IKO
For special environment
Linear Motion Rolling Guide series
Challenging the new frontier of special environment with fresh ideas and long experiences.

CAT-5919D
Linear Motion Rolling Guide series are used in a wide range of fields, including industrial robots, machine tools, and semiconductor-manufacturing equipment. Their operating conditions and environment are becoming increasingly diverse year by year.

IKO has been engaged in the development of products to meet these different needs, drawing on the company’s long experience in the fields, putting in fresh original ideas, and making them available to the customers. These activities have led to the steady expansion of the series for special environment.

This brochure presents Linear Motion Rolling Guide series for special environment that ensure reliable use under the diverse environmental conditions. Please select the IKO Linear Motion Rolling Guide best suited for your particular needs, from among the wide range of products and special specifications.

Fields of application and specifications of Linear Motion Rolling Guide

To meet the requirements in various environmental conditions, Linear Motion Rolling Guide must be modified in material, lubricating grease, surface treatment, dust-protection method, etc. General fields of application in special environment and available specifications of Linear Motion Rolling Guide series are shown below. Please consult IKO for further information.

- **Clean environment**
  - Stainless Linear Way L
  - Stainless Linear Way E
  - Stainless Linear Way H
  - Stainless Linear Way F
  - Stainless Linear Roller Way Super X
  - Black chrome surface treatment
  - Specified grease (IKO CG2 grease)
  - Fluorinated grease

- **Welding spatter protection**
  - With scrapers
  - With caps for rail mounting holes (aluminum made)
  - Fluorinated black chrome surface treatment
  - With stainless steel end plates

- **Rust prevention**
  - Stainless Linear Way L
  - Stainless Linear Way E
  - Stainless Linear Way H
  - Stainless Linear Way F
  - Stainless Linear Roller Way Super X
  - Black chrome surface treatment

- **High temperature**
  - With stainless steel end plates
  - With seals for special environment
  - Specified grease (IKO CG2 grease)
  - High temperature grease

- **Vacuum environment**
  - No end seals
  - With stainless steel end plates
  - Fluorinated grease

- **Dust protection**
  - Linear Way H Ultra Sealed Type
  - With double end seals
  - With scrapers
  - With caps for rail mounting holes
  - With rail cover plate
  - With female threads for bellows
  - Bellows

Special Environment
Linear Motion Rolling Guide series for special environment are available in the standard product series as shown below. For further information, please refer to the catalog of each Linear Motion Rolling Guide series.

**Stainless Linear Way L (Type: LWL-B, LWLF-B)**

In Stainless Linear Way L, stainless steel is used in the slide unit casing, track rail and other steel components. It is highly resistant to corrosion, and best suited for use in semiconductor-manufacturing devices, medical equipment, and other equipment in clean rooms. Two series are available: the standard LWL-B and the wide rail type LWLF-B suited for single row arrangement of track rail.

**Stainless Linear Way E (Type: LWE-SL)**

Stainless Linear Way E is a compact general use linear motion rolling guide, with the slide unit casing, track rail and other steel components made from stainless steel. Highly resistant to corrosion, it is suited for use at places where oil cannot be used or under conditions exposed to water splashes. The series includes three types in slide unit shape, three types in length, and nine types in total. The wide range of variations meets diverse needs.
Stainless Linear Way H (Type: LWH···SL)

Stainless Linear Way H is a linear motion rolling guide with high load capacity and high rigidity. Its slide unit casing, track rail, and other steel components are made from stainless steel. Highly resistant to corrosion, it is suited for use at places where oil cannot be used or under conditions exposed to water splashes. A wide range of special specifications are available, providing the best solution for problems in various special environments.

Stainless Linear Way F (Type: LWFS···SL)

Stainless Linear Way F is a linear motion rolling guide which achieves endless linear motion of a highly rigid slide unit along a wide track rail. It can support a large moment load in the width direction, because the span between the raceways of track rail is wide. Also, it is suitable for single row rail arrangement. Its slide unit casing, balls, track rail, and other steel components are made from stainless steel, so it is highly resistant to corrosion. This product is best suited for applications in clean rooms and clean environments such as semi-conductor manufacturing equipment, electric parts mouter, and medical equipment.
Stainless Linear Roller Way Super X (Type: LRXD···SL)

Stainless Linear Roller Way Super X is a linear motion rolling guide, featuring a smooth motion with high reliability, high rigidity and high precision. Four rows of cylindrical rollers are incorporated in a highly rigid casing in good balance, and the rollers in each row are arranged with their rolling axes parallel to each other (instead of crossed at right angles). Stainless steel is used in the slide unit casing, cylindrical rollers, track rail and other steel components. The product is therefore highly resistant to corrosion and best suited for semiconductor-manufacturing equipment, electronic component mounters, medical instruments and other machines in clean rooms. Three types of slide units are available: short, standard, and high rigidity long, which differ in length with the identical cross sectional shape.

Linear Way H Ultra Sealed Type (Type: LWH···M,LWH···MU)

Linear Way H Ultra Sealed Type is a linear motion rolling guide featuring superior sealing performance. The slide unit is provided with specially shaped end seals and under seals, and travels along the track rail with accurately ground seal faces. The combination of the track rail and the slide unit assures high dust-proof performance preventing intrusion of foreign particles and leakage of lubricant. It is effective in use under dusty conditions, such as processing machines for metal, wood and stone as well as general industrial machines. The track rail of MU specification (LWH···MU) is prepared for fixing the track rail from the bottom side. It has no mounting holes on the top surface of the track rail. Tight contact is achieved between the track rail and the seal, and an even superior sealing performance can be obtained.
Linear Motion Rolling Guide series with the special specifications shown below are optionally available for various special environment applications. When ordering, add any supplemental codes onto the identification number. These optional specifications can be combined to achieve further improvements in performance.

**With double end seals ( /V)***

The double seals at the ends of the slide unit are recommended for more effective dust protection.

**With scrapers ( /Z)***

The scraper is used to remove large particles of dust or foreign matter that deposit on the track rail. (Non contact type)

**With female threads for bellows ( /J)***

The female threads for attaching the bellows are provided at the ends of the slide unit and track rail.

*This is the protection cover against severe environment conditions such as dusty atmosphere.*
With caps for rail mounting holes ( /F)

The caps prevent the dust and other harmful foreign matter from accumulating in the rail mounting holes and intruding into the slide unit.

When aluminum caps are required, please contact IKO.

Rail cover plate ( /PS)

The rail cover plates prevent foreign matter from intruding into the slide unit through the clearances on top of track rail mounting holes and improve the sealing performance.

Black chrome surface treatment ( /LCR)
Fluoric black chrome surface treatment ( /LFCR)

Black chrome surface treatment is a process to form a black permeable film on the slide unit and track rail for corrosion resistance and then apply a protective coating of acrylic resin on top of it. Fluorine black chrome surface treatment is a process to form a black permeable film and then apply a coating of fluorine resin on top of it for further improvement in corrosion resistance. It is also effective in preventing the adhesion of foreign matter on the surface.

Capillary plate ( /Q)

The capillary plate is assembled inside of the end seal in the slide unit. It is impregnated with lubricant so that the re-lubrication interval can be made longer and maintenance time and cost can be saved greatly. Please operate below 80℃.

※ See page 9.

※ See page 8.
With stainless steel end plates ( /BS)

Stainless steel end plates give superior heat resistance. For use at high temperatures, this specification is combined with the specifications of *with seals for special environment* ( /RE) and *Specified grease* ( /YCG).

With seals for special environment ( /RE)

This photo shows a combined specification of *with seals for special environment* ( /RE) and *with stainless steel end plates* ( /BS).

It is an end seal for special environment that can be used at high temperatures. For use at high temperatures, it is combined with the specification *with stainless steel end plates* ( /BS) or *Specified grease* ( /YCG).

Specified grease ( /YCG)

Clean Environment Grease CG2 is pre-packed in the slide unit in place of standard grease. Clean Environment Grease CG2 is a low dust generating grease having superior lubricating and rust-prevention performances than vacuum grease. It can be used over a wide temperature range from -40 to 200˚C.

See page 9.

With no end seals ( /N)

Steel end pressure plates (not in contact with the track rail) are assembled instead of end seals to reduce frictional resistance. This photo shows a combined specification of *with no end seals* ( /N) and *with stainless steel end plates* ( /BS).
Capillary plate

Capillary Plate is an attachment part for new type lubrication. It is a porous resin plate formed by sintering fine resin powder and impregnating a large quantity of lubrication oil in its open pores.

Fixed position type with high accuracy dimension control

Dimensions of Capillary Plate are accurately controlled, and it can be fixed with high precision at the correct position. Uniform contact between the capillary plate and the raceways of track rail can thus be achieved.

Capillary action gives stable lubrication for long periods of time

When the slide unit is stroked, lubrication oil impregnated in Capillary Plate is continuously fed to the raceways in proper amount by capillary action, and can keep stable lubrication for long periods of time.

Durability test results of Linear Way and Linear Roller Way with Capillary Plates

<table>
<thead>
<tr>
<th>Test condition</th>
<th>LWHS 25··B</th>
<th>LWHS 25··B</th>
<th>LRX 25</th>
<th>LWL 9··B</th>
<th>Total traveling distance (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Capillary Plate</td>
<td>No grease prepacked</td>
<td>No load</td>
<td>Failed at 86km (Very large wear due to insufficient lubrication)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No load</td>
<td>Suspended at 30,000 km</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Capillary Plate</td>
<td>No grease prepacked</td>
<td>No load</td>
<td>Life 1,300km (Flaking occurred.)</td>
<td>Life 22,000km (Flaking occurred.)</td>
<td>Suspended at 20,000 km</td>
</tr>
<tr>
<td>Load is applied.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Life 22,000km (Flaking occurred.)</td>
</tr>
<tr>
<td>(0.2C Load)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Suspended at 2,000km</td>
</tr>
<tr>
<td>(0.4C Load)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Suspended at 1,500km</td>
</tr>
<tr>
<td>(0.18C Load)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Suspended at 1,500km</td>
</tr>
</tbody>
</table>
OPTIONAL SPECIAL SPECIFICATION FOR SPECIAL ENVIRONMENT

BLACK CHROME SURFACE TREATMENT

Features
1. The thickness of coating is very thin.
2. The coating is uniform.
3. The adhesion of coating is strong.
4. The coating has superior anti-rust characteristics.
5. Coating is performed at low temperatures, and therefore the coating is free from strain.
6. The coating does not flake off and does not affect the bearing life adversely. Also, the coating can be used in clean room environment.

Comparison results of rust resistance in the humidity cabinet test

Test condition: Temperature: 50°C Humidity: 95% RH

<table>
<thead>
<tr>
<th>Identification number</th>
<th>Test result</th>
<th>Dusting Characteristics</th>
<th>Durability Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG120/CG2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MG10/CG2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General grease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High vacuum grease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluoric black chrome surface treatment on stainless steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluoric black chrome surface treatment on carbon steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black chrome surface treatment on stainless steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black chrome surface treatment on carbon steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stainless steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon steel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dusting test condition
- Test piece: LWL9
- Prepacked grease amount: 20mg/row of ball circuit
- Stroke speed: 60m/min
- Measuring equipment: Particle counter

Durability test condition
- Test piece: LWHS25
- Prepacked grease amount: 1g/row of ball circuit
- Applied load: 8kN
- Stroke speed: 64m/min

CLEAN ENVIRONMENT GREASE CG2

Features
1. Superior low-dusting performance most suitable for clean room applications
2. Wide allowable temperature range (-40°C to 200°C)
3. Superior oxidation stability
4. High durability
5. Superior rust prevention performance

Dusting Characteristics

Dusting test condition
- Test piece: LWL9
- Prepacked grease amount: 20mg/row of ball circuit
- Stroke speed: 60m/min
- Measuring equipment: Particle counter

Durability

Durability test condition
- Test piece: LWHS25
- Prepacked grease amount: 1g/row of ball circuit
- Applied load: 8kN
- Stroke speed: 64m/min
When placing an order for a Linear Motion Rolling Guide for special environment, please specify the identification number consisting of a model code and any supplemental codes as shown in the examples of identification number indicated below. When several special specifications are required, arrange the supplemental codes in alphabetical order.

**Example of identification number of Linear Way and Linear Roller Way**

```
LWE 25 C2 R640 SL T1 P / LR Q
```

- **Model code**
- **Size**
- **Material**
- **Supplemental code**
  - Black chrome surface treatment
  - With capillary plates

- **Number of slide units**
- **Length of track rail**
- **Preload amount**
- **Accuracy**

**Example of identification number of Ball Spline G**

```
LSAG 10 C2 R200 T1 H /Q S
```

- **Model code**
- **Size**
- **Supplemental code**
  - With capillary plates
  - Stainless steel made spline shaft

- **Number of external cylinders**
- **Overall length of spline shaft**
- **Preload amount**
- **Accuracy**
For ordering

For applicable of Linear Motion Rolling Guide Way for special environment and special specifications for special environment, see Table 1 to 9.

### Table 1 Applicable types and sizes of Stainless Linear Way L Series

<table>
<thead>
<tr>
<th>Shape of slide unit</th>
<th>Length of slide unit</th>
<th>Model code</th>
<th>Size and applicable range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard type LWL</td>
<td>Short</td>
<td>LWLC …B (*)</td>
<td>3 5 7 9 12 15 20 25</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
<td>LWL …B (*)</td>
<td>2 3 5 7 9 12 15 20 25</td>
</tr>
<tr>
<td></td>
<td>High rigidity long</td>
<td>LWLG …B (*)</td>
<td>-- -- 7 9 12 15 20 25</td>
</tr>
<tr>
<td>Wide rail type LWLF</td>
<td>Short</td>
<td>LWLFC …B (*)</td>
<td>6 10 14 18 24 30 42 --</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
<td>LWLF …B (*)</td>
<td>4 6 10 14 18 24 30 42</td>
</tr>
<tr>
<td></td>
<td>High rigidity long</td>
<td>LWLFG …B (*)</td>
<td>-- -- 14 18 24 30 42</td>
</tr>
</tbody>
</table>

Optional special specifications and Supplemental code
- Stainless steel end plates / BS
- Black chrome surface treatment / LR (*)
- No end seals / N
- Capillary plate / Q
- Seals for special environment / RE
- Under seals / U
- Specified grease / YCG

Note (*) : "B" is not attached to the model codes of size 2, 3, 4, 6 models. Remarks: Linear Way L made of high carbon steel is also available in these types and size, Applicable size range of special specifications for special environment, see Table 1 to 9.

### Table 2 Applicable types and sizes of Linear Way E Series

<table>
<thead>
<tr>
<th>Shape of slide unit</th>
<th>Length of slide unit</th>
<th>Model code</th>
<th>Size and applicable range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange type LWE</td>
<td>short</td>
<td>LWEC</td>
<td>15 20 25 30 35 --</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
<td>LWE</td>
<td>15 20 25 30 35 45</td>
</tr>
<tr>
<td></td>
<td>High rigidity long</td>
<td>LWEG</td>
<td>15 20 25 30 --</td>
</tr>
<tr>
<td>Flange type LWET</td>
<td>short</td>
<td>LWETC</td>
<td>15 20 25 30 35 --</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
<td>LWET</td>
<td>15 20 25 30 35 45</td>
</tr>
<tr>
<td></td>
<td>High rigidity long</td>
<td>LWETG</td>
<td>15 20 25 30 --</td>
</tr>
<tr>
<td>Block type LWES</td>
<td>short</td>
<td>LWESC</td>
<td>15 20 25 30 35 --</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
<td>LWES</td>
<td>15 20 25 30 35 45</td>
</tr>
<tr>
<td></td>
<td>High rigidity long</td>
<td>LWESG</td>
<td>15 20 25 30 --</td>
</tr>
</tbody>
</table>

Optional special specifications and Supplemental code
- Stainless steel end plates / BS
- Caps for rail mounting holes / F
- Female threads for bellows / J
- Black chrome surface treatment / LCR (*)
- Fluorocarbon black chrome surface treatment / LFCR (*)
- No end seals / N
- Capillary plate / Q
- Seals for special environment / RE
- Under seals / U
- Double end seals / V
- Specified grease / YCG
- Scrapers / Z

Note (*) : /L(F)C shows the surface treatment for slide units and /L(F)R for track rails. Remarks: Stainless Linear Way E is available in these types and sizes. Applicable size range of special specifications for special environment, see Table 1 to 9.
Table 3  Applicable types and sizes of Linear Way H Series

<table>
<thead>
<tr>
<th>Shape of slide unit</th>
<th>Length of slide unit</th>
<th>Model code</th>
<th>Size and applicable range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange type LWH</td>
<td>Standard</td>
<td>LWH ...B (†)</td>
<td>— — — 15 20 25 30 35 45 55 65</td>
</tr>
<tr>
<td></td>
<td>High rigidity long</td>
<td>LWHG</td>
<td>— — — — 20 25 30 35 45 55 65</td>
</tr>
<tr>
<td>Flange type LWHT</td>
<td>Standard</td>
<td>LWHT ...B (†)</td>
<td>8 10 12 15 20 25 30 35 45 55 65</td>
</tr>
<tr>
<td></td>
<td>High rigidity long</td>
<td>LWHTG</td>
<td>— — — — 20 25 30 35 45 55 65</td>
</tr>
<tr>
<td>Block type LWHD</td>
<td>Standard</td>
<td>LWHD ...B (†)</td>
<td>8 10 12 15 — 25 30 35 45 55 65</td>
</tr>
<tr>
<td></td>
<td>High rigidity long</td>
<td>LWHDG</td>
<td>— — — — 20 25 30 35 45 55 65</td>
</tr>
<tr>
<td>Block type LWHS</td>
<td>Standard</td>
<td>LWHS ...B (†)</td>
<td>— — — 15 20 25 30 — — — —</td>
</tr>
<tr>
<td></td>
<td>High rigidity long</td>
<td>LWHSG</td>
<td>— — — — 20 25 30 — — — —</td>
</tr>
</tbody>
</table>

Optional special specifications and Supplemental code

- Stainless steel end plates / BS
- Caps for rail mounting holes / F
- Female threads for bellows / J
- Black chrome surface treatment / LCR (†)
- Fluoric black chrome surface treatment / LFCR (†)
- No end seals / N
- Rail cover plate / PS
- Capillary plate / Q
- Seals for special environment / RE
- Under seals / U (†)
- Double end seals / V
- Specified grease / YCG
- Scrapers / Z

Note (†) : "B" is not attached to the model codes of size 8, 10, 12 models and stainless steel type models.

Remarks: Stainless Linear Way H is available in these types and sizes.
Size 8 and 10 are available in stainless steel made type only.
Applicable size range of special specifications

Table 4  Applicable types and sizes of Linear Way H Ultra Sealed Type

<table>
<thead>
<tr>
<th>Shape of slide unit</th>
<th>Model code</th>
<th>Size and applicable range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange type</td>
<td>LWH ...M(U)</td>
<td>15 20 25 30 35 45</td>
</tr>
<tr>
<td></td>
<td>LWHT ...M(U)</td>
<td>15 20 25 30 35 45</td>
</tr>
<tr>
<td>Block type</td>
<td>LWHD ...M(U)</td>
<td>15 — 25 30 35 45</td>
</tr>
<tr>
<td></td>
<td>LWHS ...M(U)</td>
<td>15 20 25 30 — —</td>
</tr>
</tbody>
</table>

Optional special specifications and Supplemental code

- Stainless steel end plates / BS
- Caps for rail mounting holes / F (†)
- Female threads for bellows / J
- Black chrome surface treatment / LCR (†)
- Fluoric black chrome surface treatment / LFCR (†)
- Double end seals / V
- Specified grease / YCG
- Scrapers / Z

Note (†) : /L(F)C shows the surface treatment for slide units and /L(F)R for track rails.
(†) : This specification is not applicable to LWH...MU.

Remarks: Applicable size range of special specifications
### Table 5  Applicable types and sizes of Linear Way F Series

<table>
<thead>
<tr>
<th>Shape of slide unit</th>
<th>Model code</th>
<th>Size and applicable range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange type</td>
<td>LWFH</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>LWFF</td>
<td>33 — 40 — 60 — 90</td>
</tr>
<tr>
<td>Block type</td>
<td>LWFS</td>
<td>33 37 — 42 — — —</td>
</tr>
</tbody>
</table>

**Optional special specifications and Supplemental code**
- Caps for rail mounting holes / F
- Female threads for bellows / J
- Black chrome surface treatment / LCR (°)
- Fluor black chrome surface treatment / LFCR (°)
- No end seals / N
- Capillary plate / Q
- Under seals / U
- Double end seals / V
- Specified grease / YCG
- Scrapers / Z

*Note (°): /L(F)/C shows the surface treatment for slide units and /L(F)/R for track rails. Remarks: 

Stainless Linear Way F is available in these types and sizes.

Applicable size range of special specifications

### Table 6  Applicable types and sizes of Linear Way U

<table>
<thead>
<tr>
<th>Model code</th>
<th>Size and applicable range</th>
</tr>
</thead>
<tbody>
<tr>
<td>LWU</td>
<td>40 50 60 86 100 130</td>
</tr>
</tbody>
</table>

**Optional special specifications and Supplemental code**
- Black chrome surface treatment / LCR (°)
- Capillary plate / Q

*Note (°): /L(F)/C shows the surface treatment for slide units and /L(F)/R for track rails. Remarks: 

Applicable size range of special specifications

### Table 7  Applicable types and sizes of Linear Roller Way Super X Series

<table>
<thead>
<tr>
<th>Shape of slide unit</th>
<th>Length of Slide unit</th>
<th>Model code</th>
<th>Size and applicable range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange type</td>
<td>Short</td>
<td>LRXC (°)</td>
<td>12 15 20 25 30 35 45 55 65 —</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
<td>LRX (°)</td>
<td>12 15 20 25 30 35 45 55 65 —</td>
</tr>
<tr>
<td></td>
<td>High rigidity long</td>
<td>LRXG (°)</td>
<td>12 15 20 25 30 35 45 55 65 100</td>
</tr>
<tr>
<td>Block type</td>
<td>Short</td>
<td>LRXDC</td>
<td>12 15 20 25 30 35 45 55 65 —</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
<td>LRXD</td>
<td>12 15 20 25 30 35 45 55 65 —</td>
</tr>
<tr>
<td></td>
<td>High rigidity long</td>
<td>LRXDG</td>
<td>12 15 20 25 30 35 45 55 65 —</td>
</tr>
</tbody>
</table>

**Optional special specifications and Supplemental code**
- Caps for rail mounting holes / F
- Female threads for bellows / J
- Black chrome surface treatment / LCR (°)
- Fluor black chrome surface treatment / LFCR (°)
- No end seals / N
- Rail cover plate / PS
- Capillary plate / Q
- Double end seals / V
- Specified grease / YCG
- Scrapers / Z

*Note (°): LRXG20, LRXG20 and LRXG20 can be mounted from the upper side only. LRXH20, LRXH20 and LRXH2G20 with the same dimensions as those of the above models can be used for mounting from the lower side. Remarks: 

Stainless Linear Roller Way Super X is available in these types and sizes.

Applicable size range of special specifications

*Note (°): /L(F)/C shows the surface treatment for slide units and /L(F)/R for track rails.
Table 8 Applicable types and sizes of Linear Roller Way X

<table>
<thead>
<tr>
<th>Shape of slide unit</th>
<th>Model code</th>
<th>Size and applicable range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block type</td>
<td>LRWX-<strong>B</strong></td>
<td>25 35 45 55 75</td>
</tr>
<tr>
<td>Flange type</td>
<td>LRWXH</td>
<td>— 35 54 55 75</td>
</tr>
</tbody>
</table>

Optional special specifications and Supplemental code

- Caps for rail mounting holes / F
- Female threads for bellows / J
- Black chrome surface treatment / LCR (*)
- Fluoric black chrome surface treatment / LFCR (*)
- Capillary plate / Q
- Specified grease / YCG
- Scrapers / Z

Note (\*): /L(F)C shows the surface treatment for slide units and /L(F)R for track rails.

Table 9 Applicable types and sizes of Ball Spline G

<table>
<thead>
<tr>
<th>Shape of external cylinder</th>
<th>External cylinder length</th>
<th>Model code</th>
<th>Size and applicable range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard type</td>
<td>Standard</td>
<td>LSAG</td>
<td>2 3 4 5 6 8 10 12 15 20 25 30 40 50*</td>
</tr>
<tr>
<td>High rigidity long</td>
<td>LSAGL</td>
<td>— — 5 6 8 10 12 15 20 25 30 — —</td>
<td></td>
</tr>
<tr>
<td>Flange type</td>
<td>Standard</td>
<td>LSAGF</td>
<td>2 3 4 5 6 8 10 12 15 20 25 30 40 — —</td>
</tr>
<tr>
<td>High rigidity long</td>
<td>LSAGFL</td>
<td>— — 5 6 8 10 12 15 20 25 30 — —</td>
<td></td>
</tr>
</tbody>
</table>

Optional special specifications and Supplemental code

- Stainless steel end plates / BS
- No end seals / N
- Capillary plate / Q
- Seals for special environment / RE
- Stainless steel made spline shaft / S (*)

Note (\*): Not applicable for hollow shaft models.

Remarks: Hollow shaft models are available in these types and sizes. Applicable size range of special specifications.

Consult IKO for further information.

Interchangeable specification products for special environment

IKO Linear Rolling Guide series includes interchangeable specification products, of which slide units (external cylinders) and track rails (spline shafts) can be handled separately and combined freely. Interchangeable specification products with special environment specifications are also available. Consult IKO, if these products are required.
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