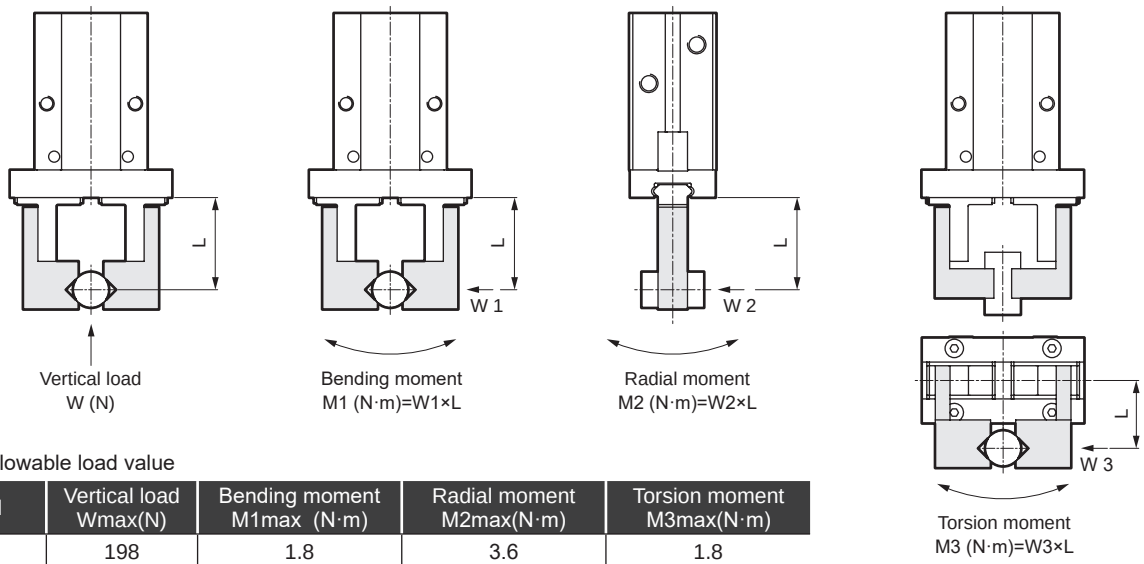
Attachments

- Use the attachments that are as short and lightweight as possible. If it is long or heavy, the inertial force during opening and closing will be large, which may cause the fingers to become loose or accelerate the wear of the finger sliding portion, which can have a negative impact on the lifespan.
- When mounting an L-shaped attachment, select the length as shown below.
  Ex.: If the L-shape is 30 mm in the finger direction and 30 mm at a 90° angle, assume the attachment length is 60 mm.
- The length of the attachment should be within the value of the gripping force performance data.
- The weight of the attachment affects durability, so follow the table below.

Model	Weight per attachment (W)
RLSH	W < 80g
RHLF	W < 100g
RCKL	W < 95g

External forces applied to the fingers

When an external force is applied to a finger such as when conveying and inserting workpieces, use it within [Table 1] parameters.
(* When using it for conveying, consider the impact to the terminal.)



[Table 1] Allowable load value

Model	Vertical load Wmax(N)	Bending moment M1max (N·m)	Radial moment M2max(N·m)	Torsion moment M3max(N·m)
RLSH	198	1.8	3.6	1.8
RHLF	164	0.94	2	1.1

L: Distance to the point where load is applied

• Sample calculation for external forces applied to the fingers

Sample calculation (1): When conveying a workpiece
Model No.: RLSH-A20D1N, When a workpiece (weight m=0.7kg, center of gravity distance L=40mm) is gripped and transported with an attachment (weight mk:0.07kg, center of gravity distance Lk=30mm)
(g: Gravity acceleration = 9.8m / s2, α: Impact coefficient generated at the end = 3)
$M_1 = \alpha \times W_1 \times L = \alpha \times (m_k \times g \times L_k \times 2 + m \times g \times L)$
$= 3 \times (0.07 \times 9.8 \times 30 \times 10^{-3} \times 2 + 0.7 \times 9.8 \times 40 \times 10^{-3} \approx 0.95 N \cdot m$, M1Can be used since it is max=1.8N·m or less

Sample calculation (2): When inserting a workpiece
Model No.: RLSH-A20D1N, L=40mm for load W_1: When 30 N is added
$M_1 = W_1 \times L = 30 \times 40 \times 10^{-3} = 1.2 N \cdot m$ and M1max= 1.8 N·m or less, so use is possible

Repeatability

The repeatability here indicates the displacement of the workpiece position deviation in the case of repeated clamping and unclamping under the same conditions (gripper fixed, same workpiece used, etc. Refer to right).

Conditions
- Workpiece dimensions, shape, weight
- Workpiece transfer position
- Clamp method, length
- Workpiece and workpiece receiving surface resistance
- Fluctuation of gripping power (air pressure), etc.