IKO

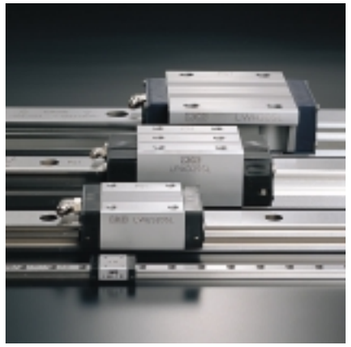
U.S. PATENTED

Stainless Linear Motion Rolling Guide Series

for special environment applications

CAT-57144

Stainless Linear Motion Rolling Guide series



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Wide variations in types and sizes The best specification can be selected for all your needs.

The maximum length is extended up to 3000mm.

IKO Stainless Linear Motion Rolling Guide Series are more resistant to corrosion than high carbon steel products. They are suitable for the applications in moist atmosphere and in the use where oil or grease (including rust preventive oil) should be avoided or limited.

- Clean room
- Semiconductor manufacturing equipment
- Medical equipment
- Food processing machine
- Washing machine

3000mm Max. track rail length

3000mm of maximum length of stainless steel track rail is now available.
A single track rail can be used for the applications involving long strokes, for which butt-jointing track rails have been used.

Note) For detail, refer the tables of "maximum length" in each series.

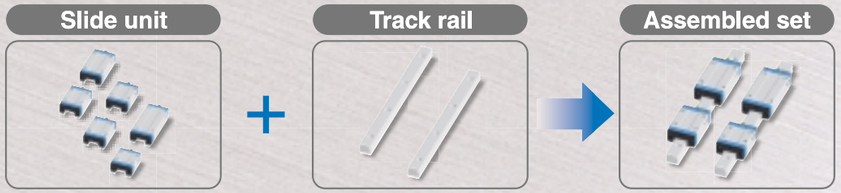
C-Sleeve Linear Way Lubrication-free for resource saving

- 20,000 km or 5 years service with minimum lubricant
- Compact as small as the existing series due to incorporated lubrication component (C-Sleeve)
- Smooth and light movement for energy saving

Interchangeable specification

The dimensional accuracy of slide unit and track rail is individually controlled to achieve perfect interchangeability so that they can be added or replaced freely.
IKO Interchangeable series with high accuracy offers not only stable and accurate linear motion but also high rigidity even under complex and fluctuating load.

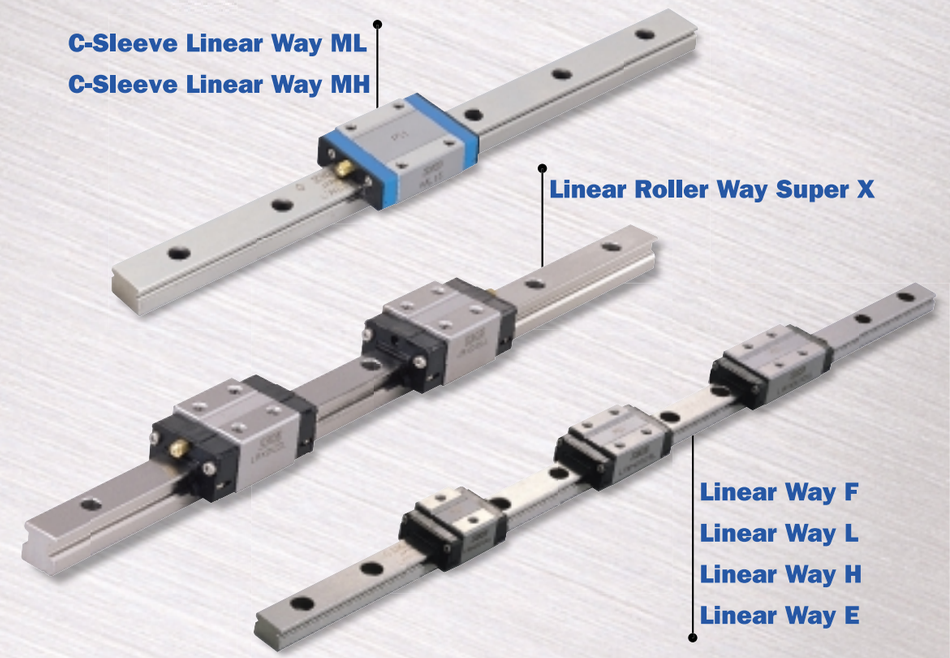
- Alternative product can be delivered promptly and the accuracy of combination is free of care.
- Accuracy and preload are guaranteed in any combination as long as track rails and slide units are within the same accuracy class even for parallel track rail arrangement.
- Handling the combined set is free of care. This reduces labor hours and cost in mounting jobs.



Making it possible in anytime, every time and always.

Wide variations in types and sizes are available.

Linear Way and Linear Roller Way



C-Sleeve Linear Way MUL Linear Way U Linear Way LM

Limited stroke series

- Crossed Roller Way
- High Rigidity Precision Linear Slide Unit
- Precision Linear Slide

Shaft type series

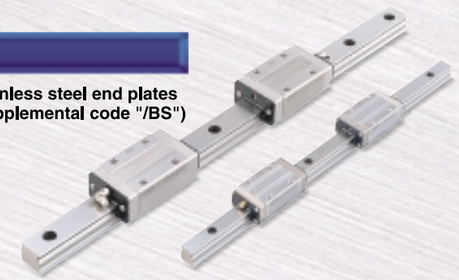
- Linear Ball Spline G
- Block Type Linear Ball Spline
- Linear Bushing
- Miniature Linear Bushing

Many special specifications for special environment are available to Stainless Linear Motion Rolling Guide Series. Needs in various operating environments can be met by combining these special specifications.

Stainless steel end plates

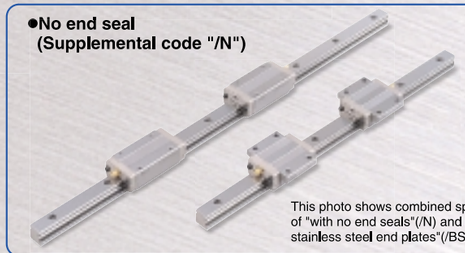
When the standard synthetic resin end plates are replaced with stainless steel end plates (Supplemental code "/BS"), Linear Ways can be used in high vacuum environment. High heat resistance can also be achieved.
Apply this specification in combination with the specification "with no end seals" (supplemental code "/N") or the specification "with seals for special environment" (supplemental code"/RE"). It is recommended to replace the standard grease with vacuum grease or high temperature grease.

●Stainless steel end plates
(Supplemental code "/BS")



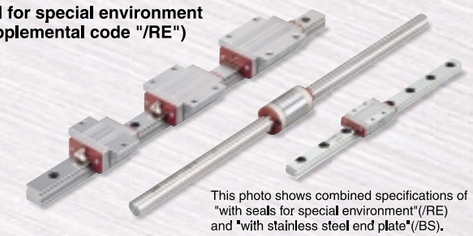
Example of assembly with stainless steel end plates

●No end seal
(Supplemental code "/N")



This photo shows combined specifications of "with no end seals"(/N) and "with stainless steel end plates"(/BS).

●Seal for special environment
(Supplemental code "/RE")



This photo shows combined specifications of "with seals for special environment"(/RE) and "with stainless steel end plate"(/BS).

Clean Environment Grease

CG2 Grease

CG2 grease is a low dust generation grease consists of synthetic base oil and urea type thickener. This grease has superior performances for wide range of temperature, lubrication performance and rust prevention and oxidation stability.

JG80/CG2 in bellow type container (80g)

MG2.5/CG2 in miniature greaser (2.5ml)

Note) MG10/CG2 (10ml miniature greaser) is also available.

CGL Grease

CGL grease has blended soaps as thickener and synthetic oil and petrolatum with low fluid point for base oil. In addition to superior low dust generating feature, it provides minimal level of rolling resistance as well as high lubricating and rust preventing performances.

JG80/CGL in bellow type container (80g)

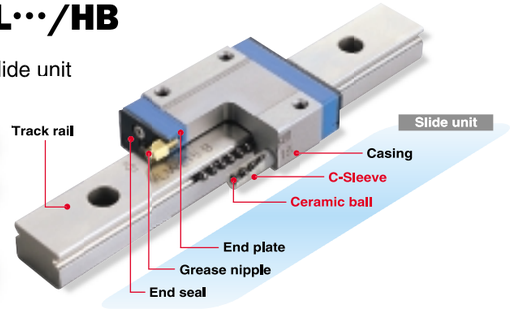
MG2.5/CGL in miniature greaser (2.5ml)

New specification

C-Sleeve Linear Way ML Ceramic Ball Specification ML···/HB

Ceramic (silicon nitride) balls are incorporated in the slide unit instead of steel balls.

High-speed operation | Low noise operation
High rigidity | Superior wearing resistance
+
with Maintenance Free for 20,000 km or 5 years.



C-Sleeve Linear Way ML, MH and MUL

Model code: ML, MLF, MH···SL, MUL

C-Sleeve Linear Way is a linear motion rolling guide having a new type lubrication system C-Sleeve inside. It is a porous resin sleeve formed by sintering fine resin powder and impregnating a large amount of lubrication oil in its open pores. It supplies proper amount of lubrication oil to the balls and it realizes maintenance free for 20,000 km or 5 years reducing troublesome works of re-lubrication.

CAT-57139

●Maximum lengths of track rails

C-Sleeve Linear Way ML Standard type

Model number	Standard maximum length (mm)	Maximum length by request (mm)
ML 5	210	510
ML 7	300	990
ML 9	860	1 200
ML 12	1 000	1 450
ML 15	1 000	1 480
ML 20	960	1 800
ML 25	960	1 800

C-Sleeve Linear Way MH

Model number	Standard maximum length (mm)	Maximum length by request (mm)
MH 8···SL	480	1 000
MH 10···SL	850	1 000
MH 12···SL	1 000	1 480

C-Sleeve Linear Way MLF Wide type

Model number	Standard maximum length (mm)	Maximum length by request (mm)
MLF 10	300	500
MLF 14	300	990
MLF 18	690	1 860
MLF 24	680	1 960
MLF 30	680	2 000
MLF 42	680	2 000

C-Sleeve Linear Way MUL

Model number	Standard maximum length (mm)	Maximum length by request (mm)
MUL 25	420	840
MUL 30	480	960

Stainless Linear Roller Way Super X

Model code: LRXD-SL

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 design to take full advantage of the excellent characteristics of cylindrical rollers.

It has full interchangeability with the existing ball type Linear Way (LWH) in mounting dimensions and can easily replaces IKO LWH in use without any modification.
Short type, standard type and high rigidity long type slide units are lined up with the same crossed section.

CAT-57119

●Maximum lengths of track rail

Model number	Standard maximum length (mm)	Maximum length by request (mm)
LRXD 12···SL	1 000	1 480
LRXD 15···SL	1 200	1 980
LRXD 20···SL	1 200	1 980
LRXD 25···SL	1 200	1 980
LRXD 30···SL	1 200	2 000

IKO Stainless Linear Way L

Model code: LWL···B, LWL···N, LWLF···B, LWLF···N

IKO Stainless Linear Way L is a miniature type linear motion rolling guide, incorporating two rows of steel balls arranged in four points contact with the raceways. Although it is small in size, it provides stable accuracy and rigidity owing to its simple design even in operation under fluctuating loads with changing direction and magnitude or complex loads. The standard products are made from stainless steel, and wide ranges of variations in shapes and sizes are available for selections suitable for each application.
Slide units and track rails are provided by two widths: standard type and wide type. The wide type is suitable for single row rail arrangement. The slide units are classified into three types of length, short, standard and high rigidity long. All of these slide units are equal in sectional dimensions but different in lengths, which can be selected suiting the application requirements. In addition, tapped rail track rail, which can be mounted from the bottom, is also available. They are suite to the compact linear motion systems such as medical equipment, disk reading/writing system and semiconductor manufacturing systems.

CAT-57116

●Maximum lengths of track rail

Standard type

Model number	Standard maximum length (mm)	Maximum length by request (mm)(1)
LWL 1	102	—
LWL 2	104	200
LWL 3	150	300
LWL 5 ···B	210	510
LWL 7 ···B	300	990
LWL 9 ···B	860	1 200
LWL 12 ···B	1 000	1 450
LWL 15 ···B	1 000	1 480
LWL 20 ···B	960	1 800
LWL 25 ···B	960	1 800

Note(1): Not applicable to tapped track rail models LWL-N, LWLF-N.
Only standard maximum length is applicable.

Wide rail type

Model number	Standard maximum length (mm)	Maximum length by request (mm)(1)
LWLF 4	180	300
LWLF 6	240	300
LWLF 10···B	300	500
LWLF 14···B	300	990
LWLF 18···B	690	1 860
LWLF 24···B	680	1 960
LWLF 30···B	680	2 000
LWLF 42···B	680	2 000

Stainless Linear Way E

Model code: LWE···SL

IKO Stainless Linear Way E is a linear motion rolling guide, featuring a compact slide unit which performs endless linear motion along a track rail. Two rows of steel balls are arranged in four points contact with the raceways. This design ensures stable high accuracy and rigidity in operations even under fluctuating load with changing direction and magnitude or complex loads. Slide units are available in three different sectional shapes; two flange types for different mounting sections and one block type with a narrow width. Both short type and high rigidity long type slide units have the same sectional dimensions to the standard slide unit. The series is a compact type suitable for general applications.

CAT-5505

●Maximum lengths of track rail

Model number	Standard maximum length (mm)	Maximum length by request (mm)
LWE 15···SL	1 200	1 600
LWE 20···SL	1 200	1 960
LWE 25···SL	1 200	1 960
LWE 30···SL	1 200	1 960

Stainless Linear Way H

Model code: LWH···SL

IKO Linear Way H incorporates two rows of large diameter steel balls in four points contact with the raceways and provides stable high accuracy and rigidity in operation even under fluctuating load with changing direction and magnitude or complex loads. This series features the largest load ratings and rigidity among ball types. Wide ranges of variations in shapes and sizes are available for selecting a model suitable for each application.
Slide units are available in five different sectional shapes. Also two different lengths of standard and high rigidity long type with the same sectional dimensions are available. The stainless model is most suitable for machines and equipments used in clean environments like medical equipments, disk read devices and semiconductor manufacturing equipments.

CAT-5505

●Maximum lengths of track rail

Model number	Standard maximum length (mm)	Maximum length by request (mm)
LWH 8···SL	480	1 000
LWH 10···SL	850	1 000
LWH 12···SL	1 000	1 480
LWH 15···SL	1 200	3 000

Model number	Standard maximum length (mm)	Maximum length by request (mm)
LWH 20···SL	1 200	3 000
LWH 25···SL	1 200	3 000
LWH 30···SL	1 200	2 960

Stainless Linear Way F

Model code: LWFS···SL

IKO Linear Way F is a linear motion rolling guide, featuring wide track rails along which highly rigid slide units perform endless linear motion. A large number of large diameter steel balls are incorporated in two rows and in four points contact with the raceways. By this design, stable high accuracy and rigidity can be obtained in operation even under fluctuating load with changing direction and magnitude or complex loads. Being a wide rail type, it can support large moment load acting around the axial direction, and it is also suitable for single row track rail arrangement.

●Maximum lengths of track rail

Model number	Standard maximum length (mm)	Maximum length by request (mm)
LWFS 33···SL	1 200	2 000
LWFS 37···SL	1 200	2 000
LWFS 42···SL	1 200	1 980

CAT-5793

Stainless Linear Way U

Model code: LWUL···B

IKO Linear Way U is a linear motion rolling guide featuring a U-shaped cross section track rail. The U-shaped track rail has much higher rigidity compared with a rectangular cross section, especially under moment and torsion. Therefore, in addition to the conventional way of fastening a track rail on a mounting base, it can be used as a structural member of machines and equipments, in a cantilever position or being supported at both ends.

●Maximum lengths of track rail

Model number	Standard maximum length (mm)	Maximum length by request (mm)
LWUL 25···B	420	840
LWUL 30···B	480	960

CAT-57110

Linear Way LM

Model code: LWLM

IKO Miniature Linear Way Module is a compact linear motion rolling guide for endless linear motion consists of a pair track rails and slide members which form a compact unit of linear motion mechanism. Various models are available for selection suitable for each application. Track rail, bearing plate, balls and other steel components are made by stainless steel and is suitable for the applications where the use of oil and grease (including rust preventive oil) should be avoided or limited. This series is suitable for the applications such as medical equipments, disk reading machines, machines and equipments in clean rooms of semiconductor manufacturing process, etc.

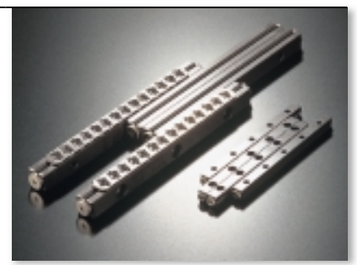
CAT-5505

Stainless Crossed Roller Way

Model code: CRW···SL

IKO Crossed Roller Way is a linear motion rolling guide in which a roller cage is incorporated between two ways with V-shaped raceways. As the cylindrical rollers are placed alternately crossed, Crossed Roller Way can receive loads in any direction and can achieve very smooth linear motion with very high accuracy.
This series is widely used in precision measuring systems and precision working machines that require linear motion with high running accuracy and great reliability.

CAT-5505



Precision Linear Slide Unit

Model code: BWU

IKO High Rigidity Precision Linear Slide Unit BWU is a compact linear motion rolling guide for limited stroke length. The unit incorporates two rows of steel balls in four points contact with raceways so that stable accuracy and high rigidity are obtained even under fluctuating and complex loads. All components are made of stainless steel to give superior corrosion and heat resistance. This series is suitable for medical equipments, semiconductor manufacturing equipments and machines used in vacuum condition.

CAT-57105

Precision Linear Slide

Model code: BSP···SL, BSPG···SL, BSR···SL

IKO Precision Linear Slide is a lightweight and compact linear motion rolling guide, comprising a U-shaped table (or slide unit race) and a bed (or track rail) made from stainless steel sheet by precision forming. The raceway grooves are accurately ground on the table (or slide unit race) and the bed (or track rail). Precision Linear Slide features high performance and durability that is suitable for measuring equipments, disk drives, IC manufacturing and inspection devices, etc.

CAT-5782

Linear Ball Spline G Stainless spline shaft specification

Model code: LSAG···/S

Two lows of steel balls are arranged in four points contact with the raceways of spline shaft and external cylinder. Stable high accuracy and rigidity are ensured in operation even under fluctuating loads with changing direction and magnitude or complex loads. External cylinders are available in two different shapes: the standard type (cylindrical shape) and the flange type. This product matches for the mechanisms that perform smooth linear motion and positioning while transmitting rotating torque. Spline shaft made by stainless steel is available in solid type.

CAT-57117

Stainless Block type Linear Ball Spline

Model code: LSB···SL

IKO Block type Linear Ball Spline is a linear motion rolling guide, featuring a slide unit that performs endless linear motion along a spline shaft. The slide unit is provided with threaded mounting holes for easy mounting. Typical applications are the mechanisms that perform smooth linear motion and positioning while transmitting rotating torque.

CAT-57117

Stainless Linear Bushing

Model code: LM···F, LME···F

IKO Linear Bushing is a precision linear motion rolling guide, which travels along a shaft offering endless linear motion. In the external cylinder, retainer, steel balls, and other components are compactly incorporated. Low frictional resistance and stable linear motion are achieved with accurately guided steel balls by the retainer. For each dimensional series, standard, clearance adjustable and open types are available with and without seals, so the best linear bushing for the application may be selected.

CAT-5505

Stainless Miniature Linear Bushing

Model code: LMS···F

Miniature Linear Bushing is a miniature type linear motion rolling guide which travels along a shaft to achieve endless linear motion. The shaft diameter is 3mm to 5mm. In the external cylinder, a retainer, steel balls and stop rings are compactly incorporated, and offers precise positioning accuracy. In addition to the standard type, the high-rigidity long type is available. They are widely used in electrical equipments, office automation, inspection machines and precision measuring systems.

CAT-5505