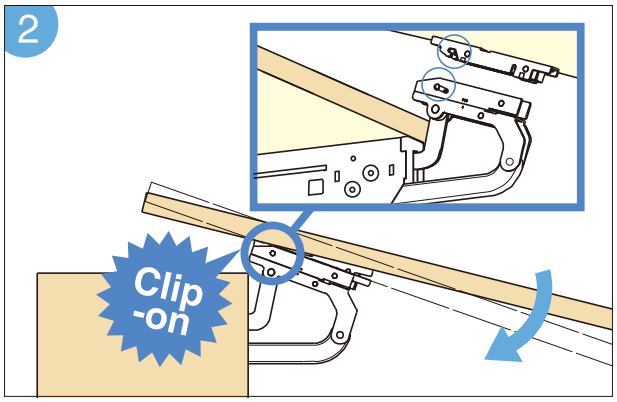
Feature





Easy Installation

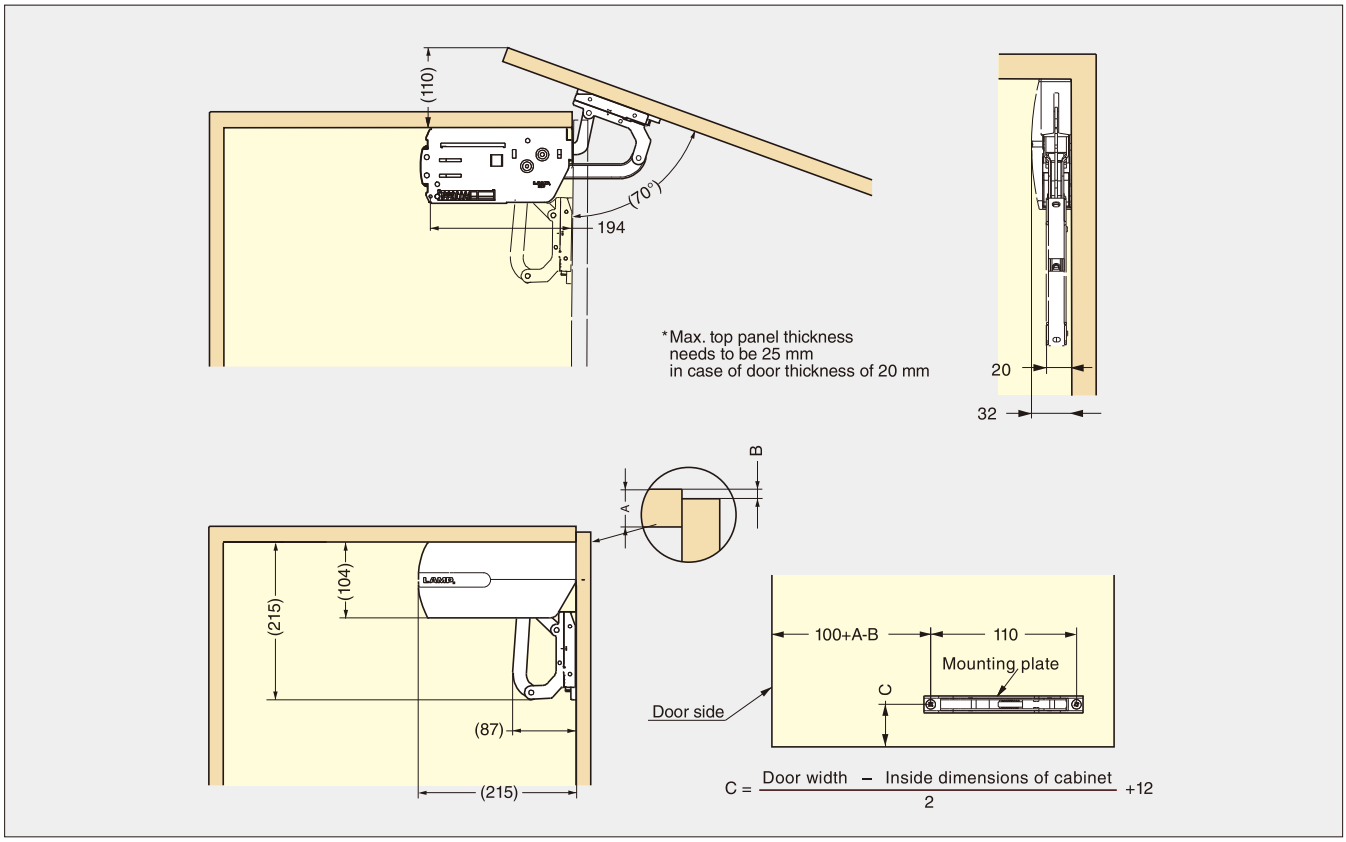




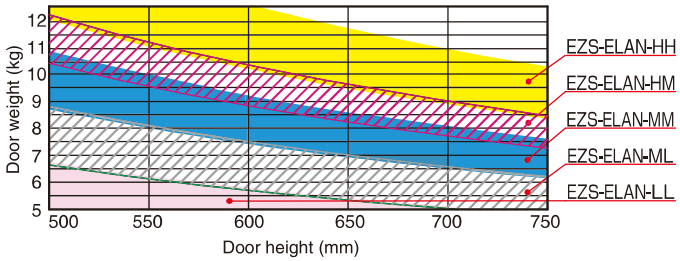
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

Installation



Door Size Range



Lifting Power

Door height (mm) x (Door weight (kg) -1)

Lifting Power	Model
1900-2860	EZS-ELAN-LL
2820-3900	EZS-ELAN-ML
3850-4950	EZS-ELAN-MM
4700-5600	EZS-ELAN-HM
5550-6930	EZS-ELAN-HH

Set Packing

Item Code	Item Name	Material	Finish/Colour	Door Width	Door Height	Door Weight	Weight	Carton
180-018-903	EZS-ELAN-LLS	Steel/ABS	Nickel/Light Grey	Max. 1200	500 - 750	5 - 12.5	2494 g	5 sets
180-018-904	EZS-ELAN-MLS	Steel/ABS	Nickel/Light Grey	Max. 1200	500 - 750	5 - 12.5	2569 g	5 sets
180-018-905	EZS-ELAN-MMS	Steel/ABS	Nickel/Light Grey	Max. 1200	500 - 750	5 - 12.5	2646 g	5 sets
180-018-906	EZS-ELAN-HMS	Steel/ABS	Nickel/Light Grey	Max. 1200	500 - 750	5 - 12.5	2646 g	5 sets
180-018-907	EZS-ELAN-HHS	Steel/ABS	Nickel/Light Grey	Max. 1200	500 - 750	5 - 12.5	2646 g	5 sets

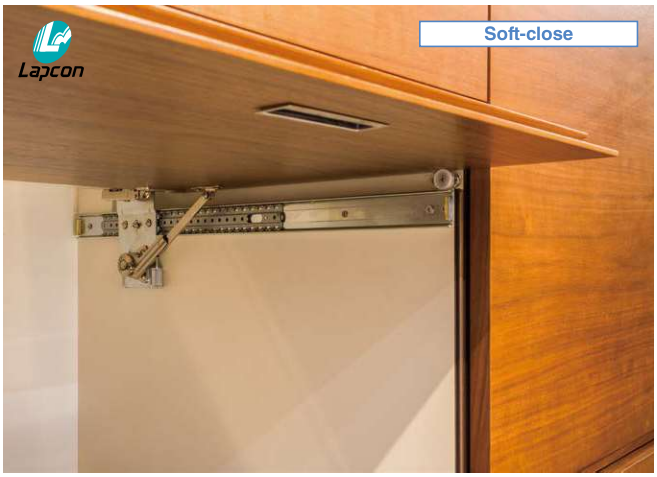
Bulk Packing

Item Code	Item Name	Material	Finish/Colour	Weight	Carton
180-018-923	EZS-ELAN-L	Steel/ABS	Nickel, Light Grey	2334 g	5 sets
180-018-924	EZS-ELAN-M	Steel/ABS	Nickel, Light Grey	2486 g	5 sets
180-018-925	EZS-ELAN-H	Steel/ABS	Nickel, Light Grey	2486 g	5 sets
180-018-983	EZS-ELAN-COVER	ABS	Light Grey	160 g	5 sets

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. INSET RECEDING DOOR MECHANISM (W/ SOFT CLOSING) IF

Latest Info

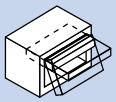








This product is designed for inset doors. The example shown has been customised from the standard specification.

Opening Direction	Features	Door Material	Maximum Door Moment
	Soft-down (Adjustable)	Wood	1.96~6.86 N·m/pc

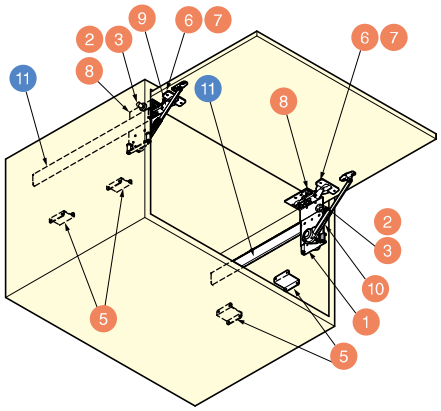
- For upward-opening flap doors.
- Built-in damper provides soft closing near closing radius, preventing slamming.
- Flap door retracts inside cabinet, allowing other cabinets to be installed on top.

INSTRUCTION SCREW

Remarks

- 1 set of IF-360 (Parts set) and 2 pcs of AL-78 (Rails) are necessary for 1 cabinet.

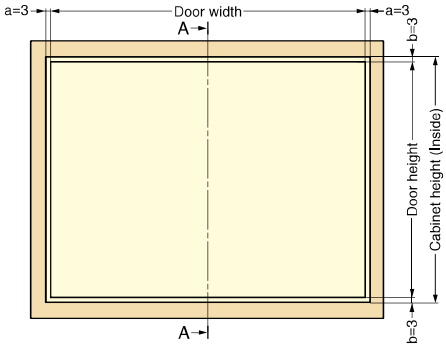
Feature Example



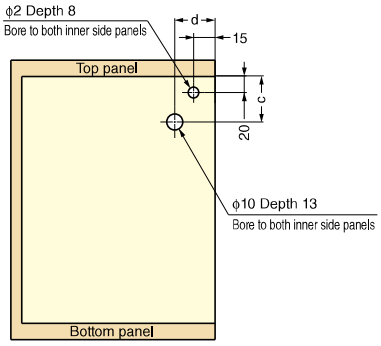
Type	IF-360S(L /R)	IF-360W	IF-H360S(L /R)	IF-H360W
Door Width	Max. 1200 mm			
Door Thickness	15 - 20 mm		18 - 30 mm	
Torque Moment (Door Weigth x Height / 2)	1.96 - 6.86 N·m (20 - 70 kgf·cm)	3.9 - 13.7 N·m (40 - 140 kgf·cm)	1.96 - 6.86 N·m (20 - 70 kgf·cm)	3.9 - 13.7 N·m (40 - 140 kgf·cm)
	* This is the case when the centre of gravity of the door is in the centre of the door.			

Cut Out Dimensions

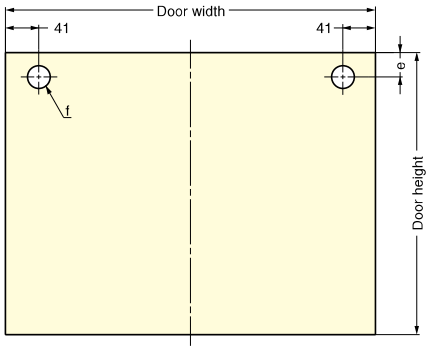
Cabinet front



Cabinet cutaway view (A-A)

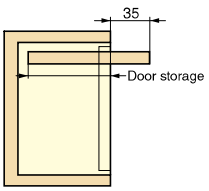


Door cut out dimensions



Door Storage and Recommended Door Height

Item Name / Rail	Door Storage: IF-360SL IF-360SR IF-360W	Door Storage: IF-H360SL IF-H360SR IF-H360W	Recommended Door Height: IF-360SL IF-360SR IF-360W	Recommended Door Height: IF-H360SL IF-H360SR IF-H360W
AL-78-14	263.7+Door Thickness mm	260.9+Door Thickness mm	298.7+Door Thickness mm	295.9+Door Thickness mm
AL-78-16	314.5+Door Thickness mm	311.7+Door Thickness mm	349.5+Door Thickness mm	346.7+Door Thickness mm
AL-78-19	390.7+Door Thickness mm	387.9+Door Thickness mm	425.7+Door Thickness mm	422.9+Door Thickness mm
AL-78-24	517.7+Door Thickness mm	514.9+Door Thickness mm	552.7+Door Thickness mm	549.9+Door Thickness mm



Item Name	c	d	e	f	Weight
IF-360SL	37.5	9.5+Door Thickness	22.5	ϕ35 Depth 11	1200 g
IF-360SR	37.5	9.5+Door Thickness	22.5	ϕ35 Depth 11	1200 g
IF-360W	37.5	9.5+Door Thickness	22.5	ϕ35 Depth 11	1200 g
IF-H360SL	43.6	9.5+Door Thickness	26	ϕ40 Depth 15	1365 g
IF-H360SR	43.6	9.5+Door Thickness	26	ϕ40 Depth 15	1365 g
IF-H360W	43.6	9.5+Door Thickness	26	ϕ40 Depth 15	1365 g

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

• Required Parts..... **Parts Set** + **Rails**

Parts Set

Required Parts
1 set for 1 cabinet.

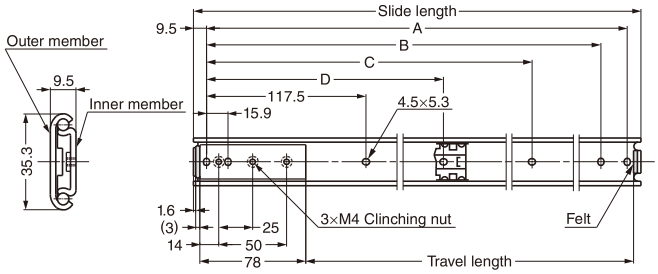
	Item Code	Item Name	Parts Included									
			①Bracket	②Roller	③Insert	④Slider	⑤Guard Plate	⑥Hinge 360-C26/19T	⑦Hinge H360-C26/26T	⑧Mounting Plate 360-P4W-32T	⑨Soft-down Stay NSDX-35L	⑩Soft-down Stay NSDX-35R
												
a	180-046-067	IF-360SL	2 pcs	2 pcs	2 pcs	2 pcs	4 pcs	2 pcs	–	2 pcs	1 pc	–
b	180-046-068	IF-360SR	2 pcs	2 pcs	2 pcs	2 pcs	4 pcs	2 pcs	–	2 pcs	–	1 pc
c	180-046-069	IF-360W	2 pcs	2 pcs	2 pcs	2 pcs	4 pcs	2 pcs	–	2 pcs	1 pc	1 pc
d	180-046-070	IF-H360SL	2 pcs	2 pcs	2 pcs	2 pcs	4 pcs	2 pcs	2 pcs	2 pcs	1 pc	–
e	180-046-071	IF-H360SR	2 pcs	2 pcs	2 pcs	2 pcs	4 pcs	2 pcs	2 pcs	2 pcs	–	1 pc
f	180-046-072	IF-H360W	2 pcs	2 pcs	2 pcs	2 pcs	4 pcs	2 pcs	2 pcs	2 pcs	1 pc	1 pc

* d e f: Please use ▭ only. (Do not use ▭.)
*Choose either right/left-handed for the stay of IF-360S.
*The ⑥ and ⑦ hinge model included in the parts set is now the OLYMPIA 360 hinge.
The part sets have been changed as follows:
- IF-102 → IF-360
- IF-H102 → IF-H360

Rails

Required Parts (Select One)
2 pcs are necessary for 1 cabinet.

No.	Slide Length	Qty	Item Code / Item Name	Parts Name	Description
⑪	Slide Length 355.6 mm	1 pc	190-113-945 AL-78-14	Rail	• Material Steel • Finish Clear Zinc Chromate
	Slide Length 406.4 mm	1 pc	190-113-942 AL-78-16		
	Slide Length 482.6 mm	1 pc	190-113-943 AL-78-19		
	Slide Length 609.6 mm	1 pc	190-113-944 AL-78-24		



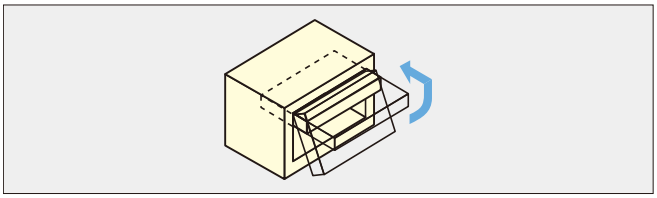
Item Name	Slide Length	Travel Length	A	B	C	D	Weight	Carton
AL-78-14	355.6	267.6	336.6	320.7	219.1	–	274 g	20 pcs
AL-78-16	406.4	318.4	387.4	371.5	269.9	–	308 g	20 pcs
AL-78-19	482.6	394.6	463.6	447.7	346.1	231.8	357 g	40 pcs
AL-78-24	609.6	521.6	590.6	574.7	473.1	295.3	450 g	40 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP INSET RECEDING DOOR MECHANISM ALT-3H

Latest Info



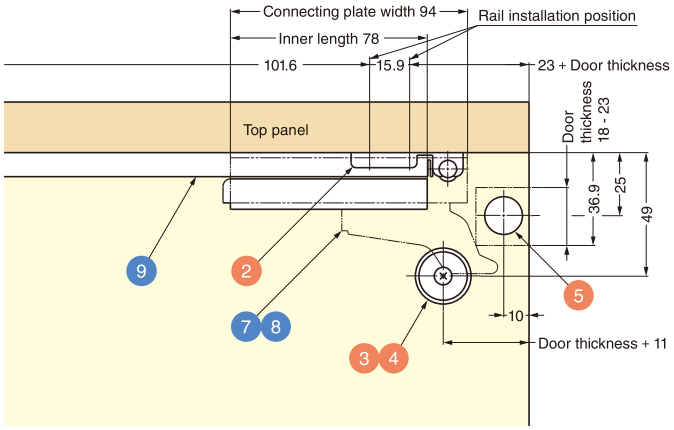


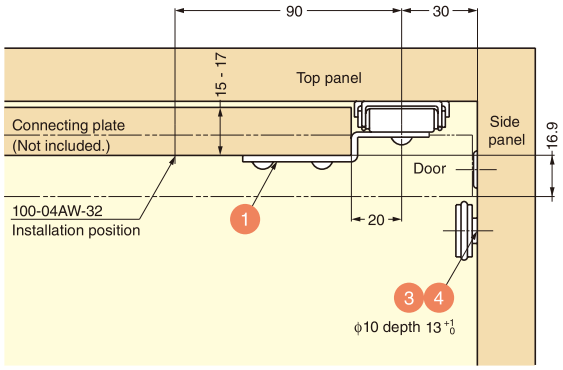
Door Width	Max. 870 mm
Door Height	Max. 600 mm
Door Thickness	18 - 23 mm
Door Weight	Max. 5 kg

- For upward-opening flap doors.
- When open, flap door recedes horizontally inside cabinet, significantly reducing dead space.
- Easy to install combination of concealed hinge and slide rail.

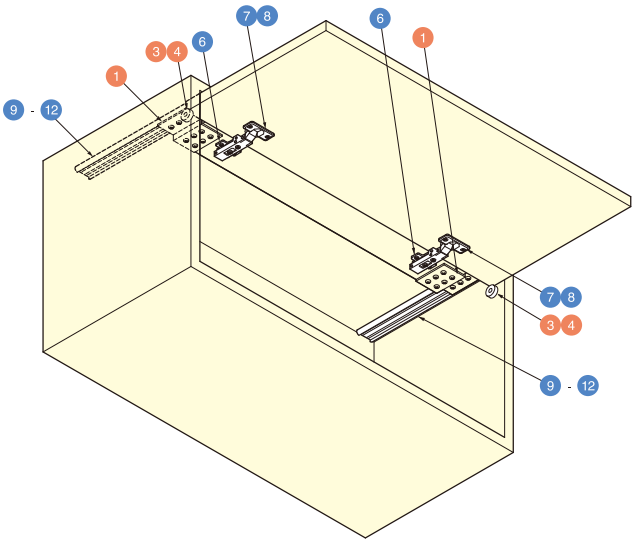
SCREW

Item Name	Door Storage	Cabinet Depth
AL-78-14	266+Door Thickness mm	Min. 371
AL-78-16	317+Door Thickness mm	Min. 422
AL-78-19	393+Door Thickness mm	Min. 498
AL-78-24	520+Door Thickness mm	Min. 625



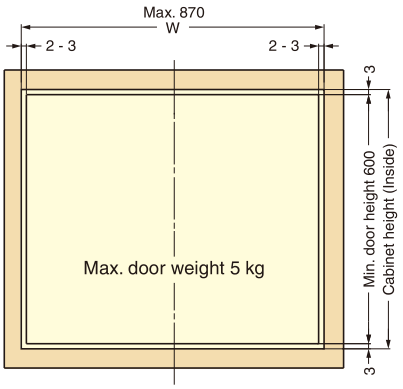


Installation

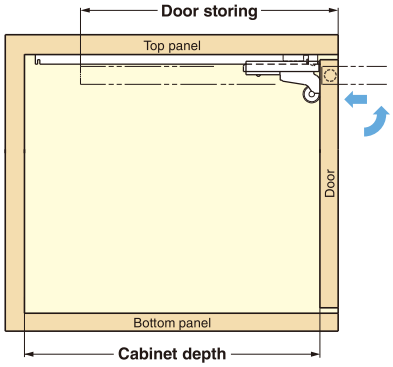


Cut Out Dimensions

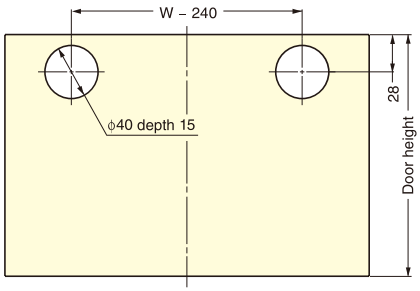
Cabinet front



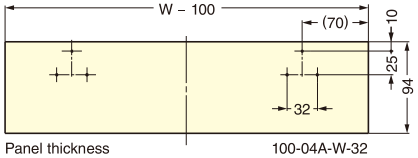
Cabinet cutaway view



Door cut out dimensions



Connecting plate (Wooden)



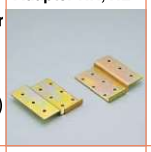
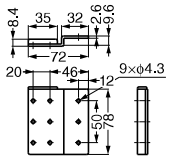
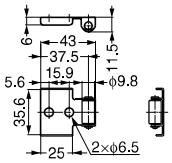
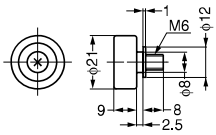
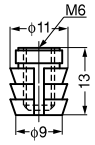
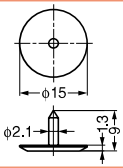
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

• Required Parts..... **Parts Set** + **Mounting Plate** + **Concealed Hinge (Body)** + **Rails**

Parts Set — Required Parts

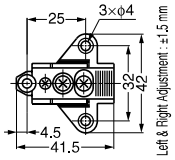
Item Code	Item Name
180-110-587	ALT-3HP

Parts Included

No.	Qty	Parts Name	Dimensions	Description
1	1 pair (left and right)	Adapter HR, HL 		• Material Steel • Finish Yellow Zinc Chromate (trivalent)
2	2 pcs	Door Stopper 		**Item Code : 180-930-416** **Item Name : ALT-AD** • Material EPDM / Steel • Finish Clear Zinc Chromate / White
3	2 pcs	Roller 		**Item Code : 180-940-144** **Item Name : DU19-B4SBR** • Material EPDM / Steel • Finish Clear Zinc Chromate / White
4	2 pcs	Insert 		**Item Code : 120-041-310** **Item Name : SC-107-13** • Material PA • Finish White
5	2 pcs	Slider 		**Item Code : 210-030-122** **Item Name : F-15** • Material POM • Finish Natural

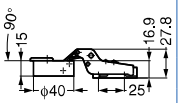
Mounting Plate — Required Parts

2 pcs are necessary for 1 door.

No.	Qty	Item Code	Parts Name	Dimensions	Description
6	1 pc	160-074-116 100-04A-W-32	Mounting Plate 		• Material Steel • Finish Yellow Zinc Chromate / Satin Chrome

Concealed Hinge (Body) — Required Parts (Select One)

Choose either 7/8.
2 pcs are necessary for 1 door.

No.	Catch	Qty	Item Code	Parts Name	Dimensions	Description
7	w/ Catch	1 pc	160-073-581 H90-C34/18	Concealed Hinge (Body) 		• Material Zinc Alloy • Finish Satin Chrome
8	w/o Catch	1 pc	160-073-577 H90-34/18			

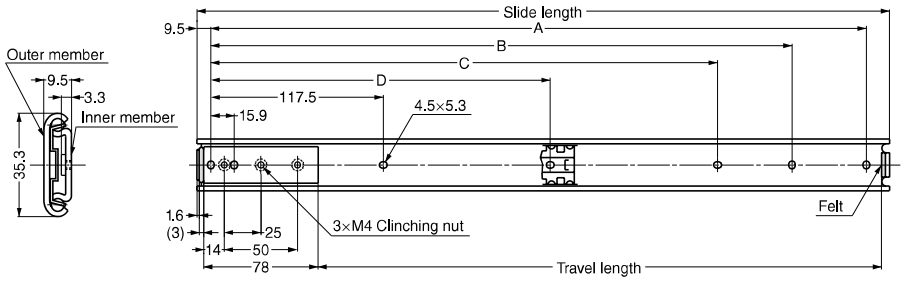
Rails — Required Parts (Select One)

Choose either 9/10/11/12.
2 pcs are necessary for 1 door.

No.	Slide Length	Qty	Item Code	Parts Name	Dimensions	Description
9	355.6 mm	1 pc	190-113-945 AL-78-14	Rail 	See below.	• Material Steel • Finish Clear Zinc Chromate
10	406.4 mm	1 pc	190-113-942 AL-78-16			
11	482.6 mm	1 pc	190-113-943 AL-78-19			
12	609.6 mm	1 pc	190-113-944 AL-78-24			

Rails (Sold Separately)





Item Name	Slide Length	Travel Length	A	B	C	D	Weight	Carton
AL-78-14	355.6	267.6	336.6	320.7	219.1	–	274 g	20 pcs
AL-78-16	406.4	318.4	387.4	371.5	269.9	–	308 g	20 pcs
AL-78-19	482.6	394.6	463.6	447.7	346.1	231.8	357 g	40 pcs
AL-78-24	609.6	521.6	590.6	574.7	473.1	295.3	450 g	40 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP OVER THE TOP FLIPPER DOOR MECHANISM (W/ SOFT CLOSING) OV-1

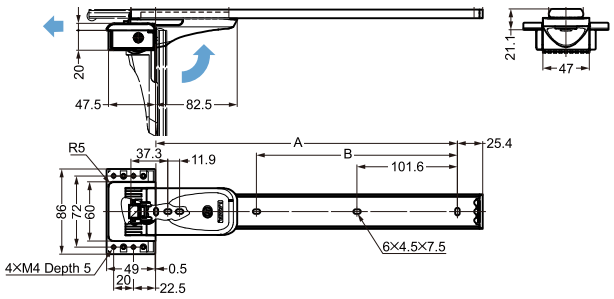
Latest Info

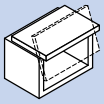










Opening Direction	Features	Door Material	Maximum Door Moment
	CLOSE Soft-close (Soft-down/Adjustable)	Wood	5.9~9.8 N·m/2pcs

- For upward-opening flap doors.
- Built-in damper provides soft closing near closing radius, preventing slamming.
- When pulling the flap door out horizontally, will hold its position.
- Flap door retracts above cabinet top and OV-1 is installed into frame, almost completely eliminating dead space.
- Closing speed is adjustable.
- Position adjustable post-installation (±1.5mm)
- Ball bearing type slide rail provides smooth movement in rail section.

INSTRUCTION SCREW

Remarks

- 2 pcs of OV1-MBP-BL-TRN-N2 (Main body) and 2 pcs of OV-SLP RN (Rail) are necessary for 1 cabinet.

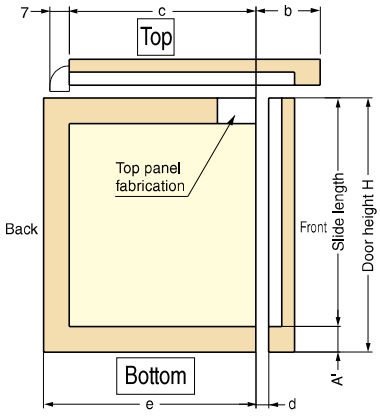
Parts Included

- Installation plate (4 pcs)
- Countersunk head screw M4×26 for wooden door (8 pcs)
- Binding head screw M4×8 for metal door (8 pcs)
- Binding head tapping screw 4×10 for rail installation (12 pcs)

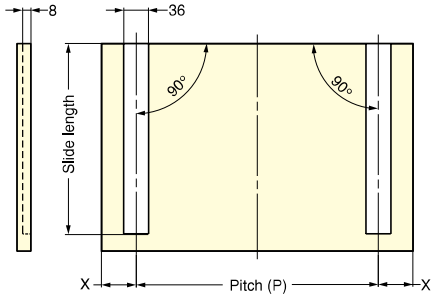
Feature

Cut Out Dimensions

Cabinet dimensions

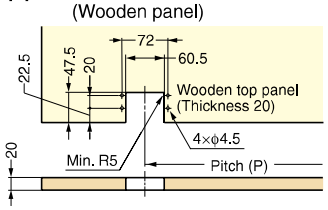


Door fabrication

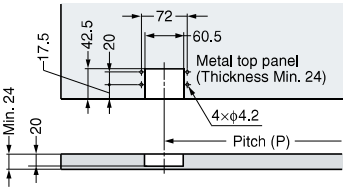


Top panel fabrication

(Wooden panel)



(Sheet metal)



	b	c	d	e
Wooden Top Panel	A'+82.8	H-b	3.1	Min. c+7
Metal Top Panel	A'+87.8	H-b	8.1	Min. c+7

	X
Inset Application	80
Overlay Application	Side Panel Thickness+80

Main Body: 2 pcs are necessary for 1 cabinet.

Item Code	Item Name	Material	Colour	Door Weight	Door Width	Door Height	Door Thickness	Torque Moment/set		Weight	Carton
180-109-206	OV1-MBP-BL-TRN-N2	Steel & Plastic	Black	3 - 5 kg	700 - 1400	350 - 450	Min. 20	5.9 - 9.8 N·m	60 - 100 kgf·cm	282 g	40 pcs

Rail: 2 pcs are necessary for 1 cabinet.

Item Code	Item Name	Material	Finish	Slide Length	Travel Length	A	B	Weight	Carton
190-119-672	OV-13 SLP RN	Steel	Clear Zinc Chromate	330.2	222.4	279.4	177.8	270 g	20 pcs
190-119-673	OV-14 SLP RN	Steel	Clear Zinc Chromate	355.6	247.8	304.8	203.2	287 g	20 pcs
190-119-674	OV-15 SLP RN	Steel	Clear Zinc Chromate	381	273.2	330.2	228.6	310 g	20 pcs
190-119-675	OV-16 SLP RN	Steel	Clear Zinc Chromate	406.4	298.6	355.6	254	322 g	20 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS

Discover What Sugatsune's Website Has to Offer!

sugatsune global Search

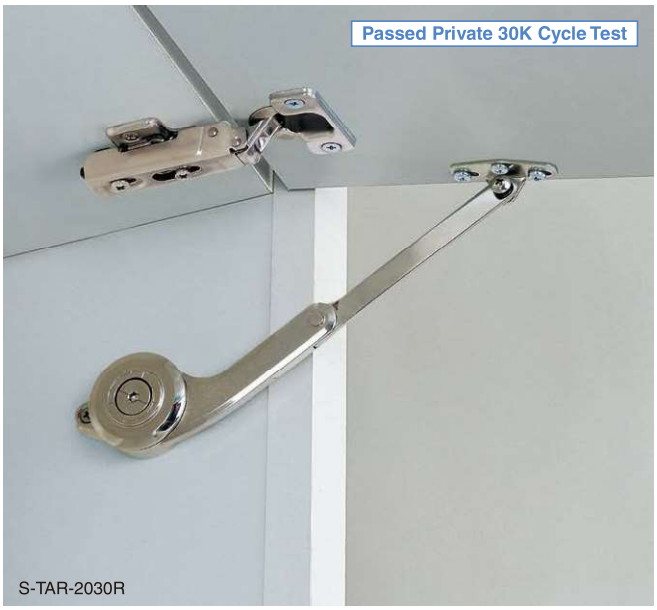
Our site offers...

- Keyword Search + Product Filters
- Installation Instructions
- New Product Information
- CAD Data (2D, 3D)
- Customer Solution Case Studies
- Product Videos
- Hardware Basics
- Selection Tools

TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

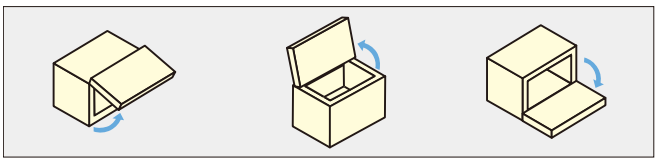
LAMP. FREE-STOP STAY (ONE WAY) S-TAR

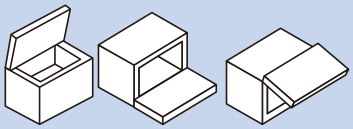
Latest Info









Opening Direction	Features	Door Material	Torque
	Free-stop (Adjustable)	Wood Glass	0~7 N·m/pc

- Torque stay for upward-opening, downward-opening and top-opening door flaps.
- Free-stop: door flaps holds position at any desired angle.
- One way-torque: torque only occurs in one direction, making door flap easy to open.
- Torque adjustable.

INSTRUCTION SCREW

Remarks

- Operating temperature : 0˚C - 40˚C
- The torque may vary depending on the temperature of the operating environment. Torque adjustment should be done at room temperature.
- If there is a reduction in the torque, please readjust it.

Parts Included

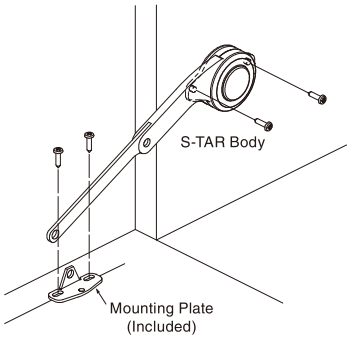
- Mounting plate
- Countersunk head tapping screw 4×20
- Binding head tapping screw 3.5×15
- Allen key 4

Optional Parts

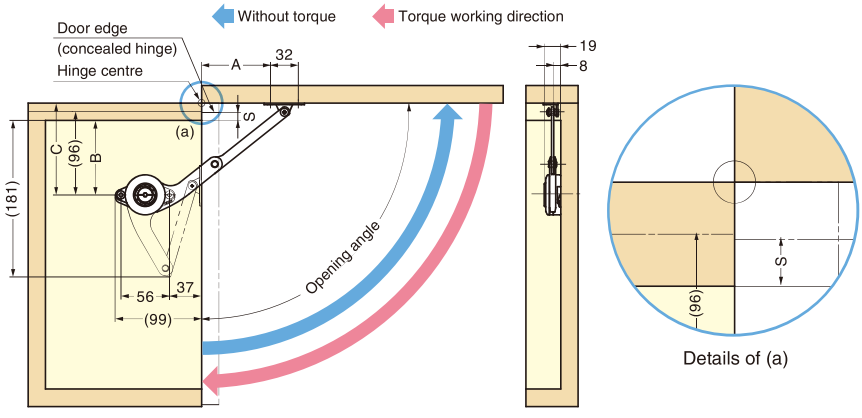
①Mounting plate NSDX-CZ (P.276)
②Mounting plate NSDX-AZ for 20 mm aluminium frame (P.276)
③Mounting plate NSDX-GZ for glass door (P.276)
④SDS-50G for glass door (P.276)

Optional Parts ①-④





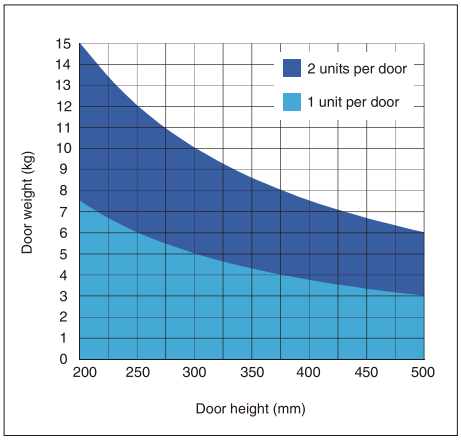
Installation (Upward-opening)



Details of (a)

S = Overlay by concealed hinge

Door Size Ranges (Upward-opening)



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

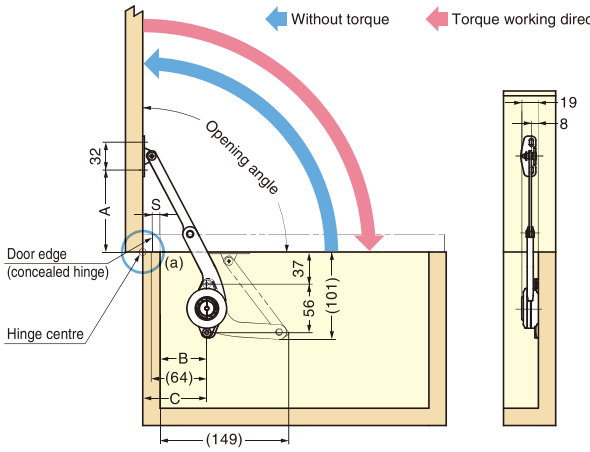
Torque

- With 1 stay
  Torque = Max. 7.4 N·m (75 kgf·cm)
- With 2 stays, Max. torque is 14.8 N·m (150 kgf·cm).

Selection Tool
S-TAR Stay

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

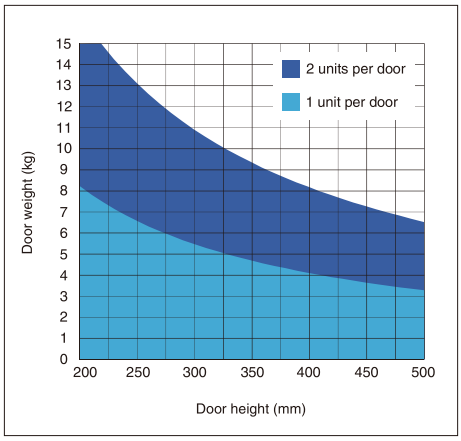
Installation (Top-opening)



S = Overlay by concealed hinge

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

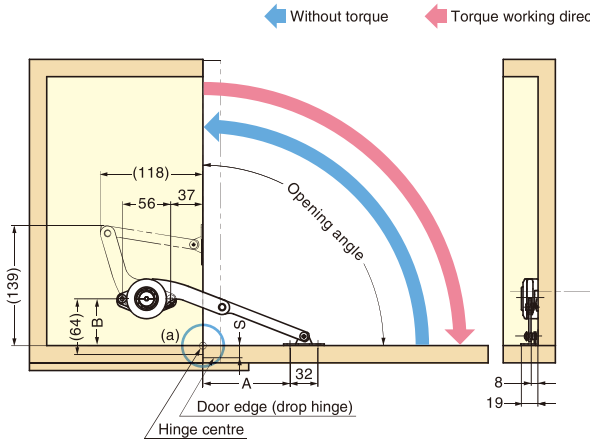
Door Size Ranges (Top-opening)



Torque

- With 1 stay
  Torque = Max. 8.1 N·m (82 kgf·cm)
- With 2 stays, Max. torque is 16.2 N·m (164 kgf·cm).

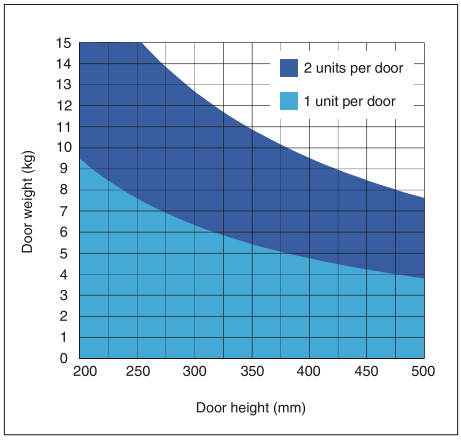
Installation (Downward-opening)



S = Overlay by concealed hinge

Hinge	Opening Angle	A	B
Concealed Hinge	90˚	99	70-S
Single Knuckle Hinge	90˚	100	51

Door Size Ranges (Downward-opening)



Torque

- With 1 stay
  Torque = Max. 9.3 N·m (94 kgf·cm)
- With 2 stays, Max. torque is 18.6 N·m (188 kgf·cm).

Body

Item Code	Item Name	Material	Type	Opening	Weight	Box	Carton
180-028-991	S-TAR-2030R	Zinc Alloy (ZDC), Steel	Right	Upward-opening, Top-opening	234 g	20 pcs	40 pcs
180-028-990	S-TAR-2030L	Zinc Alloy (ZDC), Steel	Left	Upward-opening, Top-opening	234 g	20 pcs	40 pcs
180-028-993	S-TAR-10R	Zinc Alloy (ZDC), Steel	Right	Downward-opening	234 g	20 pcs	40 pcs
180-028-992	S-TAR-10L	Zinc Alloy (ZDC), Steel	Left	Downward-opening	234 g	20 pcs	40 pcs

Drop Hinge (Sold Separately) (P.181, P.199)

Item Code	Item Name	Type	Finish/Colour
170-090-471	SDH-001	-	Nickel
170-010-648	SDH-001BL	-	Black
170-016-331	SDH-G	Glass Door	Nickel

SDH-G: The face plate also needed.

Face Plate and Spacer of SDS for Glass Door (Sold Separately)

Please use with NSDX-GZ below.

Item Code	Item Name	Material	Finish/Colour
180-100-260	SDS-50G-CR	Zinc Alloy (ZDC)/ABS	Chrome
180-928-046	SDS-50G-BL	Zinc Alloy (ZDC)/ABS	Black

Mounting Plate (Sold Separately) (P.276)

Item Code	Item Name	Type
180-109-460	NSDX-CZ	Clip Type
180-109-019	NSDX-AZ	For 20 mm Aluminium Frame Door
180-109-459	NSDX-GZ	For Glass Door

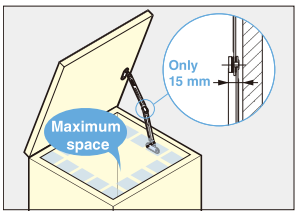
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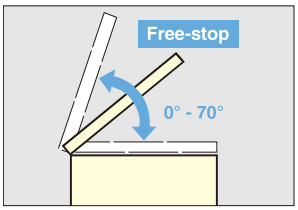
LAMP. FREE-STOP STAY S-52T15

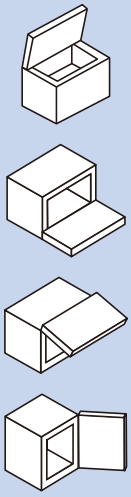
Latest Info



S-52T15R





Opening Direction	Features	Door Material	Maximum Door Moment
	Free-stop	Wood Glass	1.5±20% N·m/pc

- Friction allows door flap to be held in place at desired angle.
- Compact design allows for effective use of interior space.

SUS

Specifications

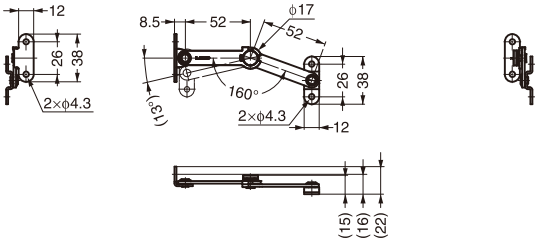
- Operating temperature:0°C~40°C

Remarks

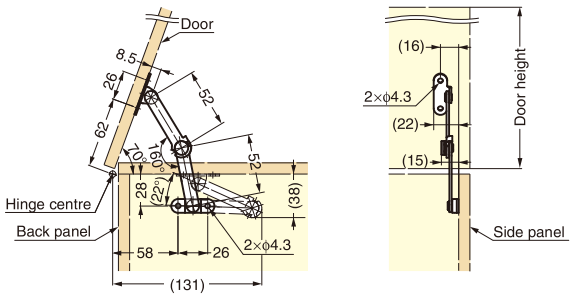
- Opening angle changes depending on installation position.

Example Chart for the Below Installation

Door Height	Door Weight (1 pc)	Door Weight (1 pair)
200	Max. 1.8 kg	Max. 3.6 kg
250	Max. 1.4 kg	Max. 2.8 kg
300	Max. 1.2 kg	Max. 2.4 kg
350	Max. 1.0 kg	Max. 2.0 kg
400	Max. 0.9 kg	Max. 1.8 kg



Installation



Item Code	Item Name	Type	Material	Finish	Torque Moment/piece	Weight	Box	Carton
180-023-579	S-52T15R	Right	Stainless Steel (SUS430)	Mirror	1.5±20% N·m	40 g	25 pcs	200 pcs
180-023-580	S-52T15L	Left	Stainless Steel (SUS430)	Mirror	(15.3±20% kgf·cm)	40 g	25 pcs	200 pcs

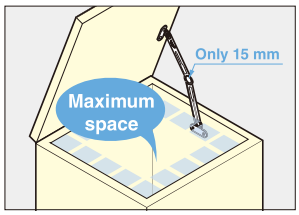
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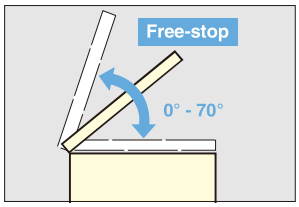
LAMP. FREE-STOP STAY S-100T30

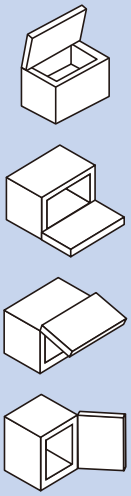
Latest Info



S-100T30R





Opening Direction	Features	Door Material	Torque
	Free-stop	Wood	$3^{\pm 20\%}$ N·m/pc ($30.6^{\pm 20\%}$ kgf·cm/pc)

- Friction allows door flap to be held in place at desired angle.
- Compact design allows for effective use of interior space.
- Can be used with top-opening doors, upward-opening doors and downward-opening doors.

SUS

Remarks

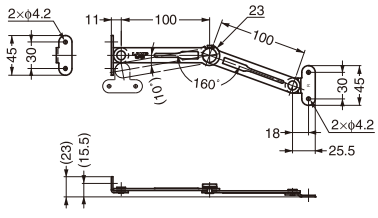
- Opening angle changes depending on installation position.

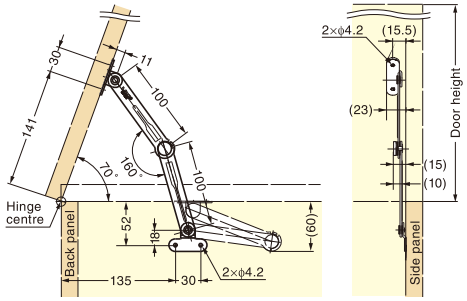
Feature

Example Chart for the Below Installation

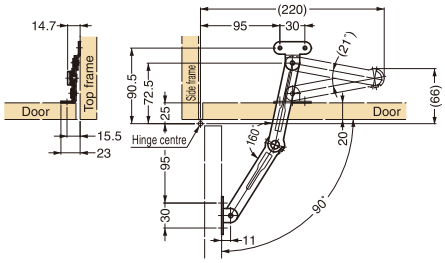
Door Height	Door Weight (1 pc)	Door Weight (1 pair)
200	Max. 3.9 kg	Max. 7.8 kg
250	Max. 3.1 kg	Max. 6.2 kg
300	Max. 2.6 kg	Max. 5.2 kg
350	Max. 2.2 kg	Max. 4.4 kg
400	Max. 1.9 kg	Max. 3.8 kg
450	Max. 1.7 kg	Max. 3.4 kg
500	Max. 1.5 kg	Max. 3.0 kg

Installation (For Top-opening)





Installation (For Horizontal Opening)



Item Code	Item Name	Type	Material	Finish	Torque Moment/piece	Weight	Box	Carton
180-011-966	S-100T30R	Right	Stainless Steel (SUS430)	Mirror	$3^{\pm 20\%}$ N·m ($30.6^{\pm 20\%}$ kgf·cm)	100 g	30 pcs	120 pcs
180-011-967	S-100T30L	Left	Stainless Steel (SUS430)	Mirror		100 g	30 pcs	120 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

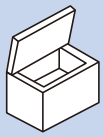
LAMP. LIFT ASSIST STAY S-AT, S-ATS Side Mount, Back Panel Mount



S-AT01, S-AT02 (Side mount type)



S-AT01S, S-AT02S (Back panel mount type)

Opening Direction	Features	Door Material	Maximum Door Moment
	Lift-assist	Wood	4.1~11.8 N·m/pc

- Spring mechanism assists in lifting the top-opening lid.
- Easily holds the door at any angle (about 10°~80°).
- Compact design maximises the space inside.
- Side mount and back panel mount are available. Both are non-handed.
- Can select spring tension hard or soft type depending on lid weight and dimension.
- S-AT02W (P.307~P.308) with doubled maximum door moment also available.

INSTRUCTION

Specifications

- Operating temperature: 0°C~40°C
- Operating humidity: 90%RH or less
- For other specification exceeding the above range, please contact local representatives.

Feature

Selection Tool

S-AT Stay

Remarks

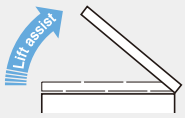
- Be sure to read the “Cautions” (P.241).
- When used for the top-opening lid, install a stopper (not included) to prevent from exceeding the opening angle.
- Material of the mounting surface should be take into consideration. Low rigidness may cause deformation or damage.
- Continuous opening and closing is not allowed.
- Do not use outdoors.
- Spring tension may vary over time.
- Do not use concealed hinges (multiaxial hinges).
- We recommend to test the assembly before final use.

Recommended Screw

- Cross-recessed truss head screw M4

• Easy operation with lift assist

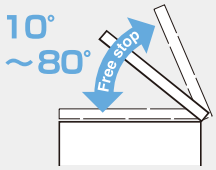




Spring mechanism assists in lifting the top-opening lid. You can select spring tension hard or soft type depending on lid weight and dimension.

• Free stop

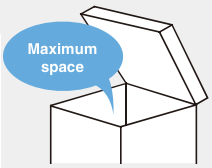




Easily holds the opening angle of top-opening lid at about 10°~80°.

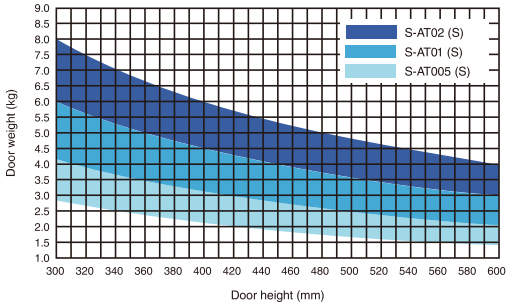
• Compact





Small body maximises space inside of the cabinet.

Selection Graph



Selection graph and door moment formula are obtained when door centre of gravity is at the height centre and installation is done according to dimensions in drawings on the next page.

Applicable Range

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

Maximum Door Moment N・m	Item Name	Qty
6.1~8.8	S-AT01 (S)	1pc
8.8~11.8	S-AT02 (S)	

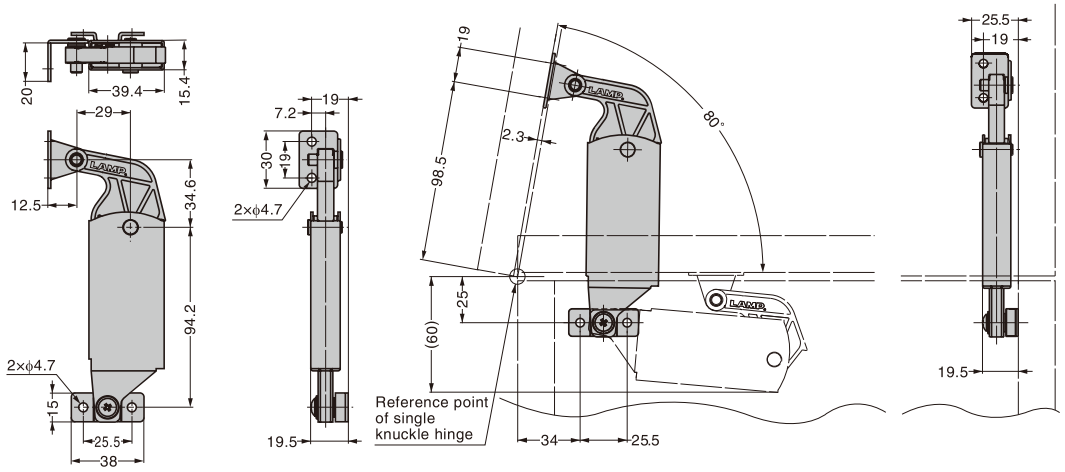
• With 2 stays, the maximum door moment will be doubled.

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP LIFT ASSIST STAY S-AT01, S-AT02 Side Mount

Latest Info

INSTRUCTION

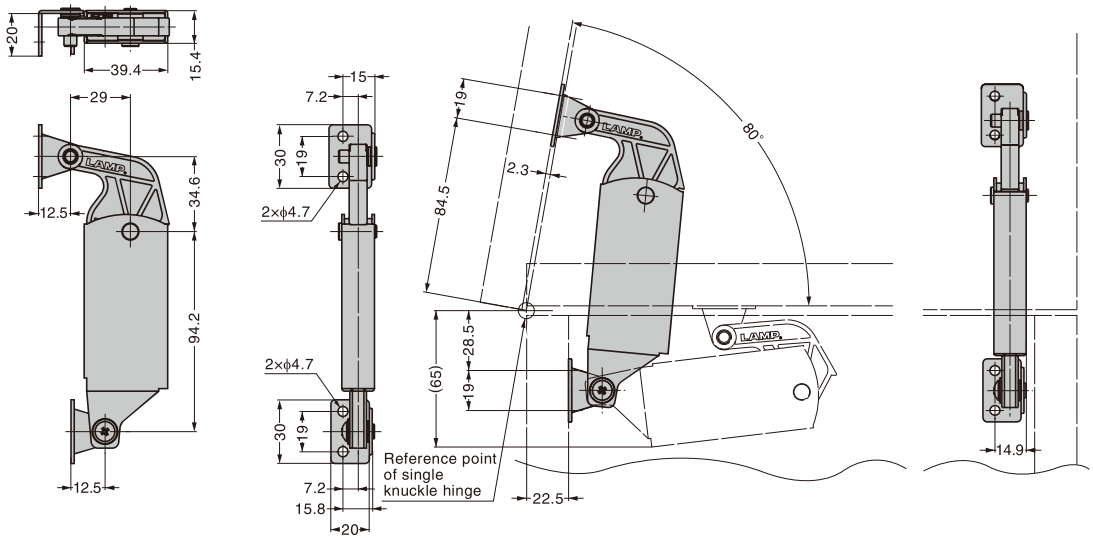


Item Code	Item Name	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
180-017-544	S-AT01	Stainless Steel (SUS430)/POM	Plain	6.1~ 8.8	62~ 90	195	10	50
180-017-545	S-AT02			8.8~11.8	90~120	195	10	50
180-043-522	S-AT005			4.1~ 6.1	42~ 62	195	10	50

LAMP LIFT ASSIST STAY S-AT01S, S-AT02S Back Panel Mount

Latest Info

INSTRUCTION

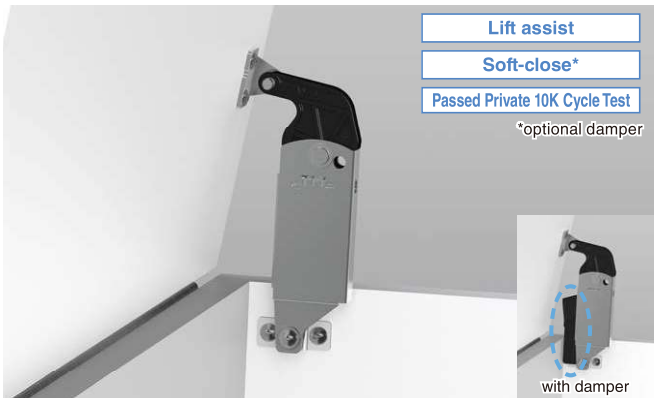


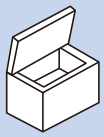
Item Code	Item Name	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
180-017-546	S-AT01S	Stainless Steel (SUS430)/POM	Plain	6.1~ 8.8	62~ 90	195	10	50
180-017-547	S-AT02S			8.8~11.8	90~120	195	10	50
180-043-523	S-AT005S			4.1~ 6.1	42~ 62	195	10	50

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. BALANCE-ADJUSTABLE LIFT-ASSIST STAY S-ATJ Side Mount NEW

Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment*
	Lif-assist Soft Close(optional)	Wood	6.1~11.8 N·m/pc

*The max. door moment depends on the following factors:
- Location of centre of gravity
- Installation point of stays
- Balance adjustment

Feature

- Spring mechanism assists in lifting the top-opening lid.
- Easily holds the door at any angle.
- The balance adjustment allows for use in wider range of lids than conventional S-AT stays can be used.
- The locking hole prevents accidental close by inserting a screw driver into it.
- The optional damper S-ATD (P.304) provides soft closing.

INSTRUCTION

Specifications

- Operating temperature : 0°C~40°C
- Operating humidity : 90%RH or less
- For other specifications exceeding the above range, please contact local representatives.

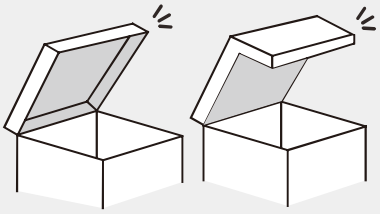
Remarks

- Be sure to read the “Cautions” (P.241).
- When used for the top-opening lid, install a stopper (not included) to prevent from exceeding the opening angle.
- Material of the mounting surface should be take into consideration. Low rigidness may cause deformation or damage.
- Was not designed for continuous opening and closing .
- Do not use outdoors.
- Spring tension may vary over time.
- Do not use concealed hinges (multiaxial hinges).
- Installation points must be parallel when using more than one stay.

Recommended Screw

- Truss head screw M5

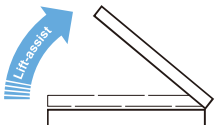
Balance Adjustment



This feature allows adjustment to the location of centre of gravity.

Lift-assist

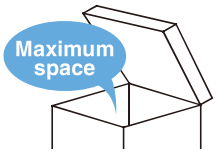




Spring mechanism assists in lifting the top-opening lid. You can select hard or soft spring tension type depending on lid weight and dimension.

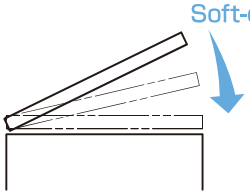
Compact





Small body maximises space inside the cabinet.

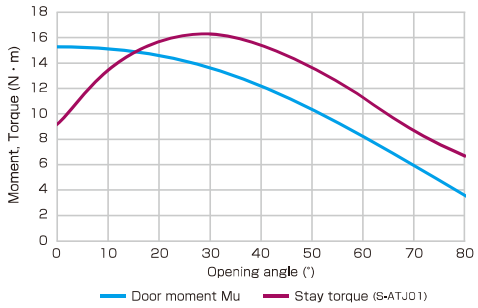
Soft-close (optional damper)





The S-ATD (optional damper) (P.304) provides soft-closing effect ensuring safety

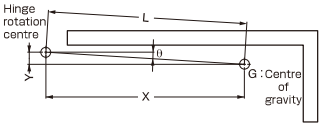
Door Moment and Stay Torque (when using two stays, setting adjustment C)



The graph above shows a ideal example of curves.
The stay torque should be above the door moment from the middle of the opening.
・Door moment Mu > Stay torque : Force is applied in the closing direction of door.
・Door moment Mu < Stay torque : Force is applied in the opening direction of door.
・Door specs (example) : X=500mm Y=20mm L=500.4mm m=3kg
*The installation point is the same as the drawings on the page of the HG-PA300-15.

Calculationg Door Moment

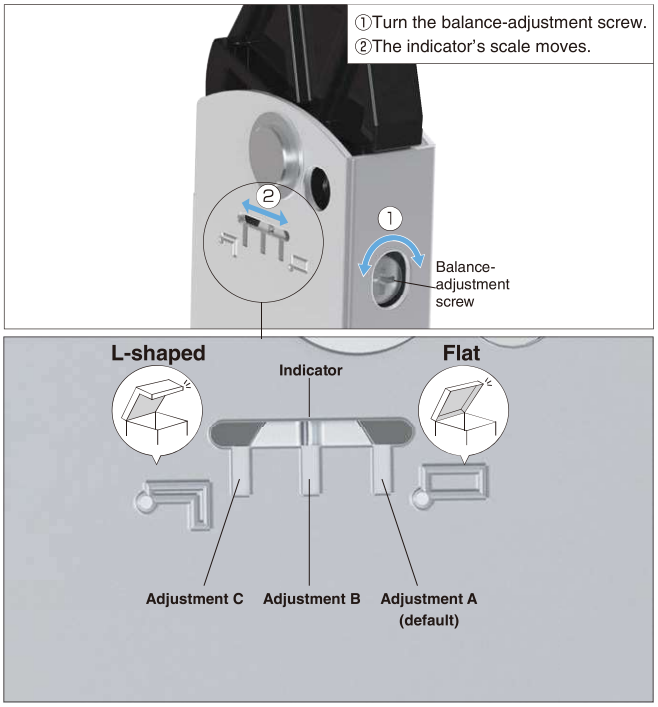
Calculation formula: Mu = m × L × cosθ



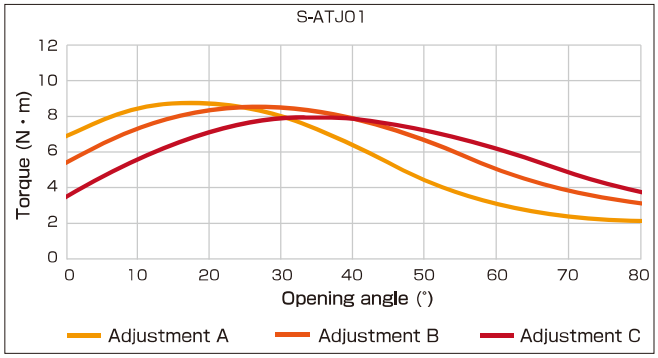
X	Horizontal distance from rotation centre to lid centre of gravity
Y	Vertical distance from rotation centre to lid centre of gravity
L	Distance from rotation centre to lid centre of gravity
θ	Angle from the horizontal line at the rotation centre to lid centre of gravity
m	Lid weight
G	Lid centre of gravity

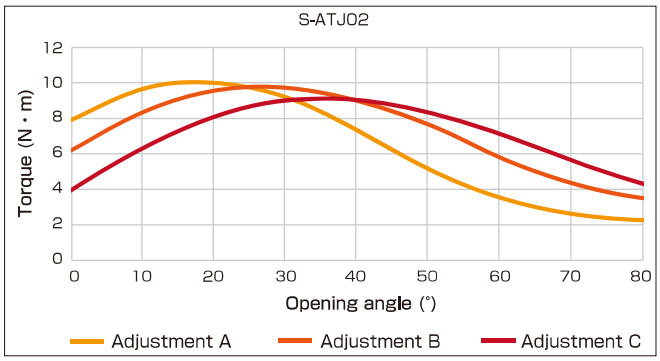
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

Balance Adjustment



Torque-Angle Graph showing the variation of peak torque when balance-adjusted

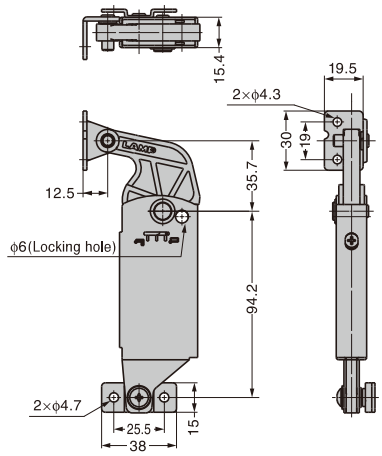




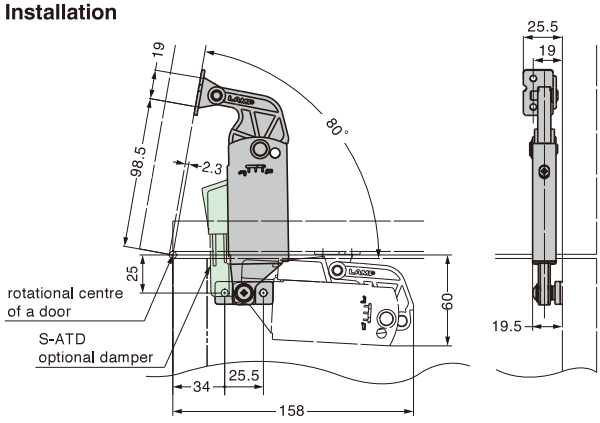
The indicator shows how much balance-adjustment is applied.
Balance-adjustment should depend on the location of the centre of gravity.
When used in:
- a flat lid, "Adjustment A" becomes better setting.*
- a L-shaped lid, "Adjustment C" becomes better setting.*

*A flat lid's centre of gravity is higher than its rotational centre.
*A L-shaped lid's centre of gravity is lower than its rotational centre.

Selection Tool
S-AT Stay



Installation



Body

Item Code	Item Name	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
180-043-515	S-ATJ01	Stainless Steel (SUS430) / POM	Plain	6.1~ 8.8	62~ 90	200	10	50
180-043-518	S-ATJ02			8.8~11.8	90~120		10	50

*The Max. door moment depends on location of centre of gravity, installation point of stays, and balance adjustment.

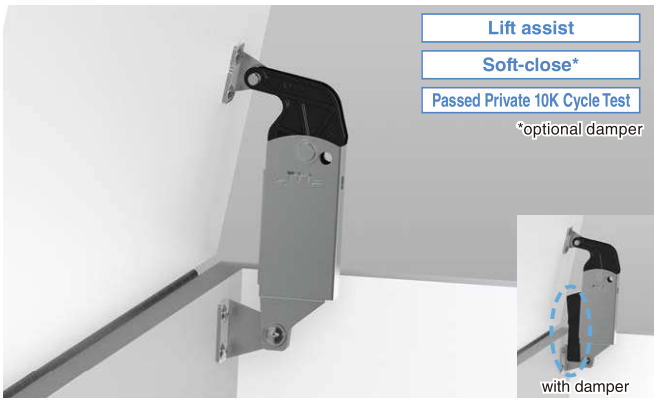
Damper Unit option

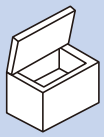
Item Code	Item Name	Damper Case Colour	Damper Resistance	Weight (g)	Box (pcs)	Carton (pcs)
180-054-093	S-ATD-20	Grey	Weak	15	50	-
180-043-521	S-ATD-30	Black	Strong		50	-

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. BALANCE-ADJUSTABLE LIFT-ASSIST STAY S-ATJD Back Panel Mount NEW

Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment*
	Lif-assist Soft Close(optional)	Wood	6.1~11.8 N·m/pc

*The max. door moment depends on the following factors:
- Location of centre of gravity
- Installation point of stays
- Balance adjustment

Feature

- Spring mechanism assists in lifting the top-opening lid.
- Easily holds the door at any angle.
- The balance adjustment allows for use in wider range of lids than conventional S-AT stays can be used.
- The locking hole prevents accidental close by inserting a screw driver into it.
- The optional damper S-ATD (P.304) provides soft closing.

INSTRUCTION

Specifications

- Operating temperature : 0°C~40°C
- Operating humidity : 90%RH or less
- For other specifications exceeding the above range, please contact local representatives.

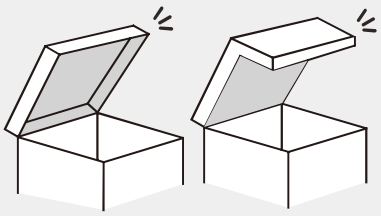
Remarks

- Be sure to read the “Cautions” (P.241).
- When used for the top-opening lid, install a stopper (not included) to prevent from exceeding the opening angle.
- Material of the mounting surface should be take into consideration. Low rigidness may cause deformation or damage.
- Was not designed for continuous opening and closing .
- Do not use outdoors.
- Spring tension may vary over time.
- Do not use concealed hinges (multiaxial hinges).
- Installation points must be parallel when using more than one stay.

Recommended Screw

- Truss head screw M4

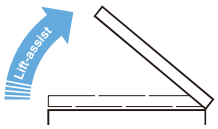
Balance Adjustment



This feature allows adjustment to the location of centre of gravity.

Lift-assist

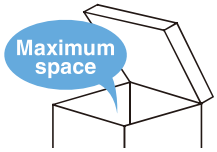




Spring mechanism assists in lifting the top-opening lid. You can select hard or soft spring tension type depending on lid weight and dimension.

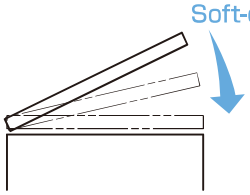
Compact





Small body maximises space inside the cabinet.

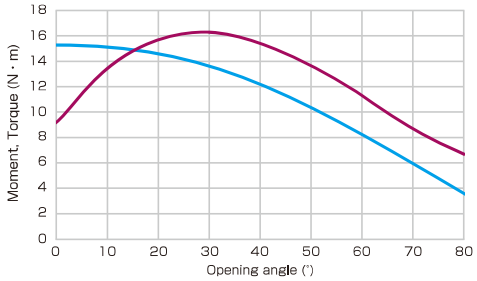
Soft-close (optional damper)





The S-ATD (optional damper) (P.304) provides soft-closing effect ensuring safety

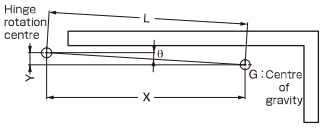
Door Moment and Stay Torque (when using two stays, setting adjustment C)



The graph above shows a ideal example of curves.
The stay torque should be above the door moment from the middle of the opening.
・Door moment Mu > Stay torque : Force is applied in the closing direction of door.
・Door moment Mu < Stay torque : Force is applied in the opening direction of door.
・Door specs (example) : X=500mm Y=20mm L=500.4mm m=3kg
*The installation point is the same as the drawings on the page of the HG-PA300-15.

Calculationg Door Moment

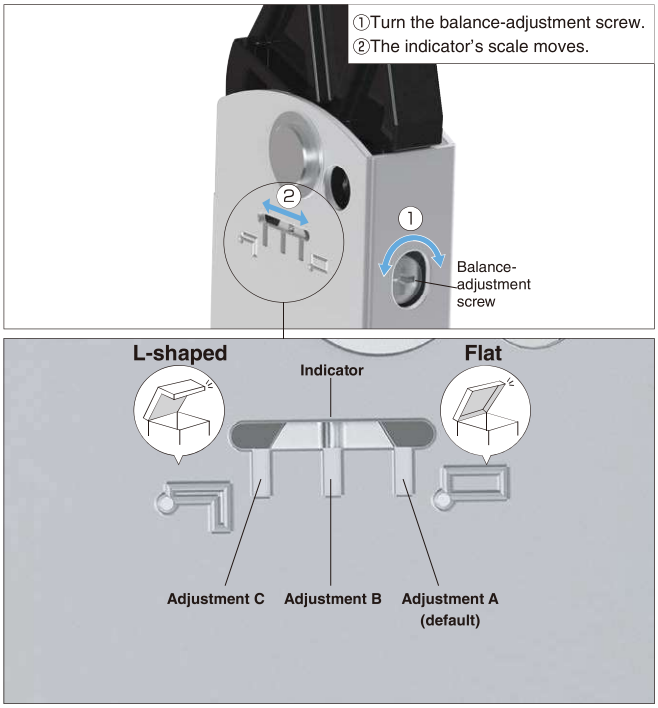
Calculation formula: Mu = m × L × cosθ



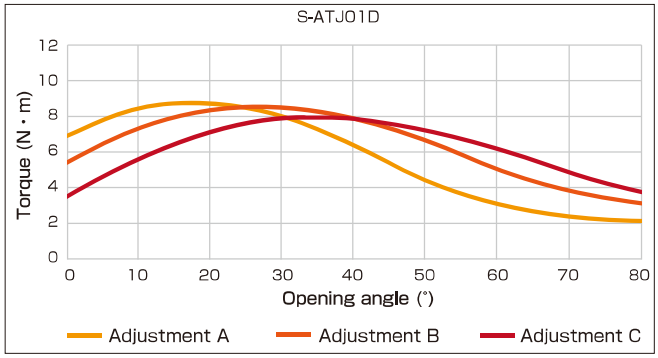
X	Horizontal distance from rotation centre to lid centre of gravity
Y	Vertical distance from rotation centre to lid centre of gravity
L	Distance from rotation centre to lid centre of gravity
θ	Angle from the horizontal line at the rotation centre to lid centre of gravity
m	Lid weight
G	Lid centre of gravity

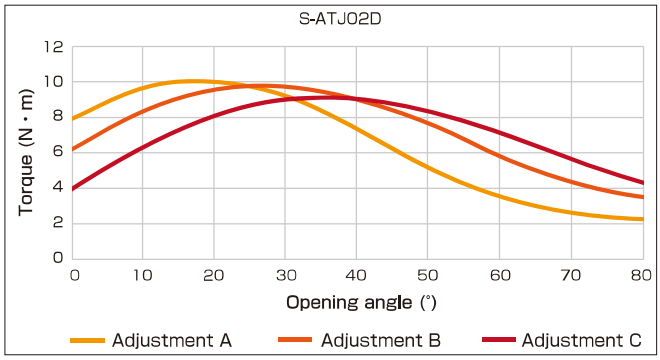
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

Balance Adjustment



Torque-Angle Graph showing the variation of peak torque when balance-adjusted

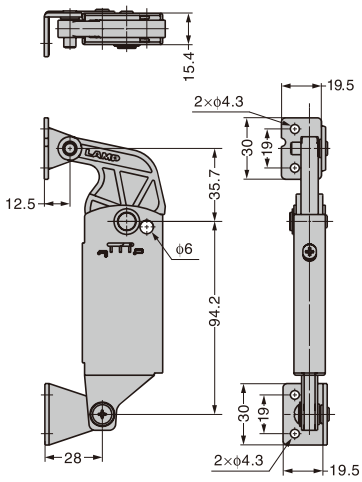




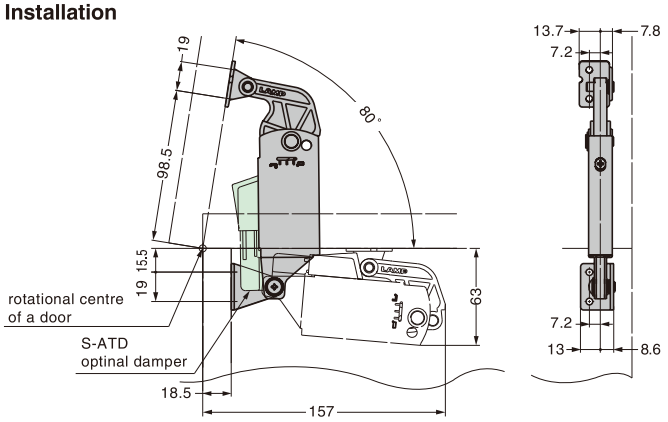
The indicator shows how much balance-adjustment is applied.
Balance-adjustment should depend on the location of the centre of gravity.
When used in:
- a flat lid, "Adjustment A" becomes better setting.*
- a L-shaped lid, "Adjustment C" becomes better setting.*

*A flat lid's centre of gravity is higher than its rotational centre.
*A L-shaped lid's centre of gravity is lower than its rotational centre.

Selection Tool
S-AT Stay



Installation



Body

Item Code	Item Name	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
180-043-516	S-ATJ01D	Stainless Steel (SUS430) / POM	Plain	6.1~ 8.8	62~ 90	210	10	50
180-043-519	S-ATJ02D			8.8~11.8	90~120		10	50

*The Max. door moment depends on location of centre of gravity, installation point of stays, and balance adjustment.

Damper Unit option

Item Code	Item Name	Damper Case Colour	Damper Resistance	Weight (g)	Box (pcs)	Carton (pcs)
180-054-093	S-ATD-20	Grey	Weak	15	50	-
180-043-521	S-ATD-30	Black	Strong		50	-

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP DAMPER UNIT S-ATD For S-ATJ and S-ATJD NEW

Latest Info


S-ATD-20


S-ATD-30

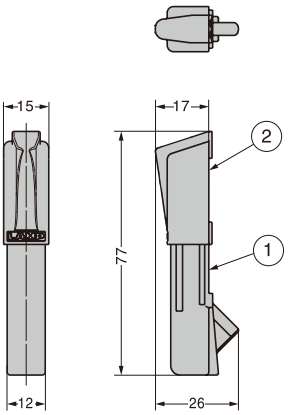
- Specially designed for use with the S-ATJ (P.300) and S-ATJD (P.302). Adds soft-closing feature to the stays.
- A lighter dampening model, S-ATD-20, is now available.
- Easy to attach to the S-ATJ and S-ATJD stays by simply inserting it. The thickness is designed to fit the stays allowing for maximum space inside cabinets.

Remarks

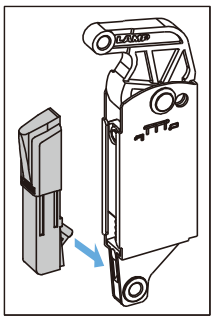
- Be sure to read the “Cautions” (P.241).
- Only for use with S-ATJ and S-ATJD; not compatible with other items in the S-AT series.
- The damper may not be installed correctly if positioned differently from what is specified in the catalogue. Please use the “Selection Tool” on our website to confirm compatibility.

When attached to S-ATJD





Attaching



Feature

Selection Tool
S-AT Stay

No.	Part Name	Material
①	Damper Case	POM
②	Slider	PBT

Item Code	Item Name	Damper Case Colour	Damper Resistance	Weight (g)	Box (pcs)	Carton (pcs)
180-054-093	S-ATD-20	Grey	Weak	15	50	-
180-043-521	S-ATD-30	Black	Strong		50	-

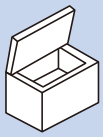
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DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. BALANCE-ADJUSTABLE LIFT-ASSIST STAY S-ATJS Back Panel Mount NEW

Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment*
	Lift-assist	Wood	6.1~11.8 N·m/pc

*The max. door moment depends on the following factors:
- Location of centre of gravity
- Installation point of stays
- Balance adjustment

Feature

- Spring mechanism assists in lifting the top-opening lid.
- Easily holds the door at any angle.
- The balance adjustment allows for use in wider range of lids than conventional S-AT stays can be used.
- The locking hole prevents accidental close by inserting a screw driver into it.

INSTRUCTION

Specifications

- Operating temperature : 0°C~40°C
- Operating humidity : 90%RH or less
- For other specifications exceeding the above range, please contact local representatives.

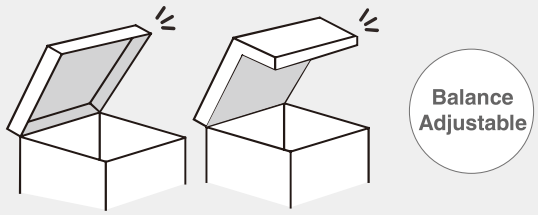
Remarks

- Be sure to read the “Cautions” (P.241).
- When used for the top-opening lid, install a stopper (not included) to prevent from exceeding the opening angle.
- Material of the mounting surface should be take into consideration. Low rigidness may cause deformation or damage.
- Was not designed for continuous opening and closing .
- Do not use outdoors.
- Spring tension may vary over time.
- Do not use concealed hinges (multiaxial hinges).
- Installation points must be parallel when using more than one stay.

Recommended Screw

- Truss head screw M4

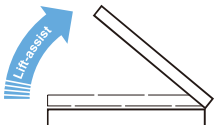
Balance Adjustment



This feature allows adjustment to the location of centre of gravity.

Lift-assist

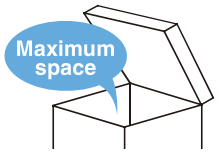




Spring mechanism assists in lifting the top-opening lid. You can select hard or soft spring tension type depending on lid weight and dimension.

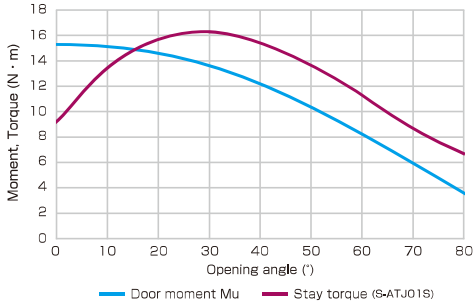
Compact





Small body maximises space inside the cabinet.

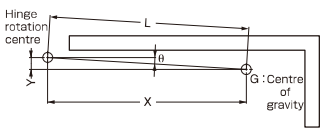
Door Moment and Stay Torque (when using two stays, setting adjustment C)



The graph above shows a ideal example of curves.
The stay torque should be above the door moment from the middle of the opening.
・Door moment Mu > Stay torque : Force is applied in the closing direction of door.
・Door moment Mu < Stay torque : Force is applied in the opening direction of door.
・Door specs (example) : X=500mm Y=20mm L=500.4mm m=3kg
*The installation point is the same as the drawings on the page of the HG-PA300-15.

Calculationg Door Moment

Calculation formula: Mu = m × L × cosθ

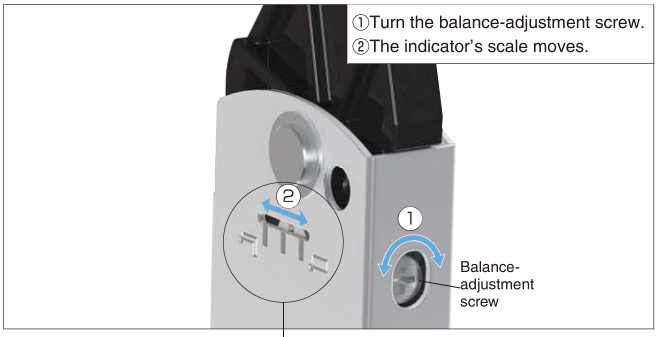


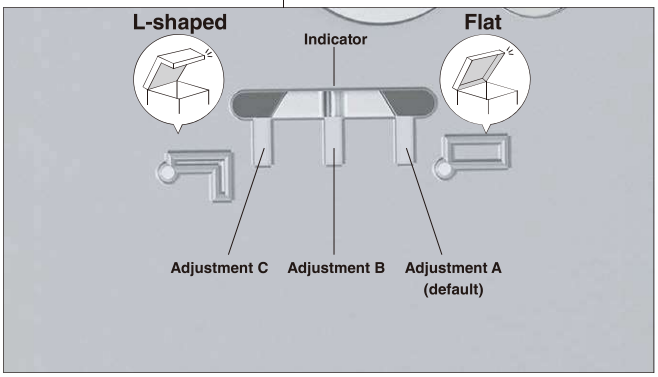
X	Horizontal distance from rotation centre to lid centre of gravity
Y	Vertical distance from rotation centre to lid centre of gravity
L	Distance from rotation centre to lid centre of gravity
θ	Angle from the horizontal line at the rotation centre to lid centre of gravity
m	Lid weight
G	Lid centre of gravity

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LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

Balance Adjustment

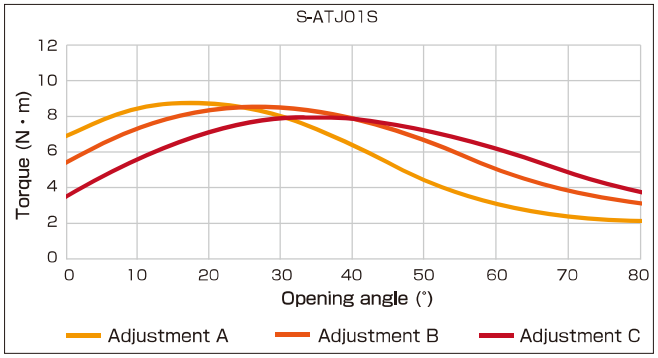


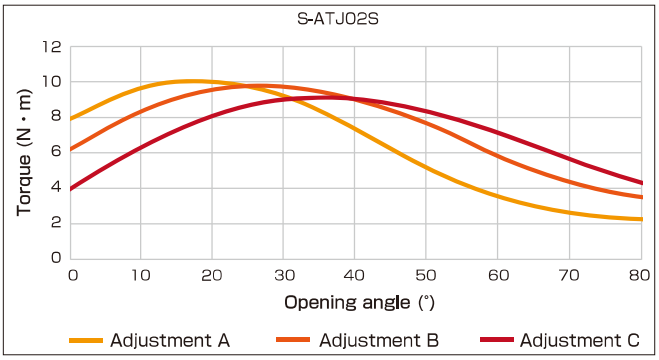


The indicator shows how much balance-adjustment is applied.
Balance-adjustment should depend on the location of the centre of gravity.
When used in:
- a flat lid, "Adjustment A" becomes better setting.*
- a L-shaped lid, "Adjustment C" becomes better setting.*

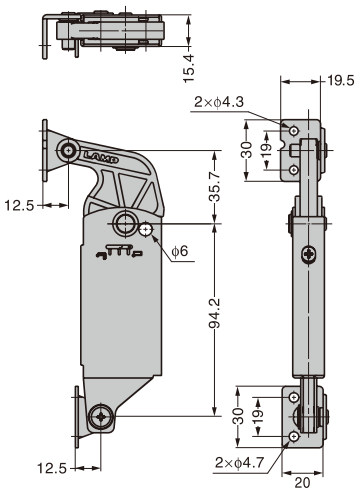
*A flat lid's centre of gravity is higher than its rotational centre.
*A L-shaped lid's centre of gravity is lower than its rotational centre.

Torque-Angle Graph showing the variation of peak torque when balance-adjusted

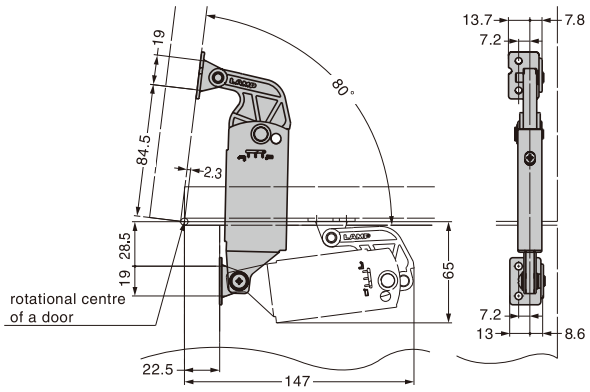




Selection Tool
S-AT Stay



Installation



Body

Item Code	Item Name	Material	Finish	Maximum Door Moment N·m/pc	Maximum Door Moment kgf·cm/pc	Weight (g)	Box (pcs)	Carton (pcs)
180-043-517	S-ATJ01S	Stainless Steel (SUS430) / POM	Plain	6.1~ 8.8	62~ 90	200	10	50
180-043-520	S-ATJ02S			8.8~11.8	90~120		10	50

*The Max. door moment depends on location of centre of gravity, installation point of stays, and balance adjustment.

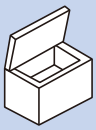
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. HEAVY DUTY SPRING LOADED LID STAY S-AT02W

Latest Info





Opening Direction	Features	Door Material	Maximum Door Moment
	Lift-assist	Wood	Side Mount: 17.6~21.0 N·m/pc Back Panel Mount: 15.0~16.5 N·m/pc

- Approximately twice the torque of regular S-AT with a side-mount installation.
- Lift assist: makes lids feel lighter and easier to open.
- Free stop: holds position at any angle from 10° - 80°.
- Compact design allows interior to be used effectively.
- Both back mount and side mount type available. Both are non-handed.

INSTRUCTION

Parts Included
- Bracket for side mount
- Truss head screw M5×6 (SUS) for side mount bracket

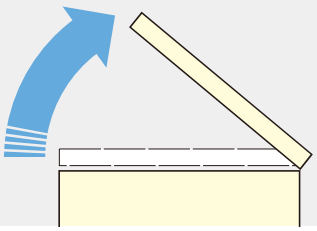
Recommended Screw
- Truss head screw M5

Remarks
- Do not use with concealed hinge.

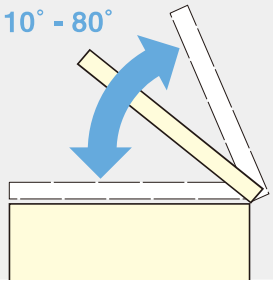
Feature

Selection Tool
S-AT Stay

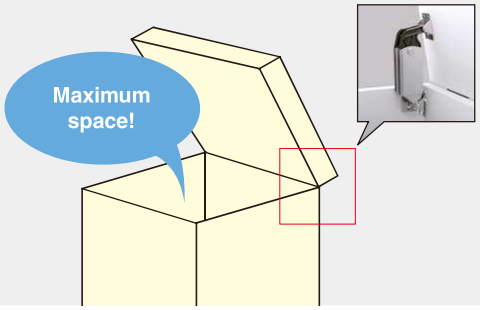
• Easy Operation with Power Assist



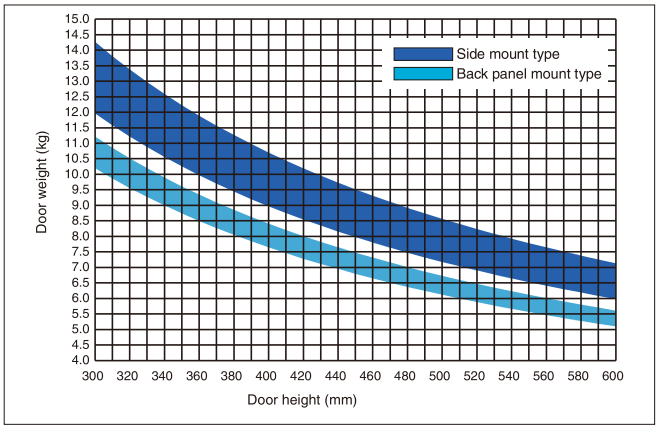
• Free-Stop



• Compact



Door Size Ranges



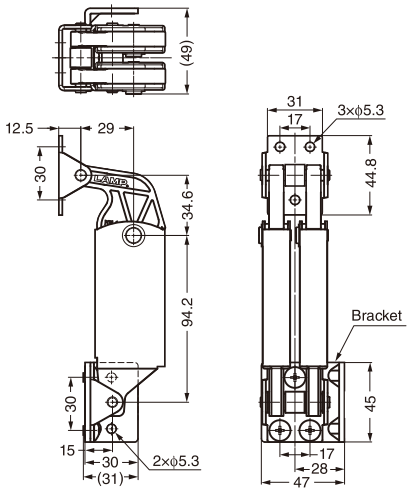
Torque
- With 1 stay
  Torque (Side mount) = 17.6 - 21.0 N·m (180 - 214 kgf·cm)
  Torque (Back panel mount) = 15.0 - 16.5 N·m (153 - 168 kgf·cm)
- With 2 stays, the torque will be doubled.

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

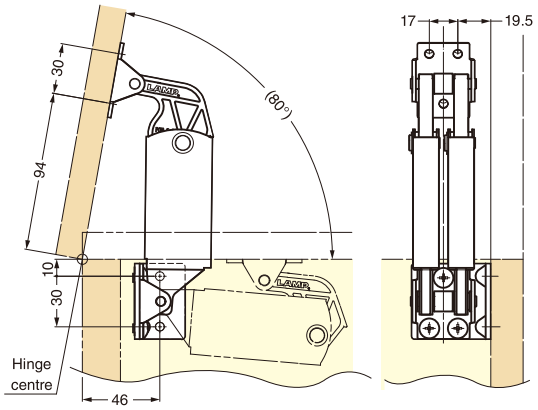
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BOTTOM-OPENING
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LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

LAMP HEAVY DUTY SPRING LOADED LID STAY S-AT02W Side Mount Type

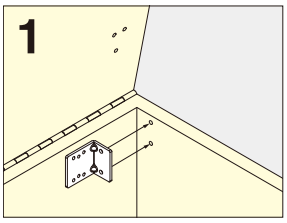
Latest Info

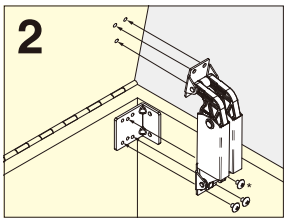


Installation



How to Install

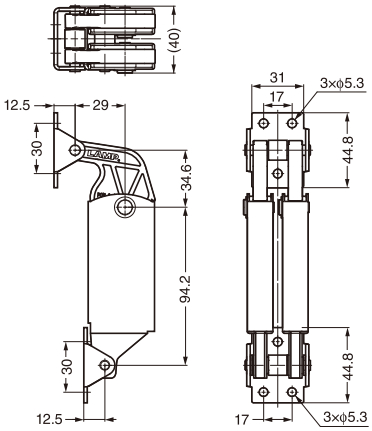




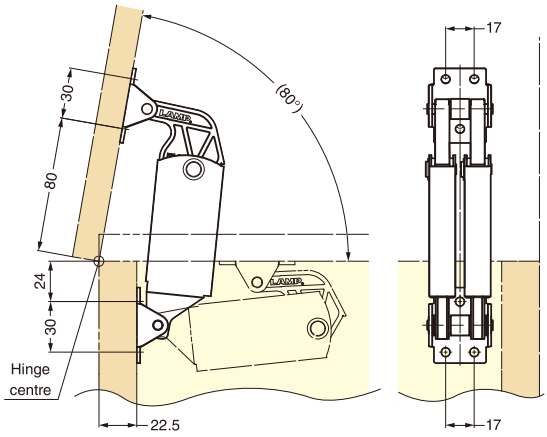
*Only these three screws are included.

LAMP HEAVY DUTY SPRING LOADED LID STAY S-AT02W Back Panel Mount Type

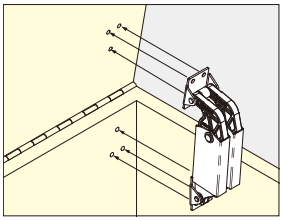
Latest Info



Installation



How to Install

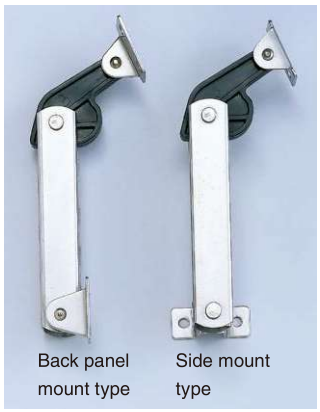


*Mounting screws are not included.

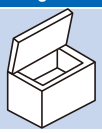
Item Code	Item Name	Material	Finish/Colour	Type	Torque Moment		Weight	Carton
180-025-461	S-AT02W	Stainless Steel (SUS430) /Polyacetal (POM)	Plain/Black	Side Mount Type	17.6 - 21.0 N·m/pc	180 - 214 kgf·cm/pc	490 g	10 pcs
				Back Panel Mount Type	15.0 - 16.5 N·m/pc	153 - 168 kgf·cm/pc		

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LAMP. SPRING LOADED LID STAY S-YT

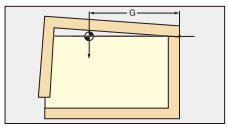




Opening Direction	Features	Door Material	Maximum Door Moment
	can be opened with a small force. can be held in fully opened position.	Wood	Max. 3.92 N·m/pc

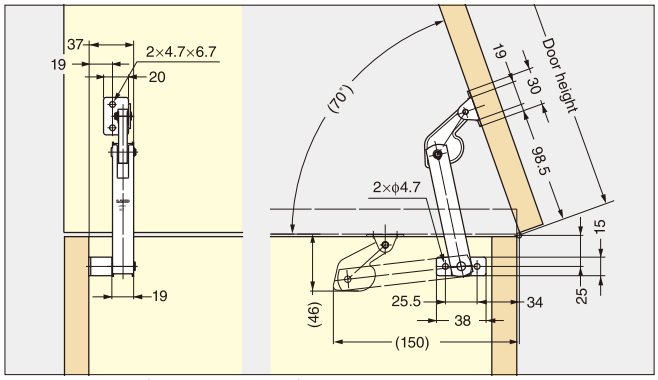
- Built-in spring mechanism makes opening lids feel light. Holds in fully open position.
- 2 different kinds of spring power available.
- Both body and spring are made out of SUS304 stainless steel for excellent corrosion resistance.
- Easy to separate resin and metal components.

Remarks
- Do not use with concealed hinges.



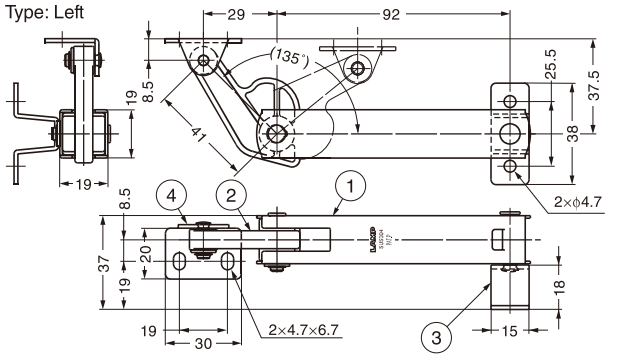
LAMP. SPRING LOADED LID STAY S-YT SIDE MOUNT TYPE

Latest Info



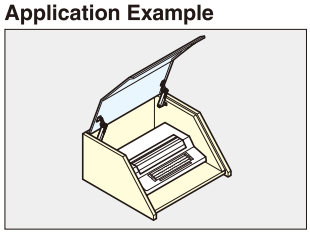
Installation for 70˚opening (Max. 80˚)

Type: Left



No.	Part Name	Material	Finish/Colour
①	Body	Stainless Steel (SUS304)	Mirror
②	Arm	Polyacetal (POM)	Black
③	Case Bracket	Stainless Steel (SUS304)	Mirror
④	Arm Bracket	Stainless Steel (SUS304)	Mirror

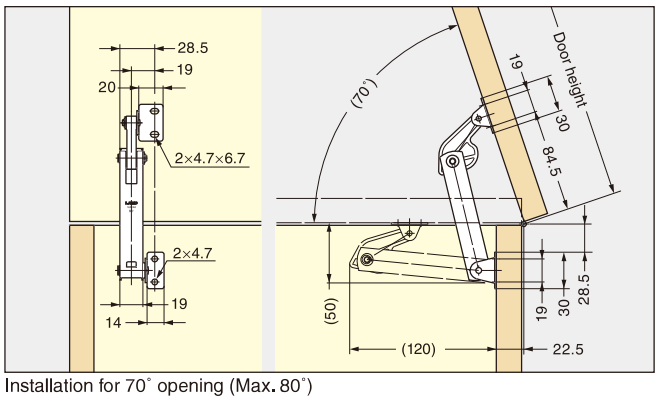
Application Example



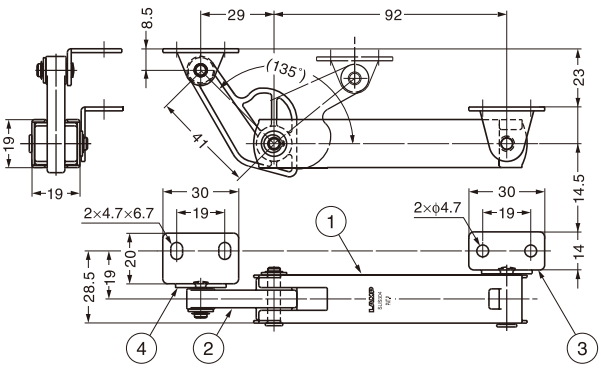
Item Code	Item Name	Type	Spring Tension	Approx. Torque Moment	Weight	Box	Carton
180-100-083	S-YT01R	Right	Soft	Max. 2.94 N·m/pc (30 kgf·cm/pc)	130 g	10 pcs	100 pcs
180-100-084	S-YT01L	Left	Soft		130 g	10 pcs	100 pcs
180-100-085	S-YT02R	Right	Hard	Max. 3.92 N·m/pc (40 kgf·cm/pc)	130 g	10 pcs	100 pcs
180-100-086	S-YT02L	Left	Hard		130 g	10 pcs	100 pcs

LAMP. SPRING LOADED LID STAY S-YT BACK PANEL MOUNT TYPE

Latest Info

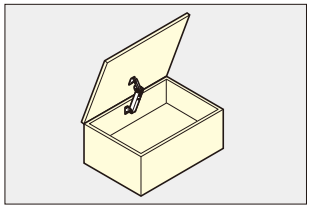


Installation for 70˚ opening (Max. 80˚)



No.	Part Name	Material	Finish/Colour
①	Body	Stainless Steel (SUS304)	Mirror
②	Arm	Polyacetal (POM)	Black
③	Case Bracket	Stainless Steel (SUS304)	Mirror
④	Arm Bracket	Stainless Steel (SUS304)	Mirror

Application Example



Item Code	Item Name	Spring Tension	Approx. Torque Moment	Weight	Box	Carton
180-100-081	S-YT01S	Soft	Max. 2.94 N·m/pc (30 kgf·cm/pc)	130 g	10 pcs	100 pcs
180-100-082	S-YT02S	Hard	Max. 3.92 N·m/pc (40 kgf·cm/pc)	130 g	10 pcs	100 pcs

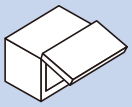
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LIFT-DOWN
UP & OVER
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OVER THE TOP
SWING DOOR

LAMP. ULTRA MINI LID STAY L-100S, L-140S

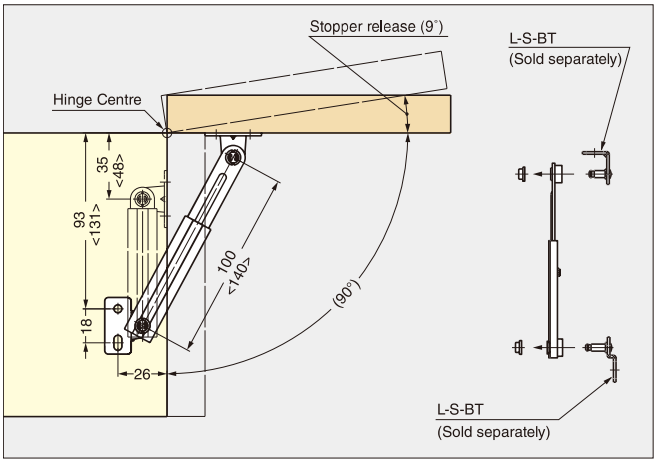
Latest Info



Opening Direction	Features	Door Material	Compression Load	Qty
	OPEN Holds When Fully Opened	Wood	58.8 N/pc	1 Pc Per Door

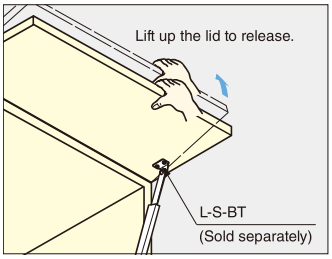
- Door flap locks in opened position. To release, push door flap into fully opened position.
- When closed, the extendible section of the arm is stored inside the body, allowing the cabinet interior to be used effectively.
- Small, compact profile can be installed in narrow spaces
- Can be used with smaller door flaps including those used on smaller pieces of equipment.

Installation

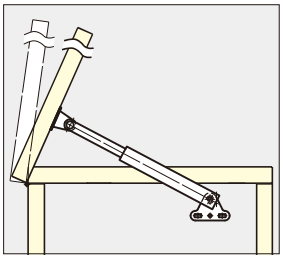


< >: L-140S

Stopper Release



Use on Top-opening Lids



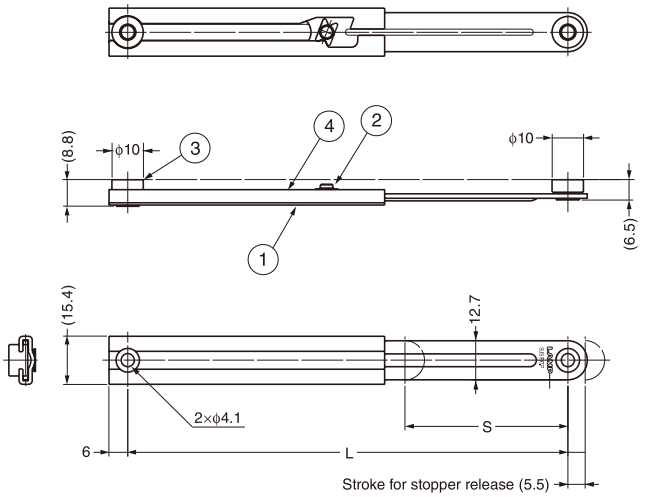
Maximum angle of top-opening lids must be less than 90 degrees.

TEST METHOD 16 | SUS

Feature

Sold Separately

- Mounting bracket L-S-BT (below)



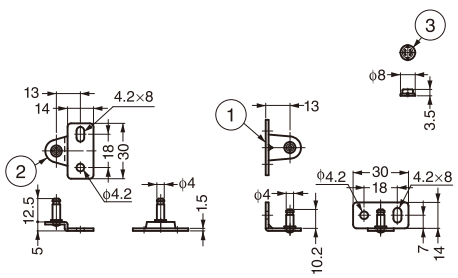
No.	Part Name	Material	Finish
①	Body	Stainless Steel (SUS304)	Polished
②	Washer	Polyamide (PA)	–
③	Case Bracket	Stainless Steel (SUS304)	–
④	Roter	Stainless Steel (SUS304)	Barrel Polished

Item Code	Item Name	Compression Load		L	S	Weight	Box	Carton
180-109-118	L-100S	58.8 N/pc	6 kgf/pc	100	32	31 g	30 pcs	300 pcs
180-100-105	L-140S	58.8 N/pc	6 kgf/pc	140	52	38 g	30 pcs	300 pcs

LAMP. MOUNTING BRACKET L-S-BT

Latest Info





- Optional brackets for L-100S and L-140S stays (above).
- Brackets for arm and case sold as set.

Remarks

- Do not re-use the bracket. Plastic bushing may become loose once taken off from stay.

No.	Part Name	Material	Finish/Colour
①	Arm Bracket	Stainless Steel (SUS304)	Polished
②	Case Bracket	Stainless Steel (SUS304)	Polished
③	Cap	Polyacetal (POM)	White

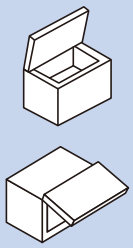
Item Code	Item Name	Weight	Box	Carton
180-100-620	L-S-BT	17 g	40 sets	400 sets

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. MINI LID STAY (W/ LOCK) L-SL140

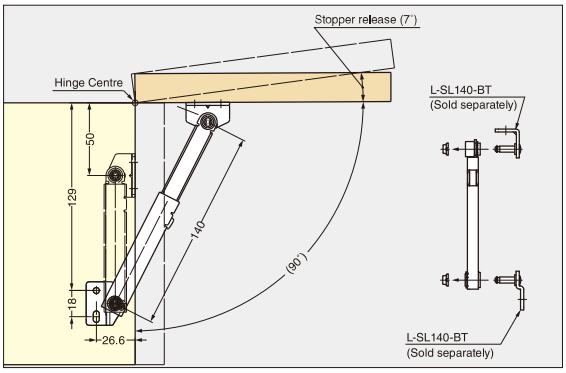
Latest Info



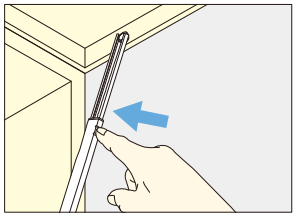
Opening Direction	Features	Door Material	Compression Load	Qty
	OPEN Holds When Fully Opened	Wood	147 N/pc	1 Pc Per Door

- Door flap locks in opened position. To release, push door flap into fully opened position and then press lock release. (Safety lock feature).
- When closed, the extendible section of the arm is stored inside the body, allowing the cabinet interior to be used effectively.
- Has same length as L-140S
- Small, compact profile can be installed in narrow spaces
- Can be used with smaller door flaps including those used on smaller pieces of equipment.

Installation



Lock Release

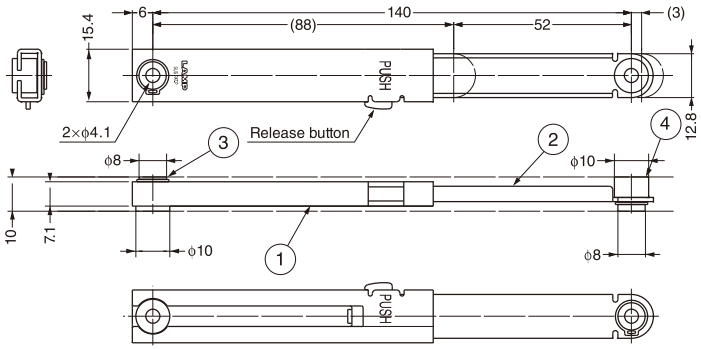


SUS

Sold Separately

- Mounting bracket L-SL140-BT (P.311)

Feature



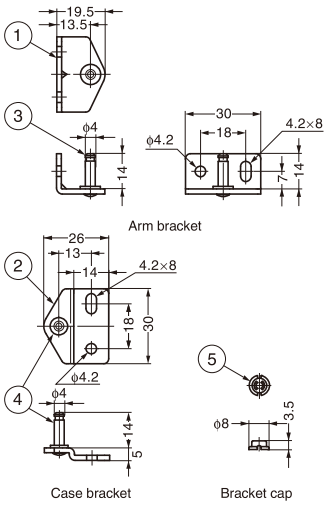
No.	Part Name	Material	Finish
①	Body	Stainless Steel (SUS304)	Polished
②	Arm	Stainless Steel (SUS304)	Polished
③	Case Bracket	Stainless Steel (SUS304)	–
④	Arm Bracket	Stainless Steel (SUS304)	–

Item Code	Item Name	Compression Load		Weight	Box	Carton
180-109-354	L-SL140	147 N/pc	15 kgf/pc	51 g	30 pcs	300 pcs

LAMP. BRACKET L-SL140-BT

Latest Info





- Bracket for L-SL140.
- One-touch installation with the bracket cap.
- See P.311 for installation details.

No.	Part Name	Material	Finish/Colour
①	Arm Bracket	Stainless Steel (SUS304)	Polished
②	Case Bracket	Stainless Steel (SUS304)	Polished
③	Axis of Arm Bracket	Stainless Steel (SUS303)	Plain
④	Axis of Case Bracket	Stainless Steel (SUS303)	Plain
⑤	Fix Cap for Bracket	Polyacetal (POM)	Black

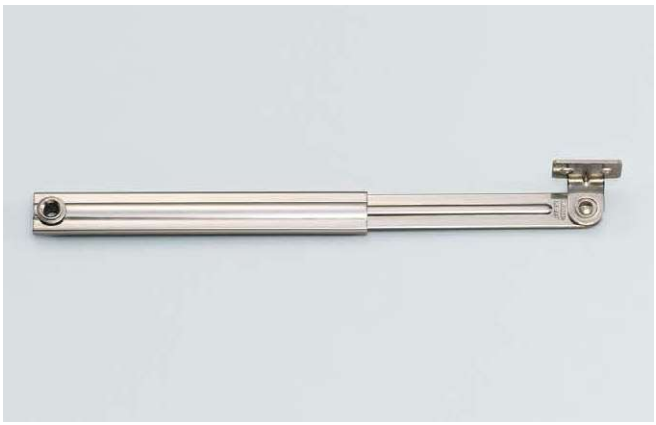
Item Code	Item Name	Weight	Box	Carton
180-028-719	L-SL140-BT	28 g	30 pcs	300 pcs

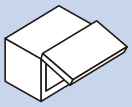
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

LAMP. LOW PROFILE LID STAY L-200P

Latest Info



Opening Direction	Features	Door Material	Compression Load	Qty
	OPEN Holds When Fully Opened	Wood	147 N/pc	1 Pc Per Door

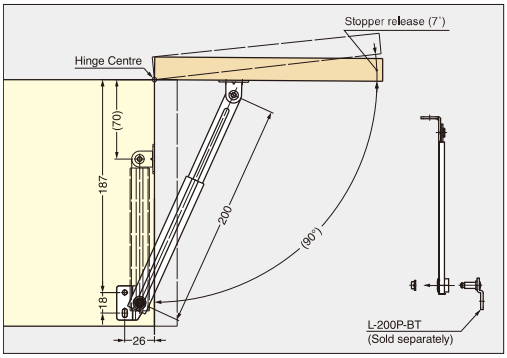
- Door flap locks in opened position. To release, push door flap into fully opened position.
- When closed, the extendible section of the arm is stored inside the body, allowing the cabinet interior to be used effectively.
- Small, compact profile can be installed in narrow spaces.
- Can be used with door flaps like those used on different pieces of equipment.

TEST METHOD 16 | SUS

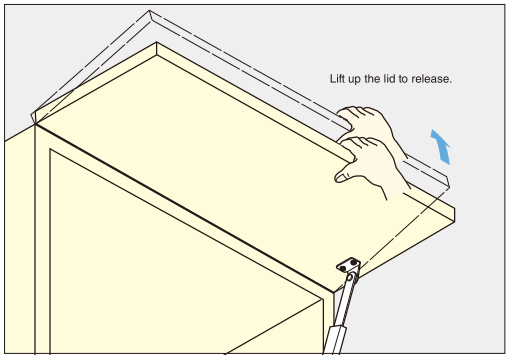
Feature

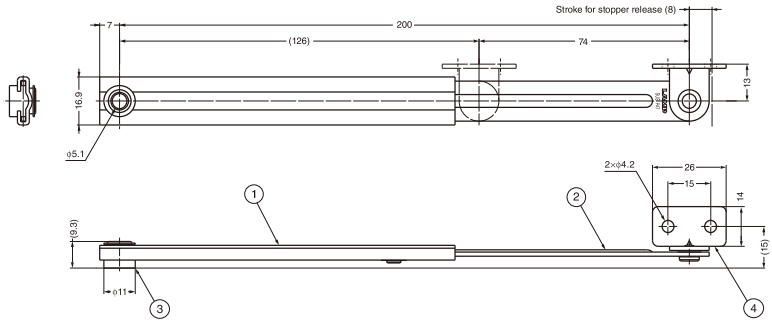
Sold Separately
- Mounting bracket L-200P-BT (P.312)

Installation



Stopper Release





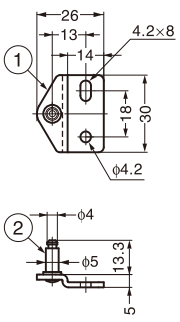
No.	Part Name	Material	Finish
①	Body	Stainless Steel (SUS304)	Polished
②	Arm	Stainless Steel (SUS304)	Polished
③	Case Bracke	Stainless Steel (SUS304)	–
④	Arm Bracket	Stainless Steel (SUS304)	Polished

Item Code	Item Name	Compression Load		Weight	Box	Carton
180-100-104	L-200P	147 N/pc	15 kgf/pc	68 g	30 pcs	300 pcs

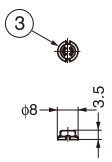
LAMP. BRACKET L-200P-BT

Latest Info





Case bracket



Bracket cap

- Bracket for L-200P.
- One-touch installation with the bracket cap.
- See P.312 for installation details.

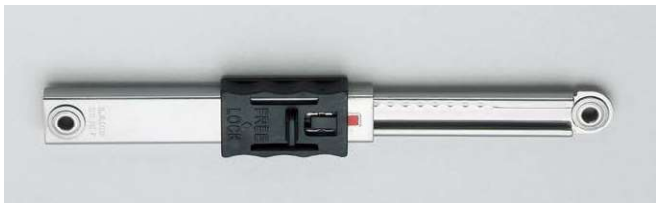
No.	Part Name	Material	Finish/Colour
①	Case Bracket	Stainless Steel (SUS304)	Polished
②	Axis of Case Bracket	Stainless Steel (SUS303)	Plain
③	Fix Cap for Bracket	Polyacetal (POM)	Black

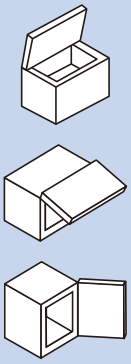
Item Code	Item Name	Weight	Box	Carton
180-028-721	L-200P-BT	14 g	30 pcs	300 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. MINI LID STAY (W/ LOCK) L-FS140

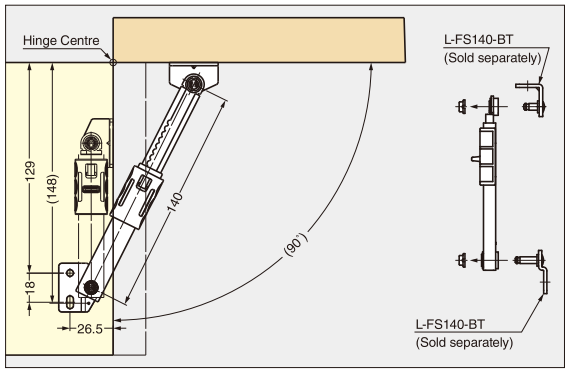
Latest Info



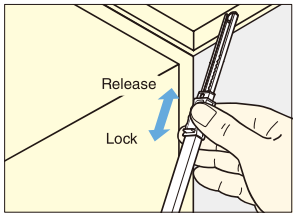
Opening Direction	Features	Non-handed	Qty	Compression Load
	Multiangle Lock	Yes	1 Pc Per Door 2 Pcs Per Door	58.8 N/pc (6 kgf/pc)

- Door flap can be locked at multiple angles. By sliding the arm to the desired length, the stay will lock in place.
- When closed, the extendible section of the arm is stored inside the body, allowing the cabinet interior to be used effectively.
- Has same length as L-140S
- Possible to separate the resin and metal components.

Installation



Lock and Release

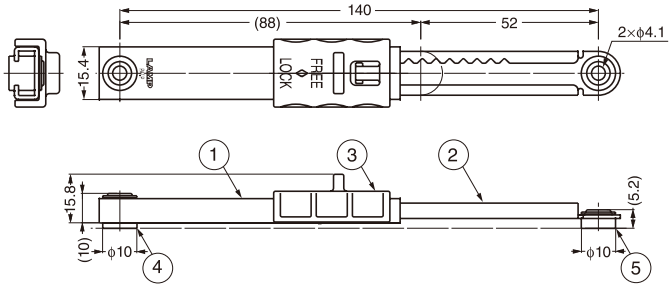


TEST METHOD 16 | SUS

Sold Separately

- Mounting bracket L-FS140-BT (P.313)

Feature



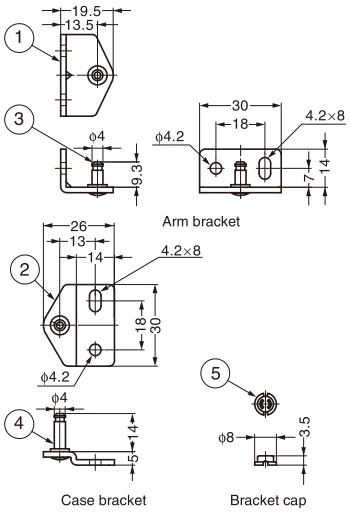
No.	Part Name	Material	Finish/Colour
①	Body	Stainless Steel (SUS304)	Polished
②	Arm	Stainless Steel (SUS304)	Polished
③	Lock Lever	Polyacetal (POM)	Dark Grey
④	Case Bracket	Stainless Steel (SUS304)	–
⑤	Arm Bracket	Stainless Steel (SUS304)	–

Item Code	Item Name	Compression Load		Weight	Box	Carton
180-100-108	L-FS140	58.8 N/pc	6 kgf/pc	50 g	20 pcs	200 pcs

LAMP. BRACKET L-FS140-BT

Latest Info





- Bracket for L-FS140.
- One-touch installation with the bracket cap.
- See P.313 for installation details.

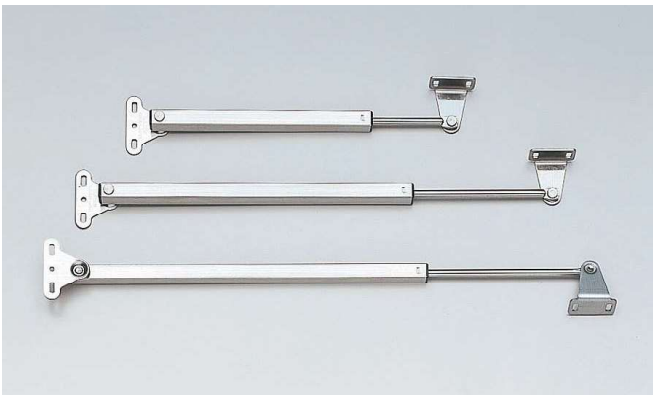
No.	Part Name	Material	Finish/Colour
①	Arm Bracket	Stainless Steel (SUS304)	Polished
②	Case Bracket	Stainless Steel (SUS304)	Polished
③	Axis of Arm Bracket	Stainless Steel (SUS303)	Plain
④	Axis of Case Bracket	Stainless Steel (SUS303)	Plain
⑤	Fix Cap for Bracket	Polyacetal (POM)	Black

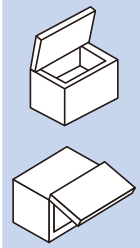
Item Code	Item Name	Weight	Box	Carton
180-028-720	L-FS140-BT	27 g	40 pcs	400 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. LID STAY LK-222, LK-335, LK-380

Latest Info



Opening Direction	Features	Door Material	Maximum Door Moment
	Holds When Fully Opened	Wood	–

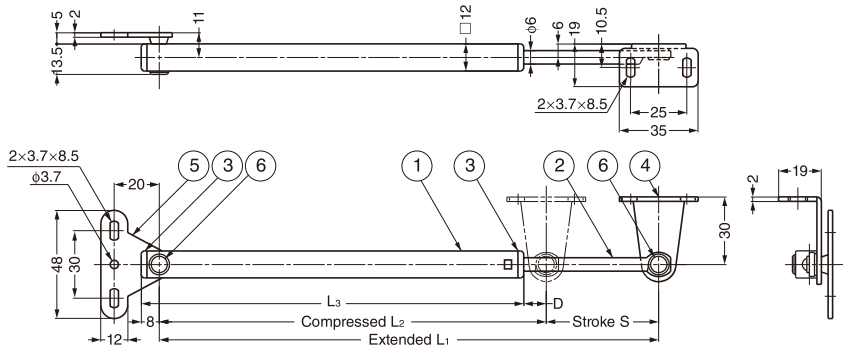
- Spring mechanism makes door flap easier to lift.
- Holds door flap in open position. Does not require a catch.
- When closed, the extendible section of the arm is stored inside the body, allowing the cabinet interior to be used effectively.
- Non-handed.

No.	Part Name	Material	Finish/Colour
①	Body	Stainless Steel (SUS304)	Satin
②	Arm	Stainless Steel (SUS304)	Polished
③	Cover	Polyamide (PA)	Black
④	Arm Bracket	Stainless Steel (SUS304)	Satin
⑤	Case Bracket	Stainless Steel (SUS304)	Satin
⑥	Shaft	Stainless Steel (SUS303)	–
–	Spring	Piano Wire	Yellow Zinc Chromate

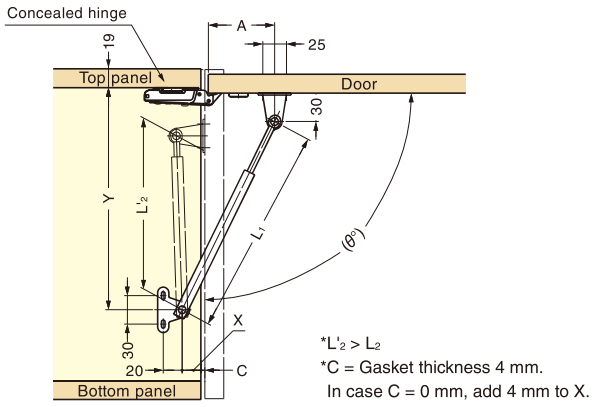
SUS

Remarks

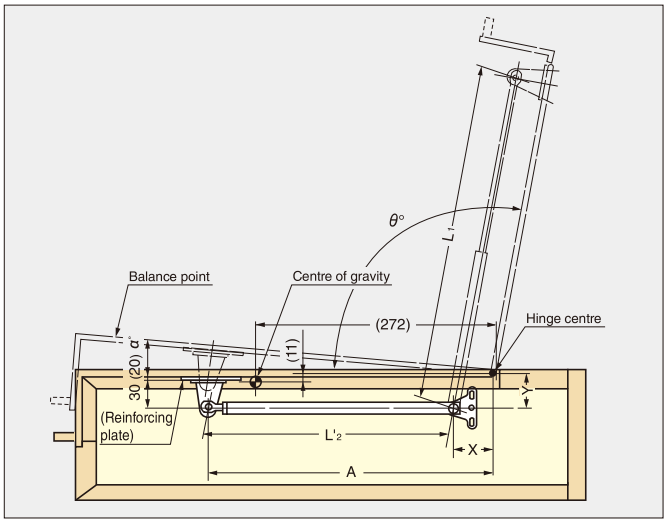
- Please use in pairs.



Installation (1) LK-222, LK-335 (Wooden Door)



Installation (2) LK-335, LK-380 (Acrylic Door)



	Opening Angle θ	L1	A	X	Y	Door Weight
LK-222 (1 pair)	90°	222	70	20	235	Max. 2.5 kg
	85°	222	75	20	240	Max. 2.7 kg
	75°	222	85	20	251	Max. 3.0 kg
LK-335 (1 pair)	90°	335	104	20	344	Max. 3.1 kg
	85°	335	112	20	351	Max. 3.3 kg
	75°	335	127	20	368	Max. 3.8 kg

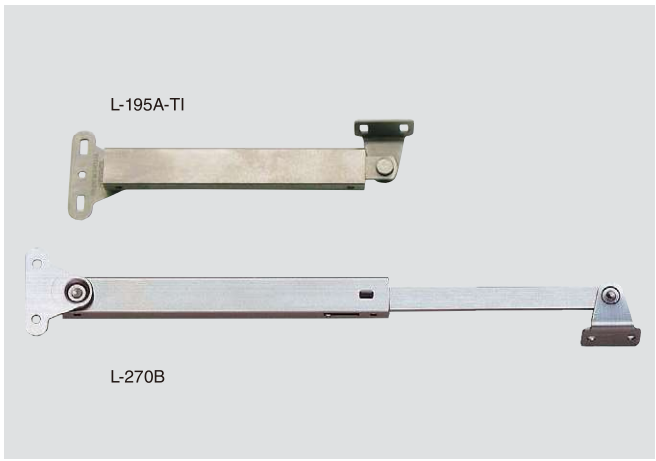
	Opening Angle (θ°)	α°	L1	A	X	Y	Door Weight
LK-335	90°	0.5°	335	295	45	38	2.5 kg
	90°	14°	335	295	45	38	3.0 kg
	85°	12°	335	295	45	44	3.3 kg
LK-380	110°	8°	380	330	40	36	2.5 kg
	90°	3.5°	380	335	55	44	3.0 kg
	90°	4°	380	320	41	59	4.0 kg
	80°	7.5°	380	335	56	60	4.3 kg

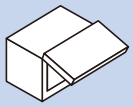
Item Code	Item Name	L1	L2	L3	S	D	Spring Tension		Weight	Box	Carton
							Extended Force	Compressed Force			
180-100-045	LK-222	222	172	170	50	10	31 N (3.2 kgf)	68 N (7.0 kgf)	145 g	25 pcs	150 pcs
180-100-046	LK-335	335	250	238	85	20	37 N (3.8 kgf)	83 N (8.5 kgf)	185 g	25 pcs	150 pcs
180-100-047	LK-380	380	280	269	100	19	35 N (3.6 kgf)	83 N (8.5 kgf)	205 g	25 pcs	150 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. LID STAY L-195, L-270

Latest Info

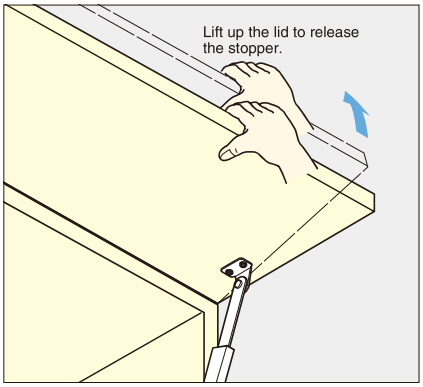


Opening Direction	Features	Door Material	Compression Load	Qty
	OPEN Holds When Fully Opened	Wood	147 N/pc	1 Pc Per Door

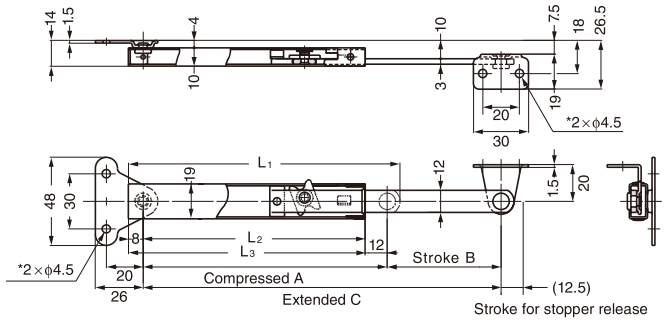
- Door flap locks in opened position. To release, push door flap into fully opened position.
- When closed, the extendible section of the arm is stored inside the body, allowing the cabinet interior to be used effectively.
- Only one stay is required per door flap.
- Non-handed.

TEST METHOD 16 | SUS

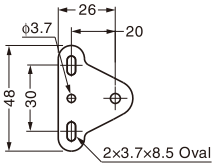
Stopper Release



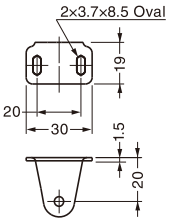
L-195B/L-270B



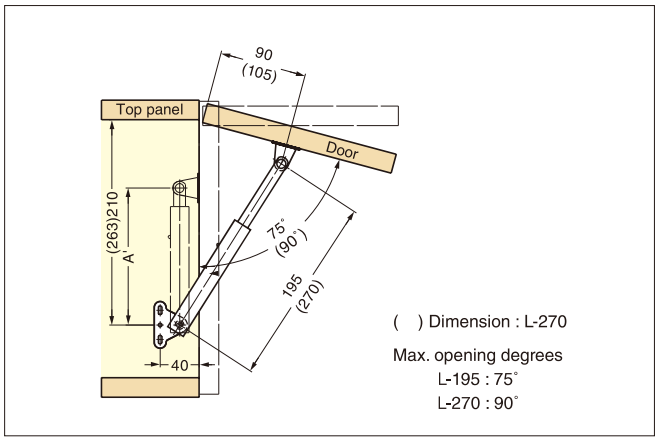
Type A Case bracket



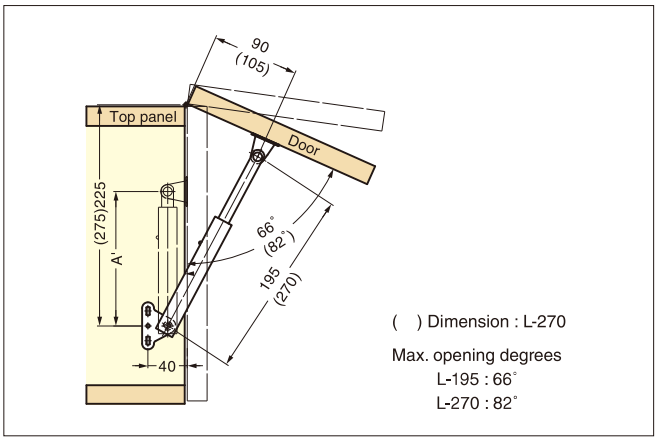
Type A Arm bracket



With Concealed Hinge



With Single Knuckle Hinge



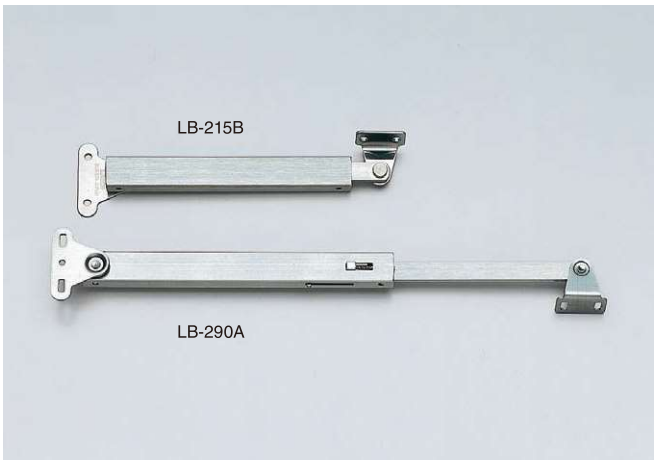
*Type A and B are different in hole shape.

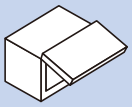
Item Code	Item Name	Material	Finish	L_1	L_2	L_3	A	B	C	Approx. Door Height	Compression Load	Weight	Box	Carton
180-100-114	L-195A	Stainless Steel (SUS304)	Satin	148	121	129	133	62	195	250 - 350	147 N/pc (15 kgf/pc)	120 g	10 pcs	100 pcs
180-100-115	L-195B	Stainless Steel (SUS304)	Satin	148	121	129	133	62	195	250 - 350		125 g	10 pcs	100 pcs
180-100-118	L-195A-TI	Titanium	Satin	148	121	129	133	62	195	250 - 350		71 g	10 pcs	100 pcs
180-100-116	L-270A	Stainless Steel (SUS304)	Satin	185	158	166	170	100	270	320 - 500		150 g	10 pcs	100 pcs
180-100-117	L-270B	Stainless Steel (SUS304)	Satin	185	158	166	170	100	270	320 - 500		183 g	10 pcs	100 pcs
180-100-119	L-270A-TI	Titanium	Satin	185	158	166	170	100	270	320 - 500		87 g	10 pcs	100 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP LID STAY LB-215, LB-290

Latest Info



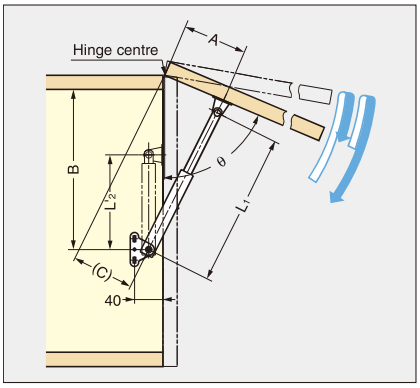
Opening Direction	Features	Door Material	Compression Load	Qty
	OPEN Holds When Fully Opened	Wood	147 N/pc	1 Pc Per Door 2 Pcs Per Door

- Can be used singly or in pairs.
- Door flap locks in opened position. To release, push door flap into fully opened position.
- When closed, the extendible section of the arm is stored inside the body, allowing the cabinet interior to be used effectively.
- Non-handed.

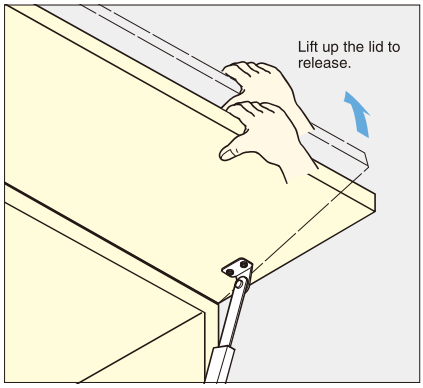
TEST METHOD 16 | SUS

Feature

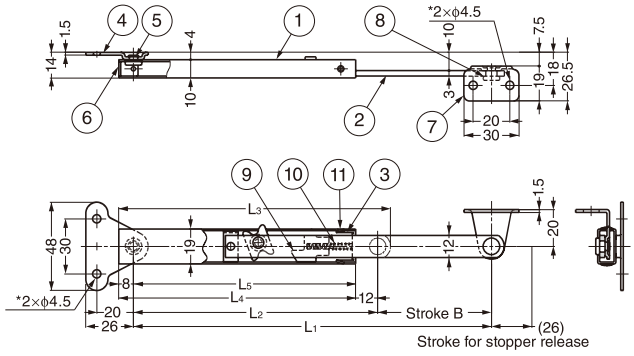
Installation



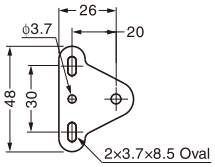
Stopper Release



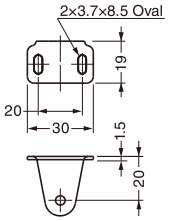
LB-215B/LB-290B



Type A Case bracket



Type A Arm bracket



No.	Part Name	Material	Finish
①	Body	Stainless Steel (SUS304)	Satin
②	Arm	Stainless Steel (SUS304)	–
③	End Cap	Stainless Steel (SUS304)	Satin
④	Case Bracket	Stainless Steel (SUS304)	Satin
⑤	Bottom Shaft	Stainless Steel (SUSXM-7)	–
⑥	Bottom Cap	Stainless Steel (SUS304)	Satin
⑦	Arm Bracket	Stainless Steel (SUS304)	Satin
⑧	Top Shaft	Stainless Steel (SUSXM-7)	–
⑨	Slide Parts	Zinc Alloy (ZDC)	–
⑩	Spring	Stainless Steel (SUS304)	–
⑪	Blind Rivet	Stainless Steel	–

*Type A and B are different in hole shape.

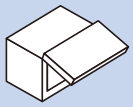
Item Code	Item Name	L1	L2	L3	L4	L5	S	A	B	C	θ	Approx. Door Height	Compression Load	Weight	Box	Carton
180-100-110	LB-215A	215	153	168	149	141	62	90	225	91.8	67°	260 - 350	147 N/pc (15 kgf/pc)	149 g	10 pcs	100 pcs
180-100-112	LB-215B	215	153	168	149	141	62	90	225	91.8	67°	260 - 350		149 g	10 pcs	100 pcs
180-100-120	LB-290A	290	190	205	186	178	100	105	280	102.9	80°	340 - 500		166 g	10 pcs	100 pcs
180-100-121	LB-290B	290	190	205	186	178	100	105	280	102.9	80°	340 - 500		166 g	10 pcs	100 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP LID STAY LB-200A, LB-350A, LB-500A

Latest Info

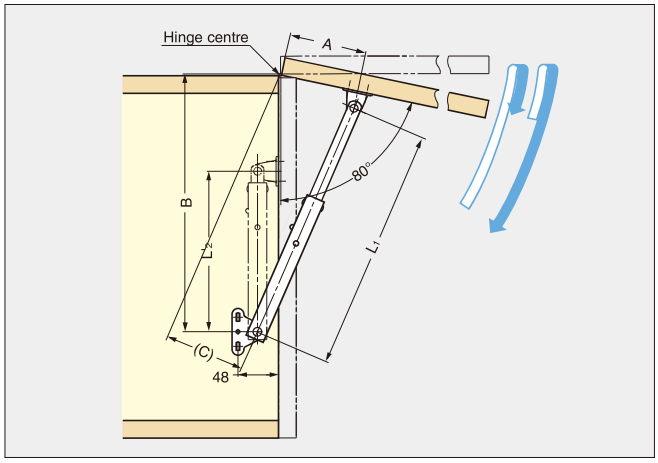


Opening Direction	Features	Door Material	Compression Load	Qty
	OPEN Holds When Fully Opened	Wood	294 N/pc 245 N/pc 196 N/pc	1 Pc Per Door 2 Pcs Per Door

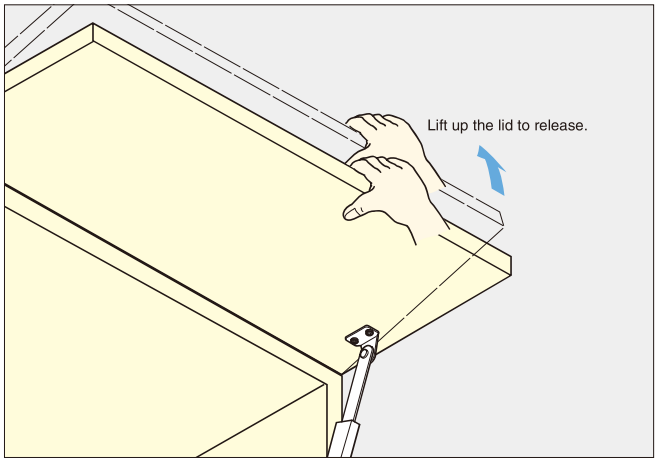
- Can be used singly or in pairs.
- Door flap locks in opened position. To release, push door flap into fully opened position.
- When closed, the extendible section of the arm is stored inside the body, allowing the cabinet interior to be used effectively.
- Door flap can be locked into place using a pin or similar item that will fit in the hole.
- Non-handed.

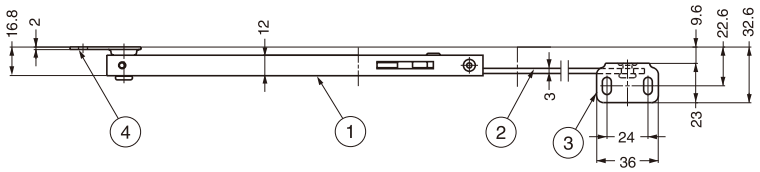
TEST METHOD 16 | SUS

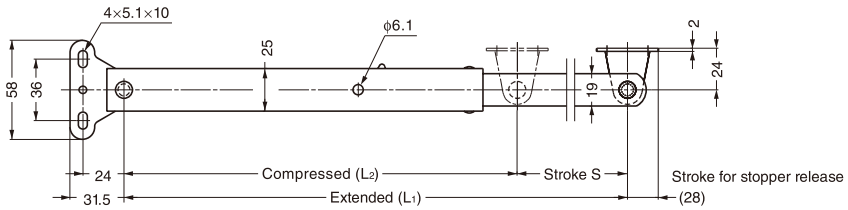
Installation



Stopper Release







No.	Part Name	Material	Finish
①	Body	Stainless Steel (SUS304)	Satin
②	Arm	Stainless Steel (SUS304)	Satin
③	Arm Bracket	Stainless Steel (SUS304)	Satin
④	Case Bracket	Stainless Steel (SUS304)	Satin

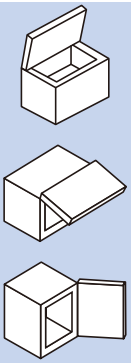
Item Code	Item Name	L_1	L_2	S	A	B	C	Compression Load	Weight	Box	Carton
180-014-929	LB-200A	200	163	45	56	219	59.7	294 N/pc (30 kgf/pc)	234 g	10 pcs	40 pcs
180-100-122	LB-350A	350	230	120	128	364	129.9	245 N/pc (25 kgf/pc)	314 g	10 pcs	40 pcs
180-014-928	LB-500A	500	305	195	195	510	194.5	196 N/pc (20 kgf/pc)	410 g	10 pcs	20 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP LID STAY (W/ LOCK) LSP-195B, LSP-270B

Latest Info



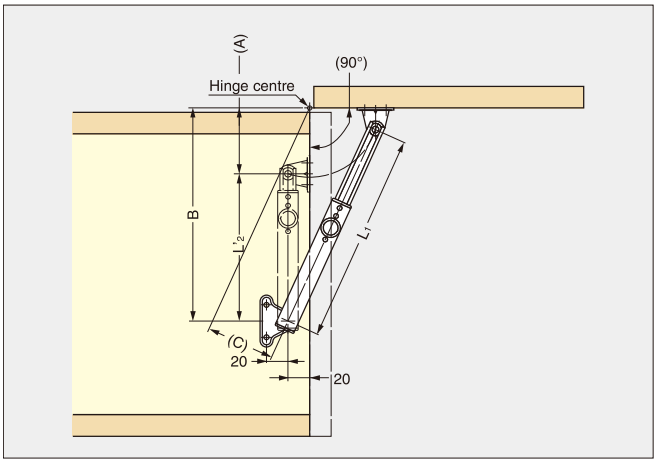
Opening Direction	Features	Door Material	Compression Load	Qty
	OPEN locks in fully opened position	Wood	294 N/pc	1 Pc Per Door

- Can be used singly or in pairs.
- Door flap automatically locks in fully opened position. To release, pull the locking know.
- When closed, the extendible section of the arm is stored inside the body, allowing the cabinet interior to be used effectively.
- Has same length as L-195B and L-270B.
- Resin and metal components can be separated.
- Non-handed.

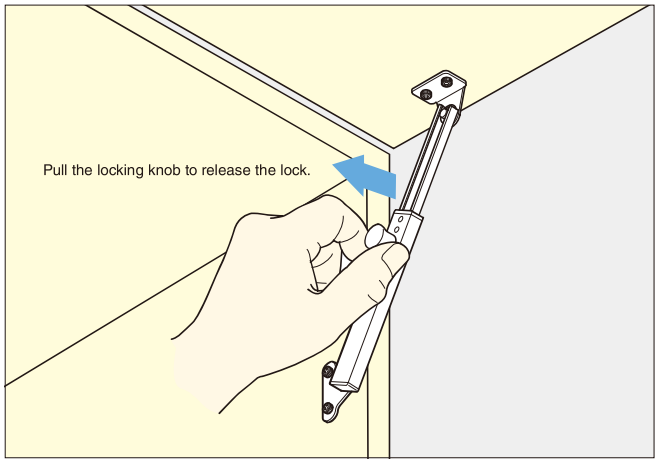
Feature

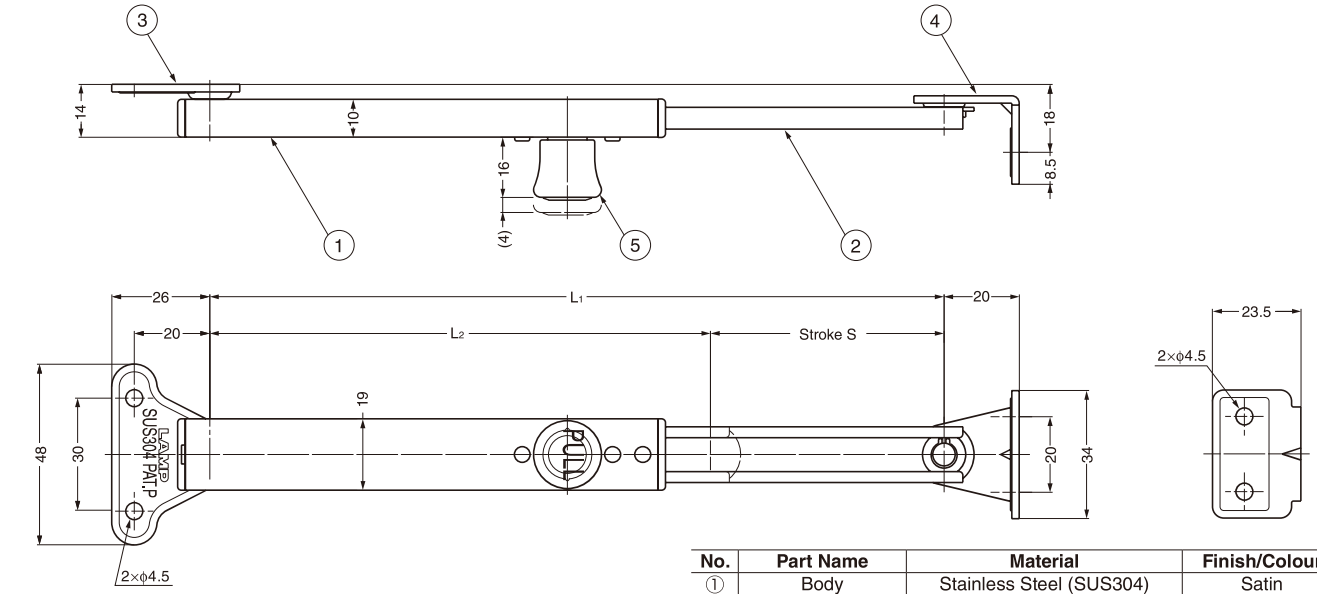
TEST METHOD 16 | SUS

Installation



Lock Release





No.	Part Name	Material	Finish/Colour
①	Body	Stainless Steel (SUS304)	Satin
②	Arm	Stainless Steel (SUS304)	Satin
③	Case Bracket	Stainless Steel (SUS304)	Satin
④	Arm Bracket	Stainless Steel (SUS304)	Satin
⑤	Locking Knob	Polyacetal (POM)	Dark Grey

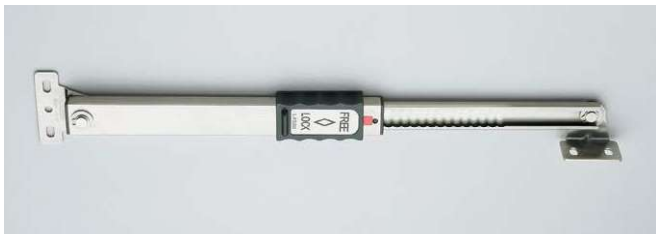
Item Code	Item Name	L1	L2	S	A	B	C	Compression Load		Weight	Box	Carton
180-100-358	LSP-195B	195	133	62	61	197	63.8	294 N/pc	30 kgf/pc	127 g	6 pcs	60 pcs
180-100-357	LSP-270B	270	170	100	92	265	91.9			147 g	6 pcs	60 pcs

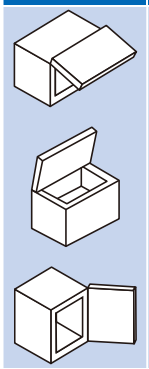
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SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

LAMP. MULTI-ANGLE LID STAY (W/ LOCK) L-FS350A

Latest Info



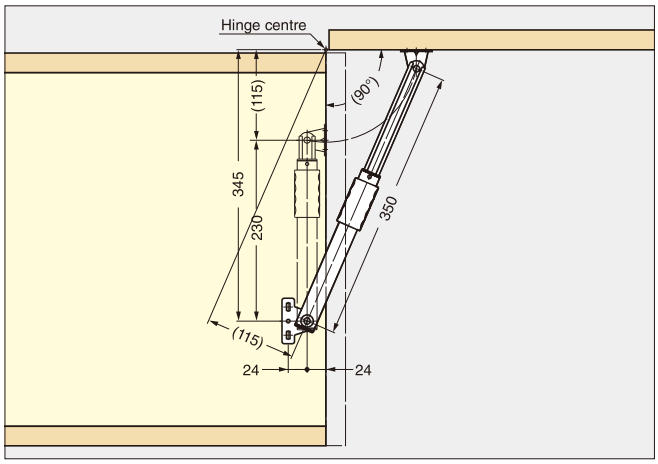
Opening Direction	Features	Door Material	Compression Load	Qty
	Multiangle Lock	Wood	294 N/pc	1 Pc Per Door 2 Pcs Per Door

- Can be used singly or in pairs.
- Door flap can be locked at multiple angles. By sliding the arm to the desired length, the stay will lock in place.
- When closed, the extendible section of the arm is stored inside the body, allowing the cabinet interior to be used effectively.
- Same length as LB-350A.
- Resin and metal components can be separated.
- Non-handed.

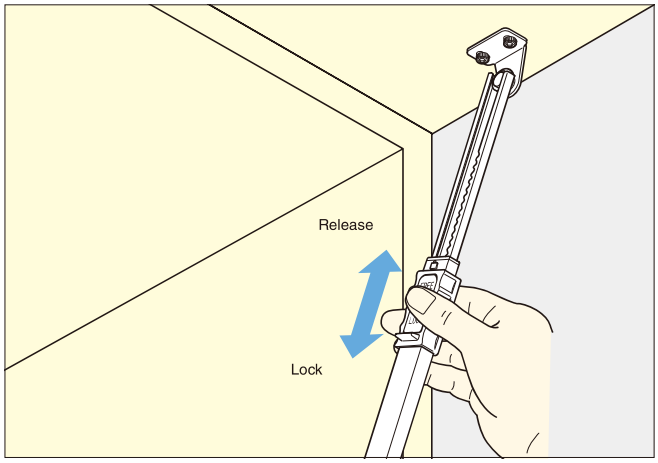
SUS

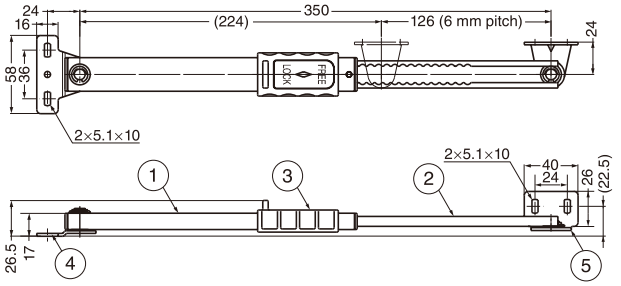
Feature

Installation



Lock and Release

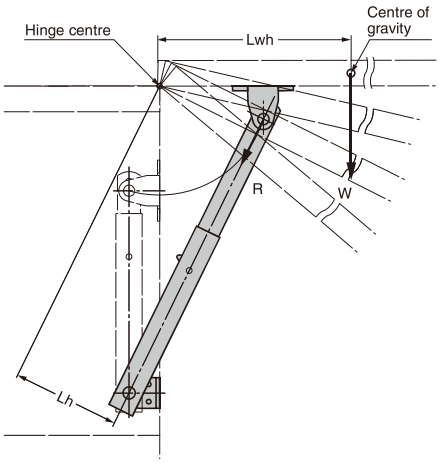




No.	Part Name	Material	Finish/Colour
①	Body	Stainless Steel (SUS304)	Satin
②	Arm	Stainless Steel (SUS304)	Satin
③	Lock Lever	Polyacetal (POM)	Dark Grey
④	Case Bracket	Stainless Steel (SUS304)	Satin
⑤	Arm Bracket	Stainless Steel (SUS304)	Satin

Item Code	Item Name	Compression Load		Weight	Box	Carton
180-100-617	L-FS350A	294 N/pc	30 kgf/pc	326 g	5 pcs	50 pcs

How to select LID STAY L SERIES



How to Select

1. Calculate door moment Mt.

   Mt (mN·m) = W (kg) × 9.80665 × Lwh (mm)

   W (kg) : Door weight

   Lwh (mm) : Horizontal distance to door centre of gravity

2. Calculate load R applied in the axial direction of stay.

$$R\ (N) = \frac{Mt\ (mN{\cdot}m)}{Lh\ (mm) \times n}$$

   Lh (mm) : Distance from rotation centre of door to fixed point of stay

   n : Number of stays used (n = 1 or 2)

3. Compare load R applied in the axial direction of stay with compression load P of stay.
   Possible to use if P > R.

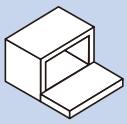
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BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

LID STAY S-34

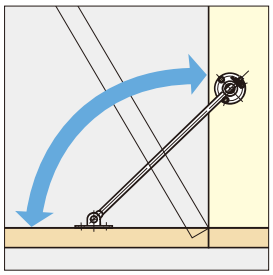
Latest Info

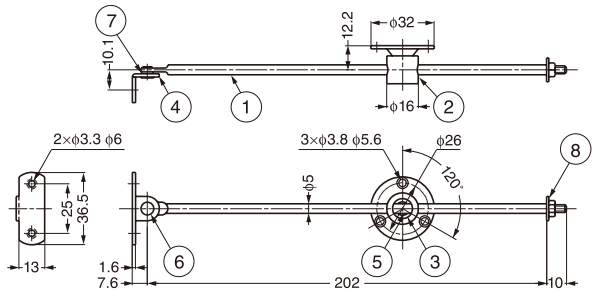


Opening Direction	Features	Door Material
	–	Wood

- Non-handed.

Installation



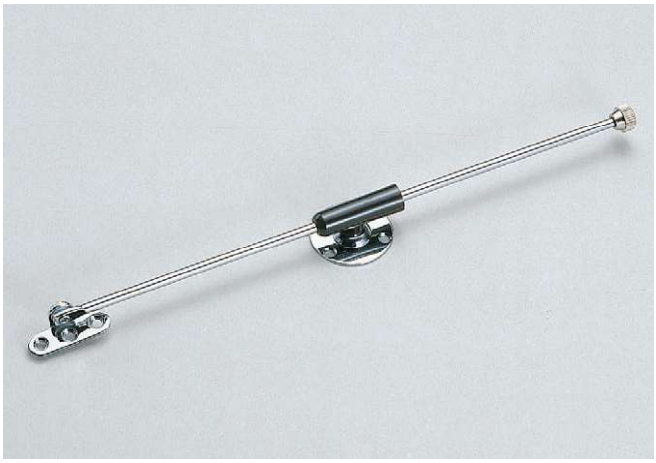


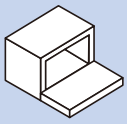
No.	Part Name	Material	Finish/Colour
①	Arm	Stee	Chrome
②	Arm Guide	Polyamide (PA)	Natural
③	Bracket	Steel	Chrome
④	Bracket	Steel	Chrome
⑤	Axis A	Steel	Yellow Zinc Chromate
⑥	Axis B	Brass	Chrome
⑦	Washer	Polyamide (PA)	–
⑧	Flanged Hexagon Nut	Steel	Nickel

Item Code	Item Name	Weight	Box	Carton
180-100-150	S-34	54 g	60 pcs	300 pcs

LID STAY S-35

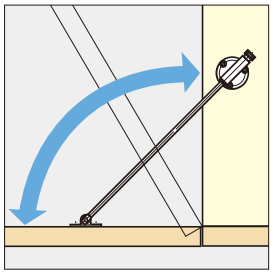
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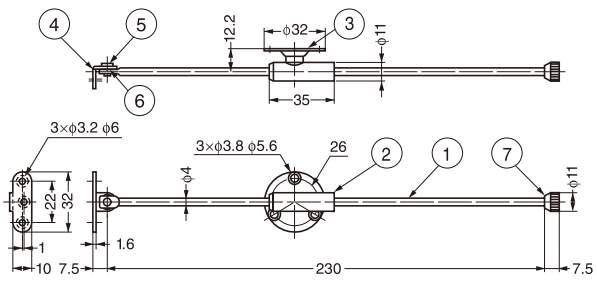


Opening Direction	Features	Door Material
	–	Wood

- Non-handed.

Installation





No.	Part Name	Material	Finish/Colour
①	Arm	Steel	Chrome
②	Arm Guide	Polyamide (PA)	Brown
③	Bracket	Steel	Chrome
④	Bracket	Steel	Chrome
⑤	Axis	Brass	Chrome
⑥	N Washer	Polyamide (PA)	–
⑦	Nut	Brass	Nickel

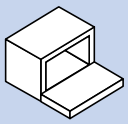
Item Code	Item Name	Weight	Box	Carton
180-100-151	S-35	44 g	60 pcs	300 pcs

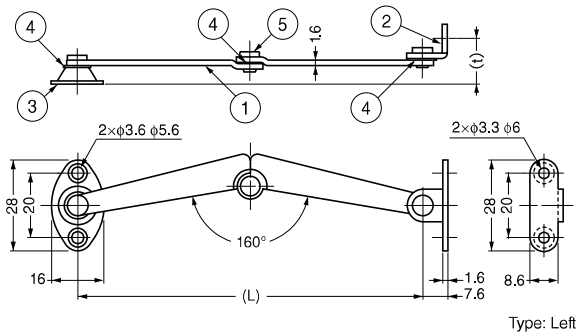
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LID STAY S-24, S-27, S-25

Latest Info


Type: Right

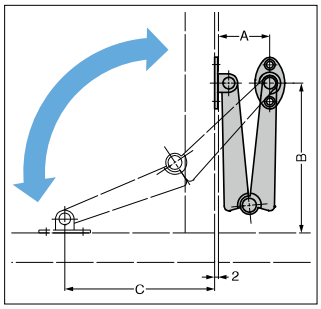
Opening Direction	Features	Door Material
	–	Wood

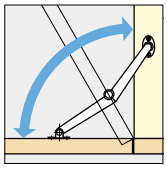


Type: Left

No.	Part Name	Material	Finish
①	Body	Steel	Chrome
②	Bracket		
③	Washer		
④	Washer	Polyamide (PA)	Natural
⑤	Axis	Brass	Chrome

Installation (Left Side)



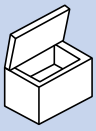


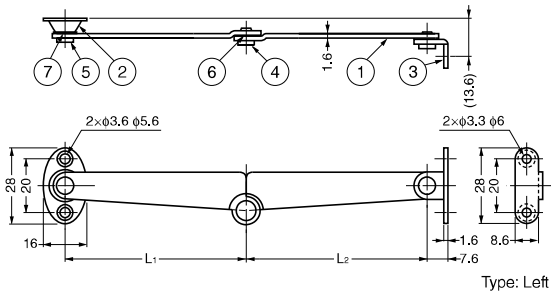
Item Code	Item Name	Type	L	t	A	B	C	Tension Force	Weight	Box	Carton
180-100-144	S-24R	Right	105.5	13.6	27.5	61	61.5	326 N (33.3 kgf)	21 g	100 pcs	1000 pcs
180-100-145	S-24L	Left								100 pcs	1000 pcs
180-100-148	S-27R	Right	133		28	81	81.5	325 N (33.2 kgf)	31 g	60 pcs	600 pcs
180-100-149	S-27L	Left		13.4						60 pcs	600 pcs
180-100-146	S-25R	Right	163	13.6	32	100	99.7	287 N (29.3 kgf)	35 g	60 pcs	600 pcs
180-100-147	S-25L	Left		13.4						60 pcs	600 pcs

LID STAY S-6, S-16

Latest Info


Type: Left

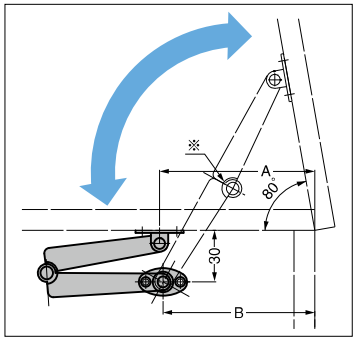
Opening Direction	Features	Door Material
	–	Wood

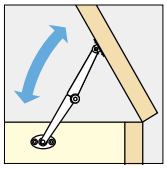


Type: Left

No.	Part Name	Material	Finish
①	Body	Steel	Chrome
②	Mounting Plate		
③	Bracket		
④	Centre Axis	Brass	
⑤	Axis		
⑥	Washer A	Polyamide (PA)	Natural
⑦	Washer B		

Installation (Left Side)





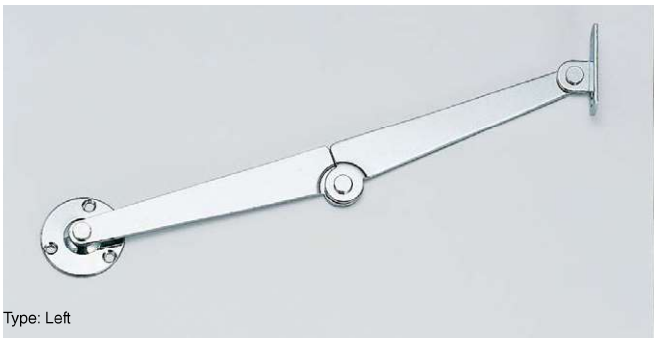
Item Code	Item Name	Type	L1	L2	A	B	Tension Force	Weight	Box	Carton
180-100-132	S-6R	Right	53	53	67.5	66	318 N (32.4 kgf)	20 g	100 pcs	1000 pcs
180-100-133	S-6L	Left							100 pcs	1000 pcs
180-100-134	S-16R	Right	67	67	90	88	336 N (34.3 kgf)	31 g	60 pcs	600 pcs
180-100-135	S-16L	Left							60 pcs	600 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

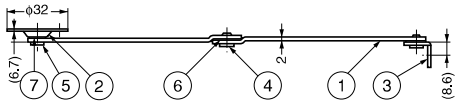
SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

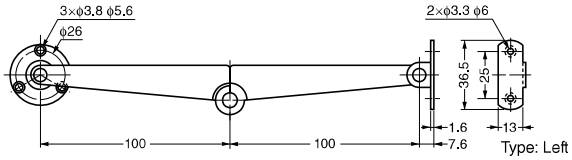
LID STAY S-19

Latest Info



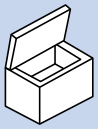
Type: Left



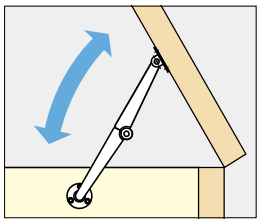


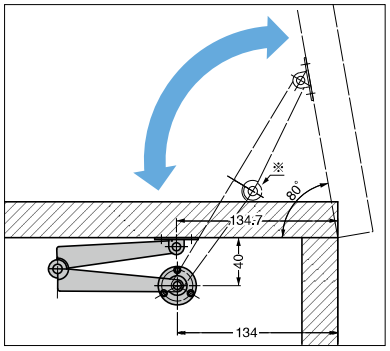
Type: Left

No.	Part Name	Material	Finish
①	Body	Steel	Chrome
②	Bracket		
③	Bracket		
④	Centre Axis	Brass	
⑤	Axis		
⑥	Washer A	Polyamide (PA)	–
⑦	Washer B		

Opening Direction	Features	Door Material
	–	Wood

Installation (Left Side)





Item Code	Item Name	Type	Tension Force	Weight	Box	Carton
180-100-136	S-19R	Right	425 N (43.4 kgf)	66 g	50 pcs	300 pcs
180-100-137	S-19L	Left			50 pcs	300 pcs

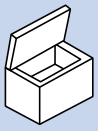
LID STAY (W/ CATCH) S-23

Latest Info

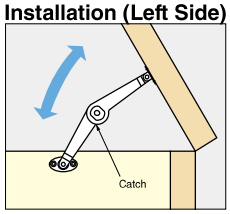


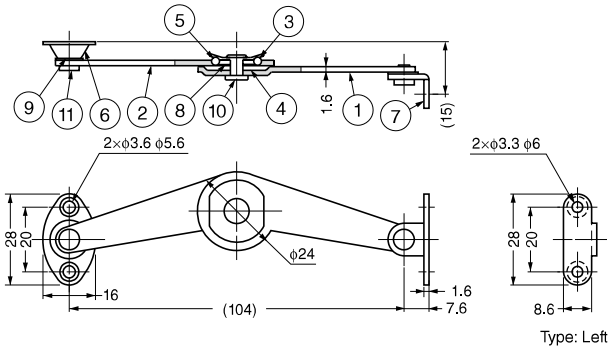
Type: Left

No.	Part Name	Material	Finish
①	Body A	Steel	Chrome
②	Body B	Steel	Chrome
③	Spring A	Stainless Steel (SUS301)	–
④	Spring B	Stainless Steel (SUS301)	–
⑤	Balls	Steel	–
⑥	Mounting Plate	Steel	Chrome
⑦	Bracket	Steel	Chrome
⑧	Washer	Steel	Yellow Zinc Chromate
⑨	Washer	Polyamide (PA)	–
⑩	Centre Axis	Brass	Chrome
⑪	Axis	Brass	Chrome

Opening Direction	Features	Door Material
	OPEN With Catch	Wood

Installation (Left Side)





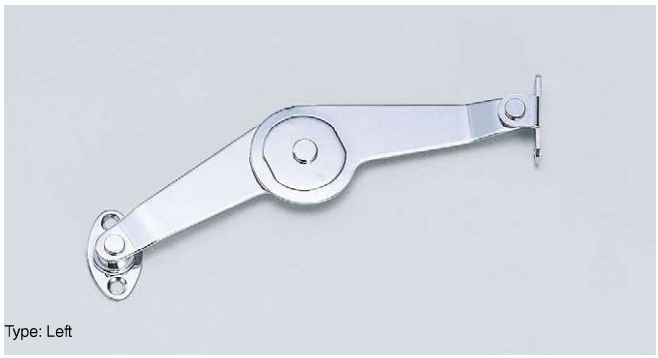
Type: Left

Item Code	Item Name	Type	Tension Force	Weight	Box	Carton
180-100-142	S-23R	Right	298 N (30.4 kgf)	33 g	50 pcs	500 pcs
180-100-143	S-23L	Left		33 g	50 pcs	500 pcs

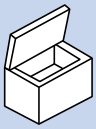
This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

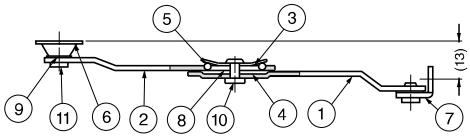
LID STAY (W/ CATCH) S-21

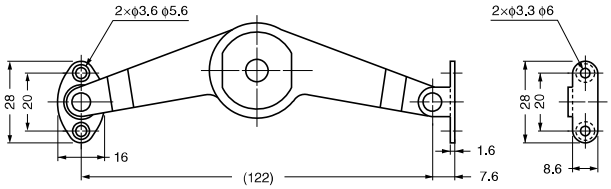
Latest Info



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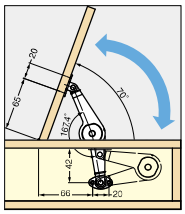
Opening Direction	Features	Door Material
	OPEN With Catch	Wood

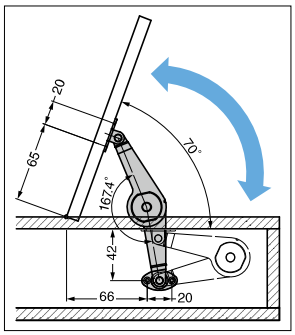




Type: Left

Installation (Right-handed type)





No.	Part Name	Material	Finish
①	Body A	Steel	Chrome
②	Body B		
③	Spring A		–
④	Spring B		
⑤	Balls		
⑥	Mounting Plate		Chrome
⑦	Bracket		
⑧	Washer		Yellow Zinc Chromate
⑨	Washer	Polyamide (PA)	Natural
⑩	Centre Axis	Brass	Chrome
⑪	Axis		

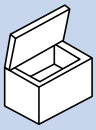
Item Code	Item Name	Type	Tension Force	Weight	Box	Carton
180-100-140	S-21R	Right	309 N (31.5 kgf)	49 g	50 pcs	500 pcs
180-100-141	S-21L	Left		49 g	50 pcs	500 pcs

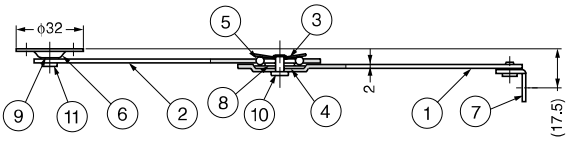
LID STAY (W/ CATCH) S-20

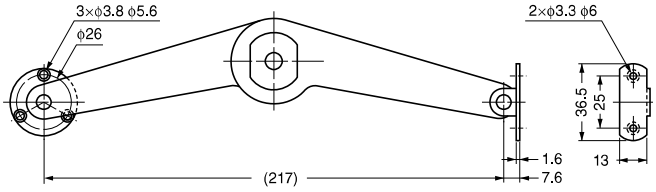
Latest Info



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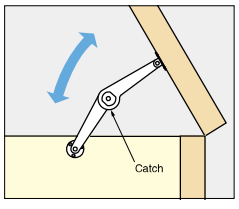
Opening Direction	Features	Door Material
	OPEN With Catch	Wood

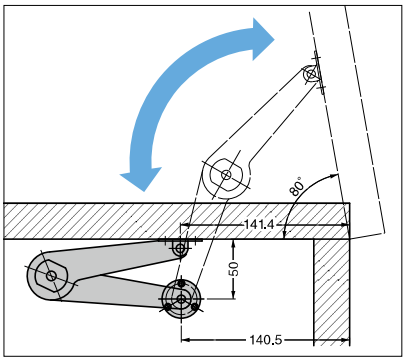




Type: Left

Installation (Left Side)





No.	Part Name	Material	Finish
①	Body A	Steel	Chrome
②	Body B		
③	Spring A		
④	Spring B		–
⑤	Ball		
⑥	Bracket		Chrome
⑦	Bracket		
⑧	Washer		Nickel
⑨	Washer	Polyamide (PA)	–
⑩	Centre Axis	Steel	Chrome
⑪	Axis	Brass	

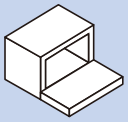
Item Code	Item Name	Type	Tension Force	Weight	Box	Carton
180-100-138	S-20R	Right	410 N (41.8 kgf)	122 g	40 pcs	160 pcs
180-100-139	S-20L	Left			40 pcs	160 pcs

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

LAMP. LID STAY HS

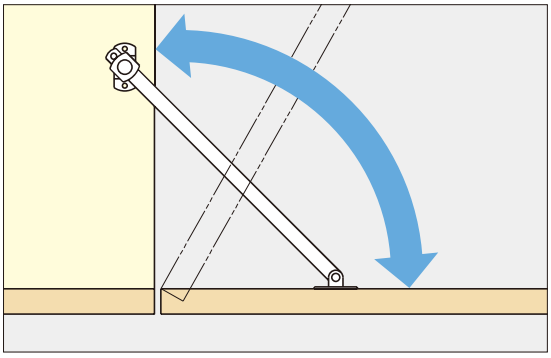
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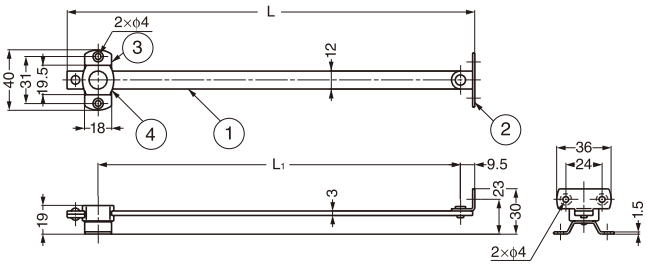


Opening Direction	Features
	Non-handed

SUS

Installation





No.	Part Name	Material	Finish/Colour
①	Arm	Stainless Steel (SUS304)	Satin
②	Bracket	Stainless Steel (SUS304)	Satin
③	Mounting Plate	Stainless Steel (SUS304)	Satin
④	Bracket	Polyamide (PA)	White

Item Code	Item Name	L	L_1	Weight	Box	Carton
180-100-020	HS-180	210	180	80 g	20 pcs	220 pcs
180-100-021	HS-210	240	210	90 g	20 pcs	220 pcs
180-100-022	HS-240	270	240	100 g	20 pcs	220 pcs

SELECTION GUIDE
DAMPER STAYS
TORQUE STAYS
LIFT-ASSIST STAYS
LID STAYS
TOP-OPENING
UPWARD-OPENING
DOWNWARD-OPENING
BOTTOM-OPENING
LIFT-UP
LIFT-DOWN
UP & OVER
BIFOLDING
INSET RECEDING
OVER THE TOP
SWING DOOR

This information provides a range of quality for the component. It does not ensure the performance or safety of the final product incorporating the component.

Technical Information

1364 | TEST METHODS
1366 | SURFACE TREATMENT
1367 | MATERIALS
1368 | DOOR WEIGHT TABLE

September 2024

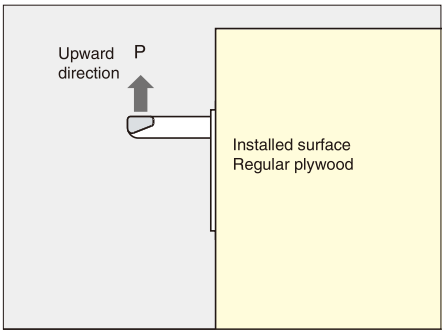
TEST METHODS

■Test Methods

In this catalogue, various values about products with TEST METHOD icon in the product specification columns are determined by the tests as described below. Values are to provide guidance for the safe use of our products.

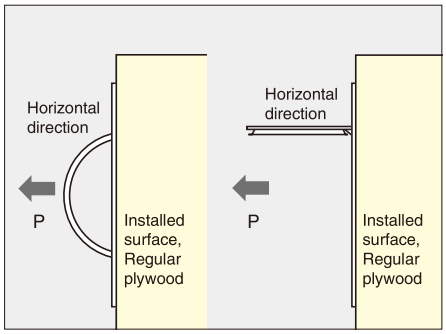
Product without TEST METHOD icon may not be based on these criteria in some cases.

TEST METHOD 1 HANDLE LOAD CAPACITY TEST



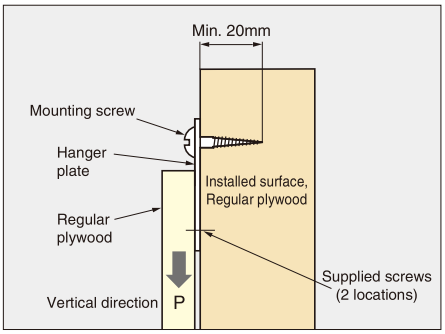
The load capacity is measured when the force (P) is gently applied in the direction of the arrow under the condition indicated by the figure.

TEST METHOD 2 HANDLE, PULL, HOOK LOAD CAPACITY TEST



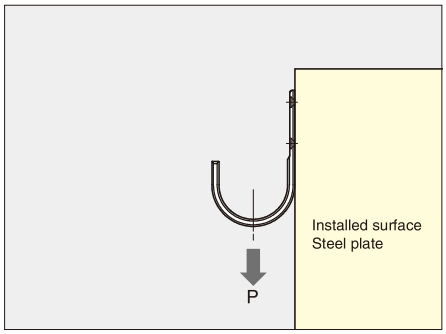
The load capacity is measured when the force (P) is gently applied in the direction of the arrow under the condition indicated by the figure.
Product may fail or distort if the force is applied in a direction other than the frontal direction. Please do not use on application other than in the pull direction.

TEST METHOD 3 HANGING-LOAD CAPACITY TEST



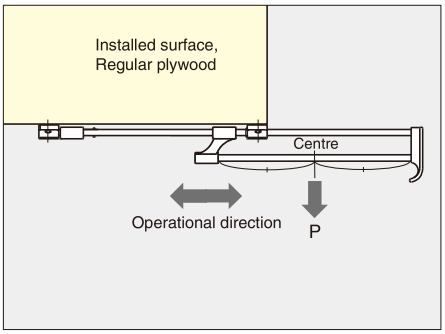
The hanging-load capacity is measured when the force (P) is gently applied in the direction of the arrow under the condition indicated by the figure. This value will vary according to the diameter / length of the screw(s) used and strength of the installed surface.
Hanging load of 10 kgf, in case of using round head wood screw 3.8 x 25.

TEST METHOD 4 HOOK LOAD CAPACITY TEST



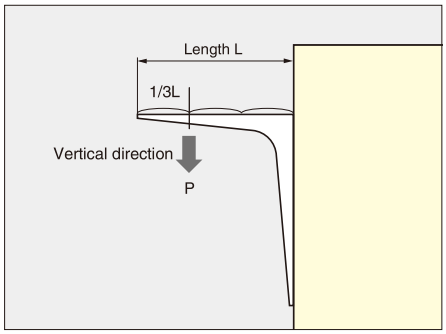
Under the conditions shown in the figure, a force (P) is gently applied to the centre of the hanging part in the vertical direction. The indicated load capacity value is about one-third of the limit load value (safety factor: 3). Therefore, this safety factor changes depending on the usage conditions. If you use it under adverse conditions, please be sure to check the actual product.

TEST METHOD 5 MAXIMUM HANGING-LOAD TEST



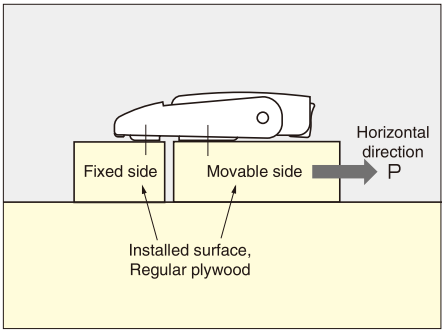
The maximum hanging-load capacity is measured when the force (P) is gently applied in the direction of the arrow and operated under the condition indicated by the figure. If the load is concentrated at the front tip of the hanger, the front tip may sag or the movement may become heavy.

TEST METHOD 6 BRACKET LOAD CAPACITY TEST



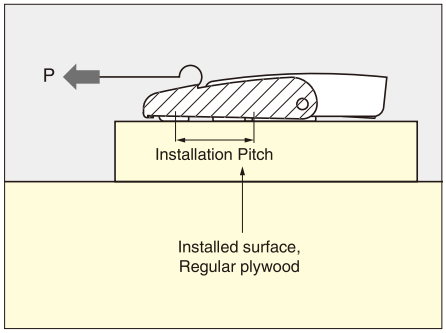
The load capacity is measured when the force (P) is gently applied in the direction of the arrow under the condition indicated by the figure.
(This is based on the force (W) applied at the centre of the shelf board with its length 4/3 times longer than the shelf bracket or angle bracket.)

TEST METHOD 7 FASTENER LOAD CAPACITY TEST



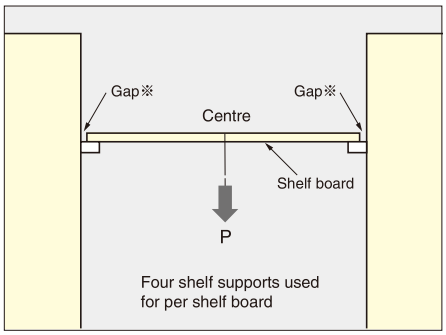
The load capacity is measured when the force (P) is gently applied in the direction of the arrow under the condition indicated by the figure.

TEST METHOD 8 CLAMPING FORCE TEST UNDER STANDARD INSTALLATION



The capacity of the clamping force under standard installation is measured when the force (P) is gently applied in the direction of the arrow under the condition indicated by the figure, and when the shaded portion begins to slide.

TEST METHOD 9 DOWEL, SHELF STANDARD LOAD CAPACITY TEST



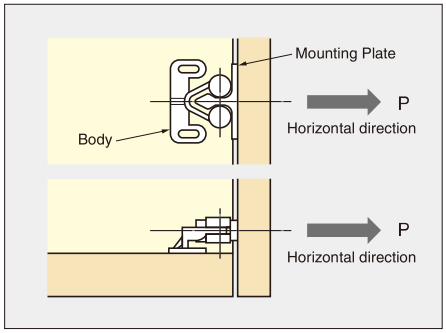
The load capacity is measured when the force (P) is gently applied in the direction of the arrow under the condition indicated by the figure.
Follow the conditions below to prevent the shelf supports or shelf board from falling off.

Condition 1 The gap (※) between the shelf board and the side board shall be 1mm or less.
※ The gap between the shelf board and the shelf standard if shelf support is installed on a shelf standard.

Condition 2 Use shelf board which has sufficient durability.

Condition 3 The mounting hole processing dimension of the shelf dowel shall be less than the recommended mounting hole dimension.
(The processing dimension may vary depending on the material of the side board.

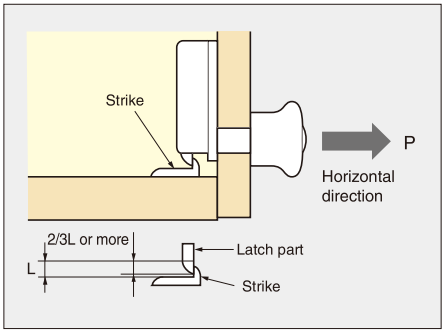
TEST METHOD 10 CATCH FORCE TEST



The catch force is measured when the force (P) is gently applied in the direction of the arrow under the condition indicated by the figure.

Note: Misalignment of the mounting plate and body parts may cause the catch force to decrease or parts failure.

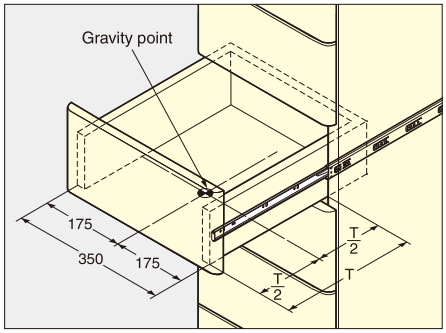
TEST METHOD 11 RETAINING FORCE TEST



The retaining force is measured when the force (P) is gently applied in the direction of the arrow under the condition indicated by the figure.

Note: Latch and strike must be engaged at least 2/3L or more (see the figure).

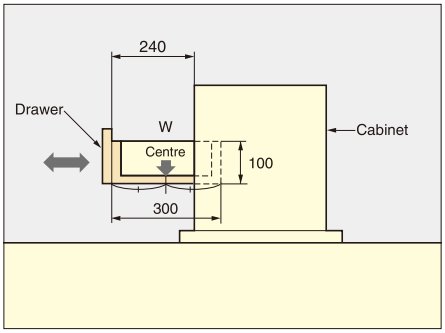
TEST METHOD 12 DRAWER SLIDE LOAD CAPACITY TEST



Calculation of slide centre of gravity

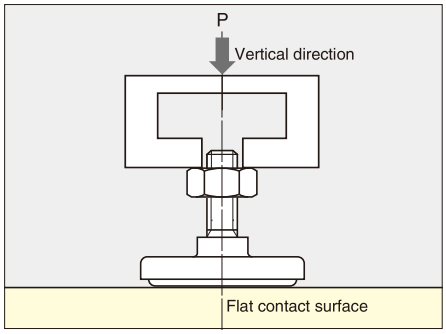
The load capacity is measured based on the condition:
- Continuous open-close: 50,000 cycles
- Speed: 10 cycles per minute
- Load is applied on the gravity point. The figure of load capacity includes drawer itself.
- Drawer width: 350mm

TEST METHOD 13 DRAWER SLIDE LOAD CAPACITY TEST



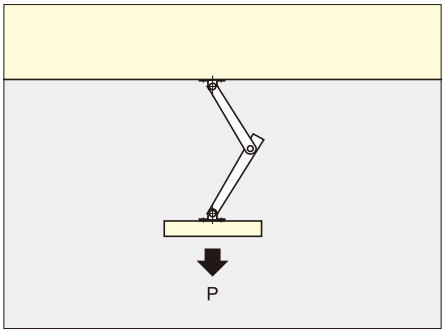
The load capacity is measured when the weight (W) is applied at the centre of the drawer under the condition indicated by the figure and the operation to pull out the drawer by 240mm is repeated. The gap between drawer and cabinet shall be 1 mm or less.

TEST METHOD 14 LEVELLING GLIDE LOAD CAPACITY TEST



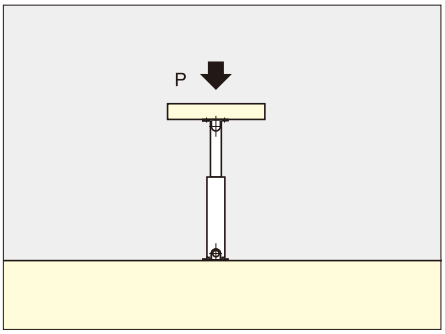
The load capacity is measured when the force (P) is applied in the direction of the arrow under the condition indicated in the figure.
Product may break or distort if the contact surface is not flat.

TEST METHOD 15 PULL LOAD TEST



The pull load capacity is measured when the force (P) is gently applied in the direction of the arrow under the condition indicated by the figure.

TEST METHOD 16 COMPRESSION LOAD TEST



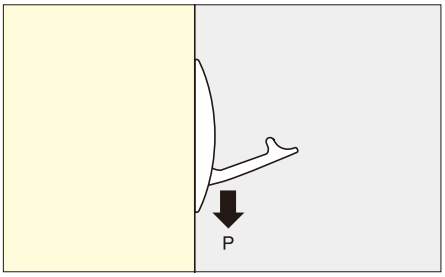
The compression load capacity is measured when the force (P) is gently applied in the direction of the arrow under the condition indicated by the figure.

TEST METHOD 17 PERMISSIBLE LOAD OF FASTENER

Permissible load kgf = Ultimate Load ÷ 3

The safety factor will vary depending on the conditions of use.
When used under adverse conditions, please test the fastener in intended application.

TEST METHOD 18 HOOK LOAD CAPACITY TEST

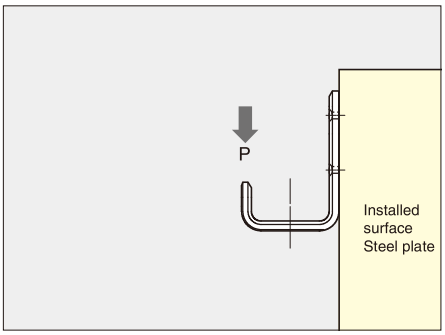


The load capacity is measured when the force (P) is gently applied in the direction of the arrow under the condition indicated by the figure.

Load capacity kgf = Ultimate Load ÷ 3

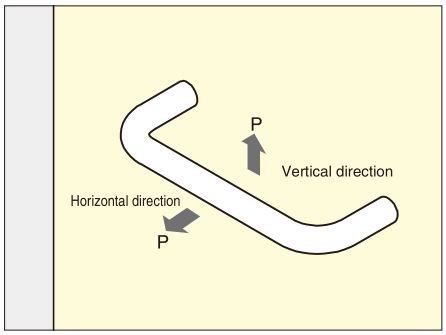
However, the safety factor will vary depending on the conditions of use.
When used under adverse conditions, please test the hook in intended application.

TEST METHOD 19 HOOK LOAD CAPACITY TEST



Under the conditions shown in the figure, a force (P) is gently applied in the vertical direction. The indicated load capacity value is one-third of the limit load value (safety factor: 3). Therefore, this safety factor changes depending on the usage conditions. If you use it under adverse conditions, please be sure to check the actual product.

TEST METHOD 20 HANDLE LOAD CAPACITY TEST



Under the conditions shown in the figure, a force (P) is gently applied in the vertical and horizontal directions. The load capacity is a value that indicates the strength of the handle itself. Install it on something with sufficient strength or reinforcement.

SURFACE TREATMENT

Finish	Characteristics
Zinc Plating	Zinc plating is commonly used on steel to prevent oxidation. Chromate is generally applied over zinc to enhance corrosion resistance.
Chromate Conversion Coating	Major coating mainly applied on parts after zinc plated or cadmium plated. Parts are immersed in a solution mainly consisting of chromic acid or heavy chromic acid to create the coating. This is used to improve corrosion resistance and appearance of metals, metal colouration, and is also used as a pre-treatment for painting. Various chromate coatings are developed such as yellow chromate (rainbow colour), clear chromate, black chromate, green chromate, etc.
Chrome Plating	Common electroplating for various industrial purposes. Reflective finish can be achieved by polishing. High hardness and good corrosion resistance along with thermal resistance, abrasion resistance and good adhesion characteristics. Generally used as final finish for various decorative parts and products due to its uniquely deep colouration.
Nickel Plating	Nickel is commonly used for decorative and anti-corrosion purpose because of its stability against air or humidity compared to iron. However, since the surface of the nickel plating will slightly discolour through exposure to air, chrome is often used after nickel to keep the finish/colour. Nickel plating has moderate hardness / corrosion-resistance and widely used on industrial application.
Alumite or Anodising (Anodic Oxidation Film Processing)	Also called the “anodic oxidation film processing”. This process thickens and toughens natural oxide layer on metal, commonly applied to aluminium for corrosion resistance and dyeing. In aluminium anodising, aluminium object serves as the anode (the positive electrode) when electrolysed in the sulfuric acid. This will create a layer of porous oxide film which has high electric insulation and abrasion resistance. The film is normally transparent when it is thin, although it becomes dull as the thickness increases.The pores produced by anodising are closed by a process called sealing, which is done by high-pressurised or boiling-hot deionised water. This process fills the pores and creates a thin layer that is corrosion resistant, suitable for various aluminium parts / products.

※Hexavalent-Chromium (CR6) Free

Sugatsune is strictly controlling the use of chemicals that would adversely impact the environment. We are designing and developing products with minimum use of materials which has adverse environmental impact. Hexavalent chromium compound is especially known for its adverse effects on the human body. We are actively substituting this Hexavalent-chromium (CR6) with the environment friendly Trivalent-chromium (CR3).

MATERIALS

In this catalogue, materials are indicated below. (For some items, only the materials of main parts are shown due to space limitations)

Irons and Steels

Material	Name
Steel	Iron-based screw, washer, etc.
Steel (SS)	Rolled steel for general structure
Steel (S※※C)	Carbon steel for machine structural use (Enter number for ※)
Steel (SECC)	Electrogalvanised steel sheet and steel strip
Steel (SF)	Carbon steel forging
Steel (SGCC)	Hot-dip galvanised steel sheet and steel strip
Steel (SK)	Carbon tool steel
Steel (SPCC)	Cold-rolled steel sheet and steel strip
Steel (SPHC)	Hot-rolled mild steel sheet and steel strip
Steel (SUM)	Sulfur and sulfur-composite free cutting steel
Steel (SUP)	Spring steel
Steel (SW)	Hard steel wire
Steel (SWP)	Piano wire
Steel (SWRH)	High carbon steel wire rod
Steel (SWRM)	Low carbon steel wire rod
Steel (SWCH)	Carbon steel for cold heading
Cast Iron (FC)	Grey iron casting
Stainless Steel	Stainless steel screw, washer, etc.
Stainless Steel (SUS301)	Austenitic stainless steel
Stainless Steel (SUS303)	Austenitic stainless steel
Stainless Steel (SUS304)	Austenitic stainless steel
Stainless Steel (SUS316, SUS316L)	Austenitic stainless steel
Stainless Steel (SUS420)	Martensitic stainless steel
Stainless Steel (SUS430)	Ferritic stainless steel
Stainless Steel (SUS440)	Martensitic stainless steel
Stainless Steel (SUS631)	Precipitation hardening stainless steel
Stainless Steel (SCS13)	Stainless steel casting
Stainless Steel (SCS14)	Stainless steel casting

Non-ferrous Metals

Material	Name
Aluminium Alloy	—
Aluminium Alloy (ADC)	Aluminium alloy die casting
Aluminium Alloy (AC)	Aluminium alloy casting
Zinc Alloy	—
Zinc Alloy (ZDC)	Zinc alloy die casting
Zinc Alloy (BRIC)	A kind of zinc alloy die casting
Brass	—
Free Cutting Brass	—
Phosphor Bronze	—
Phosphor Bronze for Spring	—
Nickel Silver	—
Copper Alloy Casting (CAC)	—
Magnesium Alloy (MDC)	Magnesium alloy die casting
Titanium Alloy	—

Magnets

Material	Name
Ferrite	—
Neodymium	—
Samarium Cobalt	Samarium-cobalt
Alnico	—

Plastics

Material	Name
ABS Resin	Acrylonitrile butadiene styrene
AES Resin	Acrylonitrile ethylene propylene rubber styrene
AS Resin	Acrylonitrile styrene
Cellulose Acetate (CA)	—
Casein (CS)	—
Epoxy Resin (EP)	—
Ethylene Vinyl Acetate (EVA)	—
EVOH Resin	Ethylene vinyl alcohol
FRP	Unsaturated polyester + glass fibre
Melamine Resin (MF)	Melamine formaldehyde resin
Polyamide (PA)	—
Polycarbonate (PC)	—
Polyethylene (PE)	—
PEEK Resin	Polyether ether ketone
High Density Polyethylene (HDPE)	—
Chlorinated Polyethylene (CPE)	—
PBT Resin	Polybutylene terephthalate
PET Resin	Polyethylene terephthalate
Phenol resin (PF)	Phenol formaldehyde resin
Methacrylic Resin (PMMA)	Polymethyl methacrylate
Polyacetal (POM)	—
Polypropylene (PP)	—
PPO Resin	Polypropylene oxide
PPS Resin	Polyphenylene sulfide
PPE Resin	Polyphenylene ether
Polystyrene (PS)	—
High Impact Polystyrene (HIPS)	—
Polytetrafluoroethylene (PTFE)	Polytetrafluoroethylene
Polyvinyl Chloride (PVC)	Polyvinyl chloride
Polyimide (PI)	—
Polyamideimide (PAI)	—
Polyetherimide (PEI)	—
Silicone Resin (SI)	Silicone plastic
Urea Resin (UF)	Urea formaldehyde resin
Unsaturated polyester Resin (UP)	—
~Elastomer	Elastomer

Rubbers

Material
Natural Rubber (NR)
Styrene Butadiene Rubber (SBR)
Butadiene Rubber (BR)
Isoprene Rubber (IR)
Nitrile Rubber (NBR)
Chloroprene Rubber (CR)
Ethylene Propylene Rubber (EPDM)
Isobutylene Isoprene Rubber (IIR)
Urethane Rubber (UR)
Polyurethane Rubber (PUR)
Silicone Rubber (Q)
Fluoro Rubber (FKM)
Synthetic Rubber

DOOR WEIGHT TABLE

Door Weight Calculator

The below density is only for reference and it may differ depending on their material and specification.
For door sizes not listed in the table below, please use the Door Weight Calculator.

Calculation: Door Weight (kg) = Density (Specific Gravity) × Door Height (mm) × Door Width (mm) × Door Thickness (mm) ÷ 1,000,000

Wooden Door Weight (kg)

Door Type	MDF (Density 0.8)					Particle Board (Density 0.6)					Plywood (Density 0.6)					Flush (Density 0.5)				
Door Thickness mm / Door Size mm	16	19	22	25	35	16	19	22	25	35	16	19	22	25	35	16	19	22	25	35
300× 400	1.5	1.8	2.1	2.4	3.4	1.2	1.4	1.6	1.8	2.5	1.2	1.4	1.6	1.8	2.5	1.0	1.1	1.3	1.5	2.1
300× 500	1.9	2.3	2.6	3.0	4.2	1.4	1.7	2.0	2.3	3.2	1.4	1.7	2.0	2.3	3.2	1.2	1.4	1.7	1.9	2.6
300× 600	2.3	2.7	3.2	3.6	5.0	1.7	2.1	2.4	2.7	3.8	1.7	2.1	2.4	2.7	3.8	1.4	1.7	2.0	2.3	3.2
300× 700	2.7	3.2	3.7	4.2	5.9	2.0	2.4	2.8	3.2	4.4	2.0	2.4	2.8	3.2	4.4	1.7	2.0	2.3	2.6	3.7
300× 800	3.1	3.6	4.2	4.8	6.7	2.3	2.7	3.2	3.6	5.0	2.3	2.7	3.2	3.6	5.0	1.9	2.3	2.6	3.0	4.2
300× 900	3.5	4.1	4.8	5.4	7.6	2.6	3.1	3.6	4.1	5.7	2.6	3.1	3.6	4.1	5.7	2.2	2.6	3.0	3.4	4.7
300×1000	3.8	4.6	5.3	6.0	8.4	2.9	3.4	4.0	4.5	6.3	2.9	3.4	4.0	4.5	6.3	2.4	2.9	3.3	3.8	5.3
400× 500	2.6	3.0	3.5	4.0	5.6	1.9	2.3	2.6	3.0	4.2	1.9	2.3	2.6	3.0	4.2	1.6	1.9	2.2	2.5	3.5
400× 600	3.1	3.6	4.2	4.8	6.7	2.3	2.7	3.2	3.6	5.0	2.3	2.7	3.2	3.6	5.0	1.9	2.3	2.6	3.0	4.2
400× 700	3.6	4.3	4.9	5.6	7.8	2.7	3.2	3.7	4.2	5.9	2.7	3.2	3.7	4.2	5.9	2.2	2.7	3.1	3.5	4.9
400× 800	4.1	4.9	5.6	6.4	9.0	3.1	3.6	4.2	4.8	6.7	3.1	3.6	4.2	4.8	6.7	2.6	3.0	3.5	4.0	5.6
400× 900	4.6	5.5	6.3	7.2	10.1	3.5	4.1	4.8	5.4	7.6	3.5	4.1	4.8	5.4	7.6	2.9	3.4	4.0	4.5	6.3
400×1000	5.1	6.1	7.0	8.0	11.2	3.8	4.6	5.3	6.0	8.4	3.8	4.6	5.3	6.0	8.4	3.2	3.8	4.4	5.0	7.0
400×1100	5.6	6.7	7.7	8.8	12.3	4.2	5.0	5.8	6.6	9.2	4.2	5.0	5.8	6.6	9.2	3.5	4.2	4.8	5.5	7.7
400×1200	6.1	7.3	8.4	9.6	13.4	4.6	5.5	6.3	7.2	10.1	4.6	5.5	6.3	7.2	10.1	3.8	4.6	5.3	6.0	8.4
500× 600	3.8	4.6	5.3	6.0	8.4	2.9	3.4	4.0	4.5	6.3	2.9	3.4	4.0	4.5	6.3	2.4	2.9	3.3	3.8	5.3
500× 700	4.5	5.3	6.2	7.0	9.8	3.4	4.0	4.6	5.3	7.4	3.4	4.0	4.6	5.3	7.4	2.8	3.3	3.9	4.4	6.1
500× 800	5.1	6.1	7.0	8.0	11.2	3.8	4.6	5.3	6.0	8.4	3.8	4.6	5.3	6.0	8.4	3.2	3.8	4.4	5.0	7.0
500× 900	5.8	6.8	7.9	9.0	12.6	4.3	5.1	5.9	6.8	9.5	4.3	5.1	5.9	6.8	9.5	3.6	4.3	5.0	5.6	7.9
500×1000	6.4	7.6	8.8	10.0	14.0	4.8	5.7	6.6	7.5	10.5	4.8	5.7	6.6	7.5	10.5	4.0	4.8	5.5	6.3	8.8
500×1100	7.0	8.4	9.7	11.0	15.4	5.3	6.3	7.3	8.3	11.6	5.3	6.3	7.3	8.3	11.6	4.4	5.2	6.1	6.9	9.6
500×1200	7.7	9.1	10.6	12.0	16.8	5.8	6.8	7.9	9.0	12.6	5.8	6.8	7.9	9.0	12.6	4.8	5.7	6.6	7.5	10.5
500×1300	8.3	9.9	11.4	13.0	18.2	6.2	7.4	8.6	9.8	13.7	6.2	7.4	8.6	9.8	13.7	5.2	6.2	7.2	8.1	11.4
500×1400	9.0	10.6	12.3	14.0	19.6	6.7	8.0	9.2	10.5	14.7	6.7	8.0	9.2	10.5	14.7	5.6	6.7	7.7	8.8	12.3
500×1500	9.6	11.4	13.2	15.0	21.0	7.2	8.6	9.9	11.3	15.8	6.0	7.1	8.3	9.4	13.1	7.2	8.6	9.9	11.3	15.8
500×1600	10.2	12.2	14.1	16.0	22.4	7.7	9.1	10.6	12.0	16.8	7.7	9.1	10.6	12.0	16.8	6.4	7.6	8.8	10.0	14.0
500×1700	10.9	12.9	15.0	17.0	23.8	8.2	9.7	11.2	12.8	17.9	8.2	9.7	11.2	12.8	17.9	6.8	8.1	9.4	10.6	14.9
500×1800	11.5	13.7	15.8	18.0	25.2	8.6	10.3	11.9	13.5	18.9	8.6	10.3	11.9	13.5	18.9	7.2	8.6	9.9	11.3	15.8

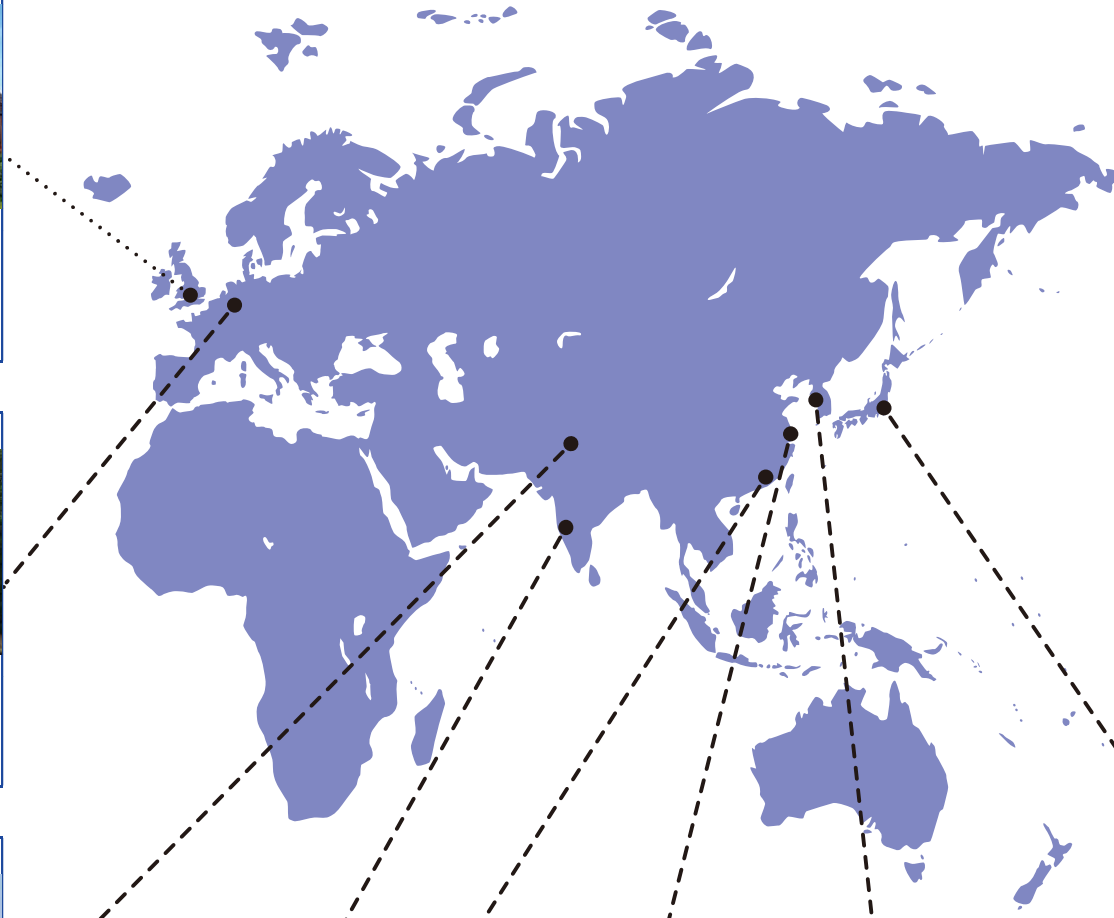
Glass Door Weight (kg)

Glass Door Thickness mm	4 (Density 2.5)							5 (Density 2.5)							6 (Density 2.5)						
Door Width mm / Door Height mm	300	400	500	600	700	800	900	300	400	500	600	700	800	900	300	400	500	600	700	800	900
300	0.9	1.2	1.5	1.8	2.1	2.4	2.7	1.1	1.5	1.9	2.3	2.6	3.0	3.4	1.4	1.8	2.3	2.7	3.2	3.6	4.1
350	1.1	1.4	1.8	2.1	2.5	2.8	3.2	1.3	1.8	2.2	2.6	3.1	3.5	3.9	1.6	2.1	2.6	3.2	3.7	4.2	4.7
400	1.2	1.6	2.0	2.4	2.8	3.2	3.6	1.5	2.0	2.5	3.0	3.5	4.0	4.5	1.8	2.4	3.0	3.6	4.2	4.8	5.4
450	1.4	1.8	2.3	2.7	3.2	3.6	4.1	1.7	2.3	2.8	3.4	3.9	4.5	5.1	2.0	2.7	3.4	4.1	4.7	5.4	6.1
500	1.5	2.0	2.5	3.0	3.5	4.0	4.5	1.9	2.5	3.1	3.8	4.4	5.0	5.6	2.3	3.0	3.8	4.5	5.3	6.0	6.8
550	1.7	2.2	2.8	3.3	3.9	4.4	5.0	2.1	2.8	3.4	4.1	4.8	5.5	6.2	2.5	3.3	4.1	5.0	5.8	6.6	7.4
600	1.8	2.4	3.0	3.6	4.2	4.8	5.4	2.3	3.0	3.8	4.5	5.3	6.0	6.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1
650	2.0	2.6	3.3	3.9	4.6	5.2	5.9	2.4	3.3	4.1	4.9	5.7	6.5	7.3	2.9	3.9	4.9	5.9	6.8	7.8	8.8
700	2.1	2.8	3.5	4.2	4.9	5.6	6.3	2.6	3.5	4.4	5.3	6.1	7.0	7.9	3.2	4.2	5.3	6.3	7.4	8.4	9.5
750	2.3	3.0	3.8	4.5	5.3	6.0	6.8	2.8	3.8	4.7	5.6	6.6	7.5	8.4	3.4	4.5	5.6	6.8	7.9	9.0	10.1
800	2.4	3.2	4.0	4.8	5.6	6.4	7.2	3.0	4.0	5.0	6.0	7.0	8.0	9.0	3.6	4.8	6.0	7.2	8.4	9.6	10.8
850	2.6	3.4	4.3	5.1	6.0	6.8	7.7	3.2	4.3	5.3	6.4	7.4	8.5	9.6	3.8	5.1	6.4	7.7	8.9	10.2	11.5
900	2.7	3.6	4.5	5.4	6.3	7.2	8.1	3.4	4.5	5.6	6.8	7.9	9.0	10.1	4.1	5.4	6.8	8.1	9.5	10.8	12.2
950	2.9	3.8	4.8	5.7	6.7	7.6	8.6	3.6	4.8	5.9	7.1	8.3	9.5	10.7	4.3	5.7	7.1	8.6	10.0	11.4	12.8
1000	3.0	4.0	5.0	6.0	7.0	8.0	9.0	3.8	5.0	6.3	7.5	8.8	10.0	11.3	4.5	6.0	7.5	9.0	10.5	12.0	13.5
1050	3.2	4.2	5.3	6.3	7.4	8.4	9.5	3.9	5.3	6.6	7.9	9.2	10.5	11.8	4.7	6.3	7.9	9.5	11.0	12.6	14.2
1100	3.3	4.4	5.5	6.6	7.7	8.8	9.9	4.1	5.5	6.9	8.3	9.6	11.0	12.4	5.0	6.6	8.3	9.9	11.6	13.2	14.9
1150	3.5	4.6	5.8	6.9	8.1	9.2	10.4	4.3	5.8	7.2	8.6	10.1	11.5	12.9	5.2	6.9	8.6	10.4	12.1	13.8	15.5

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E-mail : sales@sugatsune.in

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Incheon, Korea



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Montreal, Canada



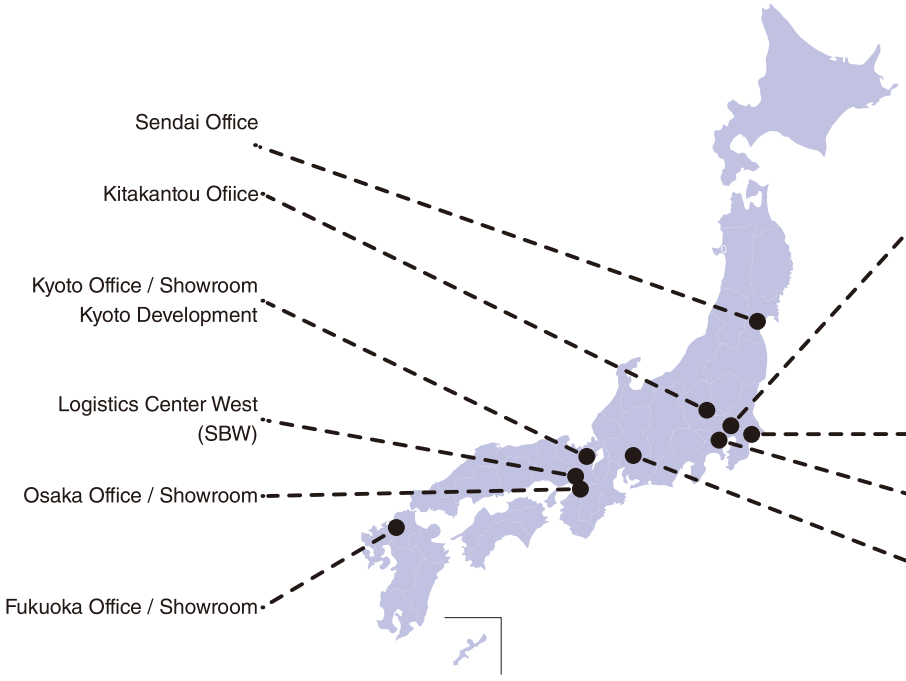
SUGATSUNE CANADA,INC.
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Tel : +1-514-312-5267
Fax : +1-514-399-0538

Chicago, USA



SUGATSUNE AMERICA,INC.Midwest Distribution Center
1790 W Cortland Court, Addison,
IL 60101 U.S.A.
Tel : +1-630-317-7072
Fax : +1-630-519-4107

Japan



Sendai Office
Kitakantou Ofiice
Kyoto Office / Showroom
Kyoto Development
Logistics Center West
(SBW)
Osaka Office / Showroom
Fukuoka Office / Showroom

Tokyo Head Office / Showroom
Tokyo Development

Export Department
1-8-11 Higashikanda, Chiyoda-ku
Tokyo 101-8633,Japan
Tel : +81-3-3866-2260
Fax : +81-3-3866-4447
E-mail : export@sugatsune.co.jp

Chiba Factory,
Chiba Development
Logistics Center(SBC)
Kanagawa Office
Nagoya Office / Showroom

Sugatsune's History



The first home shop after the war (1946)

1930	“Sugatsune Shoten” is founded by Tsunesaburo Sugasawara.Sells European style furniture hardware.
1943	The company changes its name to “Sugatsune Kogyo Co., Ltd.”, manufacturing metal accessories for communication until the end of the war.
1949	The company starts manufacture furniture hardware and architectural hardware.
1968	Capital is increased to 50 million yen. Shin-ohashi Sales Office is moved to the site of Tokyo Factory (Adachi-ku, Tokyo), and Adachi Sales Office is set up.
1969	Chiba Factory is constructed on the Trading Estate at Matsuo-cho in Chiba. This marked the beginning of mass production.
1975	Osaka Sales Office (current Osaka Branch) is opened.
1982	A logistics centre (S.B.C) with a floor area of 4,026m^2 is completed at the site of Chiba Factory. Sugatsune America Inc. is established in the United States.
1987	Sugatsune Kogyo comes up with an original damper technology “Lapcon”.
1992	Sugatsune Kogyo’s President Sugasawara is presented with a Medal with a Blue Ribbon by the government of Japan. A new logistics centre (S.B.C) with modern facilities is completed. (Floor area of 8,884m^2)
1998	Sugatsune Kogyo’s President Sugasawara receives Gold and Silver Rays, an Order of the Sacred Treasure. A technical centre is built at the site of Chiba Factory. Nagoya Sales Office is opened. The company registers for ISO 9001 certification.
2004	Sendai and Fukuoka sales offices are opened. An office and showroom are established in Shanghai, China.
2005	The largest showroom in the industry in Japan is opened at Iwamoto-cho, Chiyoda-ku, Tokyo. A large exhibition is held to commemorate the opening of the new showrooms in Tokyo and Osaka, and a new product presentation is held in Fukuoka and Sendai. Sugatsune UK is established in Great Britain. Shanghai Office is changed to Sugatsune Shanghai.
2006	A showroom is opened in Nagoya, and an exhibition is held to commemorate the opening of the new showroom. New head office building No.4 and No.5 are completed.
2007	A new building at logistics centre (S.B.C) is completed. (Floor area of 7,413m^2) Nagoya Sales Office is moved from Naka-ku to Kita-ku.
2009	The product concept “Motion Design Tech” is presented for giving further motion functions to the “opening and closing of doors or lids”.
2011	Kanagawa Sales Office is opened. Fukuoka Sales Office is moved and a showroom is opened. A showroom and sales office are opened in Chicago by Sugatsune America.
2012	Kyoto Sales Office is opened.
2013	Kyoto showroom is opened.
2015	Sugatsune Kogyo India Private Limited is established in India. A showroom is opened in Mumbai, India. A new logistics centre (SBW) is established in Osaka.
2016	Sugatsune Europe GmbH is established in Germany. Sugatsune Canada, Inc is established in Canada.
2017	The Monoflat LIN-X1000 wins a Reddot award.
2018	Sugatsune UK changes locations. Private exhibitions displaying new products are held in Tokyo, Osaka and Nagoya. In total, exhibitions are held in 13 cities across Japan. Sugatsune EU opens a showroom in Düsseldorf.
2019	Sales office opens in Northern Kanto. The LDD-V100 door damper wins both the Red Dot design award and also the iF design award. The head office moves to a new location.
2020	Sugatsune Kogyo celebrated its 90th anniversary.
2022	Sugatsune Korea is established as a local subsidiary in South Korea.

Company Profile

Company Name	Sugatsune Kogyo Co., Ltd.
President	Jun Sugasawara
Headquarters	Tokyo, Japan
Founded	February 11, 1930
Established	November 20, 1943
Capital	¥400,000,000
Number of Employees	497 (January, 2024)
Business Segment	Furniture fittings, Architectural hardware, Decorative hardware, Various import hardware, Industrial components hardware, IT industrial components, Custom-made items, Lighting part metal, Furniture metal, Fixtures furniture

Business Partner Countries & Regions

Sweden/Netherlands/Belgium/Spain/Portugal/France/Maltese/Monaco/Denmark/Sweden/Finland/Norway/Cyprus/Greece/Brazil/Argentina/Brazil/Argentina/Chile/Britain/Ireland/Germany/Italy/Austria/Oman/Bahrain/Jordan/Iran/Egypt/Qatar/India/Pakistan/SriLanka/Bangladesh/South Africa/Russia/Poland/Romania/Bulgaria/Estonia/Lithuania/Turkey/Israel/Lebanon/SaudiArabia/Kuwait/Australia/NewZealand/Indonesia/Singapore/Malaysia/Thailand/Myanmar/Vietnam/Philippines/Mongolia/China/HongKong/Taiwan/Korea

Registration

ISO 9001 : JSAQ384

ISO 14001 : JSAE597

(ISO 9001 : Sugatsune's bases in Japan,
ISO 14001 : Chiba Factory of Chiba Production Division and Logistics Centre of Logistics Division)

General Construction Business Licence No. :
Tokyo Metropolitan Governor Licence (General –25) No.140997

The Origin of LAMP Brand

The initial trademark for LAMP goods was derived by the company's founder, Tsunezaburo Sugasawara, from the Japanese symbol for "ordinary" (常). By separating this character into its component pieces, he took this to symbolize "the use of fire," which he chose to designate as a metaphor for wisdom and courage. He visualized this concept as a lamp. He thought that Sugatsune goods may, even if only a little, "brighten" society. Sugatsune's reliable quality is still represented by the logo to this day.

HAND_LAMP Mark
Founding time ~ Around 1990

LAMP Mark
Around 1990 ~ Now

Commitment to Quality and the Environment

All departments from planning, manufacturing to sales have a high awareness of quality, and through unremitting efforts, all the domestic bases in Japan have achieved ISO 9001 certification (registration No.: JSAQ384). We also actively engaged in environmental conservation activities, and achieved ISO 14001 certification (registration No.: JSAE597) at our development bases, namely Chiba Factory of Chiba Production Division and Logistics Centre of Logistics Division.

Quality Management System ISO 9001 certification (certification/registration) approved

Quality Policy: I consider the fundamentals and pursue the essential and ideal.

Sugatsune America, Sugatsune Europe, and Sugatsune Shanghai are also ISO 9001 certified.

Environmental Management System ISO 14001 certification (certification/registration) approved

Connect with Us on Social Media

Watch our product videos, including instructional guides on our YouTube channel.

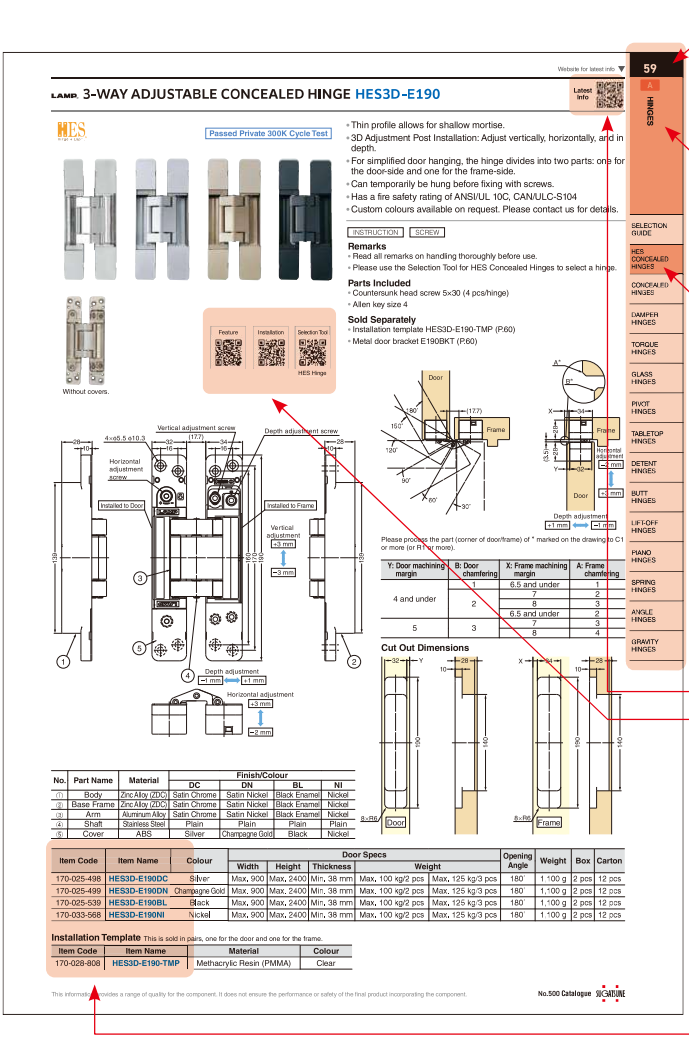
Sugatsune Global

Explore our product applications and stay updated on Instagram and Facebook.

Sugatsune Global

Sugatsune Global

Description of Main Text

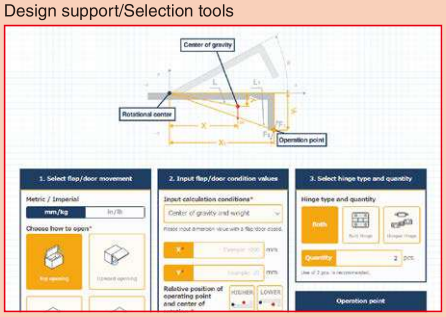


Viewable from the QR code.

Access website, videos and selection tools



Design support/Selection tools



With the selection tool Sasuga-kun, you can select the “Motion Design Tech” products meeting your requirements simply by entering values such as the size and weight of the lid or door. You can use it on our website.

Item Code	Item Name	Col
170-025-498	HES3D-E190DC	Silv
170-025-499	HES3D-E190DN	Champag
170-025-539	HES3D-E190BL	Bla
170-033-568	HES3D-E190NI	Nic

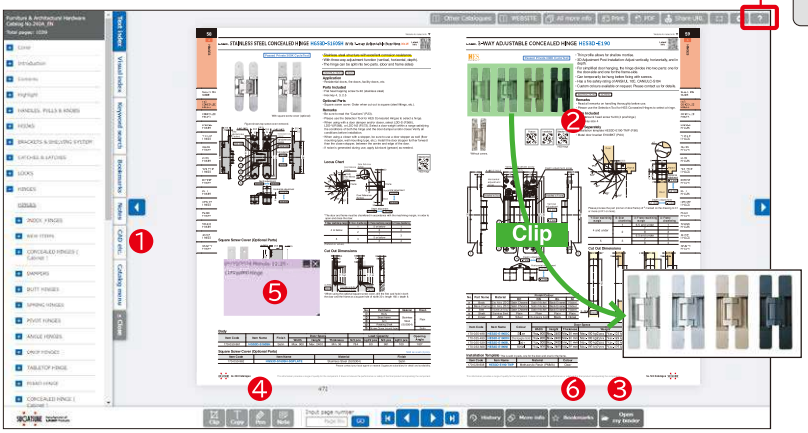
• Please specify the Item Name. and quantity when ordering.

Online Catalogue Functions

❶ CAD etc.
Access product information easily.

❷ Clip
Download images within the dragged area.

❸ MyBinder
Register favourites to MyBinder to download multiple catalogues together as a single PDF.



*Screens may be changed.

See Help for other functions and operation methods.

❹ Pen
Draw arrows, add frames, or take notes on the catalogue as desired.

❺ Note
Enter notes. Display only pages with sticky notes affixed.

❻ Bookmarks
Register favourite pages for easier reference later.

How to Use This Catalogue

- 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.

Defective Products

- While great care is taken in the manufacturing of our products, should a defect arise, contact the dealer. The warranty period is one year from the date of our invoice. Should a defect arise during the warranty period, we will replace the product in question with a functioning product within the range of our responsibility.

Returns/Replacements/Post-Order Changes

- Returns and replacements will be handled upon confirming the actual product after customer consultation with a Sugatsune sales representative. Requests for returns or replacements must be made within 30 days of the date of our invoice.
  Please note that customers will be asked to cover handling charges for returns or replacements made at customer convenience.
- Please note that we may not be able to accommodate changes made after placing orders.

Precautions for Mounting

- Improper installation may not only cause the product to malfunction but could also result in damage. Handle with care.
  For some products, installation manuals are included or available online. Read the manual thoroughly to ensure correct installation.
- Pay attention to any loosened mounting screws or fastening parts. Screws or fastening parts may loosen due to the mounting conditions or the usage environment. Such loosening may result in decreased functionality or damage to the mounted product, as well as potential injuries. To ensure safe usage, retighten periodically, even if thread-locker is applied to the screws. Generally, retighten one month after initial use, again six months thereafter, and approximately every year subsequently. Note that these guidelines apply to specific conditions and do not guarantee product quality or safety. Their applicability to the product is to be judged by the customer.

Screws

- The included and recommended screws listed with the product conform to the former JIS standards.

CAD Data (3D & 2D)

- Register as a member on our website to download CAD data. Additionally, we will verify the registered data, as membership is intended for designers.

Product Information

- The information listed in this catalogue is current as of September 2024. Product prices, specifications, dimensions, colours, and other details may change without notice due to improvements or material price fluctuations; products may also be discontinued without notice. For the latest information, see our website.
- Due to the hard copy format, some specifications such as details of dimensions and shapes have been omitted.
  For more detailed information, please contact us.
- Many of the listed products include registered or pending designs, patents, and utility models.
- Due to the hard copy format, product colours may differ slightly from the actual products. Please refer to the actual product for accurate colour representation.
- The photographs and computer graphics in the catalogue are visualisations. Depending on the conditions, installation as shown may not be possible. Confirm before purchase.
- Data on specifications and performance, such as loads, weight, force, is listed for use as a guideline to product selection. The values shown are not guaranteed under all conditions.
- Product content listed in this catalogue indicates the quality range as parts. It does not guarantee the functionality, performance, or safety of the final product using these parts.
- Data when using our products with customer products may involve different figures depending on elements such as mounting accuracy, mounting method, temperature, humidity, dust, indoors/outdoors conditions, target product structure, material, size, installation conditions, and individual operation.
- For test content details, request a test report and confirm as needed.
- When using our products near the limits of the listed data, or when confirmation of safety or durability is required in order to prevent accidents, mount the actual product and confirm, or provide the most detailed possible explanation of the usage conditions to consult with us.
- With some exceptions, our products are furniture and architectural fittings for indoor use. Consult with a sales representative concerning use outdoors, near water, or in severe environments.
- Unauthorized reproduction of this catalogue is strictly prohibited.

Display Content

Material

For material notation, please see “Materials” on P.1367.

Finish (surface treatment)

Finish notations are displayed with the following abbreviations due to limitations of space.

Display	Finish
Bright Chromate	Zinc Plated Bright Chromate
Coloured Chromate	Zinc Plated Coloured Chromate

Coloured chromate is characterized by sharply varying hues; this is not a defect.

■Paint

Paint is displayed as follows. (e.g.) Powder Baked Enamel Paint/White

■Colour Display

There may be multiple display methods for a single colour.

(e.g.) White may be indicated as W, WT, or WH.
Black may be indicated as B or BL.
Silver may be indicated as S or SL.

Dimensional Units

The units for the listed dimensions are millimetres (mm) (unless otherwise stated).

Dimensional Error

The machining process inevitably results in a degree of product error. Be sure to confirm with the actual product before use.

Drawings

With some exceptions, drawings employ the third angle projection method. Due to limitations of space, some detailed dimensions, etc. may been omitted.

Weight

Notations indicate the weight for one product or one set only.

Load Capacity

The figures displayed for load capacity are examples of data we considered reliable and measured values in tests under conditions specified by us; they are not guaranteed values. As the values may vary depending on the usage method and application, be sure to make a selection upon confirmation of suitability for the application before use.

Units are shown in SI units based on the new measuring method, with MKS units also provided.

Quantity

Quantity, when notated, is shown as below.

1 box: Quantity in one small box displayed.
1 carton: Quantity in one cardboard box displayed.


SUGATSUNE



September 2024