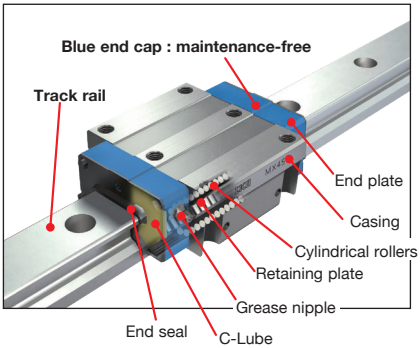
Rail and slide

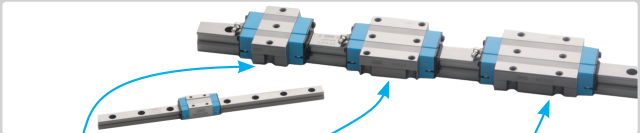
IKO LRX
LRX-C1H
LRXC-C1H
LRXG-C1H



Roller slide
- *High precision and rigidity*
- *High load capacity*
- *Soft translation*
- *Stroke limited only by the length of the rails*
- *Standard or long interchangeable slides*

Very suitable for applications with shocks and/or vibrations :
- *Machine tools*

Compose your guide by selecting the rail and the number of slides you need



Slide LRXC-C1H

- Self-lubricating slide
- Slide length : short
- Load capacity : low

Slide LRX-C1H

- Self-lubricating slide
- Slide length : standard
- Load capacity : normal

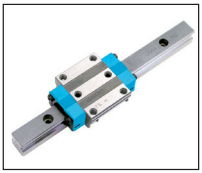
Slide LRXG-C1H

- Long self-lubricating slide
- Slide length : long
- Load capacity : excellent

LRX IKO

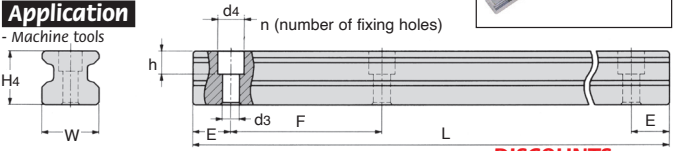
Dynamic loads from 9410 N to 43500 N

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



Application

- Machine tools

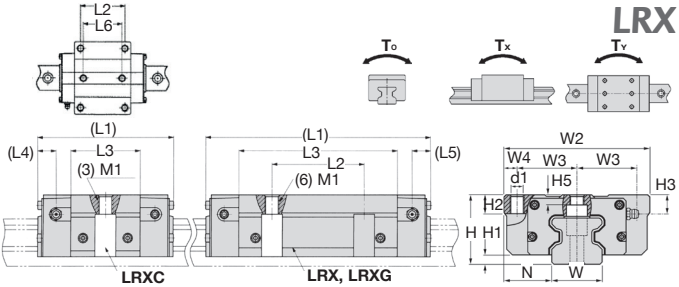


DISCOUNTS

Qty	1+	2+
Disc.	List	On request

Part number	L	No. of holes	Max. length	Type of slide unit	Price each
LRX15-180	180	3	1500	-	48,12 €
LRX15-240	240	4	1500	-	64,09 €
LRX15-360	360	6	1500	-	96,22 €
LRX15-480	480	8	1500	-	128,24 €
LRX15-660	660	11	1500	-	176,34 €
LRX15-1500	1500	25	1500	-	400,61 €
LRX15-C1H/GE	-	Slide	-	Standard	284,18 €
LRX15G-C1H/GE	-	Slide	-	Long	321,21 €
LRX20-240	240	4	1980	-	71,88 €
LRX20-480	480	8	1980	-	143,75 €
LRX20-660	660	11	1980	-	197,67 €
LRX20-840	840	14	1980	-	251,54 €
LRX20-1020	1020	17	1980	-	305,44 €
LRX20-1200	1200	20	1980	-	359,29 €
LRX20-1500	1500	25	1980	-	449,11 €
LRX20-1980	1980	33	1980	-	592,88 €
LRX20-C1H/GE	-	Slide	-	Standard	305,20 €
LRX20G-C1H/GE	-	Slide	-	Long	342,24 €
LRX25-240	240	4	3000	-	75,02 €
LRX25-480	480	8	3000	-	150,06 €
LRX25-660	660	11	3000	-	206,32 €
LRX25-840	840	14	3000	-	262,56 €
LRX25-1020	1020	17	3000	-	318,84 €
LRX25-1200	1200	20	3000	-	375,09 €
LRX25-1500	1500	25	3000	-	468,88 €
LRX25-3000	3000	50	3000	-	905,32 €
LRX25-C1H/GE	-	Slide	-	Standard	321,21 €
LRX25G-C1H/GE	-	Slide	-	Long	352,81 €

Dimensions in mm



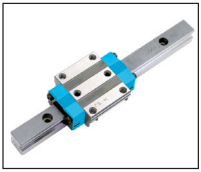
- The second value of rows Tx, Ty, applies to slide units placed end-to-end
- For models LRX 20-C and LRXG20-C, the slides can only be mounted on top of the rail.

	LRX15-C1H/GE	LRX15G-C1H/GE	LRX20-C1H/GE	LRX20G-C1H/GE	LRX25-C1H/GE	LRX25G-C1H/GE
Weight (kg)						
Slide unit	0,20	0,28	0,44	0,61	0,67	0,84
Rail (par m)	1,65	1,60	2,73	2,73	3,59	3,59
Total dimensions						
H±0,04	24,00	24,00	30,00	30,00	36,00	36,00
H1	4,00	4,00	5,00	5,00	6,00	6,00
N±0,05	16,00	16,00	21,50	21,50	23,50	23,50
Slide dimensions						
W2	47,00	47,00	63,00	63,00	70,00	70,00
W3	19,00	19,00	26,50	26,50	28,50	28,50
W4	4,50	4,50	5,00	5,00	6,50	6,50
L1	68,00	84,00	86,00	106,00	98,00	113,00
L2	30,00	30,00	40,00	40,00	45,00	45,00
L3	40,00	56,00	51,60	71,60	60,00	75,00
L4	71,00	87,00	94,00	114,00	107,00	122,00
L6	26	26	35	35	40	40
d1	4,40	4,40	-	-	7,00	7,00
M1	M5	M5	M6	M6	M8	M8
H2	7,00	7,00	10,00	10,00	10,00	10,00
H3	3,50	3,50	4,00	4,00	5,00	5,00
H5	3,00	3,00	3,50	3,50	5,00	5,00
Rail dimensions						
W	15,00	15,00	20,00	20,00	23,00	23,00
H4	16,50	16,50	21,00	21,00	24,50	24,50
d3	4,50	4,50	6,00	6,00	7,00	7,00
d4	8,00	8,00	9,50	9,50	11,00	11,00
h	6,00	6,00	8,50	8,50	9,00	9,00
E	30,00	30,00	30,00	30,00	30,00	30,00
F	60,00	60,00	60,00	60,00	60,00	60,00
Rail fixing screw	M4 x 16	M4 x 16	M5 x 20	M5 x 20	M6 x 25	M6 x 25
Dynamic load						
C (N)	9410	12200	19200	24700	26200	31200
Static load						
C_o (N)	19900	27900	42500	58700	56000	70000
Static moment						
T_o (Nm)	187	262	548	757	829	1040
T_x (Nm)	135	261	377	710	570	881
T_y (Nm)	938	1580	2510	4180	3780	5360

Dimensions in mm

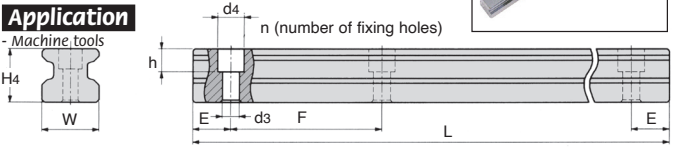
LRX IKO Dynamic loads from 32500 N to 101000 N

- ***Linear slide unit 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***
- *Self-lubricating slide*



Application

- *Machine tools*

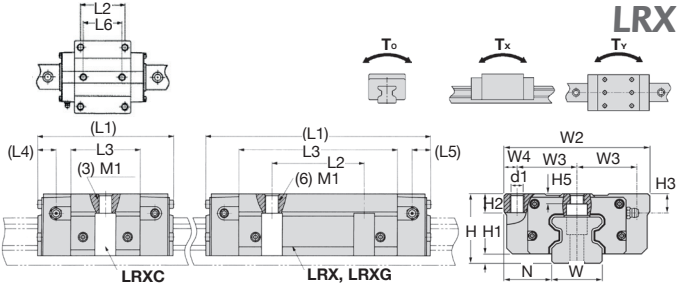


DISCOUNTS

Qty	1+	2+
Disc.	List	On request

Part number	L	No. of holes	Max. length	Type of slide unit	Price each
LRX30-480	480	6	2960	-	179,84 €
LRX30-640	640	8	2960	-	239,75 €
LRX30-800	800	10	2960	-	299,63 €
LRX30-1040	1040	13	2960	-	389,58 €
LRX30-1200	1200	15	2960	-	449,46 €
LRX30-1520	1520	19	2960	-	569,33 €
LRX30-2960	2960	37	2960	-	1 108,64 €
LRX30-C1H/GE	-	Slide	-	Standard	368,33 €
LRX30C-C1H	-	Slide	-	Short	300,20 €
LRX30G-C1H/GE	-	Slide	-	Long	420,95 €
LRX35-480	480	6	2960	-	225,32 €
LRX35-640	640	8	2960	-	300,45 €
LRX35-800	800	10	2960	-	375,56 €
LRX35-1040	1040	13	2960	-	488,23 €
LRX35-1200	1200	15	2960	-	563,30 €
LRX35-1520	1520	19	2960	-	713,55 €
LRX35-2960	2960	37	2960	-	1 389,50 €
LRX35-C1H/GE	-	Slide	-	Standard	471,72 €
LRX35C-C1H	-	Slide	-	Short	302,14 €
LRX35G-C1H/GE	-	Slide	-	Long	664,97 €
LRX45-840	840	8	2940	-	551,87 €
LRX45-1050	1050	10	2940	-	689,79 €
LRX45-1260	1260	12	2940	-	827,78 €
LRX45-1470	1470	14	2940	-	965,76 €
LRX45-1995	1995	19	2940	-	1 310,67 €
LRX45-2940	2940	28	2940	-	1 931,47 €
LRX45-C1H/GE	-	Slide	-	Standard	663,42 €
LRX45C-C1H	-	Slide	-	Short	452,05 €
LRX45G-C1H/GE	-	Slide	-	Long	894,03 €

**Dimensions in mm*



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

	LRX30-C1H/GE	LRX30C-C1H/GE	LRX30G-C1H/GE	LRX35-C1H/GE	LRX35C-C1H	LRX35G-C1H/GE	LRX45-C1H/GE	LRX45C-C1H	LRX45G-C1H/GE
Weight (kg)									
Slide unit	1,20	0,78	1,58	1,76	1,13	2,41	3,26	2,11	4,60
Rail (per m)	5,01	5,01	5,01	6,88	6,88	6,88	10,80	10,80	10,80
Total dimensions									
H±0,04	42,00	42,00	42,00	48,00	48,00	48,00	60,00	60,00	60,00
H1	6,50	6,50	6,50	6,40	6,40	6,40	8,00	8,00	8,00
N±0,05	31,00	31,00	31,00	33,00	33,00	33,00	37,50	37,50	37,50
Slide dimensions									
W2	90,00	90,00	90,00	100,00	100,00	100,00	120,00	120,00	120,00
W3	36,00	36,00	36,00	41,00	41,00	41,00	50,00	50,00	50,00
W4	9,00	9,00	9,00	9,00	9,00	9,00	10,00	10,00	10,00
L1	113,00	85,00	134,00	124,00	92,00	152,00	154,00	114,00	194,00
L2	52,00	-	52,00	62,00	-	62,00	80,00	-	80,00
L3	70,40	42,40	91,40	78,60	46,60	106,60	99,00	59,00	139,00
L5	123,00	95,00	144,00	12,5	12,5	12,5	17,5	17,5	17,5
L6	44	-	44	52	-	52	60	-	60
d1	8,50	8,50	8,50	8,5	8,5	8,5	10,5	10,5	10,5
M1	M10	M10	M10	M10	M10	M10	M12	M12	M12
H2	10,00	10,00	10,00	13,00	13,00	13,00	15,00	15,00	15,00
H3	6,50	6,50	6,50	13,00	13,00	13,00	16,00	16,00	16,00
H5	5,50	5,50	5,50	7,00	7,00	7,00	11,00	11,00	11,00
Rail dimensions									
W	28,00	28,00	28,00	34,00	34,00	34,00	45,00	45,00	45,00
H4	28,00	28,00	28,00	32,00	32,00	32,00	38,00	38,00	38,00
d3	9,00	9,00	9,00	9,00	9,00	9,00	14,00	14,00	14,00
d4	14,00	14,00	14,00	14,00	14,00	14,00	20,00	20,00	20,00
h	12,00	12,00	12,00	12,00	12,00	12,00	17,00	17,00	17,00
E	40,00	40,00	40,00	40,00	40,00	40,00	52,50	52,50	52,50
F	80,00	80,00	80,00	80,00	80,00	80,00	105,00	105,00	105,00
Rail fixing screw	M8 x 28	M8 x 28	M8 x 28	M8 x 35	M8 x 35	M8 x 35	M12 x 40	M12 x 40	M12 x 40
Dynamic load									
C (N)	35400	23800	43500	48200	32500	60900	78200	78200	101000
Static load									
C_o (N)	74100	44400	96300	99600	59700	134000	159000	159000	222000
Static moment									
T_o (Nm)	1340	804	1740	2160	1300	2920	4410	4410	6180
T_x (Nm)	880	328	1470	1350	504	2430	2690	2690	5200
T_y (Nm)	5750	2730	8710	8430	3940	13700	16700	16700	28800

Dimensions in mm

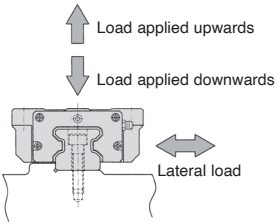


Figure 2 Load directions

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 Slide units are subjected individually and where 90% of the slide units in that group can travel for 50km without suffering material damage due to rolling contact fatigue. LRX linear slide units 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 unit, 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 unit and the track receiving the maximum load.

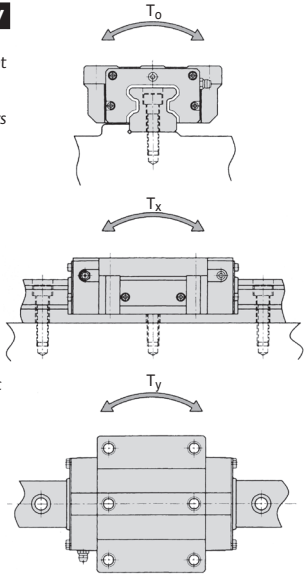
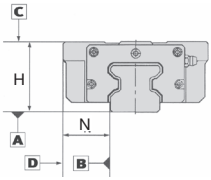


Figure 3: Static moment

Accuracy

Accuracy of a slide unit and rail assembly		Rail High accuracy (H)
Slide unit	High Accuracy (H) Accuracy (P)	High accuracy -
Tolerance sur H		±0,002
Tolérance sur N(3)		±0,025
For 1 batch :	Variation on H(1)	0,07
	Variation on H(2)(3)	0,010
Variation on H formultiple assemblies(4)		0,025
Working parallelism between **C** and **A**		Fig. 1.
Working parallelism between **D** and **B**		Fig. 1.



Note *(1): This is the difference in the dimension H between two slide units 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 slide units 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 slide units 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 unit mounted on a rail attached to a flat base.*

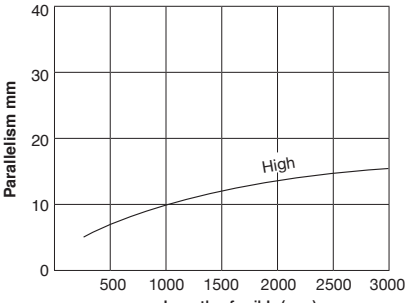


Fig.1 Working parallelism

Life expectancy

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

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

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

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

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:

$$Lh = \frac{10^6 L}{2Sn_1 x60} \quad (3)$$

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

Table 1 Load factor:

Operating conditions	fw
Smooth working without vibrations and/or shocks	1,0 ~ 1,2
Normal operation	1,2 ~ 1,5
Subject to vibrations and/or shocks	1,5 ~ 3,0