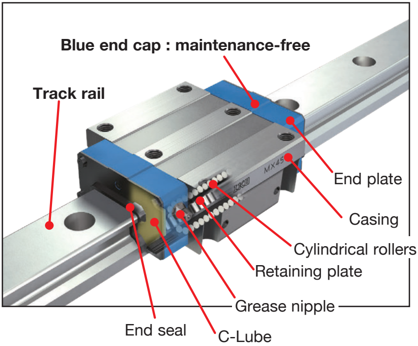
Rail and slide

IKO LRX
LRX-C1H
LRXC-C1H
LRXG-C1H



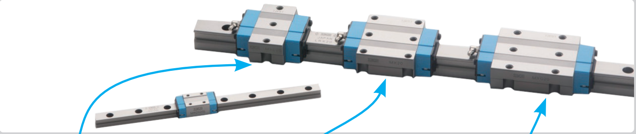
Roller slide

- *High precision and rigidity*
- *High load capacity*
- *Soft translation*
- *Stroke limited only by the length of the rails*
- *Standard or long interchangeable slides*

Very suitable for applications with shocks and/or vibrations :

- *Machine tools*

Compose your guide by selecting the rail and the number of slides you need



Slide LRXC-C1H

- Self-lubricating slide
- Slide length : short
- Load capacity : low

Slide LRX-C1H

- Self-lubricating slide
- Slide length : standard
- Load capacity : normal

Slide LRXG-C1H

- Long self-lubricating slide
- Slide length : long
- Load capacity : excellent

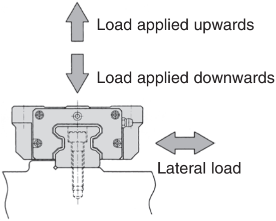


Figure 2 Load directions

Load capacity and life expectancy

Basic dynamic load
The basic dynamic load rating is defined as a constant load, both in direction and magnitude to which a group of identical Precision Linear Slide units are subjected individually and where 90% of the slide units in that group can travel for 50km without suffering material damage due to rolling contact fatigue. LRX linear slide units are designed to handle dynamic loads equally whether applied upwards, downwards or laterally.

Basic static load capacity

The basic static load rating is defined as a static load that gives a prescribed constant stress at the centre of the contact area between the rolling element and track whilst receiving the maximum load. The static load limit applies to lateral movement of the LRX slide unit, generally used along with the static security factor.

Static moment

The static moment rating is defined as a static moment load (See Fig. 3) that gives a prescribed constant contact stress at the centre of the contact area between the slide unit and the track receiving the maximum load.

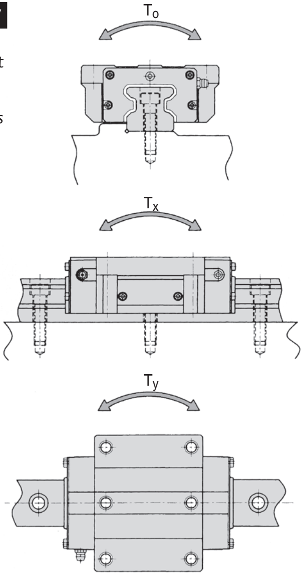
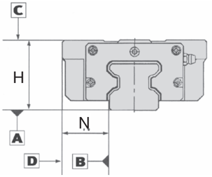


Figure 3: Static moment

Accuracy

Accuracy of a slide unit and rail assembly		Rail High accuracy (H)
Slide unit	High Accuracy (H) Accuracy (P)	High accuracy -
Tolerance sur H		±0,002
Tolérance sur N(3)		±0,025
For 1 batch :	Variation on H(1)	0,07
	Variation on H(2)(3)	0,010
Variation on H formultiple assemblies(4)		0,025
Working parallelism between **C** and **A**		Fig. 1.
Working parallelism between **D** and **B**		Fig. 1.



Note (1): *This is the difference in the dimension H between two slide units mounted on the same track or on a pair of tracks when H is measured at a specified position*
Note (2): *This is the difference in the dimension N between two slide units mounted on the same track or on a pair of tracks when N is measured at a specified position*
Note (3): *These values also apply when the reference surfaces are assembled opposite each other.*
Note (4): *The difference in the dimension H for multiple assemblies represents the dimensional variation between the slide units of an arbitrary number of assemblies having the same accuracy class.*
Note: *All of the above are applicable only when the dimensions are measured at the centre of the slide unit mounted on a rail attached to a flat base.*

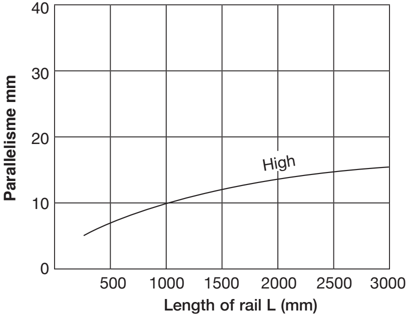


Fig.1 Working parallelism

Life expectancy

The life expectancy of an LRX linear slide unit can be calculated using the following formula:

$$L = 50\left(\frac{C}{P}\right)^{10/3} \qquad (1)$$

where:

L : Life expectancy in kilometres (or **10^3 m**)

C : Basic Dynamic load capacity (**N**)

P : Applied load (**N**)

Actual loads applied to the linear guide sometimes exceed the theoretically calculated load due to vibration and shocks caused by the operation of the machine. A more realistic life expectancy can be calculated using the following formula which takes the load factor into account:

$$L = 50\left(\frac{C}{fwFc}\right)^{10/3} \qquad (2)$$

where:

fw : load factor (see table 1)

Fc : calculated theoretical load, **N**

In cases where the stroke length and the number of strokes per minute are known, working life can be expressed in hours with the following formula:

$$Lh = \frac{10^6 L}{2Sn_1 x60} \qquad (3)$$

where:

Lh : Life expectancy in hours (**h**)

n1 : Number of strokes per minute (**spm**)

S : Stroke length (**mm**)

Table 1 Load factor:

Operating conditions	fw
Smooth working without vibrations and/or shocks	1,0 ~ 1,2
Normal operation	1,2 ~ 1,5
Subject to vibrations and/or shocks	1,5 ~ 3,0