LIFT ASSIST HINGES

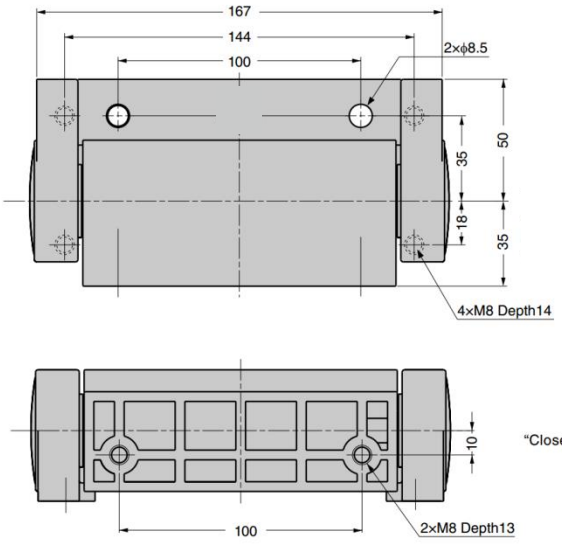
HG-JH210 Stainless Steel 316 Lift Assist Hinge

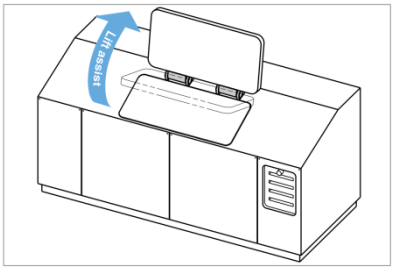
Features

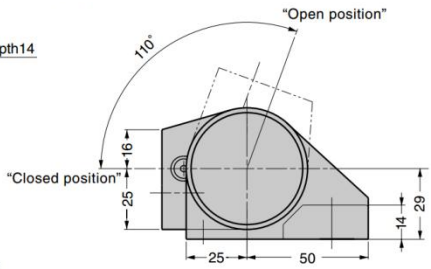
- Easy to lift heavy top-opening lid with spring tension (lift assist function)
- Supplied damper prevents top-opening lid from slamming shut (damper effective angle approx. 30° or more)
- Built-in helical torsion spring makes lid feel lighter during opening

Material

- Stainless steel 316, polished







Calculation Formula and Graph of Moment

Lid moment $Mt = W \times \cos\theta \times \frac{L}{2}$

Hinge moment $Mh = Mm \times (1 - \frac{\theta}{115})$

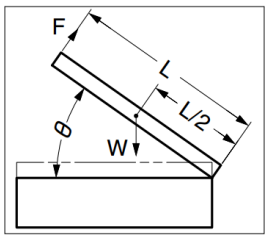
Residual moment $Mz = Mh - Mt$

Operating force $F = \frac{Mt - Mh}{L}$

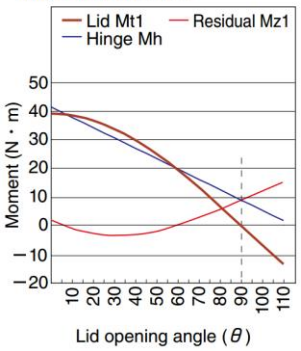
W : Weight at lid centre of gravity θ : Lid opening angle
L : Lid length Mm : Torque value of lift-assist hinge

The meaning of residual moment Mz= (Mh–Mt) is as follows.

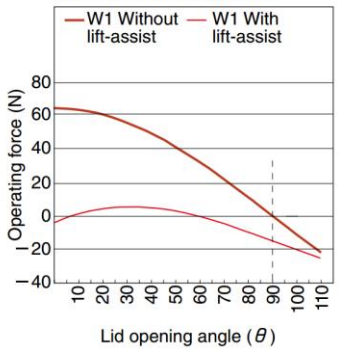
- "–" means that the force is applied in the closing direction of lid.
- "+" means that the force is applied in the opening direction of lid.



Relationship between lid opening angle and moments



Relationship between lid opening angle and operating forces



The graph is an example when L=60cm, W1=12kg, and two HG-JH210 are used. At this time, the maximum load torque of built-in damper is 7×2=14N・m(142.8 kgf・cm).Damper works when the residual moment is 14N・m or less. (Room temperature)

Part No.	Hinge Operating Angle	Assist Torque	Built-in Damper Max. Load Torque	Built-in Damper Max. Operating Temperature
HG-JH210	0° ~ 110°	20.58 N.m (210 kgf.cm)	7 N.m (71.4 kgf.cm)	0^0C ~ 40^0C