

LRX series linear roller slides are highly reliable, highly accurate, are extremely rigid and are noted for their smooth movement. The four rows of rollers are contained in an extremely rigid body with the rollers arranged in such a way as to guarantee the parallelism of their axes. With elastic deformation and tendency to bend under high or variable loads being extremely low, this range is particularly adapted to applications involving shocks and/or vibrations, such as high speed machine tools and industrial robots for which a high rigidity and precision are required.

The dimensional accuracy of the slides and rails is individually checked during manufacture so that they can be replaced them easily during their lifetime. Rails can be placed end-to-end to create the required stroke-length. Different sizes of slide; short, standard and long (with higher rigidity) are available to suit all applications.

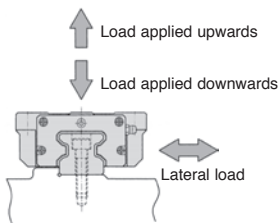


Figure 2 Load directions

### Load capacity and life expectancy

#### Basic dynamic load

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

### Basic static load capacity

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

### Static moment

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

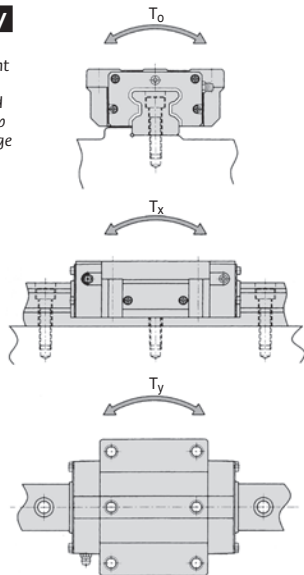
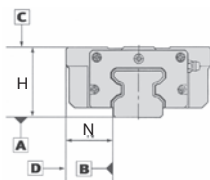


Figure 3: Static moment

### Accuracy

Accuracy of a slide and rail assembly		Rail High accuracy (H)
Slide	High Accuracy (H) Accuracy (P)	High accuracy -
Tolerance sur H		$\pm 0,040$
Tolérance sur N <sup>(3)</sup>		$\pm 0,050$
For 1 batch :		
Variation on H <sup>(1)</sup>		0,015
Variation on H <sup>(2)(3)</sup>		0,020
Variation on H formultiple assemblies <sup>(4)</sup>		0,035
Working parallelism between <b>C</b> and <b>A</b>		Fig. 1.
Working parallelism between <b>D</b> and <b>B</b>		Fig. 1.



**Note (1):** This is the difference in the dimension H between two slides mounted on the same track or on a pair of tracks when H is measured at a specified position

**Note (2):** This is the difference in the dimension N between two slides mounted on the same track or on a pair of tracks when N is measured at a specified position

**Note (3):** These values also apply when the reference surfaces are assembled opposite each other.

**Note (4):** The difference in the dimension H for multiple assemblies represents the dimensional variation between the slides of an arbitrary number of assemblies having the same accuracy class.

**Note:** All of the above are applicable only when the dimensions are measured at the centre of the slide mounted on a rail attached to a flat base.

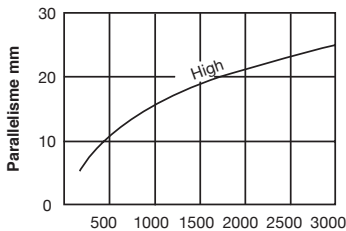


Fig.1 Working parallelism

**Life expectancy**

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

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

where:

**L** : Life expectancy in kilometres (or  $10^3$  m)      **P** : Applied load (N)  
**C** : Basic Dynamic load capacity (N)

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

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

where:

**fw** : load factor (see table 1)      **Fc** : calculated theoretical load, N

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

$$Lh = \frac{10^6 L}{2Sn_1 \times 60} \text{ (3)}$$

where:

**Lh** : Life expectancy in hours (h)      **S** : Stroke length (mm)  
**n1** : Number of strokes per minute (spm)

**Table 1 Load factor:**

Operating conditions	fw
Smooth working without vibrations and/or shocks	1,0 ~ 1,2
Normal working	1,2 ~ 1,5
Working with vibrations and/or shocks	1,5 ~ 3,0

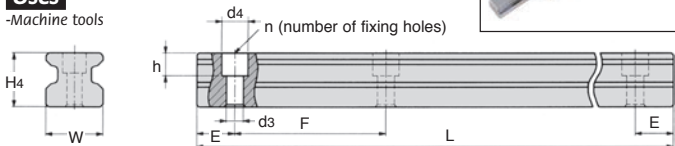
## LRX **IKO** Dynamic loads from 9410 N to 43500 N

- Linear slide for heavy loads and subject to vibrations or shocks
- Linear slide with cylindrical rollers
- Material : steel
- Rails and slides have separate part numbers, remember to order both



### Uses

- Machine tools

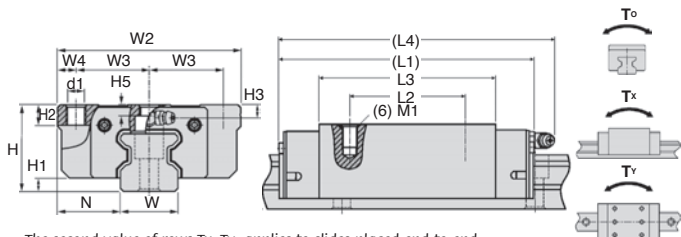


### DISCOUNTS

Qty	1+	5+	10+
Disc.	List	-6%	On request

Part number	L	No. of holes	Max. length	Type of slide	Price each 1 to 4
LRX15-180	180	3	1500	-	42,58 €
LRX15-240	240	4	1500	-	56,83 €
LRX15-360	360	6	1500	-	85,26 €
LRX15-480	480	8	1500	-	113,75 €
LRX15-660	660	11	1500	-	156,39 €
LRX15-1500	1500	25	1500	-	355,62 €
LRX15-C	-	Slide	-	Standard	261,04 €
LRX15G-C	-	Slide	-	Long	295,07 €
LRX20-240	240	4	1980	-	63,69 €
LRX20-480	480	8	1980	-	127,45 €
LRX20-660	660	11	1980	-	175,29 €
LRX20-840	840	14	1980	-	223,09 €
LRX20-1020	1020	17	1980	-	270,91 €
LRX20-1200	1200	20	1980	-	318,73 €
LRX20-1500	1500	25	1980	-	398,43 €
LRX20-1980	1980	33	1980	-	525,96 €
LRX20-C	-	Slide	-	Standard	280,38 €
LRX20G-C	-	Slide	-	Long	314,38 €
LRX25-240	240	4	3000	-	66,47 €
LRX25-480	480	8	3000	-	133,00 €
LRX25-660	660	11	3000	-	182,91 €
LRX25-840	840	14	3000	-	232,80 €
LRX25-1020	1020	17	3000	-	282,73 €
LRX25-1200	1200	20	3000	-	332,65 €
LRX25-1500	1500	25	3000	-	415,82 €
LRX25-3000	3000	50	3000	-	831,71 €
LRX25-C	-	Slide	-	Standard	295,07 €
LRX25G-C	-	Slide	-	Long	324,09 €

\*Depending on availability - Dimensions in mm



- The second value of rows Tx, Ty, applies to slides placed end-to-end
- For models LRX 20-C and LRXG20-C, the slides can only be mounted on top of the rail.

	LRX15-C	LRX15G-C	LRX20-C	LRX20G-C	LRX25-C	LRX25G-C	LRX30-C	LRX30C-C	LRX30G-C
<b>Weight (kg)</b>									
Slide	0,20	0,28	0,44	0,61	0,67	0,84	1,20	0,78	1,58
Rail (par m)	1,65	1,60	2,73	2,73	3,59	3,59	5,01	5,01	5,01
<b>Total dimensions</b>									
H±0,04	24,00	24,00	30,00	30,00	36,00	36,00	42,00	42,00	42,00
H1	4,00	4,00	5,00	5,00	6,00	6,00	6,50	6,50	6,50
N±0,05	16,00	16,00	21,50	21,50	23,50	23,50	31,00	31,00	31,00
<b>Slide dimensions</b>									
W2	47,00	47,00	63,00	63,00	70,00	70,00	90,00	90,00	90,00
W3	19,00	19,00	26,50	26,50	28,50	28,50	36,00	36,00	36,00
W4	4,50	4,50	5,00	5,00	6,50	6,50	9,00	9,00	9,00
L1	68,00	84,00	86,00	106,00	98,00	113,00	113,00	85,00	134,00
L2	30,00	30,00	40,00	40,00	45,00	45,00	52,00	-	52,00
L3	40,00	56,00	51,60	71,60	60,00	75,00	70,40	42,40	91,40
L4	71,00	87,00	94,00	114,00	107,00	122,00	123,00	95,00	144,00
d1	4,40	4,40	-	-	7,00	7,00	8,50	8,50	8,50
M1	M5	M5	M6	M6	M8	M8	M10	M10	M10
H2	7,00	7,00	10,00	10,00	10,00	10,00	10,00	10,00	10,00
H3	3,50	3,50	4,00	4,00	5,00	5,00	6,50	6,50	6,50
H5	3,00	3,00	3,50	3,50	5,00	5,00	5,50	5,50	5,50
<b>Rail dimensions</b>									
W	15,00	15,00	20,00	20,00	23,00	23,00	28,00	28,00	28,00
H4	16,50	16,50	21,00	21,00	24,50	24,50	28,00	28,00	28,00
d3	4,50	4,50	6,00	6,00	7,00	7,00	9,00	9,00	9,00
d4	8,00	8,00	9,50	9,50	11,00	11,00	14,00	14,00	14,00
h	6,00	6,00	8,50	8,50	9,00	9,00	12,00	12,00	12,00
E	30,00	30,00	30,00	30,00	30,00	30,00	40,00	40,00	40,00
F	60,00	60,00	60,00	60,00	60,00	60,00	80,00	80,00	80,00
Rail fixing screw	M4 x 16	M4 x 16	M5 x 20	M5 x 20	M6 x 25	M6 x 25	M8 x 28	M8 x 28	M8 x 28
<b>Dynamic load</b>									
C (N)	9410	12200	19200	24700	26200	31200	35400	23800	43500
<b>Static load</b>									
C <sub>0</sub> (N)	19900	27900	42500	58700	56000	70000	74100	44400	96300
<b>Static moment</b>									
T <sub>0</sub> (Nm)	187	262	548	757	829	1040	1340	804	1740
T <sub>x</sub> (Nm)	135	261	377	710	570	881	880	328	1470
T <sub>y</sub> (Nm)	938	1580	2510	4180	3780	5360	5750	2730	8710

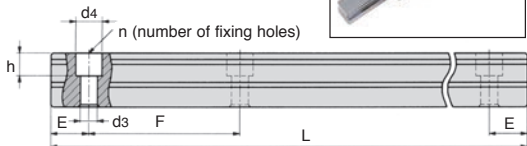
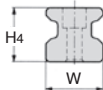
Dimensions in mm

## LRX **IKO** Dynamic loads from 32500 N to 101000 N

- Linear slide for heavy loads and subject to vibrations or shocks
- Linear slide with cylindrical rollers
- Material : steel
- Rails and slides have separate part numbers, remember to order both

### Uses

- Machine tools

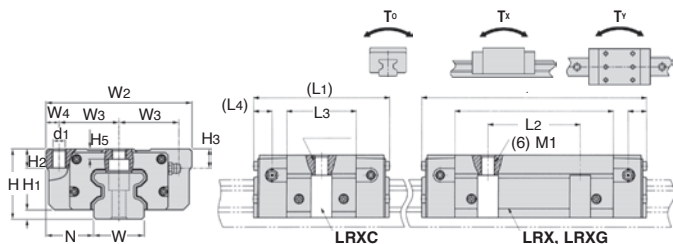


### DISCOUNTS

Qty	1+	5+	10+
Disc.	List	-6%	On request

Part number	L	No. of holes	Max. length	Type of slide	Price each 1 to 4
LRX30-480	480	6	2960	-	161,16 €
LRX30-640	640	8	2960	-	212,65 €
LRX30-800	800	10	2960	-	265,81 €
LRX30-1040	1040	13	2960	-	345,57 €
LRX30-1200	1200	15	2960	-	398,73 €
LRX30-1520	1520	19	2960	-	505,08 €
LRX30-2960	2960	37	2960	-	983,68 €
LRX30-C	-	Slide	-	Standard	338,33 €
LRX30C-C	-	Slide	-	Short	275,78 €
LRX30G-C	-	Slide	-	Long	386,69 €
LRX35-480	480	6	2960	-	199,03 €
LRX35-640	640	8	2960	-	265,41 €
LRX35-800	800	10	2960	-	331,78 €
LRX35-1040	1040	13	2960	-	431,32 €
LRX35-1200	1200	15	2960	-	497,68 €
LRX35-1520	1520	19	2960	-	630,45 €
LRX35-2960	2960	37	2960	-	1 227,75 €
LRX35-C	-	Slide	-	Standard	433,34 €
LRX35C-C	-	Slide	-	Short	277,55 €
LRX35G-C	-	Slide	-	Long	603,18 €
LRX45-840	840	8	2940	-	491,37 €
LRX45-1050	1050	10	2940	-	614,27 €
LRX45-1260	1260	12	2940	-	737,12 €
LRX45-1470	1470	14	2940	-	860,01 €
LRX45-1995	1995	19	2940	-	1 167,20 €
LRX45-2940	2940	28	2940	-	1 720,14 €
LRX45-C	-	Slide	-	Standard	609,47 €
LRX45C-C	-	Slide	-	Short	415,26 €
LRX45G-C	-	Slide	-	Long	821,38 €

\*Depending on availability - Dimensions in mm



- The second value of rows Tx, Ty, applies to slides placed end-to-end.
- For models LRX 20-C and LRXG20-C, the slides can only be mounted on top of the rail.

	LRX35-C	LRX35C-C	LRX35G-C	LRX45-C	LRX45C-C	LRX45G-C
<b>Weight (kg)</b>						
Slide	1,76	1,13	2,41	3,26	2,11	4,60
Rail (by m)	6,88	6,88	6,88	10,80	10,80	10,80
<b>Total dimensions</b>						
H±0,04	48,00	48,00	48,00	60,00	60,00	60,00
H1	6,40	6,40	6,40	8,00	8,00	8,00
N±0,05	33,00	33,00	33,00	37,50	37,50	37,50
<b>Slide dimensions</b>						
W2	100,00	100,00	100,00	120,00	120,00	120,00
W3	41,00	41,00	41,00	50,00	50,00	50,00
W4	9,00	9,00	9,00	10,00	10,00	10,00
L1	124,00	92,00	152,00	154,00	114,00	194,00
L2	62,00	-	62,00	80,00	-	80,00
L3	78,60	46,60	106,60	99,00	59,00	139,00
L5	12,5	12,5	12,5	17,5	17,5	17,5
d1	8,5	8,5	8,5	10,5	10,5	10,5
M1	M10	M10	M10	M12	M12	M12
H2	13,00	13,00	13,00	15,00	15,00	15,00
H3	13,00	13,00	13,00	16,00	16,00	16,00
H5	7,00	7,00	7,00	11,00	11,00	11,00
<b>Rail dimensions</b>						
W	34,00	34,00	34,00	45,00	45,00	45,00
H4	32,00	32,00	32,00	38,00	38,00	38,00
d3	9,00	9,00	9,00	14,00	14,00	14,00
d4	14,00	14,00	14,00	20,00	20,00	20,00
h	12,00	12,00	12,00	17,00	17,00	17,00
E	40,00	40,00	40,00	52,50	52,50	52,50
F	80,00	80,00	80,00	105,00	105,00	105,00
Rail fixing screw	M8 x 35	M8 x 35	M8 x 35	M12 x 40	M12 x 40	M12 x 40
<b>Dynamic load</b>						
C (N)	48200	32500	60900	78200	78200	101000
<b>Static load</b>						
C <sub>o</sub> (N)	99600	59700	134000	159000	159000	222000
<b>Static moment</b>						
T <sub>o</sub> (Nm)	2160	1300	2920	4410	4410	6180
T <sub>x</sub> (Nm)	1350	504	2430	2690	2690	5200
T <sub>y</sub> (Nm)	8430	3940	13700	16700	16700	28800

Dimensions in mm