

Product Introduction

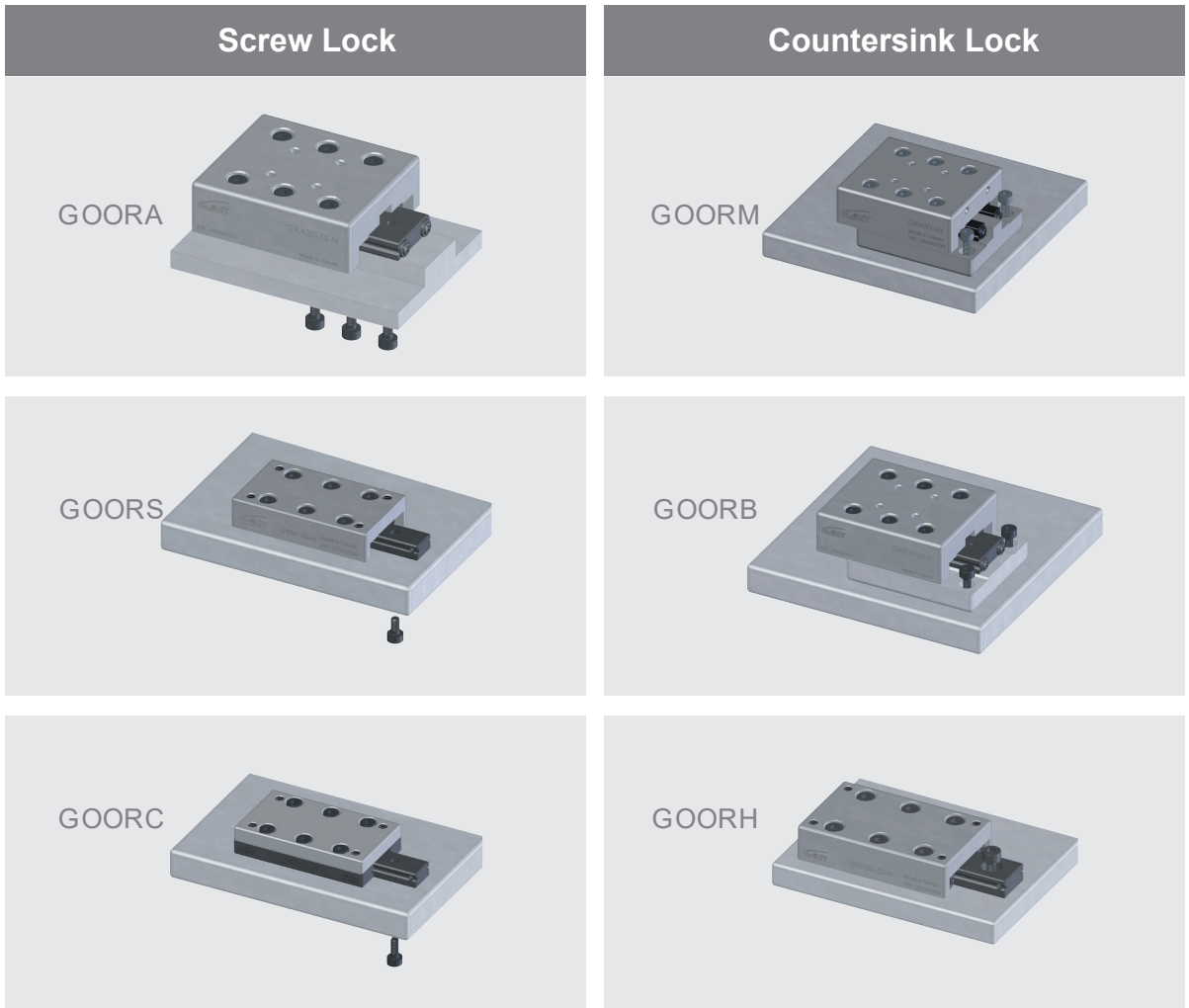
Crossed Roller Slide Table

Table is composed of GOOYII crossed roller type slide rail set, V-grooved, crossed rollers matched with assembly plane in high accuracy processing, and base; installed with limit mechanism between two ends of table, is small type of limit stroke linear motion product in high rigidity. Performance as high accuracy and low friction, apply to electric parts used in automatic installation equipment and optical gauge.

Slide Table Unit Selection Procedure

1. Select unit width and length.
2. Select model per installation.
3. Acquire model no. from catalogs.
4. Select standard, antirust or corrosion-resisting per environment request.

Installation Selection



Character & Accuracy

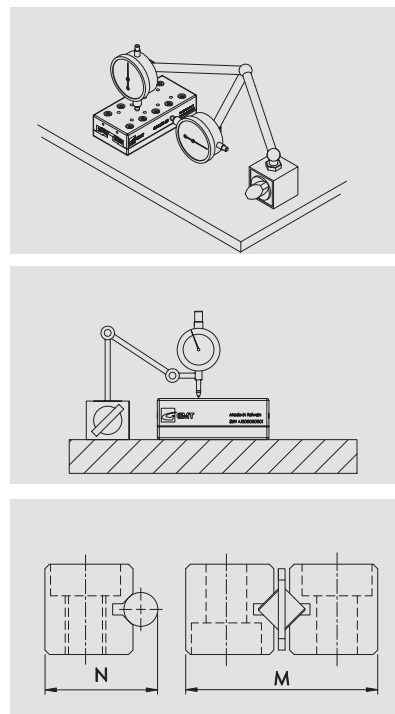
Slide Table Property

High Accuracy	In order to perform function of GOOYII Slide Table entirely, all assembly planes of table and base are processed in precise grinding to get linear motion in high accuracy.
Low Friction	Low friction because of non-circulation. Stable performance in whether low speed or high speed.
High Rigidity, Space Saving	Besides high load capacity and high rigidity of roller guide in GOOYII linear motion table, space saving design is also considered at same time.
No Demand of Adjustment	Accuracy and preload would be matched perfectly to use directly without heavy adjustment.
Easy Installation	Standardized assembly holes of unit and base are easy to lock and secure with screw only to have linear motion in high accuracy.

Table Accuracy Description

Unit : mm

Table Accuracy Inspection Level			Rail Accuracy Inspection Level		
Table Length	Middelivery amplitude	Sidedelivery amplitude	N Size Tolerance	M Size Tolerance	Straightness
0~50	0.002	0.004	- 0.015 - 0.035	- 0.03 - 0.07	0.002
50~100	0.002	0.005			0.002
100~150	0.003	0.006			0.003
150~200	0.003	0.007			0.003
200~250	0.003	0.007			0.003
250~300	0.003	0.007			0.003
300~350	0.004	0.008			0.004
350~400	0.004	0.008			0.004
400~450	0.004	0.008			0.004
450~500	0.004	0.008			0.004
500~550	0.004	0.009			0.004
550~600	0.004	0.009			0.004



Rated Life Calculation

Rated Life Calculation

$$L = \left(\frac{f_T}{f_w} \cdot \frac{C}{P_C} \right)^{\frac{10}{3}} \times 100$$

L : Rated life (km)

C : Basic dynamic load (kN)

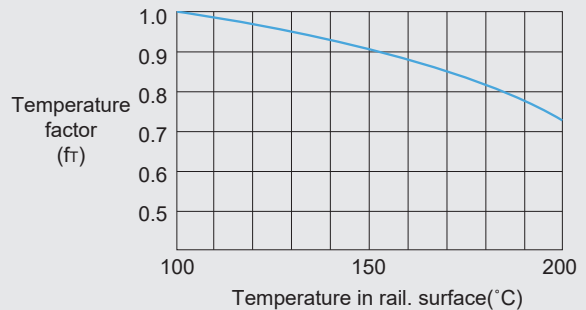
P_C: Radial load calculated value (kN)

f_T : Temperature factor

f_w : Load factor

f_T : Temperature factor

Running system in environment over 100°C, needs consideration of bad effect from high temperature, basic rated load x temperature factor as shown on the right figuration.



f_w : Load factor

Machine running back and forth usually is accompanied with vibration or shock, especially vibration happened in high speed running or shock caused by running stop frequently, but not easy to calculate all of them correctly. When actual load could not be calculated, or in case of large effect from speed, vibration, please use basic rated load (C) to divide relative experienced load factors as right data shown.

Load factor((f_w))

Vibration / Shock	Speed(V)	f _w
Tiny	Dead slow V ≤ 0.25m/s	1~1.2
Small	Slow 0.25 < V ≤ 1m/s	1.2~1.5

Working life hours(L_h)

After acquirement of rated life(L), use formula stated on the right side to calculate working life hours, if stroke length and travel times per minute are constant.

$$L_h = \frac{L \times 10^6}{2 \times l_s \times n_1 \times 60}$$

L_h : Working life hours (h)

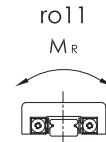
l_s : Stroke length (mm)

n₁ : Travel times per minute (min₁)

Torque Calculation

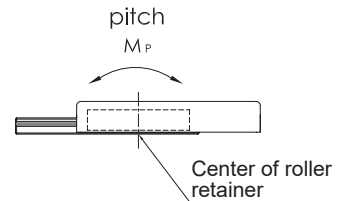
Torque M_R

Single static load rating C_o B for Ball quantity in one row		Center distance between two rows L_R R for Roller quantity in one row
Ball	Roller	
$M_R = B * \cos \frac{\pi}{4} * C_o * L_R$	$M_R = \frac{R}{2} * C_o * L_R$	



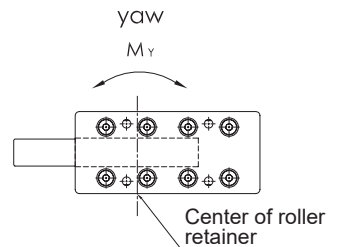
Torque M_P

Ball pitch P Ball quantity = B Roller pitch P Roller quantity = R	
Ball	Roller
$M_P = Fd \div Sf * 2^{\frac{7}{9}} * C_o * \cos \frac{\pi}{4} * P * \frac{2B^2 - B}{6}$	$M_P = \frac{1}{2} * \left(\frac{R}{2}\right) * C_o * P$



Torque M_Y

Ball	Roller
$M_Y = Fd \div Sf * 2^{\frac{7}{9}} * C_o * \cos \frac{\pi}{4} * P * \frac{2B^2 - B}{6}$	$M_Y = \frac{1}{2} * (R^2 - R) * C_o * P$



Sf : Safety factor

Safety Precaution

Please Operate Carefully

In case of carelessness of falling off Slide Table or having unusual collision and extrusion, may cause surface dent on V-grooves and rollers to result in running in non-smooth, and bad effect to accuracy. Therefore please operate with care particularly.

Anti-Dust

If dust, impurities mixed with components inside Slide table, may cause decrease of accuracy or life hours.
Please set outer dust cover to protect table used in bad environment.

Lubrication

Slide table filled with lithium soap lubricant before inspection, could be used directly as soon as acquirement.
Subsequently add lubricant in same series as condition.

© Relative request of lubricant compatibility (Refer to P.0450)

Deviation Of Roller Retainer

Slide table running in high speeding, off-center load or vibration conditions, may cause retainer deviation.
It's normally recommended to use in speed below 30m/min.
In addition, suggested solution to deviation of roller retainer is couple times of movement in full stroke to center roller retainer while running.

Screw Adjustment

Slide table, proofread in best accuracy and preloaded in perfect condition.
No disassemble arbitrarily lock screw of adjust screw and rail.