# SPECIAL SELECTION IKO

VOL.1

*New models are introduced!*
*Wide range of variations!*

# LRX

**Linear Roller Way Super X**

**CAT-57119** U.S. PATENTED

ISO 9002 Certified

ISO 14001 Certified

# Advanced original design Four-row Roller

IKO

Linear Roller Way

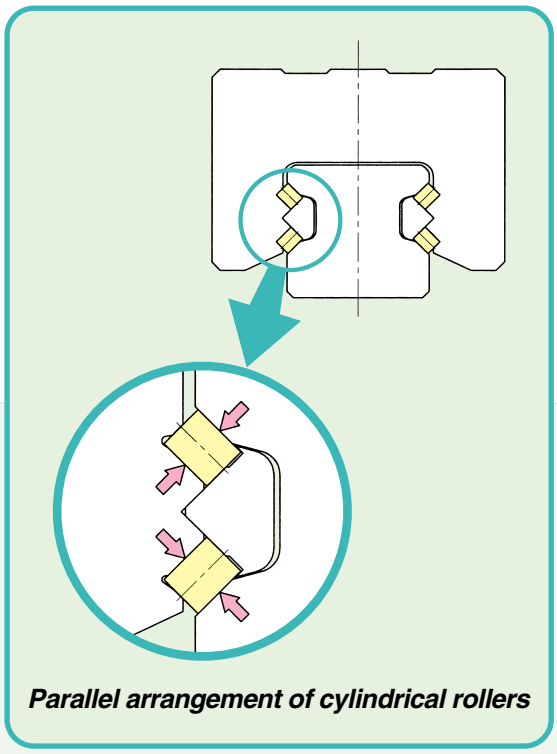
Type

# SUPER X

## SERIES

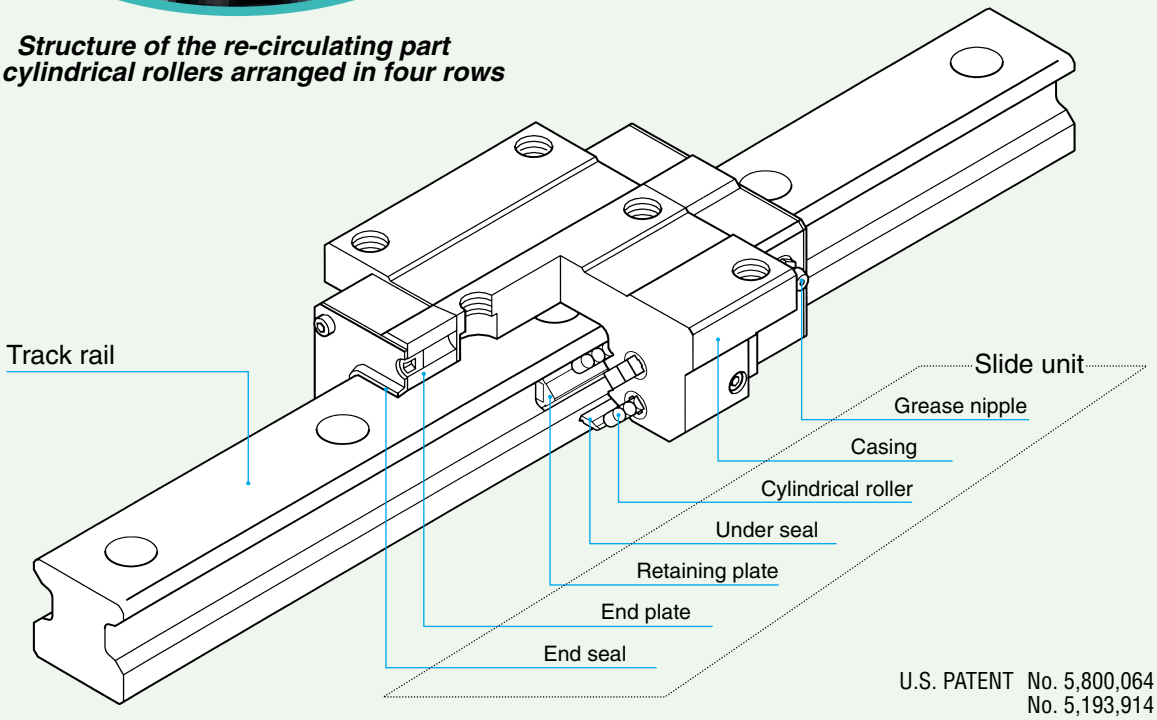
# Advanced high-reliability design

IKO Linear Roller Way Super X is a linear motion rolling guide, featuring high reliability, high rigidity, high accuracy, and smooth motion. Four rows of cylindrical rollers are incorporated in a highly rigid casing, and the cylindrical rollers in each row are arranged in parallel to each other in well-balanced form to take full advantage of the excellent characteristics of cylindrical rollers.



***Parallel arrangement of cylindrical rollers***

***Structure of the re-circulating part of cylindrical rollers arranged in four rows***



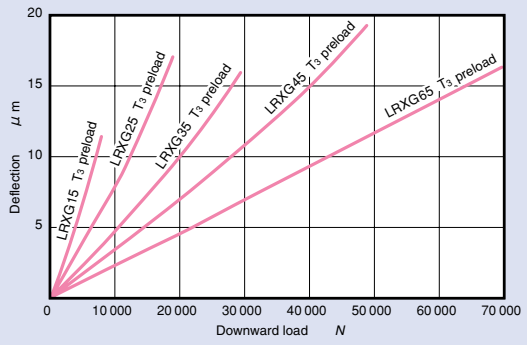

U.S. PATENT No. 5,800,064
No. 5,193,914
No. 4,505,522
No. 5,564,188
No. 5,374,126
No. 5,622,433
No. 6,176,617
No. 5,967,667

***Structure of Linear Roller Way Super X***

# based on actual operation results

## Super high rigidity

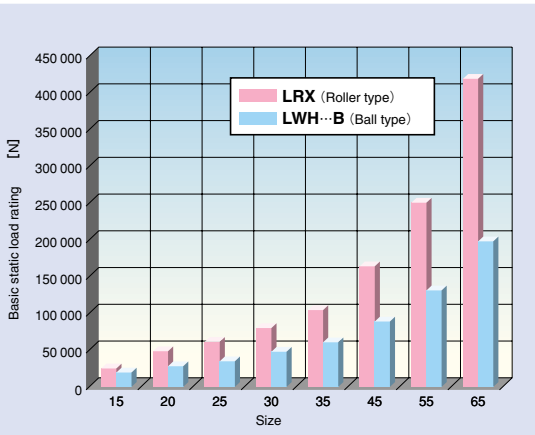
*Rigidity of linear motion rolling guide has a large influence on the performance of machines or equipment in which they are assembled.*
*Very high rigidity of Super X is achieved owing to the excellent elastic deformation characteristics of cylindrical rollers which give smaller elastic deformation under load as compared with steel balls, and, in addition, to a large number of cylindrical rollers incorporated in the slide unit.*




***Elastic deformation characteristic of Linear Roller Way Super X***

## Super high load capacity

*Cylindrical rollers give a larger contact area compared to steel balls, so higher load capacity is attainable when cylindrical rollers are used. Incorporating a large number of cylindrical rollers, Super X has very high load ratings.*



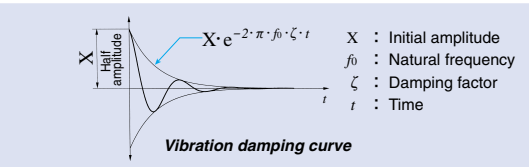

***Comparison of basic static load ratings***

## Low noise and high running performance

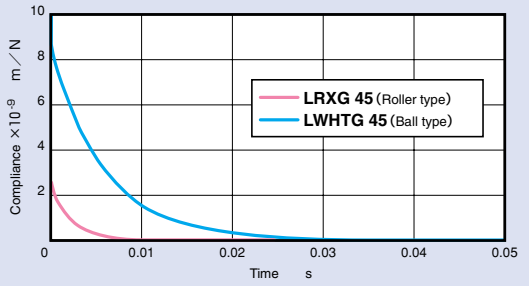
*Smooth and quiet motion is achieved by adopting the optimum design based on the analysis of roller re-circulation behavior. Furthermore, as the number of load carrying cylindrical rollers is large, the minute fluctuating deflection during travel can be minimized.*

## Excellent vibration characteristics

*As compared with ball types of the same size, Super X has higher rigidity and gives smaller deformation under repeated fluctuating load. The natural frequency is high, and the vibration damping time is short.*



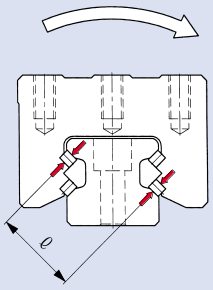

***Vibration damping curve***




***Vibration damping curve under downward excitation (half amplitude)***

## Excellent load balance and moment load capacity

*Cylindrical rollers are arranged in a well-balanced form so that they can uniformly withstand loads in all directions. In addition, rows are arranged in such a way that the moment arm distance ℓ between the loading points is large under T0 moment. A high moment load capacity can be obtained.*



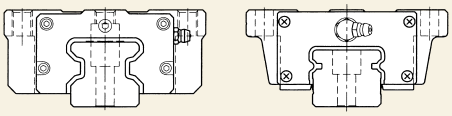

***When T0 moment is applied***

## Accurate positioning with excellent friction characteristics

*A unique roller retaining method is adopted, in which the end faces of cylindrical rollers are guided accurately by the retaining plate, so skew of cylindrical rollers is prevented and smooth motion is achieved.*
*As compared with the slide guides and ball type linear motion rolling guides, Super X has superior frictional characteristics and gives small frictional resistance even under preload. Good response to micro feed and high positioning accuracy can thus be achieved.*

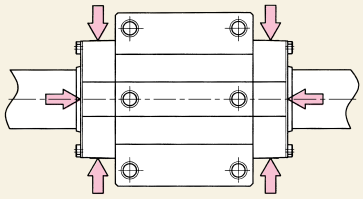
# Design for Easy Handling

## Dimensionally interchangeable with ball types



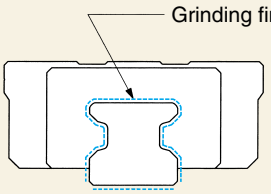
LRX LWH···B

## Six oil supply holes provided as standard specification

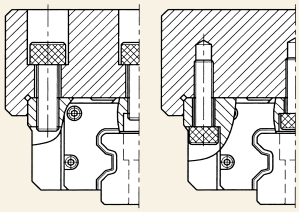


Applicable to size 35, 45, 55, 65 and 100 models.

## Superior dust protection by grinding all surfaces of track rails




## Mounting can be made from top or bottom! (Flange type)



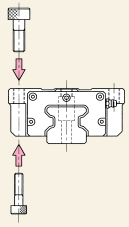
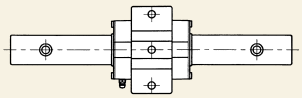
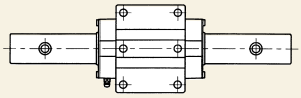
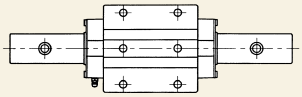
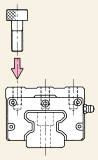
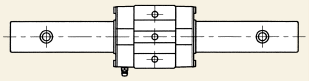
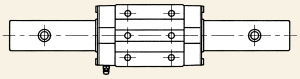
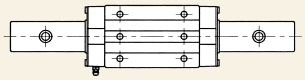
# Stainless Steel series for Special Environments

Linear Roller Way Super X includes stainless steel series in which stainless steel is used for steel components.
Stainless series Linear Roller Way Super X are more resistant to corrosion than high carbon steel series, so these products are most suitable for applications where the use of oil or grease (including rust preventive oil) should be avoided or kept to minimum and for use in clean rooms. Furthermore, by combining with various special specifications, this series will provide product specifications most suitable for diversified applications in special environments.
Stainless steel track rails are available up to the maximum length of 2 m. So this series can be readily used for applications involving long strokes.

***Materials of component parts***

| *Part* | *Material* |
|---|---|
| Track rail<br>Casing<br>Cylindrical roller | Martensitic stainless steel |
| Retaining plate | Functional synthetic resin |
| End plate | Functional synthetic resin |
| End seal | Austenitic stainless steel + Synthetic rubber |
| Grease nipple | Brass |

# Six Types of Slide Units for Selection to meet Application Needs

| Shape | Length of slide unit | | |
|---|---|---|---|
| | Short | Standard | High rigidity long |
| Flange type mounted from the upper/lower side  | LRXC  | LRX  | LRXG  |
| Block type mounted from the upper side  | LRXDC  | LRXD  | LRXDG  |

# Abundant Series and Size Variations

| Specification | Material | Shape | Model code | Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 12 | 15 | 20 | 25 | 30 | 35 | 45 | 55 | 65 | 100 |
| Interchangeable specification | High carbon steel made | Flange type | LRXC …S1 (S2) | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | | LRX …S1 (S2) | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | | LRXG …S1 (S2) | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | Block type | LRXDC …S1 (S2) | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | | LRXD …S1 (S2) | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | | LRXDG …S1 (S2) | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Stainless steel made | Block type | LRXDC …SL …S1 (S2) | ● | ● | ● | ● | | | | | | |
| | | | LRXD …SL …S1 (S2) | ● | ● | ● | ● | | | | | | |
| | | | LRXDG …SL …S1 (S2) | ● | ● | ● | ● | | | | | | |
| Non-interchangeable specification | High carbon steel made | Flange type | LRXC | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | | LRX | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | | LRXG | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | | Block type | LRXDC | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | | LRXD | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | | LRXDG | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Stainless steel made | Block type | LRXDC …SL | ● | ● | ● | ● | | | | | | |
| | | | LRXD …SL | ● | ● | ● | ● | | | | | | |
| | | | LRXDG …SL | ● | ● | ● | ● | | | | | | |

# Interchangeable Specification, Three Features

The track rails and the slide units of interchangeable specification Linear Roller Way Super X can be handled separately and can be assembled to make a set as required.
Interchangeability of incomparable high level has been achieved through rigorous dimensional control of the slide units and the track rails on the basis of the original advanced manufacturing technology.

### At a time like this!

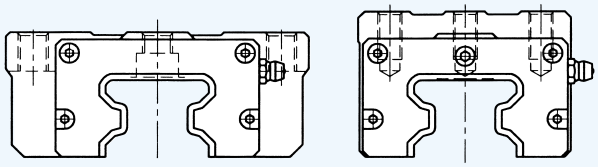
- Want to improve the rigidity and life of the machine
- Want to improve the accuracy of the machine
- Want to replace slide units right away
- Number of slide units insufficient
- Want to replace track rails right away
- Length of track rails not long enough
- Want to stock spare slide units for emergency

### Interchangeable specification can be useful.

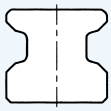
- Urgent design change can be made.
- High-accuracy and preload can be selected freely.
- Slide units and track rails can be handled separately and combined freely.
- Slide units and track rails can be stocked individually requiring only small stock area.

## Interchangeable slide unit

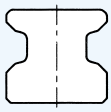
*Various types of slide units with different sectional shapes and lengths are prepared. All of these slide units can be freely mounted on the same track rail. It is also possible to combine a slide unit and a track rail of different materials, for example, a high carbon steel slide unit and a stainless steel track rail can be combined.*
*In addition, butt-jointing interchangeable track rails (supplemental code /T) can be butt-jointed for use.*



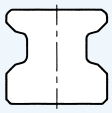
***Flange type*** ***Block type***



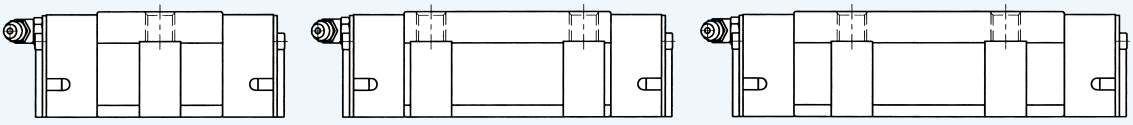
***High carbon steel track rail***



***Stainless steel track rail***

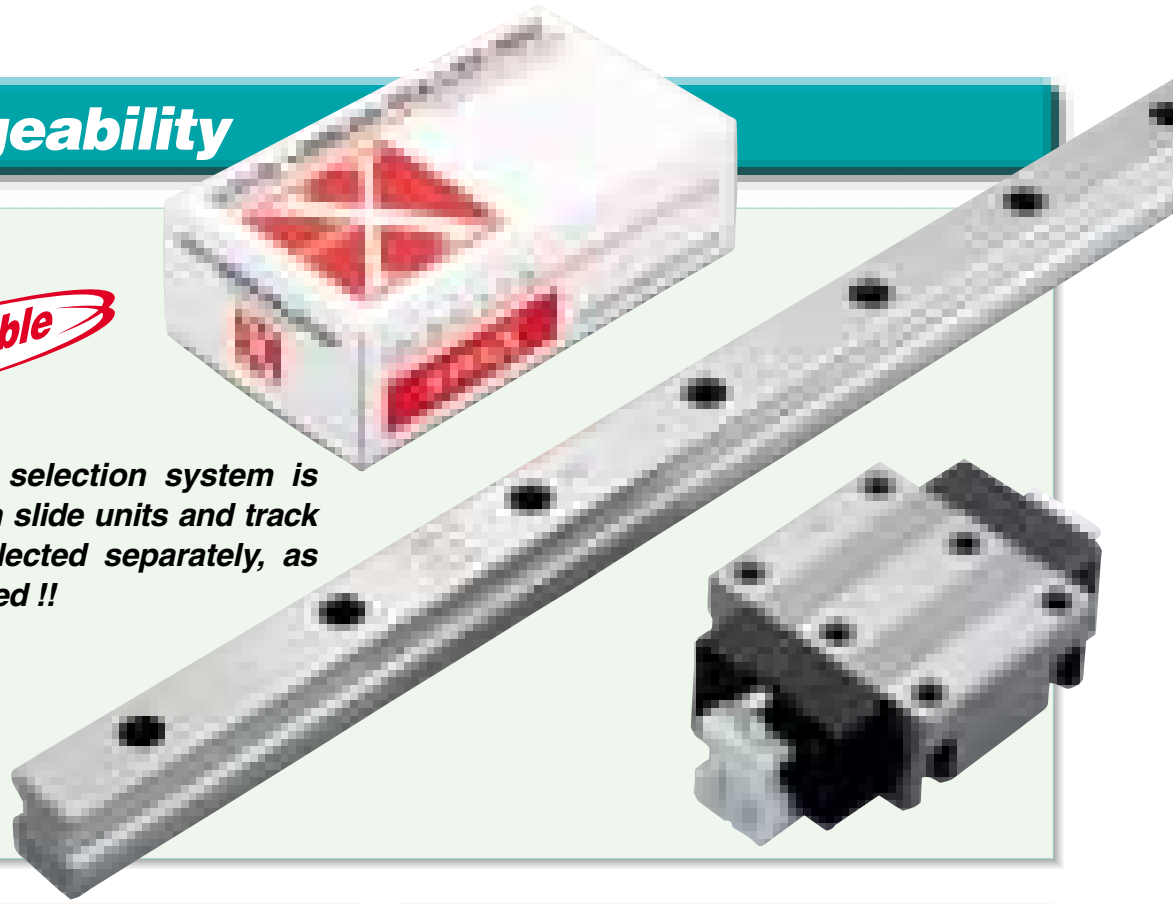


***Butt-jointing interchangeable track rail***



***Short*** ***Standard*** ***High rigidity long***

# of Interchangeability

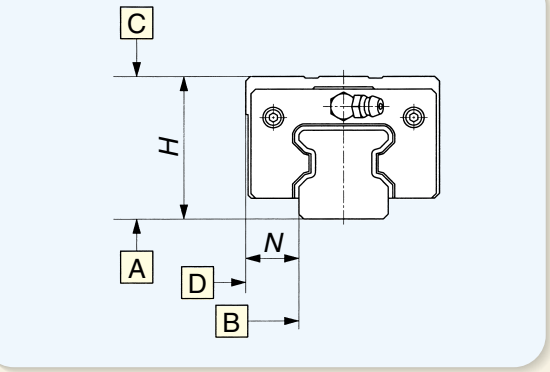


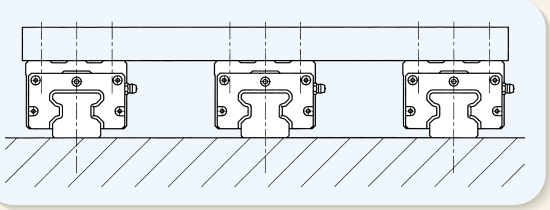
**Interchangeable**

***A new product selection system is offered, in which slide units and track rails can be selected separately, as and when required !!***

## Interchangeable with high accuracy

*Two accuracy classes, High and Precision are prepared for the interchangeable specification products so that these products can be used for applications requiring high running accuracy. Height variation among multiple sets is also controlled at a high accuracy level, ensuring that these products can be used for parallel track rail arrangement.*

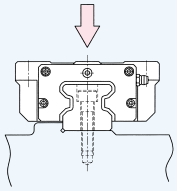


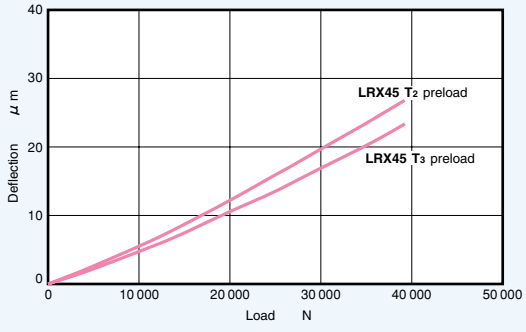



## Interchangeable with preload

*High accuracy dimensional control owing to a simple structure has made it possible to realize the interchangeability among preloaded slide units. These products can be used for applications requiring one step higher rigidity.*

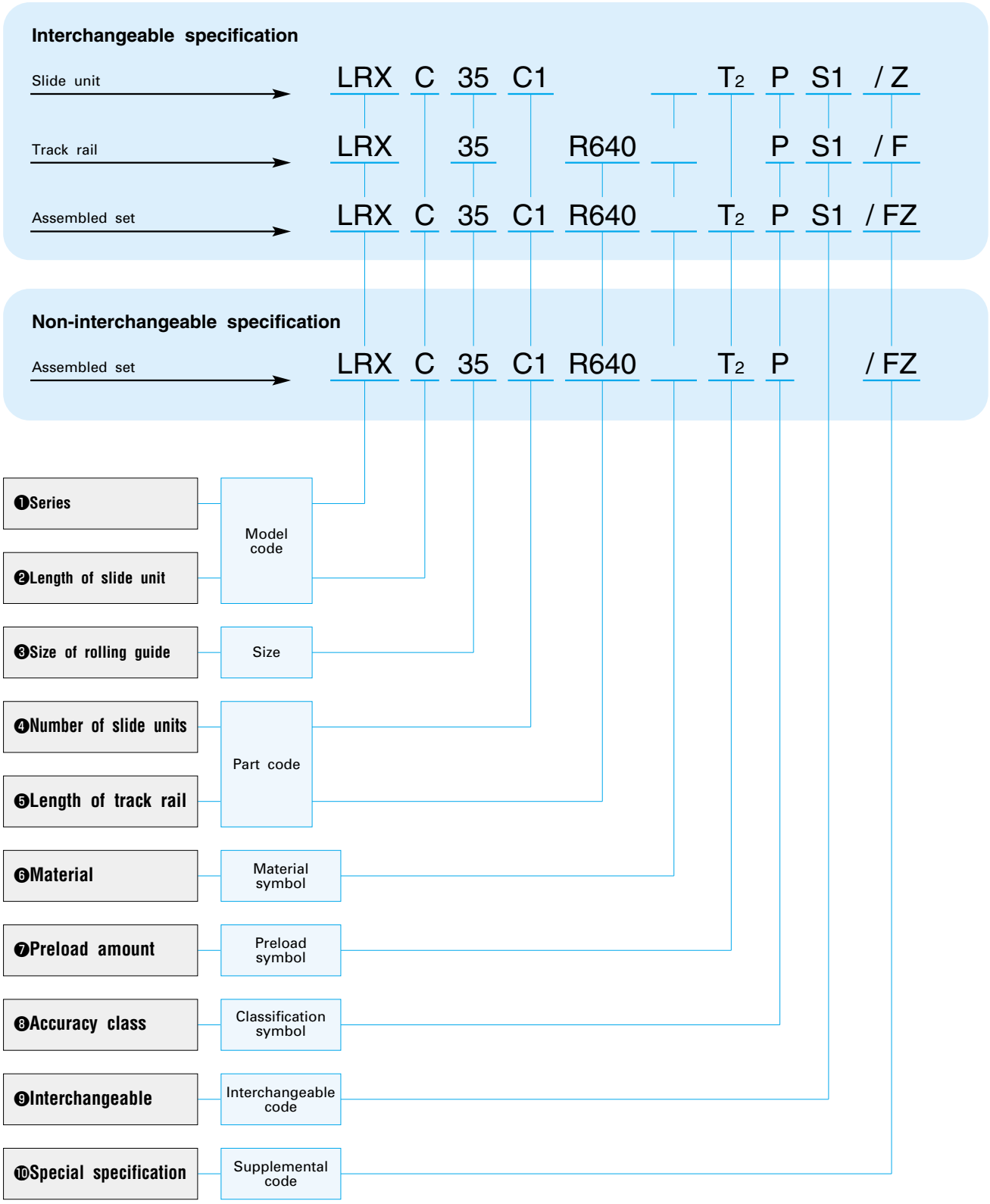
***Slide units with the same preload symbol are interchangeable for achieving high rigidity.***





# Identification number

The specification of Linear Roller Way Super X is indicated by the identification number, consisting of a model code, a size, a part code, a material symbol, a preload symbol, a classification symbol, an interchangeable code, and any supplemental codes.



## ❶Series

Flange type mounted from the upper/lower side : LRX(1)
Block type mounted from the upper side : LRXD

For available models and sizes, see Table 1.
For the model code of a single track rail of interchangeable specification, indicate LRX.

Note(1) : The size 20 models can be mounted from the upper side only. For mounting from the lower side, LRXH can be used.

## ❷Length of slide unit

Short : C
Standard : No symbol
High rigidity long : G

For available models and sizes, see Table 1.

## ❸Size of rolling guide

12, 15, 20, 25, 30, 35, 45, 55, 65, 100

For available models and sizes, see Table 1.

**Table 1 Models and sizes of Linear Roller Way Super X**

| Material | Shape | Model | Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12 | 15 | 20 | 25 | 30 | 35 | 45 | 55 | 65 | 100 |
| High carbon steel made | Flange type | LRXC | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — |
| | | LRX | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — |
| | | LRXG | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○(1) |
| | Block type | LRXDC | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — |
| | | LRXD | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — |
| | | LRXDG | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — |
| Stainless steel made | Block type | LRXDC…SL | ○ | ○ | ○ | ○ | — | — | — | — | — | — |
| | | LRXD …SL | ○ | ○ | ○ | ○ | — | — | — | — | — | — |
| | | LRXDG…SL | ○ | ○ | ○ | ○ | — | — | — | — | — | — |

Note(1) : The interchangeable specification is not available.

## ❹Number of slide units

Assembled set : C○
Slide unit : C1

For an assembled set, indicate the number of slide units assembled on one track rail. For a slide unit, only "C1" can be indicated.

## ❺Length of track rail

Assembled set : R○
Track rail : R○

Indicate the length of track rail in mm. For standard and maximum lengths, see Table 16 on page 25.

## ❻Material

High carbon steel made : No symbol
Stainless steel made : SL

For available models and sizes, see Table 1.

## ❼Preload amount

Standard : No symbol
Light preload : $T_1$
Medium preload : $T_2$
Heavy preload : $T_3$

Specify this item for an assembled set or a slide unit. Note that, for the slide unit of interchangeable specification, the preload amount that can be specified differs depending on the size. For details of preload amount, see Table 3 on page 11.

## ❽Accuracy class

High : H
Precision : P
Super precision : SP
Ultra precision : UP

The super precision class (SP) and the ultra precision class (UP) apply to the non-interchangeable specification products. In case of interchangeable specification products, assemble track rails and slide units of the same accuracy class. For details of accuracy, see Table 2 on page 11.

## ❾Interchangeable code

Select group S1 : S1
Select group S2 : S2

Specify this item for interchangeable specification products. Assemble track rails and slide units with the same interchangeable code. Performance and accuracy of "S1" group and "S2" group are the same.

## ❿Special specification

／A, ／D, ／E, ／F, ／GE, ／HP, ／I, ／J○, ／L○, ／LF○, ／N, ／PS, ／Q, ／T, ／V○, ／W○, ／Y○, ／Z○

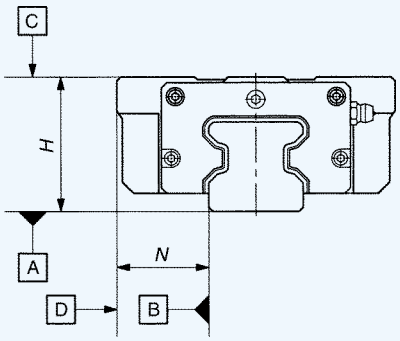
For applicable special specifications, see Table 5 on page 12.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

# Accuracy

Accuracy of Linear Roller Way Super X is shown in Table 2.

**Table 2 Accuracy**




| Item \ Classification (Symbol) | High (H) | Precision (P) | Super(1) precision (SP) | Ultra(1) precision (UP) |
|---|---|---|---|---|
| Dim. *H* tolerance | ±0.040 | ±0.020 | ±0.010 | ±0.008 |
| Dim. *N* tolerance | ±0.050 | ±0.025 | ±0.015 | ±0.010 |
| Dim. variation of *H*(2) | 0.015 | 0.007 | 0.005 | 0.003 |
| Dim. variation of *N*(2) | 0.020 | 0.010 | 0.007 | 0.003 |
| Dim. variation of *H* for multiple assembled sets(3) | 0.035 | 0.025 | – | – |
| Parallelism in operation of C to A | See Fig. 1. | | | |
| Parallelism in operation of D to B | See Fig. 1. | | | |

Note (1) : Applicable to the non-interchangeable specification products.
(2) : Variation between slide units mounted on the same track rail
(3) : Applicable to the interchangeable specification products.

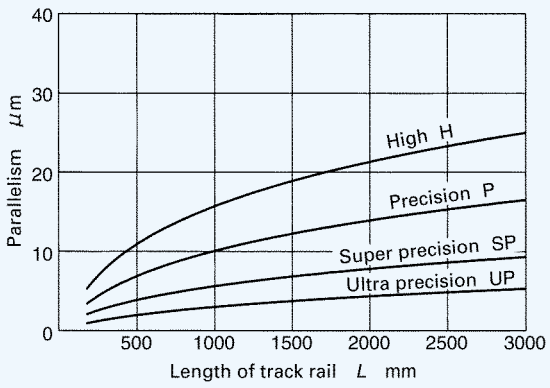



**Fig. 1 Parallelism in operation**

# Preload

The average amount of preload for Linear Roller Way Super X is shown in Table 3. For slide units of interchangeable specification, the type of preload that can be specified differs depending on the size. The applicable preload types for each size are shown in Table 4.
When both rigidity and vibration characteristics are important, the standard preload amount is 1/2 of the applied load.

**Table 3 Preload amount**

| Item / Preload type | Symbol | Preload amount (N) | Application |
|---|---|---|---|
| Standard | (No symbol) | 0(1) | · Smooth and precise motion |
| Light preload | $T_1$ | 0.02$C_0$ | · Minimum vibration<br>· Load is evenly balanced.<br>· Smooth and precise motion |
| Medium preload | $T_2$ | 0.05$C_0$ | · Medium vibration<br>· Medium overhung load |
| Heavy preload | $T_3$ | 0.08$C_0$ | · Vibration and/or shocks<br>· Large overhung load<br>· Heavy cutting |

Note (1) : Zero or minimal amount of preload
Remark : $C_0$ means the basic static load rating.

**Table 4 Preload type**

| | Model number \ Preload type | Standard (No symbol) | Light preload ($T_1$) | Medium preload ($T_2$) | Heavy preload ($T_3$) |
|---|---|---|---|---|---|
| Interchangeable specification | LRX 12 | ○ | ○ | – | – |
| | LRX 15 | ○ | ○ | – | – |
| | LRX 20 | ○ | ○ | – | – |
| | LRX 25 | – | ○ | ○ | – |
| | LRX 30 | – | ○ | ○ | – |
| | LRX 35 | – | – | ○ | ○ |
| | LRX 45 | – | – | ○ | ○ |
| | LRX 55 | – | – | ○ | ○ |
| | LRX 65 | – | – | ○ | ○ |
| Non-interchangeable specification | | ○ | ○ | ○ | ○ |

Remark : The above table shows representative model numbers but is applicable to all models of the same size.

# Special Specifications

Linear Roller Way Super X of the special specifications shown in Table 5 are available.
When a special specification is required, add the applicable supplemental code to the end of the identification number. When a combination of several special specifications is required (See Table 6.), arrange their supplemental codes in alphabetical order.

**Table 5 Special specifications**

| Special specification | Supplemental code | Interchangeable specification | | | Non-interchangeable specification |
|---|---|---|---|---|---|
| | | Slide unit | Track rail | Assembled set | |
| Butt-jointing track rails | ／A | — | — | — | ○ |
| Opposite reference surfaces arrangement | ／D | — | — | ○ | ○ |
| Specified rail mounting hole positions | ／E | — | ○ | ○ | ○ |
| Caps for rail mounting holes | ／F | — | ○ | ○ | ○ |
| Changed pitch of slide unit middle mounting holes | ／GE | ○(1)(2) | — | ○(1)(2) | ○(1)(2) |
| Half pitch of track rail mounting holes | ／HP | — | ○ | ○ | ○(3) |
| Inspection sheet | ／I | — | — | — | ○ |
| Female threads for bellows | ／J○ | ○(2)(4) | ○(2)(4) | ○(2)(4) | ○(2) |
| Black chrome surface treatment | ／L○ | — | — | ○ | ○(3) |
| Fluorine black chrome surface treatment | ／LF○ | — | — | ○ | ○(3) |
| No end seal | ／N | ○(5) | — | ○(5) | ○(5) |
| Rail cover plate for track rail | ／PS | — | — | — | ○(6) |
| Capillary plates | ／Q | ○ | — | ○ | ○(3) |
| Butt-jointing interchangeable track rail | ／T | — | ○ | ○ | — |
| Double end seals | ／V○ | ○ | — | ○ | ○ |
| Matched sets to be used as an assembled group | ／W○ | — | — | — | ○(3) |
| Specified grease | ／Y○ | — | — | ○ | ○ |
| Scrapers | ／Z○ | ○ | — | ○ | ○ |

Note (1) : Applicable to LRX, LRXG, LRXH20 and LRXHG20.
(2) : Not applicable to size 12 models.
(3) : Not applicable to size 100 models.
(4) : Not applicable to stainless steel series.
(5) : Not applicable to size 55, 65 and 100 models.
(6) : Applicable to size 35, 45 and 55 models.

**Table 6.1 Combination of supplemental codes (Interchangeable specification)**

| | D | E | F | GE | HP | J | L | LF | N | Q | T | V | Y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E | — | | | | | | | | | | | | |
| F | ○ | ○ | | | | | | | | | | | |
| GE | ○ | ○ | ○ | | | | | | | | | | |
| HP | ○ | — | ○ | ○ | | | | | | | | | |
| J | ○ | ○ | ○ | ○ | — | | | | | | | | |
| L | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | | |
| LF | ○ | ○ | ○ | ○ | ○ | ○ | — | | | | | | |
| N | ○ | ○ | — | ○ | ○ | — | ○ | ○ | | | | | |
| Q | ○ | ○ | ○ | ○ | ○ | — | ○ | ○ | ○ | | | | |
| T | ○ | ○ | ○ | ○ | ○ | — | ○ | ○ | ○ | ○ | | | |
| V | ○ | ○ | ○ | ○ | ○ | ● | ○ | ○ | — | — | ○ | | |
| Y | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — | ○ | ○ | |
| Z | ○ | ○ | ○ | ○ | ○ | ● | ○ | ○ | — | — | ○ | ● | ○ |

Remark 1 : In the table, the mark ○ indicates that this combination can be made.
2 : For combinations marked ●, consult IKO for further information.

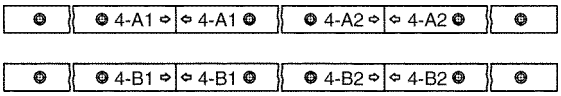
**Table 6.2 Combination of supplemental codes (Non-interchangeable specification)**

| | A | D | E | F | GE | HP | I | J | L | LF | N | PS | Q | V | W | Y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | ○ | | | | | | | | | | | | | | | |
| E | — | — | | | | | | | | | | | | | | |
| F | ○ | ○ | ○ | | | | | | | | | | | | | |
| GE | ○ | ○ | ○ | ○ | | | | | | | | | | | | |
| HP | — | ○ | — | ○ | ○ | | | | | | | | | | | |
| I | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | | | | | |
| J | ○ | ○ | ○ | ○ | ○ | — | ○ | | | | | | | | | |
| L | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | | | |
| LF | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — | | | | | | | |
| N | ○ | ○ | ○ | — | ○ | ○ | ○ | — | ○ | ○ | | | | | | |
| PS | — | ○ | ○ | — | ○ | ○ | ○ | ○ | — | — | — | | | | | |
| Q | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — | ○ | ○ | ○ | ○ | | | | |
| V | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — | ○ | — | | | |
| W | ○ | ○ | — | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| Y | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — | ○ | ○ | |
| Z | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | — | — | — | ○ | ○ | ○ |

Remark : In the table, the mark ○ indicates that this combination can be made.

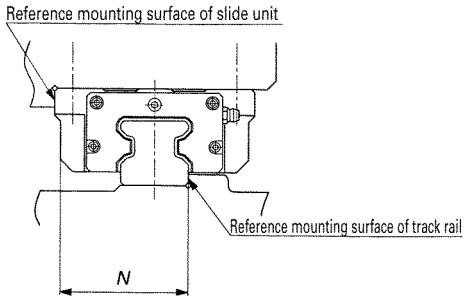
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

## Butt-jointing track rails /A



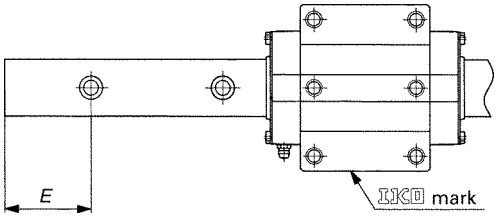

When the required length of non-interchangeable specification track rail exceeds the maximum length indicated in Table 16, two or more track rails can be used by butt-jointing them in the direction of linear motion. For the length and the number of butt-jointing track rails, consult IKO for further information.

## Opposite reference surfaces arrangement /D



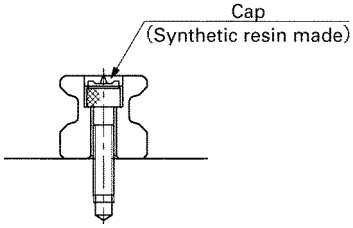

The reference mounting surface of track rail is made opposite to the standard side. The accuracy of dimension *N* including parallelism in operation is the same as that of standard specification.

## Specified rail mounting hole positions /E



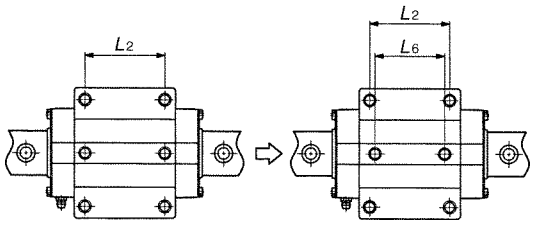

The mounting hole positions of track rail can be specified by specifying dimension *E* at the left end, which is the distance from the mounting hole nearest to the left end of the track rail to the left end face of the track rail in sight of IKO mark on the slide unit.
When ordering, add the dimension (in mm) after "/E".
Dimension *E* can be specified in a limited range. Consult IKO for further information.

## With caps for rail mounting holes /F



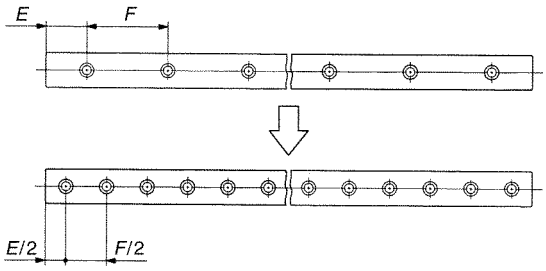

Specially prepared caps for track rail mounting holes are appended. These caps cover the track rail mounting holes to improve the sealing performance in the linear motion direction. Aluminum caps are also available. Consult IKO for further information.

## Changed pitch of slide unit middle mounting holes /GE




The pitch length between the two middle mounting holes of slide unit is changed. For this dimension, see Table 7.

## Half pitch of track rail mounting holes /HP

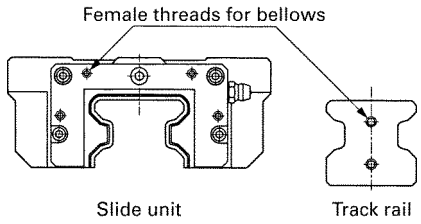



The pitch of the track rail mounting holes is changed to 1/2 of the dimension *F* of standard type. Track rail mounting bolts are appended in the same number as that of mounting holes.

## Inspection sheet /I

The inspection sheet recording dimensions *H* and *N*, dimensional variations of *H* and *N*, and parallelism in operation of the slide unit is attached for each set.

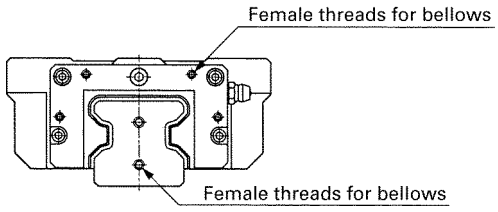
## With female threads for bellows (for single slide unit or track rail) ／J ／JR ／JL




Female threads for mounting bellows are provided on the interchangeable slide unit or the interchangeable track rail. For details of related dimensions, see Table 9.

❶／J
Female threads are provided at both ends of the slide unit or the track rail.
❷／JR
Female threads are provided at the right end of the slide unit in sight of IKO mark.
❸／JL
Female threads are provided at the left end of the slide unit in sight of IKO mark.

## With female threads for bellows (for assembled set) ／J ／JJ ／JR ／JS ／JJS




For an assembled set of interchangeable or non-interchangeable specification, female threads for mounting bellows are provided on the slide unit and the track rail. For details of related dimensions, see Table 9.
❶／J
Female threads are provided at both ends of the track rail, and at the slide unit ends which are the closest to the track rail ends. (In case only one slide unit is assembled, female threads are provided at both ends.)

❷／JJ
Female threads are provided at both ends of the track rail, and at all ends of all slide units. (Applicable, when the number of slide units is two or more. In case only one slide unit is assembled, indicate "/J".)
❸／JR
Female threads are provided at both ends of the track rail.
❹／JS
Female threads are provided at the slide unit ends which are the closest to the track rail ends. (In case only one slide unit is assembled, female threads are provided at both ends.)
❺／JJS
Female threads are provided at all ends of all slide units. (Applicable, when the number of slide units is two or more. In case only one slide unit is assembled, indicate "/JS".)

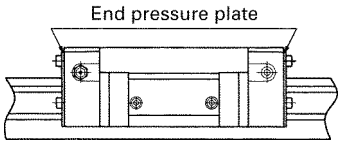
## Black chrome surface treatment ／LC ／LR ／LCR

A black permeable chrome film is formed to improve corrosion resistance. The surface is then coated with acrylic resin.
❶／LC
Treatment is applied to the casing.
❷／LR
Treatment is applied to the track rail.
❸／LCR
Treatment is applied to the casing and the track rail.

## Fluorine black chrome surface treatment ／LFC ／LFR ／LFCR

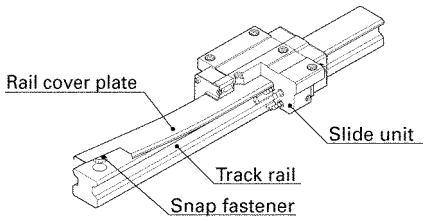
After forming a black permeable chrome film, the surface is coated with fluorine resin for further improvement in corrosion resistance. This treatment is also effective in preventing the adhesion of foreign substances on the surface.
❶／LFC
Treatment is applied to the casing.
❷／LFR
Treatment is applied to the track rail.
❸／LFCR
Treatment is applied to the casing and the track rail.

## No end seal /N



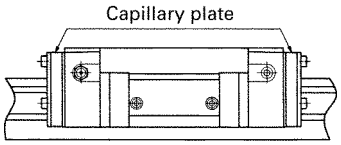

End seals at both ends of slide unit are replaced by end pressure plates (not in contact with the track rail) to reduce frictional resistance. The under seals are not assembled.
This specification is not effective for dust protection.

## Rail cover plate /PS




The rail cover plate is delivered as assembled on the track rail.
After mounting the track rail, the top surface of track rail is covered with a U-shaped thin stainless steel plate for further improvement in sealing performance.
Standard end seals must be replaced with the special end seals.
When mounting the cover plate, refer to the attached instruction manual for rail cover plate.

## Capillary plates /Q




The capillary plate is assembled inside the end seal of the slide unit. It is impregnated with lubricant so that re-lubrication interval can be made longer. For the total length of the slide unit with capillary plates, see Table 8.

## Butt-jointing interchangeable track rail (for interchangeable specification) /T

A special interchangeable track rail of which both ends are finished for butt-jointing is provided.
Use the track rails having the same interchangeable code for butt-jointing. For the non-interchangeable specification, indicate “butt-jointing track rail “/A”.

## With double end seals (for single slide unit) /V /VR /VL

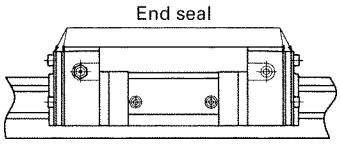
Double end seals are provided on the interchangeable slide unit for more effective dust protection. For the total length of the side unit with double end seals, see Table 8.

❶/V
Double end seals are provided at both ends of the slide unit.

❷/VR
Double end seals are provided at the right end of the slide unit in sight of IKO mark.

❸/VL
Double end seals are provided at the left end of the slide unit in sight of IKO mark.

## With double end seals (for assembled set) /V /VV

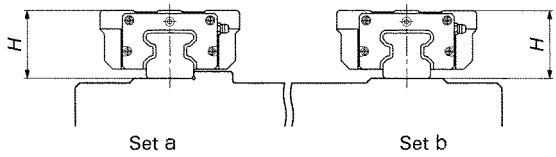



Double end seals are provided on the slide unit of assembled set of interchangeable specification or non-interchangeable specification for more effective dust protection. For the total length of the slide unit with double end seals, see Table 8.

❶/V
Double end seals are provided at the slide unit ends which are the closest to the ends of the track rail. (In case only one slide unit is assembled, double end seals are provided at both ends.)

❷/VV
Double end seals are provided at all ends of all slide units. (Applicable, when the number of slide units is two or more. In case only one slide unit is assembled, indicate “/V”.)

### Matched sets to be used as an assembled group ／W




For two or more sets of Linear Roller Way Super X used on the same plane, the dimensional variation of *H* of Linear Roller Way Super X is kept within the specified range.
The dimensional variation of dimension *H* in matched sets is the same as that of a single set.
When ordering, indicate the number of sets, which is always represented by the number of track rails, after "/W".

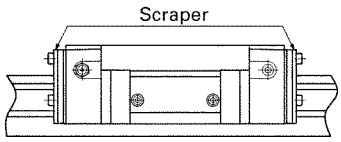
### Specified grease ／YCG ／YBR ／YNG

The type of pre-packed grease in the slide unit can be changed by a supplemental code.
❶／YCG
IKO Low Dust Generation Grease for Clean Environment CG2 is pre-packed.
❷／YBR
MOLYCOTE BR2 Plus Grease (Dow Corning) is pre-packed.
❸／YNG
No grease is pre-packed.

### With scrapers (for single slide unit) ／Z ／ZR ／ZL

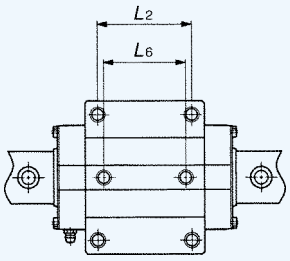
Metal scrapers are provided on the slide unit of interchangeable specification.
The scraper (non-contact type) is used to effectively remove large particles of dust or foreign matter adhering to the track rail. For the total length of the slide unit with scrapers, see Table 8.
❶／Z
Scrapers are provided at both ends of the slide unit.
❷／ZR
A scraper is provided at the right end of the slide unit in sight of IKO mark.
❸／ZL
A scraper is provided at the left end of the slide unit in sight of IKO mark.

### With scrapers (for assembled set) ／Z ／ZZ




Metal scrapers are provided on the slide units of assembled set of interchangeable specification or non-interchangeable specification.
The scraper (non-contact type) is used to effectively remove large particles of dust or foreign matter adhering to the track rail. For the total length of the slide unit with scrapers, see Table 8.
❶／Z
Scrapers are provided at the slide unit ends which are the closest to the ends of the track rail. (In case only one slide unit is assembled, scrapers are provided at both ends.)
❷／ZZ
Scrapers are provided at all ends of all slide units. (Applicable, when the number of slide units is two or more. In case only one slide unit is assembled, indicate "/Z".)

### Table 7 Pitch of slide unit middle mounting holes (Supplemental code /GE)




unit : mm

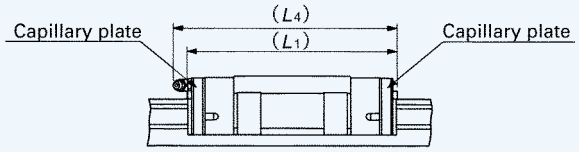
| Model number | $L_2$ | $L_6$ |
|---|---|---|
| LRX 15、LRXG 15 | 30 | 26 |
| LRX 20、LRXG 20(1) | 40 | 35 |
| LRX 25、LRXG 25 | 45 | 40 |
| LRX 30、LRXG 30 | 52 | 44 |
| LRX 35、LRXG 35 | 62 | 52 |
| LRX 45、LRXG 45 | 80 | 60 |
| LRX 55、LRXG 55 | 95 | 70 |
| LRX 65、LRXG 65 | 110 | 82 |
| LRXG 100 | 200 | 150 |

Note(1) : Also applicable to LRXH 20 and LRXHG 20.

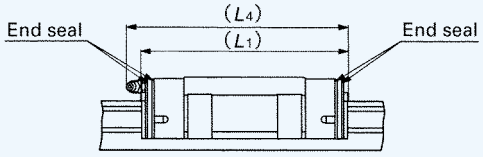
**Table 8 Slide unit with capillary plates (Supplemental code /Q), with double end seals (Supplemental code /V), and with scrapers (Supplemental code /Z)**

Size 12, 15, 20, 25, 30

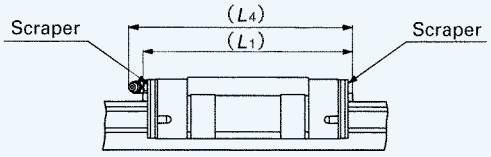
/ Q




/ V

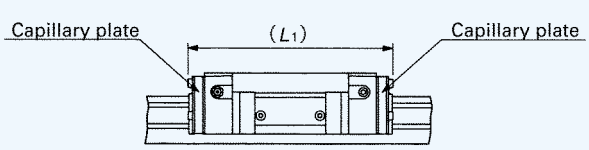



/ Z

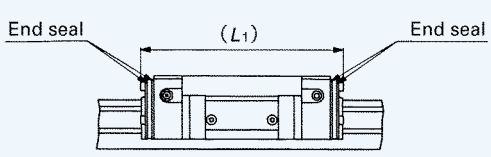



Size 35, 45, 55, 65, 100

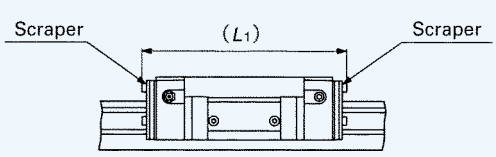
/ Q




/ V




/ Z



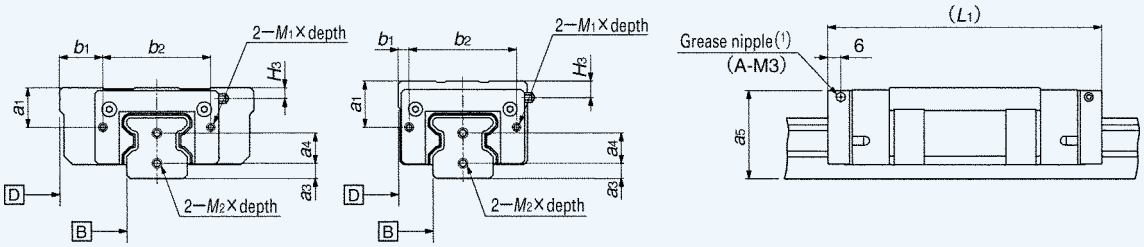

unit : mm

| Model number | With capillary plates (/Q) | | With double end seals(1) (/V) | | With scrapers(1) (/Z) | | Model number | With capillary plates (/Q) | With double end seals(1) (/V) | With scrapers(1) (/Z) |
|---|---|---|---|---|---|---|---|---|---|---|
| | $L_1$ | $L_4$ | $L_1$ | $L_4$ | $L_1$ | $L_4$ | | $L_1$ | $L_1$ | $L_1$ |
| LRXC 12 | 47 | 50 | 44 | 46 | 45 | 48 | LRXC 35 | 103 | 101 | 103 |
| LRX 12 | 57 | 60 | 54 | 57 | 56 | 58 | LRX 35 | 135 | 133 | 135 |
| LRXG 12 | 68 | 71 | 65 | 67 | 66 | 69 | LRXG 35 | 163 | 161 | 163 |
| LRXC 15 | 63 | 64 | 58 | 60 | 60 | 61 | LRXC 45 | 127 | 127 | 129 |
| LRX 15 | 79 | 80 | 74 | 76 | 76 | 77 | LRX 45 | 167 | 167 | 169 |
| LRXG 15 | 95 | 96 | 90 | 92 | 92 | 93 | LRXG 45 | 207 | 207 | 209 |
| LRXC 20 | 76 | 85 | 73 | 83 | 75 | 84 | LRXC 55 | 149 | 149 | 151 |
| LRX 20 | 96 | 105 | 93 | 103 | 95 | 104 | LRX 55 | 197 | 197 | 199 |
| LRXG 20 | 116 | 125 | 113 | 123 | 115 | 124 | LRXG 55 | 251 | 251 | 253 |
| LRXC 25 | 85 | 94 | 83 | 92 | 85 | 93 | LRXC 65 | 198 | 193 | 194 |
| LRX 25 | 109 | 118 | 107 | 116 | 109 | 117 | LRX 65 | 262 | 257 | 258 |
| LRXG 25 | 124 | 133 | 122 | 131 | 124 | 132 | LRXG 65 | 326 | 321 | 322 |
| LRXC 30 | 96 | 108 | 93 | 106 | 96 | 107 | LRXG 100 | — | 376 | 378 |
| LRX 30 | 124 | 136 | 121 | 134 | 124 | 135 | | | | |
| LRXG 30 | 145 | 157 | 142 | 155 | 145 | 156 | | | | |

Note(1) : The values for a slide unit with double end seals or scrapers at both ends are shown.
Remark : The above table shows representative model numbers but is applicable to all models of the same size.

## Table 9.1 Female threads for bellows (Supplemental code /J)

Size 15, 20, 25, 30



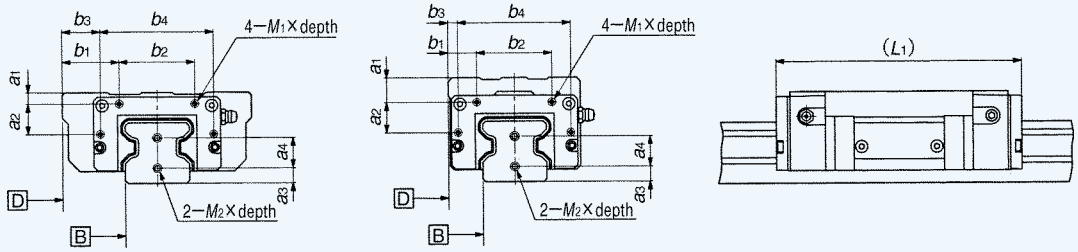

unit : mm

| Model number | Slide unit | | | | | | Track rail | | |
|---|---|---|---|---|---|---|---|---|---|
| | $a_1$ | $b_1$ | $b_2$ | $M_1$×depth | $L_1$ (3) | $H_3$ | $a_3$ | $a_4$ | $M_2$×depth |
| LRXC 15 | 10.5 | 10.5 | 26 | M3×6 | 67 | 1 | 4 | 8 | M3×6 |
| LRX 15 | | | | | 83 | | | | |
| LRXG 15 | | | | | 99 | | | | |
| LRXDC 15 | 14.5 | 4 | | | 67 | 5 | | | |
| LRXD 15 | | | | | 83 | | | | |
| LRXDG 15 | | | | | 99 | | | | |
| LRXC 20(2) | 12 | 13.5 | 36 | M3×6 | 81 | 2 | 5 | 10 | M4×8 |
| LRX 20(2) | | | | | 101 | | | | |
| LRXG 20(2) | | | | | 121 | | | | |
| LRXDC 20 | 16 | 4 | | | 81 | 6 | | | |
| LRXD 20 | | | | | 101 | | | | |
| LRXDG 20 | | | | | 121 | | | | |
| LRXC 25 | 15.5 | 15 | 40 | M3×6 | 89 | 4 | 6 | 12 | M4×8 |
| LRX 25 | | | | | 113 | | | | |
| LRXG 25 | | | | | 128 | | | | |
| LRXDC 25 | 19.5 | 4 | | | 89 | 8 | | | |
| LRXD 25 | | | | | 113 | | | | |
| LRXDG 25 | | | | | 128 | | | | |
| LRXC 30 | 18.5 | 20 | 50 | M3×6 | 100 | 4.8 | 7 | 14 | M4×8 |
| LRX 30 | | | | | 128 | | | | |
| LRXG 30 | | | | | 149 | | | | |
| LRXDC 30 | 21.5 | 5 | | | 100 | 7.8 | | | |
| LRXD 30 | | | | | 128 | | | | |
| LRXDG 30 | | | | | 149 | | | | |

Note (1) : The specification and mounting position of grease nipple are different from those of the standard specification product. The grease nipple of the size 30 models is A-M4. For grease nipple specifications, see Table 12.
(2) : Also applicable to LRXHC20, LRXH20 and LRXHG20.
(3) : The values for a slide unit with female threads for bellows at both ends are shown.
Remark : For the size 15 and 20 models of flange type, the dimension "a5" is higher than the dimension *H* of the assembly. For details, consult IKO for further information.

## Table 9.2 Female threads for bellows (Supplemental code /J)

Size 35, 45, 55, 65, 100




unit : mm

| Model number | Slide unit | | | | | | | | Track rail | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | $a_1$ | $a_2$ | $b_1$ | $b_2$ | $b_3$ | $b_4$ | $M_1$×depth | $L_1$ (1) | $a_3$ | $a_4$ | $M_2$×depth |
| LRXC 35 | 6 | 16 | 30 | 40 | 20 | 60 | M3× 6 | 99 | 8 | 16 | M4× 8 |
| LRX 35 | | | | | | | | 131 | | | |
| LRXG 35 | | | | | | | | 159 | | | |
| LRXDC 35 | 13 | 16 | 15 | | | | | 99 | | | |
| LRXD 35 | | | | | | | | 131 | | | |
| LRXDG 35 | | | | | | | | 159 | | | |
| LRXC 45 | 7 | 21 | 35 | 50 | 23 | 74 | M4× 8 | 123 | 10 | 19 | M5×10 |
| LRX 45 | | | | | | | | 163 | | | |
| LRXG 45 | | | | | | | | 203 | | | |
| LRXDC 45 | 17 | 21 | 18 | | | | | 123 | | | |
| LRXD 45 | | | | | | | | 163 | | | |
| LRXDG 45 | | | | | | | | 203 | | | |
| LRXC 55 | 7 | 27 | 40 | 60 | 26 | 88 | M4× 8 | 145 | 10 | 24 | M5×10 |
| LRX 55 | | | | | | | | 193 | | | |
| LRXG 55 | | | | | | | | 247 | | | |
| LRXDC 55 | 17 | 27 | 20 | | | | | 145 | | | |
| LRXD 55 | | | | | | | | 193 | | | |
| LRXDG 55 | | | | | | | | 247 | | | |
| LRXC 65 | 8.7 | 37 | 47.5 | 75 | 31 | 108 | M5×10 | 192 | 14 | 28 | M6×12 |
| LRX 65 | | | | | | | | 256 | | | |
| LRXG 65 | | | | | | | | 320 | | | |
| LRXDC 65 | 8.7 | 37 | 25.5 | | | | | 192 | | | |
| LRXD 65 | | | | | | | | 256 | | | |
| LRXDG 65 | | | | | | | | 320 | | | |
| LRXG 100 | 16 | 52 | 59 | 132 | 39 | 172 | M6×10 | 373 | 16 | 38 | M8×16 |

Note (1) : The values for a slide unit with female threads for bellows at both ends are shown.

## Basic dynamic load rating *C*

The basic dynamic load rating is defined as the constant load both in direction and magnitude under which a group of identical Linear Roller Ways Super X are individually operated and 90% of those in the group can travel 50 x $10^3$ meters free from material damage due to rolling contact fatigue.
The dynamic load ratings of Linear Roller Way Super X are designed for equal load capacity in downward, upward and lateral directions.

## Basic static load rating $C_0$

The basic static load rating is defined as the static load that gives a prescribed constant contact stress at the center of the contact area between the rolling element and raceway receiving the maximum load. It is the allowable limit load that permits normal rolling motion. Generally, the basic static load rating is used in combination with the static safety factor.
The static load ratings of Linear Roller Way Super X are designed for equal load capacity in download, upward and lateral directions.

## Static moment rating $T_0$, $T_X$, $T_Y$

The static moment rating is defined as the static moment load that gives a prescribed constant contact stress at the center of the contact area between the rolling element and raceway receiving the maximum load when a moment (See Fig. 3.) is loaded. It is the allowable limit moment that permits normal rolling motion. Generally, the static moment rating is used in combination with the static safety factor.

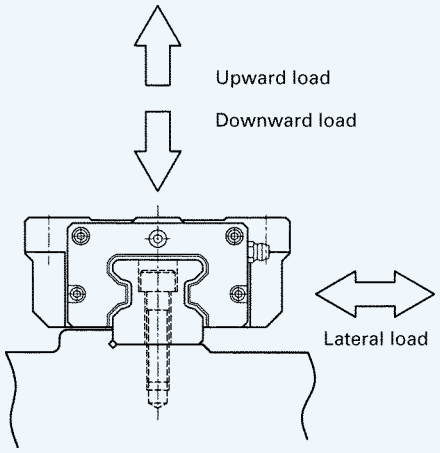



**Fig. 2 Load direction**

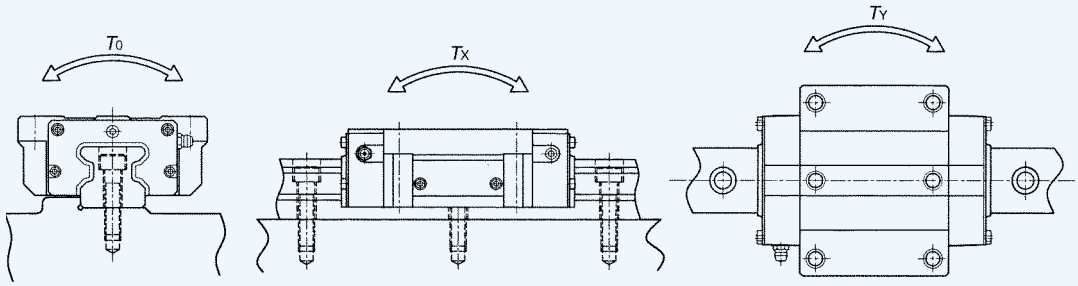



**Fig. 3 Static moment rating direction**

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

## Life

The rating life of Linear Roller Way Super X is obtained from the following formula.

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

where, $L$ : Rating life, $10^3$m
$C$ : Basic dynamic load rating, N
$P$ : Applied load, N

If the stroke length and the number or strokes per minute are known, the life in hours can be obtained from the following formula.

$$L_h=\frac{10^6 L}{2Sn_1\times 60} \quad \cdots\cdots(2)$$

where, $L_h$ : Rating life in hours, h
$S$ : Stroke length, mm
$n_1$ : Number of strokes per minute, cpm

## Static safety factor

The static safety factor of Linear Roller Way Super X is given in the following formula.

$$f_s=\frac{C_0}{P_0} \quad \cdots\cdots(3)$$

where, $f_s$ : Static safety factor
$C_0$ : Basic static load rating, N
$P_0$ : Applied load (maximum load), N

**Table 10 Static safety factor**

| Operating conditions | $f_S$ |
|---|---|
| Operation with vibration and/or shocks | 4 ～6 |
| High operating performance | 3 ～5 |
| Normal operation | 2.5～3 |

## Load factor

Due to vibration and/or shocks during machine operation, the actual load on each rolling guide becomes greater in many cases than the theoretically calculated load. The applied load is generally calculated by multiplying the theoretically calculated load by the load factor indicated in Table 11.

**Table 11 Load factor**

| Operating conditions | $f_W$ |
|---|---|
| Smooth operation free from vibration and/or shocks | 1 ～1.2 |
| Normal operation | 1.2～1.5 |
| Operation with vibration and/or shocks | 1.5～3 |

A quality lithium-soap base grease containing extreme-pressure additives (ALVANIA EP Grease 2 (SHELL)) is pre-packed in Linear Roller Way Super X. However, the quality of any grease will gradually deteriorate as operating time passes. Therefore, periodic re-lubrication is necessary. The re-lubrication interval varies depending on the operating conditions of the rolling guides. A six month interval is generally recommended and, if the machine operation consists of reciprocating motions with many cycles and long strokes, re-lubrication every three months is recommended. Re-lubrication is performed from a grease nipple provided at the slide unit.

Re-lubrication interval can be extended by using the special specification Capillary Plate (supplemental code "/Q"). Also, re-lubrication and other maintenance works can be reduced.

Linear Roller Way Super X is dust-protected with special rubber seals. But, if large amounts of fine contaminants are present, or if large particles of foreign matter such as dust or chips may fall on the track rail, it is recommended to provide protective covers such as bellows or telescopic shields for the entire linear motion mechanism.

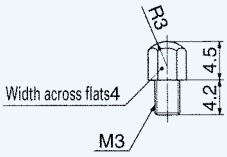
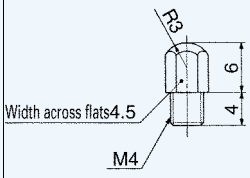
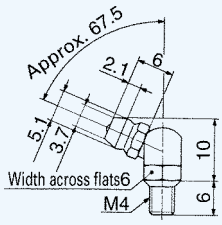
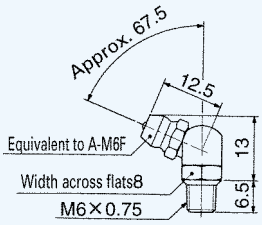
Bellows to match the dimensions of Linear Roller Way Super X are optionally available. They are easy to mount and highly effective for dust protection. If required, consult IKO.

# Grease Nipple

Grease nipples shown in Table 12 are assembled to each slide unit of Linear Roller Way Super X.

**Table 12 Grease nipple**

unit : mm

| Model number | Grease nipple | |
|---|---|---|
| | Type | Shape and dimension |
| LRX 12 | A−M3 |  |
| LRX 15 | A−M4 |  |
| LRX 20<br>LRX 25 | B−M4 |  |
| LRX 30 | B−M6 |  |
| LRX 35 | JIS A−M6F | |
| LRX 45<br>LRX 55<br>LRX 65 | JIS A−PT1／8 | |
| LRXG 100 | JIS A−PT1／4 | |

Remark : The above table shows representative model numbers but is applicable to all models of the same size.

# Precautions for Use

**❶Mounting surface, reference mounting surface, and general mounting structure**

To mount Linear Roller Way Super X, correctly fit the reference mounting surfaces B and D of Linear Roller Way Super X to the reference mounting surfaces of the table and the bed, and then fix them tightly. (See Fig. 4.)

The reference mounting surfaces B and D and mounting surfaces A and C of Linear Roller Way Super X are accurately finished by grinding. Stable and high accuracy linear motion can be obtained by finishing the mating mounting surfaces of machines or equipment with high accuracy and correctly mounting the guide on these surfaces.

The slide unit reference mounting surface is always the side surface opposite to the IKO mark. The track rail reference mounting surface is identified by locating the IKO mark on the top surface of the track rail. The track rail reference mounting surface is the side surface above the IKO mark (in the direction of the arrow). (See Fig. 5.)

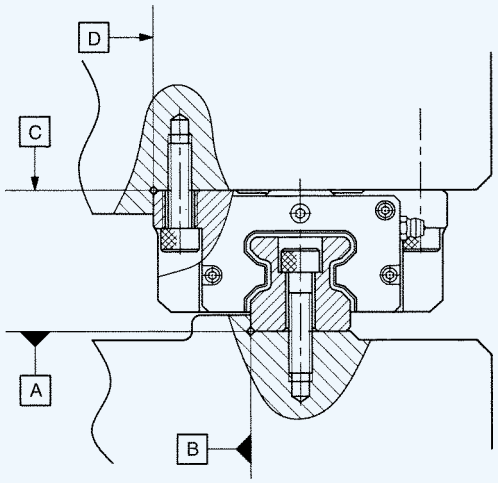



**Fig. 4 Reference mounting surfaces and general mounting structure**

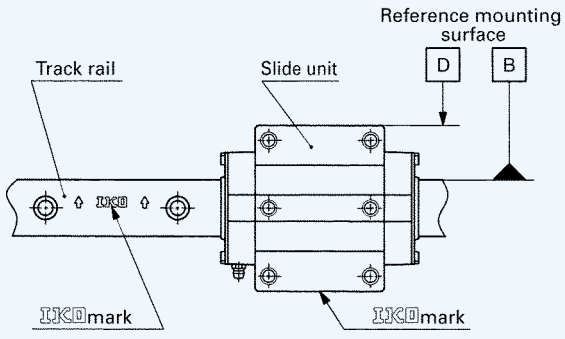



**Fig. 5 Reference mounting surfaces**

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

**❷Mounting of the slide unit**

Except the size 12 models, the slide unit is provided with one or two mounting thread holes in the middle of width (See Fig. 6.) so that an applied load can be received with good load balance. When designing machines or equipment, ensure that these middle mounting holes of the slide unit can be securely tightened to obtain maximum performance of the guide.

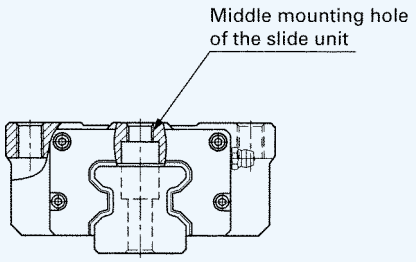



**Fig. 6 Middle mounting hole of the slide unit**

**❸Corner radius and shoulder height of reference mounting surfaces**

It is recommended to make a relieved fillet at the corner of the mating reference mounting surfaces as shown in Fig.7. However, in some series, corner radius *R* shown in Table 13 can also be used. Tables 13 shows recommended shoulder heights and corner radius of the mating reference mounting surfaces.

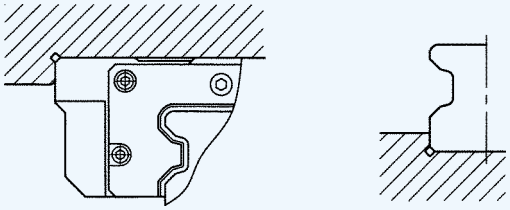
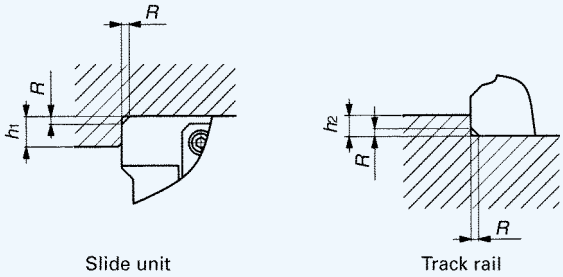


**Fig. 7 Relieved fillet at the corner of the mating reference mounting surfaces**

**Table 13 Shoulder heights and corner radius of the mating reference mounting surfaces**




unit : mm

| Model number | Slide unit Shoulder height $h_1$ | Track rail Shoulder height $h_2$ | Corner radius $R$ (max.) |
|---|---|---|---|
| LRX 12 | 4 | 2 | 0.5 |
| LRX 15 | 4 | 3 | 0.5 |
| LRX 20 | 5 | 4 | 0.5 |
| LRX 25 | 6 | 5 | 1 |
| LRX 30 | 8 | 5.5 | 1 |
| LRX 35 | 8 | 5.5 | 1 |
| LRX 45 | 8 | 7 | 1.5 |
| LRX 55 | 10 | 8 | 1.5 |
| LRX 65 | 10 | 10 | 1.5 |
| LRXG 100 | 14 | 13 | 2.5 |

Remark : The above table shows representative model numbers but is applicable to all models of the same size.

**❹Multiple slide units mounted in close distance**

When using multiple slide units in close distance to each other, actual load may be greater than the calculated load depending on the accuracy of the mounting surfaces and the reference mounting surfaces of the machine. It is suggested in such cases to assume a greater load than the calculated load.

**❺Operating temperature**

The maximum operating temperature is 120℃ and a continuous operation is possible at temperatures up to 100 ℃. When the temperature exceeds 100℃, consult IKO. For the “with capillary plates” (supplemental code “/Q”) of special specification, operate Linear Roller Way Super X below 80℃.

# Mounting

**❶When mounting multiple sets at the same time**

In the case of interchangeable specification Linear Roller Way Super X, assemble a slide unit and a track rail with the same interchangeable code (“S1” or “S2”).

In the case of non-interchangeable specification Linear Roller Way Super X, use an assembly of slide unit and track rail as delivered without changing the combination.

Special specification products of matched sets (supplemental code “/W”) are delivered as a group in which dimensional variations are specially controlled. Mount them without mixing with the sets of another group.

**❷Assembling a slide unit and a track rail**

When assembling the slide unit on the track rail, correctly fit the grooves of the slide unit to the grooves of the track rail and move the slide unit gently in parallel direction. Rough handling will result in seal damage or dropping of cylindrical rollers.

The interchangeable specification slide unit is provided with a dummy rail. The size 12, 15, 20, 25 and 30 models of non-interchangeable specification are appended with a dummy rail. This dummy rail should be used for assembly.

**❸Accuracy of mating mounting surfaces**

A load greater than the calculated load may act on Linear Roller Way Super X, depending on the accuracy of mating mounting surfaces and assembling accuracy. This will eventually give an adverse effect on the service life of Linear Roller Way Super X. Therefore, the accuracy must be carefully examined.

The accuracy of mating mounting surfaces for track rail and slide unit and the assembling accuracy must be determined considering the operating conditions, required running accuracy and rigidity, etc. Also, the mounting structure must be examined to ensure accuracy and performance for reliable use of a linear motion rolling guide.

When multiple sets are mounted, the parallelism between the two mounting surfaces of machines must be prepared, in general, as shown in Table 14.

**Table 14 Parallelism between two mounting surfaces**

unit : μm

| Accuracy class | High (H) | Precision (P) | Super precision (SP) | Ultra precision (UP) |
|---|---|---|---|---|
| Parallelism | 30 | 20 | 10 | 6 |

**❹Cleaning of mounting surfaces**

Before assembling Linear Roller Way Super X, remove burrs and blemishes from the reference mounting surfaces and mounting surfaces of the machine using an oil-stone, etc., and wipe off rust prevention oil and dirt with clean cloth.

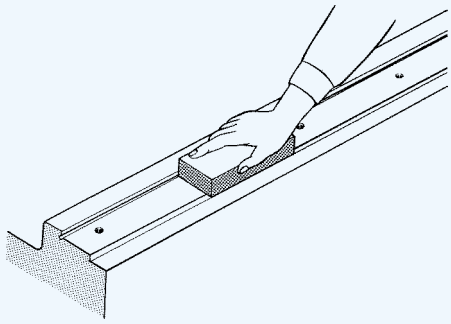


**Fig. 8 Cleaning of mounting surfaces**

**❺Tightening torque of mounting bolts**

The standard torque values for Linear Roller Way Super X mounting bolts are shown in Table 15. When machines or equipment are subjected to severe vibration, shock, large fluctuating load, or moment load, the bolts should be tightened with a torque 1.2 to 1.5 times higher than the standard torque values shown.

When the mating member material is cast iron or aluminum, tightening torque should be lowered in accordance with the strength characteristics of the material.

**Table 15 Tightening torque of mounting bolts**

| Bolt size | Tightening torque N-m | |
|---|---|---|
| | Carbon steel bolt (Strength division 12.9) | Stainless steel bolt (Property division A2-70) |
| M 3×0.5 | 1.7 | 1.1 |
| M 4×0.7 | 4.0 | 2.5 |
| M 5×0.8 | 7.9 | 5.0 |
| M 6×1 | 13.3 | 8.5 |
| M 8×1.25 | 32.0 | — |
| M10×1.5 | 62.7 | — |
| M12×1.75 | 108 | — |
| M14×2 | 172 | — |
| M16×2 | 263 | — |
| M20×2.5 | 512 | — |
| M30×3.5 | 1 750 | — |

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

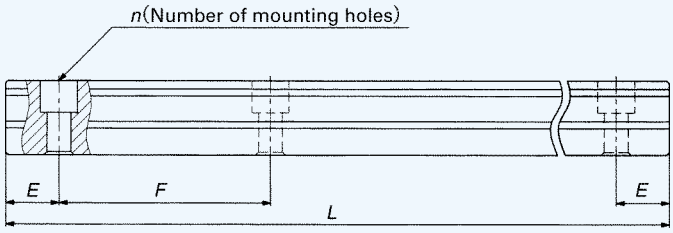
# Track Rail Length

Standard and maximum lengths of track rails of Linear Roller Way Super X are shown in Table 16. Track rails in any length are also available. Simply indicate the necessary length of track rail in mm in the identification number.

For non-interchangeable track rails longer than the maximum length shown in Table 16, butt-jointing track rails are available upon request. In this case, indicate "/A" in the identification number.

*E* dimensions at both ends are the same unless otherwise specified. To change these dimensions, specify the specified rail mounting hole positions (supplemental code "/E") of special specification.

**Table 16.1 Standard and maximum lengths of high carbon steel track rails**

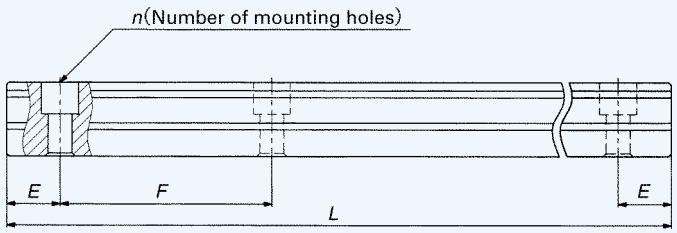



unit : mm

| Item \ Model number | LRX 12 | LRX 15 | LRX 20 | LRX 25 | LRX 30 |
|---|---|---|---|---|---|
| Standard length *L*(*n*) | 80( 2)<br>160( 4)<br>240( 6)<br>320( 8)<br>400(10)<br>480(12)<br>560(14)<br>640(16)<br>720(18) | 180( 3)<br>240( 4)<br>360( 6)<br>480( 8)<br>660(11) | 240( 4)<br>480( 8)<br>660(11)<br>840(14)<br>1 020(17)<br>1 200(20)<br>1 500(25) | 240( 4)<br>480( 8)<br>660(11)<br>840(14)<br>1 020(17)<br>1 200(20)<br>1 500(25) | 480( 6)<br>640( 8)<br>800(10)<br>1 040(13)<br>1 200(15)<br>1 520(19) |
| Pitch of mounting holes *F* | 40 | 60 | 60 | 60 | 80 |
| *E* | 20 | 30 | 30 | 30 | 40 |
| Maximum length(1) | 1 480 | 1 500<br>(1 980) | 1 980<br>(3 000) | 3 000 | 2 960<br>(4 000) |
| Item \ Model number | LRX 35 | LRX 45 | LRX 55 | LRX 65 | LRXG 100 |
| Standard length *L*(*n*) | 480( 6)<br>640( 8)<br>800(10)<br>1 040(13)<br>1 200(15)<br>1 520(19) | 840( 8)<br>1 050(10)<br>1 260(12)<br>1 470(14)<br>1 995(19) | 840( 7)<br>1 200(10)<br>1 560(13)<br>1 920(16)<br>3 000(25) | 1 500(10)<br>1 950(13)<br>3 000(20) | 1 500(10)<br>1 950(13)<br>3 000(20) |
| Pitch of mounting holes | 80 | 105 | 120 | 150 | 150 |
| *E* | 40 | 52.5 | 60 | 75 | 75 |
| Maximum length(1) | 2 960<br>(4 000) | 2 940<br>(3 990) | 3 000<br>(3 960) | 3 000<br>(3 900) | 3 000 |

Note(1) : Track rails with the maximum lengths shown in parentheses can also be manufactured. Consult IKO for further information.
Remark : The above table shows representative model numbers but is applicable to all high carbon steel track rails of the same size.

**Table 16.2 Standard and maximum lengths of stainless steel track rails**




unit : mm

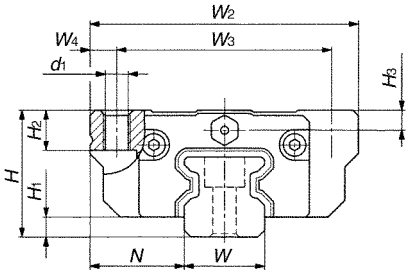
| Item \ Model number | LRX 12…SL | LRX 15…SL | LRX 20…SL | LRX 25…SL |
|---|---|---|---|---|
| Standard length $L(n)$ | 80( 2)<br>160( 4)<br>240( 6)<br>320( 8)<br>400(10)<br>480(12)<br>560(14)<br>640(16)<br>720(18) | 180( 3)<br>240( 4)<br>360( 6)<br>480( 8)<br>660(11) | 240( 4)<br>480( 8)<br>660(11)<br>840(14) | 240( 4)<br>480( 8)<br>660(11)<br>840(14) |
| Pitch of mounting holes $F$ | 40 | 60 | 60 | 60 |
| $E$ | 20 | 30 | 30 | 30 |
| Maximum length(1) | 1 000 | 1 200 | 1 200 | 1 200 |

Note(1) : Track rails exceeding the maximum length can also be manufactured. Consult IKO for further information.
Remark : The above table shows representative model numbers but is applicable to all stainless steel track rails of the same size.

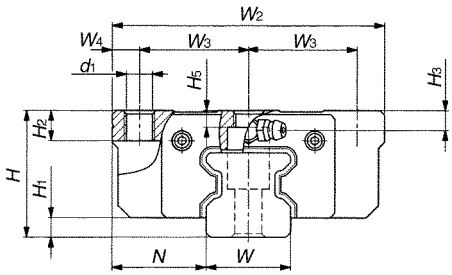
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

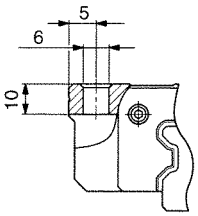
# Flange type mounted from the upper/lower side

## LRXC、LRX、LRXG




LRXC 12
LRX 12
LRXG 12



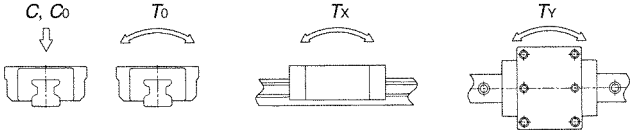



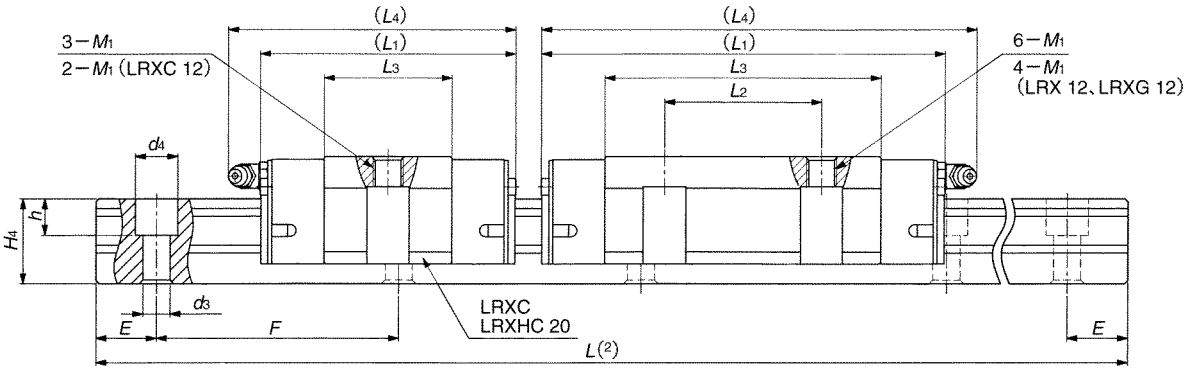

LRXHC 20
LRXH 20
LRXHG 20
Models mounted from the lower side only(1)

| Model number | Interchangeable | Mass (Ref.) | | Dimensions of assembly mm | | | Dimensions of slide unit mm | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Slide unit kg | Track rail kg/m | H | H1 | N | W2 | W3 | W4 | L1 | L2 | L3 | L4 | d1 | M1 | H2 | H3 | H5 |
| **LRXC 12** | ☆ | 0.058 | 0.92 | 19 | 3 | 14 | 40 | 32 | 4 | 37 | — | 14.8 | 40 | 3.4 | M 4 | 6 | 3 | — |
| **LRX 12** | ☆ | 0.092 | | | | | | | | 47 | 15 | 25.3 | 50 | | | | | |
| **LRXG 12** | ☆ | 0.13 | | | | | | | | 58 | | 35.8 | 61 | | | | | |
| **LRXC 15** | ☆ | 0.13 | 1.65 | 24 | 4 | 16 | 47 | 19 | 4.5 | 52 | — | 24 | 55 | 4.4 | M 5 | 7 | 3.5 | 3 |
| **LRX 15** | ☆ | 0.20 | | | | | | | | 68 | 30 | 40 | 71 | | | | | |
| **LRXG 15** | ☆ | 0.28 | | | | | | | | 84 | | 56 | 87 | | | | | |
| **LRXC 20(1)** | ☆ | 0.29 | 2.73 | 30 | 5 | 21.5 | 63 | 26.5 | 5 | 66 | — | 31.6 | 74 | (1) — | (1) M 6 | 10 | 4 | 3.5 |
| **LRX 20(1)** | ☆ | 0.44 | | | | | | | | 86 | 40 | 51.6 | 94 | | | | | |
| **LRXG 20(1)** | ☆ | 0.61 | | | | | | | | 106 | | 71.6 | 114 | | | | | |
| **LRXC 25** | ☆ | 0.44 | 3.59 | 36 | 6 | 23.5 | 70 | 28.5 | 6.5 | 74 | — | 36 | 83 | 7 | M 8 | 10 | 5 | 5 |
| **LRX 25** | ☆ | 0.67 | | | | | | | | 98 | 45 | 60 | 107 | | | | | |
| **LRXG 25** | ☆ | 0.84 | | | | | | | | 113 | | 75 | 122 | | | | | |
| **LRXC 30** | ☆ | 0.78 | 5.01 | 42 | 6.5 | 31 | 90 | 36 | 9 | 85 | — | 42.4 | 95 | 8.5 | M10 | 10 | 6.5 | 5.5 |
| **LRX 30** | ☆ | 1.20 | | | | | | | | 113 | 52 | 70.4 | 123 | | | | | |
| **LRXG 30** | ☆ | 1.58 | | | | | | | | 134 | | 91.4 | 144 | | | | | |

Note (1) : LRXC20, LRX20, and LRXG20 can be mounted from the upper side only. For mounting from the lower side, LRXHC20, LRXH20, and LRXHG20 which have the same dimensions as those of the above models can be used.
(2) : Track rail lengths *L* are shown in Table 16.
(3) : The directions of basic dynamic load rating (*C*), basic static load rating ($C_0$), and static moment rating ($T_0$, $T_X$, $T_Y$) are shown in the sketches below.
The upper values in the $T_X$ and $T_Y$ columns apply to one slide unit, and the lower values apply to two slide units in close contact.

Remark 1 : The mark ☆ indicates that interchangeable specification products are available.
2 : The appended track rail mounting bolts are hexagon socket head bolts of JIS B 1176 or equivalent.
3 : For grease nipple specifications, see Table 12.
4 : A grease nipple mounting thread is provided on the left and right end plates respectively.






| Dimensions of track rail mm | | | | | | | Mounting bolt for track rail mm | Basic dynamic load rating(3) | Basic static load rating(3) | Static moment rating(3) | | | Model number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $W$ | $H_4$ | $d_3$ | $d_4$ | $h$ | $E$ | $F$ | Bolt size×length | $C$ N | $C_0$ N | $T_0$ N-m | $T_X$ N-m | $T_Y$ N-m | |
| 12 | 12 | 3.5 | 6 | 4.5 | 20 | 40 | M3×12 | 3 200 | 6 070 | 46.1 | 16.3<br>169 | 16.3<br>169 | **LRXC 12** |
| | | | | | | | | 4 830 | 10 300 | 78.4 | 45.0<br>342 | 45.0<br>342 | **LRX 12** |
| | | | | | | | | 6 310 | 14 600 | 111 | 88.2<br>578 | 88.2<br>578 | **LRXG 12** |
| 15 | 16.5 | 4.5 | 8 | 6 | 30 | 60 | M4×16 | 6 320 | 11 900 | 112 | 50.4<br>454 | 50.4<br>454 | **LRXC 15** |
| | | | | | | | | 9 410 | 19 900 | 187 | 135<br>938 | 135<br>938 | **LRX 15** |
| | | | | | | | | 12 200 | 27 900 | 262 | 261<br>1 580 | 261<br>1 580 | **LRXG 15** |
| 20 | 21 | 6 | 9.5 | 8.5 | 30 | 60 | M5×20 | 13 300 | 26 300 | 339 | 149<br>1 250 | 149<br>1 250 | **LRXC 20**(1) |
| | | | | | | | | 19 200 | 42 500 | 548 | 377<br>2 510 | 377<br>2 510 | **LRX 20**(1) |
| | | | | | | | | 24 700 | 58 700 | 757 | 710<br>4 180 | 710<br>4 180 | **LRXG 20**(1) |
| 23 | 24.5 | 7 | 11 | 9 | 30 | 60 | M6×25 | 17 600 | 33 600 | 497 | 213<br>1 800 | 213<br>1 800 | **LRXC 25** |
| | | | | | | | | 26 200 | 56 000 | 829 | 570<br>3 780 | 570<br>3 780 | **LRX 25** |
| | | | | | | | | 31 200 | 70 000 | 1 040 | 881<br>5 360 | 881<br>5 360 | **LRXG 25** |
| 28 | 28 | 9 | 14 | 12 | 40 | 80 | M8×28 | 23 800 | 44 400 | 804 | 328<br>2 730 | 328<br>2 730 | **LRXC 30** |
| | | | | | | | | 35 400 | 74 100 | 1 340 | 880<br>5 750 | 880<br>5 750 | **LRX 30** |
| | | | | | | | | 43 500 | 96 300 | 1 740 | 1 470<br>8 710 | 1 470<br>8 710 | **LRXG 30** |

## Example of identification number of assembled set

LRX | 20 | C2 | R840 | T1 | P | S1 | / F

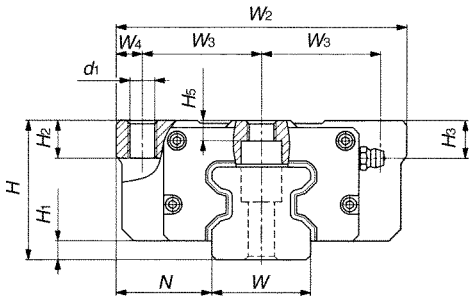
- LRX — Model code: LRXC, LRX, LRXG
- 20 — Size of rolling guide
- C2 — Number of slide units (Two slide units)
- R840 — Length of track rail (840mm)
- T1 — Preload amount: Standard : No symbol; Light preload : T1; Medium preload : T2; Heavy preload : T3
- P — Accuracy class: High : H; Precision : P; Super precision : SP; Ultra precision : UP
- S1 — Interchangeable code: Select group 1 : S1; Select group 2 : S2
- / F — Special specification: Caps for rail mounting holes

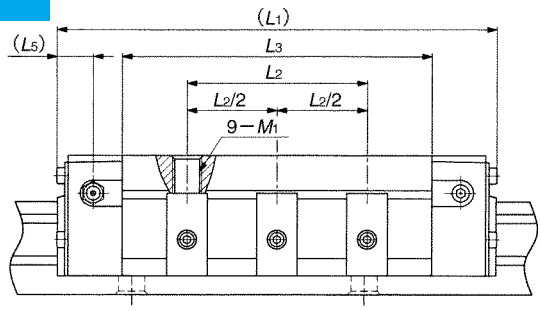
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

# IKO Linear Roller Way Super X

## Flange type mounted from the upper/lower side

LRXC, LRX, LRXG




LRXG 100

| Model number | Interchangeable | Mass (Ref.) | | Dimensions of assembly mm | | | Dimensions of slide unit mm | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Slide unit kg | Track rail kg/m | H | H1 | N | W2 | W3 | W4 | L1 | L2 | L3 | L5 | d1 | M1 | H2 | H3 | H5 |
| LRXC 35 | ☆ | 1.13 | 6.88 | 48 | 6.5 | 33 | 100 | 41 | 9 | 92 | — | 46.6 | 12.5 | 8.5 | M10 | 13 | 13 | 7 |
| LRX 35 | ☆ | 1.76 | | | | | | | | 124 | 62 | 78.6 | | | | | | |
| LRXG 35 | ☆ | 2.41 | | | | | | | | 152 | | 106.6 | | | | | | |
| LRXC 45 | ☆ | 2.11 | 10.8 | 60 | 8 | 37.5 | 120 | 50 | 10 | 114 | — | 59 | 17.5 | 10.5 | M12 | 15 | 16 | 11 |
| LRX 45 | ☆ | 3.26 | | | | | | | | 154 | 80 | 99 | | | | | | |
| LRXG 45 | ☆ | 4.60 | | | | | | | | 194 | | 139 | | | | | | |
| LRXC 55 | ☆ | 3.49 | 14.1 | 70 | 9 | 43.5 | 140 | 58 | 12 | 136 | — | 72 | 20 | 12.5 | M14 | 17 | 16 | 14 |
| LRX 55 | ☆ | 5.42 | | | | | | | | 184 | 95 | 120 | | | | | | |
| LRXG 55 | ☆ | 7.93 | | | | | | | | 238 | | 174 | | | | | | |
| LRXC 65 | ☆ | 7.18 | 22.6 | 90 | 12 | 53.5 | 170 | 71 | 14 | 181 | — | 95 | 26.6 | 14.5 | M16 | 23 | 18 | 18.5 |
| LRX 65 | ☆ | 11.5 | | | | | | | | 245 | 110 | 159 | | | | | | |
| LRXG 65 | ☆ | 16.0 | | | | | | | | 309 | | 223 | | | | | | |
| LRXG 100 | | 43.0 | 43.2 | 120 | 15 | 75 | 250 | 110 | 15 | 362 | 200 | 262 | 29.7 | 17.8 | M20 | 35 | 30 | 30.5 |

Note (1) : Track rail lengths *L* are shown in Table 16.

(2) : The directions of basic dynamic load rating (*C*), basic static load rating ($C_0$), and static moment rating ($T_0$, $T_X$, $T_Y$) are shown in the sketches below.

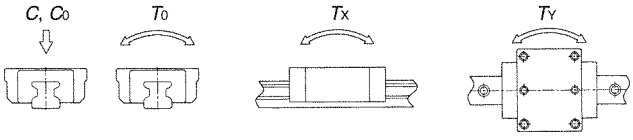
The upper values in the $T_X$ and $T_Y$ columns apply to one slide unit, and the lower values apply to two slide units in close contact.

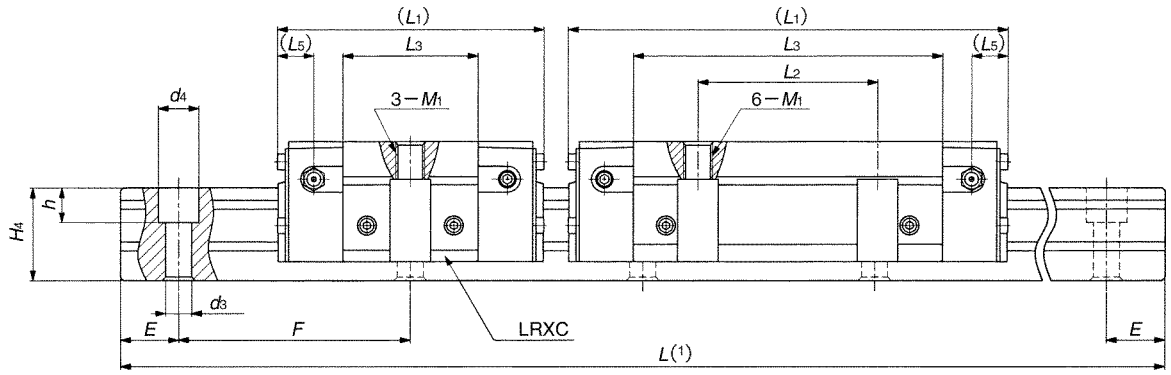
Remark 1 : The mark ☆ indicates that interchangeable specification products are available.

2 : The appended track rail mounting bolts are hexagon socket head bolts of JIS B 1176 or equivalent.

3 : For grease nipple specifications, see Table 12.

4 : Three grease nipple mounting threads are provided on the left and right end plates respectively.






| Dimensions of track rail mm | | | | | | | Mounting bolt for track rail mm | Basic dynamic load rating(2) | Basic static load rating(2) | Static moment rating(2) | | | Model number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| W | H4 | d3 | d4 | h | E | F | Bolt size×length | C | C0 | T0 | TX | TY | |
| | | | | | | | | N | N | N-m | N-m | N-m | |
| 34 | 32 | 9 | 14 | 12 | 40 | 80 | M 8×35 | 32 500 | 59 700 | 1 300 | 504<br>3 940 | 504<br>3 940 | **LRXC 35** |
| | | | | | | | | 48 200 | 99 600 | 2 160 | 1 350<br>8 430 | 1 350<br>8 430 | **LRX 35** |
| | | | | | | | | 60 900 | 134 000 | 2 920 | 2 430<br>13 700 | 2 430<br>13 700 | **LRXG 35** |
| 45 | 38 | 14 | 20 | 17 | 52.5 | 105 | M12×40 | 52 600 | 95 200 | 2 650 | 1 000<br>7 760 | 1 000<br>7 760 | **LRXC 45** |
| | | | | | | | | 78 200 | 159 000 | 4 410 | 2 690<br>16 700 | 2 690<br>16 700 | **LRX 45** |
| | | | | | | | | 101 000 | 222 000 | 6 180 | 5 200<br>28 800 | 5 200<br>28 800 | **LRXG 45** |
| 53 | 43 | 16 | 23 | 20 | 60 | 120 | M14×45 | 81 500 | 148 000 | 4 810 | 1 870<br>14 400 | 1 870<br>14 400 | **LRXC 55** |
| | | | | | | | | 121 000 | 246 000 | 8 010 | 5 020<br>30 900 | 5 020<br>30 900 | **LRX 55** |
| | | | | | | | | 162 000 | 357 000 | 11 600 | 10 400<br>56 800 | 10 400<br>56 800 | **LRXG 55** |
| 63 | 56 | 18 | 26 | 22 | 75 | 150 | M16×60 | 143 000 | 248 000 | 9 740 | 4 180<br>32 000 | 4 180<br>32 000 | **LRXC 65** |
| | | | | | | | | 213 000 | 413 000 | 16 200 | 11 200<br>69 000 | 11 200<br>69 000 | **LRX 65** |
| | | | | | | | | 276 000 | 578 000 | 22 700 | 21 700<br>119 000 | 21 700<br>119 000 | **LRXG 65** |
| 100 | 70 | 33 | 48 | 36 | 75 | 150 | M30×80 | 407 000 | 817 000 | 49 400 | 35 600<br>198 000 | 35 600<br>198 000 | **LRXG 100** |

### Example of identification number of assembled set

LRX | 55 | C2 | R3000 | T2 | P | S1 | / F

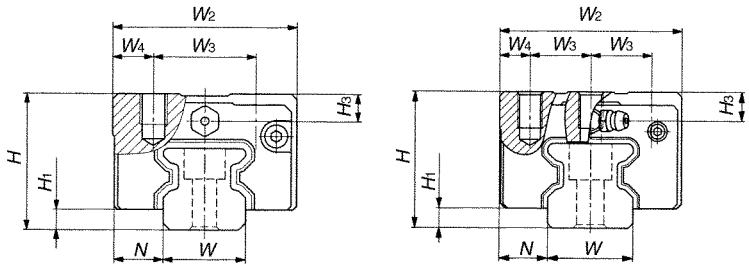
- **LRX** — Model code: LRXC, LRX, LRXG
- **55** — Size of rolling guide
- **C2** — Number of slide units (Two slide units)
- **R3000** — Length of track rail (3000mm)
- **T2** — Preload amount: Standard : No symbol; Light preload : T1; Medium preload : T2; Heavy preload : T3
- **P** — Accuracy class: High : H; Precision : P; Super precision : SP; Ultra precision : UP
- **S1** — Interchangeable code: Select group 1 : S1; Select group 2 : S2
- **/ F** — Special specification: Caps for rail mounting holes

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

# IKO Linear Roller Way Super X

## Block type mounted from the upper side

LRXDC、LRXD、LRXDG




| Model number | Interchangeable | Mass (Ref.) Slide unit kg | Mass (Ref.) Track rail kg/m | Dimensions of assembly mm H | H1 | N | Dimensions of slide unit mm W2 | W3 | W4 | L1 | L2 | L3 | L4 | M1×depth | H3 | W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LRXDC 12 | ☆ | 0.045 | 0.92 | 20 | 3 | 7.5 | 27 | 15 | 6 | 37 | — | 14.8 | 40 | M4×4.5 | 4 | 12 |
| LRXDC 12···SL | ☆ | | | | | | | | | | | | | | | |
| LRXD 12 | ☆ | 0.072 | | | | | | | | 47 | 15 | 25.3 | 50 | | | |
| LRXD 12···SL | ☆ | | | | | | | | | | | | | | | |
| LRXDG 12 | ☆ | 0.097 | | | | | | | | 58 | | 35.8 | 61 | | | |
| LRXDG 12···SL | ☆ | | | | | | | | | | | | | | | |
| LRXDC 15 | ☆ | 0.13 | 1.65 | 28 | 4 | 9.5 | 34 | 13 | 4 | 52 | — | 24 | 55 | M4×8 | 7.5 | 15 |
| LRXDC 15···SL | ☆ | | | | | | | | | | | | | | | |
| LRXD 15 | ☆ | 0.19 | | | | | | | | 68 | 26 | 40 | 71 | | | |
| LRXD 15···SL | ☆ | | | | | | | | | | | | | | | |
| LRXDG 15 | ☆ | 0.26 | | | | | | | | 84 | | 56 | 87 | | | |
| LRXDG 15···SL | ☆ | | | | | | | | | | | | | | | |
| LRXDC 20 | ☆ | 0.25 | 2.73 | 34 | 5 | 12 | 44 | 16 | 6 | 66 | — | 31.6 | 74 | M5×8 | 8 | 20 |
| LRXDC 20···SL | ☆ | | | | | | | | | | | | | | | |
| LRXD 20 | ☆ | 0.38 | | | | | | | | 86 | 36 | 51.6 | 94 | | | |
| LRXD 20···SL | ☆ | | | | | | | | | | | | | | | |
| LRXDG 20 | ☆ | 0.52 | | | | | | | | 106 | 50 | 71.6 | 114 | | | |
| LRXDG 20···SL | ☆ | | | | | | | | | | | | | | | |
| LRXDC 25 | ☆ | 0.36 | 3.59 | 40 | 6 | 12.5 | 48 | 17.5 | 6.5 | 74 | — | 36 | 83 | M6×12 | 9 | 23 |
| LRXDC 25···SL | ☆ | | | | | | | | | | | | | | | |
| LRXD 25 | ☆ | 0.55 | | | | | | | | 98 | 35 | 60 | 107 | | | |
| LRXD 25···SL | ☆ | | | | | | | | | | | | | | | |
| LRXDG 25 | ☆ | 0.68 | | | | | | | | 113 | 50 | 75 | 122 | | | |
| LRXDG 25···SL | ☆ | | | | | | | | | | | | | | | |
| LRXDC 30 | ☆ | 0.60 | 5.01 | 45 | 6.5 | 16 | 60 | 20 | 10 | 85 | — | 42.4 | 95 | M8×12 | 9.5 | 28 |
| LRXD 30 | ☆ | 0.92 | | | | | | | | 113 | 40 | 70.4 | 123 | | | |
| LRXDG 30 | ☆ | 1.18 | | | | | | | | 134 | 60 | 91.4 | 144 | | | |

Note (1) : Track rail lengths *L* are shown in Table 16.

(2) : The directions of basic dynamic load rating (*C*), basic static load rating ($C_0$), and static moment rating ($T_0$, $T_X$, $T_Y$) are shown in the sketches below.

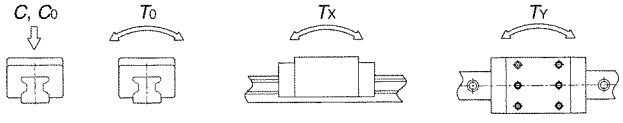
The upper values in the $T_X$ and $T_Y$ columns apply to one slide unit, and the lower values apply to two slide units in close contact.

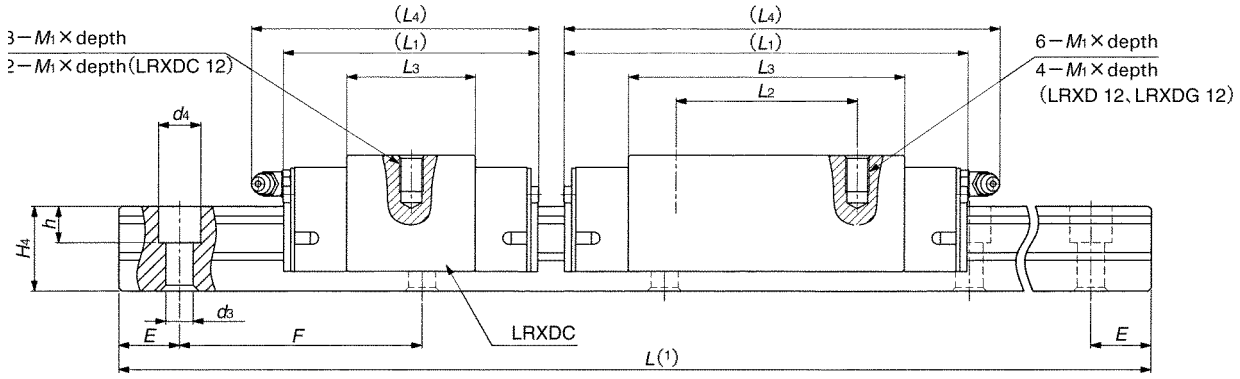
Remark 1 : The mark ☆ indicates that interchangeable specification products are available.

2 : The appended track rail mounting bolts are hexagon socket head bolts of JIS B 1176 or equivalent. For stainless steel series Linear Roller Way Super X, stainless steel bolts are appended.

3 : For grease nipple specifications, see Table 12.

4 : A grease nipple mounting thread is provided on the left and right end plates respectively.






| Dimensions of track rail mm | | | | | | Mounting bolt for track rail mm | Basic dynamic load rating(2) | Basic static load rating(2) | Static moment rating(2) | | | Model number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $H_4$ | $d_3$ | $d_4$ | $h$ | $E$ | $F$ | Bolt size×length | $C$ N | $C_0$ N | $T_0$ N-m | $T_X$ N-m | $T_Y$ N-m | |
| 12 | 3.5 | 6 | 4.5 | 20 | 40 | M3×12 | 3 200 | 6 070 | 46.1 | 16.3<br>169 | 16.3<br>169 | **LRXDC 12** |
| | | | | | | | | | | | | **LRXDC 12…SL** |
| | | | | | | | 4 830 | 10 300 | 78.4 | 45.0<br>342 | 45.0<br>342 | **LRXD 12** |
| | | | | | | | | | | | | **LRXD 12…SL** |
| | | | | | | | 6 310 | 14 600 | 111 | 88.2<br>578 | 88.2<br>578 | **LRXDG 12** |
| | | | | | | | | | | | | **LRXDG 12…SL** |
| 16.5 | 4.5 | 8 | 6 | 30 | 60 | M4×16 | 6 320 | 11 900 | 112 | 50.4<br>454 | 50.4<br>454 | **LRXDC 15** |
| | | | | | | | | | | | | **LRXDC 15…SL** |
| | | | | | | | 9 410 | 19 900 | 187 | 135<br>938 | 135<br>938 | **LRXD 15** |
| | | | | | | | | | | | | **LRXD 15…SL** |
| | | | | | | | 12 200 | 27 900 | 262 | 261<br>1 580 | 261<br>1 580 | **LRXDG 15** |
| | | | | | | | | | | | | **LRXDG 15…SL** |
| 21 | 6 | 9.5 | 8.5 | 30 | 60 | M5×20 | 13 300 | 26 300 | 339 | 149<br>1 250 | 149<br>1 250 | **LRXDC 20** |
| | | | | | | | | | | | | **LRXDC 20…SL** |
| | | | | | | | 19 200 | 42 500 | 548 | 377<br>2 510 | 377<br>2 510 | **LRXD 20** |
| | | | | | | | | | | | | **LRXD 20…SL** |
| | | | | | | | 24 700 | 58 700 | 757 | 710<br>4 180 | 710<br>4 180 | **LRXDG 20** |
| | | | | | | | | | | | | **LRXDG 20…SL** |
| 24.5 | 7 | 11 | 9 | 30 | 60 | M6×25 | 17 600 | 33 600 | 497 | 213<br>1 800 | 213<br>1 800 | **LRXDC 25** |
| | | | | | | | | | | | | **LRXDC 25…SL** |
| | | | | | | | 26 200 | 56 000 | 829 | 570<br>3 780 | 570<br>3 780 | **LRXD 25** |
| | | | | | | | | | | | | **LRXD 25…SL** |
| | | | | | | | 31 200 | 70 000 | 1 040 | 881<br>5 360 | 881<br>5 360 | **LRXDG 25** |
| | | | | | | | | | | | | **LRXDG 25…SL** |
| 28 | 9 | 14 | 12 | 40 | 80 | M8×28 | 23 800 | 44 400 | 804 | 328<br>2 730 | 328<br>2 730 | **LRXDC 30** |
| | | | | | | | 35 400 | 74 100 | 1 340 | 880<br>5 750 | 880<br>5 750 | **LRXD 30** |
| | | | | | | | 43 500 | 96 300 | 1 740 | 1 470<br>8 710 | 1 470<br>8 710 | **LRXDG 30** |

## Example of identification number of assembled set

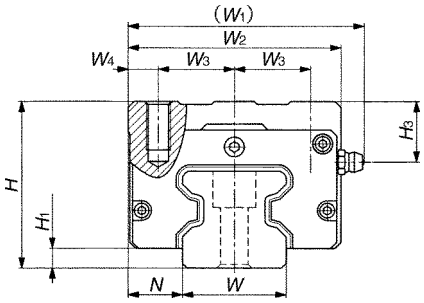
LRXD | 20 | C2 | R840 | SL | T1 | P | S1 | / F

- LRXD — Model code: LRXDC, LRXD, LRXDG
- 20 — Size of rolling guide
- C2 — Number of slide units (Two slide units)
- R840 — Length of track rail (840mm)
- SL — Material: High carbon steel made : No symbol; Stainless steel made : SL
- T1 — Preload amount: Standard : No symbol; Light preload : T1; Medium preload : T2; Heavy preload : T3
- P — Accuracy class: High : H; Precision : P; Super precision : SP; Ultra precision : UP
- S1 — Interchangeable code: Select group 1 : S1; Select group 2 : S2
- / F — Special specification: Caps for rail mounting holes

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

## Block type mounted from the upper side

LRXDC、LRXD、LRXDG




| Model number | Interchangeable | Mass (Ref.) Slide unit kg | Mass (Ref.) Track rail kg／m | Dimensions of assembly mm H | H1 | N | Dimensions of slide unit mm W1 | W2 | W3 | W4 | L1 | L2 | L3 | L5 | M1×depth | H3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LRXDC 35 | ☆ | 0.97 | 6.88 | 55 | 6.5 | 18 | 80 | 70 | 25 | 10 | 92 | — | 46.6 | 12.5 | M 8×16 | 20 |
| LRXD 35 | ☆ | 1.52 | | | | | | | | | 124 | 50 | 78.6 | | | |
| LRXDG 35 | ☆ | 2.02 | | | | | | | | | 152 | 72 | 106.6 | | | |
| LRXDC 45 | ☆ | 2.01 | 10.8 | 70 | 8 | 20.5 | 98 | 86 | 30 | 13 | 114 | — | 59 | 17.5 | M10×20 | 26 |
| LRXD 45 | ☆ | 3.13 | | | | | | | | | 154 | 60 | 99 | | | |
| LRXDG 45 | ☆ | 4.29 | | | | | | | | | 194 | 80 | 139 | | | |
| LRXDC 55 | ☆ | 3.17 | 14.1 | 80 | 9 | 23.5 | 112 | 100 | 37.5 | 12.5 | 136 | — | 72 | 20 | M12×25 | 26 |
| LRXD 55 | ☆ | 4.97 | | | | | | | | | 184 | 75 | 120 | | | |
| LRXDG 55 | ☆ | 7.06 | | | | | | | | | 238 | 95 | 174 | | | |
| LRXDC 65 | ☆ | 5.52 | 22.6 | 90 | 12 | 31.5 | 136 | 126 | 38 | 25 | 181 | — | 95 | 26.6 | M16×25 | 18 |
| LRXD 65 | ☆ | 8.70 | | | | | | | | | 245 | 70 | 159 | | | |
| LRXDG 65 | ☆ | 12.1 | | | | | | | | | 309 | 120 | 223 | | | |

Note (1) : Track rail lengths $L$ are shown in Table 16.

(2) : The directions of basic dynamic load rating ($C$), basic static load rating ($C_0$), and static moment rating ($T_0$, $T_X$, $T_Y$) are shown in the sketches below.

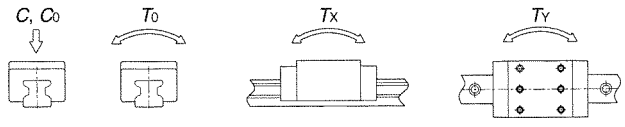
The upper values in the $T_X$ and $T_Y$ columns apply to one slide unit, and the lower values apply to two slide units in close contact.

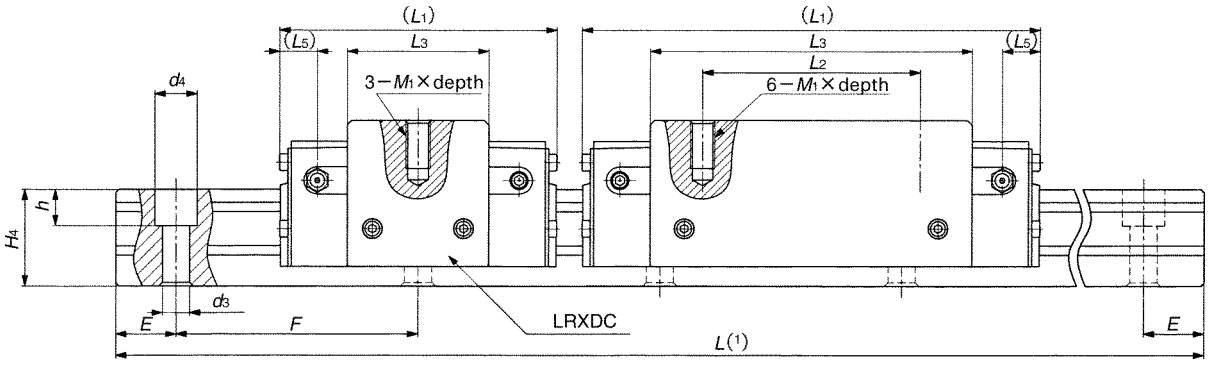
Remark 1 : The mark ☆ indicates that interchangeable specification products are available.

2 : The appended track rail mounting bolts are hexagon socket head bolts of JIS B 1176 or equivalent.

3 : For grease nipple specifications, see Table 12.

4 : Three grease nipple mounting threads are provided on the left and right end plates respectively.






| Dimensions of track rail mm | | | | | | | Mounting bolt for track rail mm | Basic dynamic load rating(2) | Basic static load rating(2) | Static moment rating(2) | | | Model number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| W | H4 | d3 | d4 | h | E | F | Bolt size×length | C N | C0 N | T0 N-m | TX N-m | TY N-m | |
| 34 | 32 | 9 | 14 | 12 | 40 | 80 | M 8×35 | 32 500 | 59 700 | 1 300 | 504<br>3 940 | 504<br>3 940 | **LRXDC 35** |
| | | | | | | | | 48 200 | 99 600 | 2 160 | 1 350<br>8 430 | 1 350<br>8 430 | **LRXD 35** |
| | | | | | | | | 60 900 | 134 000 | 2 920 | 2 430<br>13 700 | 2 430<br>13 700 | **LRXDG 35** |
| 45 | 38 | 14 | 20 | 17 | 52.5 | 105 | M12×40 | 52 600 | 95 200 | 2 650 | 1 000<br>7 760 | 1 000<br>7 760 | **LRXDC 45** |
| | | | | | | | | 78 200 | 159 000 | 4 410 | 2 690<br>16 700 | 2 690<br>16 700 | **LRXD 45** |
| | | | | | | | | 101 000 | 222 000 | 6 180 | 5 200<br>28 800 | 5 200<br>28 800 | **LRXDG 45** |
| 53 | 43 | 16 | 23 | 20 | 60 | 120 | M14×45 | 81 500 | 148 000 | 4 810 | 1 870<br>14 400 | 1 870<br>14 400 | **LRXDC 55** |
| | | | | | | | | 121 000 | 246 000 | 8 010 | 5 020<br>30 900 | 5 020<br>30 900 | **LRXD 55** |
| | | | | | | | | 162 000 | 357 000 | 11 600 | 10 400<br>56 800 | 10 400<br>56 800 | **LRXDG 55** |
| 63 | 56 | 18 | 26 | 22 | 75 | 150 | M16×60 | 143 000 | 248 000 | 9 740 | 4 180<br>32 000 | 4 180<br>32 000 | **LRXDC 65** |
| | | | | | | | | 213 000 | 413 000 | 16 200 | 11 200<br>69 000 | 11 200<br>69 000 | **LRXD 65** |
| | | | | | | | | 276 000 | 578 000 | 22 700 | 21 700<br>119 000 | 21 700<br>119 000 | **LRXDG 65** |

## Example of identification number of assembled set

LRXD | 55 | C2 | R3000 | T2 | P | S1 | / F

- **LRXD** — Model code: LRXDC, LRXD, LRXDG
- **55** — Size of rolling guide
- **C2** — Number of slide units (Two slide units)
- **R3000** — Length of track rail (3000mm)
- **T2** — Preload amount: Standard : No symbol; Light preload : T1; Medium preload : T2; Heavy preload : T3
- **P** — Accuracy class: High : H; Precision : P; Super precision : SP; Ultra precision : UP
- **S1** — Interchangeable code: Select group 1 : S1; Select group 2 : S2
- **/ F** — Special specification: Caps for rail mounting holes

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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