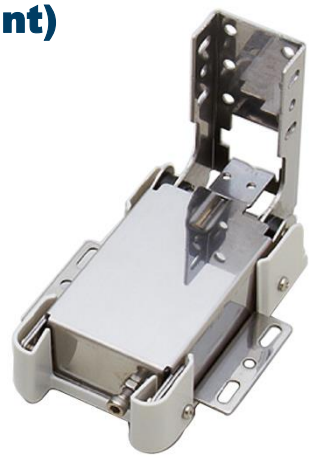
LIFT ASSIST HINGES

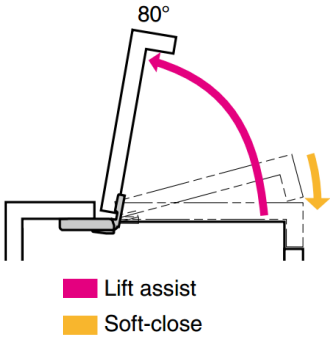
HG-PA210 Lift Assist Hinge (Internal Mount)

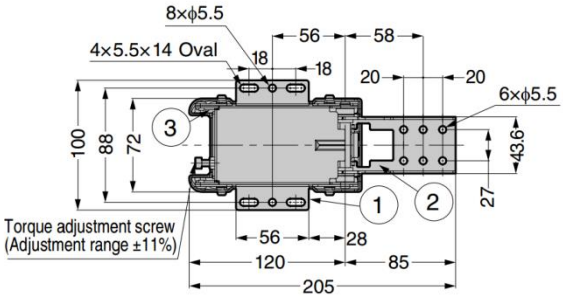


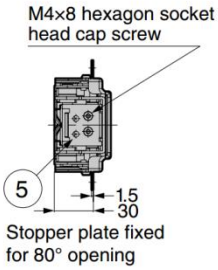
Features

- Easy to lift heavy top-opening lid with spring tension (lift assist function)
- Smooth and soft-closing movement at the end, preventing lid from slamming shut
- Torque is adjustable by turning the adjustment screw (± 11%)
- Able to limit the 140° opening angle to 55° or 80° with use of included stopper plate
- Opening angle can also be restricted between 15° and 90° (made-to-order)
- Passed 100,000 life cycle test

Operating Range

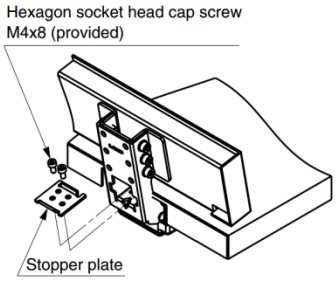


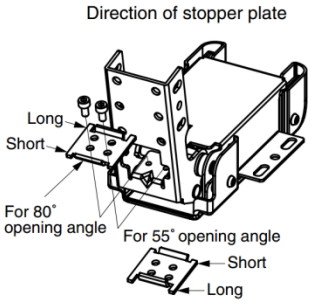


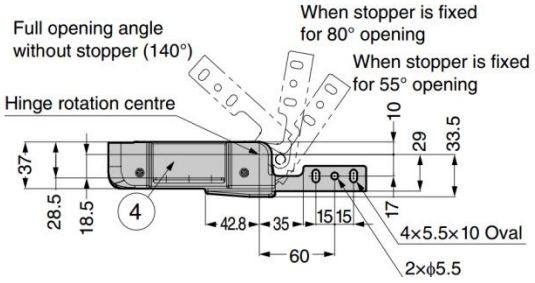


Setting of Opening Angle

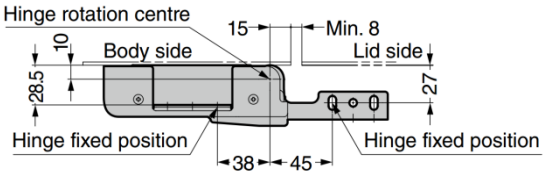
Opening angle can be limited to 55° or 80° with the included stopper plate.







No.	Part Name	Material / Colour
①	Base A	Stainless Steel (SUS430)
②	Base B	
③	Case	
④	Cover	PP/Light Grey
⑤	Stopper Plate	Stainless Steel (SUS430)
–	Slider	POM
–	Spring	Steel (SWO)



Part No.	Torque (per piece)	
HG-PA210-9	9 ±10% N.m	91 ±10% kgf.cm

Lift Assist Hinge - An Overview

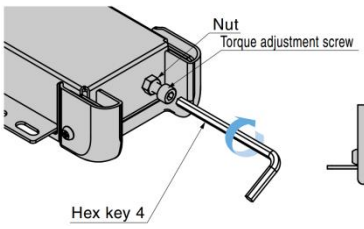
Features

- Easy to lift heavy top-opening lid with spring tension (lift assist function)
- Smooth and soft closing movement at the end, prevents lid from slamming shut
- Torque adjustable by turning the adjustment screw
- Suitable for medical equipment, analysis equipment, and semiconductor devices, etc.

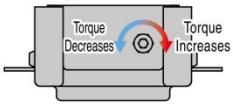
Notes

- Operating temperature: 0℃ ~ 40℃
- Ensure both hinge shafts are levelled and aligned
- Use a stopper (not included) to ensure operating angle is not exceeded during opening or closing
- For indoor usage
- For internal mount type, check torque adjusting screw position, and turn the screw with enclosure and lid already mounted

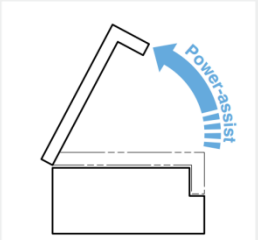
Torque Adjustment



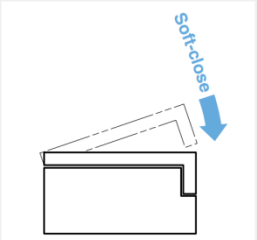
Loose the end nut with a wrench, and then turn the adjustment screw with a hex key. Tighten the nut again after adjustment.

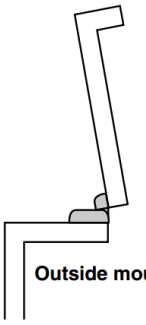
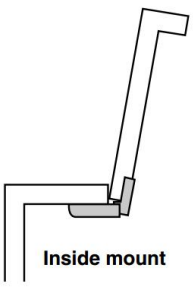
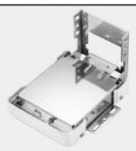


Lift assist function



Soft-close function



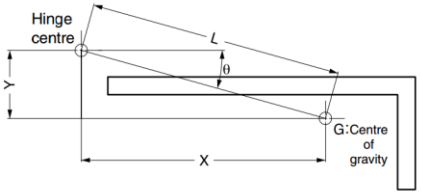
Type	Torque N · m	Torque kgf · cm	Torque Adjustment Range	Item Name
 Outside mount	$9^{\pm 10\%}$	$91^{\pm 10\%}$	±11%	 HG-PA180
	$15^{\pm 10\%}$	$153^{\pm 10\%}$	±5%	 HG-PA200/201
	$20^{\pm 10\%}$	$204^{\pm 10\%}$		
	$25^{\pm 10\%}$	$255^{\pm 10\%}$		
	$35^{\pm 10\%}$	$357^{\pm 10\%}$	±5%	 HG-PA270
	$45^{\pm 10\%}$	$459^{\pm 10\%}$		
 Inside mount	$9^{\pm 10\%}$	$91^{\pm 10\%}$	±11%	 HG-PA210
	$15^{\pm 10\%}$	$153^{\pm 10\%}$	±5%	 HG-PA230/231
	$20^{\pm 10\%}$	$204^{\pm 10\%}$		
	$25^{\pm 10\%}$	$255^{\pm 10\%}$		

Selection

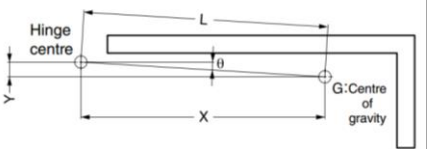
1. Calculation for the moment of the lid

Formula : $Mu = m \times g \times L \times \cos\theta$

●External mounting
(HG-PA180, HG-PA200, HG-PA201, HG-PA270)

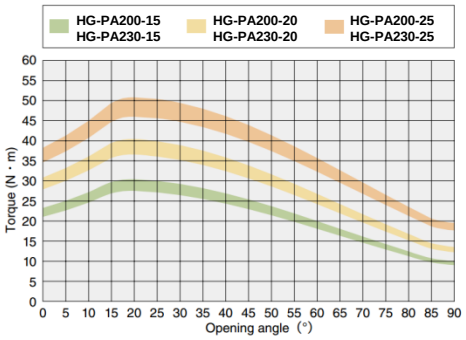


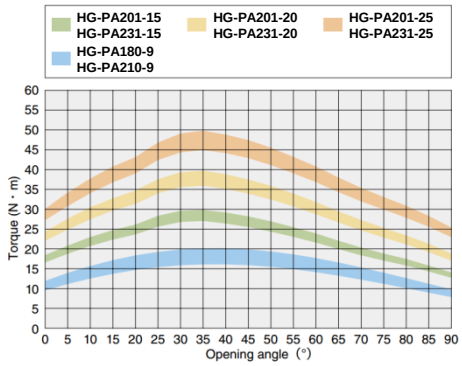
●Internal mounting
(HG-PA210, HG-PA230, HG-PA231)

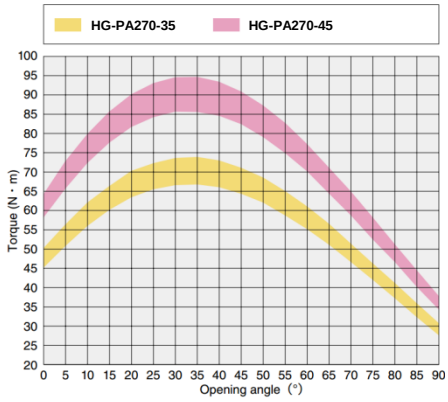


X	Horizontal distance from rotation centre to lid centre of gravity
Y	Vertical distance from rotation centre to lid centre of gravity
L	Distance from rotation centre to lid centre of gravity
θ	Angle from the horizontal line at the rotation centre to lid centre of gravity
m	Lid weight
G	Lid centre of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

2.Torque of the hinge (1 pair use)

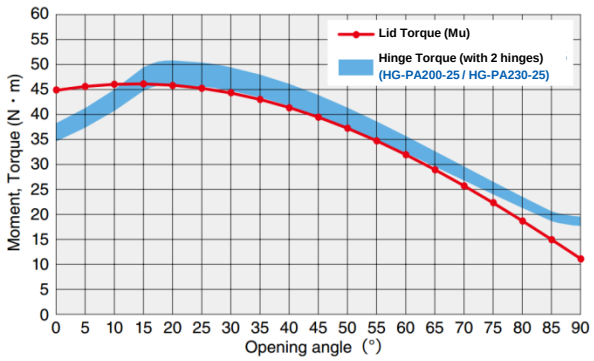






3.How to select the model

Example



Lid torque and hinge torque should be overlapped as shown on the graph above.

Lid moment Mu > Hinge torque･･･Force is applied in the closing direction of lid.
Lid moment Mu < Hinge torque･･･Force is applied in the opening direction of lid.

※Confirm the movement with actual item when the lid moment Mu is at the upper or lower limit of the torque range of lift assist hinge.

Conditions in the above example : X=43 cm, Y=-10.5 cm, L=44.3 cm, W=10.8 kg
Recommended model : 2 pcs of **HG-PA200-25** or **HG-PA230-25**