

# Special Selection **IKO**

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*Advanced roller technologies provide  
superior accuracy and rigidity.*

# LRX

LINEAR ROLLER WAY SUPER X

U.S. PATENTED



CAT-57119C

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# Advanced original design Four-row Roller Type

**Compact block type LRXS is newly introduced.**

*Dimensional interchangeable with a ball type*

**IKO**  
Linear Roller Way

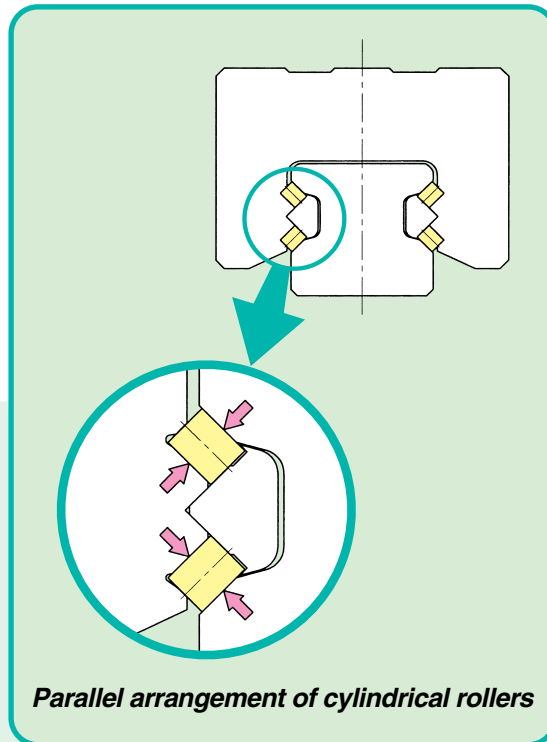
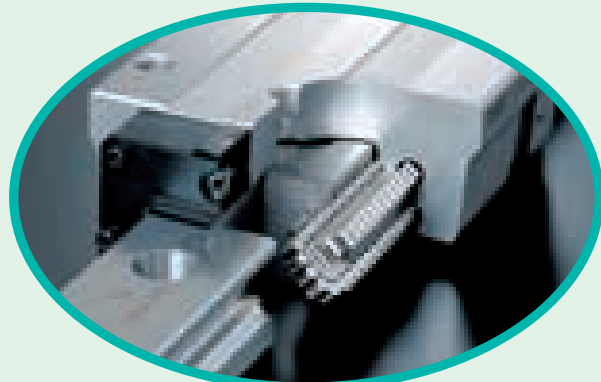
# SUPER X

SERIES

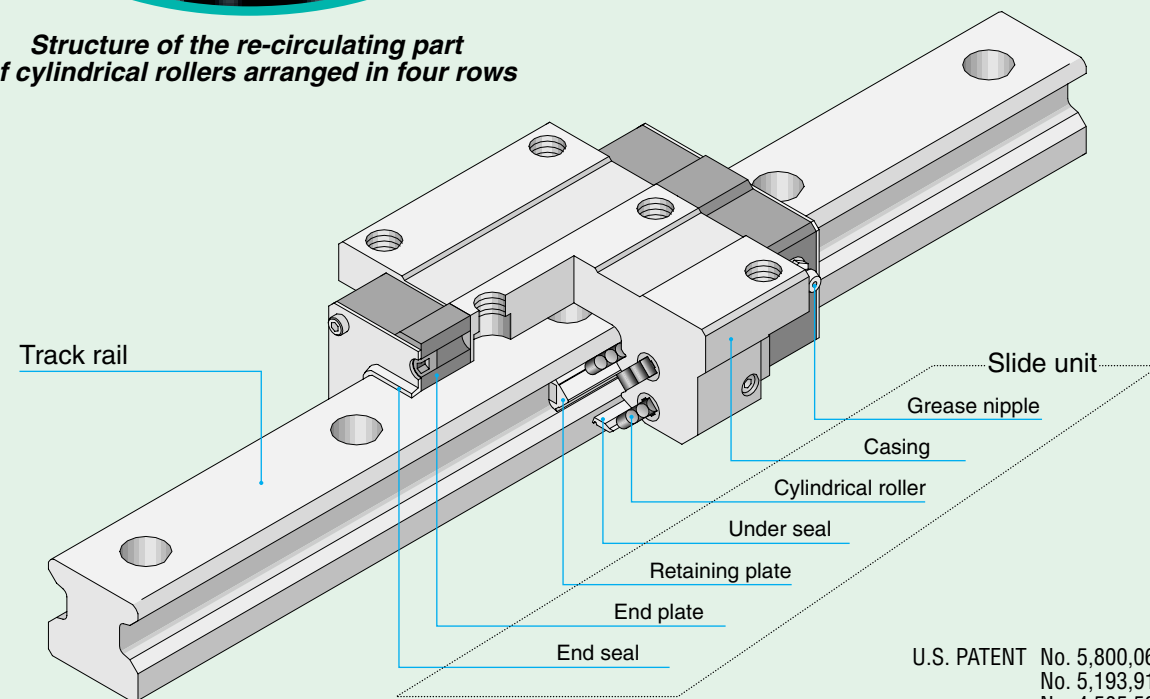


# Advanced high-reliability design based on actual operation results

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.



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



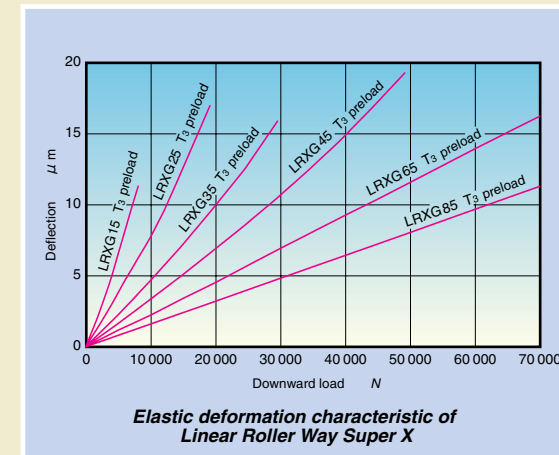
U.S. PATENT No. 5,800,064  
 No. 5,193,914  
 No. 4,505,522  
 No. 5,564,188  
 No. 5,374,126  
 No. 5,622,433  
 No. 6,176,617  
 No. 5,967,667  
 No. 5,464,288

Structure of Linear Roller Way Super X

## Super high rigidity

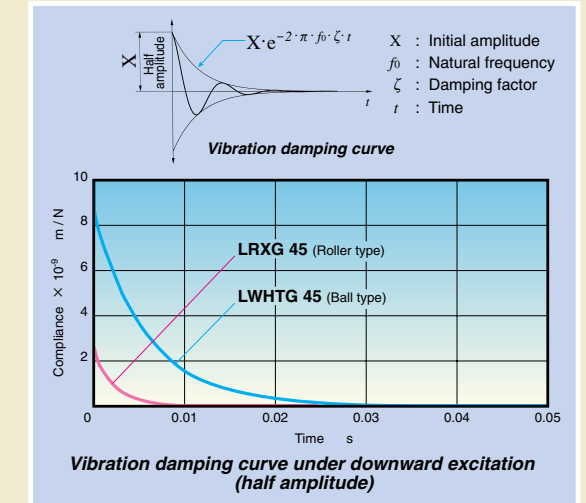
Rigidity of linear motion rolling guide has a large influence on the performance of machines or equipment in which they are assembled.

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.



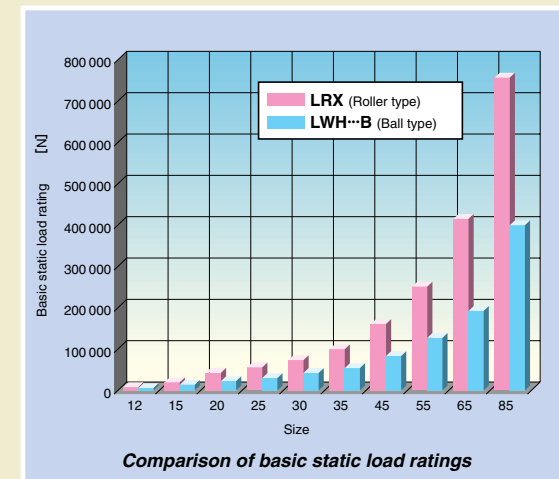
## Excellent vibration characteristics

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.



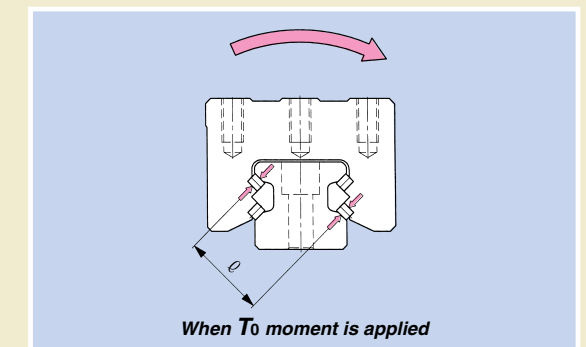
## Super high load capacity

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.



## 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  $\ell$  between the loading points is large under  $T_0$  moment. A high moment load capacity can be obtained.



## Low noise and high running performance

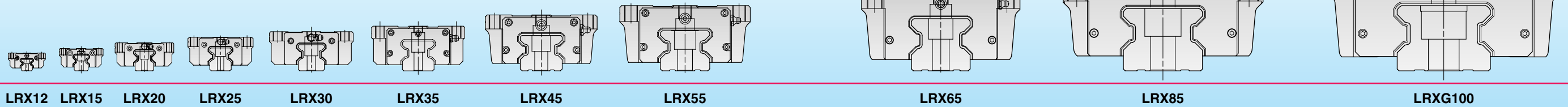
Smooth and quiet motion is achieved by adopting the optimum design based on the analysis of roller re-circulation behavior. Furthermore, as the number of load carrying cylindrical rollers is large, the minute fluctuating deflection during travel can be minimized.

## 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.

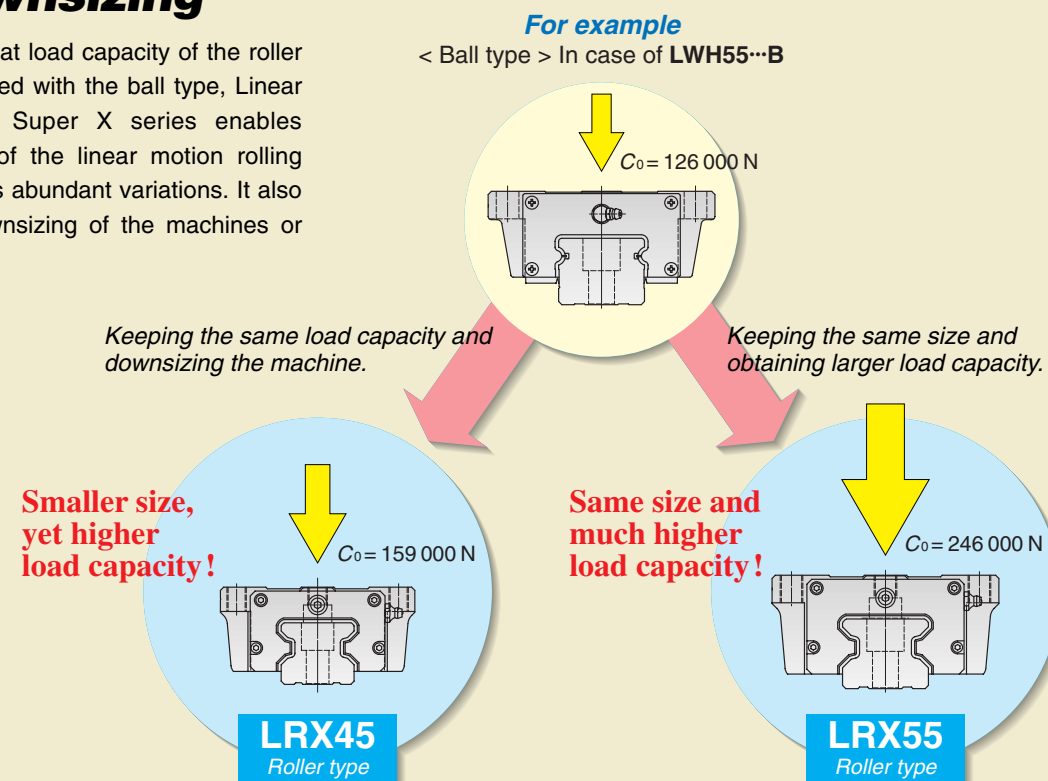
As compared with the slide guides and ball type linear motion rolling guides, Super X has superior frictional characteristics and gives small frictional resistance even under preload. Good response to micro feed and high positioning accuracy can thus be achieved.

Line up with track rail widths from 12mm to 100mm.  
They can be applicable to various machines and devices of small machines to large machines.



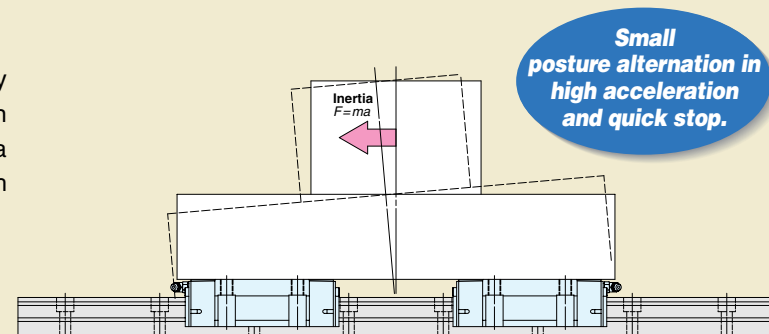
### Downsizing

Due to a great load capacity of the roller type compared with the ball type, Linear Roller Way Super X series enables downsizing of the linear motion rolling guide with its abundant variations. It also enables downsizing of the machines or devices.

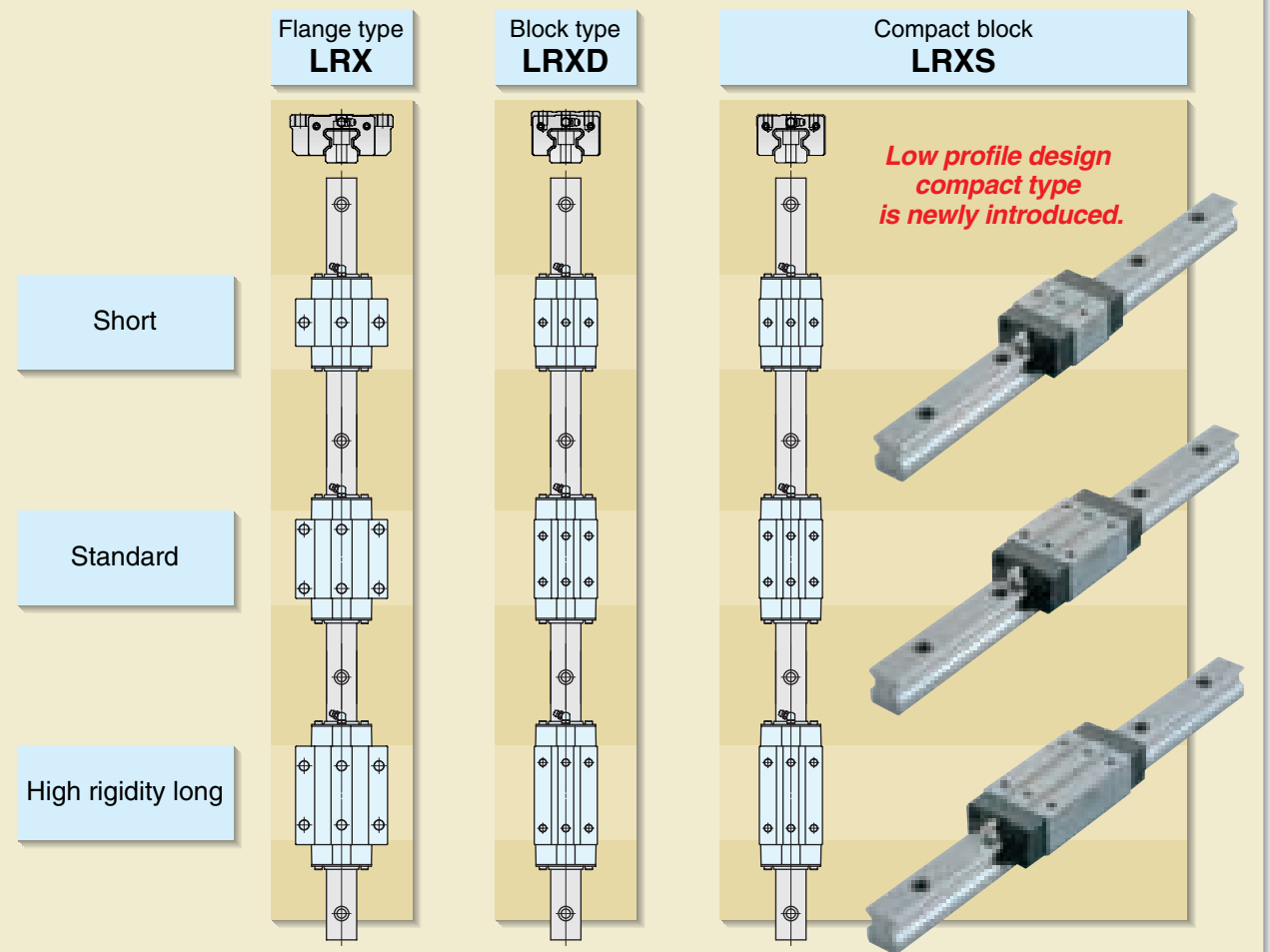


### High tact

Quick positioning can be achieved by high rigidity and excellent vibration characteristics of roller type even with a large inertia caused by the latest high tact positioning devices.



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

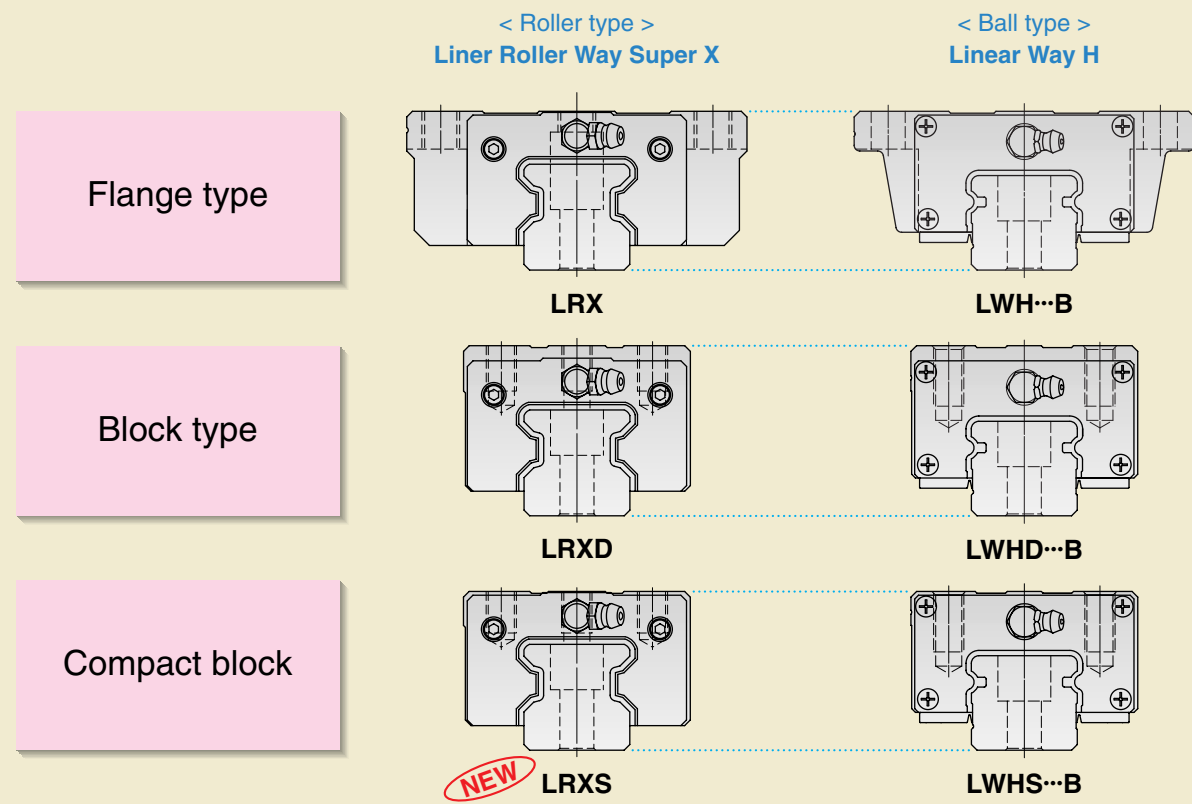


### Standardized Stainless Steel Series

Linear Roller Way Super X includes stainless steel series in which stainless steel is used for steel component. 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.

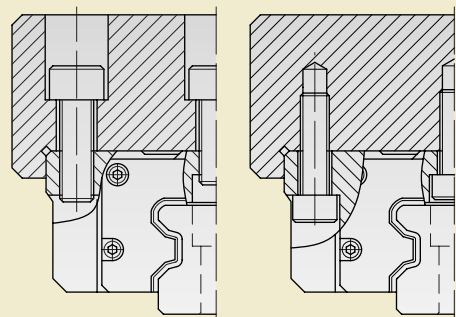
### Dimensional interchangeable with a ball type

Linear Roller Way Super X is dimensional interchangeable with a ball type. Replacing by a roller type is possible without a design modification of the machine.



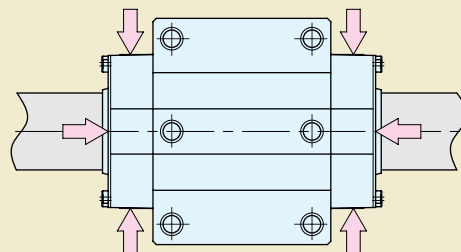
#### Mounting can be made from top or bottom ! (Flange type)

Flange type slide unit can be mounted from top or bottom.



#### Six oil supply holes provided as standard specification.

From size 35 to 100 models, oil/grease can be supplied from six positions. As the lubricating position can be selected according to the specification of the machine or equipment, design flexibility is enhanced.



Applicable size 35, 45, 55, 65, 85 and 100 models.

19 special specifications are prepared for Linear Roller Way Super X. They can be specified by the supplemental codes in the identification number. So the right item can be specified easily according to the applications when the customer orders.

< Identification number >

**LRXC 35 C1 R640 T2 P S1 /F**

*Easy specify*

	Supplemental code	Supplemental code	
Butt-jointing track rails	<b>/A</b>	Rail cover plate	<b>/PS</b>
Opposite reference surfaces arrangement	<b>/D</b>	Capillary plates	<b>/Q</b>
Specified rail mounting hole positions	<b>/E</b>	Capillary plates	
With caps for rail mounting holes	<b>/F</b>	Butt-jointing interchangeable track rail (for interchangeable specification)	<b>/T</b>
Changed pitch of slide unit middle mounting holes	<b>/GE</b>	With double end seals	<b>/V</b>
Half pitch of track rail mounting holes	<b>/HP</b>	End seals	
Inspection sheet	<b>/I</b>	Matched sets to be used as an assembled group	<b>/W</b>
With female threads for bellows (for single slide unit or track rail)	<b>/J</b>	Matched sets to be used as an assembled group	
Female threads for bellows		Specified grease	<b>/Y</b>
Black chrome surface treatment	<b>/L</b>	With scrapers (for assembled set)	<b>/Z</b>
Fluorine black chrome surface treatment	<b>/LF</b>	With scrapers (for assembled set)	
Without track rail mounting bolts	<b>/MN</b>	No end seal	<b>/N</b>

If the other specifications are required, please consult **IKD**.

# Easy to use 4 Interchangeable Specification, Three Features of Interchangeability

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!

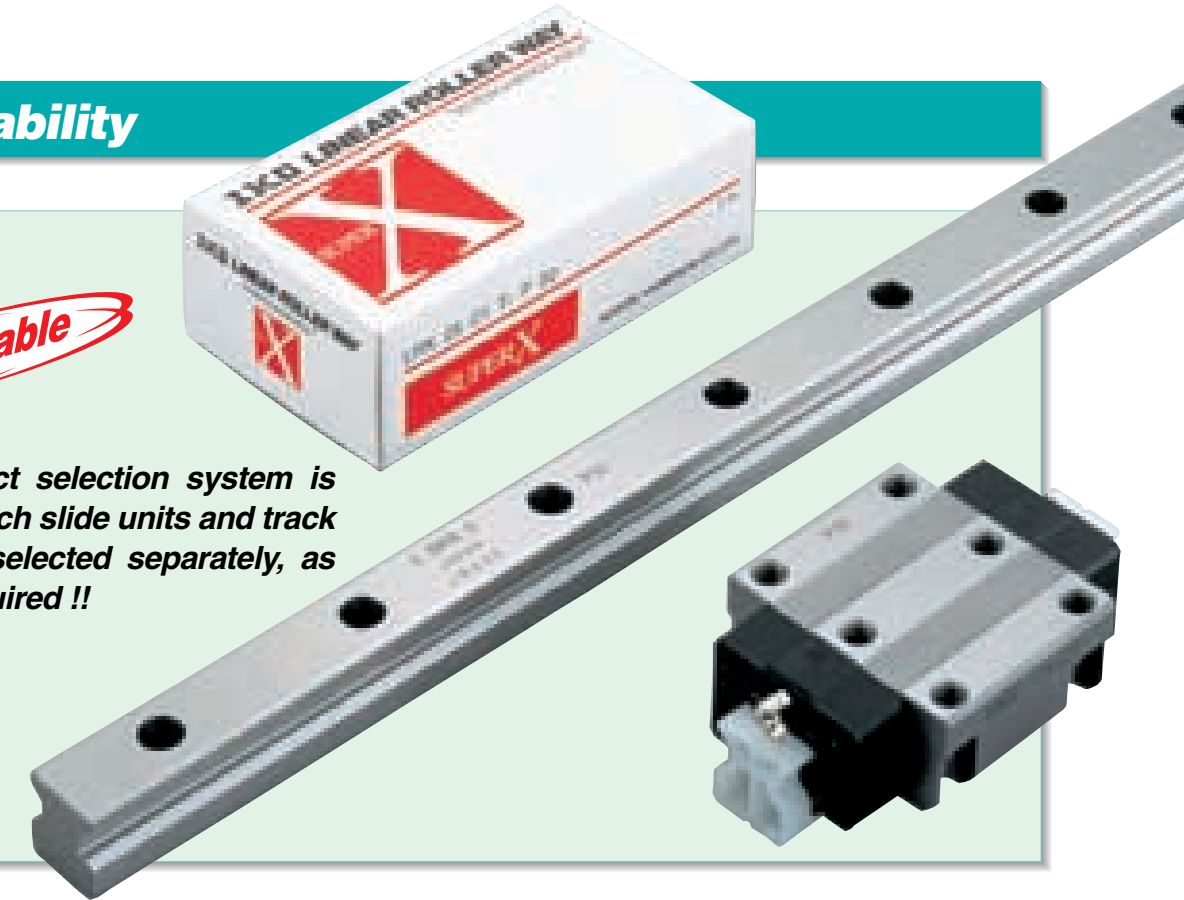
- Want to improve the rigidity and life of the machine
- Want to improve the accuracy of the machine
- Want to replace slide units right away
- Number of slide units insufficient
- Want to replace track rails right away
- Length of track rails not long enough
- Want to stock spare slide units for emergency

### 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.

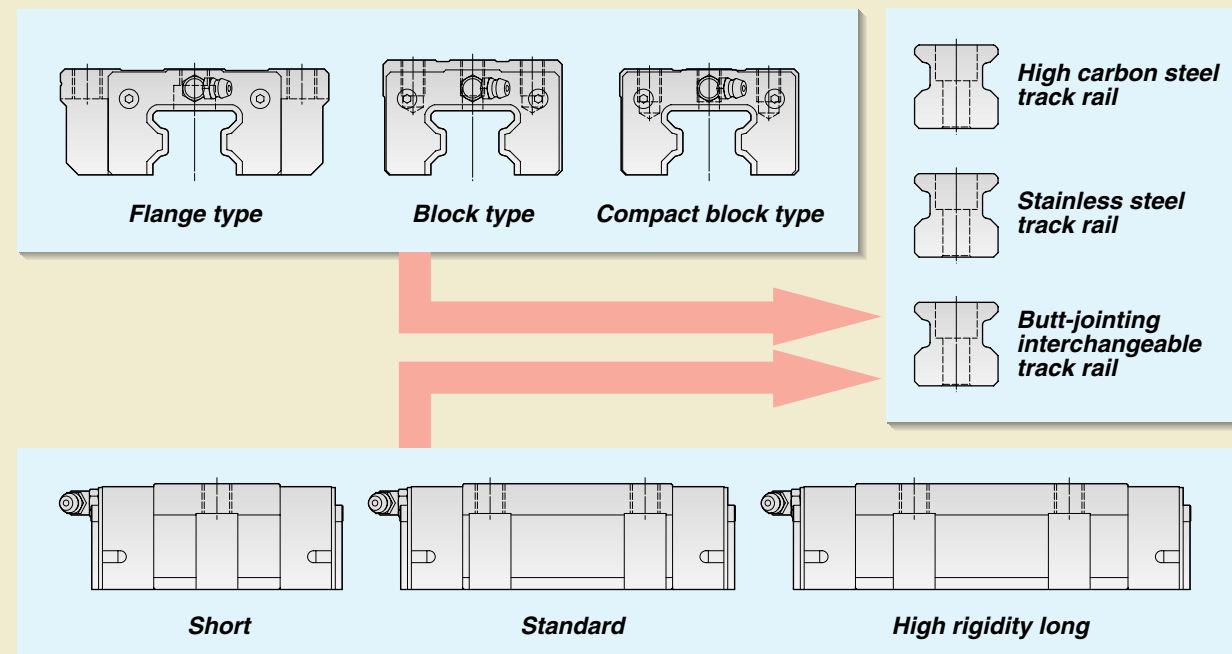
**Interchangeable**

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



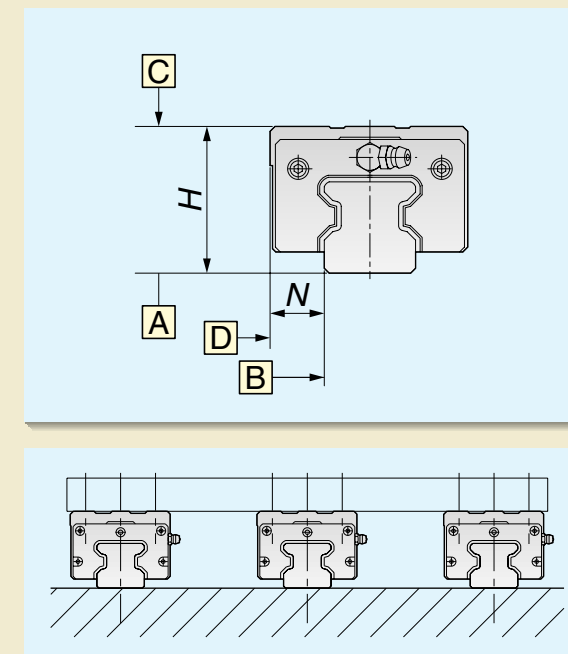
## Interchangeable slide unit

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.



## Interchangeable with high accuracy

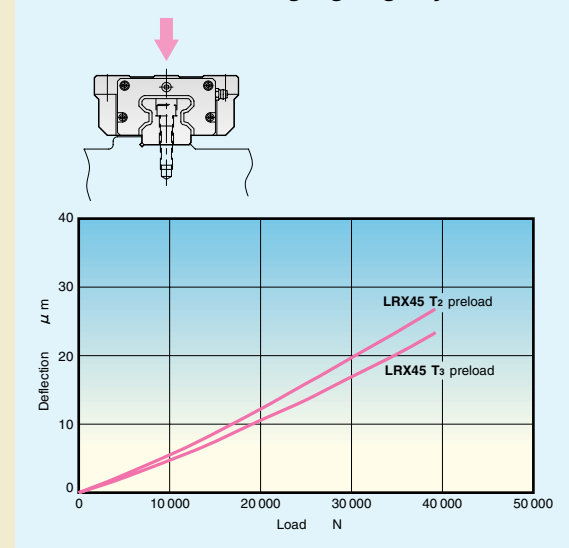
Two accuracy classes, High and Precision are prepared for the interchangeable specification products so that these products can be used for applications requiring high running accuracy. Height variation among multiple sets is also controlled at a high accuracy level, ensuring that these products can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



## Interchangeable with preload

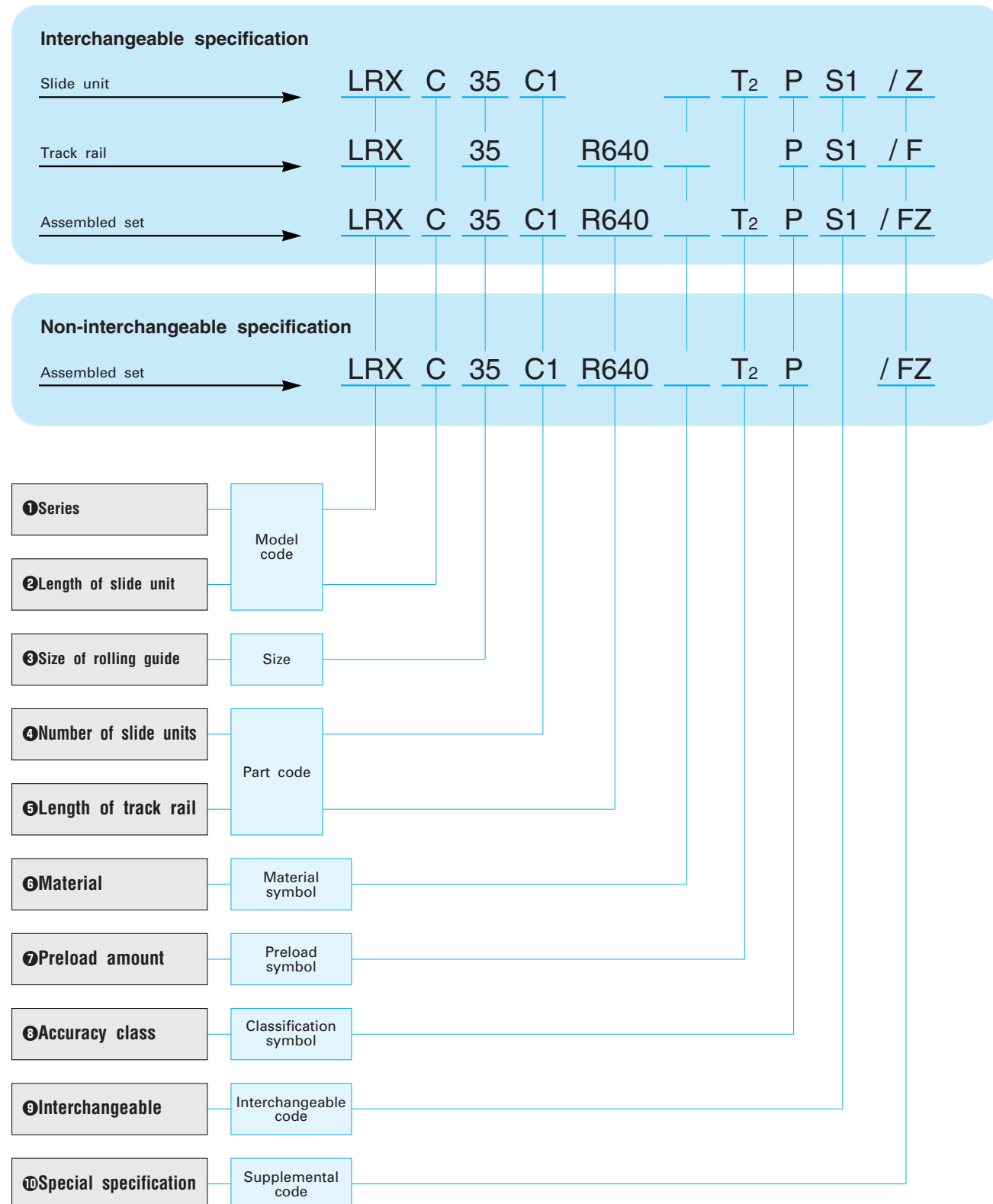
High accuracy dimensional control owing to a simple structure has made it possible to realize the interchangeability among preloaded slide units. These products can be used for applications requiring one step higher rigidity.

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.



**① Series**

Flange type mounted from the upper/lower side : LRX<sup>(1)</sup>

Block type mounted from the upper side : LRXD

Compact block type mounted from the upper side : LRXS

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

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

**② Length of slide unit**

Short : C

Standard : No symbol

High rigidity long : G

For available models and sizes, see Table 1.

**③ Size of rolling guide**

12, 15, 20, 25, 30, 35, 45, 55, 65, 85, 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	85	100		
High carbon steel made	Flange type	LRXC	○	○	○	○	○	○	○	○	○	○	○	○	○
		LRX	○	○	○	○	○	○	○	○	○	○	○	○	○
		LRXG	○	○	○	○	○	○	○	○	○	○	○	○	○
	Block type	LRXDC	○	○	○	○	○	○	○	○	○	○	○	○	○
		LRXD	○	○	○	○	○	○	○	○	○	○	○	○	○
		LRXDG	○	○	○	○	○	○	○	○	○	○	○	○	○
Compact block	LRXSC	—	○	○	○	○	○	○	○	○	○	○	○	○	
	LRXS	—	○	○	○	○	○	○	○	○	○	○	○	○	
	LRXSG	—	○	○	○	○	○	○	○	○	○	○	○	○	
Stainless steel made	Block type	LRXDC...SL	○	○	○	○	○	○	○	○	○	○	○	○	○
		LRXD ...SL	○	○	○	○	○	○	○	○	○	○	○	○	○
		LRXDG...SL	○	○	○	○	○	○	○	○	○	○	○	○	○

Note<sup>(1)</sup> : The interchangeable specification is not available.

**④ Number 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.

**⑤ Length of track rail**

Assembled set : R○

Track rail : R○

Indicate the length of track rail in mm. For standard and maximum lengths, see Table 17 on page 27.

**⑥ Material**

High carbon steel made : No symbol

Stainless steel made : SL

For available models and sizes, see Table 1.

**⑦ Preload amount**

Standard : No symbol

Light preload : T<sub>1</sub>

Medium preload : T<sub>2</sub>

Heavy preload : T<sub>3</sub>

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 13.

**⑧ Accuracy 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 13.

**⑨ Interchangeable 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.

**⑩ Special specification**

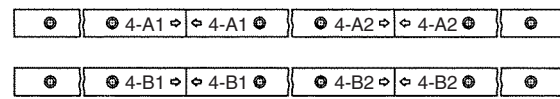
/A, /D, /E, /F, /GE, /HP, /I, /JO, /LO, /LFO, /MN, /N, /PS, /Q, /T, /VO, /WO, /YO, /ZO


For applicable special specifications, see Table 5 on page 14.



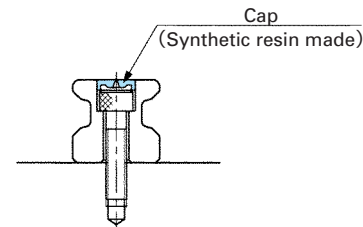



### Butt-jointing track rails /A



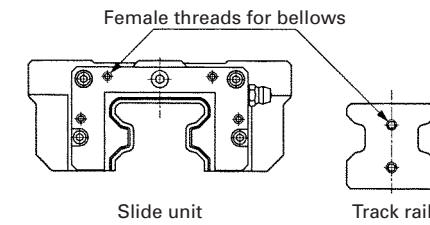
When the required length of non-interchangeable specification track rail exceeds the maximum length indicated in Table 16, two or more track rails can be used by butt-jointing them in the direction of linear motion. For the length and the number of butt-jointing track rails, consult  for further information.

### 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  for further information.

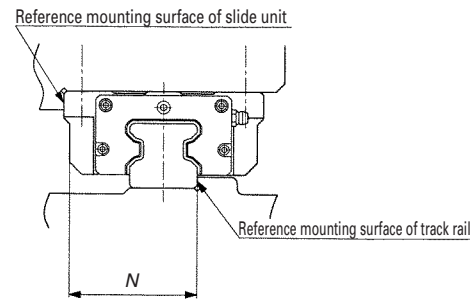
### With female threads for bellows (for single slide unit or track rail) /J /JR /JL



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.

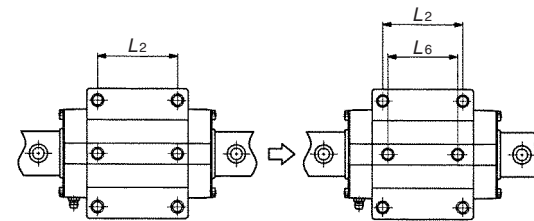
- ① /J Female threads are provided at both ends of the slide unit or the track rail.
- ② /JR Female threads are provided at the right end of the slide unit in sight of  mark.
- ③ /JL Female threads are provided at the left end of the slide unit in sight of  mark.

### Opposite reference surfaces arrangement /D



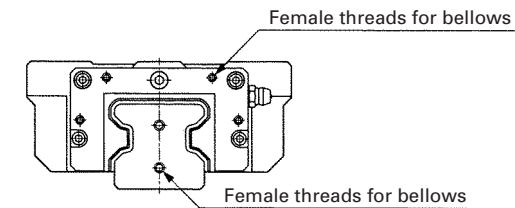
The reference mounting surface of track rail is made opposite to the standard side. The accuracy of dimension  $N$  including parallelism in operation is the same as that of standard specification.

### 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.

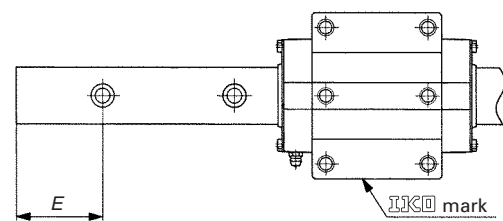
### With female threads for bellows (for assembled set) /J /JJ /JR /JS /JJS





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.

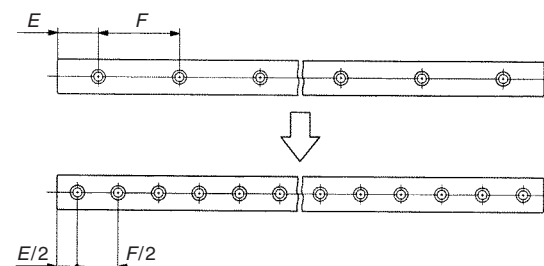
- ① /J Female threads are provided at both ends of the track rail, and at the slide unit ends which are the closest to the track rail ends. (In case only one slide unit is assembled, female threads are provided at both ends.)
- ② /JJ Female threads are provided at both ends of the track rail.
- ③ /JR 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.)
- ④ /JS 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".)
- ⑤ /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 "JJS".)

### 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  mark on the slide unit. When ordering, add the dimension (in mm) after "/E". Dimension  $E$  can be specified in a limited range. Consult  for further information.

### 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.

### 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.

- ① /LC Treatment is applied to the casing.
- ② /LR Treatment is applied to the track rail.
- ③ /LCR Treatment is applied to the casing and the track rail.

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

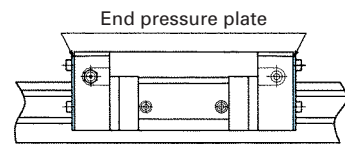
After forming a black permeable chrome film, the surface is coated with fluorine resin for further improvement in corrosion resistance. This treatment is also effective in preventing the adhesion of foreign substances on the surface.

- ① /LFC Treatment is applied to the casing.
- ② /LFR Treatment is applied to the track rail.
- ③ /LFCR Treatment is applied to the casing and the track rail.

**Without track rail mounting bolts** /MN

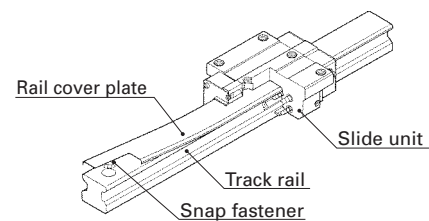
Bolts for track rail mounting are not appended.

**No end seal** /N



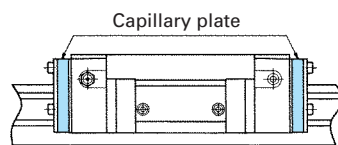
End seals at both ends of slide unit are replaced by end pressure plates (not in contact with the track rail) to reduce frictional resistance. The under seals are not assembled. This specification is not effective for dust protection.

**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".

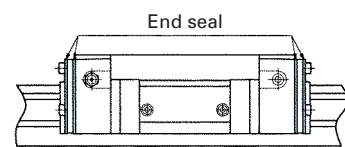
**With double end seals (for single slide unit)**

/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.

- ① /V Double end seals are provided at both ends of the slide unit.
- ② /VR Double end seals are provided at the right end of the slide unit in sight of mark.
- ③ /VL Double end seals are provided at the left end of the slide unit in sight of mark.

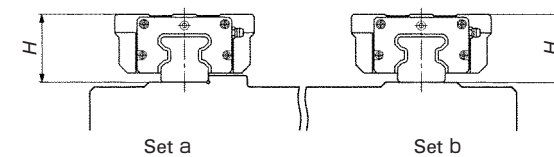
**With double end seals (for assembled set)** /V /VV



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.

- ① /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.)
- ② /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.

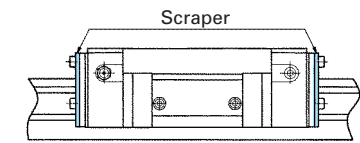
- ① /YCG Low Dust Generation Grease for Clean Environment CG2 is pre-packed.
- ② /YBR MOLYCOTE BR2 Plus Grease (Dow Corning) is pre-packed.
- ③ /YNG No grease is pre-packed.

**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.

- ① /Z Scrapers are provided at both ends of the slide unit.
- ② /ZR A scraper is provided at the right end of the slide unit in sight of mark.
- ③ /ZL A scraper is provided at the left end of the slide unit in sight of 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.

- ① /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.)
- ② /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 <sub>2</sub>	L <sub>6</sub>
LRX 15, LRXG 15	30	26
LRX 20, LRXG 20 <sup>(1)</sup>	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<sup>(1)</sup> : 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							Size 35, 45, 55, 65, 85, 100						
/Q							/Q						
/V							/V						
/Z							/Z						
Capillary plate							Capillary plate						
End seal							End seal						
Scraper							Scraper						

Model number	With capillary plates (/Q)		With double end seals <sup>(1)</sup> (/V)		With scrapers <sup>(1)</sup> (/Z)		Model number	With capillary plates (/Q)		With double end seals <sup>(1)</sup> (/V)		With scrapers <sup>(1)</sup> (/Z)	
	L <sub>1</sub>	L <sub>4</sub>	L <sub>1</sub>	L <sub>4</sub>	L <sub>1</sub>	L <sub>4</sub>		L <sub>1</sub>	L <sub>1</sub>	L <sub>1</sub>	L <sub>1</sub>		
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	LRX 85	341	338				339
LRX 30	124	136	121	134	124	135	LRXG 85	413	410				411
LRXG 30	145	157	142	155	145	156	LRXG 100	—	376				378

Note<sup>(1)</sup> : 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 <sub>1</sub>	b <sub>1</sub>	b <sub>2</sub>	M <sub>1</sub> × depth	L <sub>1</sub> <sup>(3)</sup>	H <sub>3</sub>	a <sub>3</sub>	a <sub>4</sub>	M <sub>2</sub> × depth
LRXC 15	10.5	10.5	26	M3×6	67	1	4	8	M3×6
LRX 15					83				
LRXG 15					99				
LRXDC 15					67				
LRXD 15					83				
LRXDG 15					99				
LRXSC 15					67				
LRXS 15					83				
LRXSG 15					99				
LRXC 20 <sup>(2)</sup>	12	13.5	36	M3×6	81	2	5	10	M4×8
LRX 20 <sup>(2)</sup>					101				
LRXG 20 <sup>(2)</sup>					121				
LRXDC 20					81				
LRXD 20					101				
LRXDG 20					121				
LRXSC 20					81				
LRXS 20					101				
LRXSG 20					121				
LRXC 25	15.5	15	40	M3×6	89	4	6	12	M4×8
LRX 25					113				
LRXG 25					128				
LRXDC 25					89				
LRXD 25					113				
LRXDG 25					128				
LRXSC 25					89				
LRXS 25					113				
LRXSG 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					100				
LRXD 30					128				
LRXDG 30					149				
LRXSC 30					100				
LRXS 30					128				
LRXSG 30					149				

Note<sup>(1)</sup> : 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.

<sup>(2)</sup> : Also applicable to LRXHC20, LRXH20 and LRXHG20.

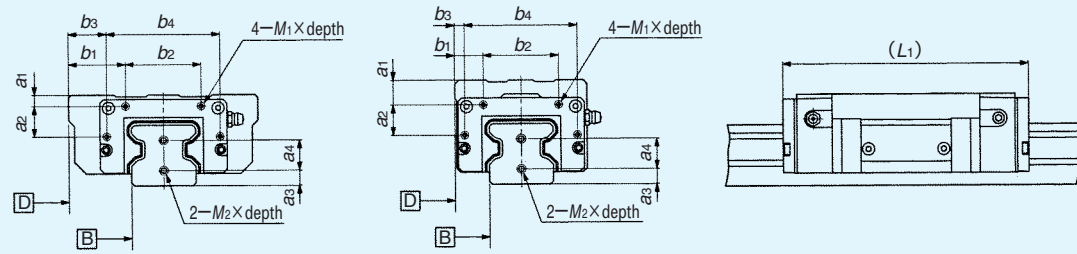
<sup>(3)</sup> : The values for a slide unit with female threads for bellows at both ends are shown.

Remark : For the size 15 and 20 models of flange type and compact block type, the dimension "a<sub>5</sub>" is higher than the dimension H of the assembly. For details, consult for further information.

# Load Rating and Life

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

Size 35, 45, 55, 65, 85



unit : mm

Model number	Slide unit								Track rail		
	a <sub>1</sub>	a <sub>2</sub>	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	b <sub>4</sub>	M <sub>1</sub> × depth	L <sub>1</sub> (1)	a <sub>3</sub>	a <sub>4</sub>	M <sub>2</sub> × 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	5	60	M3 × 6	M3 × 6	99	8	16	M4 × 8
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	6	74	M4 × 8	M4 × 8	123	10	19	M5 × 10
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	6	88	M4 × 8	M4 × 8	145	10	24	M5 × 10
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	9	108	M5 × 10	M5 × 10	192	14	28	M6 × 12
LRXD 65								256			
LRXDG 65								320			
LRX 85	15	45	62.5	90	37.5	140	M6 × 10	334	14.5	38	M6 × 12
LRXG 85								406			

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<sup>3</sup> 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<sub>0</sub>

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 downward, upward and lateral directions.

## Static moment rating T<sub>0</sub>, T<sub>x</sub>, T<sub>y</sub>

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.

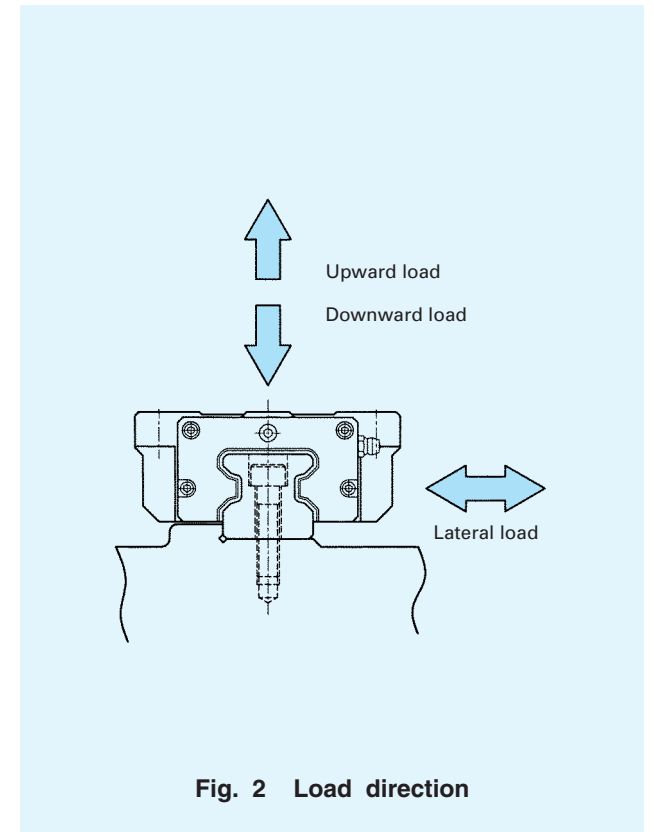


Fig. 2 Load direction

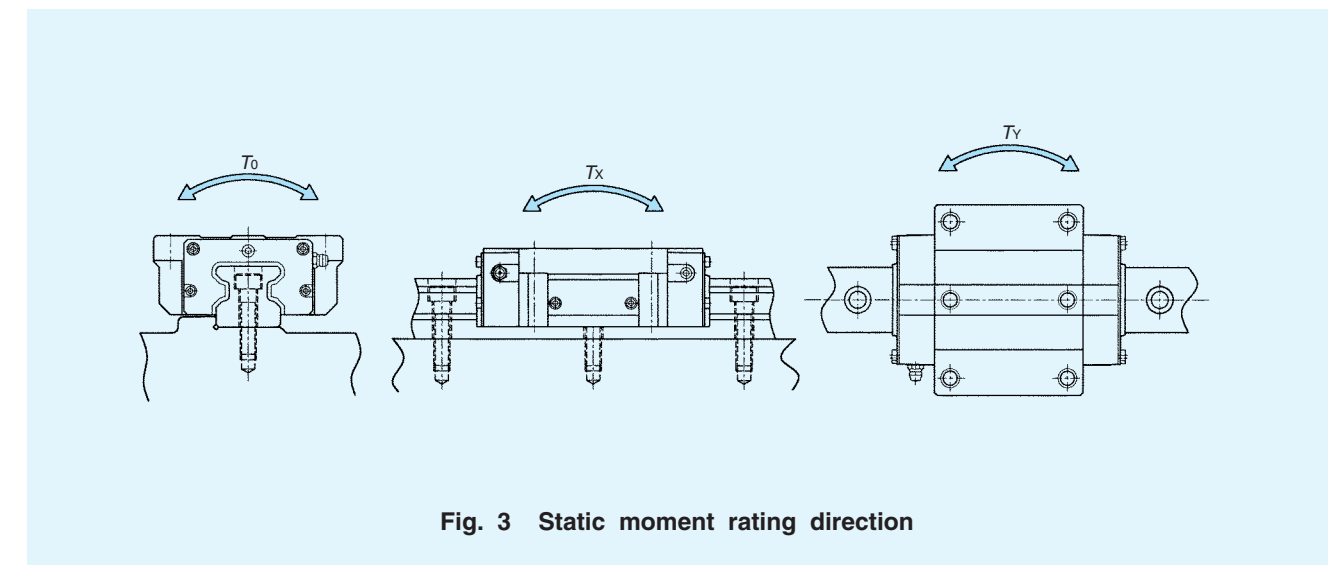


Fig. 3 Static moment rating direction

## Lubrication and Dust Protection

### Life

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

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

where,  $L$  : Rating life,  $10^3m$

$C$  : Basic dynamic load rating, N

$P$  : Dynamic equivalent load (or Applied load), N

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

$$L_h = \frac{10^6 L}{2S n_1 \times 60} \dots \dots \dots (2)$$

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.

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

where,  $f_s$  : Static safety factor

$C_0$  : Basic static load rating, N

$P_0$  : Static equivalent load (or Applied 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.

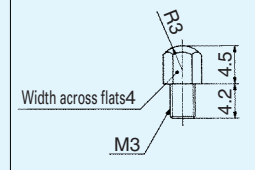
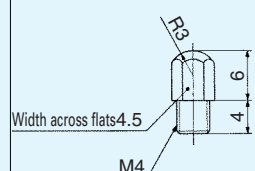
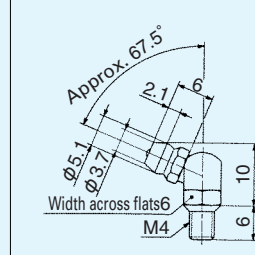
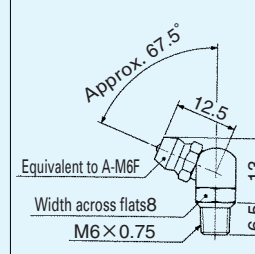
Linear Roller Way Super X is dust-protected with special rubber seals. But, if large amounts of fine contaminants are present, or if large particles of foreign matter such as dust or chips may fall on the track rail, it is recommended to provide protective covers such as bellows or telescopic shields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

## Grease Nipple

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

**Table 12 Grease nipple**

Model number	Grease nipple	
	Type	Shape and dimension
LRX 12	A-M3	
LRX 15	A-M4	
LRX 20 LRX 25	B-M4	
LRX 30	B-M6	
LRX 35		JIS A-M6F
LRX 45 LRX 55 LRX 65 LRX 85		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.

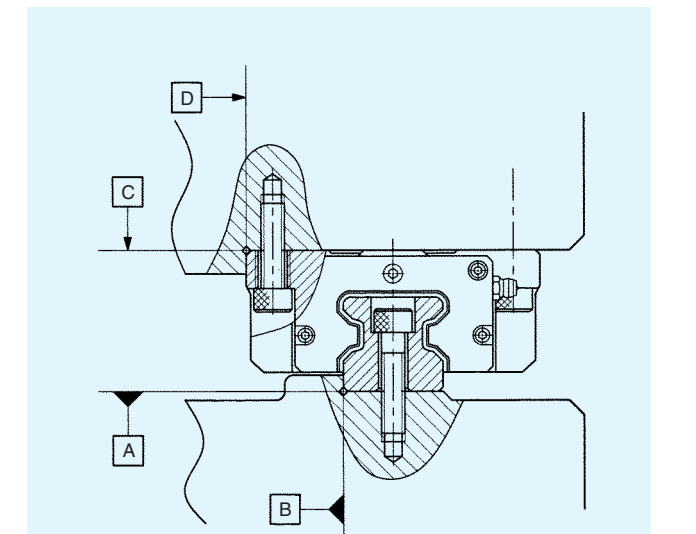
## Precautions for Use

### Mounting surface, reference mounting surface, and general mounting structure

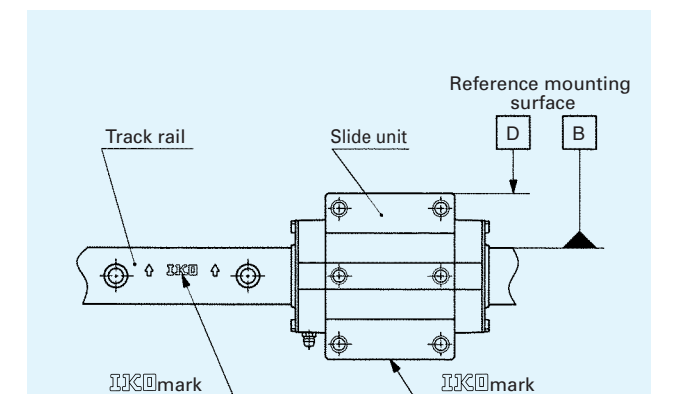
To mount Linear Roller Way Super X, correctly fit the reference mounting surfaces B and D of Linear Roller Way Super X to the reference mounting surfaces of the table and the bed, and then fix them tightly. (See Fig. 4.)

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



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



**Fig. 5 Reference mounting surfaces**

### ②Mounting 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. It is recommended to secure the screwing depths shown in Table 13 for the slide units of compact block type.

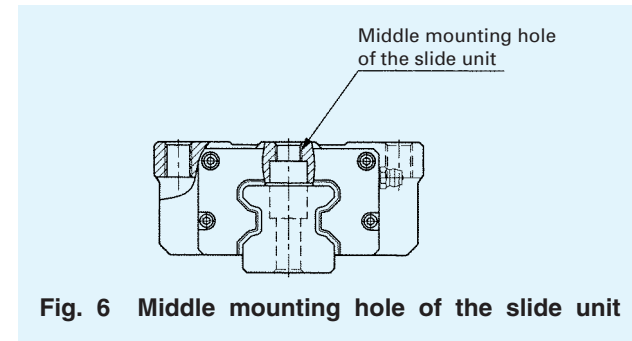


Fig. 6 Middle mounting hole of the slide unit

Table 13 Screwing depth of slide unit mounting holes for compact block type

Model number	Recommended minimum depth mm
LRXS 15	4.5
LRXS 20	5.5
LRXS 25	7
LRXS 30	9

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

### ③Corner 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 14 can also be used. Table 14 shows recommended shoulder heights and corner radius of the mating reference mounting surfaces.

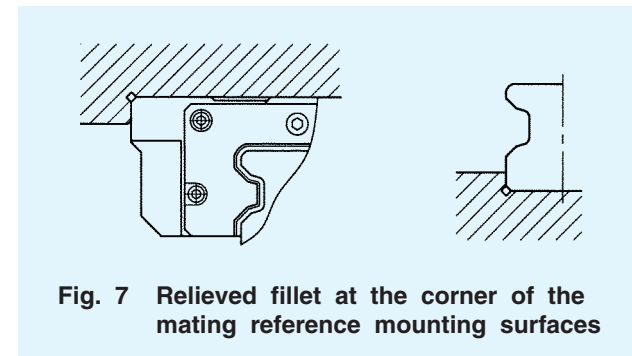


Fig. 7 Relieved fillet at the corner of the mating reference mounting surfaces

Table 14 Shoulder heights and corner radius of the mating reference mounting surfaces

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
LRX 85	14	14	2.5
LRXG 100	14	13	2.5

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

### ④Multiple 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.

### ⑤Operating temperature

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

## Mounting

### ①When 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.

### ②Assembling 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.

### ③Accuracy 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 15.

Table 15 Parallelism between two mounting surfaces

Accuracy class	unit : $\mu\text{m}$			
	High (H)	Precision (P)	Super precision (SP)	Ultra precision (UP)
Parallelism	30	20	10	6

### ④Cleaning 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.

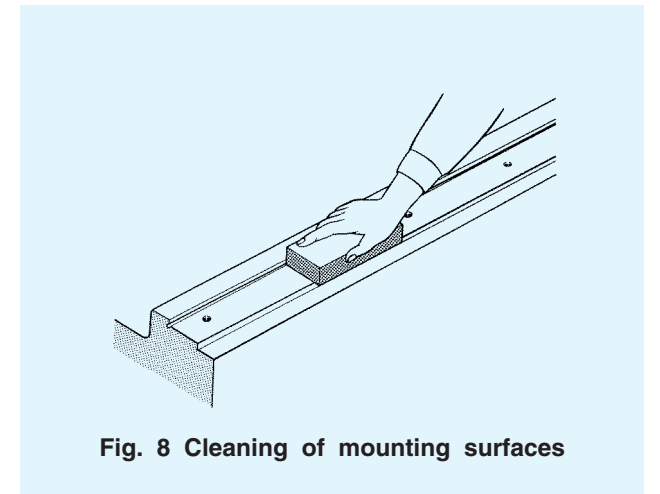


Fig. 8 Cleaning of mounting surfaces

### ⑤Tightening torque of mounting bolts

The standard torque values for Linear Roller Way Super X mounting bolts are shown in Table 16. 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 16 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	20.4
M10×1.5	62.7	—
M12×1.75	108	—
M14×2	172	—
M16×2	263	—
M20×2.5	512	—
M24×3	882	—
M30×3.5	1 750	—

Remark : Tightening torque for slide unit center mounting holes on flange type (LRXC, LRX, LRXG) size 15, 20, 25, 30, and 35, are, recommended to be tightened with a torque 70 to 80% values of table 16.

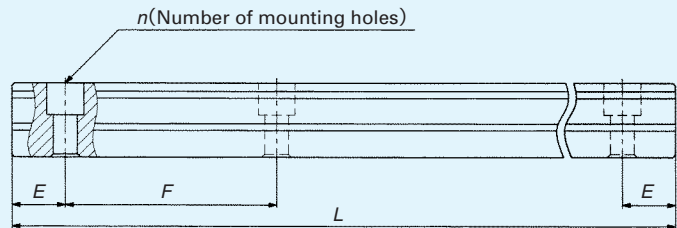
# Track Rail Length

Standard and maximum lengths of track rails of Linear Roller Way Super X are shown in Table 17. 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 17, 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 17.1 Standard and maximum lengths of high carbon steel track rails**




Unit : mm

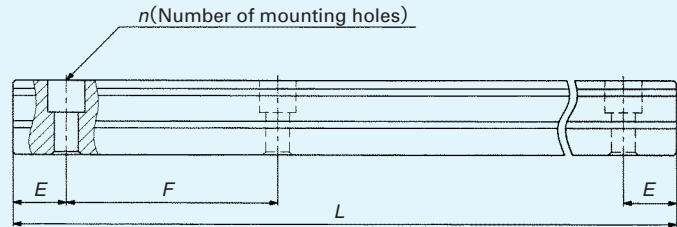
Model number	LRX 12	LRX 15	LRX 20	LRX 25	LRX 30	LRX 35
Standard length $L(n)$	80( 2) 160( 4) 240( 6) 320( 8) 400(10) 480(12) 560(14) 640(16) 720(18)	180( 3) 240( 4) 360( 6) 480( 8) 660(11)	240( 4) 480( 8) 660(11) 840(14) 1 020(17) 1 200(20) 1 500(25)	240( 4) 480( 8) 660(11) 840(14) 1 020(17) 1 200(20) 1 500(25)	480( 6) 640( 8) 800(10) 1 040(13) 1 200(15) 1 520(19)	480( 6) 640( 8) 800(10) 1 040(13) 1 200(15) 1 520(19)
Pitch of mounting holes $F$	40	60	60	60	80	80
$E$	20	30	30	30	40	40
Standard range of $E^{(1)}$	incl. 5.5 under 25.5	incl. 7 under 37	incl. 8 under 38	incl. 9 under 39	incl. 10 under 50	incl. 10 under 50
Maximum length <sup>(2)</sup>	1 480	1 500 (1 980)	1 980 (3 000)	3 000	2 960 (4 000)	2 960 (4 000)

Model number	LRX 45	LRX 55	LRX 65	LRX 85	LRXG 100
Standard length $L(n)$	840( 8) 1 050(10) 1 260(12) 1 470(14) 1 995(19)	840( 7) 1 200(10) 1 560(13) 1 920(16) 3 000(25)	1 500(10) 1 950(13) 3 000(20)	1 620( 9) 1 980(11) 2 340(13) 2 700(15)	1 500(10) 1 950(13) 3 000(20)
Pitch of mounting holes $F$	105	120	150	180	150
$E$	52.5	60	75	90	75
Standard range of $E^{(1)}$	incl. 12.5 under 65	incl. 15 under 75	incl. 17 under 92	incl. 23 under 113	incl. 29 under 104
Maximum length <sup>(2)</sup>	2 940 (3 990)	3 000 (3 960)	3 000 (3 900)	2 880 <sup>(3)</sup>	3 000


Note<sup>(1)</sup> : Not applicable to the track rail with female threads for bellows (Supplemental code /J)  
<sup>(2)</sup> : Track rails with the maximum lengths shown in parentheses can also be manufactured. Consult  for further information.  
<sup>(3)</sup> : LRX85 track rail maximum length of half pitch (supplemental code "/HP") is 2970mm.  
 Remark : The above table shows representative model numbers but is applicable to all high carbon steel track rails of the same size.

**Table 17.2 Standard and maximum lengths of stainless steel track rails**

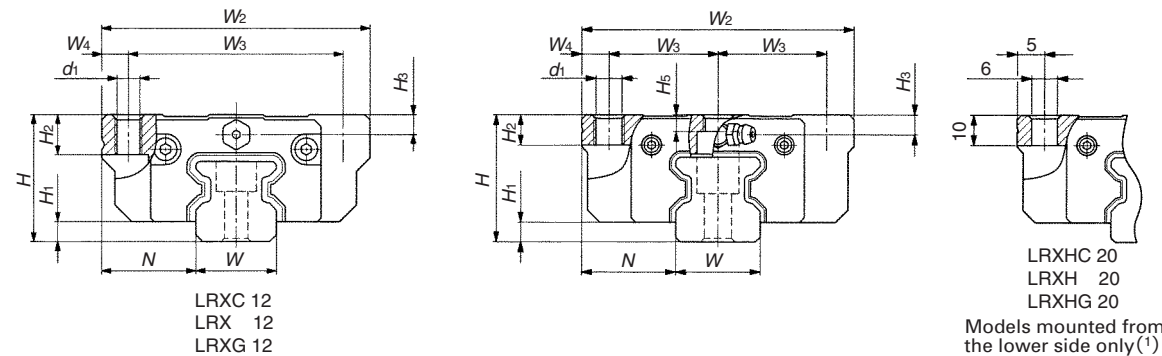


Unit : mm

Model number	LRX 12...SL	LRX 15...SL	LRX 20...SL	LRX 25...SL	LRX 30...SL
Standard length $L(n)$	80( 2) 160( 4) 240( 6) 320( 8) 400(10) 480(12) 560(14) 640(16) 720(18)	180( 3) 240( 4) 360( 6) 480( 8) 660(11)	240( 4) 480( 8) 660(11) 840(14)	240( 4) 480( 8) 660(11) 840(14)	480( 4) 640( 8) 800(10) 1 040(13)
Pitch of mounting holes $F$	40	60	60	60	80
$E$	20	30	30	30	40
Standard range of $E^{(1)}$	incl. 5.5 under 25.5	incl. 7 under 37	incl. 8 under 38	incl. 9 under 39	incl. 10 under 50
Maximum length <sup>(2)</sup>	1 000 (1 480)	1 200 (1 980)	1 200 (1 980)	1 200 (1 980)	1 200 (2 000)

Note<sup>(1)</sup> : Not applicable to the track rail with female threads for bellows (Supplemental code /J)  
<sup>(2)</sup> : Track rails with the maximum lengths shown in parentheses can also be manufactured. Consult  for further information.  
 Remark : The above table shows representative model numbers but is applicable to all stainless steel track rails of the same size.

Flange type mounted from the upper/lower side  
LRXC, LRX, LRXG



Model number	Interchangeable	Mass (Ref.)		Dimensions of assembly mm			Dimensions of slide unit mm												
		Slide unit kg	Track rail kg/m	H	H <sub>1</sub>	N	W <sub>2</sub>	W <sub>3</sub>	W <sub>4</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	d <sub>1</sub>	M <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>5</sub>	
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	—	25.3	50						15
LRXG 12	☆	0.13								58	—	35.8	61						15
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	—	40	71						30
LRXG 15	☆	0.28								84	—	56	87						30
LRXC 20 <sup>(1)</sup>	☆	0.29	2.73	30	5	21.5	63	26.5	5	66	—	31.6	74	— <sup>(1)</sup>	M 6 <sup>(1)</sup>	10	4	3.5	
LRX 20 <sup>(1)</sup>	☆	0.44								86	—	51.6	94						40
LRXG 20 <sup>(1)</sup>	☆	0.61								106	—	71.6	114						40
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	—	60	107						45
LRXG 25	☆	0.84								113	—	75	122						45
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	—	70.4	123						52
LRXG 30	☆	1.58								134	—	91.4	144						52

Note<sup>(1)</sup>: 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.

<sup>(2)</sup>: Track rail lengths L are shown in Table 17.

<sup>(3)</sup>: The directions of basic dynamic load rating (C), basic static load rating (C<sub>0</sub>), and static moment rating (T<sub>0</sub>, T<sub>x</sub>, T<sub>y</sub>) are shown in the sketches below.

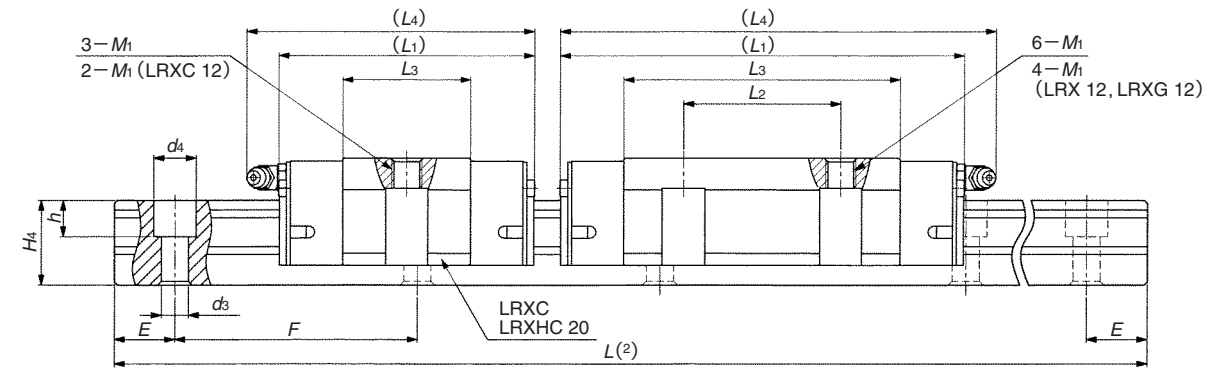
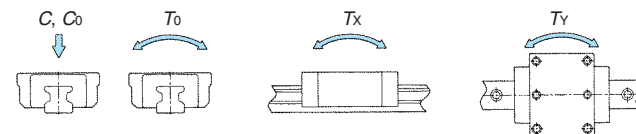
The upper values in the T<sub>x</sub> and T<sub>y</sub> columns apply to one slide unit, and the lower values apply to two slide units in close contact.

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.

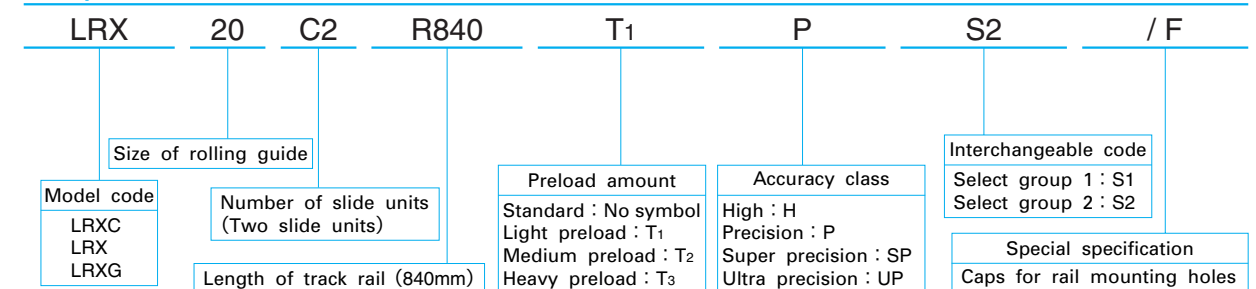
3: For grease nipple specifications, see Table 12.

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



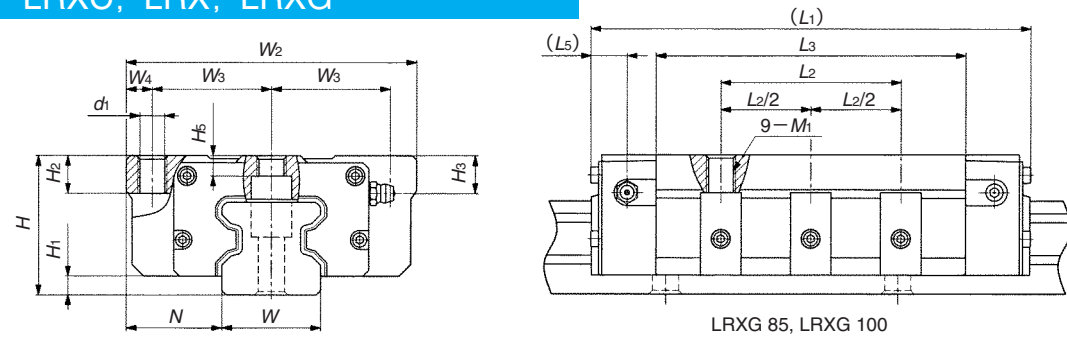
Dimensions of track rail mm							Mounting bolt for track rail mm Bolt size×length	Basic dynamic load rating <sup>(3)</sup> C N	Basic static load rating <sup>(3)</sup> C <sub>0</sub> N	Static moment rating <sup>(3)</sup>			Model number
W	H <sub>4</sub>	d <sub>3</sub>	d <sub>4</sub>	h	E	F				T <sub>0</sub> N-m	T <sub>x</sub> N-m	T <sub>y</sub> N-m	
12	12	3.5	6	4.5	20	40	M3×12	3 900	6 090	46.3	16.3	16.3	LRXC 12
											170	170	
											45.2	45.2	
15	16.5	4.5	8	6	30	60	M4×16	7 730	12 000	113	88.6	88.6	LRXG 12
											581	581	
											50.6	50.6	
20	21	6	9.5	8.5	30	60	M5×20	11 500	20 000	188	136	136	LRX 15
											942	942	
											262	262	
23	24.5	7	11	9	30	60	M6×25	14 900	28 000	263	262	262	LRXG 15
											1 590	1 590	
											150	150	
28	28	9	14	12	40	80	M8×28	16 100	26 400	341	150	150	LRXC 20 <sup>(1)</sup>
											1 260	1 260	
											379	379	
23	24.5	7	11	9	30	60	M6×25	23 400	42 700	550	713	713	LRXG 20 <sup>(1)</sup>
											4 200	4 200	
											213	213	
28	28	9	14	12	40	80	M8×28	21 600	33 800	500	213	213	LRXC 25
											1 810	1 810	
											573	573	
28	28	9	14	12	40	80	M8×28	32 100	56 300	833	885	885	LRXG 25
											5 380	5 380	
											329	329	
28	28	9	14	12	40	80	M8×28	29 200	44 600	808	2 740	2 740	LRXC 30
											883	883	
											1 470	1 470	
28	28	9	14	12	40	80	M8×28	43 400	74 400	1 350	8 740	8 740	LRXG 30
											1 470	1 470	

Example of identification number of assembled set



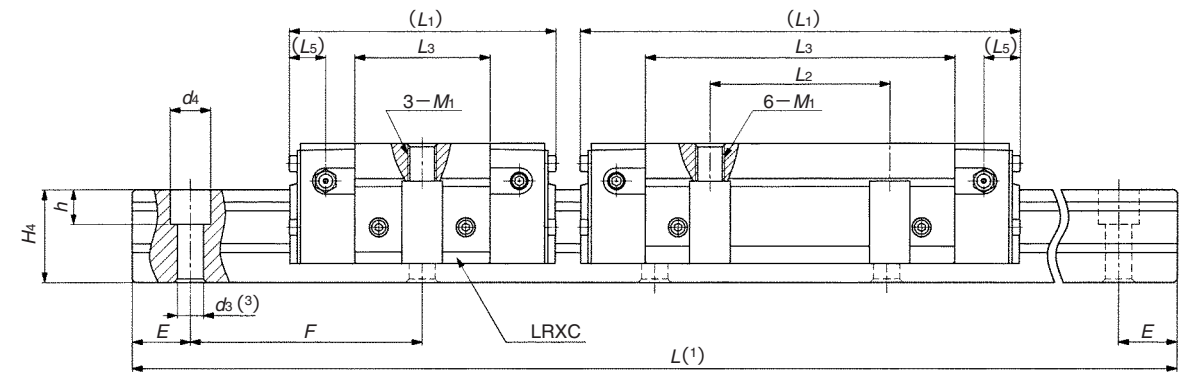
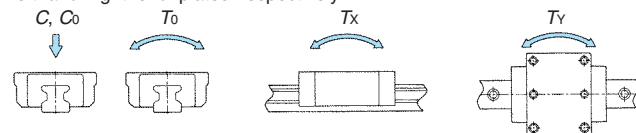


Flange type mounted from the upper/lower side  
LRXC, LRX, LRXG



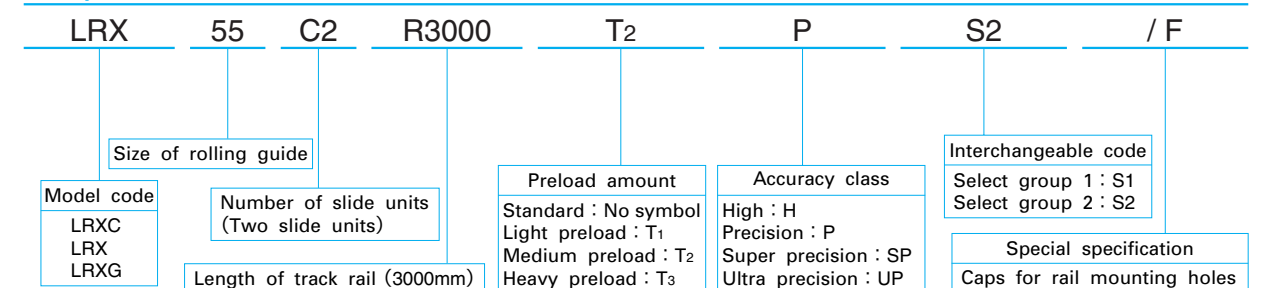
Model number	Interchangeable	Mass (Ref.) Slide unit kg Track rail kg/m	Dimensions of assembly mm			Dimensions of slide unit mm													
			H	H <sub>1</sub>	N	W <sub>2</sub>	W <sub>3</sub>	W <sub>4</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>5</sub>	d <sub>1</sub>	M <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>5</sub>	H <sub>6</sub>	
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							
LRX 85		25.4	36.7	110	16	65	215	92.5	15	323	140	232	27.5	17.8	M20	35	22	25.5	20
LRXG 85		32.7								395	200	304							
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<sup>(1)</sup> : Track rail lengths L are shown in Table 17.  
<sup>(2)</sup> : The directions of basic dynamic load rating (C), basic static load rating (C<sub>0</sub>), and static moment rating (T<sub>0</sub>, T<sub>x</sub>, T<sub>y</sub>) are shown in the sketches below.  
 The upper values in the T<sub>x</sub> and T<sub>y</sub> columns apply to one slide unit, and the lower values apply to two slide units in close contact.  
<sup>(3)</sup> : The track rail longer (and equal) than 1000mm of LRX85, LRXG85 and LRXG100 have few threaded holes for purpose by specified hanging bolt.  
 More details, consult IKO.  
 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.

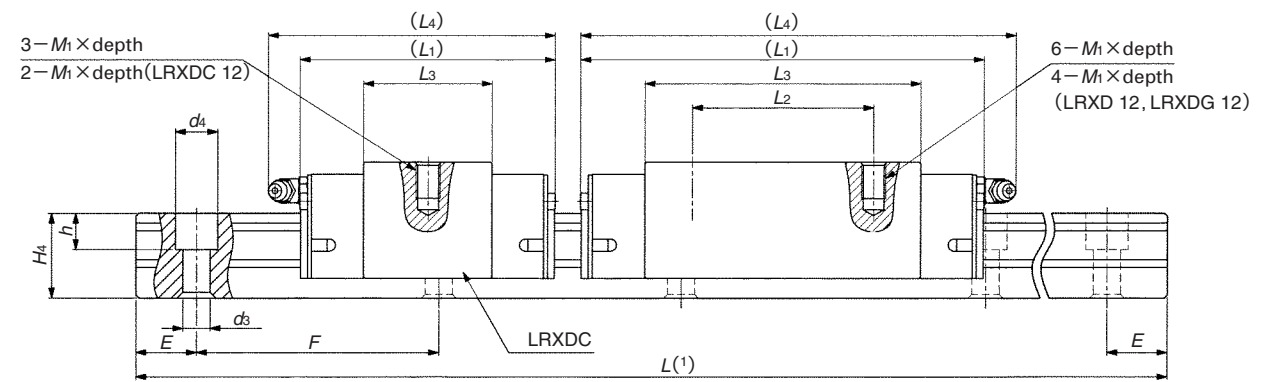
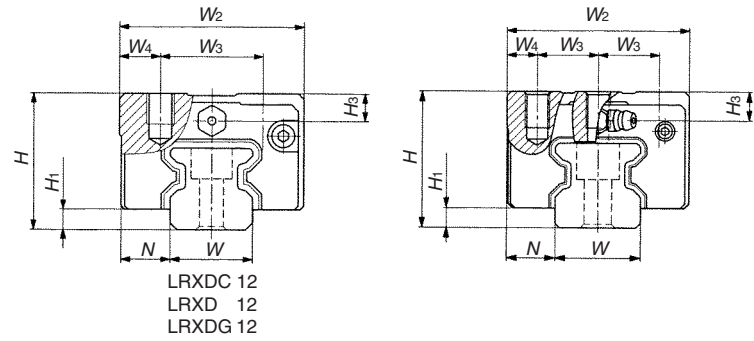


Dimensions of track rail mm							Mounting bolt for track rail mm Bolt size×length	Basic dynamic load rating <sup>(2)</sup> C N	Basic static load rating <sup>(2)</sup> C <sub>0</sub> N	Static moment rating <sup>(2)</sup>			Model number
W	H <sub>4</sub>	d <sub>3</sub>	d <sub>4</sub>	h	E	F				T <sub>0</sub> N-m	T <sub>x</sub> N-m	T <sub>y</sub> N-m	
34	32	9	14	12	40	80	M 8×35	39 500	60 000	1 300	506 3 950	506 3 950	LRXC 35
								58 700	100 000	2 170	1 360 8 470	1 360 8 470	LRX 35
								74 200	135 000	2 930	2 440 13 800	2 440 13 800	LRXG 35
45	38	14	20	17	52.5	105	M12×40	64 100	95 600	2 660	1 010 7 800	1 010 7 800	LRXC 45
								95 400	159 000	4 430	2 700 16 800	2 700 16 800	LRX 45
								124 000	223 000	6 200	5 220 29 000	5 220 29 000	LRXG 45
53	43	16	23	20	60	120	M14×45	99 700	149 000	4 830	1 880 14 400	1 880 14 400	LRXC 55
								148 000	248 000	8 040	5 040 31 100	5 040 31 100	LRX 55
								198 000	359 000	11 700	10 400 57 000	10 400 57 000	LRXG 55
63	56	18	26	22	75	150	M16×60	174 000	249 000	9 790	4 200 32 200	4 200 32 200	LRXC 65
								260 000	415 000	16 300	11 300 69 300	11 300 69 300	LRX 65
								337 000	581 000	22 800	21 800 120 000	21 800 120 000	LRXG 65
85	67	26.5	39	30	90	180	M24×70	440 000	753 000	38 900	29 500 163 000	29 500 163 000	LRX 85
								542 000	985 000	50 800	50 000 257 000	50 000 257 000	LRXG 85
100	70	33	48	36	75	150	M30×80	498 000	821 000	49 700	35 800 199 000	35 800 199 000	LRXG 100

Example of identification number of assembled set



Block type mounted from the upper side  
LRXDC, LRXD, LRXDG



Model number	Interchangeable	Mass (Ref.)		Dimensions of assembly mm			Dimensions of slide unit mm									
		Slide unit kg	Track rail kg/m	H	H <sub>1</sub>	N	W <sub>2</sub>	W <sub>3</sub>	W <sub>4</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	M <sub>1</sub> ×depth	H <sub>3</sub>	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	☆									47	15	25.3	50			
LRXD 12	☆									58	—	35.8	61			
LRXD 12...SL	☆									—	—	—	—			
LRXDG 12	☆	0.097	—	—	—	—	—	—	—	52	—	24	55	M4×8	7.5	15
LRXDC 15	☆									68	26	40	71			
LRXDC 15...SL	☆									84	—	56	87			
LRXD 15	☆									—	—	—	—			
LRXD 15...SL	☆	0.26	—	—	—	—	—	—	—	66	—	31.6	74	M5×8	8	20
LRXDC 20	☆									86	36	51.6	94			
LRXDC 20...SL	☆									106	50	71.6	114			
LRXD 20	☆									—	—	—	—			
LRXD 20...SL	☆	0.52	—	—	—	—	—	—	—	74	—	36	83	M6×12	9	23
LRXDC 25	☆									98	35	60	107			
LRXDC 25...SL	☆									113	50	75	122			
LRXD 25	☆									—	—	—	—			
LRXD 25...SL	☆	0.68	—	—	—	—	—	—	—	85	—	42.4	95	M8×12	9.5	28
LRXDC 30	☆									113	40	70.4	123			
LRXDC 30...SL	☆									134	60	91.4	144			
LRXD 30	☆									—	—	—	—			
LRXD 30...SL	☆	1.18	—	—	—	—	—	—	—	—	—	—	—	M8×12	9.5	28
LRXDG 30	☆									—	—	—	—			
LRXDG 30...SL	☆	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Note(1) : Track rail lengths L are shown in Table 17.

(2) : The directions of basic dynamic load rating (C), basic static load rating (C<sub>0</sub>), and static moment rating (T<sub>0</sub>, T<sub>x</sub>, T<sub>y</sub>) are shown in the sketches below.

The upper values in the T<sub>x</sub> and T<sub>y</sub> columns apply to one slide unit, and the lower values apply to two slide units in close contact.

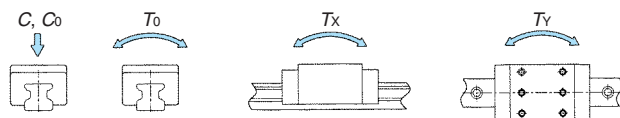
Remark 1 : The mark ☆ indicates that interchangeable specification products are available.

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.

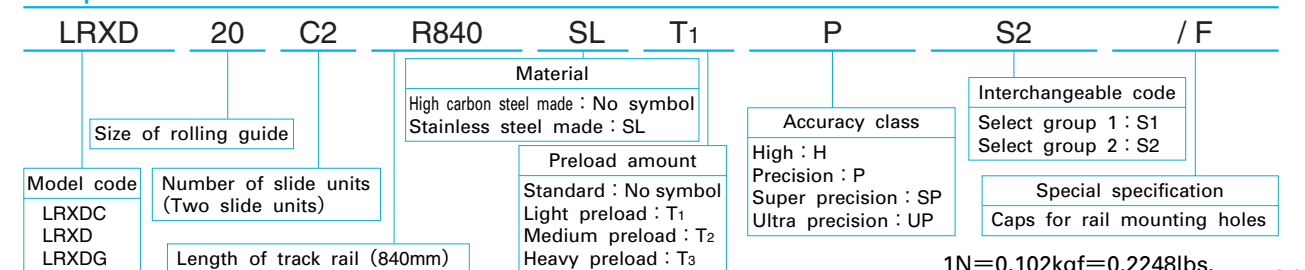
3 : For grease nipple specifications, see Table 12.

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

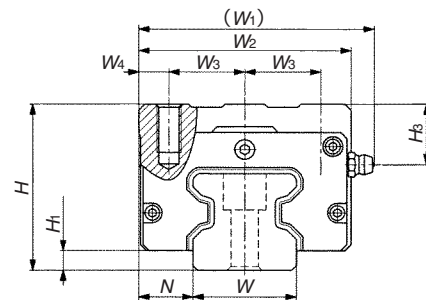


Dimensions of track rail mm						Mounting bolt for track rail mm Bolt size×length	Basic dynamic load rating <sup>(2)</sup> C N	Basic static load rating <sup>(2)</sup> C <sub>0</sub> N	Static moment rating <sup>(2)</sup>			Model number
H <sub>4</sub>	d <sub>3</sub>	d <sub>4</sub>	h	E	F				T <sub>0</sub> N-m	T <sub>x</sub> N-m	T <sub>y</sub> N-m	
12	3.5	6	4.5	20	40	M3×12	3 900	6 090	46.3	16.3	16.3	LRXDC 12
							5 890	10 400	78.7	45.2	45.2	LRXD 12
							7 710	14 600	111	88.6	88.6	LRXD 12...SL
16.5	4.5	8	6	30	60	M4×16	7 730	12 000	113	50.6	50.6	LRXDC 15
							11 500	20 000	188	136	136	LRXD 15
							14 900	28 000	263	262	262	LRXD 15...SL
21	6	9.5	8.5	30	60	M5×20	16 100	26 400	341	150	150	LRXDC 20
							23 400	42 700	550	379	379	LRXD 20
							30 100	58 900	760	713	713	LRXD 20...SL
24.5	7	11	9	30	60	M6×25	21 600	33 800	500	213	213	LRXDC 25
							32 100	56 300	833	573	573	LRXD 25
							38 200	70 300	1 040	885	885	LRXD 25...SL
28	9	14	12	40	80	M8×28	29 200	44 600	808	329	329	LRXDC 30
							43 400	74 400	1 350	883	883	LRXD 30
							53 200	96 700	1 750	1 470	1 470	LRXD 30...SL

Example of identification number of assembled set



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



Model number	Interchangeable	Mass (Ref.)		Dimensions of assembly mm			Dimensions of slide unit mm									
		Slide unit kg	Track rail kg/m	H	H <sub>1</sub>	N	W <sub>1</sub>	W <sub>2</sub>	W <sub>3</sub>	W <sub>4</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>5</sub>	M1×depth	H <sub>3</sub>
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<sup>(1)</sup>: Track rail lengths L are shown in Table 17.

<sup>(2)</sup>: The directions of basic dynamic load rating (C), basic static load rating (C<sub>0</sub>), and static moment rating (T<sub>0</sub>, T<sub>x</sub>, T<sub>y</sub>) are shown in the sketches below.

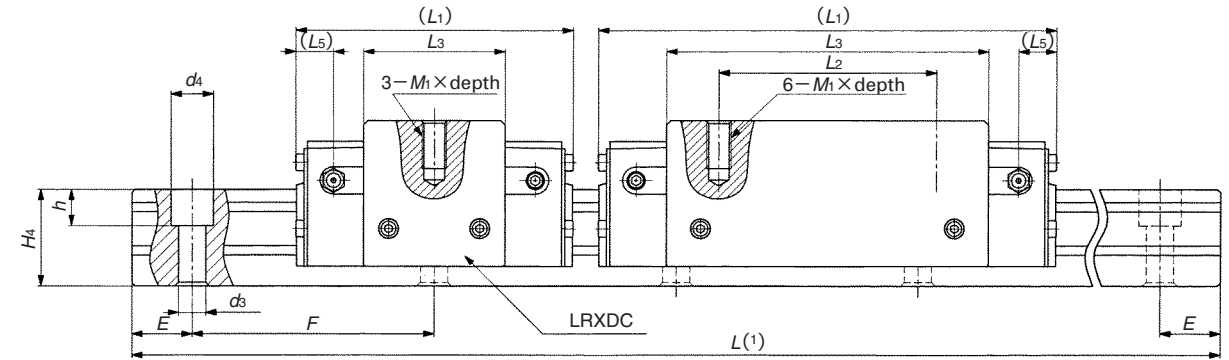
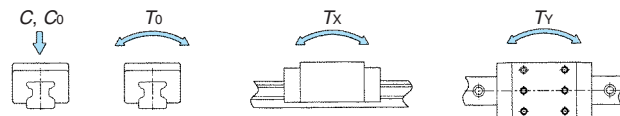
The upper values in the T<sub>x</sub> and T<sub>y</sub> columns apply to one slide unit, and the lower values apply to two slide units in close contact.

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.

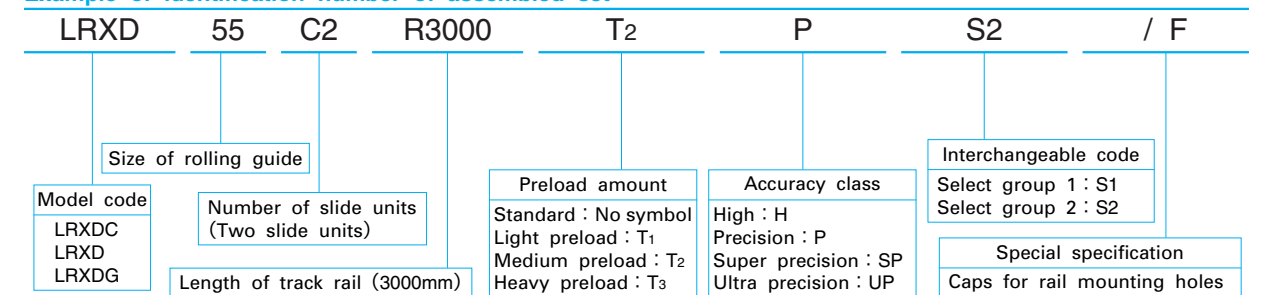
3: For grease nipple specifications, see Table 12.

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

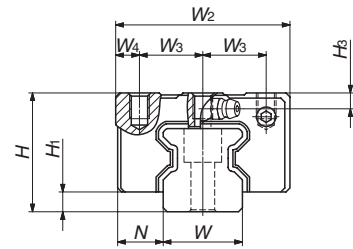


Dimensions of track rail mm								Mounting bolt for track rail mm Bolt size×length	Basic dynamic load rating <sup>(2)</sup> C N	Basic static load rating <sup>(2)</sup> C <sub>0</sub> N	Static moment rating <sup>(2)</sup>			Model number
W	H <sub>4</sub>	d <sub>3</sub>	d <sub>4</sub>	h	E	F	T <sub>0</sub> N-m				T <sub>x</sub> N-m	T <sub>y</sub> N-m		
34	32	9	14	12	40	80	M 8×35	39 500	60 000	1 300	506	506	LRXDC 35	
											3 950	3 950		
											1 360	1 360		
45	38	14	20	17	52.5	105	M12×40	58 700	100 000	2 170	1 360	1 360	LRXD 35	
											8 470	8 470		
											2 440	2 440		
53	43	16	23	20	60	120	M14×45	74 200	135 000	2 930	2 440	2 440	LRXDG 35	
											13 800	13 800		
											1 010	1 010		
63	56	18	26	22	75	150	M16×60	64 100	95 600	2 660	7 800	7 800	LRXDC 45	
											2 700	2 700		
											16 800	16 800		
63	56	18	26	22	75	150	M16×60	95 400	159 000	4 430	5 220	5 220	LRXD 45	
											29 000	29 000		
											1 880	1 880		
63	56	18	26	22	75	150	M16×60	99 700	149 000	4 830	14 400	14 400	LRXDC 55	
											5 040	5 040		
											31 100	31 100		
63	56	18	26	22	75	150	M16×60	148 000	248 000	8 040	10 400	10 400	LRXD 55	
											57 000	57 000		
											4 200	4 200		
63	56	18	26	22	75	150	M16×60	174 000	249 000	9 790	32 200	32 200	LRXDC 65	
											11 300	11 300		
											69 300	69 300		
63	56	18	26	22	75	150	M16×60	260 000	415 000	16 300	21 800	21 800	LRXD 65	
											120 000	120 000		

Example of identification number of assembled set

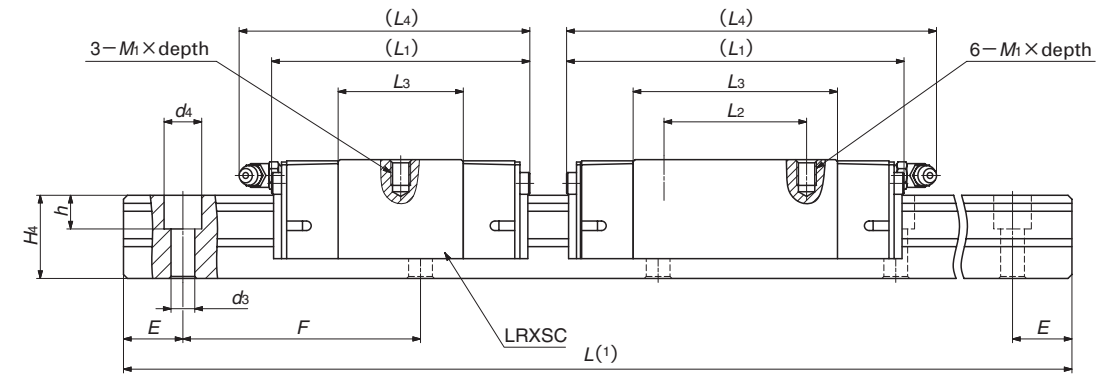
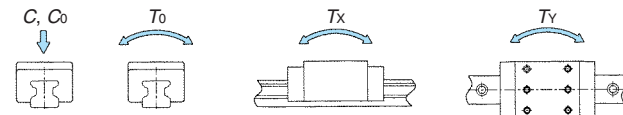


Compact block type mounted from the upper side  
LRXSC, LRXS, LRXSG



Model number	Interchangeable	Mass (Ref.)		Dimension of assembly mm			Dimension of slide unit mm									
		Slide unit kg	Track rail kg/m	H	H <sub>1</sub>	N	W <sub>2</sub>	W <sub>3</sub>	W <sub>4</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	M <sub>1</sub> ×depth <sup>(2)</sup>	H <sub>3</sub>	W
LRXSC 15	☆	0.099	1.65	24	4	9.5	34	13	4	52	—	24	55	M4×5.5	3.5	15
LRXS 15	☆	0.15								68	26	40	71			
LRXSG 15	☆	0.21								84	56	87				
LRXSC 20	☆	0.21	2.73	30	5	12	44	16	6	66	—	31.6	74	M5×6.5	4	20
LRXS 20	☆	0.31								86	36	51.6	94			
LRXSG 20	☆	0.42								106	50	71.6	114			
LRXSC 25	☆	0.30	3.59	36	6	12.5	48	17.5	6.5	74	—	36	83	M6×9	5	23
LRXS 25	☆	0.47								98	35	60	107			
LRXSG 25	☆	0.57								113	50	75	122			
LRXSC 30	☆	0.54	5.01	42	6.5	16	60	20	10	85	—	42.4	95	M8×11	6.5	28
LRXS 30	☆	0.83								113	40	70.4	123			
LRXSG 30	☆	1.05								134	60	91.4	144			

Note<sup>(1)</sup>: Track rail lengths L are shown in Table 17.  
<sup>(2)</sup>: Recommended screwing depths are shown in Table 13.  
<sup>(3)</sup>: The directions of basic dynamic load rating (C), basic static load rating (C<sub>0</sub>), and static moment rating (T<sub>0</sub>, T<sub>x</sub>, T<sub>y</sub>) are shown in the sketches below.  
 Remark 1: The mark ☆ indicates that interchangeable specification products are available.  
 2: 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 Bolt size×length	Basic dynamic load rating <sup>(3)</sup> C N	Basic static load rating <sup>(3)</sup> C <sub>0</sub> N	Static moment rating <sup>(3)</sup>			Model number
H <sub>4</sub>	d <sub>3</sub>	d <sub>4</sub>	h	E	F				T <sub>0</sub> N-m	T <sub>x</sub> N-m	T <sub>y</sub> N-m	
16.5	4.5	8	6	30	60	M4×16	7 730	12 000	113	50.6 457	50.6 457	LRXSC 15
							11 500	20 000	188	136 942	136 942	LRXS 15
							14 900	28 000	263	262 1 590	262 1 590	LRXSG 15
21	6	9.5	8.5	30	60	M5×20	16 100	26 400	341	150 1 260	150 1 260	LRXSC 20
							23 400	42 700	550	379 2 520	379 2 520	LRXS 20
							30 100	58 900	760	713 4 200	713 4 200	LRXSG 20
24.5	7	11	9	30	60	M6×25	21 600	33 800	500	213 1 810	213 1 810	LRXSC 25
							32 100	56 300	833	573 3 800	573 3 800	LRXS 25
							38 200	70 300	1 040	885 5 380	885 5 380	LRXSG 25
28	9	14	12	40	80	M8×28	29 200	44 600	808	329 2 740	329 2 740	LRXSC 30
							43 400	74 400	1 350	883 5 780	883 5 780	LRXS 30
							53 200	96 700	1 750	1 470 8 740	1 470 8 740	LRXSG 30

Example of identification number of assembled set

