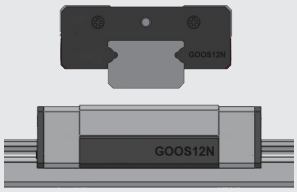
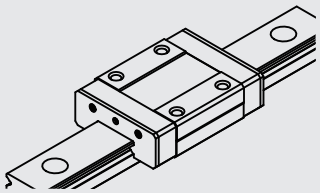
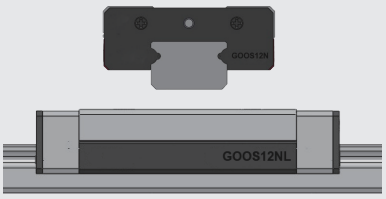
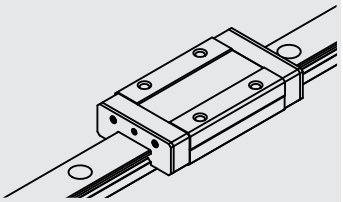
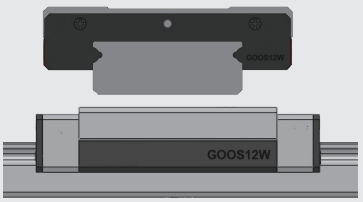
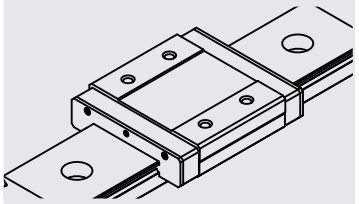
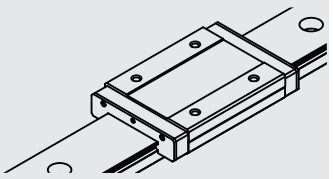
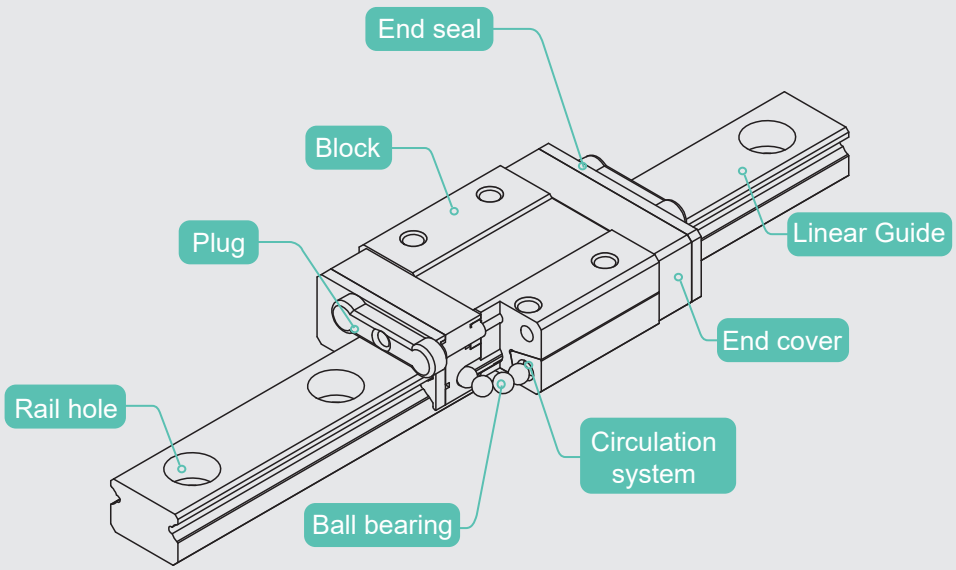
軌道材質&滑塊尺寸

不銹鋼/碳鋼系列	【標準型】		
	【標準型】加長型		
	【寬幅型】		
	【寬幅型】加長型		

型號	軌道尺寸(□□)				
	05	07	09	12	15
GOOS□□-N-N	✓	✓	✓	✓	✓
GOOS□□-N-L	✓	✓	✓	✓	✓
GOOS□□-W-N	✓	✓	✓	✓	✓
GOOS□□-W-L	✓	✓	✓	✓	✓

*碳鋼系列不適用於05型

Product Structure



Product Character

- 4 contact points formed by circulated ball bearings in 45 degrees contact to the guide rail surface to produce an even-loading performance of each side of the guide.
- Circulation system is a plastic part designed to reduce friction noise during block running.
- End and bottom seals design to prevent dust and foreign objects entering from block running, to extend product usage life.

【Standard Rail Width】

- Fit to low profile equipment.
- Stainless steel material
- High rigidity and accuracy.

【Wide Rail Width】

- Suitable for single axis usage.
- High loading capacity.
- High rigidity and accuracy.
- Stainless steel material.

產品特色

◎ 微型滑軌是採用兩列哥德式軌道設計，滾珠相連45°做循環式設計，達到四點接觸，具等負荷的效果。

◎ 迴流道採用塑膠射出成型，大幅降低滾珠與金屬碰撞產生的噪音。

◎ 密封式刮刷片及滑座底部防塵設計，大幅降低灰塵及異物進入，延長使用壽命。

◎ 鋼珠邊設有鋼絲保持器，防止鋼珠掉落。

◎ **具有穩定的精度控制，同型線軌間可互換滑塊，並保持相同的順暢度、精度與預壓，也方便組裝及維修。**

【標準型】

◎ 適合用在體積小的設備。

◎ 不銹鋼材質。

◎ 剛性強、精度高。

◎ 具有保持器。

【寬幅型】

◎ 單軸可使用。

◎ 負荷力高。

◎ 剛性強、精度高。

◎ 不銹鋼材質。

◎ 具有保持器。

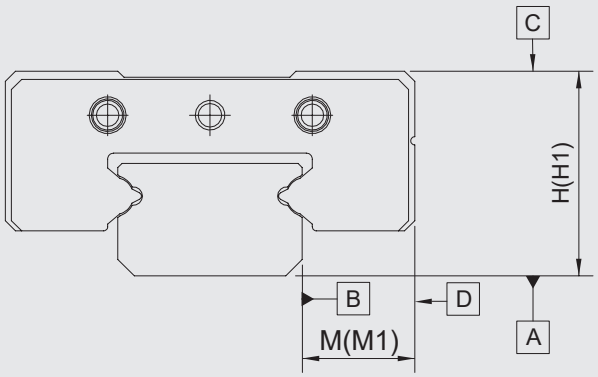
【軌道碳鋼型】

◎ 經濟實惠。

◎ 搭配表處防銹能力佳。

◎ 與不銹鋼系列尺寸相同

Accuracy Reference Table



Accuracy Reference of GSN and GSW				
Accuracy	Code	Standard (N)	High (H)	Precision
H tolerance	H	±35(μm)	±15(μm)	±10(μm)
H tolerance between multiple blocks	H1	20(μm)	15(μm)	10(μm)
M tolerance	M	±35(μm)	±15(μm)	±10(μm)
M tolerance between multiple blocks	M1	25(μm)	15(μm)	10(μm)

Dynamics Straightness (A-C)/(B-D) Compare to Rail Length			
Rail Length	Accuracy		
	Standard Grade(N)	High Grade (H)	Precision Grade (P)
50Less	12	6	2
50-100	14	8	4
100~200	15	9	4
200~300	17	11	5
300~400	18	11	6
400~500	19	12	6
500~600	20	13	7
600~700	21	13	7
700~800	22	14	8
800~900	23	16	9
900~1000	25	18	11

Usage Life Calculation

Usage life is a total moving distance achieved while the contact surface between the guide rails has been scratched that means limited critical conditions are produced after contact friction force circulated continuously between ball bearings and guide rails surface during block running with loading.

◎ Rated Usage Life Definition

Rated usage life means 90% of the tested linear guide rail surface without scratch situation from a certain quantity of linear guide moving under same conditions and rated loading.

◎ Usage Life Calcuation

Usage life is considered basic rated loading and total loading for calculation due to different working conditions.

C : Basic rated dynamic loading(kN)
L : Rated usage life(km)
P_c : Radial loading calculation(kN)
f_t : Temperature factor
f_w : Loading factor

$$L = \left(\frac{f_t}{f_W} \cdot \frac{C}{P_C} \right)^{10/3} \times 100$$

◎ Usage Life Time(L_h)

Please refer to the following calculation formula to have an idea usage life time if stroke and repeatable cycles per minute are fixed situation upon rated usage life figure is calculated.

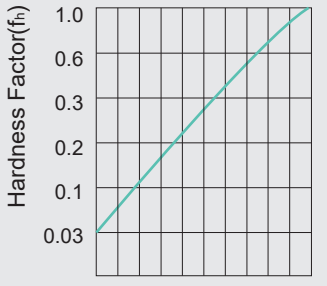
L_h : Working life hours (hr)
ℓ_S : Stroke length (mm)
n_1 : Travel times per minute (min1)

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

Life Factor

◎ Hardness Factor(f_h)

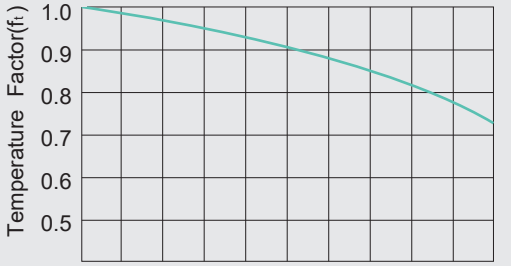
Hardness of contact surface on cycling guide rails requires HRC56-58. Guide rail rated life and usage life will be reduced in case lower hardness. Use Hardness factor shown on (Fig. 1) to multiple the rated dynamic and static loading equals to available reference figures.



(Fig. 1)

◎ Temperature Factor(f_t)

Use Temperature factor shown on (Fig. 2) to multiple the basic rated loading equals to available reference figures when the working environment temperature is more than 100℃.



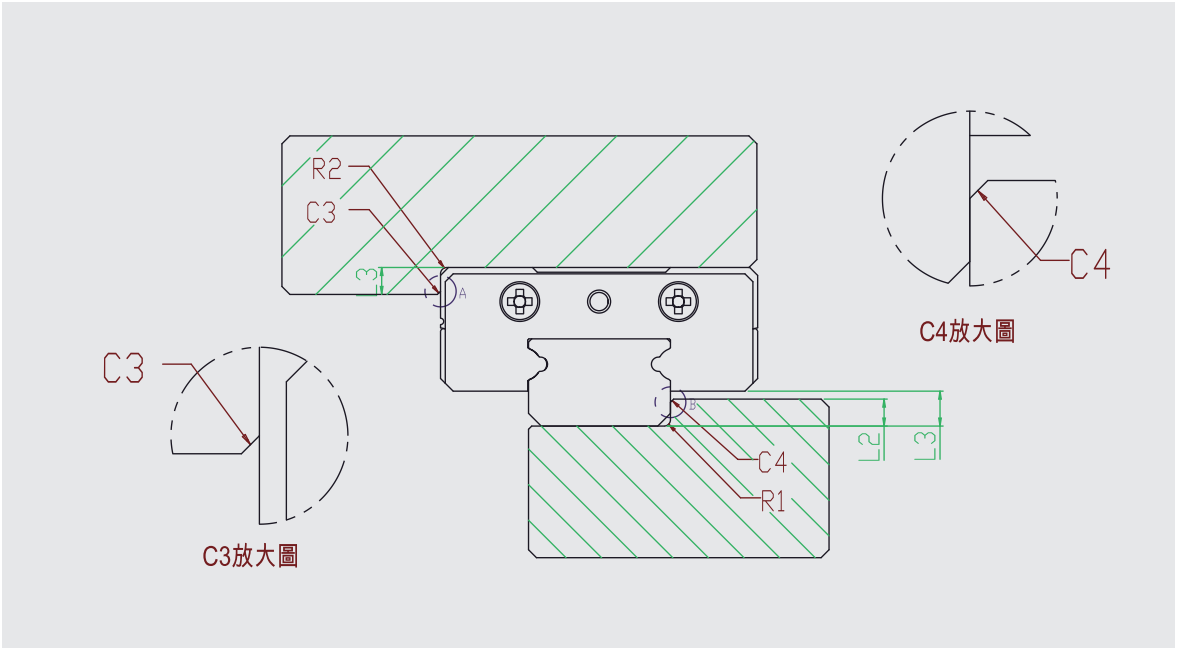
(Fig. 2)

◎ Loading Factor(f_w)

Use the following loading factor (fW) generated from experienced vibration & drive force to calculate a reference loading figure due to rapid vibration or strong drive force during high speed running. As hardly getting precise calculations.

Vibration / Drive Force	Velocity (V)	Loading Factor (f_W)
Softly	Slight speed V≦0.25m/s	1~1.2
Light	Low speed 0.25< V≦1m/s	1.2~1.5

安裝尺寸



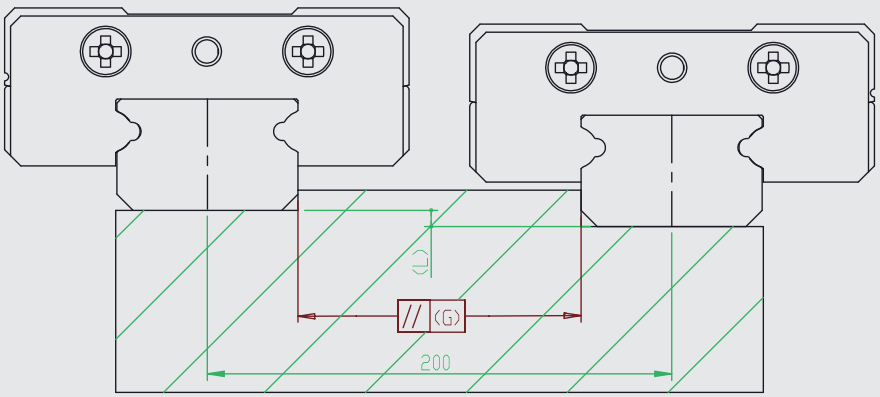
單位 : mm

型號	R1	R2	L1	L2	L3	C3	C4
GOOS05N	0.1	0.3	1.6	1.1	1.5	0.1	0.1
GOOS07N	0.2	0.3	1.6	1.1	1.5	0.1	0.1
GOOS09N	0.2	0.3	2.3	1.8	2.9	0.1	0.1
GOOS12N	0.2	0.5	3.1	2.6	3.8	0.1	0.1
GOOS15N	0.3	0.5	4.1	3.6	3.8	0.1	0.1

型號	R1	R2	L1	L2	L3	C3	C4
GOOS05W	0.1	0.3	1.6	1.1	1.8	0.1	0.1
GOOS07W	0.2	0.3	2.1	1.5	2.8	0.1	0.1
GOOS09W	0.2	0.3	3.5	3	3.5	0.1	0.1
GOOS12W	0.2	0.5	4	3.5	4	0.1	0.1
GOOS15W	0.3	0.5	4.1	3.6	4	0.1	0.1

◎安裝時請確認上圖指示以確保安裝後精度。

安裝基準面+GOOS系列間隙表

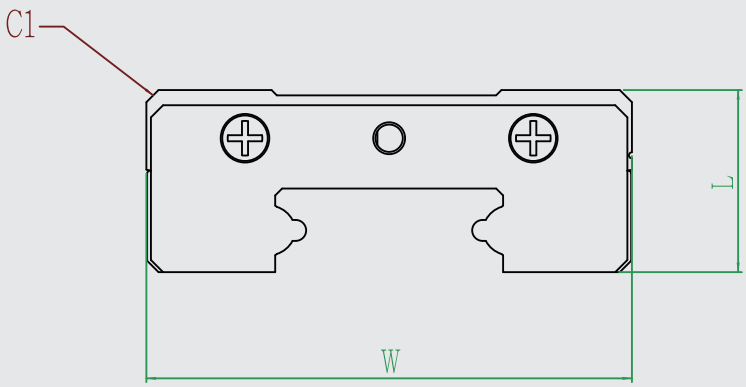


單位 : μm

型號	F (微間隙)	0 (無預壓)	1 (輕預壓)	型號	F (微間隙)	0 (無預壓)	1 (輕預壓)
GOOS05N.W(L值)	15	15	2	GOOS05N.W(G值)	2	2	2
GOOS07N.W(L值)	20	20	2	GOOS07N.W(G值)	3	3	3
GOOS09N.W(L值)	30	30	3	GOOS09N.W(G值)	3	3	3
GOOS12N.W(L值)	30	30	6	GOOS12N.W(G值)	5	5	5
GOOS15N.W(L值)	40	40	10	GOOS15N.W(G值)	8	8	6

型號	F (微間隙)	0 (無預壓)	1 (輕預壓)
GOOS05N.W(安裝面平面度每200mm)	10	10	5
GOOS07N.W(安裝面平面度每200mm)	20	20	10
GOOS09N.W(安裝面平面度每200mm)	30	30	15
GOOS12N.W(安裝面平面度每200mm)	40	40	20
GOOS15N.W(安裝面平面度每200mm)	50	50	25

滑塊導角



單位 : mm

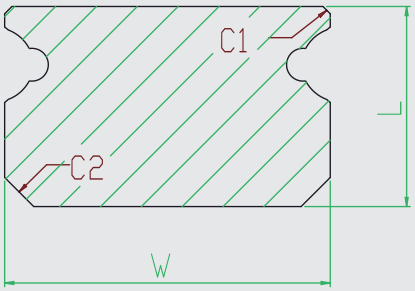
型號	L	W	C1
GOOS05N	4.5	12	0.5
GOOS07N	6.5	17	0.5
GOOS09N	7.8	20	0.5
GOOS12N	10	27	0.8
GOOS15N	12	32	0.8

型號	L	W	C1
GOOS05W	5	17	0.4
GOOS07W	7.5	25	0.4
GOOS09W	8.6	30	0.6
GOOS12W	10.1	40	0.8
GOOS15W	12	60	0.8

預壓等級表

預壓等級		各規格預壓間隙值(μm)				
		GOOS05	GOOS07	GOOS09	GOOS12	GOOS15
0	無預壓	+4~+0	+5~+0	+5~+0	+5~+0	+7~+0
F	微間隙	+2~+0	+3~+0	+3~+0	+3~+0	+4~+0
1	輕預壓	0~-1	0~-2	0~-3	0~-4	0~-5

滑軌導角



單位 : mm

型號	L	W	C1	C2
GOOS05N	3.5	5	0.2	0.2
GOOS07N	4.7	7	0.2	0.3
GOOS09N	5.5	9	0.2	0.5
GOOS12N	7.5	12	0.3	0.5
GOOS15N	9.5	15	0.45	0.8

型號	L	W	C1	C2
GOOS05W	4	10	0.2	0.2
GOOS07W	5.2	14	0.2	0.3
GOOS09W	7.3	8	0.2	0.5
GOOS12W	8.5	24	0.3	0.5
GOOS15W	9.5	42	0.45	0.8

◎安裝時請確認上圖指示以確保安裝後精度。

滑塊牙深

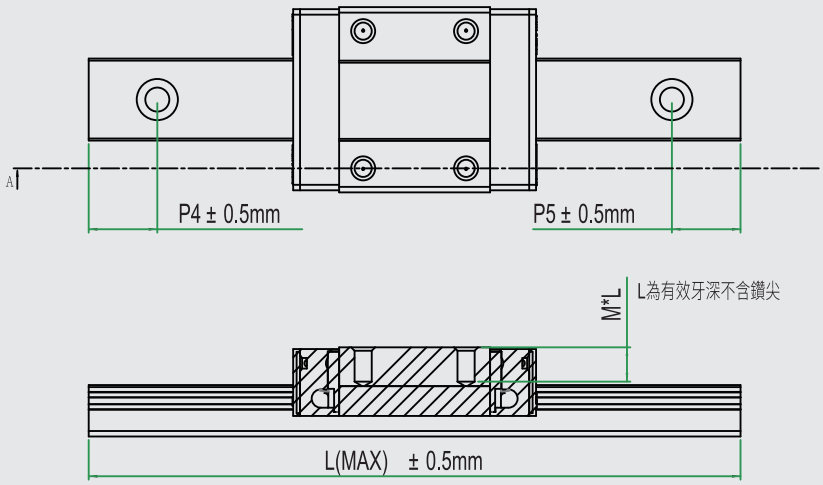
單位 : mm

GOOYII不銹鋼規格		
型號	L(MAX)	M*L
GOOS05N	500	M2*1.5L
GOOS07N	1000	M2*2.5L
GOOS09N	1000	M3*3L
GOOS12N	1000	M3*3.5L
GOOS15N	1000	M3*5.5L

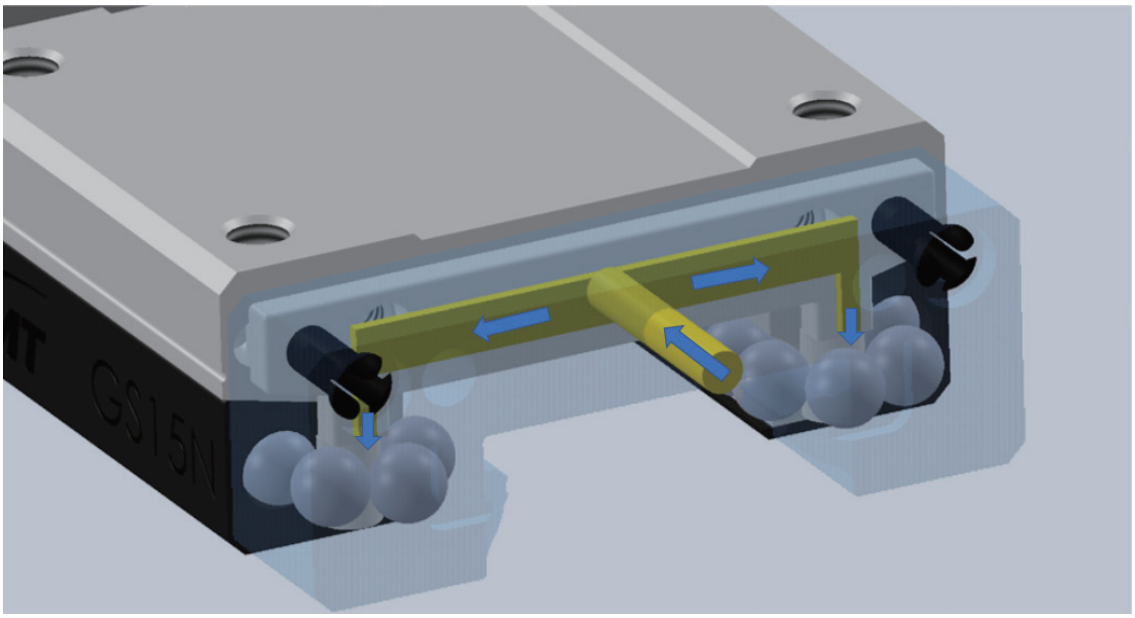
GOOYII碳鋼規格		
型號	L(MAX)	M*L
GOOS07N	1000	M2*2.5L
GOOS09N	1000	M3*3L
GOOS12N	1000	M3*3.5L
GOOS15N	1000	M3*5.5L

型號	L(MAX)	M*L
GOOS05W	500	M2.5*1.5L
GOOS07W	1000	M3*3L
GOOS09W	1000	M3*3L
GOOS12W	1000	M3*3.5L
GOOS15W	1000	M4*4.5L

型號	L(MAX)	M*L
GOOS07W	1000	M3*3L
GOOS09W	1000	M3*3L
GOOS12W	1000	M3*3.5L
GOOS15W	1000	M4*4.5L



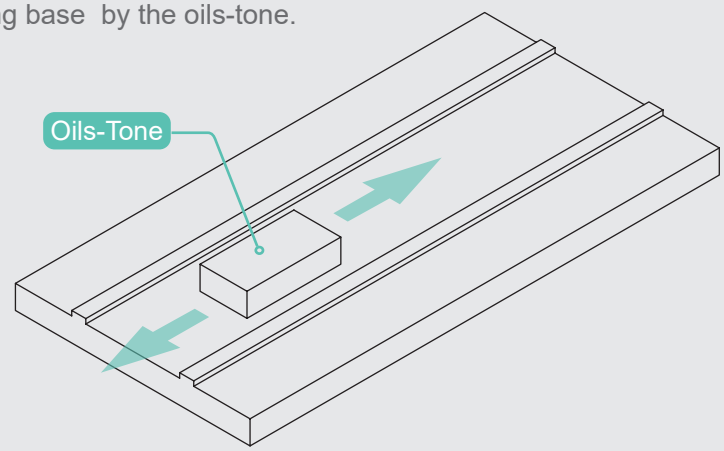
潤滑方式



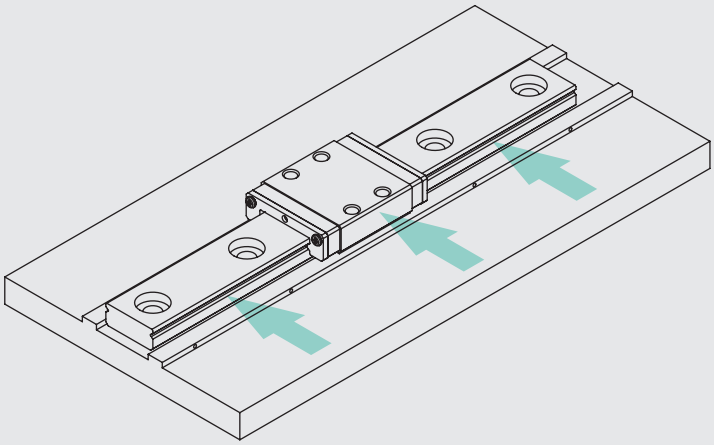
◎一般滑座潤滑時.請由兩端面注油口加入適量ISO VG32~68的油。
◎於加油同時推動滑座使滾動體、軌道及滑座均勻塗佈潤滑。
◎初次潤滑請確認潤滑油是否有塗佈於軌道面上。
◎出貨時，內部不含潤滑油脂。

Mounting Method

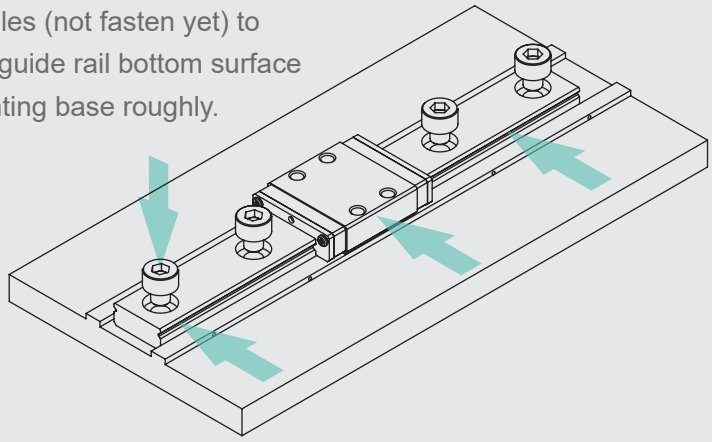
Remove and clean dust and foreign objects from assembly surface of the mounting base by the oils-tone.



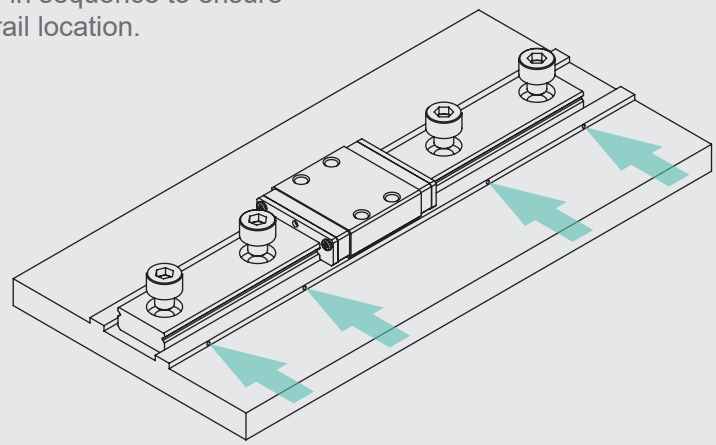
Put and align the miniature guide rail on the mounting base.



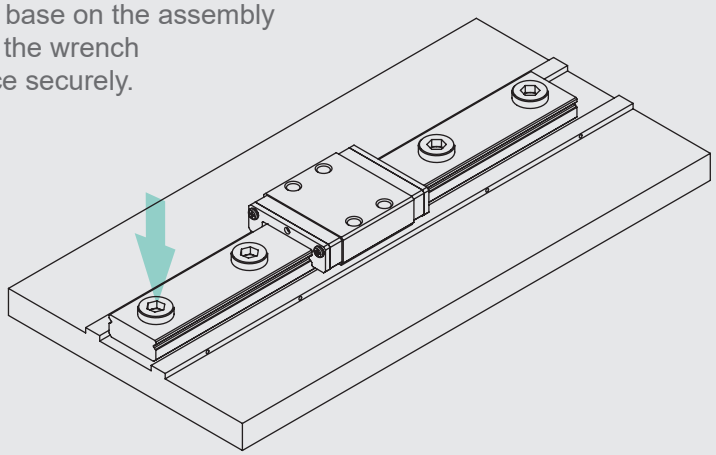
Slightly screw on bolts to check mounting holes (not fasten yet) to position the guide rail bottom surface on the mounting base roughly.



Use side-fixing screws to force the guide rail side datum surface to the assembly side tightly in sequence to ensure the guide rail location.



Tighten each bolt to force the guide rail bottom base on the assembly surface by the wrench in sequence securely.



Follow step 1 to step 5 repeatably to assembly other guide rails.